

Catalogue 2015/2016

Product and Systems Information





 **SAUTER**
Für Lebensräume mit Zukunft.



Improving energy efficiency through experience and innovation



Dear Customers and Business Partners,

In a high-tech industry such as ours, nothing is more important than innovation. Because if you stand still, you'll soon be overtaken. SAUTER does everything to provide you with products and systems having state-of-the-art technology – and has done so for more than 100 years. This 2015/2016 catalogue documents the results of our ongoing developments and updates.

I would like to present to you briefly a number of our new product news. For example, we have added the new product family of SAUTER viaSens to our room sensor product range. Our new SAUTER vialoq AVM valve actuator with 1000 N actuating power can be fitted quickly and easily thanks to its patented coupling, and it has an impressive level of energy efficiency due to its low power consumption in the operating and standby modes. The new family of systems EY-modulo 3, coming with a communicative room controller and new room operating unit, is distinguished by its intuitive operation and easy parameterisation. And the EY-modulo 5 system family was also extended with a new modu521 automation station and the modu590 and modu534 interface modules. In the building management software sector, we have launched the third version of our leading SAUTER Vision Center solution. And SAUTER moduWeb Vision is now also available in an extended version that has been optimised for touch-operated devices.



This is only a sample of the wide range of new products from SAUTER. You will find more information in the overview on pages 6 and 7. And while you are browsing through our current product catalogue, we are already working on the development of seminal solutions to fulfil the needs and specifications of our customers. We'll be keeping in touch with you.

A handwritten signature in black ink, appearing to read 'Marc Jaquet'.

Marc Jaquet
CEO SAUTER Group

A handwritten signature in black ink, appearing to read 'Jean Schwartzentruber'.

Jean Schwartzentruber
Vice President of Sales & Marketing SAUTER Group

The new SAUTER catalogue – also online.

All product information on a PC, tablet or smartphone.

On the SAUTER website, you will find the catalogue as a Pageflip for electronic browsing and as a PDF for downloading. All the detailed data sheets can also be called up as a collection. And a QR code in the catalogue takes you directly to the relevant product details on the web.

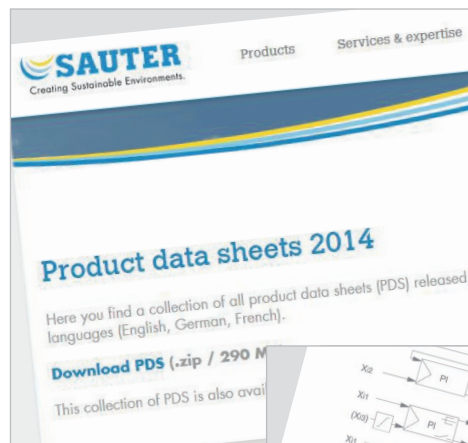


Product information on the web

You will find more detailed product information on our website. It contains the relevant product data sheets, material declarations, fitting instructions, manuals and operating instructions for all of our products.

Collection of product data sheets

You will find a current collection of all the product data sheets (PDS) that are valid at the end of the year for the SAUTER products at the address www.sauter-controls.com/de/pds. The PDSs are available in German, English and French.







Displaying info on mobile devices via QR code

Using the QR code on your smartphone or tablet allows you to access more detailed information on the internet. Simply scan the QR code in the footer and call up additional information (a QR code app is required). In Pageflip and PDF files, the QR code links to the information.



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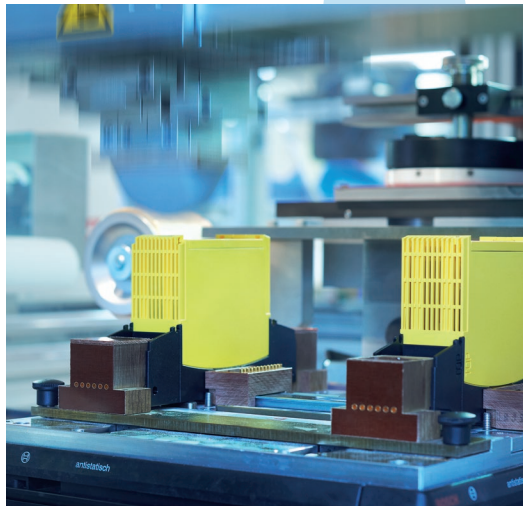
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Innovation in the building automation sector optimises the room comfort and lowers energy consumption: for sustainable environments.

Innovation

SAUTER is continually working on future-oriented solutions with added value.

Responsible

Our range of products and systems has always stood for first-class quality and maximum energy efficiency, because we act responsibly for the benefit of the customers, the company and the environment.

Passionate

All over the world there are countless buildings and installations that attest to our expertise in the fields of building management and Green Buildings, because we master challenges together with enthusiasm and commitment.



Represented all over the world – wherever you are.

SAUTER has specialists all over the world and is ensuring a good climate in residential and work spaces in more than 70 countries. Our local sales organisations guarantee that you will always find a competent contact person from SAUTER in your vicinity. We attach great importance to developing flexible solutions for our customers that are tailored to their needs.

Swiss quality.

Our headquarters in Switzerland unites research and development and production under the same roof. Our customers benefit from this “Made in Switzerland” quality: They can depend on the fact that quality, superlative precision, reliability, know-how protection and the environmental friendliness of the materials used in the manufacture of SAUTER products are given the highest priority.

Solutions for the entire building life cycle.

Our specialisation and our many years of experience in the building management and Green Building sectors are your guarantee that SAUTER is the right partner with comprehensive solution expertise. We are your ideal partner for the entire life cycle of a building: from the planning to the creation and utilisation, and for any future refurbishment.

Award-winning.

SAUTER has received multiple awards for its building management solutions, both for the best automation system and for the best energy service. Our comprehensive range of products, solutions and services fulfils the requirements for obtaining Green Building certificates. SAUTER is also IQNet-certified, and certain products also have the eu.bac or BTL-BACnet quality seal. This guarantees quality, precision and functionality for you.



New products from SAUTER.

[1] SAUTER viaSens

In the viaSens family of room sensor products, SAUTER has launched two sensors for temperature/humidity (viaSens681/EGH 681) and VOC (viaSens181/EGQ 181). These sensors enable a room climate that is controlled energy-efficiently and according to needs. The integrated LED in traffic light colours provides the condition of the room air at a glance. The sensors fit as device inserts into 55 × 55 mm frames and are an addition to the SAUTER room automation and sensor range.

[2] SAUTER vialoq AVM 321/322

The new valve actuator with 1000 N actuating power is distinguished by its high energy efficiency and easy, intuitive operation. The modular electric plug-in module and the patented automatic actuator/valve coupling ensure fast, uncomplicated commissioning. Both during operation (1.7 W) and in standby mode (0.45 W), the vialoq AVM 321S/322S impresses with its very low energy consumption.

[3] SAUTER flexotron800

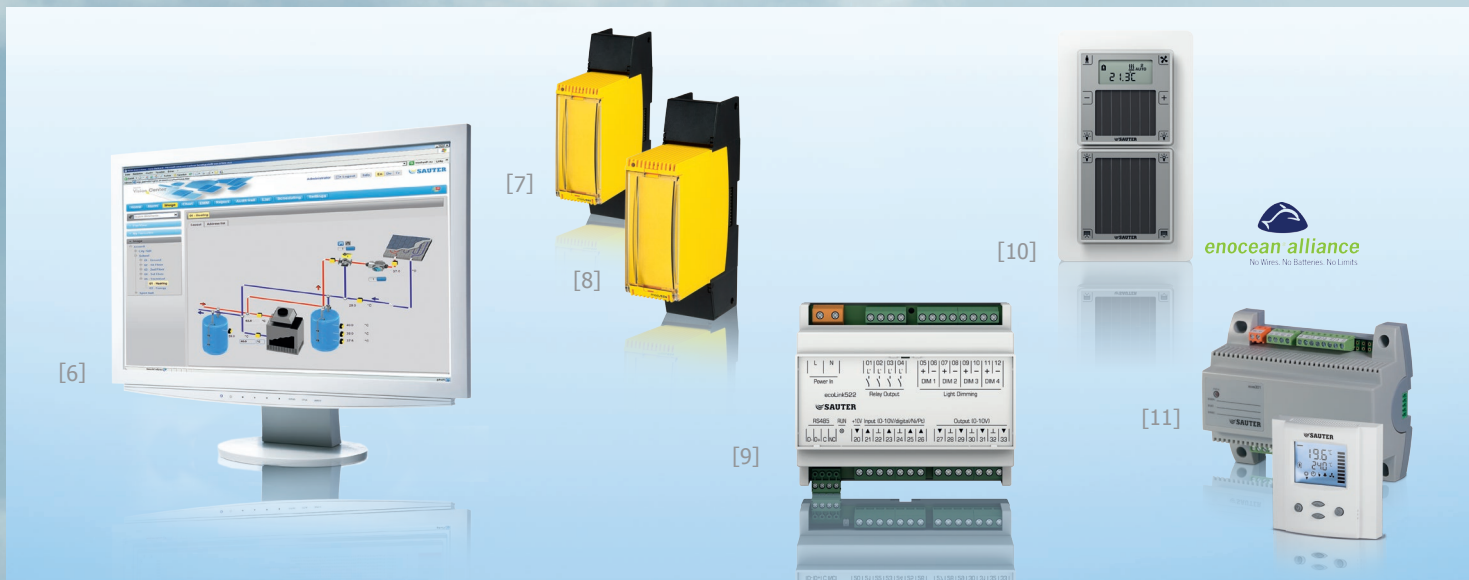
The tried and tested SAUTER flexotron800 controller (RDT 808, 815, 828) for medium-sized installations now has a modified housing design and a new LCD display. One new feature is that an external display can now be positioned up to 100 m away (even for devices with a built-in display). To enable even more flexible usage, functions for ventilation and heating have been added to the controller. Depending on the hardware model, BACnet/IP or Modbus RTU can be selected as the communication protocols.

[4] SAUTER modu521

The modu521 compact station (EY-AS 521) can be used universally to control and operate primary installations in stand-alone mode. For smaller installations, the operation is via local operating units and the built-in web server. In larger properties, it can be integrated into a higher-level building management system via BACnet/IP. Additionally, room operating units can be added to the SAUTER modu521 in order to connect HVAC and room automation.

[5] SAUTER moduWeb Vision with touch function

The current software version of the moduWeb500 web server for BACnet networks now makes operation possible via touch panels, tablets and smartphones. Owing to its new operating elements and the fact that it supports various screen resolutions, this version is suitable not only for classic usage on a desktop PC, but also for installation in a cabinet and mobile use.



[6] **SAUTER Vision Center**

SAUTER Vision Center (YZP 480...495) is the leading building management software. In version 3, a native driver for the OPC-UA communication and an export module have been added. Basic functions such as creating alarm and data point lists, graphics or reports can easily be customised, and additional components enable modification to fulfil specific requirements. SAUTER Vision Center is optimised for mobile devices and is based on the HTML5 standard.

[7] **SAUTER modu590**

The SAUTER modu590 (EY-IM 590) link module enables remote EY-FM 1** field modules to be connected to EY-modulo 5. Therefore, it is a cost-effective migration solution for field modules already installed. At the same time, it provides new functions for EY-modulo 5, such as the remote usage of the digital input and digital/analogue output functions with manual override.

[8] **SAUTER modu534**

The new modu534 (EY-IO 534) I/O module allows the modular SAUTER modu525 automation station to process signals that have voltage applied. The module has eight electrically isolated inputs which are suitable for both voltage and current measurement.

[9] **SAUTER ecoLink522/523**

SAUTER has developed two new remote I/O modules to add to the ecolink family of products: SAUTER ecolink522 (EY-EM 522 with relay) and ecolink523 (EY-EM 523 without relay). The two modules are optimal additions to the ecos500 room controller and the modu521 automation station.

[10] **SAUTER ecoUnit 1**

The second generation of the SAUTER ecoUnit1 (EY-RU 110...146) battery-free wireless room operating unit has a larger solar cell and optimised reliability. The new Low Power mode and the bigger buffer storage provide an operating reserve when the room is in darkness for up to 120 hours. The readability of the LCD display has also been improved.

[11] **SAUTER EY-modulo 3**

The EY-modulo 3 family of systems has been added to the room automation range. EY-modulo 3 consists of the ecos 3 (EY-RC 301, 302) room controllers. The controllers are distinguished by their easy parameterisation and their communication via BACnet MS/TP. They can be used to control HVAC applications, such as fan coil units, chilled ceilings, chilled beams and radiators. The controllers are available as 24 V or 230 V variants. The new ecoUnit382 (EY-RU 382) room operating unit with its illuminated LCD display can be used for operation and for parameterisation.

On/off controllers

Proven technology - developed consistently.

On/off controllers from SAUTER are used to limit, regulate and monitor temperature, pressure and humidity, without any auxiliary energy. They provide reliability, even in complex environments.



On/off controllers

Thermostats

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Fan-coil room-temperature controllers

SAUTER fan-coil controllers are used for demand-led control of fan-coil units and ensure that they are operated with optimum use of energy. There are controllers for fan-coil units with a three-speed fan and for the continuous control of EC motors. The controllers are suitable for two- and four-pipe installations and also for fan-coil units with an electric re heater.

Overview of fan-coil room-temperature controllers



Type codes	TSO, TSH	TSHK 621...643	TSHK 670...672	TSHK 681...682
Indicating and operating elements				
Mode switch for heating	•	•	•	—
Mode switch for cooling	•	•	•	—
Mode switch for fan	•	•	•	•
Setpoint adjuster	•	•	•	•
LCD	—	—	—	•
Mode of operation				
Load (A)	≤ 10	≤ 6	≤ 10	≤ 6
External sensor	—	—	—	•
2-pipe installation	—	•	—	•
4-pipe installation	—	•	•	•
C/O (changeover)	—	—	—	•
Further information	Page 11	Page 13	Page 15	Page 17

TSO, TSH: Room thermostat

Features

- Room temperature can be set as the setpoint using the printed temperature scale
- Variants of the standard devices are available, such as thermal feedback, night set-back mode, fan switches and switches for heating/cooling
- Setpoint adjuster with mechanical min. and max. limitation of the setting range

Technical data

Power supply

Load ¹⁾	230 V~ 10(2,5) A, 24 V= max. 1 A, 24 V~ min. 0.2 A
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Parameters

Setting range	5...30 °C
Night-time reduction (N/R)	Approx. 5 K
Time constant in still air	17 min
Time constant in moving air (0.2 m/s)	13 min
Thermal feedback	Proportional band Shortest switching interval
	Approx. 3 K Approx. 19 min (E = 0.5)

Ambient conditions

Admissible ambient temperature	0...50 °C
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Construction

Weight	0.11 kg
Dimensions	76 × 76 mm
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Fitting	Wall/recessed
Cable inlet	At rear
Baseplate	Black thermoplastic with membrane sensor and contact system
Screw terminals	For wire of up to 1.5 mm ²

Standards and directives

	Type of protection	IP 20 (EN 60529)
	Protection class	II (IEC 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 60730-1, EN 60730-2-9
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

i Power supply: 10% more voltage means P-band approx. 4 K, switching period = 15 min, actual-value reduction = approx. 0.5 K

i H/C = heating or cooling, depending on connection; H//C = heating or cooling, selectable

Type	Operating mode switch	Output for	Power supply
TSO670F001	-	H/C	-
TSO672F001	Heating/OFF/Cooling	H//C	-
TSH670F002	-	H/C	230 V~, ±10%, 50...60 Hz
TSH676F002	-	H/C	230 V~, ±10%, 50...60 Hz

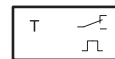
⚡ TSO670F001, TSO672F001: switching difference 1.3 K without thermal feedback²⁾



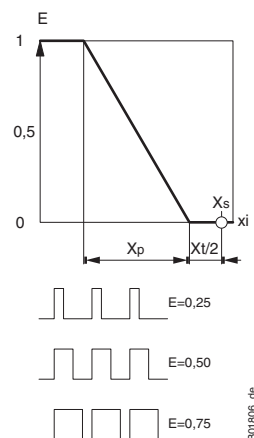
TSO67*F001



TSO67*F001



TSH67*F002



E= control factor

¹⁾ For TSO672F001 for cooling 5(1.5) A

²⁾ Devices without thermal feedback are pure on/off controllers. The static switching difference is given, i.e. for very slow changes in temperature. For faster changes in temperature, the time constant must be taken into account.



- TSH670F002, TSH676F002: dynamic switching difference 0.5 K with thermal feedback³⁾
- TSH676F002: additional feature N/R (normal/reduced) for external clock

Accessories

Type	Description
0362225001	Intermediate plate, pure white, for wall mounting on recessed junction box
0303124000	Recessed junction box

- 0303124000: only in combination with intermediate cover plate 0362225001

³⁾ Devices with thermal feedback are pulsed by an in-built heating element. The control factor falls as the temperature increases, i.e. the controller has proportional behaviour. A small temperature variation of $\pm 0.1 \dots 0.5$ K occurs as a result of switching, depending on the time constant of the room.

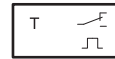
TSHK 621...643: Fan-coil room-temperature controller, electromechanical

Features

- Room temperature can be set as the setpoint using the printed temperature scale
- Switch from heating to cooling via switch or type of connection
- ON/OFF toggle switch for mains voltage, plus other slide switches for operating mode and fan, depending on the type
- More constant room temperature due to thermal feedback
- Suitable for wall mounting or fitting on recessed junction boxes
- Setpoint adjuster with mechanical min. and max. limitation of the setting range
- Two-point pulsed activation
- Individual unitary temperature control in residential and business rooms for activating e.g. electric heating systems, thermal actuators, or fans or cooling units in air-conditioning systems.



TSHK6**F00*



Technical data

Power supply

Power supply ¹⁾	230 V~, approx. $\pm 10\%$, 50...60 Hz
Load	6(3) A, 230 V~
Fan load	6(3) A, 230 V~

Parameters

Setting range	5...30 °C
Proportional band	3 K
Hysteresis ²⁾	Approx. $\pm 0.1 \dots 0.5$ K
Shortest switching interval	Approx. 19 min (E = 0.5)
Time constant in still air	20 min
Dead time in still air	2 min
Time constant in moving air (0.2 m/s)	15 min
Dead time in moving air (0.2 m/s)	1 min

Ambient conditions

Admissible ambient temperature	0...55 °C
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Construction

Weight	0.18 kg
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic (fire classification UL94 HB)
Baseplate	Black thermoplastic with bimetallic sensor and contact snap mechanism with permanent magnet
Cable inlet	At rear
Screw terminals	For electrical wires of up to 2.5 mm ²

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	II (IEC 60730)

¹⁾ 10% more voltage results in: P-band = approx. 4 K, switching period = 15 min, actual-value reduction = approx. 0.5 K

²⁾ Devices with thermal feedback are pulsed by an in-built heating element. The control factor reduces as the temperature increases (i.e. the controller has proportional behaviour). A small temperature variation of $\pm 0.1 \dots 0.5$ K occurs as a result of pulsing, depending on the time constant of the room



Overview of types

Type	Operating mode
TSHK621F001	Heating/cooling; 2-pipe
TSHK642F001	Heating only/cooling only; 2-pipe
TSHK643F001	Heating/cooling; 4-pipe

	TSHK 621	TSHK 642	TSHK 643
Mains switch ON/OFF	•	•	•
Operating mode switch	☰✱	—	☰✱
Fan speeds	☰☰☰	☰☰☰	☰☰☰
Fan mode	—	—	—

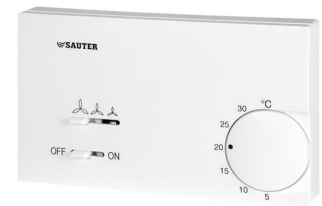
Accessories

Type	Description
0362239001	Pure white intermediate cover plate, suitable for various recessed junction boxes

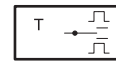
TSHK 670...672: Fan-coil room-temperature controller, heating/cooling sequence

Features

- Room temperature can be set as the setpoint using the printed temperature scale
- Gradual transition from heating to cooling through sequence characteristic
- Variants with master switch plus slide switch for the fan
- Suitable for wall mounting or fitting on recessed junction boxes
- Electronics unit and switching relay
- Setpoint adjuster with mechanical min. and max. limitation of the setting range
- Quasi-continuous temperature control
- Two-point pulsed activation
- Individual unitary temperature control in residential and business rooms for activating e.g. electric heating systems, thermal actuators, or fans or cooling units in air-conditioning systems.



TSHK67*F001



Technical data

Power supply

Power supply	230 V~, approx. $\pm 10\%$, 50...60 Hz
Load	10(4) A, 230 V~
Fan load	6(3) A, 230 V~

Parameters

Setting range	5...30 °C
Proportional band	2×3 K
Sequence dead zone	2 K $\pm 0,7$
Hysteresis ¹⁾	Approx. $\pm 0.1 \dots 0.5$ K
Shortest switching interval	Approx. 19 min (E = 0.5)
Time constant in still air	20 min
Dead time in still air	2 min
Time constant in moving air (0.2 m/s)	15 min
Dead time in moving air (0.2 m/s)	1 min

Ambient conditions

Admissible ambient temperature	0...55 °C
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Operation

Operating mode	Heating/cooling sequence; 4-pipe
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Construction

Weight	0.18 kg
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic (fire classification UL94 HB)
Baseplate	Black thermoplastic with NTC sensor
Cable inlet	At rear
Screw terminals	For wires of up to 2.5 mm ²

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	II (IEC 60730)

¹⁾ The device is pulsed electronically. When the temperature increases, the control factor is reduced to 0 on the "Heating" output and increased to E = 1 on the "Cooling" output. A small temperature variation of $\pm 0.1 \dots 0.5$ K occurs as a result of pulsing, depending on the time constant of the room



Overview of types

Type	Number of switches
TSHK670F001	0
TSHK672F001	2

	TSHK670	TSHK672
Mains switch ON/OFF	–	•
Operating mode switch	–	–
Fan speeds	–	⏏ ⏏ ⏏
Indicators	–	1 LED

Accessories

Type	Description
0362239001	Pure white intermediate cover plate, suitable for various recessed junction boxes



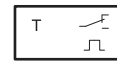
TSHK 681, 682: Fan-coil room-temperature controller, with digital display

Features

- LCD of the room temperature or setpoint, with two buttons (\pm) for adjusting the setpoint
- Output for heating or cooling depending on connection type, or change in direction of travel with external switch
- With main switch for mains power supply and slide switches for three fan speeds
- Suitable for wall mounting or fitting on recessed junction boxes
- Electronics unit and switching relay
- Quasi-continuous temperature control
- Two-point pulsed activation
- Individual unitary temperature control in residential and business rooms for activating e.g. electric heating systems, thermal actuators, or fans or cooling units in air-conditioning systems.



TSHK68*F001



Technical data

Power supply

Power supply ¹⁾	230 V~, approx. ± 10 V, 50...60 Hz
Load	3(2) A, 230 V~
Fan load	6(3) A, 230 V~

Parameters

Setting range	5...30 °C; resolution 0.5 °C
Proportional band	3 K
Display of actual value	0...40 °C; resolution 0.1 °C
Hysteresis ²⁾	Approx. ± 0.1 ...0.5 K
Shortest switching interval	Approx. 18 min (E = 0.5)
Time constant in still air	20 min
Dead time in still air	2 min
Time constant in moving air (0.2 m/s)	15 min
Dead time in moving air (0.2 m/s)	1 min

Ambient conditions

Admissible ambient temperature	0...55 °C
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Construction

Weight	0.18 kg
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic (fire classification UL94 HB)
Baseplate	Black thermoplastic with NTC sensor
Cable inlet	At rear
Screw terminals	For wires of up to 2.5 mm ²

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	II (IEC 60730)

¹⁾ 10% more voltage results in: P-band = approx. 4 K, switching period = 15 min, actual-value reduction = approx. 0.5 K

²⁾ The device is pulsed electronically. When the temperature increases, the control factor falls to zero at the "Heating" output and rises to E = 1 at the "Cooling" output. A small temperature variation of ± 0.1 ...0.5 K occurs as a result of pulsing, depending on the time constant of the room



Overview of types

Type	Operating mode
TSHK681F001	Heating or cooling or heating/cooling; 2-pipe
TSHK682F001	Heating/cooling; 4-pipe

	TSHK681	TSHK682
Mains switch ON/OFF	•	(•)
Operating mode switch	–	☰ OFF ☼ ☾
Fan speeds	☾ ☾ ☾	☾ ☾ ☾
Indicators	°C digital	°C digital

Accessories

Type	Description
0362238001	Cable-type sensor, 4 m long, made of PVC, for external temperature measurement (max. 50 m)
0362239001	Pure white intermediate cover plate, suitable for various recessed junction boxes

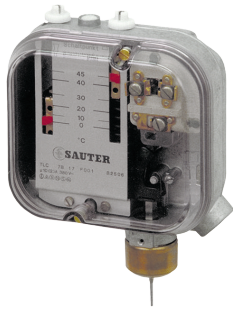
Universal thermostats

Temperature control, temperature monitoring and temperature limitation:
SAUTER universal thermostats are used for these three applications. They provide control, monitoring and limitation in accordance with demand, and require no external energy.

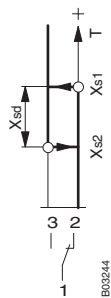
Overview of universal thermostats



Type codes	TLC	RAK
Application		
Room	•	–
Clamp-on temperature	–	•
Channel	–	•
Pipe	–	•
Operating mode		
Temperature controller, monitor (TR, TW)	•	•
Safety temperature limiter (STB)	–	•
Temperature limiter (TB)	–	•
Further information	Page 20	Page 21



TLC7B17F001



TLC: Thermostat for industrial use with room sensor

Features

- Control and monitoring of temperature
- Especially suitable for installations subject to vibrations, industrial spaces, halls, etc.
- 0...45 °C temperature setting range
- 1 mA / 6 V to 10 A / 400 V contact rating
- Gold-plated silver contacts
- Upper and lower switching points can be set independently of each other
- Sealable
- Splashproof

Technical data

Power supply		
Admissible contact rating for smaller loads	Maximum load with gold-plated contacts	200 mA, 50 V
	Minimum load with gold-plated contacts	1 mA, 6 V
Admissible contact rating for larger loads	Maximum load with silver-plated contacts	10 (2) A, 400 V~ 25 W, 250 V=
	Minimum load with silver-plated contacts	100 mA, 24 V
Time characteristic	Time constant at 0.15 m/s	12 min
	Time constant at 0.5 m/s	8 min

Parameters

Setting range	0...45 °C
Lowest switching difference	1.0...2.2 K

Ambient conditions

Storage and transport temperature	-40...55 °C
Admissible ambient temperature	-40...55 °C

Construction

Weight	0.65 kg
Housing	Light-alloy housing with transparent cover

Standards and directives

CE conformity as per	Type of protection	IP 44 (EN 60529)
	Protection class	I (IEC 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730, EN 60730-2-9

Overview of types

Type	Description
TLC7B17F001	Thermostat for industrial use with room sensor

Accessories

Type	Description
0259189000	Holder for raised wall mounting
0259299000	Cable screw fitting PG 13.5
0259409000	Fixing bracket (provides 3-point fixing with accessory 0259189)



RAK: Universal thermostat

Features

- Regulates and monitors the temperature of liquids in baths, containers, pipes and ducts
- Variants as temperature controllers (TR), temperature monitors (TW), temperature limiters (TB) or safety temperature limiters (STB)
- Thermostat with remote sensor
- Clamp-on thermostat
- Capillary tube thermostat with or without protective tube
- Double thermostat, e.g. as TW and STB
- Sealable

Technical data

Power supply

Max. load ¹⁾	Terminal 1-2 TW, TB	10(2.6) A, 250 V~
	Terminal 11-12 STB	10(6) A, 250 V~
	Terminal 1-4 TW	4(0.6) A, 250 V~
	Min. load	500 mA, 40 V

Parameters

	Calibration point	23 °C ±2 °C (Tu 23), 37 °C ±2 °C (Tu 37) (RAK13.5050S)
	Serviceable life	> 100,000 switchings
	Serviceable life of limiter	> 15,000 switchings
	Interference class	Click rate < 5 (EN 55014)
Time characteristic in water	Time constant with protective tube (inner diameter 7)	< 45 s
	Time constant without protective tube (inner diameter 7)	< 15 s
	Effect of temperature at instrument head ²⁾	0.20...0.60 K/K

Ambient conditions

Storage and transport temperature	-25...75 °C
Admissible ambient temperature	0...70 °C (T70) (housing)
Admissible ambient temperature when used as a clamp-on sensor	Max. 130 °C (water temperature)
Setting accuracy	±6 K at 50 °C
Setting accuracy for limiter	+0/-9 K at 50 °C
Setting accuracy for clamp-on tempera- ture sensor	+4 K (system. error)

Construction

Weight	0.22 kg
Sensor cartridge	68 mm
Housing	Two sections, lower section black, up- per section yellow, including inspection window
Housing material	Plastic

Standards and directives

Type of protection	IP 54 (EN 60529) with protective tube IP 40 (EN 60529)
Protection class	I (IEC 60730)
Test marks ³⁾	ID: 0000006982 (RAK13.5050S)

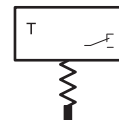
¹⁾ Take the RC circuitry into account for inductive loads

²⁾ Depending on type

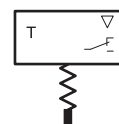
³⁾ Certificate can be downloaded from www.tuv.com



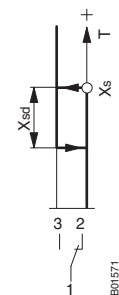
RAK



TR, TW



TB, STB



Overview of types

Type	Setting range	Switching difference	Capillary tube	Max. temp., sensor
RAK13.5050S	130/120/110/100/95 °C	20 K	800 mm	170 °C
RAK582.4/3726	50...130 °C	4 K	800 mm	200 °C
RAK582.4/3728	15...95 °C	4 K	800 mm	200 °C
RAK582.4/3729	80...160 °C	4 K	1600 mm	200 °C
RAK582.4/3753	150...230 °C	4 K	1000 mm	280 °C
RAK582.4/3754	40...120 °C	4 K	1600 mm	200 °C
RAK582.4/3770	-10...50 °C	4 K	1600 mm	180 °C
RAK582.4/3773	5...30 °C	4 K	800 mm	200 °C
RAK584.4/3782	20...60 °C	10 K	800 mm	200 °C
RAK584.4/3783	50...130 °C	10 K	800 mm	220 °C

- ⚡ RAK13.5050S: STB, classified in PED 97/23/EC as per cat. IV, with protective tube, inner diameter 7, brass, 100 mm, as per DIN/EN 14597, intrinsically safe with locking mechanism; irreversible setting notches
- ⚡ RAK582*: TVV with protective tube, inner diameter 7, brass, 100 mm, not classified in PED
- ⚡ RAK584*: TB, open contacts, with protective tube, inner diameter 7, brass, 100 mm
- ⚡ RAK582.4/3729, RAK582.4/3753: Stainless-steel protective tube provided; stainless-steel protective tubes are preferable from approx. 130 °C; including 100 mm distance piece for temperatures > 130 °C

Accessories

Type	Description
0364435001	Assembly kit for clamp-on and double thermostat with 2 plugs for upholding protection rating IP 54 and retaining strap for fitting to pipe ½"..." (for RAK as clamp-on thermostat T < 120 °C)

As stem-type thermostat

Type	Description
0364439***	Pocket, int. dia. 7; R½; brass (see product data sheet)
0364440***	Pocket, int. dia. 15; R½; brass; for 2-3 sensor cartridges (see product data sheet)
0210240010	Distance piece, 100 mm

As thermostat with remote sensor

Type	Description
0296724000	Sensor holder for wall mounting
0303212000	Rubber grommet for holding the capillary tube when passing through into ventilation ducts; T < 50 °C
0364140000	Tension-relief piece for use when fitted in protective tubes
0364432001	Fixing kit for duct or wall mounting
0364434001	Sensor support spiral for direct fitting in air ducts

Protective tubes

Features

- To be fitted in pipes and containers for holding sensor cartridges, immersion stems, temperature sensors, temperature controllers or thermostats
- Tested at 1.5 times nominal pressure (PN)
- Made of brass (Ms) or stainless steel (V4A)
- Versions with cylindrical pipe thread (G $\frac{1}{2}$ " male ISO 228/1, flat-sealing)¹⁾ or cone-shaped (R $\frac{1}{2}$ " ISO 7/1 sealing in thread)



Overview of types

Type	Internal diameter	Length	Material	Thread	PN	T _{max}
0364439060	7	60 mm	brass	R $\frac{1}{2}$ "	16 bar	200 °C
0364439100	7	100 mm	Brass	R $\frac{1}{2}$ "	16 bar	200 °C
0364439120	7	120 mm	brass	R $\frac{1}{2}$ "	16 bar	200 °C
0364439150	7	150 mm	brass	R $\frac{1}{2}$ "	16 bar	200 °C
0364439225	7	225 mm	brass	R $\frac{1}{2}$ "	16 bar	200 °C
0364439300	7	300 mm	brass	R $\frac{1}{2}$ "	16 bar	200 °C
0364345120	7	120 mm	brass	G $\frac{1}{2}$ " male	16 bar	200 °C
0364345225	7	225 mm	brass	G $\frac{1}{2}$ " male	16 bar	200 °C
0364345300	7	300 mm	brass	G $\frac{1}{2}$ " male	16 bar	200 °C
0364345450	7	450 mm	brass	G $\frac{1}{2}$ " male	16 bar	200 °C
0226811060	7	60 mm	stainless steel	G $\frac{1}{2}$ " male	25 bar	325 °C
0226811120	7	120 mm	stainless steel	G $\frac{1}{2}$ " male	25 bar	325 °C
0226811225	7	225 mm	stainless steel	G $\frac{1}{2}$ " male	25 bar	325 °C
0226811300	7	300 mm	stainless steel	G $\frac{1}{2}$ " male	25 bar	325 °C
0226811450	7	450 mm	stainless steel	G $\frac{1}{2}$ " male	25 bar	325 °C
0226811600	7	600 mm	stainless steel	G $\frac{1}{2}$ " male	25 bar	325 °C
0364440120	15	120 mm	brass	R $\frac{1}{2}$ "	16 bar	200 °C
0364346120	15	120 mm	brass	G $\frac{1}{2}$ " male	16 bar	200 °C
0364346225	15	225 mm	brass	G $\frac{1}{2}$ " male	16 bar	200 °C
0364346300	15	300 mm	brass	G $\frac{1}{2}$ " male	16 bar	200 °C
0364346450	15	450 mm	brass	G $\frac{1}{2}$ " male	16 bar	200 °C
0364258120	15	120 mm	stainless steel	G $\frac{1}{2}$ " male	25 bar	325 °C
0364258225	15	225 mm	stainless steel	G $\frac{1}{2}$ " male	25 bar	325 °C
0364258450	15	450 mm	stainless steel	G $\frac{1}{2}$ " male	25 bar	325 °C
0364258600	15	600 mm	stainless steel	G $\frac{1}{2}$ " male	25 bar	325 °C

☞ Inner diameter 7: internal \varnothing 7 mm, external \varnothing 9 mm

☞ Inner diameter 15: internal \varnothing 15 mm, external \varnothing 16 mm; including pressure spring²⁾

Accessories

Type	Description
0311835000	Cord grip for cable-type sensors with flexible lead in the protective tube, int. dia. 7
0312520000	Universal cord grip for cable-type sensors and thermostats with capillary tube
0364140000	Tension-relief piece for use when fitted in protective tubes
0364263000	Welding sleeve of steel, with female thread G $\frac{1}{2}$ ", flat seal of copper
0364264000	Welding sleeve of stainless steel, with female thread G $\frac{1}{2}$ ", flat seal of copper and PTFE (for aggressive media)
0364144***	Pressure spring for sensor in protective tubes LW 15 with L=120; 225; 300; 450

¹⁾ G $\frac{1}{2}$ " male ISO 228/1, flat-sealing: for welding bushings with flat seal (accessories)

²⁾ For 2 or 3 sensors, \varnothing 6.5 mm, e.g. combinations with thermostat and sensor cartridges



Frost monitor

SAUTER frost monitors protect ventilation systems from icing without auxiliary power (apart from TFL 611). Because of their special design, they are particularly suitable for compact installations and/or installations that are subject to vibrations.

Overview of frost monitors



Type codes	TFC	TFL 201	TFL 611
Housing			
Plastic	–	•	•
Light metal	•	–	–
Sealable	•	•	–
Output signal			
Switched	•	•	•
Continuous	–	–	•
Further information	Page 25	Page 27	Page 29

TFC: Frost monitor with capillary sensor

Features

- Temperature monitoring in heating coils (air-side) and air ducts, water outlets and ducts
- Especially suitable for installations subject to vibrations
- Gold-plated silver contacts
- Upper and lower switching points can be set independently of each other
- Sealable
- Copper capillary tube (6 m)
- Splashproof
- With capillary-tube holders

Technical data

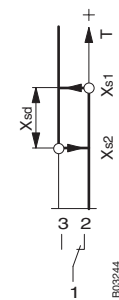
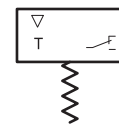
Power supply	
Maximum load with gold-plated contacts ¹⁾	200 mA, 50 V
Minimum load with gold-plated contacts	1 mA, 6 V
Maximum load with silver-plated contacts	10(2) A, 400 V~, 25 W, 250 V=
Minimum load with silver-plated contacts ²⁾	100 mA, 24 V
Parameters	
Setting range, switching points	0...15 °C
Lowest switching difference ³⁾	2...3 K
Admissible sensor temperature	-40...180 °C
Time characteristic	
Time constant in moving air (0.3 m/s)	35 s
Time constant in water (0.5 m/s)	2 s
Ambient conditions	
Admissible ambient temperature ⁴⁾	0...70 °C
Construction	
Weight	0.9 kg
Housing material	Light metal with transparent cover
Standards and directives	
Type of protection ⁵⁾	IP 44 (EN 60529)
Protection class	I (IEC 60730)
EMC directive 2004/108/EC	EN 61000-6-1/ EN 61000-6-2 EN 61000-6-3/ EN 61000-6-4
Low-voltage directive 2006/95/EC	EN 60730-1/ EN 60730-2-9

Overview of types

Type	Properties
TFC7B12F001	Frost monitor with capillary sensor



TFC7B12F001



¹⁾ If the contacts are subjected to a greater load than 200 mA, 50 V, the gold plating will be destroyed. They are then classed merely as silver contacts and lose the properties of gold-plated contacts

²⁾ Take the RC circuitry into account for inductive loads

³⁾ The low values apply to high setpoints, the larger values to lower setpoints

⁴⁾ The head of the instrument must be fitted in a warmer location than the sensor

⁵⁾ IP 54 with accessory 0259299000



Accessories

Type	Description
0259189000	Holder for raised wall mounting
0259299000	Cable screw fitting PG 13.5
0259409000	Fixing bracket (provides 3-point fixing with accessory 0259189)
0303167000	Five holders for fitting the capillary tube



TFL 201: Frost protection monitor/limiter with capillary-tube sensor

Features

- Temperature monitoring in heating coils and air ducts
- Especially suitable for compact applications
- Gold-plated silver contacts
- Copper capillary tube
- Switching point and switching difference can be set
- Sealable
- With capillary-tube holders and bracket for wall mounting

Technical data

Power supply

Maximum load with gold-plated contacts ¹⁾	160 mA, 50 V
Maximum load with silver-plated contacts ²⁾	10(4) A, 250 V~ 50 W, 250 V=
Minimum load with gold-plated contacts	4 mA, 6 V
Minimum load with silver-plated contacts	100 mA, 24 V

Parameters

Setting range	-5...15 °C
Factory setting	5 °C
Tolerance of switching difference	Max. ±1 K
Admissible sensor temperature	-20...200 °C

Time characteristic

Time constant in moving air (0.3 m/s)	35 s
Time constant in water (0.5 m/s)	2 s
Time constant of active capillary tube ³⁾	Min. 10 cm

Ambient conditions

Ambient temperature	-5...70 °C
Temperature of instrument head ⁴⁾	-5...70 °C

Construction

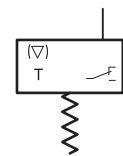
Weight	0.47 kg
Cover	Transparent, made of impact-proof thermoplastic
Housing-mounted plug	With female connector for cable of Ø 6...10 mm

Standards and directives

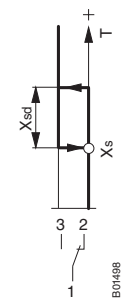
Type of protection	IP 65 (EN 60529)
Protection class	I (IEC 60730)
EMC Directive 2006/95/EC	EN 61000-6-1/ EN 61000-6-2 EN 61000-6-3/ EN 61000-6-4
Low-voltage directive 2006/95/EC	EN 60730-1/ EN 60730-2-9



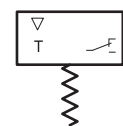
TFL201F**1



TFL201F**1



TFL201F*21



¹⁾ If the contacts are subjected to a greater load than 160 mA, 50 V, the gold plating will be destroyed. They are then classed merely as silver contacts and lose the properties of gold-plated contacts

²⁾ Take the RC circuitry into account for inductive loads

³⁾ The frost monitor always reacts to the coldest point (minimum length 10 cm)

⁴⁾ The head of the instrument must be fitted in a warmer location than the sensor



Overview of types

Type	Function	Switching difference	Capillary tube	Capillary tube holder
TFL201F101	$X_{sd} = \text{fixed}$	2 K	1.5 m	3
TFL201F001	$X_{sd} = \text{fixed}$	2 K	3 m	3
TFL201F601	$X_{sd} = \text{fixed}$	2 K	6 m	5
TFL201F021	Limitier	2 K	3 m	3
TFL201F621	Limitier	2 K	6 m	5

Accessories

Type	Description
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 × 7.5 mm and 35 × 15 mm
0303167000	Five holders for fitting the capillary tube

TFL 611: Continuous frost monitor with capillary sensor

Features

- Records the lowest temperature that occurs for a length of at least 250 mm at any position along the capillary tube
- Used on air side in ventilation and air conditioning units where protective measures must be taken against freezing
- Active capillary sensor for measuring the lowest temperatures in the range 0...15 °C
- Steam-filled capillary tube and diaphragm system
- Adjustable frost point
- Start-up function
- LED and 7-segment display

Technical data

Power supply

Power supply (SELV) ¹⁾	24 V~, 10/-20%
Power consumption	< 6.6 VA
Frequency	48...63 Hz

Parameters

Measuring range	0...15 °C
Frost switching point	1...10 °C
Adjustment point	5 °C
Accuracy for adjustment point	± 1 °C
Switching difference	Approx. 2 °C
Temperature for capillary tube	< 110 °C
Time constant in still air	Approx. 90 s
Time constant in moving air	< 40 s
Response length for capillary tube	> 250 mm

Inputs/Outputs

Analogue input	Admissible cable length	300 m with 1.5 mm ²
	Valve control for terminal Y	0...10 V
Analogue outputs	Current	< 0.1 mA
	Sensor temperature for terminal B	0...10 V ± 0...15 °C
	Valve control for terminal Y10	0...10 V
Potential-free relay outputs (Q terminals)	Current	< 1 mA
	Min. switching capacity	12 V~/=, 100 mA
	Max. switching capacity	230 V~, 6(2) A; 24 V=, 6 A

Ambient conditions

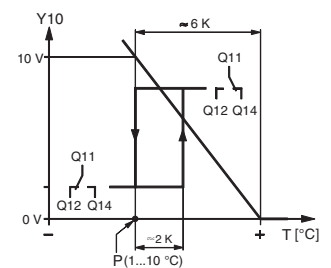
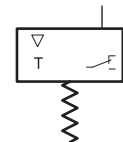
Operation	Humidity (non-condensing)	< 85% rh
	Temperature	-15...55 °C
Storage and transport	Humidity (non-condensing)	< 95% rh
	Temperature	-25...65 °C

Construction

Terminals with spring technology	Max. 2 × 1.5 mm ² Or 1 × 2.5 mm ²
Cable inlet	Cable gland M16 for cable diameter 5...10 mm
Housing	PA, silver grey (RAL 7001)
Housing cover	PC, transparent
Cap	ABS, light grey (RAL 7035)
Capillary tube	Copper



TFL611F*01



¹⁾ SELV: safety extra low voltage



Standards and directives

Vibration resistance	DIN EN 60721-3-3 (class 3M2)
Type of protection	IP 42 (EN 60529)
Operation as per IEC 721-3-3	Class 3K5
Storage and transport as per IEC 721-3-2	Class 2K3
RoHS Directive 2011/65/EU	EN 50581
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3
Low-voltage directive 2006/95/EC	EN 60730-1, EN60730-2-9

Overview of types

Type	Description	Weight
TFL611F201	Continuous frost monitor; -15...50 °C; capillary tube length= 2m	0.34 kg
TFL611F601	Continuous frost monitor; -15...50 °C; capillary tube length= 6m	0.41 kg

Accessories

Type	Description
0292146001	Set for duct fitting consisting of: 5 capillary-tube holders, 1 depth-adjustable flange
0303167000	Five holders for fitting the capillary tube
0374534001	Depth-adjustable flange

Pressure switches

SAUTER pressure switches can be used any application for controlling and monitoring the pressure in liquids, gases and vapours. They detect changes in pressure in gaseous and/or liquid media and are used to switch pumps, valves or compressors.

Overview of pressure switches

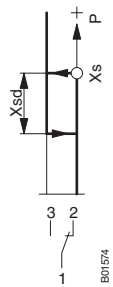
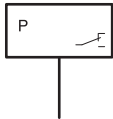


Type codes	DSA	DSB	DSF	DSL	DSH	DFC 17B	DFC 27B	DSD
Pressure monitors	•	•	•	–	–	•	•	–
Pressure limiters								
For rising pressure	–	–	–	–	•	(•)	(•)	–
For falling pressure	–	–	–	•	–	(•)	(•)	–
Differential-pressure switch	–	–	–	–	–	–	–	•
Pressure sensors								
Of brass	•	•	–	•	–	•	–	–
Of stainless steel	–	–	•	–	•	–	•	•
Switching difference								
Fixed	•	–	–	•	•	–	–	–
Adjustable	–	•	•	–	–	•	•	•
Certification								
VdTÜV 100	–	•	•	•	•	•	•	–
EN 12952-11, EN 12953-9	–	•	•	•	•	•	•	–
Germanischer Lloyd (GL)	–	•	•	•	•	•	•	–
Lloyds Register	–	•	•	•	•	–	–	–
Can be used for aggressive media	–	–	•	–	•	–	•	•
Further information	Page 32	Page 34		Page 36		Page 38		Page 40

☞ (•): Depending on approval



DSA14*F002



DSA: Pressure switch

Features

- For regulating and monitoring pressure in liquids, gases and vapours
- Especially suitable for applications in compact installations
- Upper switching point can be set
- Fixed switching difference, no hysteresis setting is necessary
- Sealable
- Pressure sensor made of brass for non-aggressive media

Technical data

Power supply

Maximum load with gold-plated contacts ¹⁾	400 mA, 24 V, 10 VA
Minimum load with gold-plated contacts	4 mA, 5 V
Maximum load with silver-plated contacts	10(4) A, 250 V~, 50 W, 250 V=
Minimum load with silver-plated contacts	100 mA, 24 V

Parameters

Pressure connection	G½" male
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Ambient conditions

Admissible sensor temperature	70 °C
Admissible ambient temperature	-20...70 °C

Construction

Fitting	Pipe and wall mounting
Housing	Transparent cover
Housing material	Impact-proof thermoplastic
Housing-mounted plug	Standard plug with female cable connector for cable of Ø 6...10 mm

Standards and directives

Type of protection ²⁾	IP 65 (EN 60529)
Protection class	I (IEC 60730)
CE conformity as per ³⁾	Low-voltage directive 2006/95/EC
	EN 60730-1, EN 60730-2-6
	EMC directive 2004/108/EC
	EN 61000-6-1, EN 61000-6-2
	EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Setting range	Switching difference	Maximum pressure	Admissible vacuum loading	Weight
DSA140F002	0.5...2.5 bar	0.25 bar	12 bar	-0.7 bar	0.5 kg
DSA143F002	0.5...6 bar	0.3 bar	16 bar	-0.7 bar	0.5 kg
DSA146F002	1...10 bar	0.4 bar	20 bar	-1.0 bar	0.4 kg

DSA: Pressure sensor made of brass for non-aggressive media; X_s = upper switching point

¹⁾ If the contacts are subjected to a load greater than specified, the gold plating will be destroyed. They are then classed merely as silver contacts and lose the properties of gold-plated contacts

²⁾ Depending on the fitting position, see the fitting instructions

³⁾ Excluded by the directive on pressure equipment 97/23/EC (as per Art. 1.3.6)



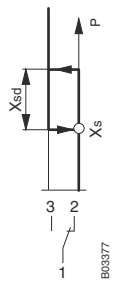
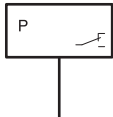
Accessories

Type	Description
0035465000	Throttle screw for absorbing pressure surges, brass
0192222000	Cap nut with solder connector
0192700000	1 m capillary tube for absorbing pressure surges, copper
0214120000	Throttle screw for absorbing pressure surges, stainless steel
0259239000	Reduction piece G $\frac{1}{2}$ " on 7/16" 20-UNF-2A for copper tubes of \varnothing 6 mm, brass
0292001000	Setpoint adjuster according to customer's wishes (setting accuracy: $\pm 3\%$ of the setting range, but a minimum of ± 0.2 bar)
0292004000	Setpoint adjuster sealed (with accessory 0292001 only)
0292018001	Damping screw for absorbing pressure surges in low viscosity media
0292150001	Fixing bracket for wall mounting
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 \times 7.5 mm and 35 \times 15 mm
0311572000	Screw fitting for copper tubes of \varnothing 6 mm, brass
0381141001	Profile sealing ring, copper, for G $\frac{1}{2}$ "

☛ 0296936000: with accessory 0292150001 only



DSB143F001



DSB, DSF: Pressure monitors and pressure switches

Features

- For regulating and monitoring pressure in liquids, gases and vapours
- Adjustable lower switching point
- Adjustable switching difference
- Sealable
- Pressure sensor made of brass for non-aggressive media (DSB)
- Pressure sensor made of stainless steel for aggressive media (DSF)

Technical data

Power supply

Maximum load with gold-plated contacts ¹⁾	400 mA, 24 V, 10 VA
Minimum load with gold-plated contacts	4 mA, 5 V
Maximum load with silver-plated contacts	10(4) A, 250 V~, 50 W, 250 V=
Minimum load with silver-plated contacts	100 mA, 24 V

Parameters

Pressure connection	G½" male
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Ambient conditions

Admissible ambient temperature	-20...70 °C
Temperature of medium	≤ 110 °C

Construction

Housing	Transparent cover
Housing material	Impact-proof thermoplastic
Housing-mounted plug	Standard plug with female cable connector for cable Ø 6...10 mm

Standards and directives

Type of protection ²⁾	IP 65 (EN 60529)
Protection class	I (IEC 60730)
Test marks ³⁾	TÜV DWFS (SDBFS) ID: 0000006024
PED	VdTÜV pressure information sheet 100 cat. IV (as SDBFS) EN 12952-11, EN 12963-9
TRD	604, sheet 1 and sheet 2
Ship approved	Germanischer Lloyd (GL) ID: 42652-02HH Lloyds Register ID: 02/20038 (E1)
CE conformity as per	EMC directive 2004/108/EC EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC EN 60730-1, EN 60730-2-6

¹⁾ If the contacts are subjected to a load greater than specified, the gold plating will be destroyed. They are then classed merely as silver contacts and lose the properties of gold-plated contacts
²⁾ Depending on the fitting position, see the fitting instructions
³⁾ DWFS (SDBFS): As a safety pressure limiter when an external electrical locking facility is fitted downstream in the circuit. Certificates can be downloaded from www.tuv.com



Overview of types

Type	Setting range	Switching difference	Maximum pressure	Max. sensor temp.	Admissible vacuum loading	Weight
DSB138F001	0...1.6 bar	0.25...0.65 bar	12 bar	70 °C	-0.7 bar	0.5 kg
DSB140F001	0...2.5 bar	0.25...0.75 bar	12 bar	70 °C	-0.7 bar	0.5 kg
DSB143F001	0...6 bar	0.3...1.6 bar	16 bar	70 °C	-0.7 bar	0.5 kg
DSB146F001	0...10 bar	0.8...3.7 bar	30 bar	70 °C	-1 bar	0.4 kg
DSB152F001	6...16 bar	1...4 bar	30 bar	70 °C	-1 bar	0.4 kg
DSB158F001	0...25 bar	1...7.5 bar	60 bar	70 °C	-1 bar	0.4 kg
DSB170F001	5...40 bar	1.4...7.5 bar	60 bar	70 °C	-1 bar	0.4 kg
DSF125F001	-1...1.5 bar	0.25...0.75 bar	12 bar	110 °C	-1 bar	0.5 kg
DSF127F001	-1...5 bar	0.3...1.5 bar	16 bar	110 °C	-1 bar	0.5 kg
DSF135F001	0...0.6 bar	0.12...0.60 bar	12 bar	110 °C	-1 bar	0.5 kg
DSF138F001	0...1.6 bar	0.25...0.7 bar	12 bar	110 °C	-1 bar	0.5 kg
DSF140F001	0...2.5 bar	0.25...0.75 bar	12 bar	110 °C	-1 bar	0.5 kg
DSF143F001	0...6 bar	0.3...1.5 bar	16 bar	110 °C	-1 bar	0.5 kg
DSF146F001	0...10 bar	0.8...3.0 bar	18 bar	110 °C	-1 bar	0.5 kg
DSF152F001	0...16 bar	1.2...3.8 bar	60 bar	110 °C	-1 bar	0.3 kg
DSF158F001	0...25 bar	1.5...8.0 bar	60 bar	110 °C	-1 bar	0.3 kg
DSF170F001	15...40 bar	1.7...8.2 bar	60 bar	110 °C	-1 bar	0.3 kg

☛ DSB: Pressure sensor made of brass for non-aggressive media; X_S = lower switching point

☛ DSF: Pressure sensor made of stainless steel for aggressive media; X_S = lower switching point

☛ The switching difference must be within the setting range of the switching point. The minimum values of the switching difference are only possible in the lower setting range.

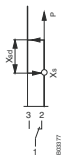
Accessories

Type	Description
0035465000	Throttle screw for absorbing pressure surges, brass
0192222000	Cap nut with solder connector
0192700000	1 m capillary tube for absorbing pressure surges, copper
0214120000	Throttle screw for absorbing pressure surges, stainless steel
0259239000	Reduction piece G $\frac{1}{2}$ " on 7/16" 20-UNF-2A for copper tubes of \varnothing 6 mm, brass
0292001000	Setpoint adjuster according to customer's wishes (setting accuracy: $\pm 3\%$ of the setting range, but a minimum of ± 0.2 bar)
0292002000	Switching difference according to customers' wishes (setting accuracy: $\pm 5\%$ of the setting range, but a minimum of ± 0.05 bar, with accessory 0292001 only)
0292004000	Setpoint adjuster sealed (with accessory 0292001 only)
0292018001	Damping screw for absorbing pressure surges in low viscosity media
0292150001	Fixing bracket for wall mounting
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 x 7.5 mm and 35 x 15 mm
0311572000	Screw fitting for copper tubes of \varnothing 6 mm, brass
0381141001	Profile sealing ring, copper, for G $\frac{1}{2}$ "

☛ 0296936000: with accessory 0292150001 only



DSH1**F001



DSL1**F001



DSH1**F001



DSL, DSH: Pressure limiters, special construction

Features

- Switching point can be set
- Sealable
- Pressure sensor made of brass for non-aggressive media (DSL)
- Pressure sensor made of stainless steel for aggressive media (DSH)
- Locking type: with falling pressure (DSL) or with rising pressure (DSH)

Technical data

Power supply

Maximum load with gold-plated contacts ¹⁾	400 mA, 24 V, 10 VA
Minimum load with gold-plated contacts	4 mA, 5 V
Maximum load with silver-plated contacts	10(4) A, 250 V~, 50 W, 250 V=
Minimum load with silver-plated contacts	100 mA, 24 V

Parameters

Pressure connection	G $\frac{1}{2}$ " male
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Ambient conditions

Admissible ambient temperature	-20...70 °C
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Construction

Housing	Transparent cover
Housing material	Impact-proof thermoplastic
Housing-mounted plug	Standard plug with female cable connector for cable of \varnothing 6...10 mm

Standards and directives

Type of protection ²⁾	IP 65 (EN 60529)
Protection class	I (IEC 60730)
Test marks ³⁾	TÜV DSL: SDBF ID: 0000006022 DSH: SDB ID: 0000006023 PED: 97/23/EC, cat. IV
TRD	604, sheet 1 and sheet 2
Ship approved	Germanischer Lloyd (GL) ID: 42653-02HH Lloyds Register ID:02/20038 (E2)
CE conformity as per	EMC directive 2004/108/EC EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC EN 60730-1, EN 60730-2-6
	PED VdTÜV pressure information sheet 100, cat. IV EN 12952-11 EN 12953-9

¹⁾ If the contacts are subjected to a load greater than specified, the gold plating will be destroyed. They are then classed merely as silver contacts and lose the properties of gold-plated contacts

²⁾ Depending on the fitting position, see the fitting instructions

³⁾ Certificates can be downloaded from www.tuv.com



Overview of types

i Min. change for reset: average values

Type	Setting range	Min. change for reset	Maximum pressure	Admissible sensor temperature	Admissible vacuum loading	Weight
DSL140F001	0...2.5 bar	0.4 bar	12 bar	70 °C	-0.7 bar	0.5 kg
DSL143F001	0...6 bar	0.5 bar	16 bar	70 °C	-0.7 bar	0.5 kg
DSL152F001	6...16 bar	1.2 bar	30 bar	70 °C	-1.0 bar	0.4 kg
DSH127F001	-1...5 bar	-0.4 bar	16 bar	110 °C	-1.0 bar	0.5 kg
DSH143F001	0.5...6 bar	-0.45 bar	16 bar	110 °C	-0.7 bar	0.5 kg
DSH146F001	1...10 bar	-0.8 bar	18 bar	110 °C	-1.0 bar	0.5 kg
DSH152F001	2...16 bar	-1.5 bar	60 bar	110 °C	-1.0 bar	0.3 kg
DSH158F001	5...25 bar	-1.8 bar	60 bar	110 °C	-1.0 bar	0.3 kg
DSH170F001	15...40 bar	-2.0 bar	60 bar	110 °C	-1.0 bar	0.3 kg

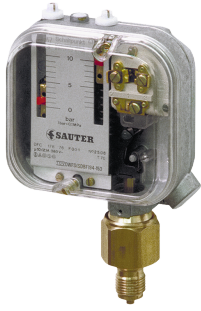
☛ DSL: locks when the pressure falls (SDBF); pressure sensor of brass for non-aggressive media

☛ DSH: locks when the pressure rises (SDB); pressure sensor of stainless steel

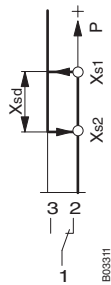
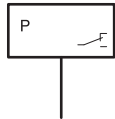
Accessories

Type	Description
0035465000	Throttle screw for absorbing pressure surges, brass
0192222000	Cap nut with solder connector
0192700000	1 m capillary tube for absorbing pressure surges, copper
0214120000	Throttle screw for absorbing pressure surges, stainless steel
0259239000	Reduction piece G $\frac{1}{2}$ " on 7/16" 20-UNF-2A for copper tubes of \varnothing 6 mm, brass
0292001000	Setpoint adjuster according to customer's wishes (setting accuracy: $\pm 3\%$ of the setting range, but a minimum of ± 0.2 bar)
0292004000	Setpoint adjuster sealed (with accessory 0292001 only)
0292018001	Damping screw for absorbing pressure surges in low viscosity media
0292150001	Fixing bracket for wall mounting
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 x 7.5 mm and 35 x 15 mm
0311572000	Screw fitting for copper tubes of \varnothing 6 mm, brass
0381141001	Profile sealing ring, copper, for G $\frac{1}{2}$ "

☛ 0296936000: with accessory 0292150001 only



DFC17B76F001



DFC 17B, 27B: Heavy-duty pressure switch

Features

- For regulating and monitoring pressure in liquids, gases and vapours
- Especially suitable for installations subject to vibrations
- Contact rating 1 mA/6 V to 10 A/400 V
- Gold-plated silver contacts, vibration-proof snap-action switch with single-pole change-over switch
- Upper and lower switching points can be set independently of each other
- Sealable
- Splashproof
- DFC17B**F001: Pressure sensor made of brass for non-aggressive media
- DFC27B**F002: Pressure sensor made of stainless steel for aggressive media

Technical data

Power supply

Maximum load with gold-plated contacts ¹⁾	200 mA, 50 V
Minimum load with gold-plated contacts	1 mA, 6 V
Maximum load with silver-plated contacts ²⁾	10(2) A, 400 V~ (25 W), 250 V=
Minimum load with silver-plated contacts	100 mA, 24 V

Ambient conditions

Temperature of medium	≤ 110 °C
Admissible ambient temperature	-40...70 °C

Construction

Housing	Transparent cover
Housing material	Light metal
Cable inlet	PG 13.5
Screw terminals	For wire of up to 2.5 mm ²
Pressure connection	G½" male

Standards and directives

Type of protection ³⁾	IP 44 (EN 60529)
Protection class	I (IEC 60730)
Test marks ⁴⁾	DWFS (SDBF) ID: 0000006018 DWFS (SDB) ID: 0000006019 DB (SDBF) ID: 0000006017
Mode of operation	Type 2 B (EN 60730)
Ship approved	Germanischer Lloyd (GL) ID: 99589-84HH, 99588-84HH, 99587-84HH
CE conformity as per	Low-voltage directive 2006/95/EC EN 60730-1, 60730-2-6 EMC directive 2004/108/EC EN 6100-6-1, EN61000-6-2 EN 61000-6-3, EN 61000-6-4 PED 97/23/EC, cat. IV VdTÜV pressure information sheet 100, sheet 1, cat. IV, DIN 3398 T4 EN 12952-11, EN 12953-9

¹⁾ If the contacts are subjected to a load greater than 200 mA, 50 V, the gold plating will be destroyed. They are then classed merely as silver contacts and lose the properties of gold-plated contacts

²⁾ Take the RC circuitry into account for inductive loads
230/400 V networks

From 70 °C media temperature, the current must be reduced to 6 A


³⁾ IP 54 with accessory 0259299000

⁴⁾ Certificates can be downloaded from www.tuv.com



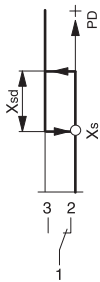
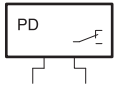
Overview of types

Type	Setting range (bar)	Switching difference (bar)	Maximum pressure (bar)	Max. temp., sensor (°C)	Admissible vacuum loading (bar)	Weight (kg)
DFC17B54F001	0...2.5	0.14	16	70	-0.7	1.2
DFC17B58F001	0...6.0	0.18	16	70	-1.0	1.2
DFC17B59F001	-1...5.0	0.2	16	70	-1.0	1.2
DFC17B76F001	0...10	0.5	40	70	-1.0	1.1
DFC17B78F001	0...16	0.5	40	70	-1.0	1.1
DFC17B79F001	16...32	0.8	42	70	-1.0	1.1
DFC17B96F001	0...25	1.7	100	70	-1.0	1
DFC17B97F001	25...50	2	100	70	-1.0	1
DFC17B98F001	0...40	1.8	100	70	-1.0	1
DFC27B26F002	-1...2.5	0.3	21	110	-1.0	0.9
DFC27B43F002	0.5...6.0	0.3	21	110	-1.0	0.9
DFC27B46F002	1...10	0.3	21	110	-1.0	0.9
DFC27B52F002	2...16	0.3	21	110	-1.0	0.9

 The switching difference must be within the setting range of the switching point. The minimum values of the switching difference are only possible in the lower setting range.

Accessories

Type	Description
0192222000	Cap nut with solder connector
0259239000	Reduction piece G $\frac{1}{2}$ " on 7/16" 20-UNF-2A for copper tubes of \varnothing 6 mm, brass
0311572000	Screw fitting for copper tubes of \varnothing 6 mm, brass
0035465000	Throttle screw for absorbing pressure surges, brass
0214120000	Throttle screw for absorbing pressure surges, stainless steel
0192700000	1 m capillary tube for absorbing pressure surges, copper
0292018001	Damping screw for absorbing pressure surges in low viscosity media
0259189000	Holder for raised wall mounting
0259409000	Fixing bracket (provides 3-point fixing with accessory 0259189)
0259299000	Cable screw fitting PG 13.5
0292019001	Setpoint adjustment for each switching point according to customer's wishes (setting accuracy: $\pm 3\%$ of the setting range)
0292019002	Sealing of the adjustment screw for each switching point (only with accessory 0292019001)
0381141001	Profile sealing ring, copper, for G $\frac{1}{2}$ "



DSD: Differential-pressure switch

Features

- For regulating and monitoring pressure in liquids, gases and vapours
- Flow monitoring for circulation pumps
- 0.2...16 bar pressure setting range
- 4 mA / 5 V to 10 A / 250 V contact rating
- Up to 110 °C media temperature
- Gold-plated silver contacts
- Adjustable switching difference
- Sealable
- > 1x 10⁶ switchings as mechanical life expectancy
- Especially suitable for installations subject to vibrations

Technical data

Power supply

Load with silver-plated contacts for higher loads ¹⁾	10(3) A, 250 V~ 50 W, 250 V=
Minimum load with silver-plated contacts	100 mA, 24 V
Load with gold-plated contacts ²⁾	160 mA, 50 V
Minimum load with gold-plated contacts	4 mA, 5 V

Parameters

Max. sensor values	110 °C
Reproducibility	From X _s ± 2% of the range

Ambient conditions

Admissible ambient temperature	-20...70 °C
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Construction

Weight	0.63 kg
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Standards and directives

Type of protection	IP 65 (EN 60529)
Protection class	I (IEC 60730)
CE conformity as per ³⁾	Low-voltage directive 2006/95/EC
	EN 60730-1/ EN 60730-2-6
	EMC directive 2004/108/EC
	EN 61000-6-1/ EN 61000-6-2 EN 61000-6-3/ EN 61000-6-4

Overview of types

i Differential-pressure switch with adjustable switching difference: DSD 137, 140, 143, 152

i Differential-pressure switch with fixed, small switching difference: DSD 134

Type	Setting range (bar)	Switching difference (bar)	Max. sensor values	Admissible vacuum loading
DSD137F001	0.2...1.0	0.20...1.4	6	-0.7
DSD140F001	0.4...2.5	0.40...1.6	10	-0.7
DSD143F001	0.5...6.0	0.45...2.2	12	-0.7
DSD152F001	1.0...16	0.60...3.4	25	-1.0
DSD134F101	0.05...0.4	0.04	6	-0.7

¹⁾ Take the RC circuitry into account for inductive loads

²⁾ If the contacts are subjected to a greater load than 160 mA, 50 V, the gold plating will be destroyed. They are then classed merely as silver contacts and lose the properties of gold-plated contacts

³⁾ Not subject to PED Art 1.3.6 of PED



Accessories

Type	Description
0190403005	Connector with cap nut (Serto system), brass, 2 pcs required
0259984000	Bracket for 3-point fixing
0292110001	Two throttle screws Rp 1/8 for absorbing pressure surges, stainless steel
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 × 7.5 mm and 35 × 15 mm



Humidistats

Room-, panel- and duct-mounted humidistats are employed for monitoring and controlling devices that are used for humidity regulation (fans, driers and humidifiers).

Overview of humidistats



Type codes	HSC 120	HSC 101	HBC
Application			
Room	•	–	–
Panel-mounted	–	•	–
Channel	–	–	•
Further information	Page 43	Page 46	Page 44

HSC 120: Room humidistat

Features

- Monitoring and regulation of relative air humidity in rooms by controlling fans, drying units and air humidifiers
- Variable relative humidity as setpoint based on printed scale in % rh
- Measurement taken via a measuring element of stabilised synthetic textile tape.
- Micro-switch with fixed switching difference X_{Sd}

Technical data

Power supply

Max. load	5(3) A, 250 V~
Min. load	100 mA, 24 V

Parameters

Setting range	30...90% rh
Setting accuracy ¹⁾	±5% rh
Humidity calibration at	55% rh, 23 °C
Switching difference	Typ. 6% rh
Long-term stability	Approx. -1.5% rh/a
Time constant in moving air (0.2 m/s)	Approx. 5 min
Temperature influence	0.5% rh/K

Ambient conditions

Operation	Humidity (non-condensing)	30...90% rh
	Temperature	0...50 °C
Storage and transport	Humidity (non-condensing)	10...95% rh
	Temperature	-20...70 °C

Construction

Weight	0.09 kg
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Screw terminals	For wire of up to 1.5 mm ²

Standards and directives

	Type of protection	IP 20 (EN 60529)
	Protection class	II (IEC 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-13

Overview of types

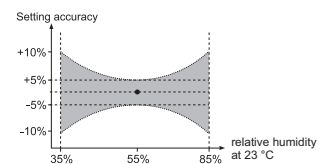
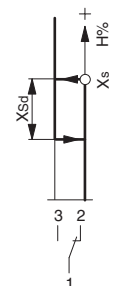
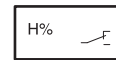
Type	Features
HSC120F001	External setpoint adjuster
HSC120F010	Internal setpoint adjuster

Accessories

Type	Description
0362225001	Intermediate plate, pure white, for wall mounting on recessed junction box



HSC120F0**

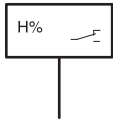


¹⁾ The setting accuracy of the humidistat is valid for the calibration point ±5% rh at 55% rh and 23 °C following initial calibration at the factory. See diagram "Setting accuracy". In general, humidity sensors (humidistats) are subject to increased ageing if they are used and/or stored in very contaminated air or aggressive gases. The humidistat may start to drift and its linearity may change under these conditions. If the humidistats are used in very contaminated air, the warranty does not cover a premature re-calibration or the replacement of the complete humidistat

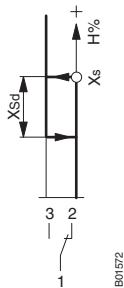




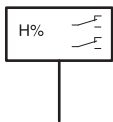
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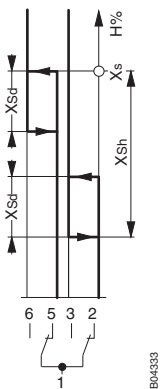
HBC111F001



HBC111F001



HBC112F001



HBC112F001

HBC: Duct-mounted humidistat

Features

- Monitoring and regulation of relative air humidity by controlling fans, drying units and air humidifiers
- Temperature-compensated humidity sensor
- Variable relative humidity as setpoint based on printed scale in % rh
- Includes fixing bracket with seal for duct or wall mounting
- To be fitted in a ventilation duct or on a wall
- With single-pole change-over contacts and fixed switching difference X_{sd}
- Immersion depth 130...156 mm; includes fixing bracket

Technical data

Power supply

Max. load	5(3) A, 250 V~
Min. load	100 mA, 24 V

Parameters

Setting range	15...95% rh
Setting accuracy	±5% rh
Humidity calibration at	55% rh, 23 °C
Temperature influence	Compensated
Long-term stability	-1.5% rh/a
Time constant in moving air (0.2 m/s)	Approx. 3 min
Switching difference X_{sd}	4% rh (after humidity calibration)
Max. air speed	10 m/s

Ambient conditions

Operation	Humidity (non-condensing)	30...90% rh
	Temperature	0...70 °C
Storage and transport	Humidity (non-condensing)	10...95% rh
	Temperature	-20...70 °C

Construction

Housing material	Glass-fibre-reinforced thermoplastic
Housing cover	Thermoplastic, sealable
Sensor tube	Glass-fibre-reinforced thermoplastic, Ø 30 mm
Cable inlet	PG 11
Screw terminals	For wire of up to 1.5 mm ²

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	II (IEC 60730)
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-13

Overview of types

Type	Switching range X_{sh}	Number of switches	Weight
HBC111F001	-	1	0.33 kg
HBC112F001	6...25% rh	2	0.35 kg

💡 HBC 112: For 3-point control or min./max. monitoring and internally adjustable switching range X_{sd}

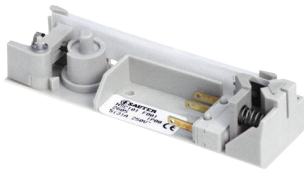


Accessories

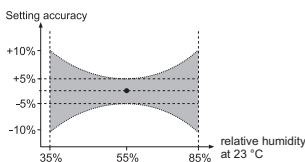
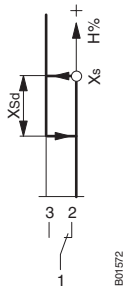
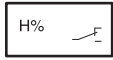
Type	Description
0303538001	Set for increasing protection rating to IP 55 (housing lid with transparent cap for setpoint knob, seal, 1 cable screw fitting - PG 11, 1 plug - PG 11)
0370560011	Cable screw fitting PG 11, plastic, for cable of Ø 9...11 mm



HSC 101: Panel-mounted humidistat (packing unit: 50 pieces)



HSC101F001



Features

- Monitoring and regulation of relative air humidity by controlling fans, drying units and air humidifiers
- Adjustment of change-over point via setpoint adjustment axis
- Suitable for fitted applications with protection class II
- Measurement via a measuring element of stabilised synthetic textile tape
- Secured with bolting hole and fixing hole (blind hole)
- Micro-switch with single-pole change-over contacts and fixed switching difference
- Suitable for panel-mounted units only

Technical data

Power supply

Max. load	5(3) A, 250 V~
Min. load	100 mA, 24 V

Parameters

Setting range	25...95% rh
Setting accuracy ¹⁾	±5% rh
Humidity calibration at	55% rh, 23 °C
Switching difference ²⁾	6% rh
Long-term stability	-1.5% rh/a
Time constant in moving air (0.2 m/s)	Approx. 3 min
Temperature influence	0.5% rh/K

Ambient conditions

Operation	Humidity (non-condensing)	25...95% rh
	Temperature	0...70 °C
Storage and transport	Humidity (non-condensing)	10...95% rh
	Temperature	-20...70 °C

Construction

Weight	0.03 kg
Baseplate	Thermoplastic
Electrical connection	AMP terminals 2.8 mm

Standards and directives³⁾

	Type of protection	IP 00 (EN 60529)
	Protection class	0 (IEC 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 55014 Art. 4.2
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-13

Overview of types

Type	Properties
HSC101F001	Panel-mounted humidistat

¹⁾ The setting accuracy of the humidistat is valid for the calibration point ±5% rh at 55% rh and 23 °C following initial calibration at the factory. See diagram "Setting accuracy". In general, humidity sensors (humidistats) are subject to increased ageing if they are used and/or stored in very contaminated air or aggressive gases. The humidistat may start to drift and its linearity may change under these conditions. If the humidistats are used in very contaminated air, the warranty does not cover a premature re-calibration or the replacement of the complete humidistat

²⁾ Can be substantially improved by recalibration during usage

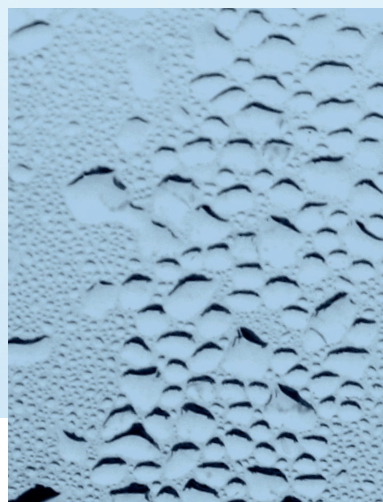
³⁾ The fitting method must adhere to the relevant safety standards



Data capture

Accurate measured values are the basis of efficient control.

The results of the data capture form the basis for controlling and monitoring, and also for value visualisation. SAUTER provides quality sensors for all physical variables, such as temperature, humidity, pressure, air flow and air quality, that are specifically geared towards building automation and HVAC engineering.



Data capture

Temperature

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Temperature sensors

SAUTER temperature sensors are used for heating and air-conditioning systems. They can be used, for example, in residential, office and business premises. Due to the different types available, they have a wide range of applications. They are used to measure room, duct, outside and pipe temperatures. When used in containers and pipes, they are fitted in protective tubes.

Overview of temperature sensors



Type codes	EGT 130	EGT 330...335, 430	EGT 336, 338, 436, 636, 638	EGT 301, 401
Application				
Pipe/duct	–	–	–	–
Cable	–	–	–	–
Room (passive)	–	•	•	–
Room (active)	•	–	–	–
Clamp-on temperature	–	–	–	–
Outside temperature	–	–	–	•
Further information	Page 52	Page 53	Page 54	Page 55



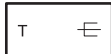
Type codes	EGT 354, 356, 456	EGT 355
Application		
Pipe/duct	–	–
Cable	•	•
Room (passive)	–	–
Room (active)	–	–
Clamp-on temperature	–	–
Outside temperature	–	–
Further information	Page 56	Page 58



Type codes	EGT 346...348, 446, 447	EGT 392...393	EGT 311, 411
Application			
Pipe/duct	•	•	–
Cable	–	–	–
Room (passive)	–	–	–
Room (active)	–	–	–
Clamp-on temperature	–	–	•
Outside temperature	–	–	–
Further information	Page 59	Page 61	Page 64



EGT130F001



EGT 130: Room-temperature sensor

Features

- Temperature recording for heating and air conditioning units in dry rooms such as residential, office and business areas.
- Active data capture 0...10 V
- Suitable for fitting directly to walls
- Nickel thin-film sensor as per DIN 43760
- Possible to connect an external Ni1000 temperature sensor

Technical data

Power supply		
Power supply		24 V~/=, ±20%
Power consumption		1 VA
Parameters		
Measuring range		0...50 °C
Time constant		12 min
Ambient conditions		
Admissible ambient temperature		0...50 °C
Admissible ambient humidity		0...95% rh
Inputs/Outputs		
Output signal		0...10 V; load > 5 kΩ
Construction		
Weight		0.1 kg
Housing		Pure white (RAL 9010)
Housing material		Fire-retardant thermoplastic
Screw terminals		For wire of up to 1.5 mm ²
Cable inlet		At rear
Standards and directives		
Type of protection		IP 30 (EN 60529)
EMC directive 2004/108/EC		EN 61000-6-1, EN 61000-6-3

Overview of types

Type	Properties
EGT130F001	Room-temperature sensor

Accessories

Type	Description
0303124000	Recessed junction box
0313347001	Cover plate, pure white, for 76 × 76 mm



EGT 330...335, 430: Room-temperature sensor

Features

- Passive data acquisition
- Temperature measurement in dry rooms
- Measurement using a nickel thin-film sensor as per DIN 43760 (EGT3**F101) or platinum thin-film sensor as per EN 60751 (EGT430F101)
- Variants with setpoint adjuster, presence button and status LED
- Parametrisation using SAUTER EY3600 or a SAUTER flexotron controller (EGT332F101)
- Built-in resistor (EGT333F101) that adjusts the setpoint in conjunction with equitherm controllers, with or without influence of room temperature

Technical data

Parameters

	Measuring range	-20...60 °C
	Self-heating	0.17 K/mW
Time characteristic	Time constant in still air	18 min
	Dead time in still air	50 s
Resistance values of Ni1000 as per EN 43760, Class B (EGT3**F101)	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.4 K
	Average temperature coefficient	6,18 Ω/K
	Nominal value at 0 °C	1000 Ω
Resistance values of Pt1000 as per EN 60751, Class B (EGT430F101)	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.3 K
	Average temperature coefficient	3,85 Ω/K

Construction

Weight	1 kg
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Cable inlet	At rear
Screw terminals	For wire of up to 1.5 mm ²
Dimensions	76 × 76 mm
Baseplate	can be slotted on; black

Standards and directives

Type of protection	IP 30 (EN 60529)
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Overview of types

Type	Measuring element	Additional feature
EGT330F101	Ni1000	-
EGT332F101	Ni1000	For flexotron + DDC
EGT333F101	Ni1000	For equitherm + RDT7**
EGT335F101	Ni1000	for DDC
EGT430F101	Pt1000	-

☛ EGT332F101: not for flexotron 100

☛ EGT333F101: 1000 Ω when adjuster knob is in the middle position

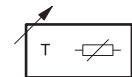
☛ EGT335F101: with occupancy button and 3 LEDs

Accessories

Type	Description
0303124000	Recessed junction box
0313347001	Cover plate, pure white, for 76 × 76 mm



EGT332F101



EGT*30F101



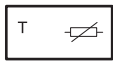
EGT 336, 338, 436, 636, 638: Room-temperature sensor



EGT336F101

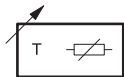
EGT436F101

EGT636F101



EGT338F101

EGT638F101



Features

- Passive room temperature measurement
- Room-temperature sensor with a wide range of different functions, designs and colours
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory
- For temperature measurement in dry rooms (e.g. in residential properties, offices and business premises)

Technical data

Parameters		
Time characteristic	Measuring range	-20...60 °C
	Time constant in still air	12 min
	Dead time in still air	50 s
Resistance values of Ni1000 as per DIN 43760 (EGT33*F10*)	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.4 K
	Average temperature coefficient	6,18 Ω/K
Resistance values of Pt1000 as per EN 60751 (EGT436F101)	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.3 K
	Average temperature coefficient	3,85 Ω/K
Resistance values of NTC as per B _{25/85} , 3977 K (EGT63*F101)	Nominal value at 25 °C	10 kΩ
	Tolerance at 25 °C	± 0,75%

Construction

Dimensions W x H x D	60 × 60 × 25 mm
Weight	0.1 kg
Housing material	Fire-retardant thermoplastic
Connection terminals	Pluggable; for wire of 0.12...0.5 mm ² (Ø 0.4...0.8 mm)
Cable inlet	At rear

Standards and directives

Type of protection	IP 30 (EN 60529)
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Overview of types

Type	Measuring element	Adjuster	Additional feature
EGT336F101	Ni1000	-	-
EGT338F101	Ni1000	1.3...8 kΩ	For DDC
EGT338F102	Ni1000	100 Ω	12...28 °C for flexotron400 and 800
EGT436F101	Pt1000	-	-
EGT636F101	NTC 10k	-	-
EGT638F101	NTC 10k	1.3...8 kΩ	For ecos 3

⚡ EGT338F101: Not for flexotron 100

Accessories

Type	Description
0940240***	For frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.055
0949241301	Transparent cover (10 pcs.)



EGT 301, 401: Outside-temperature sensor

Features

- Passive data acquisition
- Measurement using a nickel thin-film sensor as per DIN 43760 (EGT301F101) or platinum thin-film sensor as per EN 60751 (EGT401F101)
- Extra protection against dust and humidity
- For weather-compensating heating and ventilation systems



EGT*01F101



Technical data

Parameters		
	Measuring range	-50...80 °C
	Self-heating	0.2 K/mW
Time characteristic	Time constant in moving air (1 m/s)	6 min
	Time constant in still air	10 min
	Dead time in moving air (1 m/s)	1 min
	Dead time in still air	1.5 min
Resistance values of Ni1000 as per DIN 43760 (EGT301F101)	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.4 K
	Average temperature coefficient	6,18 Ω/K
Resistance values of Pt1000 as per EN 60751 (EGT401F101)	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.3 K, Class B
	Average temperature coefficient	3,85 Ω/K

Construction

Weight	0.1 kg
Type of connection	Recessed/surface-mounted

Standards and directives

Type of protection	IP 54 (EN 60529)
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Overview of types

Type	Measuring element
EGT301F101	Ni1000
EGT401F101	Pt1000

Accessories

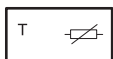
Type	Description
0313346001	Module 0...10 V for Ni1000; R > 5 kΩ; 24 V~, ±20%; IP 00 (IP 42 when fitted in housing), 4 temp. ranges: -50...0 °C; -50...50 °C; 0...50 °C; 0...100 °C
0370560011	Cable screw fitting PG 11, plastic, for cable of Ø 9...11 mm

☛ 0313346001: for EGT 301 only





EGT*5*F***



EGT 354, 356, 456: Cable-type temperature sensor

Features

- Passive data acquisition
- Measurement using a nickel thin-film sensor as per DIN 43760 (EGT354F1**, EGTF356F1**) or platinum thin-film sensor as per EN 60751 (EGT456F**1)
- Particularly suitable for direct connection in installations with short distances between the controllers and the sensors
- Versatile sensor
- Used in pipes and containers using the optional protective tubes (inner diameter 7)

Technical data

Parameters		
	Self-heating	0.11 K/mW
Time characteristic in water 0.4 m/s	Time constant when clamped on pipe ¹⁾	23 s
	Dead time when clamped on pipe	Approx. 7 s
	Time constant with protective tube (inner diameter 7) ²⁾	11 s
	Dead time with protective tube (inner diameter 7)	Approx. 3 s
Resistance values of Ni1000 as per DIN 43760 (EGT354F1**, EGTF356F1**)	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.4 K
	Average temperature coefficient	6,18 Ω/K
Resistance values of Pt1000 as per EN 60751 (EGT456F101)	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.3 K
	Average temperature coefficient	3,85 Ω/K
Resistance values of Pt100 as per EN 60751 (EGT456F101)	Nominal value at 0 °C	100 Ω
	Tolerance at 0 °C	±0.3 K
	Average temperature coefficient	0,385 Ω/K

Construction

Power cable	Ø 5 mm (fitted to the sensor)
Cable cross-section	2 × 0.5 mm ²

Standards and directives

Type of protection	IP 55 (EN 60529)
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Overview of types

Type	Measuring element	Cable length	Measuring range	Material	Weight
EGT354F101	Ni1000	1 m	-20...100 °C	PVC	0.12 kg
EGT354F103	Ni1000	3 m	-20...100 °C	PVC	0.16 kg
EGT354F110	Ni1000	10 m	-20...100 °C	PVC	0.3 kg
EGT354F120	Ni1000	20 m	-20...100 °C	PVC	0.5 kg
EGT356F101	Ni1000	1 m	-40...180 °C	silicone	0.12 kg
EGT356F103	Ni1000	3 m	-40...180 °C	silicone	0.16 kg
EGT356F110	Ni1000	10 m	-40...180 °C	silicone	0.3 kg
EGT456F011	Pt100	1 m	-40...180 °C	silicone	0.12 kg
EGT456F101	Pt1000	1 m	-40...180 °C	silicone	0.12 kg

¹⁾ As a clamp-on sensor with holder and heat-conducting paste

²⁾ With heat-conducting paste



Accessories

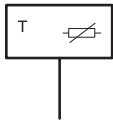
Type	Description
0364345***	Pocket, int. dia. 7; G½ male; brass (see product data sheet)
0364439***	Pocket, int. dia. 7; R½; brass (see product data sheet)
0364346***	Pocket, int. dia. 15; G½ male; brass (see product data sheet)
0364258***	Pocket, int. dia. 15; G½ male; stainless steel (see product data sheet)
0364244***	Protective tube (internal diameter 15); R½; brass (see product data sheet)
0313300***	Silicone cable: custom length for EGT 356 available on demand
0313275***	PVC cable: custom length for EGT 354 available on demand (see product data sheet)
0311835000	Cord grip for cable-type sensors with flexible lead in the protective tube, int. dia. 7
0312520000	Universal cord grip for cable-type sensors and thermostats with capillary tube
0313214001	Fixing kit for all applications (holder, heat-conducting paste, retaining strap)
0313220001	Heat-conducting paste, 20 g in syringe

☛ For more information, see the "Protective tube" product data sheet.

EGT 355: Cable-type temperature sensor with immersion stem



EGT355F***



Features

- Temperature measurement in rooms, air ducts and on surfaces, also suitable in paint shops
- Can be used in pipes and containers using the optional protective tubes (inner diameter 7)
- Passive data acquisition
- Measurement using a nickel thin-film sensor as per DIN 43760
- Particularly suitable for direct connection in installations with short distances between the controllers and the sensors
- Sensor element sealed in immersion pipe (Ø 6.35 mm), made from stainless steel
- Universal and direct fitting without protective tube via immersion stem made from stainless steel

Technical data

Parameters		
	Measuring range	-30...130 °C
	Self-heating (in air)	0.14 K/mW
Time characteristic	Time constant in still air	300 s
	Dead time in still air	5 s
	Time constant in moving air (3 m/s)	60 s
	Dead time in moving air (3 m/s)	2 s
	Time constant in still water	12 s
	Dead time in still water	0.5 s
	Time constant in moving water (0.4 m/s)	9 s
	Dead time in moving water (0.4 m/s)	0.4 s
Resistance values of Ni1000 as per DIN 43760	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.4 K
	Average temperature coefficient	6,18 Ω/K

Construction

Weight	0.1 kg
Power cable	Vulcanised silicone cable Ø 8 mm
Cable length	1.5 m
Active length	30 mm

Standards and directives

Type of protection	IP 42 (EN 60529)
EMC directive 2004/108/EC	EN 61000-6-1/ EN 61000-6-2 EN 61000-6-3/ EN 61000-6-4

Overview of types

Type	Length of stem
EGT355F101	300 mm
EGT355F900	90 mm
EGT355F901	160 mm

Accessories

Type	Description
0312134000	Immersion screw fitting R ¼ (ISO 7/1) made of brass
0312135000	Immersion screw fitting R ¼ (ISO 7/1) made of stainless steel (DIN material no. 1.4401)



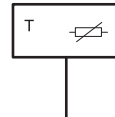
EGT 346...348, 446, 447: Temperature sensor for duct fitting

Features

- Passive data acquisition
- Measurement using a nickel thin-film sensor as per DIN 43760 (EGT34*F101) or platinum thin-film sensor as per EN 60751 (EGT44*F**1)
- Used in pipes and containers with the optional protective tubes (inner diameter 7)
- Cable inlet with cord grip



EGT*4*F101



Technical data

Parameters

	Measuring range	-30...130 °C
	Self-heating (in air)	0.25 K/mW
Time characteristic without protective tube	Time constant in still air	330 s
	Dead time in still air	18 s
	Time constant in moving air (3 m/s)	60 s
	Dead time in moving air (3 m/s)	9 s
Time characteristic with protective tube ¹⁾	Time constant in still water	28 s
	Dead time in still water	7 s
	Time constant in moving water (0.4 m/s)	27 s
	Dead time in moving water (0.4 m/s)	6 s
Resistance values of Ni1000 as per DIN 43760 (EGT34*F101)	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.4 K
	Average temperature coefficient	6,18 Ω/K
Resistance values of Pt1000 as per EN 60751 (EGT44*F101)	Nominal value at 0 °C	1000 Ω
	Tolerance at 0 °C	±0.3 K
	Average temperature coefficient	3,85 Ω/K
Resistance values of Pt100 as per EN 60751 (EGT44*F011)	Nominal value at 0 °C	100 Ω
	Tolerance at 0 °C	±0.3 K
	Average temperature coefficient	0,385 Ω/K

Ambient conditions

Max. temperature of instrument head	80 °C
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Construction

Housing	Yellow and black
Housing material	Fire-retardant thermoplastic
Cable gland	PG 11
Screw terminals	For wire of up to 1.5 mm ²
Immersion stem	Copper, Ø 6.5 mm (without protective tube)

Standards and directives

Type of protection	IP 42 (EN 60529)
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Overview of types

Type	Measuring element	Immersion stem	Active length	Weight
EGT346F101	Ni1000	120 mm	30 mm	0.07 kg
EGT347F101	Ni1000	225 mm	30 mm	0.08 kg
EGT348F101	Ni1000	450 mm	30 mm	0.1 kg
EGT446F101	Pt1000	120 mm	30 mm	0.07 kg

¹⁾ With heat-conducting paste



Type	Measuring element	Immersion stem	Active length	Weight
EGT447F101	Pt1000	225 mm	30 mm	0.08 kg
EGT446F011	Pt100	120 mm	30 mm	0.07 kg
EGT447F011	Pt100	225 mm	30 mm	0.08 kg

Accessories

Type	Description
0364439***	Pocket, int. dia. 7; R½; brass (see product data sheet)
0226811***	Pocket, int. dia. 7; G½ male; stainless steel (see product data sheet)
0364345***	Pocket, int. dia. 7; G½ male; brass (see product data sheet)
0313282001	Clamping part Ø 15 mm / 7 mm for fitting sensor in protective tube, separate delivery
0368840000	Holder for immersion stem on wall
0368839000	Holder for immersion stem in air duct
0313220001	Heat-conducting paste, 20 g in syringe

For EGT 346...348

Type	Description
0313346001	Module 0...10 V for Ni1000; R > 5 kΩ; 24 V~, ±20%; IP 00 (IP 42 when fitted in housing), 4 temp. ranges: -50...0 °C; -50...50 °C; 0...50 °C; 0...100 °C
0313346901	Module 0...10 V for Ni1000; R > 5 kΩ; 24 V=, ± 20%; IP 00 (IP 42 when fitted in housing), 4 temp. ranges: -50...0 °C; -50...50 °C; 0...50 °C; 0...100 °C

 For more information, see the "Protective tube" product data sheet

EGT 392, 393: High temperature sensor for duct fitting

Features

- Passive data acquisition
- Temperature measurement for liquids and gases at high temperatures
- Suitable for fitting in air ducts without additional protective tube
- Measurement made using a nickel thin-film sensor according to DIN 43760

Technical data

Parameters		
	Measuring range	-40...180 °C
	Nominal value at 0 °C	1000 Ω
	Self-heating (in air)	0.25 K/mW
Time characteristic without protective tube	Time constant in still air	530 s
	Dead time in still air	20 s
	Time constant in moving air (0.3 m/s)	63 s
	Dead time in moving air (0.3 m/s)	11 s
Time characteristic with protective tube ¹⁾	Time constant in still water	31 s
	Dead time in still water	8 s
	Time constant in moving water (0.4 m/s)	30 s
	Dead time in moving water (0.4 m/s)	7 s
Resistance values as per DIN 43760	Tolerance at 0 °C	±0.4 K
	Average temperature coefficient	6,18 Ω/K

Ambient conditions

Max. temperature of instrument head	80 °C
Temperature of medium	-60...195 °C (approx. 15 min)

Construction

Housing material	Die-cast aluminium
Connection terminals	For wire with cross-section 2 × 1.5 mm ²
Cable gland	PG 11
Active length	30 mm
Immersion stem	Copper, Ø 9 mm (without protective tube)

Standards and directives

	Type of protection	IP 54 (EN 60529)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1/EN 61000-6-2 EN 61000-6-3/EN 61000-6-4

Overview of types

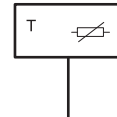
Type	Immersion stem	Weight
EGT392F101	120 mm	0.2 kg
EGT393F101	225 mm	0.25 kg

Accessories

Type	Description
0364346***	Pocket, int. dia. 15; G½ male; brass (see product data sheet)
0364258***	Pocket, int. dia. 15; G½ male; stainless steel (see product data sheet)
0368839000	Holder for immersion stem in air duct



EGT39*F101



¹⁾ With heat-conducting paste



Type	Description
0368840000	Holder for immersion stem on wall
0313220001	Heat-conducting paste, 20 g in syringe



Protective tubes

Features

- To be fitted in pipes and containers for holding sensor cartridges, immersion stems, temperature sensors, temperature controllers or thermostats
- Tested at 1.5 times nominal pressure (PN)
- Made of brass (Ms) or stainless steel (V4A)
- Versions with cylindrical pipe thread (G½" male ISO 228/1, flat-sealing)¹⁾ or cone-shaped (R½" ISO 7/1 sealing in thread)



Overview of types

Type	Internal diameter	Length	Material	Thread	PN	T _{max}
0364439060	7	60 mm	brass	R½"	16 bar	200 °C
0364439100	7	100 mm	Brass	R½"	16 bar	200 °C
0364439120	7	120 mm	brass	R½"	16 bar	200 °C
0364439150	7	150 mm	brass	R½"	16 bar	200 °C
0364439225	7	225 mm	brass	R½"	16 bar	200 °C
0364439300	7	300 mm	brass	R½"	16 bar	200 °C
0364345120	7	120 mm	brass	G½" male	16 bar	200 °C
0364345225	7	225 mm	brass	G½" male	16 bar	200 °C
0364345300	7	300 mm	brass	G½" male	16 bar	200 °C
0364345450	7	450 mm	brass	G½" male	16 bar	200 °C
0226811060	7	60 mm	stainless steel	G½" male	25 bar	325 °C
0226811120	7	120 mm	stainless steel	G½" male	25 bar	325 °C
0226811225	7	225 mm	stainless steel	G½" male	25 bar	325 °C
0226811300	7	300 mm	stainless steel	G½" male	25 bar	325 °C
0226811450	7	450 mm	stainless steel	G½" male	25 bar	325 °C
0226811600	7	600 mm	stainless steel	G½" male	25 bar	325 °C
0364440120	15	120 mm	brass	R½"	16 bar	200 °C
0364346120	15	120 mm	brass	G½" male	16 bar	200 °C
0364346225	15	225 mm	brass	G½" male	16 bar	200 °C
0364346300	15	300 mm	brass	G½" male	16 bar	200 °C
0364346450	15	450 mm	brass	G½" male	16 bar	200 °C
0364258120	15	120 mm	stainless steel	G½" male	25 bar	325 °C
0364258225	15	225 mm	stainless steel	G½" male	25 bar	325 °C
0364258450	15	450 mm	stainless steel	G½" male	25 bar	325 °C
0364258600	15	600 mm	stainless steel	G½" male	25 bar	325 °C

☞ Inner diameter 7: internal Ø 7 mm, external Ø 9 mm

☞ Inner diameter 15: internal Ø 15 mm, external Ø 16 mm; including pressure spring²⁾

Accessories

Type	Description
0311835000	Cord grip for cable-type sensors with flexible lead in the protective tube, int. dia. 7
0312520000	Universal cord grip for cable-type sensors and thermostats with capillary tube
0364140000	Tension-relief piece for use when fitted in protective tubes
0364263000	Welding sleeve of steel, with female thread G½", flat seal of copper
0364264000	Welding sleeve of stainless steel, with female thread G½", flat seal of copper and PTFE (for aggressive media)
0364144***	Pressure spring for sensor in protective tubes LW 15 with L=120; 225; 300; 450

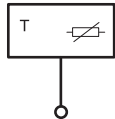
¹⁾ G½" male ISO 228/1, flat-sealing: for welding bushings with flat seal (accessories)

²⁾ For 2 or 3 sensors, Ø 6.5 mm, e.g. combinations with thermostat and sensor cartridges





EGT*11F101



EGT 311, 411: Clamp-on temperature sensor

Features

- Passive data acquisition
- Temperature measurement on pipes
- Including retaining strap for pipes of Ø 10...100 mm
- Heat-conducting paste is supplied with the sensor
- Measurement using a nickel thin-film sensor as per DIN 43760 (EGT311F101) or platinum thin-film sensor as per EN 60751 (EGT411F101)

Technical data

Parameters		
	Measuring range	-30...130 °C
	Self-heating	0.1 K/mW
	Nominal value at 0 °C	1000 Ω
Time characteristic with heat-conducting paste (1 m/s)	Time constant	9 s
	Dead time	1 s
Resistance values of Ni1000 as per DIN 43760 (EGT311F101)	Tolerance at 0 °C	±0.4 K
	Average temperature coefficient	6.18 Ω/K
Resistance values of Pt1000 as per EN 60751 (EGT411F101)	Tolerance at 0 °C	±0.3 K
	Average temperature coefficient	3.85 Ω/K

Ambient conditions

Max. temperature of instrument head	80 °C
-------------------------------------	-------

Construction

Weight	0.1 kg
Screw terminals	for wire of up to 1.5 mm ²
Housing material	fire-retardant thermoplastic
Cable inlet	PG 11

Standards and directives

Type of protection	IP 42 (EN 60529)
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Overview of types

Type	Measuring element
EGT311F101	Ni1000
EGT411F101	Pt1000

Accessories

Type	Description
0313346001	Module 0...10 V for Ni1000; R > 5 kΩ; 24 V~, ±20%; IP 00 (IP 42 when fitted in housing), 4 temp. ranges: -50...0 °C; -50...50 °C; 0...50 °C; 0...100 °C

☛ 0313346001: for EGT 311 only



Humidity sensors

SAUTER humidity sensors are used for the energy-efficient control and monitoring of ventilation systems. Sensors are available for measuring the relative or absolute humidity. They can be used in residential or business premises and can also be fitted in air ducts.

Overview of humidity sensors

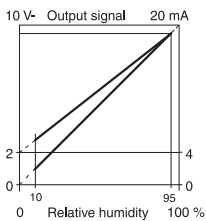
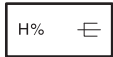


Type codes	EGH 120, 130	EGH 681	EGH 110...112	EGE	EGH 102
Application					
Room, surface-mounted	•	–	–	–	–
Room, recessed	–	•	–	–	–
Channel	–	–	•	•	–
Clamp-on sensor	–	–	–	–	•
Measurement					
Temperature	– / •	•	•	–	–
Relative humidity	•	•	•	–	–
Absolute humidity	–	•	–	•	–
Enthalpy	–	•	–	•	–
Dew point	–	•	–	–	•
Further information	Page 66	Page 67	Page 69	Page 71	Page 73

EGH 120, 130: Humidity and temperature transducer for wall fitting



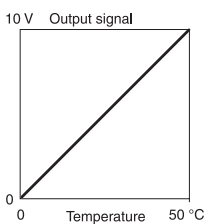
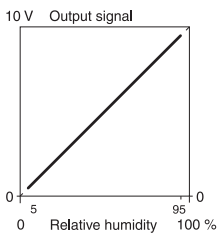
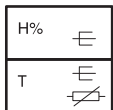
EGH120F001



EGH120F001



EGH130F001



EGH130F001



Features

- Measurement by means of fast capacitive sensor
- Active data capture
- Suitable for fitting directly to walls
- Converts the measured values into a continuous analogue signal

Technical data

Power supply

Power supply	24 V~/=, ±20%
Power consumption	Approx. 0.8 VA

Ambient conditions

Time constant in moving air (0.2 m/s)	Approx. 18 s
Admissible ambient humidity	5...95% rh

Construction

Weight	0.1 kg
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Cable inlet	At rear
Screw terminals	For wire of up to 1.5 mm ²

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	III (IEC 60730)

Overview of types

Type	EGH120F001	EGH130F001
Admissible ambient temperature	0...40 °C	0...50 °C
Measuring range, humidity	10...95% rh	5...95% rh
Output signal, humidity	0...100% rh, 0(2)...10 V/0(4)...20 mA, load > 500 Ω	0...100% rh, 0...10 V, load > 5 kΩ
Temperature influence	±0.05% rh/K, compensated	-0.15% rh/K
Time constant of temperature in moving air (0.2 m/s)	-	approx. 12 min
Temperature measuring range	-	0...50 °C
Output signal for temperature	-	0...50 °C, 0...10 V, load > 5 kΩ
Resistance characteristic	-	½ DIN 43760 (Ni1000)

💡 EGH 120: Output signal for humidity: With a load of < 500 Ω, a change-over to 0...20 mA or 4...20 mA occurs automatically

💡 EGH 130: Output signal for temperature: The output can be changed to Ni1000 (by cutting two wire jumpers)

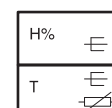
Accessories

Type	Description
0303124000	Recessed junction box
For EGH 120	
Type Description	
0297441000	Cover plate, pure white, for various recessed junction boxes
0369573001	Surface junction box, pure white
For EGH 130	
Type Description	
0313347001	Cover plate, pure white, for 76 × 76 mm

EGH 681: SAUTER viaSens681 humidity and temperature sensor

Features

- Sensor for measuring the relative humidity and the temperature in rooms
- Sensor for controlling the room climate in combination with room automation systems
- Measurement of the room temperature and the relative humidity
- Fast response time and high precision
- Calculation of indirect variables such as absolute humidity, enthalpy, dew point
- Quick, easy overview of the room climate through a multi-coloured LED
- Wide-ranging parameterisation with the CASE Sensors software
- The power supply and the analogue outputs are electrically isolated
- Room sensor in a wide range of designs and colours
- Device insert fits into frame with 55 x 55 mm aperture



Technical data

Power supply

Power supply (SELV) ¹⁾	24 V~, ± 20%, 24 V=, +20%/-15%
Power consumption	0.3 W

Output signal²⁾

Analogue outputs	2 × 0...10 V
Relative humidity	0...100% rh
Temperature	0...50 °C
Load current	0...2 mA (per output)

Parameters

Relative humidity	Measuring range	10...95% rh
	Accuracy (at 23 °C)	± 2.0% rh (40...60% rh) ± 3.5% rh (<40% rh/ >60% rh)
	Reproducibility	± 1% rh
	Resolution	0.2% rh
	Time constant	< 15 s (in air 0.1 m/s, t ₆₃)
	Warming-up time ³⁾	30 min.
Temperature	Measuring range	0-50 °C
	Accuracy (at 23 °C)	± 0.4 °C
	Reproducibility	± 0.15 °C
	Resolution	0.05 °C
	Time constant	< 10 min. (in air 0.1 m/s, t ₆₃)

Calculated variables⁴⁾

Absolute humidity (water vapour content)	Range	0...50 g/kg
	Accuracy (at 23 °C, 55 %rh)	< 1 g/kg
Enthalpy	Range	0...100 kJ/kg
	Accuracy (at 23 °C, 55 %rh)	< 3 kJ/kg
Dew point	Range	-5...30 °C
	Accuracy (at 23 °C, 55 %rh)	< 1.5 °C

¹⁾ SELV: Safety extra low voltage

²⁾ The two analogue outputs can each be assigned a measured or calculated value with CASE sensors. The factory setting is "relative humidity" and "temperature".

³⁾ The precision of the sensor is guaranteed after a warm-up period of approx. 30 minutes. During this period, the LED flashes green.

⁴⁾ The calculated variables are dependent on the temperature and the humidity (see also the diagrams in the "Calculated variables" section). The results are calculated based on a standard air pressure of 1013 mbar. The device is not pressure-compensated.



Ambient conditions		
Operation	Humidity (non-condensing)	10...95% rh
	Temperature	0...50 °C
Storage and transport	Humidity (non-condensing)	10...95% rh
	Temperature	-20-70 °C

LED indicator		
	LED indicator	Three colours - green, yellow, red
	LED function	Display of relative humidity or temperature or a combination of both
	Factory setting	Combination of relative humidity and temperature (according to EN 15251)

Construction		
	Dimensions W x H x D	59.7 × 59.7 × 53 mm (with terminal)
	Housing	Pure white (RAL 9010)
	Plastic insert	Silver (similar to Pantone 877 C)
	Connection terminals	Pluggable screw terminal for conductor cross-section of max. 1.5 mm ²
	Fitting	Recessed Surface-mounted (with accessories)
	Cable inlet	From behind
	Weight	58 g

Standards and directives		
	Type of protection ⁵⁾	IP30 (EN 60730-1)
	Protection class	III (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC	EN 60730-1 (for residential premises)

Overview of types

Type	Description
EGH681SF233	viaSens 681, humidity/temperature room sensor 24V; 0...10V

Accessories

Type	Description
0940240***	For frames, mounting plates and adaptors for third-party frames and surface mounting: see product data sheet PDS 94.055
P100011363	SAUTER film without pictogram for the variable - colour: silver (similar to Pantone 877 C)
0300360001	USB connection set

⁵⁾ when installed

EGH 110...112: Humidity and temperature transducer for duct fitting

Features

- Measures the relative humidity and temperature in air ducts
- Measurement by means of fast capacitive sensor
- Active data capture
- Unaffected by flow speeds and normal contamination
- The accuracy of the measurement of relative humidity can be set
- Immersion depth 50...156 mm – includes fixing bracket

Technical data

Power supply

Power consumption	Approx. 1.5 VA
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Parameters

Time constant in moving air (3 m/s)	Measuring accuracy	±3% rh (at 55% rh, 23 °C) ±10% rh can be set
	Resistance characteristic	DIN 43760 (Ni1000)
	Humidity	Approx. 24 s
	Temperature	Approx. 2 min

Construction

Weight	0.43 kg
Housing material	Thermoplastic
Sensor tube	Ø 30 mm, glass-fibre-reinforced thermoplastic, black
Immersion depth	50...156 mm

Standards and directives

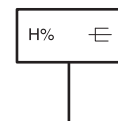
Type of protection (head of instrument)	IP 40 (EN 60529)
Type of protection with PG 11 screw fitting	IP 54
Protection class	III (IEC 60730)

Overview of types

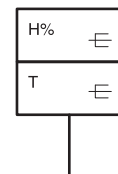
Type	EGH110F002	EGH111F001	EGH111F002	EGH112F001	EGH112F002
Measuring range, humidity	10...95% rh	10...95% rh	10...95% rh	10...95% rh	10...95% rh
Output signal, humidity	0(2)...10 V	0...10 V	0...10 V	0...10 V	0...10 V
Temperature measuring range	-	-20...70 °C	-20...70 °C	0...50 °C	0...50 °C
Output signal for temperature	-	Ni1000	Ni1000	0...10 V	0...10 V
Power supply	24 V~/=, ±20%	24 V~/=, ±20%	24 V~/=, ±20%	24 V~, ±20%, 50...60 Hz	24 V~, ±20%, 50...60 Hz
Output signal	0(2)...10 V, load > 500 Ω	0...10 V, load > 5 kΩ	0...10 V, load > 5 kΩ	0...10 V, load > 5 kΩ	0...10 V, load > 5 kΩ
Temperature influence	±0.05% rh/K	-0.15% rh/K	-0.15% rh/K	±0.05% rh/K	±0.05% rh/K
Admissible ambient temperature	-20...80 °C	-20...70 °C	-20...70 °C	-20...70 °C	-20...70 °C
Admissible ambient humidity	0...100% rh, no condensation	5...95% rh, no condensation	5...95% rh, no condensation	5...95% rh, no condensation	5...95% rh, no condensation
Housing cover	yellow	pure white (RAL 9010)	yellow	pure white (RAL 9010)	yellow



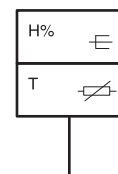
EGH110F002



EGH110F002



EGH111F002



EGH112F002



- EGH 110: with a load of $< 500 \Omega$, a change-over to 0...20 mA or 4...20 mA occurs automatically
- EGH 111, 112: temperature measured by an Ni1000 temperature sensor / EGH 112 with 0...10 V signal output

Accessories

Type	Description
0370560011	Cable screw fitting PG 11, plastic, for cable of $\varnothing 9...11$ mm



EGE: Humidity and enthalpy transformer for duct fitting

Features

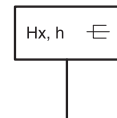
- Measurement of absolute humidity and enthalpy in air ducts
- Measurement by means of fast capacitive sensor
- Active data capture
- Unaffected by flow speeds and normal contamination
- Temperature measurement by Ni1000 temperature sensor (EGE 112)
- Linear output signal 0(2)...10 V or 0(4)...20 mA
- Immersion depth 50...156 mm
- Includes fixing bracket with seal for duct or wall mounting

Technical data

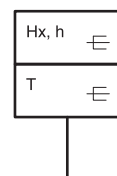
Power supply	
Power supply	24 V~, ±20%, 50...60 Hz
Power consumption	Approx. 1.5 VA
Parameters	
Measuring range, enthalpy	0...100 kJ/kg
Absolute humidity	0...20 g/kg (water content)
Temperature measuring range	-20...50 °C
Max. air speed	10 m/s
Accuracy	x: ± 1 g/kg (at 55% rh, 23 °C) h: ± 3.5 kJ/kg (at 55% rh, 23 °C) ± 0.8 K (at 20 °C)
Hysteresis	x: < 0.4 g/kg (average) h: < 2 kJ/kg (average)
Reproducibility	x: < ± 0.3 g/kg (at Δ 30% rh, 23 °C) h: < ± 1.5 kJ/kg (at Δ 30% rh, 23 °C)
Time constant in moving air (3 m/s)	55 s
Ambient conditions	
Admissible ambient temperature	-20...70 °C
Admissible ambient temperature at measuring tube	-20...80 °C
Admissible ambient humidity	5...100% rh
Effect of temperature x	±0.02 g/kg per K
Effect of temperature h	±0.05 kJ/kg per K
Inputs/Outputs	
Output signal ¹⁾	0(2)...10 V, load > 500 Ω
Output voltage	max. 13 V
Construction	
Sensor tube	Ø 30 mm (black, glass-fibre-reinforced thermoplastic)
Housing cover	Thermoplastic, yellow
Screw terminals	For wire of up to 1.5 mm ²
Standards and directives	
Protection class	III (IEC 60730)
Type of protection (head of instrument)	IP 40 (EN 60529)
Type of protection with PG 11 screw fitting	IP 54
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3



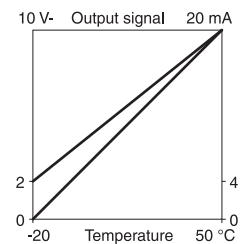
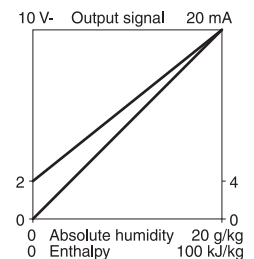
EGE 110F002



EGE 110F002



EGE 112F002



¹⁾ With a load < 500 Ω, a change-over to 0...20 mA or 4...20 mA occurs automatically



Overview of types

Type	Enthalpy	Absolute humidity	Temperature	Weight
EGE110F002	•	0...20 g/kg (water content)	–	0.46 kg
EGE112F002	•	0...20 g/kg (water content)	•	0.44 kg

Accessories

Type	Description
0370560011	Cable screw fitting PG 11, plastic, for cable of Ø 9...11 mm
0369585001	Housing cover, complete, pure white

EGH 102: Dew-point monitor and transducer

Features

- Protects against dew formation on chilled ceilings
- Controls a regulating unit via a holding relay that interrupts the cooling water flow or increases the cooling water temperature.
- Best solution for monitoring chilled-ceiling systems
- Measurement taken by a spring-mounted dew-point monitor
- Active data capture
- Variant with external sensor (EGH102F101)
- Protects against dew formation on chilled ceilings
- Holding relay with change-over contacts
- Includes retaining strap for pipes of \varnothing 10...100 mm and heat-conducting paste

Technical data

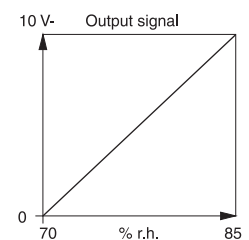
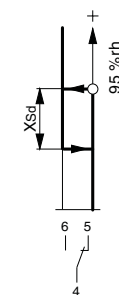
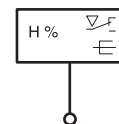
Power supply		
Power supply		24 V~/=, $\pm 20\%$
Power consumption		Max. 1 VA
Parameters		
Measuring range		70...85% rh
Change-over contact ¹⁾		1 A, 24 V~/=
Response time in still air		80 to 99% rh, 99 to 80% rh, max. 3 min
Exposure to dew		Max. 30 min
Switching difference		Fixed, approx. 5% rh
Switching point		95 \pm 4% rh
Ambient conditions		
Admissible ambient temperature		5...60 °C
Inputs/Outputs		
Output signal		Approx. 70...85% rh, 0...10 V, load > 10 k Ω
Construction		
Screw terminals		For wire of up to 1.5 mm ²
Housing		Pure white (RAL 9010)
Housing material		Fire-retardant thermoplastic
Weight		0.1 kg
Cable inlet		For Pg 11
Standards and directives		
Type of protection		IP 40 (EN 60529)
Mode of operation		Type 1C (EN 60730)

Overview of types

Type	Clamp-on sensor
EGH102F001	Integrated in housing
EGH102F101	Cable 1 m long, sensor integrated in the cable end



EGH102F*01



¹⁾ When activating relays, contactors etc. with $\cos \varphi < 0.3$, it is recommended to use an RC circuit in parallel to the coil. This reduces contact pitting and prevents high-frequency interference



IAQ sensors

Air quality is of the utmost importance for the performance and well-being of people in closed rooms. With CO₂ and VOC sensors from SAUTER, it is possible to measure air quality exactly, so that the ventilation system can be controlled in accordance with demand. As a result, not only is the indoor air quality improved, but the energy consumption is also reduced by improving the operational efficiency of the ventilation system.

Overview of IAQ sensors



Type codes	EGQ 222	EGQ 212	EGQ 181	EGQ 120	EGQ 110
Application					
Room, surface-mounted	•	–	–	•	–
Room, recessed	–	–	•	–	–
Channel	–	•	–	–	•
Variables					
CO ₂	•	•	–	–	–
VOC	–	–	•	•	•
Temperature	•	•	–	–	–
Further information	Page 75		Page 77	Page 79	

EGQ 212, 222: NDIR CO₂ and temperature sensor

Features

- Active device for data acquisition
- Versions for room air and duct
- With temperature compensation and 12-point calibration
- The sensors meet the requirements of the DIN EN 13779, DIN EN 15751, VDI 6038 and 6040 directives
- EGQ 222:
 - NDIR CO₂ sensor with dual-beam technology, suitable for fitting directly to walls
 - External temperature sensor set as an accessory
- EGQ 212:
 - NDIR CO₂ sensor with dual-beam technology, includes fixing bracket with seal for duct fitting
 - With integrated temperature sensor
 - Sensor tube Ø 30mm of black, glass-fibre-reinforced thermoplastic
 - Immersion depth 140...156 mm

Technical data

Power supply

Power supply	24 V ~/≠, ±20%
Power consumption	< 3 W
Readiness for operation	After 2 min

Parameters

Measuring range CO ₂	0...2000 ppm
Temperature measuring range	0...50 °C
Measuring accuracy CO ₂ ¹⁾	±50 ppm
Measuring accuracy, temperature ²⁾	±0.5 °C
Measuring cycle	< 1.4 s

Ambient conditions

Operating temperature	0...50 °C
Humidity	0...95% rh, no condensation

Construction

Weight	0.3 kg
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Dimensions	76 × 76 mm
Screw terminals	For electric cables of up to 1.5 mm ²

Standards and directives

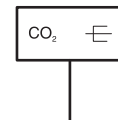
CE conformity according to	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3
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Overview of types

Type	Description	Type of protection
EGQ212F002	CO ₂ and temperature sensor, for measurement in duct	IP 40 (EN 60529) Instrument head: IP 54 (EN 60529)
EGQ222F002	CO ₂ sensor, for measurement in room, accessory (external temperature sensor set)	IP 30



EGQ212F002



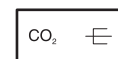
EGQ212F002



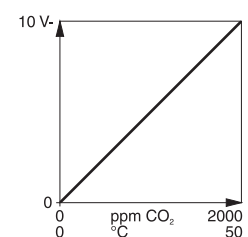
EGQ222F002



EGQ222F002 with accessories



EGQ222F002



¹⁾ For variable temperature 0...50 °C: tolerance equates to ±5% of the indicated value and min. ±50 ppm (test medium: reference gas 1000 ppm ±2%). If there is high-frequency interference, the measuring accuracy may be impaired

²⁾ As per EN 15500 Article A.3.2.2.2



Accessories

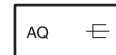
Type	Description
0303124000	Recessed junction box
0313347001	Cover plate, pure white, for 76 × 76 mm
0370560011	Cable screw fitting PG 11, plastic, for cable of Ø 9...11 mm
0370421000	External temperature sensor set (NTC) for EGQ 222



EGQ 181: SAUTER viaSens181 air quality sensor (VOC)

Features

- Sensor for measuring the room air quality for demand-controlled ventilation (for example, tobacco smoke, kitchen fumes, human body odours, or gases given off by materials such as furniture, carpets, adhesives, etc.)
- Sensor for controlling the room climate in combination with room automation systems
- Indoor air quality measurement; VOC contamination¹⁾ based on VDMA 24772
- Fast response time and high precision
- Calibrated ex works and ready to use immediately
- Automatic, continuous drift compensation against ageing and seasonal effects
- Low energy requirement of the ventilation system during the warming up time of the sensor
- Quick, easy overview of the indoor air quality through a multi-coloured LED
- Parameterisation with the CASE Sensors software
- The power supply and the analogue output are electrically isolated
- Room sensor in a wide range of designs and colours
- Device insert fits into frame with 55 x 55 mm aperture



Technical data

Power supply

Power supply (SELV) ²⁾	24 V~, ± 20%, 24 V=, +20% / -15%
Power consumption	0.5 W

Output signal

Analogue output	0...10 V
VOC ³⁾	0...100% IAQ
Load current	0...2 mA

Parameters

VOC (volatile organic compounds) ⁴⁾	Measuring range	0...100% IAQ
	Time constant	< 60 s (in air 0.1 m/s, t ₆₃)
	Long-term stability ⁵⁾	< 10%/year
	Warming-up time ⁶⁾	30 min.
	Serviceable life	Typically >10 years

Ambient conditions

Operation	Humidity (non-condensing)	30...70% rh
	Temperature	5...40 °C
Storage and transport	Humidity (non-condensing)	10...85% rh
	Temperature	-20...70 °C

LED indicator

LED indicator	Three colours: green, yellow, red
LED function	Indoor air quality display (VOC)
Factory setting	Indoor air quality (VOC)

¹⁾ VOC: Volatile organic compounds

²⁾ SELV: Safety extra low voltage

³⁾ IAQ: Indoor air quality

⁴⁾ This mixed gas sensor has different levels of sensitivity to different gases. The data specified relates to the calibration gas. These calibration settings cover most applications in the HVAC area adequately.

⁵⁾ Under normal ambient conditions (no air contaminated by cleaning or disinfecting agents)

⁶⁾ The sensor is ready for operation after a warm-up period of 30 minutes. During this period, the LED flashes green and the sensor supplies an output signal of 20% IAQ.



Construction

Dimensions W x H x D	59.7 × 59.7 × 53 mm (with terminal)
Housing	Pure white (RAL 9010)
Plastic insert	Silver (similar to Pantone 877 C)
Connection terminals	Pluggable screw terminal for conductor cross-section up to max. 1.5 mm ²
Fitting	Recessed Surface-mounted (with accessories)
Cable inlet	From behind
Weight	58 g

Standards and directives

Type of protection ⁷¹	IP 30 (EN 60730-1)
Protection class	III (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC EN 60730-1 (for residential premises)

Overview of types

Type	Description
EGQ181SF203	viaSens181 - indoor air quality room sensor 24V; 0...10V

Accessories

Type	Description
0940240***	For frames, mounting plates and adaptors for third-party frames and surface mounting: see product data sheet PDS 94.055
P100011363	SAUTER film without pictogram for the variable - colour: silver (similar to Pantone 877 C)
0300360001	USB connection set

⁷¹ when installed

EGQ 110, 120: VOC sensors for indoor air quality

Features

- Measures the relative mixed gas concentration (organic components in the room air), such as tobacco smoke, kitchen vapours or human body odours
- Demand-based ventilation control in buildings such as restaurants and offices
- Active VOC semi-conductor sensor for measuring the mixed-gas concentration
- Versions for fitting in rooms or ducts
- Adjustment of the measuring span of the output signal using a trim potentiometer
- Measurement using a semiconductor mixed-gas sensor as per VDMA 24772
- Replaceable protective filter for optimal serviceable life
- EGQ 120:
 - Housing made of pure white, fire-retardant thermoplastic (RAL 9010)
 - Suitable for fitting directly to walls
- EGQ 110:
 - Sensor tube Ø 30 mm of black, glass-fibre-reinforced thermoplastic
 - Immersion depth 60...166 mm; includes fixing bracket

Technical data

Power supply

Power supply ¹⁾	24 V~/=, ±20%
Power consumption	Approx. 2.5 VA

Parameters

Max. air speed	15 m/s
Admissible load	> 5 kΩ

Ambient conditions

Admissible ambient humidity	5...95% rh
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Inputs/Outputs

Output signal	0...10 V
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Construction

Screw terminals	For electric cables of up to 2.5 mm ²
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Standards and directives

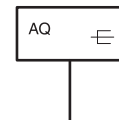
Protection class	III (IEC 60730)
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3
Type of protection	IP30 (EN 60529), IP 54 (EN 60529)

Overview of types

Type	Measurement location	Time constant in moving air (0.5 m/s)	Admissible ambient temperature	Type of protection	Weight
EGQ110F001	Duct	100 s	-20...70 °C	Instrument head, IP 40 (EN 60529); IP 54 with PG 11 screw fitting	0.28 kg
EGQ120F001	Room	60 s	0...40 °C	IP 30	0.1 kg



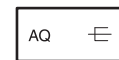
EGQ110F001



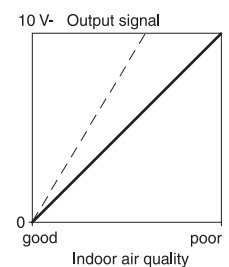
EGQ110F001



EGQ120F001



EGQ120F001



¹⁾ The equipment should be permanently connected to the power supply and should not be used for safety applications



Accessories

Type	Description
0303124000	Recessed junction box
0313187001	Complete filter, for exchanging
0313347001	Cover plate, pure white, for 76 × 76 mm
0370560011	Cable screw fitting PG 11, plastic, for cable of Ø 9...11 mm



Flow and pressure sensors

SAUTER flow and pressure sensors enable the accurate measurement of air pressures and flow speeds in rooms and ventilation ducts. This includes: the measurement of duct pressures for accurate control and monitoring of ventilation systems; the measurement of room pressures in laboratories and clean rooms; and flow monitoring in fume cupboards.

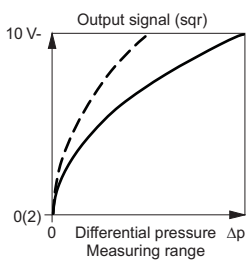
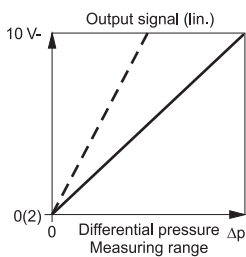
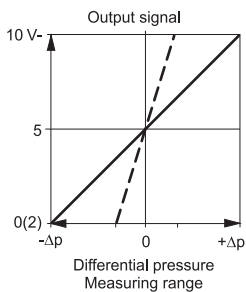
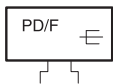
Overview of flow and pressure sensors



Type codes	EGP 100	XAFP 100	SVU 100	DSU	DSDU
Variable	Δp	Δp	m/s	Δp	Δp
Application					
Channel	•	•	–	–	–
Laboratories & clean rooms	•	•	–	–	–
Fume cupboards	•	•	•	–	–
Pressure monitoring in liquids, gases and vapours	–	–	–	•	•
Further information	Page 82	Page 84	Page 85	Page 86	Page 88



EGP100F*12



— Gain $\Delta p = 1$
 - - - Gain $\Delta p = 3$

EGP 100: Differential pressure transducer

Features

- Exact measurement of positive, negative and differential pressures in gases
- Optimised for applications such as filter monitoring, room or duct pressure monitoring, level monitoring in fluids, actuating frequency converters for fan control and recording volume flow, especially for room air balancing in laboratories.
- Can be ideally combined with XAFP100 flow probe for precise measurement of volume flow
- Static dual-membrane-pressure sensor on capacitive basis
- Can be fitted in any position
- Can be used for dusty air or air polluted with chemicals (not ATEX approved)
- Manufacturer's test certificate ex works
- The measuring range can be adapted to the needs of the application
- Variable zero point and filter time constant to suppress pressure surges in the system
- Display shows the actual value and the signal progression (depending on type)
- Status LED for immediate indication of operating status (depending on type)
- Measuring range can be reduced to one third (depending on type)
- Fitted to either wall or top-hat rail (EN 60715)
- Cover that does not require special tools to open

Technical data

Power supply		
	Power supply	24 V~/=, $\pm 20\%$
Power consumption F**2	24 V~	3.0 VA
	24 V=	1.3 W
Power consumption F**1	24 V~	1.4 VA
	24 V=	0.4 W

Parameters	
Admissible positive pressure	± 10 kPa
Influence of position ¹⁾	$\pm 1\%$ full span (FS) at 150 Pa, ± 75 Pa, $\pm 0,75\%$ FS at 300 Pa, ± 150 Pa
Non-linearity	1% FS pressure-linear
Zero point stability	< 0.3% FS
Reproducibility	0.2% FS
Pneumatic connection ²⁾	6.2 mm
Parts in contact with media	PC/ABS blend, MQ, CuSn6, FR4

Ambient conditions	
Temperature of medium	0...70 °C
Admissible operating pressure p_{stat} ³⁾	± 3 kPa
Admissible ambient temperature	0...60 °C
Admissible ambient humidity	5...95% rh, no condensation

Inputs/outputs	
Output signal ⁴⁾	F*01: 0...10 V, load > 10 k Ω F*11: 0...10 V, load > 5 k Ω F*02/F*12: 0(2)...10 V, load < 500 Ω

¹⁾ The sensor is calibrated at the factory for vertical fitting. The influence of position must be taken into account if the unit is not fitted in the vertical position.
²⁾ Max. length of measuring wire ($d_i = 6.2$ mm): $L_{max} = 15$ m for time constant < 0.5 s, $L_{max} = 60$ m for time constant > 0.5 s
³⁾ The zero point should be rebalanced if the admissible operating pressure is exceeded
⁴⁾ With a load of < 500 Ω , a change-over to 0...20 mA or 4...20 mA occurs automatically. Output protected against short circuits and excess voltage up to 24 V~



Filter time constant	F*01: 0.05...2 s F*02, F*11, F*12: 0.15...5.2 s
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Structural design

Pressure connection	Internal Ø 6 mm
Housing	PC/ABS
Cable gland	M16
Screw terminals	For electric wires of up to 1.5 mm ²

Standards and directives

Type of protection	IP 65
Protection class	III (EN 60730-1)
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4

Overview of types

i Output signal: analogue output limited to 10.6 V. Measured value can thus be transferred with an overflow of 6% of the measuring range

i Variable characteristic/LED: Manual adjustment of measuring range with gain potentiometer. Signal curve: linear/root-extracted. Output signal: 0...10 V/2...10 V via DIP switches or with CASE Sensors software

Type	Measuring range	Display	Variable characteristic/LED	Weight (kg)
EGP100F101	±75 Pa, ±0,75 mbar	–	–	0.17
EGP100F102	±75 Pa, ±0,75 mbar	–	•	0.18
EGP100F111	±75 Pa, ±0,75 mbar	•	–	0.18
EGP100F112	±75 Pa, ±0,75 mbar	•	•	0.19
EGP100F201	±150, 1,5 mbar	–	–	0.17
EGP100F202	±150, 1,5 mbar	–	•	0.18
EGP100F211	±150, 1,5 mbar	•	–	0.19
EGP100F212	±150, 1,5 mbar	•	•	0.19
EGP100F301	0...150 Pa, 0...1.5 mbar	–	–	0.17
EGP100F302	0...150 Pa, 0...1.5 mbar	–	•	0.18
EGP100F311	0...150 Pa, 0...1.5 mbar	•	–	0.18
EGP100F312	0...150 Pa, 0...1.5 mbar	•	•	0.19
EGP100F401	0...300 Pa, 0...3.0 mbar	–	–	0.17
EGP100F402	0...300 Pa, 0...3.0 mbar	–	•	0.18
EGP100F411	0...300 Pa, 0...3.0 mbar	•	–	0.18
EGP100F412	0...300 Pa, 0...3.0 mbar	•	•	0.19

Accessories

Type	Description
0010240300	Connection set, 6 mm, complete
XAFP100F001	Flow sensor to measure the air volume in ventilation ducts
CERTIFICAT001	Manufacturer's test certificate type M
CERTIFICAT999	Test for further device (from 2 pcs.)
0300360001	USB connection set



XAFP100F001

XAFP 100: Flow probe for ventilation ducts

Features

- Flow probe for precise and inexpensive recording of effective pressure signals in ventilation and air conditioning systems
- Efficient regulation of applications for demand-controlled ventilation in offices, laboratories, fume cupboards and clean rooms, by combining an air damper and an electronic/pneumatic volume flow controller
- In combination with a square root differential pressure sensor, air volume flows can be reliably recorded and monitored
- Optimised flow profile for accurate measurement of operating pressure signals
- Can be used in atmospheres containing aggressive substances
- Length (396 mm) can be shortened on site if necessary

Technical data

Parameters

Measurement tolerance	< 3%
Range (mm)	DN 80...DN 400

Admissible ambient conditions

Operating temperature	0...50 °C
Admissible ambient humidity	< 85% rh, no condensation

Operation

Function	Flow sensor
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Construction

Dimensions	65 × 40 × 396 mm (W × H × L)
Bore	Ø 30...32 mm

Material

Flow probe	PA 6
Seal	PE, physiologically safe
Connecting tube	PU

Standards and directives

Flow probe	Electrical	UL 7468
	Flammability	UL 94, IEC 60695-2-12, IEC 60695-2-13

Overview of types

Type	Properties
XAFP100F001	Flow probe for ventilation ducts



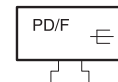
SVU 100: Air-flow transducer

Features

- Precise and long-term stable recording of air inflow speeds on fume cupboards with a time constant of <100 ms
- Particularly suitable for fume cupboards with horizontal and vertical front sashes
- Air volume control according to needs for fume cupboards with horizontal and vertical front sashes
- Precise and long-term stable recording of air inflow speeds in fume cupboards
- Reliable detection of reversal of flow direction
- Integrated filter unit that protects against contamination of the sensor
- Dynamic pressure sensor based on thin-film technology
- Fitted to the fume cupboard simply and quickly



SVU100F005



Technical data

Power supply

Power supply	24 V~, -15%/+20%, 50...60 Hz
Power consumption	1 VA

Parameters

Measuring range	0...1 Pa
Measuring span ¹⁾	0...1.3 m/s
Differential pressure	Approx. 0...1 Pa
Time constant	< 0.1 s
Air throughput rate	3 cm ³ /min (at 1 m/s)

Ambient conditions

Admissible ambient temperature	5...55 °C
Admissible ambient humidity	< 90% rh

Inputs/Outputs

Output signal ²⁾	0...10 V
Linearity	2% (based on the output signal)

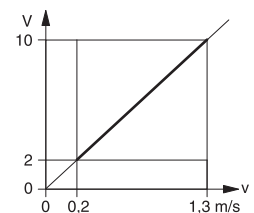
Standards and directives

Type of protection	IP 40 (EN 60529) with terminal cover
CE conformity as per	EMC directive 2004/108/EC EN 61000-6-1, EN 61000-6-3

Overview of types

Type	Feature
SVU100F005	Linear to v [m/s]

☛ Specified flow speed is based on $\rho = 1.2 \text{ kg/m}^3$



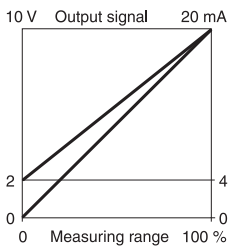
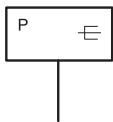
¹⁾ Recommended measuring span 0.2...1.3 m/s (output 2...10 V)

²⁾ Output signal: Output protected against short circuits and excess voltage up to 24 V~





DSU***F001



DSU: Pressure sensor

Features

- For measuring pressure in liquids, gases and vapours
- Measuring procedure is not subject to wear and tear due to inductive (i.e. non-contact) signal conversion
- Measuring procedure is not subject to wear and tear due to inductive (i.e. non-contact) signal conversion
- Standard signal 0(2)...10 V or 0(4)...20 mA¹⁾
- Pressure sensor made of brass for non-aggressive media
- Pressure sensor made of stainless steel for aggressive media
- Extensive range of accessories

Technical data

Power supply

Power supply	24 V~/=, ±20%, 50...60 Hz
Power consumption	Approx. 1 VA

Parameters

Measuring range	0...25 bar
Hysteresis	Approx. 1%
Temperature coefficient	~0.03%/K

Ambient conditions

Admissible ambient temperature	-20...70 °C
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Inputs/Outputs

Output signal ²⁾	0...10 V; load > 500 Ω
Output signal can be switched to	2...10 V; load > 500 Ω
Accuracy	Output signal 0...10 V: ±2% of measuring range Output signal 4...20 mA: ±2.5% of measuring range
Linearity	Approx. 1%

Construction

Weight	0.6 kg
Housing	Light metal with transparent cover
Housing material	Impact-proof thermoplastic
Housing-mounted plug	With female cable connector for cable of Ø 6...10 mm (standard plug)
Pressure connection	G½" male

Standards and directives

Type of protection	IP 65 (EN 60529)
Protection class	III (EN 61140)
EMC directive 2004/108/EC	EN 61000-6-1/ EN 61000-6-2 EN 61000-6-3/ EN 61000-6-4 Subject to Art. 3.3 of PED without safety function

Overview of types

Type	Measuring range (mbar)	Max. sensor values (bar)	Max. sensor values (°C)	Admissible vacuum loading (bar)
DSU101F001	0...1	2	70	-0.7
DSU103F001	0...2.5	4	70	-0.7

¹⁾ Load-dependent change-over 500 Ω

²⁾ With a load of < 500 Ω, automatic change-over to 0...20 mA or 4...20 mA. Factory setting 0...10 V; output is protected against excess voltage and short circuits up to 24 V~



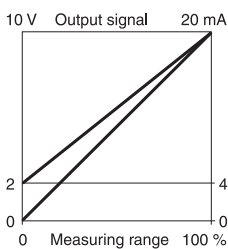
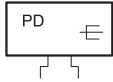
Type	Measuring range (mbar)	Max. sensor values (bar)	Max. sensor values (°C)	Admissible vacuum loading (bar)
DSU106F001	0...6	10	70	-0.7
DSU110F001	0...10	16	70	-0.1
DSU116F001	0...16	25	70	-0.1
DSU125F001	0...25	40	70	-0.1
DSU206F001	0...6	10	110	-0.7
DSU210F001	0...10	16	110	-0.1
DSU216F001	0...16	25	110	-0.1
DSU225F001	0...25	40	110	-0.1

☼ DSU1*F001: Pressure sensor made of brass for non-aggressive media

☼ DSU2*F001: Pressure sensor made of stainless steel for aggressive media

Accessories

Type	Description
0035465000	Throttle screw for absorbing pressure surges, brass
0214120000	Throttle screw for absorbing pressure surges, stainless steel
0192700000	1 m capillary tube for absorbing pressure surges, copper
0192222000	Cap nut with solder connector
0311572000	Screw fitting for copper tubes of Ø 6 mm, brass
0259239000	Reduction piece G $\frac{1}{2}$ " on 7/16" 20-UNF-2A for copper tubes of Ø 6 mm, brass
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 × 7.5 mm and 35 × 15 mm
0259984000	Bracket for 3-point fixing
0292018001	Damping screw for absorbing pressure surges in low viscosity media



DSDU: Differential pressure transducer

Features

- For measuring pressure differences in liquids, gases and vapours
- Measuring procedure is not subject to wear and tear due to inductive (i.e. non-contact) signal conversion
- 0...6 bar measuring range of pressure difference
- Analogue signal 0(2)...10 V or 0(4)...20 mA
- Up to 110 °C and up to 10 bar maximum sensor values
- 24 V~/=, ± 20% power supply

Technical data

Power supply

Power supply 24 V~/=	± 20%, 50...60 Hz
Power consumption	Approx. 1 VA

Parameters

Output signal ¹⁾	0(2)...10 V, load > 500 Ω
Accuracy	Output signal 0...10 V: ±2% of measuring range Output signal 4...20 mA: ±2.5% of measuring range
Max. sensor values	110 °C
Linearity	Approx. 1%
Hysteresis	Approx. 1%
Temperature coefficient	~0.003 %/K
Admissible vacuum loading	-0.7 bar

Ambient conditions

Admissible ambient temperature	-20...70 °C
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Construction

Weight	0.6 kg
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Standards and directives

Type of protection	IP 65 (EN 60529)
Protection class	III (EN 61140)
CE conformity as per	EMC directive 2004/108/EC ²⁾ EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Measuring range Δp	Max. sensor values
DSDU100F020	0...1.5 bar	6 bar
DSDU101F020	0...1 bar	6 bar
DSDU103F020	0...2.5 bar	6 bar
DSDU106F020	0...6 bar	10 bar

Accessories

Type	Description
0190403005	Connector with cap nut (Serto system), brass, 2 pcs required
0292110001	Two throttle screws Rp 1/8 for absorbing pressure surges, stainless steel
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 × 7.5 mm and 35 × 15 mm
0259984000	Bracket for 3-point fixing

¹⁾ With a load of < 500 Ω, a change-over to 0...20 mA or 4...20 mA occurs automatically. Factory setting 0...10 V, output protected against short circuit and excess voltage to 24 V~

²⁾ Subject to Art. 3.3 of PED without safety function



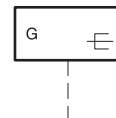
SGU 100: Sash sensor

Features

- Infinitely-variable measurement of the position of the vertical front sash on laboratory fume cupboards
- Accurate detection of sash position, with no wear and tear
- Fast control of the air volume; no oscillation
- Easy fitting, preferably on the counterweight of the front sash
- Teach-in function for adjusting the travel of the front sash
- Easy to program using the SAUTER CASE Sensors software
- Integrated excess-travel alarm
- Power cable 2.5 m long, $7 \times 0.32 \text{ mm}^2$, fixed to housing
- Fitted with halogen-free cable as standard
- Remote access and remote maintenance: commissioning and service via bus or external push-button
- 3-colour LED status indicator
- Acoustic status and alarm elements (can be deactivated)



SGU100F01*



Technical data

Power supply

Power supply 24 V~	$\pm 20\%$, 50...60 Hz
Power supply 24 V=	$\pm 20\%$
Power consumption 24 V~ ¹⁾	Typically: 2 VA, 0.75 W, inactive buzzer, max.: 4 VA, 1.5 W, active buzzer
Power consumption 24 V= ²⁾	Typically: 0.6 W, inactive buzzer, max.: 1.1 W, active buzzer

Parameters

Linearity error	Max. 1.5% based on working range, e.g.: 2...10 V = 8 V
Hardware response time ³⁾	< 100 ms
Filter time constant	0...5, 22 s, variable using SAUTER CASE Sensors

Ambient conditions

Operating temperature	0...55 °C
Storage and transport temperature	-20...70 °C
Humidity	85% rh, no condensation

Inputs/Outputs

Digital input	$I_{\text{out_source}}$ max.: 1 mA, V_{out} max.: 18 V at $R_{\text{Load}} = \infty$
Alarm output	I_{sink} max.: 2 mA, open collector output, 100 mV at I_{sink} 2 mA, V_{in} max.: 24 V=, 20% at $I_{\text{sink}} = 0 \text{ mA}$
Voltage output ⁴⁾	0/2...10 V, 1 mA max., V_{out} max.: 11.5 V, can be parametrised, Default 2...10 V
Typical overall error	2.5% (nonlinearity, hysteresis, offset, amplified; based on working range)
Temperature influence	< 0.04 %/K

¹⁾ Default is buzzer active

²⁾ Inactive/active buzzer: Default is buzzer active

³⁾ The set filter time constant must be added

⁴⁾ Protected against short circuits and excess voltage to 24~



Construction

Weight	0.68 kg
Length of cable without bus termination ⁵⁾	Up to 200 m, Ø 0.5 mm

Standards and directives

Type of protection	IP 10 (EN 60529), IP 20 (EN 60529)
Protection class	III (EN 60730)
Software	A (EN 60730)
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Working range	Resolution of working stroke
SGU100F010	200...800 mm for bench-mounted fume cupboards (max. spring travel 1000 mm)	< 1 mm
SGU100F011	400...1600 mm for walk-in fume cupboards (max. spring travel 2000 mm)	< 2 mm

Accessories

Type	Description
0300360001	USB connection set

⁵⁾ Cable length of bus termination on both sides 120 Ω: 200...500 m, Ø 0.5 mm

Single-room, heating and laboratory controllers

For all building situations – stand-alone or networked.

SAUTER stand-alone controllers are optimally adjusted to dedicated applications such as heating, air-conditioning, ventilation and room control. They can be installed quickly and without any complications. The intuitive operating concept ensures maximum comfort while also guaranteeing the highest level of energy efficiency in the day-to-day operation of the installation. SAUTER stand-alone controllers fulfil all the requirements for smooth functionality and economical operation.



Single-room, heating and air-conditioning controllers

equiflex single-room control and VAV

Overview of room-temperature controllers	94	NRT 300: Electronic air-conditioning controller, equiflex	106
NRT 101: Electronic room-temperature controller, equiflex	96	FXV 006: Electric distributor	108
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NRT 107: Room- and supply-temperature controller, equiflex	100	ASV115CF132: VAV compact controller	113
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equitherm heating control

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flexotron controller for ventilation and air-conditioning

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Room temperature controller

SAUTER single-room controllers combine easy operability with a modern design. The wide range of models enables the controllers to be used in various applications in hotel, business or residential premises. They permit individual temperature control (for single rooms, apartments and zones) in 2- and 4-pipe systems. These versatile electronic room controllers from SAUTER are efficient, economical and easy to operate.

Overview of room-temperature controllers



Type codes	NRT 101	NRT 105	NRT 107	NRT 114
Application				
Fan-coil	–	•	–	–
Flow-temperature control	–	•	•	•
Outputs				
Continuous	–	• 1)	–	–
Quasi-continuous, 2-point	•	•	•	–
3-point	–	–	•	•
Control				
2-point	•	–	–	–
PI	–	–	•	•
Cascade	–	–	•	•
Operating element				
Display	•	•	•	•
Operation				
Time programme	•	–	•	•
2-pipe systems	•	•	•	–
4-pipe systems	–	•	•	–
Further information	Page 96	Page 98	Page 100	Page 102

¹⁾ Applicable for type NRT105F061



Type codes	NRT 210, 220	NRT 300
Application		
Fan-coil	–	–
Flow-temperature control	–	–
Outputs		
Continuous	–	• 2)
Quasi-continuous, 2-point	•	• 3)
3-point	–	• 4)
Control		
2-point	•	–
PI	–	•
Cascade	–	–
Operating element		
Display	–	–
Operation		
Time programme	–	–
2-pipe systems	• 5)	•
4-pipe systems	• 6)	•
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²⁾ Applicable for FO61

³⁾ Applicable for type FO41

⁴⁾ Applicable for type FO41

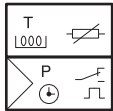
⁵⁾ Applicable for types NRT 210

⁶⁾ Applicable for types NRT 220

NRT 101: Electronic room-temperature controller with time programme, equiflex



NRT101F***

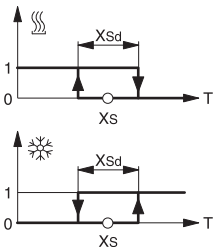
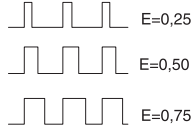
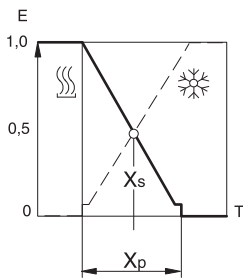


Features

- Individual single room, apartment and zone control for activating a thermal actuator, an electric heating system, a cooling unit, or for enabling a burner
- Measurement of room temperature by either integrated or external temperature sensor
- Large LCD and simple operation using keys make it easy to program the times and the temperatures
- Weekly and calendar switching programmes with 3 temperature levels
- Automatic summertime/wintertime changeover
- Model with pilot clock output
- Hours-run meter
- Electronics in attachable housing

Technical data

Power supply		
Power supply		2 × 1.5 V/110...230 V~
Power consumption		< 1 VA
Parameters		
Operating modes		Reduced/normal/comfort
Direction of operation		Heating/cooling (settable on service level)
Setting range		8...38 °C
Control characteristics		P, 2-point, pulse-pause
On/off controllers		Switching difference $X_{sd} = 0.4...8$ K
Control factor		Indicated in ten levels
Frost-protection temperature		8 °C (when heating OFF)
Thermal overload temperature		38 °C (when cooling OFF)
P-controller		
Proportional action		Switching period 4...30 min
Proportional band		1...20 K
Min. pulse		30 s
Temperature sensor, internal		
Time constant		22 min
Dead time		2 min
Ambient conditions		
Admissible ambient temperature		0...50 °C
Admissible ambient humidity		5...80% rh, no condensation
Operation		
Timer		
Accuracy		± 1 s/d at 20 °C
Back-up power supply		> 6 h (super cap, 20 °C, after 10 h of charging)
Back-up power supply when battery changed		> 5 min
Weekly switching programme		
Number of switching commands		Max. 42
Min. switching interval		10 min
Calendar switching programme		
Number of switching commands		Max. 6
Min. switching interval		1 d
Construction		
Housing material		Fire-retardant thermoplastic
Housing		Pure white (RAL 9010)
Fitting		Wall fitting/recessed junction box
Cable feed		At rear
Screw terminals		For wire of up to 2.5 mm ²



Standards and directives

	Type of protection	IP 30 (EN 60529)
	Protection class	II (IEC 60730)
	Software class A	EN 60730
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

Type	Power supply	Load (heating/cooling)	Load on pilot timer	Weight
NRT101F002	2 batteries: LR6 1.5 V	5 (2) A, 24...250 V~	-	0.25 kg
NRT101F012	110...230 V~, ±15%, 50...60 Hz	5 (2) A, 24...250 V~	-	0.27 kg
NRT101F111	100...230 V~, ±15%, 50...60 Hz	5(2) A not potential-free	5 (2) A, 24...250 V~; with extra-low voltage 0.2 A, < 60 V	0.28 kg

💡 NRT101F002: Two alkaline manganese batteries, type LR6, AA, AM3 or Mignon (not included)

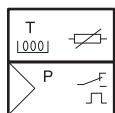
Accessories

Type	Description
AXT2**	Thermal valve actuators (see product data sheet)
EGT***	External temperature sensor Ni1000 (see product data sheet)
0303124000	Recessed junction box

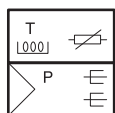
💡 EGT***: does not apply to NRT101F002



NRT105F0*1



NRT105F011



NRT105F061

NRT 105: Electronic fan-coil controller, equiflex

Features

- Individual single room, apartment and zone temperature control in 2- and 4-tube systems for heating, cooling or heating/cooling
- Automatic activation of the valves (heating/cooling)
- 3-speed fan
- P controller with pulse-pause or analogue output (0...10 V)
- Measurement of room temperature by either integrated or external temperature sensor
- Input for C/O signal
- Easy to use with frontal keys and large LCD
- Three-speed fan control with settable on/off switching points for each level
- Frost-protection/anti-overheating functions
- Hours-run meter

Technical data

Power supply

Power supply	110...230 V~/24 V~
Tolerance in power supply	±15%, 50...60 Hz
Power consumption	< 1 VA

Parameters

	Max. switching capacity of internal sensor (NTC)	2(1.6) A, 250 V~
	Max. switching capacity of external sensor (Ni1000)	5(3) A, 250 V~
	Setting range ¹⁾	8...37 °C
	Proportional band	1...20 K
	Operating modes	Normal, reduced (N/R)
	Dead zone (N/R)	0...10 K/0...12 K
Temperature sensor, internal	Time constant	22 min
	Dead time	2 min
	Frost-protection temperature	8 °C (when heating OFF)
	Thermal overload temperature	38 °C (when cooling OFF)
Additional data for NRT105F011	Switching interval	4...30 min
	Control factor	indicated in ten levels
	Min. pulse	30 s

Ambient conditions

Admissible ambient temperature	0...50 °C
Admissible ambient humidity	5...95% rh, no condensation

Indicators, display, operation

Display range, actual temperature	-8...50 °C
-----------------------------------	------------

Construction

Weight	0.27 kg
Housing material	fire-retardant thermoplastic
Housing	pure white (RAL 9010)
Fitting	wall fitting/recessed junction box
Screw terminals	for wires of up to 2.5 mm ²
Cable feed	at rear

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	II (IEC 60730)

¹⁾ Depends on the setting parameters P05, P08



	Software class A	EN 60730
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

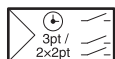
Type	Control characteristics	Power supply	Type of installation	Outputs for fan	Valve outputs
NRT105F011	P, quasi-continuous	110...230 V~	2-, 4-pipe	Relay, 3 stages	Relay
NRT105F061	P, continuous, 0...10 V	24 V~	4-pipe	Relay, 3 stages	0...10 V, load > 4 k Ω , max. 2.5 mA

Accessories

Type	Description
AXT2**	Thermal valve actuators (see product data sheet)
AXM***	Motorised valve actuator (see product data sheet)
EGT***	External temperature sensor Ni1000 (see product data sheet)
0303124000	Recessed junction box



NRT107F0**



NRT 107: Room- and supply-temperature controller, equiflex

Features

- Room temperature-based control (heating, cooling, heating/cooling) of individual rooms in 2- or 4-pipe systems
- Activation of actuators, pumps and fans
- Optionally P control, PI control or P-PI cascade control with 2-point, pulse-pause or 3-point outputs for 2- or 4-pipe systems
- Choice of 8 basic control models for various application options
- Inputs for dew-point monitoring, for c/o signal, for shifting the room temperature setpoint and for the supply temperature
- Programmable input, e.g. for presence/absence detector, window contacts, fault indicator and for cooling lock
- Measurement of room temperature by either integrated or external temperature sensor
- Easy to use with frontal keys and large LCD
- Integrated timer for weekly and calendar switching programmes with 3 temperature levels
- Automatic summertime/wintertime change-over
- Outputs for control units, pump and pilot timer
- Frost-protection, protection against overheating, anti-jamming function for pumps and valves
- Electronics in attachable housing

Technical data

Power supply

Power supply	24 V~/110...230 V~
Tolerance in power supply	±15%, 50...60 Hz
Power consumption	< 1.5 VA

Parameters

	Setting range	8...38 °C
	Control characteristics	P, PI, P+PI
	Operating modes	Normal/Reduced/Off
Temperature sensor, internal	Time constant	22 min
PI controller	P-band X_p	2...100 K
	Integral action time	$t_n = 15...6000$ s
	Running time of valve	30...300 s
P-controller	P-band X_p	1...20 K
	Period	4...30 min

Ambient conditions

Admissible ambient temperature	0...50 °C
Admissible ambient humidity	5...95% rh, no condensation
Storage and transport temperature	-25...65 °C

Inputs/Outputs

Number of inputs	1 digital, 2 analogue, 1 universal
Digital input	Switching current approx. 1 mA
Analogue inputs	2 Ni1000
Universal inputs	Digital or 0...10 V
Number of outputs	1 relay, 2 triacs (see type list for data)

Operation

Timer	Accuracy	±1 s/d at 20 °C
	Back-up power supply	> 8 h (super cap, 20 °C) after 1 h charge time
Weekly switching programme	Number of switching commands	Max. 42
	Min. switching interval	10 min



Calendar switching programme	Number of switching commands	Max. 6
	Min. switching interval	1 d

Construction

Weight	0.28 kg
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Cable feed	At rear
Screw terminals	For wires of up to 2.5 mm ²
Fitting	Wall/recessed junction box

Standards and directives

Standards and directives	Type of protection	IP 30 (EN 60529)
	Protection class	II (IEC 60730)
	Software class A	EN 60730
CE conformity as per	EMC directive 2004/108/EC	61000-6-1, 61000-6-2, 61000-6-3, 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

Type	Power supply	Load on Triac	Min. load on Triac	Relay load
NRT107F031	110...230 V~	230 V~, 0,3 (0,5) A	10 mA	230 V~, 5 (2) A
NRT107F041	24 V~	24 V~, 0,3 (0,5) A	40 mA	50 V~/=, 5 (2) A

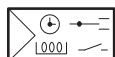
- ☛ Triac 0.3 A: equates to operation of six AXT with NRT107F031 and three AXT with NRT107F041 with internal temperature sensor
- ☛ Triac 0.5 A: equates to operation of eight AXT with NRT107F031 and five AXT with NRT107F041 with inactive internal temperature sensor

Accessories

Type	Description
AVF***	Motorised valve actuator (see product data sheet)
AVM***	Motorised valve actuator (see product data sheet)
AXM***	Motorised valve actuator (see product data sheet)
AXT2**	Thermal valve actuators (see product data sheet)
EGT***	External temperature sensor Ni1000 (see product data sheet)
0303124000	Recessed junction box
0386273001	Plug-in power unit, input 230 V~, output 21 V~ (0.34 A), length of cable 1.8 m, IP 30
7000986001	Operating manual, German
7000986002	Operating manual, French
7000986003	Operating manual, English



NRT114F0**



NRT 114: Electronic heating controller, equiflex

Features

- P/PI control with 3-point output signal
- Choice of 3 basis control models for various applications
- Measurement of room temperature by either integrated or external temperature sensor
- Inputs for outside, supply and room temperatures or for room operating unit
- Programmable input for e.g. presence/absence detector, window contacts and fault indication
- Outputs for control units, pump and pilot timer
- Easy to use with frontal keys and large LCD
- Weekly and calendar switching programmes with 3 temperature levels
- Automatic summertime/wintertime change-over
- Min./max. limitation for supply and return temperatures
- Frost-protection and anti-overheating functions, anti-jamming function for pumps and valves
- Floor-drying function
- Electronics in attachable housing

Technical data

Power supply

Power supply	24 V~/110...230 V~
Tolerance in power supply	±15%, 50/60 Hz
Power consumption	< 1.5 VA

Parameters

	Setting range for temperature	8...40 °C
	Control characteristics	PI, P+PI
	Operating modes	Reduced/normal/comfort
	Factory setting	17 °C/20 °C/21 °C
	Frost-protection temperature	3 °C outside, 8 °C in room
PI controller	P-band X_p	2...100 K
	Integral action time	$t_n = 15...6000$ s
P-controller	P-band X_p	1...20 K
	Running time of valve	30...300 s
Temperature fixed-value control	Setting range	0...130 °C
	Factory setting	60 °C
Temperature sensor, internal	Time constant	22 min

Ambient conditions

Admissible ambient temperature	0...50 °C
Admissible ambient humidity	5...95% rh, no condensation
Storage and transport temperature	-25...65 °C

Inputs/Outputs

Number of outputs	1 relay, 2 triacs
Number of inputs	1 digital, 3 analogue
Digital input	Switching current approx. 1 mA
Analogue inputs ¹⁾	2 Ni1000, 1 Ni1000 or 0...10 V

Operation

Timer	Back-up power supply	> 6 h (super cap, 20 °C, after 1 h of charging)
	Accuracy	±1 s/d at 20 °C

¹⁾ 0...10 V equates to a temperature range of -50...50 °C



Weekly switching programme	Number of switching commands	Max. 42
	Min. switching interval	10 min
Calendar switching programme	Number of switching commands	Max. 6
	Min. switching interval	1 d

Construction

Weight	0.28 kg
Housing material	Fire-retardant thermoplastic
Housing	Pure white (RAL 9010)
Fitting	Wall fitting/recessed junction box
Cable feed	At rear
Screw terminals	For wire of up to 2.5 mm ²

Standards and directives

CE conformity as per	Type of protection	IP 30 (EN 60730-1)
	Protection class	II (EN 60730-1)
	Software class A	EN 60529
	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

Type	Voltage	Load on Triac	Min. load on Triac	Relay load
NRT114F031	110...230 V~	230 V~, 0.3 (0.5) A	10 mA	230 V~, 5 (2) A
NRT114F041	24 V~	24 V~, 0.3 (0.5) A	40 mA	≤ 50 V=~/~, 5 (2) A

🔦 Triac (0.5) A: if internal room-temperature sensor is not active

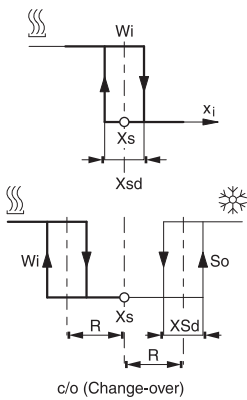
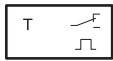
Accessories

Type	Description
AVF***	Motorised valve actuator (see product data sheet)
AVM***	Motorised valve actuator (see product data sheet)
AXM***	Motorised valve actuator (see product data sheet)
EGS 52/15	Room operating unit (see product data sheet)
EGT***	External temperature sensor Ni1000 (see product data sheet)
0386273001	Plug-in power unit, input 230 V~, output 21 V~ (0.34 A), length of cable 1.8 m, IP 30
0313346001	Module 0...10 V for Ni1000; R > 5 kΩ; 24 V~, ±20%; IP 00 (IP 42 when fitted in housing), 4 temp. ranges: -50...0 °C; -50...50 °C; 0...50 °C; 0...100 °C
0303124000	Recessed junction box
7000974001	Operating manual, German
7000974002	Operating manual, French
7000974003	Operating manual, English

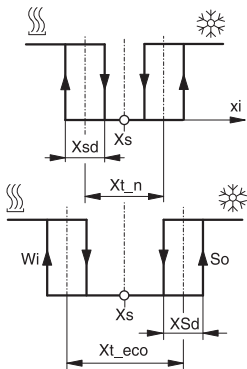
NRT 210, 220: Electronic room-temperature controller, equiflex



NRT210FO*1



NRT210FO*1



NRT220FO*1

Features

- Individual unitary control (heating, cooling, heating/cooling) e.g. in hotels and residential and business spaces in 2- or 4-pipe systems
- Activation of thermal actuators for unit valves, or switching on/off additional heating or cooling units
- Direct measurement of room temperature via integrated temperature sensor
- Temperature setpoint can be set using a rotary knob
- NRT 210 for 2-pipe systems
- NRT 220 for 4-pipe systems
- Inputs for c/o signal and for change-over between presence and absence modes
- 2-point control with relay outputs
- Electronics unit in slot-on housing

Technical data

Power supply	
Power supply	24 V~/= / 230V~
Tolerance in power supply	±15%, 50...60 Hz
Power consumption	< 1 VA

Parameters		
Setting range	10...30 °C	
Control characteristics	2-point	
Switching difference X_{sd}	0.5 K	
Temperature sensor, internal	Time constant	22 min
	Dead time	2 min

Ambient conditions	
Admissible ambient temperature	0...50 °C
Admissible ambient humidity	5...95% rh, no condensation
Storage and transport temperature	-25...65 °C

Construction	
Weight	0.1 kg
Housing material	Fire-retardant thermoplastic
Housing	Pure white (RAL 9010)
Baseplate	Electrical, with screw terminals for cables of up to 1.5 mm ²
Fitting	Wall fitting/recessed junction box
Cable feed	At rear
Screw terminals	For electrical wires of up to 1.5 mm ²

Standards and directives		
Type of protection	IP 30 (EN 60529)	
Protection class 24 V~/=	III (IEC 60730)	
Protection class 24 V~	II (IEC 60730)	
Conformity	EN 12098	
CE conformity as per	EMC immunity	EN 61000-6-1, EN 61000-6-2
	EMC radiation	EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

Type	NRT210F011	NRT210F021	NRT220F011	NRT220F021
Function	H/C, 2-pipe	H/C, 2-pipe	H/C, 4-pipe	H/C, 4-pipe
Power supply	230 V~	24 V~/=	230 V~	24 V~/=



Type	NRT210F011	NRT210F021	NRT220F011	NRT220F021
Number of inputs	2	2	1	1
Inputs	N/R, c/o	N/R, c/o	N/R	N/R
Load	5 (2) A; 1 relay	5 (2) A; 1 relay	2 (1.2) A; 2 relays	2 (1.2) A; 2 relays
Dead zone X_t	-	-	normal 1.5 K, extended 7 K	normal 1.5 K, extended 7 K
Setpoint shift (R)	± 3 K	± 3 K	-	-

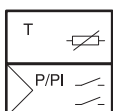
Accessories

Type	Description
AXT2**	Thermal valve actuators (see product data sheet)
0303124000	Recessed junction box
0313347001	Cover plate, pure white, for 76 × 76 mm

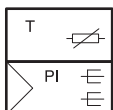
NRT 300: Electronic air-conditioning controller, heating/cooling, equiflex



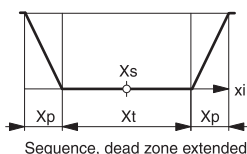
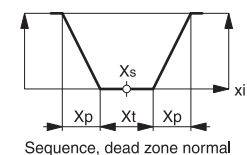
NRT300F0*1



NRT300F041



NRT300F061



Features

- Air-conditioning controller for 2- and 4-pipe systems (heating, cooling, heating/cooling)
- Measurement of room temperature by either integrated or external temperature sensor
- Saves energy costs by means of frontal presence/absence key and rotary knob
- Inputs for C/O signal, changeover between presence and absence, dew-point monitoring and setpoint shift
- Choice of P or PI control with 2-point, pulse-pause, 3-point or outputs (0...10 V)
- LED indicator
- SERVICE level with adjustable control parameters
- Frost-protection function
- Electrical connection in baseplate
- Electronics in attachable housing

Technical data

Power supply		
Power supply		24 V~, ±20%, 50...60 Hz
Power consumption		Approx. 2.5 VA
Parameters		
Setting range X_s		10...30 °C
Proportional band		2...20 K
Integral action time		2...20 min or OFF (as PI-controller)
Period or running time of actuator		0.5...20 min
Control parameters		Non-volatile
Dead zone X_t		
Normal		0,4...5 K
Extended		8 K
Sensor time constant for air		
in room (0.1 m/s)		8 min
In duct (0.5 m/s)		3 min
In duct (3 m/s)		1 min
Ambient conditions		
Admissible ambient temperature		0...50 °C
Admissible ambient humidity		5...95% rh, no condensation
Inputs/Outputs		
Command variable w		0...10 V, $R_i = 90 \text{ k}\Omega$
Influence of w		1.6 K/V
Operation		
Operating mode		Sequence (heating/cooling)
Change-over functions ¹⁾		X_t , C/O, TP
Construction		
Weight		0.1 kg
Housing		Pure white (RAL 9010)
Housing material		Fire-retardant thermoplastic
Fitting		Wall fitting/recessed junction box
Cable feed		At rear
Screw terminals		For wire of up to 1 mm ²
Standards and directives		
Type of protection		IP 30 (EN 60529)

¹⁾ X_t = dead zone ON/OFF; c/o = summer/winter, (changeover); TP = dew-point monitoring



	Protection class	III (IEC 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Output signal	Load on outputs
NRT300F041	Switched	0.5 A (0.9 A when external sensor fitted)
NRT300F061	Continuous	0...10 V, load > 5 k Ω ; with overflow > 11 V (load-dependent)

☛ *NRT300F061: Suitable as a master controller for max. 10 × NRT300: (slope S = P-band X_p; shift starting point FF = setpoint X_s; operating mode = sequence)*

Accessories

Type	Description
AVF***	Motorised valve actuator (see product data sheet)
AVM***	Motorised valve actuator (see product data sheet)
AXM***	Motorised valve actuator (see product data sheet)
AXT2**	Thermal valve actuators (see product data sheet)
EGH102F001	Dew-point monitor with sensor in housing
EGH102F101	Dew-point monitor with sensor on cable
0296724000	Sensor holder for wall mounting
0368139000	Rubber bung as sensor holder in ventilation duct
0303124000	Recessed junction box
0313214001	Fixing kit for all applications (holder, heat-conducting paste, retaining strap)
0313347001	Cover plate, pure white, for 76 × 76 mm
0313367001	Cable-type sensor (NTC) 1.5 m, for measurements in air duct, max. 70 °C, R25 = 10 k Ω
0313367003	Cable-type sensor (NTC) 3.0 m, for measurements in air duct, max. 70 °C, R25 = 10 k Ω
0313367010	Cable-type sensor (NTC) 10 m, for measurements in air duct, max. 70 °C, R25 = 10 k Ω
0313367020	Cable-type sensor (NTC) 20 m, for measurements in air duct, max. 70 °C, R25 = 10 k Ω
0313409001	Holder for sensor cartridge in ventilation duct
0313414001	Bracket for wall mounting
0386273001	Plug-in power unit, input 230 V~, output 21 V~ (0.34 A), length of cable 1.8 m, IP 30
0313501001	Housing with scale 10...30 °C



FXV006F001

FXV

FXV 006: Electric distributor for control signals

Features

- Easy wiring of up to six zones in a radiant-panel heating system
- Forwards the switching pulses from single-room controllers
- Individual forwarding of time commands or night set-back to the appropriate actuators; max. two time channels
- Snap-on pump logic module for activating the circulation pump
- Integrated 4 A fuse, varistor as excess voltage protection for thermal actuators
- Easy and clear installation of all devices
- Connections for up to twelve thermal actuators

Technical data

Power supply

Power supply	24 V~/230 V~, ±15%, 50...60 Hz
Distributor fuse	T 4 A

Parameters

Circuits/zones	6
Time channels/reduction	2

Ambient conditions

Admissible ambient temperature	-5...50 °C
Admissible ambient humidity	< 95% rh

Inputs/outputs

Number of actuators	Max. 12 pcs. (2 per zone)
Pump connection	Max. 2.2 A

Structural design

Weight	0.2 kg
Housing material	Fire-retardant plastic
Housing	Pure white (RAL 9010)
Screw terminals	For wires of up to 1.5 mm ²

Standards and directives

Type of protection	IP 43 (EN 60529)
EMC directive 2004/108/EC	EN 61000-6-1/ EN 61000-6-2 EN 61000-6-3/ EN 61000-6-4
EMC Directive 2006/95/EC	EN 60730-1

Overview of types

Type	Properties
FXV006F001	Electric distributor for control signals

Accessories

Type	Description
0374381001	Two clamping brackets, for fitting on top-hat rail EN 60715 35 × 7.5 mm or 35 × 15 mm
0374382001	Strain-relief caps, 9 pieces for cable Ø 6...13 mm and 6 pieces for Ø 3...7 mm
0374383001	Insertable pump logic module 24 V~; for demand-led pump operation
0374383002	Insertable pump logic module 230 V~; for demand-led pump operation



FCCP, FCIU: Fume-cupboard indicator and monitor

Features

- Demand-led control of fume cupboards as per EN 14175-6 when used in combination with ASV115 compact VAV controller
- Function indicator with optical and audible notification as per EN 14175-2
- The FCIU interface unit provides a wide range of functions, such as:
 - PI controller for regulating the air inlet speed via ASV115
 - Contacts input for indicating when the front sash is open > 500 mm
 - Light on fume cupboard can be switched on/off
 - External alarm extension via hardware contacts
 - Separate input for connecting a second SGU100 sash sensor
 - Possible to connect one or two function indicators for hatch-type fume cupboards
 - Function for day/night change-over from external location
 - Combined operation of air-flow sensor (SVU100) and sash sensor (SGU100) is possible
 - Audible alarm can be delayed (variable) or muted
 - Can be used as a simple fume cupboard monitor without an air-volume controller
- All the set parameters are stored and protected against power failure
- Can be put into service quickly and easily, without using a PC
- Parameter connection for easy access to the ASV115
- Mounting frame for surface or recessed mounting of the function indicator

Technical description (FCCP)

- Up to five keys for the following functions:
 - ON/OFF, lighting ON/OFF, V_{min} , V_{max} , mute
- LEDs for indicating:
 - power, V_{min} , V_{max} , normal operation, > 500 mm, alarm
- Connectors for ASV115 parameterisation
- Front film of polyethylene (i.e. resistant to chemicals)
- Power cable (2.9 m) with D-sub (HD15) connector

Technical description (FCIU)

- Outputs for:
 - Actual value, air volume in fume cupboard 0...10 V
 - 1x change-over relay, alarm for external SELV circuits
 - 1x normally-open contact relay, 230 V for lighting
 - 1x flow controller output 0...10 V
- Inputs for:
 - 1x external air-volume setpoint, 0...10 V
 - 1x external air-volume actual value, 0...10 V
 - 2x contacts input for front-sash opening height > 500 mm
 - 1x contacts input
 - 1x contacts input for day/night change-over
 - 1x contacts input for switching off the fume cupboard from external location
 - 1x contacts input for motion detector (reduced mode)
- External terminals for EIA-485 wiring

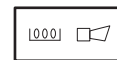
Technical data



FCCP100F031



FCIU100F***



FCCP100F***



FCCP	
Power supply	
Power supply	24 V~, ±20%, via FCIU 18...38 V=
Power consumption	3 VA
Audible alarm	
Sound pressure level	80 dB (A)
Frequency	4 kHz
Alarm duration	60 s
Time delay	5 s
Optical alarm	
Brightness	EN 842, punctiform
Field of view	> 120°
Admissible ambient conditions	
Operating temperature	0...50 °C
Humidity	< 85% rh, no condensation
Fitting	
Dimensions W x H x D	160 × 21.8 × 16 mm
Standards and directives	
Protection class	III
Type of protection (when installed)	IP 30 with EIA-485 IP 40 without EIA-485

FCIU	
Power supply	
Power supply	24 V~, ±20%
Power consumption	3.5 VA incl. FCCP 100
Inputs (R_i ≥ 100 kΩ)	
Command signal C _{q-ext}	0...10 V
NO contacts, night	15 V=, 3 mA
NO contacts 'Close'	15 V=, 3 mA
Air-flow sensor	0...10 V
End switch 500 mm	max. 15 V=, 3 mA
Front sash 1: end switch 'Close'	max. 15 V=, 3 mA
Front sash 2: End switch 500 mm	max. 15 V=, 3 mA
Front sash 1: change-over day/night	Contact
Outputs	
contacts: Alarm	change-over (24 V~, 8 A)
Relay switching output: Lighting	NO contacts (250 V~, 8 A)
Feedback x _i	0...10 V; load > 5 kΩ
Connections for	1 × ASV115 2 × SLC (EIA-485) 2 × FCCP (master and slave) 2 × SGU100 1 × SVU100
Admissible ambient conditions	
Operating temperature	0...50 °C
Humidity	< 85% rh, no condensation
Fitting	
Dimensions W x H x D	250 × 103 × 53 mm
Standards and directives	
Protection class	II
Type of protection	IP 00

Overview of types

Type	Properties	Power supply
FCCP100F010	Alarm, mute	Via FCIU
FCCP100F011	Alarm, mute, parameter access	Via FCIU

Type	Properties	Power supply
FCCP100F015	Alarm, mute, light, parameterisation access	Via FCIU
FCCP100F020	Alarm, mute, ON/OFF, lighting	Via FCIU
FCCP100F021	Alarm, mute, ON/OFF, lighting, parameters	Via FCIU
FCCP100F030	Alarm, mute, lighting, ON/OFF, \dot{V}_{min} , \dot{V}_{max}	Via FCIU
FCCP100F031	Alarm, mute, lighting, ON/OFF, \dot{V}_{min} , \dot{V}_{max} , parameter access	via FCIU
FCIU100F021	Interface unit for FCCP, ASV115 and fume cupboard sensors	24 V~
FCIU100F101	Interface unit for FCCP, ASV115 and fume cupboard sensors, max. selection or sum formation, external setpoint	24 V~

Accessories

Type	Description
0430240010	Surface junction box set, incl. frame and fixing parts
0430240020	Recessed junction box set, incl. frame and fixing parts

VAV compact controller for laboratory and pharmaceutical applications

SAUTER VAV controllers enable the air volume to be regulated in accordance with demand in order to optimise energy consumption in ventilation systems. They are used in laboratories, clean rooms, hospital wards and operating theatres. Used in combination with additional sensors and monitoring facilities, they enable fume cupboards to be regulated in accordance with the relevant standards.

Overview of VAV compact controllers



Type codes	ASV115CF132	ASV115CF152
Technical data		
Dimensions of damper spindle (mm)	Ø 8...16	Ø 8...16
Running time (s)	30, 120	3...15
Power supply (V)	24	24
Further information	Page 113	Page 116

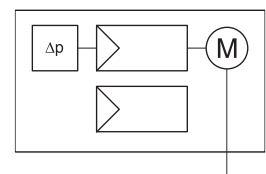
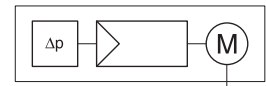
ASV115CF132: Standard VAV compact controllers

Features

- Supply and return air control for individual rooms such as offices, conference rooms and hotel rooms, in conjunction with a VAV box or a damper and flow probe. Pressure control in supply and return air ducts for low-noise, energy-efficient air distribution.
- Static differential pressure measurement based on the capacitive measurement principle
- Can be used in areas with dirty or contaminated return air
- High-precision measurement of differential pressures with measuring ranges of up to 300 Pa
- Variable running times 30...120 s
- Brushless DC motor guarantees minimum energy consumption and a long service life
- Electronic torque cut-off for safe operation
- Disengageable transmission for manual adjustment and damper positioning
- Integrated second controller for the following applications¹⁾:
 - Room-pressure control: can be ideally combined with EGP100 with symmetrical measuring range²⁾
 - Room temperature control: can be ideally combined with SAUTER Ni1000 sensor and AXS 215S continuous valve actuator
- Can be used as duct section pressure controller³⁾
- RS-485 bus interface for up to 31 subscribers in a segment with SLC (SAUTER Local Communication) protocol
- Very easy programming using the SAUTER CASE VAV software
- Constant air volume control via parameterisable inputs
- Adjustable end values of the differential pressure range
 - 50...150 Pa
 - 100...300 Pa
- Efficient control algorithm for fast control loops
- Analogue input and output signals to connect the setpoints and actual values for:
 - Volume flow control
 - Room pressure control
 - Room temperature control
 - Duct section pressure control
- Priority control via switching contacts
- Zero point can be calibrated



ASV115CF132D



Technical data

Power supply		
	Power supply ⁴⁾	24 V~, ±20%, 50...60 Hz 24 V=, ±20%
Power consumption at nominal voltage 50/60 Hz after 30 s running time (AC/DC)	Power consumption during operation	5.7 VA/3.3 W (10 Nm)
	Power consumption when idle ⁵⁾	4.2 VA/2.1 W

¹⁾ Application support depending on hardware and software version in CASE VAV manual 7010022001

²⁾ Use of the ASV115CF132 for room pressure control only admissible for rooms with a rate of air change below 4 and leakage rate above 5% of the nominal volume flow

³⁾ Application support depending on hardware and software version in CASE VAV manual 7010022001

⁴⁾ 24 V=: Analogue inputs that are not connected are rated 0 V. The nominal torque is achieved within the specified tolerances. Terminal O2 cannot be used with 24 V= power supply.

⁵⁾ Holding torque approx. 5 Nm



Power consumption at nominal voltage 50/60 Hz after 120 s running time (AC/DC)	Power consumption during operation	4.8 VA/3 W (10 Nm)
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Power consumption when idle ⁶⁾	4.2 VA/2.1 W
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Parameters

Integrated damper actuator	Torque ⁷⁾	10 Nm
	Holding torque ⁸⁾	2 Nm
	Angle of rotation ⁹⁾	90°
	Running time for 90° ¹⁰⁾	30...120 s
	Admissible dimensions of damper shaft	∅ 8...16 mm, □ 6,5...12.7 mm
	Admissible damper shaft (hardness)	Max. 300 HV
	Surge-voltage resistance	500 V (EN 60730)
Δp sensor	Operating noise	< 30 dB(A)
	Measuring range Δp (gain = 1)	0...150/300 Pa
	Pressure range types D & I/E & K	
	Time constant	0.1 s
	Influence of position	±1 Pa
	Reproducibility	0.2% FS
	Zero point stability	0.2% FS (20 °C)
	Admissible positive pressure	±10 kPa
	Admissible operating pressure p _{stat} ¹¹⁾	±3 kPa
	Low-pressure connections ¹²⁾	∅ i = 3.5...6 mm

Ambient conditions

Operating temperature	0...55 °C
Storage and transport temperature	-20...55 °C
Admissible humidity	< 85% rh, no condensation

Inputs/Outputs

Analogue input AI01	0...10 V (R _i = 100 kΩ)
Analogue input AI02 ¹³⁾	0...10 V (R _i = 70 kΩ)
Digital input DI04 ¹⁴⁾	Closed < 0.5 V, 1.3 mA, open > 2 V
Ni 1000 ¹⁵⁾	0...50 °C
Resolution	0.2 °C
Digital input DI05 ¹⁶⁾	Closed < 0.5 V, 1 mA, open > 3 V
Analogue outputs ¹⁷⁾	2 × 0...10 V, load > 10 kΩ

Interfaces and communication

RS-485 not electrically isolated	115 kBaud
Protocol	SAUTER Local Communication (SLC)
Access method	Master/slave
Topology	Line
Number of subscribers ¹⁸⁾	31 (32)
Length of cable without bus termination	≤ 200 m, ∅ 0.5 mm

⁶⁾ Holding torque approx. 5 Nm

⁷⁾ Current-free holding torque by means of interlocking in gear unit

⁸⁾ Current-free holding torque by means of interlocking in gear unit

⁹⁾ Maximum rotation angle 102° (without end stop)

¹⁰⁾ Run-time can be set via software

¹¹⁾ Short-term overload; zero adjustment of sensor is recommended

¹²⁾ Recommended hardness of tubing < 40 Sh A (e.g. silicone)

¹³⁾ Connection 02 can be configured as an analogue input or output using the SAUTER CASE VAV software (function only available with 24 VAC power supply)

¹⁴⁾ Digital inputs for external potential-free contacts (gold-plated recommended)

¹⁵⁾ Connection 04 can be parametrised using the CASE VAV software from version 2.0 as Ni 1000 input (ASV115CF132 only from hardware index C)

¹⁶⁾ Digital inputs for external potential-free contacts (gold-plated recommended)

¹⁷⁾ Connection 02 can be configured as an analogue input or output using the SAUTER CASE VAV software (function only available with 24 VAC power supply)

¹⁸⁾ One subscriber is always the parametering tool, hence the maximum number of 31 connectible devices

Length of cable with bus termination	≤ 500 m, Ø 0.5 mm
Bus termination	L > 200 m, 120 Ω both sides
Cable type ¹⁹⁾	Twisted in pairs

Construction

Weight	0.8 kg
Fitting	Self-centring spindle adaptor
Power cable	0.5 m long, 10 × 0.32 mm ² (fixed to housing)

Standards and directives

Type of protection	IP 54 (EN 60529)
Protection class	III (EN 60730)
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
Software	A (EN 60730)
Mode of operation	Type 1 AB (EN 60730)
Conformity	Machine directive 2006/42/EC, appendix II 1.B

Overview of types

Type	Measuring range Δp
ASV115CF132D	0...150 Pa
ASV115CF132E	0...300 Pa
ASV115CF132I	0...150 Pa
ASV115CF132K	0...300 Pa

💡 ASV115CF132D, ASV115CF132E: Version with PVC cable

💡 ASV115CF132I, ASV115CF132K: Version with halogen-free cable

Accessories

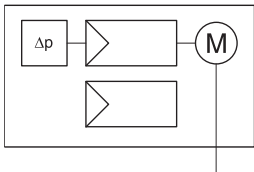
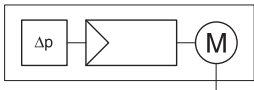
Type	Description
CERTIFICAT001	Manufacturer's test certificate type M
0372300001	Torsion protection, long (230 mm)
0372301001	Spindle adaptor for squared end hollow profile (x 15 mm), pack of 10 pcs.
XAFP100F001	Flow sensor to measure the air volume in ventilation ducts
0300360001	USB connection set

¹⁹⁾ Recommendation: Belden 3106A

ASV115CF152: VAV compact controllers for laboratory and pharmaceutical applications



ASV115CF152D



Features

- Controlling the return air in fume cupboards and controlling the supply and return air in laboratories, clean rooms, hospital wards and operating theatres using a VAV box or a damper and flow probe.
- Pressure control in supply and return air ducts for low-noise, energy-efficient air distribution.
- Static differential pressure measurement based on the capacitive measurement principle
- Can be used in areas with dirty or contaminated return air
- Available as a calibrated version for pharmaceutical applications
- Brushless DC motor guarantees minimum energy consumption and a long service life
- Electromechanical torque cut-off for safe operation
- Extremely simple installation due to self-centring shaft adaptor
- Disengageable transmission for manual adjustment and damper positioning
- Power cable 0.5 m long, $10 \times 0.32 \text{ mm}^2$, fixed to housing
- Integrated second controller for the following applications¹⁾:
 - Room-pressure control: can be ideally combined with EGP100 with symmetrical measuring range
 - Room temperature control: can be ideally combined with SAUTER Ni1000 sensor and AXS 215S continuous valve actuator
- Can be used as duct section pressure controller²⁾
- RS-485 bus interface for up to 31 subscribers in a segment with SLC (SAUTER Local Communication) protocol
- Very easy programming of the following applications using the SAUTER CASE VAV software:
 - Volume flow control
 - Room pressure control³⁾
- Adjustable end values of the differential pressure range
 - 50...150 Pa
 - 100...300 Pa
- Efficient control algorithm for fast control loops
- Analogue input and output signals to connect the setpoints and actual values for:
 - Volume flow
 - Room pressure control
 - Room temperature control
 - Duct section pressure control
 - Flow control for fume cupboards
- Priority control via switching contacts
- Zero point can be calibrated

Technical data

Power supply

Power supply ⁴⁾	24 V~, ±20%, 50...60 Hz 24 V=, ±20%
Power consumption during operation	Approx. 15 VA (10 Nm)
Power consumption when idle ⁵⁾	Approx. 4.5 VA

¹⁾ Application support depending on hardware and software version in CASE VAV manual 7010022001

²⁾ Application support depending on hardware and software version in CASE VAV manual 7010022001

³⁾ Available with devices from hardware index E

⁴⁾ 24 V=: Analogue inputs that are not connected are rated 0 V. The nominal torque is achieved within the specified tolerances. Terminal O2 cannot be used with 24 VDC power supply.

⁵⁾ Holding torque approx. 5 Nm



Parameters		
Integrated damper actuator	Torque	10 Nm
	Holding torque ⁶⁾	2 Nm
	Angle of rotation ⁷⁾	90°
	Running time for 90° ⁸⁾	3...15 s
	Admissible dimensions of damper shaft	∅ 8...16 mm, □ 6.5...12.7 mm
	Admissible damper shaft (hardness)	Max. 300 HV
	Surge-voltage resistance	500 V (EN 60730)
Δp sensor	Operating noise	< 49 dB(A) at 3 s
	Measuring range Δp (gain = 1)	0...150/300 Pa
	Pressure range types D & I/E & K	
	Linearity error	2% FS
	Time constant	0.1 s
	Influence of position	±1 Pa
	Reproducibility	0.2% FS
	Zero point stability	0.2% FS (at 20 °C)
	Admissible positive pressure	±10 kPa
	Admissible operating pressure p _{stat} ⁹⁾	±3 kPa
	Low-pressure connections ¹⁰⁾	∅ i = 3.5...6 mm

Ambient conditions		
Operating temperature	0...55 °C	
Storage and transport temperature	-20...55 °C	
Admissible humidity	< 85% rh, no condensation	

Inputs/Outputs		
Analogue inputs ¹¹⁾	2 × 0...10 V (R _i = 100 kΩ)	
Digital inputs ¹²⁾	2 × closed 0.5 V~, 1 mA, open > 2 V~	
Analogue outputs ¹³⁾	2 × 0...10 V load > 10 kΩ	
Ni1000 ¹⁴⁾	0...50 °C	
Resolution	0.2 °C	

Interfaces and communication		
RS-485 not electrically isolated	115 kBaud	
Protocol	SAUTER Local Communication (SLC)	
Access method	Master/slave	
Topology	Line	
Number of subscribers ¹⁵⁾	31 (32)	
Length of cable without bus termination	≤ 200 m, ∅ 0.5 mm	
Length of cable with bus termination	≤ 500 m, ∅ 0.5 mm	
Bus termination	L > 200 m, 120 Ω both sides	
Cable type ¹⁶⁾	Twisted in pairs	

Construction		
Weight	0.8 kg	
Fitting	Self-centring spindle adaptor	
Power cable	0.5 m, 10 × 0.32 mm ² (fixed to housing)	

⁶⁾ Current-free holding torque by means of interlocking in gear unit

⁷⁾ Maximum rotation angle 102° (without end stop)

⁸⁾ Run-time can be set via software

⁹⁾ Short-term overload; zero adjustment of sensor is recommended

¹⁰⁾ Recommended hardness of tubing < 40 Sha (i.e. silicone)

¹¹⁾ Connection 02 can be configured as an analogue input or output using the SAUTER CASE VAV software (function only available with 24 VAC power supply)

¹²⁾ Digital inputs for external potential-free contacts (gold-plated recommended)

¹³⁾ Connection 02 can be configured as an analogue input or output using the SAUTER CASE VAV software (function only available with 24 V~ power supply)

¹⁴⁾ Connection 04 can be parametrised using the CASE VAV software from version 2.0 as Ni1000 input (only devices from hardware index E)

¹⁵⁾ One subscriber is always the parametering tool, hence the maximum number of 31 connectible devices

¹⁶⁾ Recommendation: Belden 3106A

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	III (EN 60730)
Conformity	Machine directive 2006/42/EC, appendix II 1.B
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Measuring range Δp
ASV115CF152D	0...150 Pa
ASV115CF152I	0...150 Pa
ASV115CF152E	0...300 Pa
ASV115CF152K	0...300 Pa

☛ ASV115CF152D, ASV115CF152E: Version with PVC cable

☛ ASV115CF152I, ASV115CF152K: Version with halogen-free cable

Accessories

Type	Description
CERTIFICAT001	Manufacturer's test certificate type M
0372300001	Torsion protection, long (230 mm)
0372301001	Spindle adaptor for squared end hollow profile (x 15 mm), pack of 10 pcs.
XAFP100F001	Flow sensor to measure the air volume in ventilation ducts
0300360001	USB connection set

Heating controllers

SAUTER heating controllers of the equitherm series are easy to operate, while ensuring that your installation meets the highest standards of energy-optimised operation. They can be networked with each other in large installations via the integrated Modbus communication facility. The applications for these heating controllers include a weather-compensating boiler and/or flow-temperature control, domestic hot water preparation and heating control in local or district heating networks.

Overview of heating controllers



Type codes	EQJW 95	EQJW 125	EQJW 145
Application			
Boiler control	–	–	–
Flow-temperature control	•	•	•
Domestic-hot-water control	–	–	•
Local/district heating	–	–	•
Operation			
Analogue	•	–	–
Digital	–	•	•
Operation			
Two control loops	–	–	–
Timer	•	–	–
Switching programmes	–	•	•
Communication			
Bus connection	–	•	•
Logbook	–	–	•
Further information	Page 121	Page 123	Page 125



Type codes	EQJW 245	EQJW 135
Application		
Boiler control	–	•
Flow-temperature control	•	•
Domestic-hot-water control	•	•
Local/district heating	•	–
Operation		
Analogue	–	–
Digital	•	•
Operation		
Two control loops	•	–
Timer	–	–
Switching programmes	•	•
Communication		
Bus connection	•	•
Logbook	•	•
Further information	Page 127	Page 129

EQJW 95: Heating controller with analogue user interface, equitherm

Features

- Weather-compensating supply-temperature control with PI controller
- Easy to operate thanks to analogue user interface
- LED indicators for outputs and malfunctions
- Connection of room temperature via room-temperature sensor or room operating unit
- Manual mode
- Variable summer/winter heating limit for switching off the system
- Digital input for switching the system on or off remotely
- Versions with weekly/daily time-switch available
- Relay outputs for activating control units and pumps
- Min./max. limitation of supply temperature
- Frost-protection and anti-jamming functions
- Automatic cut-off facilities for saving energy
- Electrical connection in baseplate



EQJW95*F001



Technical data

Power supply		
Power supply		230 V~, +10%/-15%, 50...60 Hz
Power consumption		≤ 5 VA
Parameters		
Control parameters	Proportional band ¹⁾	10...90 K
	Integral action time	2 min
	Frost-protection temperature	3 °C
Setting parameters	Normal temperature	14...26 °C
	Max. limitation for supply	30...130 °C
	Temperature reduction for reduced operation	0...-16 K
	Slope	0.2...3.0
	Heating limit	5...25 °C
	Cycle time	< 10 s
Ambient conditions		
Admissible ambient temperature		0...50 °C
Admissible ambient humidity		5...95% rh, no condensation
Storage and transport temperature		-25...65 °C
Inputs/outputs		
Number of inputs		3 analogue, 2 digital
Digital inputs		Switching current approx. 1 mA
Analogue inputs		1 Ni1000/room operating unit, 2 Ni200/Ni1000
Number of outputs		3 relays
Pump relay ²⁾		4 A, 250 V~, cos φ > 0,5
Actuator relay ³⁾		0.5 A, 250 V~, cos φ > 0,5

¹⁾ Valid for actuators with a running time of 2 min. For faster actuators, enlarge the P-band accordingly

²⁾ Start-up current max. 7 A (1 s)

³⁾ Low voltage not admissible



Operation

Analogue quartz daily or weekly time-switch	Accuracy	-1.5...2.5 s/d
	Back-up power supply	> 72 h
Week day	Min. switching interval	2 h
	Min. switching interval	15 min

Structural design

Weight	0.7 kg
Dimensions	144 × 96 mm
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Fitting	Wall, panel, top-hat rail
Screw terminals	For wire of up to 2.5 mm ²

Standards and directives

	Protection class	II (IEC 60730-1)
	Type of protection (when fitted in panels)	IP 40 (EN 60529)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

Type	Properties
EQJW95DF001	PI flow-temperature control, daily time-switch
EQJW95WF001	PI flow-temperature control, weekly time-switch

Accessories

Type	Description
AVF***	Motorised valve actuator (see product data sheet)
AVM***	Motorised valve actuator (see product data sheet)
AXM***	Motorised valve actuator (see product data sheet)
EGS 52/15	Room operating unit (see product data sheet)
EGT***	External temperature sensor Ni1000 (see product data sheet)
0220074001	Adaptor for EQJW, type 41 C
0220074002	Adaptor for EQJW, type 41 D

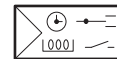
EQJW 125: Heating controller with digital user interface, equitherm

Features

- PI supply-temperature control
- Convenient to use with modern operating concept (turn and press) and large LCD
- Communication via Modbus/RTU or proprietary device bus
- Convenient weekly and calendar switching programmes with optimisation of switching times
- Automatic summertime/wintertime changeover
- Min./max. limitation of supply temperature
- Frost-protection facility and anti-jamming function for valve
- Floor-drying function
- Connection of room temperature via room-temperature sensor or room operating unit
- Ni1000 inputs for outside, supply and room temperatures or for room operating unit
- Multiplication of the outside temperature via device bus
- Relay outputs for activating control units and pumps
- Manual mode
- Notification by text message
- Electrical connection in baseplate



EQJW125F001



Technical data

Power supply

Power supply	230 V~, ±15 %, 50...60 Hz
Power consumption	Approx. 2 VA

Parameters

Control parameters	Proportional band	2...100 K
	Integral action time	15...1000 s
	Frost-protection temperature	3 °C
Temperature range	Normal temperature	0...40 °C
	Reduced temperature	0...40 °C
	Supply temperature	0...130 °C
	Outside temperature	-50...50 °C
	Cycle time	Running time of the valve ÷ 15
	Running time of valve	30...300 s

Ambient conditions

Admissible ambient temperature	0...50 °C
Admissible ambient humidity	5...95% rh, no condensation
Storage and transport temperature	-25...65 °C

Inputs/outputs

Number of inputs	3 analogue
Analogue inputs	2 Ni1000, 1 Ni1000/room operating unit
Number of outputs	3 relays
Pump relay ¹⁾	3 × 2 A, 250 V~, cos φ > 0.5
Actuator relay ²⁾	2 × 0.5 A, 250 V~, cos φ > 0.5

¹⁾ Start-up current max. 7 A (1 s)

²⁾ Low voltage not admissible



Operation

Digital timer for weekly/calendar switching programme	Back-up power supply	min. 24 h, typically 48 h
	Accuracy	< 1 s/d
Weekly switching programme	Number of switching commands	48 per week
	Min. switching interval	10 min
Calendar switching programme	Number of switching commands	20
	Min. switching interval	1 d

Interfaces and communication

Interface	RS-485, device interface (similar to RS-232)
Protocol	Modbus, device bus (TAP)

Structural design

Weight	0.4 kg
Dimensions	144 × 96 mm
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Fitting	Wall, panel, top-hat rail
Screw terminals	For wire of up to 2.5 mm ²

Standards and directives

CE conformity as per	Type of protection (when fitted in panels)	IP 40 (EN 60529)
	Protection class	II (IEC 60730-1)
	Software class A	EN 60730
	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

Type	Properties
EQJW125F001	Heating controller with digital user interface

Accessories

Type	Description
AVF***	Motorised valve actuator (see product data sheet)
AVM***	Motorised valve actuator (see product data sheet)
AXM***	Motorised valve actuator (see product data sheet)
EGS 52/15	Room operating unit (see product data sheet)
EGT***	External temperature sensor Ni1000 (see product data sheet)
0220074001	Adaptor for EQJW, type 41 C
0220074002	Adaptor for EQJW, type 41 D
7001029001	Operating manual, German
7001029002	Operating manual, French
7001029003	Operating manual, English

EQJW 145: Heating controller for local and district heating, equitherm

How energy efficiency is improved

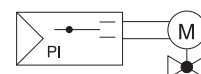
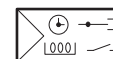
Convenient time programme that enables the system to be adjusted to the individual requirements of the user, and also to be switched off temporarily if required

Features

- Weather-dependent supply-temperature control and heating of drinking water
- Convenient to use with modern operating concept (turn and press) and large LCD
- Communication via Modbus/RTU or proprietary device bus
- Convenient weekly and calendar switching programmes with optimisation of switching times
- Automatic summertime/wintertime changeover
- Min./max. limitation of supply temperature and max. limitation of return temperature
- Frost-protection facility and anti-jamming function for valve and pump
- Screed curing (floor-drying function)
- Function for protecting against legionellae
- Connection of room temperature via room-temperature sensors or room operating unit
- Ni1000 inputs for the outside, supply, drinking water, return flow and room temperatures or for the room operating unit
- Relay outputs for activating control elements, pumps, additional multifunctional relay output
- Pulse input for measuring and limiting flow or energy
- Manual mode
- Logbook
- Notification by text message



EQJW145F001



Technical data

Power supply

Power supply	230 V~, ±15%, 50...60 Hz
Power consumption	Approx. 1 VA

Parameters

Control characteristic	Supply temperature	PI control
	Temperature of drinking water	2-point
Control parameters	Proportional band	2...100 K
	Integral action time	15...1000 s
	Switching difference for drinking water	1...19 K
Temperature ranges	Normal temperature	0...40 °C
	Reduced temperature	0...40 °C
	Supply temperature	0...140 °C
	Return temperature	0...140 °C
	Outside temperature	-50...50 °C
	Domestic-hot-water temperature	20...90 °C
	Frost-protection temperature	3 °C
	Running time of valve	30...300 s
Cycle time	Running time of the valve + 15	

Ambient conditions

Admissible ambient temperature	0...50 °C
Admissible ambient humidity	5...95% rh, no condensation
Storage and transport temperature	-25...65 °C

Inputs/outputs

Number of outputs	6 relays
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Pump relay ¹⁾	3 × 2 A, 250 V~, cos φ > 0.5
Actuator relay ²⁾	2 × 0.5 A, 250 V~, cos φ > 0.5
Configurable relay ³⁾	1 × 2 A, 250 V~, cos φ > 0.5
Number of inputs	1 digital, 6 analogue
Digital input	Switching current approx. 1 mA
Analogue inputs	5 Ni1000, 1 Ni1000/room control unit

Operation

Timer	Back-up power supply	Min. 24 h, typically 48 h
	Accuracy	< 1 s/d
Weekly switching programme	Number of programmes	3
	Number of switching commands	48 each
	Min. switching interval	10 min
Calendar switching programme	Number of programmes	1 (for heating circuits)
	Number of switching commands	20 each
	Min. switching interval	1 d

Interfaces and communication

Communication	Interface	RS-485, device interface (similar to RS-232)
	Protocol	Modbus, device bus (TAP)

Structural design

Weight	0.4 kg
Housing	144 × 96 mm, pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Fitting	Wall, panel and top-hat rail
Screw terminals	For wires of up to 2.5 mm ²

Standards and directives

CE conformity as per	Type of protection	IP 40 (EN 60529) (when fitted in panels)
	Protection class	II (IEC 60730-1)
	Software class A	EN 60730
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

Type	Properties
EQJW145F001	Heating controller for local and district heating

Accessories

Type	Description
AVF***	Motorised valve actuator (see product data sheet)
AVM***	Motorised valve actuator (see product data sheet)
AXM***	Motorised valve actuator (see product data sheet)
EGS 52/15	Room operating unit (see product data sheet)
EGT***	External temperature sensor Ni1000 (see product data sheet)
Modem	Modems tested with the EQJW*** are available on request
7010015001	Operating manual, German
7010015002	Operating manual, French
7010015003	Operating manual, English

¹⁾ Start-up current max. 7 A (1 s)

²⁾ Low voltage not admissible

³⁾ Start-up current max. 7 A (1 s); low voltage not admissible, potential-free contacts

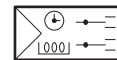
EQJW 245: Heating controller with two control loops for local or district heating, equitherm

Features

- Weather-dependent supply-temperature control and heating of drinking water
- Convenient to use with modern operating concept (turn and press) and large LCD
- Communication via Modbus/RTU or proprietary device bus
- Convenient weekly and calendar switching programmes with optimisation of switching times
- Automatic summertime/wintertime changeover
- Two independent control loops
- Min./max. limitation for supply and return temperatures
- Frost-protection facility and anti-jamming function for valve and pump
- Screed curing (floor-drying function)
- Function for protecting against legionellae
- Connection of room temperature via room-temperature sensors or room operating unit
- Ni1000 inputs for the outside, supply, drinking water, return flow and room temperatures or for the room operating unit
- Relay outputs for activating control elements, pumps, additional multifunctional relay output
- Pulse input for measuring and limiting flow or energy
- Manual mode
- Logbook
- Notification by text message



EQJW145F001



Technical data

Power supply

Power supply	230 V~, ±15%, 50...60 Hz
Power consumption	Approx. 1 VA

Parameters

Control characteristic	Supply temperature	PI control
	Temperature of drinking water	2-point
Control parameters	Proportional band	2...100 K
	Integral action time	15...1000 s
	Switching difference for drinking water	1...19 K
	Frost-protection temperature	3 °C
Temperature ranges	Normal temperature	0...40 °C
	Reduced temperature	0...40 °C
	Supply temperature	0...140 °C
	Return temperature	0...140 °C
	Outside temperature	-50...50 °C
	Domestic-hot-water temperature	20...90 °C
	Running time of valve	30...300 s
	Cycle time	Running time of the valve + 15

Ambient conditions

Admissible ambient temperature	0...50 °C
Admissible ambient humidity	5...95% rh, no condensation
Storage and transport temperature	-25...65 °C

Inputs/outputs

Number of outputs	8 relays
Pump relay ¹⁾	3 × 2 A, 250 V~, cos φ > 0.5

¹⁾ Start-up current max. 6 A (1 s)



Actuator relay ²⁾	4 × 0.5 A, 250 V~, cos φ > 0.5
Configurable relay ³⁾	1 × 2 A, 250 V~, cos φ > 0.5
Number of inputs	1 digital or pulse, 8 analogue
Digital inputs	Switching current approx. 1 mA
Analogue inputs	6 Ni1000, 2 Ni1000 or room operating unit

Operation

Timer	Back-up power supply	Min. 24 h, typically 48 h
	Accuracy	1 s/d
Weekly switching programme	Number of programmes	4
	Number of switching commands	48 each
	Min. switching interval	10 min
Calendar switching programme	Number of programmes	1 (for heating circuits)
	Number of switching commands	20
	Min. switching interval	1 d

Interfaces and communication

Interface	RS-485, device interface (similar to RS-232)
Protocol	Modbus, device bus (TAP)

Structural design

Weight	0.4 kg
Housing	144 mm × 96 mm, pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Fitting	Wall, panel and top-hat rail
Screw terminals	For wires of up to 2.5 mm ²

Standards and directives

Type of protection (when fitted in panels)	IP 40 (EN 60529)
Protection class	II (IEC 60730-1)
Software class A	EN 60730

Overview of types

Type	Properties
EQJW245F001	Heating controller with two control circuits for local or district heating

Accessories

Type	Description
AVF***	Motorised valve actuator (see product data sheet)
AVM***	Motorised valve actuator (see product data sheet)
AXM***	Motorised valve actuator (see product data sheet)
EGS 52/15	Room operating unit (see product data sheet)
EGT***	External temperature sensor Ni1000 (see product data sheet)
Modem	Modems tested with the EQJW*** are available on request
7010042001	Operating manual, German
7010042002	Operating manual, French
7010042003	Operating manual, English

²⁾ Low voltage not admissible

³⁾ Start-up current max. 6 A (1 s); low voltage not admissible; potential-free contacts

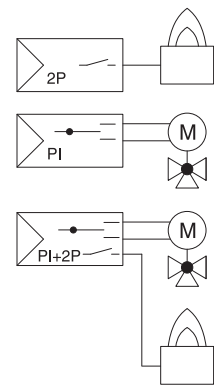
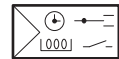
EQJW 135: Heating controller for boiler control systems, equitherm

Features

- Weather-dependent boiler- and/or supply-temperature control, and drinking water circuit in buildings of all kinds
- Convenient to use with modern operating concept (turn and press) and large LCD
- Communication via Modbus RTU or proprietary device bus
- Convenient weekly and calendar switching programmes with optimisation of switching times
- Automatic summertime/wintertime changeover
- Limitation of boiler temperature and function for boiler start-up relief
- Min./max. limitation of supply temperature and maintenance of return temperature
- Frost-protection facility and anti-jamming function for valve
- Screed curing (floor-drying functions)
- Function for protecting against legionellae
- Connection of room temperature via room-temperature sensor or room operating unit
- Ni1000 inputs for the outside, supply, boiler, DHW, return and room temperatures or for room operating unit
- Relay output for activating control units and pumps and for enabling burner levels, additional multi-functional relay output
- Manual mode
- Logbook
- Notification by text message
- Electrical connection in baseplate



EQJW135F001



Technical data

Power supply

Power supply	230 V~, ±15%, 50...60 Hz
Power consumption	Approx. 1 VA

Parameters

Control characteristic	Boiler temperature	2-point
	Supply temperature	PI control
	Domestic-hot-water temperature	2-point
Control parameters	Proportional band	2...100 K
	Integral action time	15...1000 s
	Switching difference, boiler	1...9 K
	Switching difference, domestic hot water	1...19 K
	Frost-protection temperature	3 °C
Temperature ranges	Normal temperature	0...40 °C
	Reduced temperature	0...40 °C
	Supply temperature	0...130 °C
	Return temperature	0...130 °C
	Boiler temperature	0...130 °C
	Outside temperature	-50...50 °C
	Domestic-hot-water temperature	20...90 °C
	Running time of valve	30...300 s
	Cycle time	Running time of the valve ± 15

Ambient conditions

Admissible ambient temperature	0...50 °C
Admissible humidity	5...95% rh, no condensation
Storage and transport temperature	-25...65 °C



Inputs/Outputs

Number of inputs	1 digital, 6 analogue
Digital inputs	Switching current approx. 1 mA
Analogue inputs	5 Ni1000, 1 Ni1000/room operating unit
Number of outputs	6 relays
Pump relay ¹⁾	3 × 2 A, 250 V~, cos φ > 0.5
Actuator relay ²⁾	2 × 0.5 A, 250 V~, cos φ > 0.5
Relay to enable burner	0.5 A, 250 V~, cos φ > 0,5
Configurable relay ³⁾	1 × 2 A, 250 V~, cos φ > 0.5

Operation

Digital timer for weekly/calendar switching programme	Accuracy	< 1 s/d
	Back-up power supply	Min. 24 h, typically 48 h
Weekly switching programme	Number of programmes	3
	Number of switching commands	48 each
	Min. switching interval	10 min
Calendar switching programme	Number of programmes	1 (for heating circuits)
	Number of switching commands	20 each
	Min. switching interval	1 d

Interfaces and communication

Interface	RS-485, device interface (similar to RS-232)
Protocol	Modbus, device bus (TAP)

Construction

Weight	0.4 kg
Dimensions	144 × 96 mm
Housing	Pure white (RAL 9010)
Housing material	Fire-retardant thermoplastic
Fitting	Wall, panel, top-hat rail
Screw terminals	For wire of up to 2.5 mm ²

Standards and directives

	Type of protection (when fitted in panels)	IP 40 (EN 60529)
	Protection class	II (IEC 60730-1)
	Software class A	EN 60730
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

Type	Properties
EQJW135F001	Heating controller for boiler control

Accessories

Type	Description
AVF***	Motorised valve actuator (see product data sheet)
AVM***	Motorised valve actuator (see product data sheet)
AXM***	Motorised valve actuator (see product data sheet)
EGS 52/15	Room operating unit (see product data sheet)
EGT***	External temperature sensor Ni1000 (see product data sheet)
Modem	Modems tested with the EQJW*** are available on request
7001059001	User manual, German

¹⁾ Start-up current max. 7 A (1 s)

²⁾ Low voltage not admissible

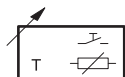
³⁾ Start-up current max. 7 A (1 s); low voltage not admissible

Type	Description
7001059002	User manual, French
7001059003	User manual, English





EGS52/15F001



EGS: Remote control unit

Features

- For remote operation of the equitherm and equiflex heating controllers
- Adjustment knob for remotely setting the room-temperature setpoint
- Possible to measure the room temperature via an integrated sensor
- Switch for changing the operating mode on the heating controller between automatic, normal and back-up modes

Technical data

Parameters		
	Operating modes	Normal/off/automatic
	Type of signal	Coded resistance values
	Temperature sensor	Ni1000 (DIN 43760)
	Setpoint correction	±2.5 K
Temperature sensor, internal	Dead time	Approx. 60 s
	Time constant	Approx. 600 s

Ambient conditions

Admissible ambient temperature	5...40 °C
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Construction

Weight	0.1 kg
Housing material	Fire-retardant thermoplastic
Housing	72 × 72 mm, pure white (RAL 9010)
Fitting	Recessed/surface-mounted (accessories)
Cable feed	At rear
Screw terminals	For wires of up to 1.5 mm ²

Standards and directives

	Type of protection	IP 40 EN (60529)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EGS52/15F001	Remote control unit

Accessories

Type	Description
0297441000	Cover plate, pure white, for various recessed junction boxes
0369573001	Surface junction box, pure white
0303124000	Recessed junction box



Controllers for ventilation and air-conditioning

SAUTER controllers for ventilation and air-conditioning cover all the possible applications for demand-led control of ventilation and air-conditioning systems. The large number of integrated standard applications meets the requirements concerning both the modularity and the energy-efficient operation of your installations. A wide range of additional functions enable the establishment of complex control systems and the integration into a building automation system.

Overview of controllers for ventilation and air-conditioning

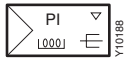


	flexotron400		flexotron800
Type codes	RDT405F201	RDT410F*01	RDT 808, 815, 828
Control loops			
Cascade	–	•	•
P-controller	•	•	•
PI controller	•	•	•
PID controller	–	•	•
Operation			
Time programme	–	•	•
Communication			
Number of inputs	3	5	5/8/16
Number of outputs	2	5	3/7/12
Modbus	–	–	•
BACnet	–	–	•
Serial interface for parameters and configuration	–	–	•
Application			
Flow-temperature control	•	•	•
Supply-air cascade control	–	•	•
Air-conditioning control	–	–	•
Further information	Page 134		Page 136

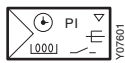
RDT 405, 410: Electronic controller for simple applications, flexotron400



RDT405F201



RDT405F201



RDT410F*01

Features

- Five different control models for each device, for temperature, pressure, CO₂, supply air cascade, heating
- Easy to operate with large, illuminated LCD and rotary knob
- Fast commissioning due to simple operating concept
- Weekly programme (depending on variant)
- External setpoint

Technical data

Power supply	
Power supply	24 V~, ±15%, 50...60 Hz (RDT4**F201) 230 V~, ±15%, 50...60 Hz (RDT410F301)
Power consumption	4 VA
Parameters	
Control characteristics	P/PI
P-band X _p	0...99 K
Integral action time	0...990 s
Ambient conditions	
Admissible ambient temperature	0...50 °C
Admissible ambient humidity	5...95% rh, no condensation
Storage and transport temperature	-20...70 °C
Inputs/Outputs	
Universal inputs	Ni1000 (DIN 43760)
Digital inputs	Potential-free contacts
Analogue inputs	Ni1000 (DIN 43760) for temperature, setpoint
Analogue outputs	0...10 V, 1 mA
Digital outputs	RDT410F201: 2 × 24 V~, 0.5 A 1 × 230 V~, 5 A RDT410F301: 2 × 24 V~, 0.16 A 1 × 230 V~, 5 A
Construction	
Dimensions W x H x D	123 × 99 × 64 mm
Screw terminals	For wires of up to 1.5 mm ²
Fitting	Top-hat rail, wall, panel
Standards and directives	
Type of protection ¹⁾	IP 20
Protection class	II (RDT410F301 only)
CE conformity as per	EMC directive 2004/108/EC EN 61000-6-1, EN61000-6-3 Low-voltage directive 2006/95/EC EN 60730-1, EN 60730-2-9

¹⁾ When installed



Overview of types

Type	Analogue inputs	Digital inputs	Universal inputs	Analogue outputs	Digital outputs	Input for external set-point	Week time-switch	Weight
RDT405F201	1	1	1	2	0	1	–	0.2 kg
RDT410F201	2	2	1	2	3	1	•	0.3 kg
RDT410F301	2	2	1	2	3	1	•	0.45 kg

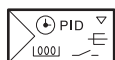
☛ Week time-switch: only RDT410F*01 (number of switching commands: 8)

Accessories

Type	Description
XYE460F001	flexotron400 demo case
0460240001	flexotron400/800 pluggable terminal strips
0460240010	Cabinet fitting kit for flexotron400



RDT828F222



RDT 808, 815, 828: Universal controller with communication capability, flexotron800

Features

- Configurable controllers for a wide range of applications for ventilation, air-conditioning and heating
- Many functions for sequences and monitoring
- Easy to operate with large, illuminated LCD and buttons
- Menus in 20 languages
- Weekly and calendar switching programmes with summertime/wintertime change-over
- Configuration using display or PC tool
- RS485 interfaces with Modbus RTU or TCP/IP with BACnet/IP (B-ASC controller) or integrated web server

Technical data

Power supply

Power supply	24 V~, ±15%, 50...60 Hz 21...36 V=
Dissipated power	Approx. 7.5 VA, 3.4 W Approx. 8 VA, 3.7 W TCP models
Start-up current	28 A (2 ms)

Parameters

Integral action time	0...600 s
Control characteristics	P, P/PI
P-band X_p	0...300 K

Measuring ranges

Normal temperature	-50...115 °C
Pressure sensor	-500...5000 Pa
Auxiliary controller for setpoint/actual value	-50...115 °C
Reduced temperature	-50...115 °C
Humidity	0...100% rh
CO ₂	0...5000 ppm

Ambient conditions

Admissible ambient temperature	0...50 °C
Admissible ambient humidity	5...95% rh, no condensation
Storage and transport temperature	-20...70 °C

Inputs/Outputs

Digital inputs	Potential-free connection
Analogue inputs	Ni1000, 0...10 V
Input impedance	10 MΩ (for 0...10 V)
Digital outputs	Mosfet each 2 A, 24 V=
Analogue outputs	0...10 V=, 1 mA, protected against short circuit
Universal inputs	Ni1000 or 0...10 V Potential-free contact

Operation

Timer	Timer	24 h system clock Backup with battery
	Accuracy	< 2.5 s/d at 25 °C
	Back-up power supply	Min. 24 h
Weekly switching programme	Number of switching commands	4/d individual
	Min. switching interval	15 min
Calendar switching programme	Number of switching commands	24
	Min. switching interval	1 d
Timer channel	Number of switching commands	4/d individual
	Number of clock channels	5



Interfaces and communication

Interfaces	RS485 TCP/IP (option)
Protocol	Modbus RTU BACnet/IP

Construction

Weight	0.4 kg
Dimensions W x H x D	148 × 123 × 60 mm (with terminals)
Screw terminals	For wires up to 1.5 mm ²
Fitting	Top-hat rail

Standards and directives

Type of protection	IP 20 (EN 60529)
CE conformity as per EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3

Overview of types

Type	Description
RDT808F012	Universal controller, 8 inputs/outputs, without LCD, RS485
RDT808F212	Universal controller, 8 inputs/outputs, with LCD, RS485
RDT815F012	Universal controller, 15 inputs/outputs, without LCD, RS485
RDT815F212	Universal controller, 15 inputs/outputs, with LCD, RS485
RDT815F022	Universal controller, 15 inputs/outputs, without LCD, TCP interface
RDT815F222	Universal controller, 15 inputs/outputs, with LCD, TCP interface
RDT815F032	Universal controller, 15 inputs/outputs, without LCD, TCP interface and RS485
RDT815F232	Universal controller, 15 inputs/outputs, with LCD, TCP interface and RS485
RDT828F012	Universal controller, 28 inputs/outputs, without LCD, RS485
RDT828F212	Universal controller, 28 inputs/outputs, with LCD, RS485
RDT828F022	Universal controller, 28 inputs/outputs, without LCD, TCP interface
RDT828F222	Universal controller, 28 inputs/outputs, with LCD, TCP interface
RDT828F032	Universal controller, 28 inputs/outputs, without LCD, TCP interface and RS485
RDT828F232	Universal controller, 28 inputs/outputs, with LCD, TCP interface and RS485

Accessories

Type	Description
XYE460F002	flexotron800 demo case
0460240001	flexotron400/800 pluggable terminal strips
0460240011	Cabinet fitting kit for flexotron800
RDB800F002	Operating unit for flexotron800 V2
EGT338F102	External setpoint adjuster, room operating unit with potentiometer and temperature sensor
0300360001	USB-RS485 converter



EXG100F001



EXG: Active potentiometer

Features

- Remote adjustment of setpoints, or in connection with a positioner for the remote adjustment of actuators
- Easy to operate using rotary knob
- Two variable stops for limiting/locking
- Exchangeable scales with different ranges and for different physical values
- Electrical connection via plug-in unit (for wire of up to 2.5 mm²)

Technical data

Power supply

Power supply	24 V~	+15%/-20%, 50...60 Hz
Power consumption		0.5 VA
Current load		Max. 3 mA

Inputs/Outputs

Output	0...10 V
--------	----------

Ambient conditions

Admissible ambient temperature	0...40 °C
--------------------------------	-----------

Construction

Weight	0.25 kg
Housing material	Fire-retardant thermoplastic
Housing	Light grey (RAL 7035)
Fitting	In panels

Standards and directives

	Type of protection	IP 52 (EN 60529, front) IP 00 (EN 60529, inside switch panel)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3, EN61000-6-4

Overview of types

Type	Properties
EXG100F001	Active potentiometer

Accessories

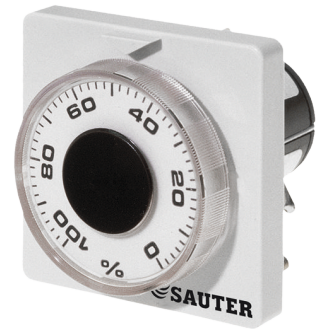
Type	Description
0312949000	9 scales: 0...40/100/130/250 °C; 100%; 100% rh; -35...35 °C; ±4 °C; ±8% rh



XPES: Setpoint potentiometer

Features

- Remote adjustment of the setpoint in electronic and electromechanical control facilities
- Easy to operate using rotary knob
- Two variable stops for limiting/locking
- Exchangeable scales with different ranges and for different physical values
- Neutral scales with fixed divisions or for self-inscribing



XPESFO01



Technical data

Parameters

Resistance value	2000 Ω
Loading capacity	2 W
Replaceable scales	0...40 °C, -20...40 °C 0...100 °C, 30...180 °C 0...100%, 20...80% 0...100% rh, 35...85% rh 0...20 g/kg, 2...22 g/kg 0...1 mA, -10...25 °C _{TP} 0...10 kJ/kg

Ambient conditions

Admissible ambient temperature	0...55 °C
--------------------------------	-----------

Construction

Weight	0.05 kg
Housing material	Fire-retardant thermoplastic
Housing	Light grey (RAL 7035)
Fitting	In panels

Standards and directives

Type of protection for housing	IP 00 (EN60529)
Type of protection for cover frame	IP 52 (EN60529)
Conforms to	EMC directive 2004/108/EC EN 61000-6-1, EN 61000-6-3 EN 61000-6-4

Overview of types

Type	Properties
XPESFO01	Setpoint potentiometer

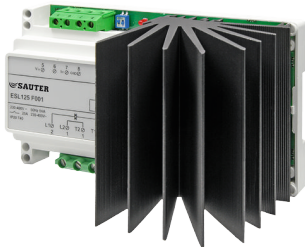
Accessories

Type	Description
0368433000	4 neutral scales with 5/10, 6/12/60, 8/40 and 15/30 divisions; for self-inscribing

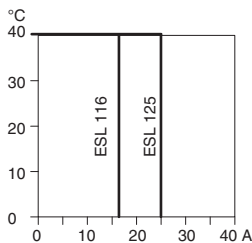
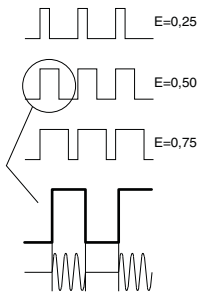
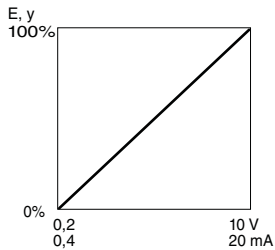




ESL116F001



ESL125F001



ESL: Electronic power control unit

Features

- Output controlling in electric auxiliary heating systems, electric heating elements in heating coils, fan coil units, etc., and heating elements for domestic hot water preparation
- Suitable for consumer loads that are controlled via one, two or three phases
- Y and Δ circuits are possible
- Analogue inputs for active standard signals of 0/2...10 V or 0/4...20 mA
- LED indicator

Technical data

Power supply

Tolerance in power supply	$\pm 20\%$, 50...60 Hz
Power consumption	Max. 5 VA
Max. power loss	20 W (ESL116F001) 40 W (ESL125F001)

Inputs/Outputs

Positioning signal y	0/2...10 V, $R_i > 100 \text{ k}\Omega$ 0/4...20 mA, $R_i < 170 \text{ k}\Omega$
Min. nominal current	2.0 A
cos φ	> 0.95
Period	Approx. 45 s

Ambient conditions

Admissible ambient temperature	0...65 °C (0...40 °C for nominal current)
Admissible ambient humidity	5...95% rh, no condensation
Storage and transport temperature	-25...65 °C

Construction

Fitting	In cabinet, on top-hat rail as per EN 60715
---------	---

Standards and directives

Type of protection	IP 20 (EN 60529)
Protection class	I (IEC 60730-1)
Over-voltage categories	II (IEC 60730-1)
CE conformity as per EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

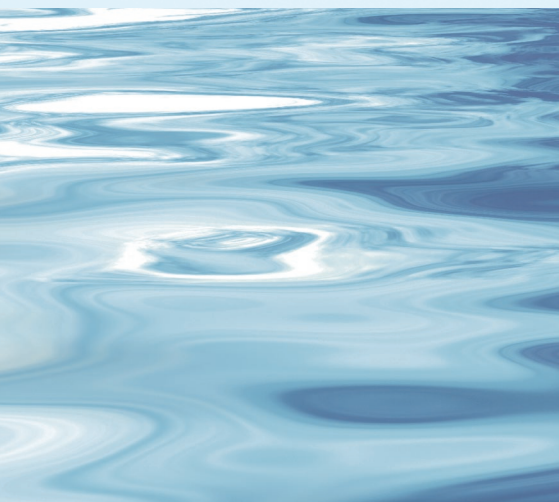
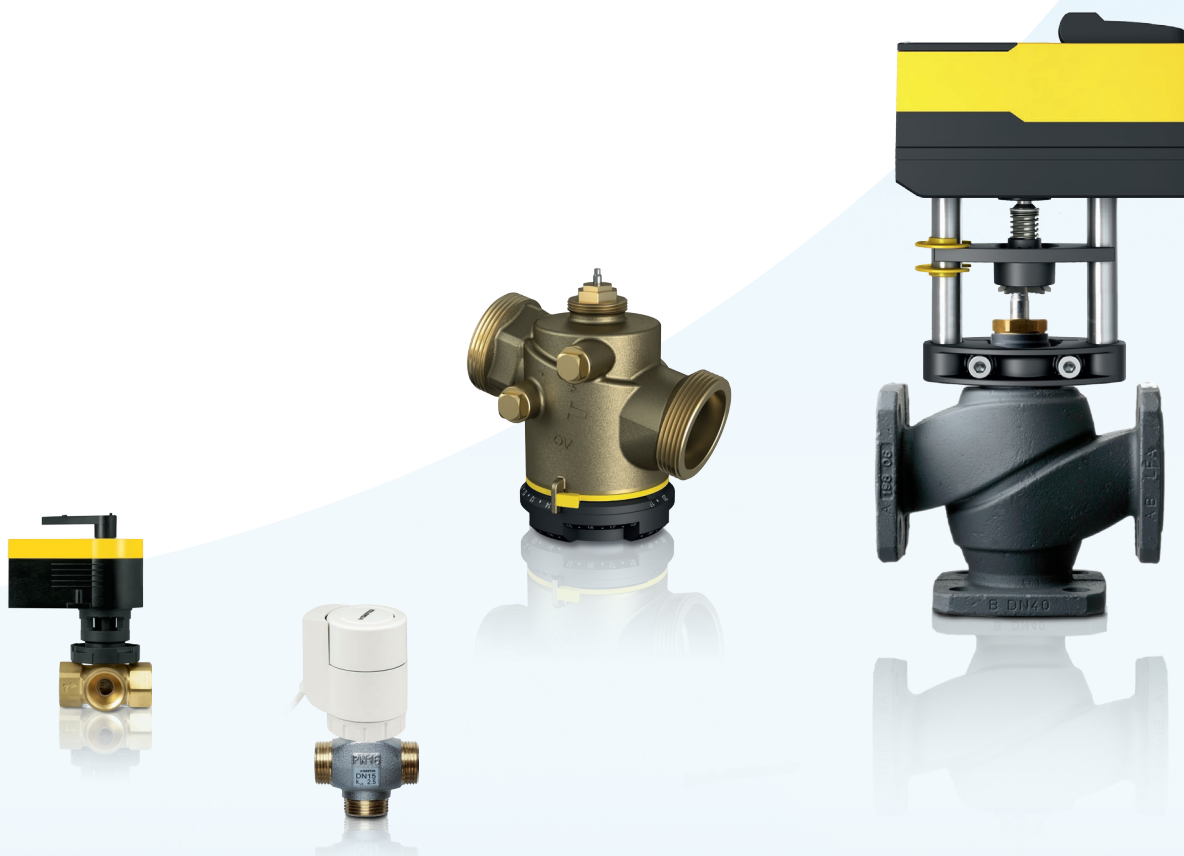
Type	Voltage	Circuit	Switch rating	Nominal current	Number of ESLs	Weight
ESL116F001	230 V~	Single phase	3.7 kW	16 A	1	0.5 kg
	400 V~	double phase	6.4 kW		1	
	3 × 400 V~	Y, Δ circuit	11.0 kW		2	
	3 × 400 V~	Δ circuit	19.0 kW		3	
ESL125F001	230 V~	Single phase	5.8 kW	25 A	1	0.8 kg
	400 V~	double phase	10.0 kW		1	
	3 × 400 V~	Y, Δ circuit	17.3 kW		2	
	3 × 400 V~	Δ circuit	30.0 kW		3	



Valves, control valves, dampers, actuators

A high degree of flexibility provides optimum results.

With just a few basic types, SAUTER valves and SUT actuators, with their in-built intelligence, cover all the requirements for reliable and long-lasting control elements. The optimally harmonised valves and actuators form the basis for the best possible control quality. The latest technology for energy-efficient controlling precision.



Valve specification – calculating with the new tools from SAUTER

[1] SAUTER valve slide rule

SAUTER has further developed its practical valve slide rule. You can use it to specify the valve nominal diameter depending on the flow rate for liquids and saturated steam. You can order the slide rule at your sales partner or sales consultant.

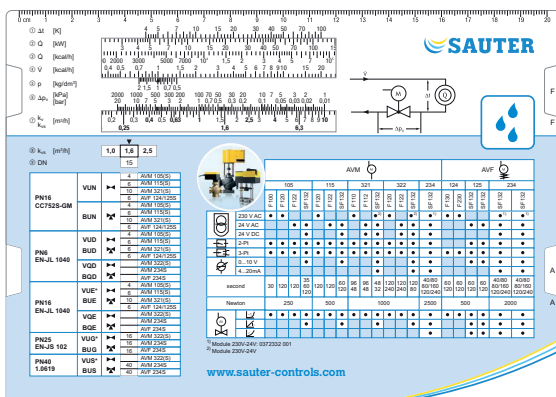
SAUTER VALVEDIM software

[2] A tried and tested tool for convenient valve and actuator specification, SAUTER provides installers and project engineers with its SAUTER VALVEDIM PC software.

The tool comprises three function levels:

1. Valve and actuator specification
 - using recommended values for a rough specification of the required versions and variables;
 - based on the existing or stipulated installation values for the definitive specification of the required versions and variables.
2. Selection of the valve and the suitable actuator based on characteristics.
3. Direct transfer of the results to the project documentation.

You can download this free of charge from the SAUTER website ("Products" menu item).



[1]



[2]

Valve specification – manual calculation

Here you will find all the necessary information for the manual valve specification.

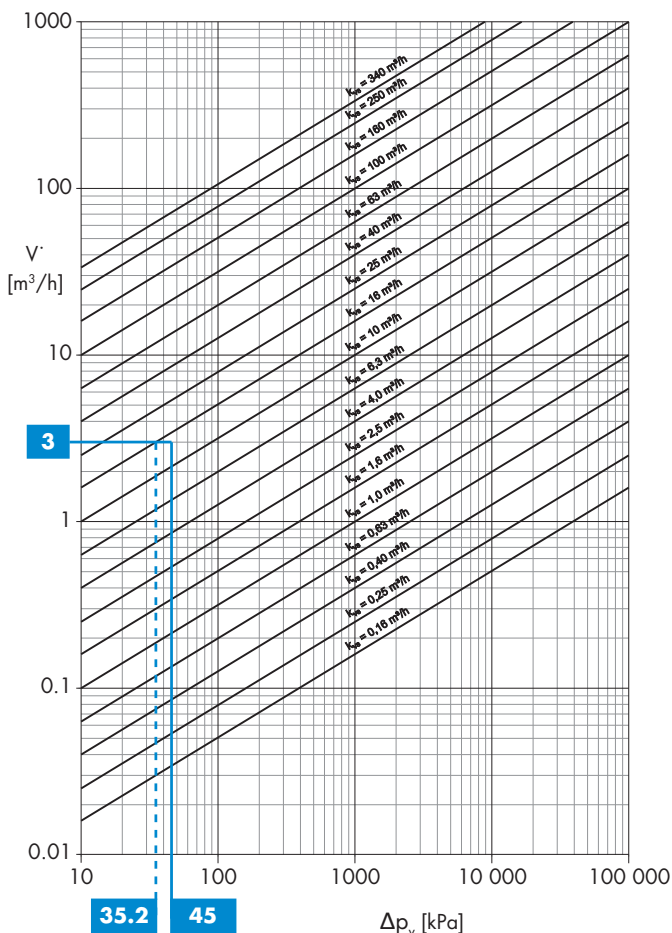
[1] Variables, constants and formulas

Variable	Description	Value	Unit
V	Volume flow		m^3/h
Q_{zu}	Supplied heat per unit of time (heat flow)		kW, kJ/h
Q_{ab}	Removed heat per unit of time (heat flow)		kW, kJ/h
Δt	Temperature difference		K
c_w	Specific thermal capacity of water	4.19 $= 1.164 \cdot 10^{-3}$	kJ/(kg·K) kWh/(kg·K)
ρ_w	Density of water	Assuming: $\rho_w = \text{const.} = 1000$	kg/m ³
Δp_v	Pressure difference across the valve		bar, Pa
k_v	Calculated flow rate for the valve		m^3/h
k_{vs}	Actual flow rate for the valve at nominal stroke, selected according to table or chart		m^3/h

[2] Calculation formula for k_v

$$k_v = V \cdot \sqrt{\frac{1 \text{ bar}}{\Delta p_v}}$$

[3] Diagram



Example plotted: Given are the volume flow ($3 \text{ m}^3/\text{h}$) and a desired Δp_v of 45 mbar, which results in a k_v value of $14.1 \text{ m}^3/\text{h}$. The k_{vs} values entered are deliverable values. Selected: A valve with $k_{vs} = 16 \text{ m}^3/\text{h}$, which results in a pressure difference Δp_v of 35.2 mbar.

Calculations

The following are given:

$$Q_{to}^* = 70 \text{ kW} \approx 250\,000 \text{ kJ/h}$$

$$\Delta t = 20 \text{ K}$$

$\Delta p_v = 45 \text{ mbar} = 4.5 \text{ kPa}$ (corresponds to 450 mm water column)

To be found:

$$V^*, k_v$$

Approximate calculation of V^*

Assumption: $Q_{to}^* = Q_{from}^*$

$$Q_{to}^* = Q_{from}^* = V^* \cdot c_w \cdot \Delta t \cdot \rho_w$$

$$\Rightarrow V^* = \frac{Q_{to}^*}{c_w \cdot \Delta t \cdot \rho_w} = \frac{70 \text{ kW}}{1.164 \cdot 10^{-3} \cdot 20 \cdot 1000 \cdot \text{kWh} \cdot \text{K} \cdot \text{kg} \cdot \text{h}} \approx 3 \text{ m}^3/\text{h}$$

Calculation of k_v

$$k_v = 3 \text{ m}^3/\text{h} \cdot \sqrt{\frac{1 \text{ bar}}{0.045 \text{ bar}}} \approx 14.1 \text{ m}^3/\text{h}$$

Determination of flow rate

Determination of k_v from the diagram

$$k_{vs} = 16 \text{ m}^3/\text{h}$$

Valves, control valves, dampers, actuators

Unit valves and actuators for unit valves

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VUL: 2-way valves	147	AXT 201, 211: Thermal actuator for unit valves	161
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VUT: 2-way valve	155	AXM 217: Motorised actuator for unit valves	167
BXL: 3-way unit valve	158	AXM 217S: Motorised actuator for unit valves with positioner	169

Regulating valves and valve actuators

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BUN: 3-way valve	178	VUS: 2-way flanged valve	221
V6R: 2-way valve	181	BUS: 3-way flanged valve	223
B6R: 3-way valve	184	Overview of valve actuators	226
VUD: 2-way flanged valve, PN 6	187	AVM 105, 115: Valve actuator	228
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VUE: 2-way flanged valve	195	AVM 321, 322: Valve actuator	232
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VQD: 2-way flanged valve	203	AVM 234S: SUT valve actuator	237
BQD: 3-way flanged valve	205	AVF 124: Actuator	240
VQE: 2-way flanged valve	207	AVF 125S: SUT valve actuator	242
BQE: 3-way flanged valve	209	AVF 234S: SUT valve actuator	244
VUG: 2-way flanged valve	212	AVN 224S: SUT valve actuator	247

Multi-function valves

Overview of dynamic regulating valves	250	Valveco 010...032: 2-way regulating valve	254
Valveco compact: 2-way regulating valve	251	Valveco 040...050: 2-way regulating valve	257

Regulating ball valves and actuators for ball valves

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Control valves and rotary actuators

Overview of control valves and butterfly valves	277	AR30 W21...23: Motorised actuator	286
M3R, M4R: Control valve	278	AR30 W22S, W23S: Motorised actuator	288
MH32F, MH42F: Control valve	280	A44 W0...W2: Motorised actuator	290
DEF: Tight-sealing butterfly valve	282	A44 W0S...W2S: Motorised actuator	292
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Damper and rotary actuators

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ASF 112, 113: Damper actuator	308
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ASF 122, 123: Damper actuator	312
ASF 123S: Damper actuator	314



Unit valves

Used with the relevant thermal actuators, unit valves are employed for regulating radiators, air secondary-treatment units and fan coil units.

Overview of unit valves



Type codes	VUL	BUL	VUT	BXL
Application				
Single-room control	•	•	•	•
Chilled ceiling, underfloor heating	•	•	•	•
Radiators	•	•	•	•
Underfloor devices	•	•	•	•
Version				
Through	•	–	•	–
Three-way	–	•	–	•
Technical data				
Nominal diameter (DN)	10...20	10...20	10...20	25...40
Nominal pressure (bar)	16	16	16	16
Combination options with actuator	AXT 211, AXS 215S, AXM 217(S)	AXT 211, AXS 215S, AXM 217(S)	AXT 211, AXT 201, AXT 215S, AXM 217(S)	AXT 211, AXS 215S, AXM 217(S)
Further information	Page 147	Page 150	Page 155	Page 158

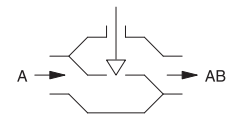
VUL: 2-way valve, PN16

Features

- Regulation of heating zones, air secondary-treatment units and fan coil units in combination with AXT 211, AXS 215S or AXM 217(S)
- Flat-sealing standard version or version with clamping-ring screw fitting for pipe Ø 15 mm with DN 10
- Valve with male thread as per DIN/EN ISO 228-1, class B
- Stuffing box can be replaced under system pressure
- Control passage A-AB is closed when the spindle is moved in
- Closing against the pressure
- Valve body made of nickel-plated cast brass for DN 10 and gun metal for DN 15 and DN 20
- Plug with EPDM soft seal
- Stainless-steel spindle
- Stuffing box with double O-ring seal



VUL010F310



Technical data

Parameters

Nominal pressure	PN 16
Valve characteristic	Equal-percentage
Valve stroke ¹⁾	4 mm
Leakage rate	0.001% of k_{vs} value

Ambient conditions

Admissible operating temperature for valve	2...120 °C
Admissible operating temperature for valve in combination with AXT 211, AXS 215 and AXM 217 (S)	100 °C at the valve
Maximum operating pressure	Up to 120 °C, 16 bar

Standards and directives

Pressure and temperature data	EN764, EN1333
Flow parameters	VDI/VDE 2173
CE conformity as per	PED 97/23/EC, cat. IV Article 3.3 (fluid group II)

Overview of types

Type	Nominal diameter	k_{vs} value	Connection	Weight
VUL010F340	DN 10	0.16 m ³ /h	G½" B	0.19 kg
VUL010F330	DN 10	0.4 m ³ /h	G½" B	0.18 kg
VUL010F320	DN 10	0.63 m ³ /h	G½" B	0.18 kg
VUL010F310	DN 10	1 m ³ /h	G½" B	0.18 kg
VUL010F300	DN 10	1.6 m ³ /h	G½" B	0.18 kg
VUL015F310	DN 15	2.5 m ³ /h	G¾" B	0.28 kg
VUL015F300	DN 15	3.5 m ³ /h	G¾" B	0.28 kg
VUL020F300	DN 20	4.5 m ³ /h	G1" B	0.33 kg
VUL010F630	DN 10	0.4 m ³ /h	Clamping ring vers. Ø15 mm	0.18 kg
VUL010F620	DN 10	0.63 m ³ /h	Clamping ring vers. Ø15 mm	0.18 kg
VUL010F610	DN 10	1 m ³ /h	Clamping ring vers. Ø15 mm	0.18 kg
VUL010F600	DN 10	1.6 m ³ /h	Clamping ring vers. Ø15 mm	0.18 kg

¹⁾ The valve stroke is limited by the actuator.



Accessories

Type	Description
0378133010	1 threaded sleeve, R $\frac{3}{8}$ " , flat-sealing, DN 10, with cap nut and flat seal
0378133015	1 threaded sleeve, R $\frac{1}{2}$ " , flat-sealing, DN 15, with cap nut and flat seal
0378133020	1 threaded sleeve, R $\frac{3}{4}$ " , flat-sealing, DN 20, with cap nut and flat seal
0378134010	1 solder nipple, Ø 12, flat-sealing, DN 10, with cap nut and flat seal
0378134015	1 solder nipple, Ø 15, flat-sealing, DN 15, with cap nut and flat seal
0378134020	1 solder nipple, Ø 22, flat-sealing, DN 20, with cap nut and flat seal
0378135010	1 clamping-ring screw fitting for pipe Ø 15 mm, DN 10
0378145015	1 clamping-ring screw fitting for pipe Ø 15 mm, DN 15, flat-sealing, $\frac{3}{4}$ " B
0378145020	1 clamping-ring screw fitting for pipe Ø 22 mm, DN 20, flat-sealing, 1" B
0378128001	Stuffing box for VUL valves, can be replaced under pressure

Combination of VUL with electrical actuators

i *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.

i *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve.

i *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences with motorised actuators

Actuator	AXM217F200	AXM217F202	AXM217SF402
Page	167	167	170
Voltage	230 V~	24 V~/=	24 V~/=
Control signal	3-point	3-point	0/2...10 V, 0...5 V, 5...10 V, 0/4...20 mA
Running time	52 s	52 s	52 s

Closes against the pressure	Δp [bar]		
	Δp_{max}	Δp_{max}	Δp_{max}
VULO10F340 VULO10F330 VULO10F320 VULO10F630 VULO10F620	4.0	4.0	4.0
VULO10F310 VULO10F300 VULO10F610 VULO10F600	3.8	3.8	3.8
VULO15F310 VULO15F300 VULO20F300	1.1	1.1	1.1

Cannot be used to close with the pressure

Pressure differences with thermal actuators

Actuator	AXT211F210 AXT211HF210	AXT211F212 AXT211HF212	AXT211F110 AXT211F110B AXT211F110M AXT211F190 AXT211HF110	AXT211F112	AXT211F112B AXT211F112M AXT211F192 AXT211HF112
Page	162	162	162	162	162
Voltage	230 V~	24 V~/=	230 V~	24 V~/=	24 V~/=
Control signal	2-point	2-point	2-point	2-point	2-point
Running time of motor	33 s/mm	40 s/mm	33 s/mm	33 s/mm	40 s/mm

Δp [bar]

Closes against the pressure	Δp _{max}	Δp _{max}	Δp _{max}	Δp _s	Δp _{max}	Δp _s	Δp _{max}	Δp _s
VUL010F340 VUL010F330 VUL010F320 VUL010F630 VUL010F620	4.0	4.0	4.0	6.0	4.0	6.0	4.0	6.0
VUL010F310 VUL010F300 VUL010F610 VUL010F600	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
VUL015F310 VUL015F300 VUL020F300	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1

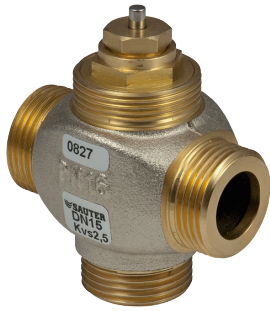
Cannot be used to close with the pressure

Actuator	AXS215SF222 AXS215SF222B	AXS215SF122 AXS215SF122B
Page	166	166
Voltage	24 V~	24 V~
Control signal	0...10 V	0...10 V
Running time of motor	30 s/mm	30 s/mm

Δp [bar]

Closes against the pressure	Δp _{max}	Δp _{max}	Δp _s
VUL010F340 VUL010F330 VUL010F320 VUL010F630 VUL010F620	4.0	4.0	6.0
VUL010F310 VUL010F300 VUL010F610 VUL010F600	4.0	4.0	4.0
VUL015F310 VUL015F300 VUL020F300	1.1	1.1	1.1

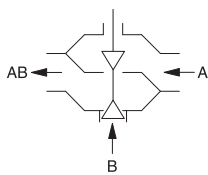
Cannot be used to close with the pressure



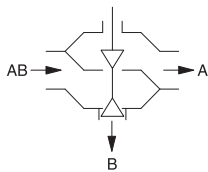
BUL015F310



BUL010F410



Control valve



Distribution valve

BUL: 3-way unit valve, PN 16

Features

- Flat-sealing standard version or version with clamping-ring screw fitting for pipe \varnothing 15 mm with DN 10
- Valve with male thread as per DIN/EN ISO 228-1, class B
- Special model for fan coil units with cast-on by-pass T-piece
- Control passage A-AB is closed when the spindle is moved in
- Can be used as a control valve and, thanks to its tight-sealing third passage, as a distribution valve
- Nickel-plated valve body of cast brass
- Plug with EPDM soft seal for control passage and mixing passage
- Stainless-steel spindle
- Stuffing box with double O-ring seal

Technical data

Parameters

Nominal pressure	PN 16
Valve characteristic, control passage	Equal-percentage
Valve characteristic, mixing passage	Linear
Valve stroke	3.7 mm
Leakage rate of control passage A-AB	0.0001% of k_{vs} value
Leakage rate of mixing passage B-AB	Approx. 0.1% of k_{vs} value

Ambient conditions

Admissible operating temperature for valve	2...120 °C
Admissible operating temperature for valve in combination with AXT 211, AXS 215 and AXM 217 (S)	100 °C at the valve
Operating pressure up to 120 °C	16 bar

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	VDI/VDE 2173
CE conformity as per	PED 97/23/EC, cat. IV Article 3.3

Overview of types

i The BUL 3-way valve must not be used as a 2-way valve

i k_{vs} value: The k_{vs} value of the mixing passage (B-AB) is reduced by approx. 30%.

Type	Nominal diameter	k_{vs} value	Connection	Weight
BUL010F330	DN 10	0.4 m ³ /h	G½" B	0.30 kg
BUL010F320	DN 10	0.63 m ³ /h	G½" B	0.30 kg
BUL010F310	DN 10	1 m ³ /h	G½" B	0.30 kg
BUL010F300	DN 10	1.6 m ³ /h	G½" B	0.30 kg
BUL015F310	DN 15	2.5 m ³ /h	G¾" B	0.33 kg
BUL015F300	DN 15	4 m ³ /h	G¾" B	0.33 kg
BUL020F300	DN 20	5 m ³ /h	G1" B	0.36 kg
BUL010F430	DN 10	0.4 m ³ /h	G½" B	0.38 kg
BUL010F420	DN 10	0.63 m ³ /h	G½" B	0.38 kg
BUL010F410	DN 10	1 m ³ /h	G½" B	0.38 kg
BUL010F400	DN 10	1.6 m ³ /h	G½" B	0.38 kg
BUL015F410	DN 15	2.5 m ³ /h	G¾" B	0.42 kg
BUL015F400	DN 15	4 m ³ /h	G¾" B	0.42 kg
BUL020F400	DN 20	5 m ³ /h	G1" B	0.50 kg



Type	Nominal diameter	k_{vs} value	Connection	Weight
BUL010F630	DN 10	0.4 m ³ /h	Clamping ring vers. Ø 15 mm	0.38 kg
BUL010F620	DN 10	0.63 m ³ /h	Clamping ring vers. Ø 15 mm	0.38 kg
BUL010F610	DN 10	1 m ³ /h	Clamping ring vers. Ø 15 mm	0.38 kg
BUL010F600	DN 10	1.6 m ³ /h	Clamping ring	0.38 kg

☛ BULO**F4** : Version with bypass T-piece

Accessories

Type	Description
0378133010	1 threaded sleeve, R ³ / ₈ ", flat-sealing, DN 10, with cap nut and flat seal
0378133015	1 threaded sleeve, R ¹ / ₂ ", flat-sealing, DN 15, with cap nut and flat seal
0378133020	1 threaded sleeve, R ³ / ₄ ", flat-sealing, DN 20, with cap nut and flat seal
0378134010	1 solder nipple, Ø 12, flat-sealing, DN 10, with cap nut and flat seal
0378134015	1 solder nipple, Ø 15, flat-sealing, DN 15, with cap nut and flat seal
0378134020	1 solder nipple, Ø 22, flat-sealing, DN 20, with cap nut and flat seal
0378135010	1 clamping-ring screw fitting for pipe Ø 15 mm, DN 10
0378145015	1 clamping-ring screw fitting for pipe Ø 15 mm, DN 15, flat-sealing, ¾" B
0378145020	1 clamping-ring screw fitting for pipe Ø 22 mm, DN 20, flat-sealing, 1" B
0378126001	Stuffing box for BUL valves

Combination of BUL with electric actuators

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_x :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences with motorised actuators

Actuator	AXM217F200	AXM217F202	AXM217SF402
Page	167	167	170
Voltage	230 V~	24 V~/=	24 V~/=
Control signal	3-point	3-point	0/2...10 V, 0...5 V, 5...10 V, 0/4...20 mA
Running time	48 s	48 s	48 s

As control valve	Δp [bar]		
	Δp_{max}	Δp_{max}	Δp_{max}
BUL010F330	1.7	1.7	1.7
BUL010F320			
BUL010F310			
BUL010F300			
BUL010F430			
BUL010F420			
BUL010F410			
BUL010F400			
BUL010F630			
BUL010F620			
BUL010F610	1.4	1.4	1.4
BUL015F310			
BUL015F410			
BUL015F300	1.2	1.2	1.2
BUL015F400			

Actuator	AXM217F200	AXM217F202	AXM217SF402
Page	167	167	170
BULO20F300 BULO20F400	1.0	1.0	1.0

As distribution valve

BULO10F330 BULO10F320 BULO10F310 BULO10F300 BULO10F430 BULO10F420 BULO10F410 BULO10F400 BULO10F630 BULO10F620 BULO10F610 BULO10F600	1.9	1.9	1.9
BULO15F310 BULO15F300 BULO20F300 BULO15F410 BULO15F400 BULO20F400	1.2	1.2	1.2

Pressure differences with thermal actuators

Actuator	AXT211F210 AXT211HF210	AXT211F212 AXT211HF212	AXT211F110 AXT211F110B AXT211F110M AXT211F190 AXT211HF110	AXT211F112 AXT211F112B AXT211F112M AXT211F192 AXT211HF112
Page	162	162	162	162
Voltage	230 V~	24 V~/=	230 V~	24 V~/=
Control signal	2-point	2-point	2-point	2-point
Running time	122 s	148 s	122 s	148 s

 Δp [bar]

As control valve	Δp_{\max}	Δp_{\max}	Δp_{\max}	Δp_s	Δp_{\max}	Δp_s
BULO10F330 BULO10F320 BULO10F310 BULO10F300 BULO10F430 BULO10F420 BULO10F410 BULO10F400 BULO10F630 BULO10F620 BULO10F610 BULO10F600	1.7	1.7	1.7	1.8	1.7	1.8
BULO15F310 BULO15F410	1.4	1.4	1.4	1.5	1.4	1.5
BULO15F300 BULO15F400	1.2	1.2	1.2	1.3	1.2	1.3
BULO20F300 BULO20F400	1.0	1.0	1.0	1.1	1.0	1.1

Actuator	AXT211F210 AXT211HF210	AXT211F212 AXT211HF212	AXT211F110 AXT211F110B AXT211F110M AXT211F190 AXT211HF110	AXT211F112 AXT211F112B AXT211F112M AXT211F192 AXT211HF112
Page	162	162	162	162

As distribution valve						
BUL010F330						
BUL010F320						
BUL010F310						
BUL010F300						
BUL010F430						
BUL010F420	1.9	1.9	1.9	4.0	1.9	4.0
BUL010F410						
BUL010F400						
BUL010F630						
BUL010F620						
BUL010F610						
BUL010F600						
BUL015F310	1.6	1.6	1.6	2.1	1.6	2.1
BUL015F410						
BUL015F300	1.4	1.4	1.4	2.1	1.4	2.1
BUL015F400						
BUL020F300	1.2	1.2	1.2	2.0	1.2	2.0
BUL020F400						

Actuator	AXS215SF222 AXS215SF222B	AXS215SF122 AXS215SF122B
Page	166	166
Voltage	24 V~	24 V~
Control signal	0...10 V	0...10 V
Running time	111 s	111 s

Δp [bar]

As control valve	Δp _{max}	Δp _{max}	Δp _s
BUL010F330			
BUL010F320			
BUL010F310			
BUL010F300			
BUL010F430			
BUL010F420	1.7	1.7	1.8
BUL010F410			
BUL010F400			
BUL010F630			
BUL010F620			
BUL010F610			
BUL010F600			
BUL015F310	1.4	1.4	1.5
BUL015F410			
BUL015F300	1.2	1.2	1.3
BUL015F400			
BUL020F300	1.0	1.0	1.1
BUL020F400			

Actuator	AXS215SF222 AXS215SF222B	AXS215SF122 AXS215SF122B	
Page	166	166	
As distribution valve			
BULO10F330			
BULO10F320			
BULO10F310			
BULO10F300			
BULO10F430			
BULO10F420	1.9	1.9	4.0
BULO10F410			
BULO10F400			
BULO10F630			
BULO10F620			
BULO10F610			
BULO10F600			
BULO15F310	1.6	1.6	2.1
BULO15F410			
BULO15F300	1.4	1.4	2.1
BULO15F400			
BULO20F300	1.2	1.2	2.0
BULO20F400			

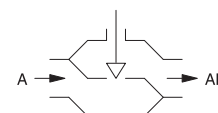
VUT: 2-way valve, PN16

Features

- Regulation of fan coil units, air secondary-treatment units for heating zones and in combination with AXT 211, AXT 201, AXS 215S or AXM217(S).
- Standard version flat sealing
- Adjustable kvs value
- When the stem is pressed in, the valve is closed
- Closing against the pressure
- Valve with male thread as per DIN EN ISO 228-1, class B
- Valve body made of cast brass
- Nickel-plated brass spindle
- Plug with EPDM soft seal
- Stuffing box with O-ring seal



VUT015F200



Technical data

Parameters

Nominal pressure	PN 16
Valve characteristic	Almost linear
Leakage rate	≤ 0.0001% of k _{vs} value

Admissible ambient conditions

Operating temperature	2...120 °C
Operating pressure	Up to 120 °C, 16 bar

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)
Pressure Equipment Directive	97/23/EC (fluid group II) No CE label, article 3.3

Overview of types

Type	Nominal diameter (DN)	k _{vs} value	Valve stroke (mm)	Connection	Weight (kg)
VUT010F200	10	1.6 m ³ /h	3	G½ B	0.18
VUT010F210	10	1 m ³ /h	3	G½ B	0.18
VUT010F220	10	0.63 m ³ /h	3	G½ B	0.18
VUT015F200	15	3.5 m ³ /h	4	G¾ B	0.28
VUT015F210	15	2.5 m ³ /h	3	G¾ B	0.28
VUT020F200	20	4.5 m ³ /h	4	G1 B	0.33

Accessories

Type	Description
0378133010	1 threaded sleeve, R¾", flat-sealing, DN 10, with cap nut and flat seal
0378133015	1 threaded sleeve, R½", flat-sealing, DN 15, with cap nut and flat seal
0378133020	1 threaded sleeve, R¾", flat-sealing, DN 20, with cap nut and flat seal
0378134010	1 solder nipple, Ø 12, flat-sealing, DN 10, with cap nut and flat seal
0378134015	1 solder nipple, Ø 15, flat-sealing, DN 15, with cap nut and flat seal
0378134020	1 solder nipple, Ø 22, flat-sealing, DN 20, with cap nut and flat seal

Combination of VUT with electric actuators

- *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*



- ⚡ **Definition of Δp_s :** Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- ⚡ **Definition of Δp_{max} :** Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences with motorised actuators

Actuator	AXM217F200	AXM217F202	AXM217SF402
Page	167	167	170
Voltage	230 V~	24 V~/=	24 V~/=
Control signal	3-point	3-point	0/2...10 V, 0...5 V, 5...10 V, 0/4...20 mA
Running time	13 s/mm	13 s/mm	8 s/mm

Δp [bar]

Closes against the pressure	Δp _{max}	Δp _{max}	Δp _{max}
VUT010F200 VUT010F210 VUT010F220	2.5	2.5	2.5
VUT015F200 VUT015F210	1.8	1.8	1.8
VUT020F200	1.0	1.0	1.0

Cannot be used to close with the pressure

Pressure differences with thermal actuators

Actuator	AXT201F110	AXT201F112	AXT211F210 AXT211HF210	AXT211F212 AXT211HF212	AXT211F110 AXT211F110B AXT211F110M AXT211F190 AXT211HF110	AXT211F112 AXT211F112B AXT211F112M AXT211F192 AXT211HF112
Page	162	162	162	162	162	162
Voltage	230 V~	24 V~/=	230 V~	24 V~/=	230 V~	24 V~/=
Control signal	2-point	2-point	2-point	2-point	2-point	2-point
Running time	33 s/mm	40 s/mm	33 s/mm	40 s/mm	33 s/mm	40 s/mm

Δp [bar]

Closes against the pressure	Δp _{max}	Δp _s	Δp _{max}	Δp _s	Δp _{max}	Δp _{max}	Δp _{max}	Δp _s	Δp _{max}	Δp _s
VUT010F200 VUT010F210 VUT010F220	2.3	2.3	2.3	2.3	2.5	2.5	2.5	2.5	2.5	2.5
VUT015F200 VUT015F210	1.6	1.6	1.6	1.6	1.8	1.8	1.8	1.8	1.8	1.8
VUT020F200	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0

Cannot be used to close with the pressure

Pressure differences with thermal actuators

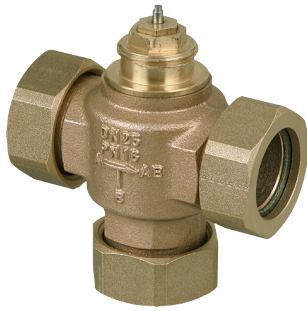
Actuator	AXS215SF222 AXS215SF222B	AXS215SF122 AXS215SF122B
Page	166	166
Voltage	24 V~	24 V~
Control signal	0... 10 V	0... 10 V
Running time	30 s/mm	30 s/mm

 Δp [bar]

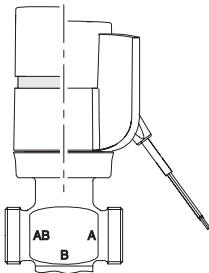
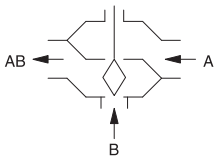
Closes against the pressure	Δp_{max}	Δp_{max}	Δp_s
VUT010F200 VUT010F210 VUT010F220	2.5	2.5	2.5
VUT015F200 VUT015F210	1.8	1.8	1.8
VUT020F200	1.0	1.0	1.0

Cannot be used to close with the pressure

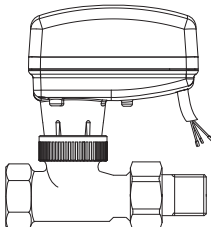




BXL025F200



AXT 211, AXS 215S



AXM 217

BXL: 3-way unit valve

Features

- Valve with male thread as per DIN/EN ISO 228-1, class A
- Control passage A-AB open when the spindle is moved in
- Used as a control valve
- Valve body made of gun metal
- Plug with EPDM soft seal
- Stainless-steel spindle
- Stuffing box with double O-ring seal
- Version with cap nut and flat seal

Technical data

Parameters

Nominal pressure	PN 16
Valve characteristic, control passage	Linear
Valve characteristic, mixing passage	Complementary, reduced
Valve stroke	2.9 mm
Leakage rate of control passage	Approx. 0.05% of k_{vs} value
Leakage rate, mixing passage	Approx. 0.2% of k_{vs} value

Ambient conditions

Admissible operating temperature for valve	2...130 °C
Admissible operating temperature for valve in combination with AXT 211, AXS 215 and AXM 217 (S)	100 °C at the valve
Operating pressure	Max. 16 bar at 120 °C

Construction

Nickel-plated body	No
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Overview of types

i The BXL 3-way valve must not be used as a 2-way valve

Type	Nominal diameter	k_{vs} value	Weight
BXL025F200	DN 25	6.5 m ³ /h	1.2 kg
BXL040F200	DN 40	9.5 m ³ /h	2.35 kg

Accessories

Type	Description
0361824025	3 threaded sleeves, R 1", flat-sealing
0361824040	3 threaded sleeves, R 5/4", flat-sealing
0361825028	3 solder nipple, Ø 28; flat-sealing, DN 25
0361825035	3 solder nipple, Ø 35; flat-sealing, DN 40
0361825042	3 solder nipple, Ø 42; flat-sealing, DN 40



Combination of BXL with electric actuators

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Pressure differences with motorised actuators

Actuator	AXM217F200	AXM217F202	AXM217SF402
Page	167	167	170
Voltage	230 V~	24 V~/=	24 V~/=
Control signal	3-point	3-point	0/2...10 V, 0...5 V, 5...10 V, 0/4...20 mA
Running time	38 s	38 s	38 s

Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_{max}
BXL025F200	0.5	0.5	0.5
BXL040F200	0.2	0.2	0.2

Cannot be used as distribution valve

Pressure differences with thermal actuators

Actuator	AXT211F210 AXT211HF210 AXT211F110 AXT211F110B AXT211F110M AXT211F190 AXT211HF110	AXT211F212 AXT211HF212 AXT211F112 AXT211F112B AXT211F112M AXT211F192 AXT211HF112	AXS215SF222 AXS215SF222B AXS215SF122 AXS215SF122B
Page	162	162	166
Voltage	230 V~	24 V~/=	24 V~
Control signal	2-point	2-point	0...10 V
Running time	96 s	116 s	87 s

Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_{max}
BXL025F200	0.5	0.5	0.5
BXL040F200	0.2	0.2	0.2

Cannot be used as distribution valve

Actuators for unit valves

SAUTER actuators for unit valves provide reliable and accurate control. Pulse-pause control (with pulse widths of a few seconds) or continuous control guarantees accurate control characteristic.

Overview of actuators for unit valves



Type codes	AXT 201, 211	AXS 215S	AXM 217	AXM 217S
Technical data				
Max. nominal stroke (mm)	4.5	4.5/3	6.3	5.5
Max. pushing force (N)	125	125	120	120
Running time	3.5...4.5 min	30 s	13 s/mm	13 s/mm
Power supply (V)	24/230	24	24/230	24
Mode of operation				
Stroke indicator	•	•	–	–
Thermal	•	•	–	–
Motor	–	–	•	•
Control				
2-point	•	–	•	–
3-point	–	–	•	–
Positioner	–	•	–	•
Combination options with valve	VUL, BUL, VCL, VDL, VXL, BXL	VUL, BUL, VCL, VDL, VXL, BXL	VUL, BUL, VXL, BXL, VCL, VDL	VUL, BUL, VXL, BXL, VCL, VDL
Further information	Page 161	Page 165	Page 167	Page 169

AXT 201, 211: Thermal actuator for unit valves, with stroke indicator

Features

- Fitted to the valve using no force thanks to the Low-Force-Locking (LFL) connector
- Fitted onto valve with M30 x 1.5 thread with automatic adjustment of closing dimension
- Pushing force max. 125 N
- With 230 V or 24 V thermal expansion element
- Large visible position indicator
- NC "normally closed" and NO "normally open" models (with and without auxiliary contacts)
- Model with manual adjustment
- Silent and maintenance-free
- Modular electrical plug connection (various functions, cable lengths and types)
- Connected to valve with plastic bayonet connection
- Bayonet nuts for connection to any valve with M30 x 1.5 (black), M28 x 1.5 (grey) or M30 x 1.0 (white) thread
- Warm-up time for 4.5 mm stroke at 21 °C: min. 3.5 min (230 V), min. 4.5 min (24 V)
- Fitting in any position, including upside down



AXT201F110



Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24 V=	±20%
Power supply 230 V~	±15%, 50...60 Hz
Power consumption during operation	2.5 W (230 V~), 3 W (24 V=)
Starting power 24 V~/=	5 W/5 VA
Starting power 230 V~	40 W/40 VA
Start-up current 24 V~	220 mA
Start-up current 230 V~	150 mA

Parameters

Stroke	Max. 4.5 mm
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Ambient conditions

Operating temperature at valve	100 °C max.
Storage and transport temperature	-25...70 °C
Admissible ambient temperature	0...50 °C
Admissible ambient humidity	< 85% rh, no condensation

Construction

Housing	Pure white (RAL 9010) or jet black (RAL 9005), high-gloss surface (FV-0 as per EN 60707 and V-0 as per UL94)
Housing material	Fire-retardant plastic
Power cable	Standard length 0.8 m (AXT201), 1 m (AXT211, H03...), PVC/halogen-free, Ø 0.5 mm², white/black

Standards and directives

Type of protection	IP 54 (EN 60529)
Protection class 24 V	III (EN 60730-1)
Protection class 230 V	II (EN 60730-1)

CE conformity as per

Electrical safety 2006/95/EC	
EMC directive 2004/108/EC	EN 61000-6-1/EN 61000-6-2 EN 61000-6-3/EN 61000-6-4



Overview of types

Type	Properties
AXT201F110	White version, neutral, incl. raised M30 × 1.5 bayonet nut, cable 0.8 m
AXT201F112	White version, including M30 × 1.5 bayonet nut, cable 1 m
AXT211F110	White version, including M30 × 1.5 bayonet nut, cable 1 m
AXT211F210	White version, including M30 × 1.5 bayonet nut, cable 1 m
AXT211F112	White version, including M30 × 1.5 bayonet nut, cable 1 m
AXT211F212	White version, including M30 × 1.5 bayonet nut, cable 1 m
AXT211F110B	Black version, including M30 × 1.5 bayonet nut, cable 1 m
AXT211F112B	Black version, including M30 × 1.5 bayonet nut, cable 1 m
AXT211HF110	White version, with auxiliary contacts, including M30 × 1.5 bayonet nut, cable 1 m
AXT211HF210	White version, with auxiliary contacts, including M30 × 1.5 bayonet nut, cable 1 m
AXT211HF112	White version, with auxiliary contacts, including M30 × 1.5 bayonet nut, cable 1 m
AXT211HF212	White version, with auxiliary contacts, including M30 × 1.5 bayonet nut, cable 1 m
AXT211F110M	White version, with manual adjuster, including M30 × 1.5 bayonet nut, cable 1 m
AXT211F112M	White version, with manual adjuster, including M30 × 1.5 bayonet nut, cable 1 m
AXT211F190	White version, packing unit of 50 pieces, including M30 × 1.5 bayonet nut, without cable
AXT211F192	White version, packing unit of 50 pieces, including M30 × 1.5 bayonet nut, without cable

Technical details

i Closing force in combination with SAUTER valves

Type	Voltage	Max. stroke (mm)	Closing force (N)	NC/NO	Min. running time (min)	Weight (kg)
White version, neutral, incl. raised M30 × 1.5 bayonet nut, cable 0.8 m, pack of one						
AXT201F110	230 V	4.5	90	NC	3.5	0.18
AXT201F112	24 V	4.5	90	NC	4.5	0.18

Type	Voltage	Max. stroke (mm)	Closing force (N)	NC/NO	Min. running time (min)	Weight (kg)
White version, including M30 × 1.5 bayonet nut, cable 1 m, pack of one						
AXT211F110	230 V	4.5	115	NC	3.5	0.18
AXT211F210	230 V	4.5	110	NO	3.5	0.18
AXT211F112	24 V	4.5	115	NC	4.5	0.18
AXT211F212	24 V	4.5	110	NO	4.5	0.18

Type	Voltage	Max. stroke (mm)	Closing force (N)	NC/NO	Min. running time (min)	Weight (kg)
Black version, including M30 × 1.5 bayonet nut, cable 1 m, pack of one						
AXT211F110B	230 V	4.5	115	NC	3.5	0.18
AXT211F112B	24 V	4.5	115	NC	4.5	0.18

Type	Voltage	Max. stroke (mm)	Closing force (N)	NC/NO	Min. running time (min)	Weight (kg)
White version, with auxiliary contacts, including M30 × 1.5 bayonet nut, cable 1 m, pack of one						
AXT211HF110	230 V	4.5	115	NC	3.5	0.21
AXT211HF210	230 V	4.5	110	NO	3.5	0.21
AXT211HF112	24 V	4.5	115	NC	4.5	0.21
AXT211HF212	24 V	4.5	110	NO	4.5	0.21

Type	Voltage	Max. stroke (mm)	Closing force (N)	NC/NO	Min. running time (min)	Weight (kg)
White version, with manual adjuster, including M30 × 1.5 bayonet nut, cable 1 m, pack of one						
AXT211F110M	230 V	4.5	115	NC	3.5	0.18
AXT211F112M	24 V	4.5	115	NC	4.5	0.18

Type	Voltage	Max. stroke (mm)	Closing force (N)	NC/NO	Min. running time (min)	Weight (kg)
White version, packing unit of 50 pieces, including M30 × 1.5 bayonet nut, without cable						
AXT211F190	230 V	4.5	115	NC	3.5	0.10
AXT211F192	24 V	4.5	115	NC	4.5	0.10

Type	Voltage	Max. stroke (mm)	Closing force (N)	NC/NO	Min. running time (min)	Weight (kg)
White version, including M30 × 1.5 bayonet nut, without cable, pack of one						
AXT211F100	230 V	4.5	115	NC	3.5	0.10
AXT211F200	230 V	4.5	110	NO	3.5	0.10
AXT211F102	24 V	4.5	115	NC	4.5	0.10
AXT211F202	24 V	4.5	110	NO	4.5	0.10

Type	Voltage	Max. stroke (mm)	Closing force (N)	NC/NO	Min. running time (min)	Weight (kg)
Black version, including M30 × 1.5 bayonet nut, without cable, pack of one						
AXT211F100B	230 V	4.5	115	NC	3.5	0.10
AXT211F102B	24 V	4.5	115	NC	4.5	0.10

Accessories

Connectors with different cable lengths for thermal actuator

Type	Description
0550602801	Plug with cable, white, 0.8 m, PVC H03VV, Ø 0.50 × 2 mm
0550602021	Plug with cable, white, 2 m, PVC H03VV, Ø 0.50 × 2 mm
0550602032	Plug with cable, white, 3 m, PVC H05VV, Ø 0.75 × 2 mm
0550602032B	Plug with cable, black, 3 m, PVC H05VV, Ø 0.75 × 2 mm
0550602042	Plug with cable, white, 4 m, PVC H05VV, Ø 0.75 × 2 mm
0550602052	Plug with cable, white, 5 m, PVC H05VV, Ø 0.75 × 2 mm
0550602052B	Plug with cable, black, 5 m, PVC H05VV, Ø 0.75 × 2 mm
0550602062	Plug with cable, white, 6 m, PVC H05VV, Ø 0.75 × 2 mm
0550602072	Plug with cable, white, 7 m, PVC H05VV, Ø 0.75 × 2 mm
0550602102	Plug with cable, white, 10 m, PVC H05VV, Ø 0.75 × 2 mm
0550602102B	Plug with cable, black, 10 m, PVC H05VV, Ø 0.75 × 2 mm
0550602152	Plug with cable, white, 15 m, PVC H05VV, Ø 0.75 × 2 mm
0550602152B	Plug with cable, black, 15 m, PVC H05VV, Ø 0.75 × 2 mm
0550602023	Plug with cable, halogen-free, white, 2 m, Hal F H05Z1Z1, Ø 0.75 × 2 mm
0550602053	Plug with cable, halogen-free, white, 5 m, Hal F H05Z1Z1, Ø 0.75 × 2 mm
0550602103	Plug with cable, halogen-free, white, 10 m, Hal F H05Z1Z1, Ø 0.75 × 2 mm

Connectors with auxiliary contacts

Type	Description
0550484121	Plug, white, with integrated auxiliary contacts for NC actuator, 2 m cable, PVC H03VV, Ø 0.5 × 4 mm
0550484221	Plug, white, with integrated auxiliary contacts for NO actuator, 2 m cable, PVC H03VV, Ø 0.5 × 4 mm

Miscellaneous accessories

Type	Description
0550240001	Removal-protection device for AXT/AXS211 (prevents the unauthorised removal of the plug and actuator)

Adaptors & adaptor sets

Type	Description
0550390001	Raised M30 × 1.5 bayonet nut (black), with N-insert (normal, black) and S-insert (reduced, white), for all valves with M30 × 1.5 threads and angle valves or valves with measurement sockets; dimension of actuator 5 mm. Closing dimension depending on type of use: NC 4.5 mm to 18.5 mm and NO 8.5 mm to 22.5 mm
0550390101	Raised M28 × 1.5 bayonet nut (grey), with N-insert (normal, black) and S-insert (reduced, white), for all valves with M28 × 1.5 threads and angle valves or valves with measurement sockets; dimension of actuator 5 mm. Closing dimension depending on type of use: NC 4.5 mm to 18.5 mm and NO 8.5 mm to 22.5 mm, e.g. Pettinaroli

Type	Description
0550390201	Raised M30 × 1.0 bayonet nut (white), with N-insert (normal, black) and S-insert (reduced, white), for all valves with M30 × 1.0 threads and angle valves or valves of different manufacturers; dimension of actuator 5 mm. Closing dimension depending on type of use: NC 4.5 mm to 18.5 mm and NO 8.5 mm to 22.5 mm, e.g. Oventrop (up to 1997), Beulco (up to 2004)
0550393001	Adaptor for fitting to Danfoss valves, type RA 2000, 22 mm
0550393002	Adaptor for fitting to Danfoss valves, type RAVL, 26 mm
0550393003	Adaptor for fitting to Danfoss valves, type RAV, 34 mm
0550394001	Adaptor for fitting to Giacomini valves, type R450, R452, R456 and range 60
0550399001	Adaptor set comprising: raised bayonet nut, black M30 × 1.5 (all manufacturers, M30 × 1.5); raised bayonet nut, grey M28 × 1.5 (all manufacturers, M28 × 1.5); raised bayonet nut, white M30 × 1.0 (e.g. Oventrop, Beulco); 2 × N-inserts (black) and 2 × S-inserts (white); Danfoss adaptor RA 2000 (Ø 22 mm); Giacomini adaptors

Connectors with continuous actuation (for 24 V version only)

Type	Description
0550423121	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 2 m white cable, PVC Ø 0.22 × 3 mm
0550423221	Continuous activation NO adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 2 m white cable, PVC Ø 0.22 × 3 mm
0550423151	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 5 m white cable, PVC Ø 0.22 × 3 mm
0550423251	Continuous activation NO adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 5 m white cable, PVC Ø 0.22 × 3 mm
0550423171	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 7 m white cable, PVC Ø 0.22 × 3 mm
0550423271	Continuous activation NO adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 7 m white cable, PVC Ø 0.22 × 3 mm
0550423123	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 2 m white halogen-free cable, Ø 0.22 × 3 mm
0550423153	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 5 m white halogen-free cable, Ø 0.22 × 3 mm
0550423173	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3.2 mm stroke, 7 m white halogen-free cable, H03 Ø 0.22 × 3 mm

Connectors with integrated LED, lights up in blue (for 24 V version only)

Type	Description
0550120022	White plug with integrated LED, lights up in blue, cable 2 m, PVC H03VV, Ø 0.5 × 2
0550120052	White plug with integrated LED, lights up in blue, cable 5 m, PVC H03VV, Ø 0.75 × 2

AXS 215S: Continuous actuator for unit valves, with stroke indicator

Features

- Easy to fit on the valve using LFL (Low-Force-Locking) connector
- Fitted onto the valve with M30 × 1.5 thread, with automatic adjustment of closing dimension
- With 24 V expansion element and accurate continuous input
- Choice of control action, 0(2)...10 V or 10...(2)0 V and split-range function, 0...4.5 V or 5.5...10 V
- Position monitoring with inductive, non-wearing sensor, does not require periodic readjustment
- Large visible position indicator
- NC "normally closed" and NO "normally open" versions
- Silent and maintenance-free
- Modular electrical plug connection (various cable lengths and types)
- Connected to valve with plastic bayonet connection
- Suitable for retrofitting existing installations without an adaptor
- Fitting in any position, including upside down



AXS215SF122



Technical data

Power supply

Power supply	24 V~, ±20%, 50...60 Hz
Power consumption during operation	3 W
Starting power	Max. 5 W
Start-up current	220 mA
Stand-by current	Max. 6 mA
Operating current	Max. 90 mA

Parameters

Stroke	4.5/3 mm (can be selected)
Min. running time ¹⁾	Approx. 30 s/mm
Control signal 1	0...10 V, R _i ≥ 100 kΩ

Ambient conditions

Max. operating temperature at valve	100 °C
Storage and transport temperature	-25...70 °C
Admissible ambient temperature	0...50 °C
Admissible ambient humidity	< 85% rh, no condensation

Construction

Weight	0.21 kg
Housing	High-gloss surface (FV-0 as per EN 60707 and V-0 as per UL94), pure white (RAL 9010) or jet black (RAL 9005)
Housing material	Fire-retardant plastic
Power cable	Standard length 2m, H03VV, PVC or halogen-free, Ø 0.22 mm ² , white or black

Standards and directives

Type of protection	IP 54 (EN 60529)
Protection class 24 V	III (EN 60730-1, EN 60730-2, EN 60730-14)
CE conformity as per	EMC directive 2004/108/EC EN 61000-6-1/EN 61000-6-2 EN 61000-6-3/EN 61000-6-4

¹⁾ The total time for 100% stroke is approx. 3.5...4.5 min (warm-up time) in the cold state or approx. 150 s in control mode without a dead time, i.e. in stand-by mode, add a dead time of approx. 110 s



Overview of types

i Closing force in combination with SAUTER valves

Type	Closing force	NC/NO
AXS215SF122	115 N	NC
AXS215SF122B	115 N	NC
AXS215SF222	110 N	NO
AXS215SF222B	110 N	NO

☛ AXS215SF122, AXS215SF222: White version, including M30 x 1.5 bayonet nut, cable 2 m, pack of one

☛ AXS215SF122B, AXS215SF222B: Black version, including M30 x 1.5 bayonet nut, cable 2 m, pack of one

Accessories

Connectors with continuous actuation (for 24 V AC version only)

Type	Description
0550423121	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 2 m white cable, PVC Ø 0.22 x 3 mm
0550423221	Continuous activation NO adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 2 m white cable, PVC Ø 0.22 x 3 mm
0550423151	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 5 m white cable, PVC Ø 0.22 x 3 mm
0550423251	Continuous activation NO adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 5 m white cable, PVC Ø 0.22 x 3 mm
0550423171	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 7 m white cable, PVC Ø 0.22 x 3 mm
0550423271	Continuous activation NO adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 7 m white cable, PVC Ø 0.22 x 3 mm
0550423123	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 2 m white halogen-free cable, Ø 0.22 x 3 mm
0550423153	Continuous activation NC adjustable: 0(2)...10 / 10...0(2) V, split-range unit 0...4.5 V or 5.5...10 V, for 4.5 mm or 3 mm stroke, 5 m white halogen-free cable, Ø 0.22 x 3 mm

Miscellaneous accessories

Type	Description
0550240001	Removal-protection device for AXT/AXS211 (prevents the unauthorised removal of the plug and actuator)

Adaptors & adaptor sets

Type	Description
0550390001	Raised M30 x 1.5 bayonet nut (black), with N-insert (normal, black) and S-insert (reduced, white), for all valves with M30 x 1.5 threads and angle valves or valves with measurement sockets; dimension of actuator 5 mm. Closing dimension depending on type of use: NC 4.5 mm to 18.5 mm and NO 8.5 mm to 22.5 mm
0550390101	Raised M28 x 1.5 bayonet nut (grey), with N-insert (normal, black) and S-insert (reduced, white), for all valves with M28 x 1.5 threads and angle valves or valves with measurement sockets; dimension of actuator 5 mm. Closing dimension depending on type of use: NC 4.5 mm to 18.5 mm and NO 8.5 mm to 22.5 mm, e.g. Pettinaroli
0550390201	Raised M30 x 1.0 bayonet nut (white), with N-insert (normal, black) and S-insert (reduced, white), for all valves with M30 x 1.0 threads and angle valves or valves of different manufacturers; dimension of actuator 5 mm. Closing dimension depending on type of use: NC 4.5 mm to 18.5 mm and NO 8.5 mm to 22.5 mm, e.g. Oventrop (up to 1997), Beulco (up to 2004)
0550393001	Adaptor for fitting to Danfoss valves, type RA 2000, 22 mm
0550393002	Adaptor for fitting to Danfoss valves, type RAVL, 26 mm
0550393003	Adaptor for fitting to Danfoss valves, type RAV, 34 mm
0550394001	Adaptor for fitting to Giacomini valves, type R450, R452, R456 and range 60
0550399001	Adaptor set comprising: raised bayonet nut, black M30 x 1.5 (all manufacturers, M30 x 1.5); raised bayonet nut, grey M28 x 1.5 (all manufacturers, M28 x 1.5); raised bayonet nut, white M30 x 1.0 (e.g. Oventrop, Beulco); 2 x N-inserts (black) and 2 x S-inserts (white); Danfoss adaptor RA 2000 (Ø 22 mm); Giacomini adaptors

AXM 217: Motorised actuator for unit valves

Features

- Reliable actuation in efficient control systems
- For 2-point or 3-point controllers in conjunction with single-room control systems
- Stepping motor with electronic activation and cut-out
- Attached to valve with M30 × 1.5 thread
- Maintenance-free gear unit
- Suitable for retrofitting existing installations using the appropriate adaptors
- Operating status indicated by integrated LED
- Fitting position vertically upright to horizontal, not suspended



AXM217F20*



Technical data

Parameters

Nominal stroke	6.3 mm
Running time	13 s/mm
Actuating power ¹⁾	120 N
Sound pressure level	< 30 dB(A)

Ambient conditions

Max. operating temperature at valve	90 °C
Admissible ambient temperature	0...50 °C
Admissible ambient humidity	< 75% rh

Construction

Weight	0.15 kg
Housing	Two piece, light grey (RAL 7035)
Housing material	Plastic
Thread	Nickel-plated brass M30 × 1.5
Power cable	1.50 m long, 3 × 0,5 mm ² , light grey, insertable

Standards and directives

Type of protection	IP 43 (EN 60529)
EMC directive 2004/108/EC	CE as per EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Low-voltage directive 2006/95/EC	CE as per EN 60730-1 and EN 60730-2-14

Overview of types

Type	Power supply	Power consumption	Protection class
AXM217F200	230 V~, ±10%, 50...60 Hz	6.5 VA, 2 W	II (IEC 60730)
AXM217F202	24 V=/~, ±15%, (50...60 Hz)	2.5 VA, 1.5 W	III (IEC 60730)

⚡ AXM217F202: Voltage 24V= with relay circuit only

Accessories

Type	Description
0550603001	Cable: 24 V, PVC, pluggable, 3 m long
0550603002	Cable: 24 V, PVC, pluggable, 7 m long
0550603003	Cable: 230 V, PVC, pluggable, 3 m long
0550603004	Cable: 230 V, PVC, pluggable, 7 m long
0550603005	Cable: 24 V, halogen-free, pluggable, 3 m long

¹⁾ Actuating power min. 100 N, max. 150 N



Type	Description
0550603006	Cable: 24 V, halogen-free, pluggable, 7 m long
0550603007	Cable: 230 V, halogen-free, pluggable, 3 m long
0550603008	Cable: 230 V, halogen-free, pluggable, 7 m long
0371235001	Adaptor for fitting to Oventrop valves (M30 × 1)
0550393001	Adaptor for fitting to Danfoss valves, type RA 2000, 22 mm
0371356001	Adaptor for fitting to Beulco or Tobler underfloor-heating distributors (M30 × 1)
0550393002	Adaptor for fitting to Danfoss valves, type RAVL, 26 mm
0550393003	Adaptor for fitting to Danfoss valves, type RAV, 34 mm
0371361001	Adaptor for fitting to Herz valves, type Herz-TS'90 (M28 × 1.5)
0371363001	Adaptor for fitting to Tour & Andersson valves, type TA/RVT (M28 × 1.5)



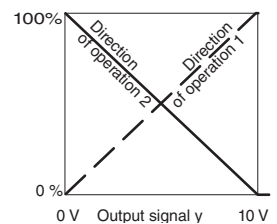
AXM 217S: Motorised actuator for unit valves with positioner

Features

- Stepping motor with electronic activation and cut-out
- Attached to valve with M30 × 1.5 thread
- Versions with direction of operation 1 (direct acting) or 2 (reverse acting), adjustable
- Adjustable valve strokes
- Maintenance-free gear unit
- Suitable for retrofitting existing installations using the appropriate adaptors
- Status and diagnostic indicator via integrated bi-colour LED
- Fitting position vertically upright to horizontal, not suspended



AXM217SF402



Technical data

Power supply

Power supply	24V~/=, ±15%, 50...60 Hz
Power consumption	2.5 VA

Parameters¹⁾

Direction of operation	1 or 2 (adjustable)
Nominal stroke	3.2 mm, 4.3 mm, 5.5 mm (adjustable)
Running time	8 s/mm
Actuating power ²⁾	120 N
Sound pressure level	< 30 dB(A)
Control signal	0(2)...10 V; 5...10 V; 0...5 V R _i > 100 kΩ; 0(4)...20 mA R _i = 500 Ω

Ambient conditions

Admissible ambient temperature	0...50 °C, no condensation
Max. operating temperature at valve	90 °C
Storage and transport temperature	-20...65 °C
Admissible ambient humidity	< 75% rh

Construction

Weight	0.15 kg
Housing	Two-part, light grey (RAL7035)
Housing material	Plastic
Thread	Nickel-plated brass M30 × 1.5
Power cable	1.50 m long, 3 × 0.5 mm ² , light grey, pluggable

Standards and directives

	Type of protection	IP 43 (EN 60529)
	Protection class	III (IEC 60730)
CE conformity as per	EMC directive 2004/108/EC	61000-6-1, 61000-6-2, 61000-6-3 and EN 61000-6-4

¹⁾ The direction of operation and the control voltage can be set using DIP switches; factory setting "2" (RA). Direction of operation 1: Control signal increasing = actuator moves out (valve VUT, VUL, VCL, VDL, BUL closes and valve BXL (control passage) opens) Direction of operation 2: Control signal increasing = actuator moves in (valve VUT, VUL, VCL, VDL, BUL opens and valve BXL (control passage) closes).

²⁾ Actuating power min. 100 N, max. 150 N



Overview of types

Type	Properties
AXM217SF402	Motorised actuator for unit valves with positioner

Accessories

Type	Description
0550603009	Cable: 24 V, PVC, pluggable, 3 m long
0550603010	Cable: 24 V, PVC, pluggable, 7 m long
0550603011	Cable: 24 V, halogen-free, pluggable, 3 m long
0550603012	Cable: 24 V, halogen-free, pluggable, 7 m long
0371235001	Adaptor for fitting to Oventrop valves (M30 × 1)
0550393002	Adaptor for fitting to Danfoss valves, type RAVL, 26 mm
0550393003	Adaptor for fitting to Danfoss valves, type RAV, 34 mm
0371356001	Adaptor for fitting to Beulco or Tobler underfloor-heating distributors (M30 × 1)
0371361001	Adaptor for fitting to Herz valves, type Herz-TS'90 (M28 × 1.5)
0371363001	Adaptor for fitting to Tour & Andersson valves, type TA/RVT (M28 × 1.5)



Regulating valves

SAUTER regulating valves provide flexible combinations for all requirements. The wide product range at SAUTER comprises threaded valves made of DZR cast brass and flanged valves made of grey cast iron, ductile cast iron or cast steel. These regulating valves can be used for the continuous control of hot and cold water in closed circuits.

Overview of regulating valves



Type codes	VUN	BUN	V6R	B6R
Application				
Preheater for ventilation & air-conditioning	•	•	•	•
Cooler for ventilation & air-conditioning	•	–	•	–
Steam humidifier for ventilation & air-conditioning	–	–	–	–
Reheater for ventilation & air-conditioning	•	•	•	•
Chilled ceiling, underfloor heating	•	•	–	–
Static heating	•	•	•	•
Cooling tower (open systems)	•	•	•	•
Multi-boiler system	•	–	•	–
Local heating	•	•	•	•
District heating	–	–	–	–
Version				
Through	•	–	•	–
Three-way	–	•	–	•
Female thread	–	–	•	•
Male thread	•	•	–	–
Flange	–	–	–	–
Combination options with actuator	AVM 105(S), AVM 115(S), AVF 124 AVF 125S AVM 321(S)	AVM 105(S), AVM 115(S), AVF 124 AVF 125S AVM 321(S)	AVM 234S, AVF 234S AVM 322(S)	AVM 234S, AVF 234S
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Type codes	VUD	VQD	BUD	BQD
Application				
Preheater for ventilation & air-conditioning	•	•	•	•
Cooler for ventilation & air-conditioning	•	•	–	–
Steam humidifier for ventilation & air-conditioning	–	–	–	–
Reheater for ventilation & air-conditioning	•	•	•	–
Chilled ceiling, underfloor heating	•	•	•	•
Static heating	•	•	•	•
Cooling tower (open systems)	–	–	–	–
Multi-boiler system	•	•	•	•
Local heating	•	•	•	•
District heating	–	–	–	–
Version				
Through	•	•	–	–
Three-way	–	–	•	•
Female thread	–	–	–	–
Male thread	–	–	–	–
Flange	•	•	•	•
Combination options with actuator	AVM 105, AVM 115, AVM321, AVM 321S, AVM 234S, AVF 234S, AVN 224S	AVM 105, AVM 115, AVM 234S, AVM 322, AVM 322S, AVF 234S, AVN 224S	AVM 105, AVM 115, AVM321, AVM 321S, AVM 234S, AVF 234S, AVN 224S	AVM 105, AVM 115, AVM 234S, AVM 322, AVM 322S, AVF 234S, AVN 224S
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Type codes	VUE	VQE	BUE	BQE
Application				
Preheater for ventilation & air-conditioning	•	•	•	•
Cooler for ventilation & air-conditioning	•	•	–	–
Steam humidifier for ventilation & air-conditioning	–	–	–	–
Reheater for ventilation & air-conditioning	•	•	•	•
Chilled ceiling, underfloor heating	•	•	•	•
Static heating	•	•	•	•
Cooling tower (open systems)	–	–	–	–
Multi-boiler system	•	•	•	•
Local heating	•	•	•	•
District heating	–	–	–	–
Version				
Through	•	•	–	–
Three-way	–	–	•	•
Female thread	–	–	–	–
Male thread	–	–	–	–
Flange	•	•	•	•
Combination options with actuator	AVM 105, AVM 115, AVM321, AVM 321S, AVM 234S, AVF 234S, AVN 224S	AVM 105, AVM 115, AVM 234S, AVM 322, AVM 322S, AVF 234S, AVN 224S	AVM 105, AVM 115, AVM321, AVM 321S, AVM 234S, AVF 234S, AVN 224S	AVM 105, AVM 115, AVM 234S, AVM 322, AVM 322S, AVF 234S, AVN 224S
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Type codes	VUG	BUG	VUP
Application			
Preheater for ventilation & air-conditioning	•	•	•
Cooler for ventilation & air-conditioning	•	–	•
Steam humidifier for ventilation & air-conditioning	•	–	–
Reheater for ventilation & air-conditioning	•	•	•
Chilled ceiling, underfloor heating	–	–	–
Static heating	•	•	•
Cooling tower (open systems)	–	–	–
Multi-boiler system	•	•	•
Local heating	•	•	•
District heating	•	•	•
Version			
Through	•	–	•
Three-way	–	•	–
Female thread	–	–	–
Male thread	–	–	–
Flange	•	•	•
Combination options with actuator	AVM 234S, AVF 234S, AVN 224S AVM 322(S)	AVM 234S, AVF 234S, AVN 224S AVM 322(S)	AVM 234S, AVF 234S, AVN 224S AVM 322(S)
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Type codes	VUS	BUS
Application		
Preheater for ventilation & air-conditioning	•	•
Cooler for ventilation & air-conditioning	•	–
Steam humidifier for ventilation & air-conditioning	•	•
Reheater for ventilation & air-conditioning	•	•
Chilled ceiling, underfloor heating	–	–
Static heating	•	•
Cooling tower (open systems)	–	–
Multi-boiler system	•	•
Local heating	•	•
District heating	•	•
Version		
Through	•	–
Three-way	–	•
Female thread	–	–
Male thread	–	–
Flange	•	•
Combination options with actuator	AVM 234S, AVF 234S	AVM 234S, AVF 234S
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VUN: 2-way valve with male thread, PN 16

Features

- Regulating valve, free of silicone grease, with male thread as per DIN/EN ISO 228-1
- In combination with valve actuators AVM 105(S), 115(S), 321(S) and AVF 124, 125S as a control unit
- Equal-percentage (F300) / linear (F200) characteristic, can be set with SUT valve actuators (SAUTER Universal Technology)
- The valve is closed when the spindle is moved out
- Closes either against or with the pressure
- Stainless-steel spindle
- Valve body and seat in dezincification-resistant (DZR) cast brass
- Plug with glass-fibre-reinforced PTFE sealing ring made of dezincification-resistant (DZR) cast brass
- Stuffing box with wiper ring made from dezincification-resistant (DZR) cast brass and double O-ring seal made from EPDM

Technical data

Parameters		
Nominal pressure	16 bar	
Control ratio	> 50:1	
Valve characteristic	F200 = linear F3*0 = equal percentage	
Nominal stroke	8 mm	
Leakage rate	≤ 0.02% of k_{vs} value	

Ambient conditions

Operating temperature ¹⁾	-15...150 °C
Operating pressure up to 120 °C	16 bar
Operating pressure up to 130 °C	13 bar
Operating pressure up to 150 °C	10 bar

Overview of types

Type	Nominal diameter	k_{vs} value	Connection	Weight
VUN015F350	DN 15	0.4 m ³ /h	G1" B	0.82 kg
VUN015F340	DN 15	0.63 m ³ /h	G1" B	0.82 kg
VUN015F330	DN 15	1 m ³ /h	G1" B	0.82 kg
VUN015F320	DN 15	1.6 m ³ /h	G1" B	0.82 kg
VUN015F310	DN 15	2.5 m ³ /h	G1" B	0.82 kg
VUN015F300	DN 15	4 m ³ /h	G1" B	0.82 kg
VUN020F300	DN 20	6.3 m ³ /h	G1 1/4" B	1 kg
VUN025F300	DN 25	10 m ³ /h	G1 1/2" B	1.3 kg
VUN032F300	DN 32	16 m ³ /h	G2" B	1.74 kg
VUN040F300	DN 40	22 m ³ /h	G2 1/4" B	2.52 kg
VUN050F300	DN 50	28 m ³ /h	G2 3/4" B	3.44 kg
VUN050F200	DN 50	40 m ³ /h	G2 3/4" B	3.44 kg

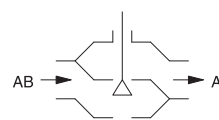
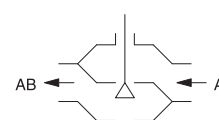
Accessories

Type	Description
0361951015	1 screw fitting for male thread with flat seal, DN 15
0361951020	1 screw fitting for male thread with flat seal, DN 20
0361951025	1 screw fitting for male thread with flat seal, DN 25
0361951032	1 screw fitting for male thread with flat seal, DN 32

¹⁾ Use stuffing-box heater at temperatures below 0 °C; use temperature adaptor (accessory) at temperatures above 100 °C



VUN032F300



Type	Description
0361951040	1 screw fitting for male thread with flat seal, DN 40
0361951050	1 screw fitting for male thread with flat seal, DN 50
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adaptor required when temperature of the medium is 100...130 °C (recommended for temperatures <10 °C)
0372249002	Adaptor required when temperature of the medium is 130...150 °C
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of VUN with electric actuators

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_g :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences

Actuator	AVM105F100	AVM105F120 AVM105F122	AVM105SF132	AVM115F120 AVM115F122	AVM115SF132
Page	228	228	231	228	231
Actuating power	250 N	250 N	250 N	500 N	500 N
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	120 s	60/120 s

Closes against the pressure	Δp [bar]				
	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
VUN015F350	4.0	4.0	4.0	6.0	6.0
VUN015F340					
VUN015F330					
VUN015F320					
VUN015F310					
VUN015F300					
VUN020F300	4.0	4.0	4.0	5.0	5.0
VUN025F300	4.0	4.0	4.0	4.0	4.0
VUN032F300	3.0	3.0	3.0	3.5	3.5
VUN040F300	1.9	1.9	1.9	3.0	3.0
VUN050F300	1.0	1.0	1.0	2.4	2.4
VUN050F200					

Cannot be used to close with the pressure

Actuator	AVM321F110 AVM321F112	AVM321SF132	AVF124F130 AVF124F230	AVF125SF132 AVF125SF232
Page	233	235	240	243
Actuating power	1000 N	1000 N	500 N	500 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA	3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	48/96 s	32/96 s	60/120 s	60/120 s

Δp [bar]

Closes against the pressure	Δp _{max}	Δp _{max}	Δp _{max}	Δp _s	Δp _{max}	Δp _s
VUN015F350 VUN015F340 VUN015F330 VUN015F320 VUN015F310 VUN015F300	10.0	10.0	6.0	16.0	6.0	16.0
VUN020F300	10.0	10.0	5.0	12.0	5.0	12.0
VUN025F300	10.0	10.0	4.0	8.0	4.0	8.0
VUN032F300	10.0	10.0	3.5	6.0	3.5	6.0
VUN040F300	6.0	6.0	3.0	3.5	3.0	3.5
VUN050F300 VUN050F200	4.0	4.0	2.4	2.4	2.4	2.4

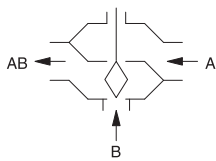
Closes with the pressure

VUN015F350 VUN015F340 VUN015F330 VUN015F320 VUN015F310 VUN015F300	6.0	6.0	4.0	16.0	4.0	16.0
VUN020F300	6.0	6.0	2.8	16.0	2.8	16.0
VUN025F300	5.0	5.0	2.8	16.0	2.8	16.0
VUN032F300	4.0	4.0	2.0	16.0	2.0	16.0
VUN040F300	2.5	2.5	1.5	16.0	1.5	16.0
VUN050F300 VUN050F200	2.0	2.0	0.8	16.0	0.8	16.0

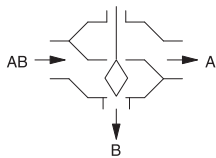
 At temperatures above 100°C, accessories are required



BUN032F300



Control valve



Distribution valve

BUN: 3-way valve with male thread, PN 16

Features

- Regulating valve for continuous control of cold water or domestic hot water in closed circuits
- In combination with valve actuators AVM 105(S), 115(S), 321(S) and AVF 124, 125S as a control unit
- Regulating valve, free of silicone grease, with male thread as per DIN/EN ISO 228-1
- Equal-percentage (F300) / linear (F200) characteristic, can be set with SUT valve actuators (SAUTER Universal Technology)
- The valve is closed when the spindle is moved out
- Can be used as a control valve or a distribution valve
- Stainless-steel spindle
- Valve body with seat in dezincification-resistant (DZR) cast brass
- Plug with glass-fibre-reinforced PTFE sealing ring made from dezincification-resistant cast brass (DZR)
- Stuffing box with wiper ring made from dezincification-resistant cast brass (DZR) and double O-ring seal made from EPDM

Technical data

Parameters	
Nominal pressure	16 bar
Valve characteristic, control passage	F200 = linear F3*0 = equal percentage
Valve characteristic, mixing passage	Linear
Control ratio	> 50:1
Leakage rate of control passage	≤ 0.02% of k_{vs} value
Leakage rate, mixing passage	≤ 1% of k_{vs} value
Nominal stroke	8 mm

Ambient conditions

Operating temperature ¹⁾	-15...150 °C
Operating pressure up to 120 °C	16 bar
Operating pressure up to 130 °C	13 bar
Operating pressure up to 150 °C	10 bar

Overview of types

Type	Nominal diameter	k_{vs} value	Connection	Weight
BUN015F330	DN 15	1 m ³ /h	G1" B	0.82 kg
BUN015F320	DN 15	1.6 m ³ /h	G1" B	0.82 kg
BUN015F310	DN 15	2.5 m ³ /h	G1" B	0.82 kg
BUN015F300	DN 15	4 m ³ /h	G1" B	0.82 kg
BUN020F300	DN 20	6.3 m ³ /h	G1¼" B	1 kg
BUN025F300	DN 25	10 m ³ /h	G1½" B	1.3 kg
BUN032F300	DN 32	16 m ³ /h	G2" B	1.74 kg
BUN040F300	DN 40	22 m ³ /h	G2¼" B	2.52 kg
BUN050F300	DN 50	28 m ³ /h	G2¾" B	3.44 kg
BUN050F200	DN 50	40 m ³ /h	G2¾" B	3.44 kg

Accessories

Type	Description
O361951015	1 screw fitting for male thread with flat seal, DN 15
O361951020	1 screw fitting for male thread with flat seal, DN 20
O361951025	1 screw fitting for male thread with flat seal, DN 25

¹⁾ Use stuffing box heater at temperatures below 0 °C; use temperature adaptor (accessory) at temperatures above 100 °C



Type	Description
0361951032	1 screw fitting for male thread with flat seal, DN 32
0361951040	1 screw fitting for male thread with flat seal, DN 40
0361951050	1 screw fitting for male thread with flat seal, DN 50
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adaptor required when temperature of the medium is 100...130 °C (recommended for temperatures <10 °C)
0372249002	Adaptor required when temperature of the medium is 130...150 °C
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of BUN with electrical actuators

i Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.

i Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.

i Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences

Actuator	AVM105F100	AVM105F120 AVM105F122	AVM105SF132	AVM115F120 AVM115F122	AVM115SF132
Page	228	228	231	228	231
Actuating power	250 N	250 N	250 N	500 N	500 N
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	120 s	60/120 s

Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
BUN015F330	4.0	4.0	4.0	6.0	6.0
BUN015F320					
BUN015F310					
BUN015F300					
BUN020F300	4.0	4.0	4.0	5.0	5.0
BUN025F300	3.0	3.0	3.0	4.0	4.0
BUN032F300	2.0	2.0	2.0	3.7	3.7
BUN040F300	1.2	1.2	1.2	2.7	2.7
BUN050F300	0.8	0.8	0.8	1.8	1.8
BUN050F200					

Cannot be used as distribution valve

Actuator	AVM321F110 AVM321F112	AVM321SF132	AVF124F130 AVF124F230	AVF125SF132 AVF125SF232
Page	233	235	240	243
Actuating power	1000 N	1000 N	500 N	500 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA	3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	48/96 s	32/96 s	60/120 s	60/120 s

Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_{max}	Δp_s	Δp_{max}	Δp_s
BUN015F330	10.0	10.0	6.0	16.0	6.0	16.0
BUN015F320						
BUN015F310						
BUN015F300						
BUN020F300	10.0	10.0	5.0	9.4	5.0	9.4

Actuator	AVM321F110 AVM321F112	AVM321SF132	AVF124F130 AVF124F230	AVF125SF132 AVF125SF232		
Page	233	235	240	243		
BUN025F300	10.0	10.0	4.0	6.5	4.0	6.5
BUN032F300	10.0	10.0	3.7	4.3	3.7	4.3
BUN040F300	6.0	6.0	2.7	2.7	2.7	2.7
BUN050F300 BUN050F200	4.0	4.0	1.8	1.8	1.8	1.8

As distribution valve

BUN015F330 BUN015F320 BUN015F310 BUN015F300	6.0	6.0	4.0	16.0	4.0	16.0
BUN020F300	6.0	6.0	2.8	16.0	2.8	16.0
BUN025F300	5.0	5.0	2.8	16.0	2.8	16.0
BUN032F300	4.0	4.0	2.0	16.0	2.0	16.0
BUN040F300	2.5	2.5	1.5	16.0	1.5	16.0
BUN050F300 BUN050F200	2.0	2.0	0.8	16.0	0.8	16.0

 At temperatures above 100°C, accessories are required

V6R: 2-way valve with female thread, PN 16 (el.)

Features

- Regulating valve for continuous control of cold water or domestic hot water in closed circuits
- In combination with valve actuators AVM 322, AVM 322S, AVM 234S, AVF 234S
- Regulating valve, free of silicone grease, with DIN/EN ISO 228-1 G female thread
- Equal-percentage or linear characteristic, can be set with SUT valve actuators (SAUTER Universal Technology) to linear, equal-percentage or quadratic
- Control passage A-AB is closed when the spindle is moved out
- Closes either against or with the pressure
- Valve body and seat made of gun metal
- Stainless-steel spindle
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM



V6R15F300



Technical data

Parameters	
Control ratio	> 50:1
Leakage rate	≤ 0.05% of k_{vs} value
Valve stroke	14 mm
Nominal pressure	16 bar

Ambient conditions

Operating temperature ¹⁾	- 15...130 °C
Operating pressure up to 120 °C	16 bar
Operating pressure up to 130 °C	13 bar

Standards and directives

Pressure and temperature data	DIN 2401
Flow parameters	VDI/VDE 2173

Overview of types

Type	Nominal diameter	k_{vs} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
V6R15F350	DN 15	0.4 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F340	DN 15	0.63 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F330	DN 15	1 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F320	DN 15	1.6 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F310	DN 15	2.5 m ³ /h	equal-percentage	brass	G½"	1.2 kg
V6R15F300	DN 15	4 m ³ /h	equal-percentage	brass	G½"	1.2 kg
V6R15F200	DN 15	4 m ³ /h	linear	brass	G½"	1.2 kg
V6R25F310	DN 25	6.3 m ³ /h	equal-percentage	brass	G1"	1.6 kg
V6R25F300	DN 25	10 m ³ /h	equal-percentage	brass	G1"	1.6 kg
V6R25F210	DN 25	6.3 m ³ /h	linear	brass	G1"	1.6 kg
V6R25F200	DN 25	10 m ³ /h	linear	brass	G1"	1.6 kg
V6R40F310	DN 40	16 m ³ /h	equal-percentage	brass	G1½"	3.4 kg

¹⁾ At temperatures below 0 °C, use stuffing box heater (accessory)



Type	Nominal diameter	k_{vs} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
V6R40F300	DN 40	25 m ³ /h	equal-percentage	brass	G1½"	3.4 kg
V6R40F210	DN 40	16 m ³ /h	linear	brass	G1½"	3.4 kg
V6R40F200	DN 40	25 m ³ /h	linear	brass	G1½"	3.4 kg
V6R50F300	DN 50	35 m ³ /h	equal-percentage	brass	G2"	4.6 kg
V6R50F200	DN 50	35 m ³ /h	linear	brass	G2"	4.6 kg

Accessories

Type	Description
0217268001	Stuffing box heater 15 W, 24 V
0217268004	Stuffing box heater 15 W, 230 V
0360391015	Screw fitting, DN 15, incl. seal, 2 pcs. required
0360391025	Screw fitting, DN 25, incl. seal, 2 pcs. required
0360391040	Screw fitting, DN 40, incl. seal, 2 pcs. required
0360391050	Screw fitting, DN 50, incl. seal, 2 pcs. required
0360421000	Adhesive label for flow change "Closes with the pressure"
0378034001	Stuffing box; with synthetic lubricant; max. 130 °C

☛ **0217268****** Stuffing box heater 15 W, light alloy housing, IP 54, 3 × 0.75 mm² power cable, earth connector, length 1 m, ferrule

Combination of V6R with electrical actuators

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences

Actuator	AVM2345F132	AVF2345F132 AVF2345F232	AVM322F120 AVM322F122	AVM322SF132
Page	238	245	233	235
Actuating power	2500 N	2000 N	1000 N	1000 N
Control signal	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	28/56/84 s	28/56/84 s	120/240 s	120/80 s

Δp [bar]

Closes against the pressure	Δp [bar]				
	Δp_{max}	Δp_{max}	Δp_s	Δp_{max}	Δp_{max}
V6R15F350	4.0	4.0	16.0	4.0	4.0
V6R15F340					
V6R15F330					
V6R15F320					
V6R15F310					
V6R15F300					
V6R15F200					
V6R25F310					
V6R25F300					
V6R25F210					
V6R25F200					
V6R40F310	3.0	3.0	11.5	3.0	3.0
V6R40F300					
V6R40F210					
V6R40F200					

Actuator	AVM234SF132	AVF234SF132 AVF234SF232		AVM322F120 AVM322F122	AVM322SF132
Page	238	245		233	235
V6R50F300 V6R50F200	2.0	2.0	8.6	2.0	2.0

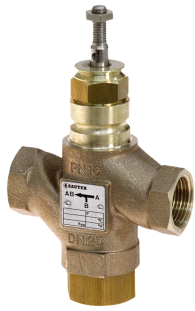
Closes with the pressure

V6R15F350 V6R15F340 V6R15F330 V6R15F320 V6R15F310 V6R15F300 V6R15F200	3.0	3.0	16.0	4.0	4.0
V6R25F310 V6R25F300 V6R25F210 V6R25F200	2.0	2.0	16.0	4.0	4.0
V6R40F310 V6R40F300 V6R40F210 V6R40F200	1.5	1.5	16.0	3.0	3.0
V6R50F300 V6R50F200	1.0	1.0	16.0	2.0	2.0

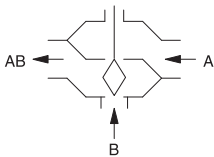
🔧 Accessories required: Mounting set 0372338001 for AVM 234 and AVF 234

🔧 Accessories required: Mounting set 0510240012 for AVM 322(S)

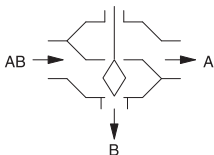




B6R25F300



Control valve



Distribution valve

B6R: 3-way valve with female thread, PN 16 (el.)

Features

- Regulating valve, free of silicone grease, with female thread DIN/EN ISO 228-1-G
- Equal-percentage or linear characteristic, can be set with SUT valve actuators (SAUTER Universal Technology) to linear, equal-percentage or quadratic (quadratic only with equal-percentage characteristic)
- Control passage A-AB is closed when the spindle is moved out
- Can be used as a control valve or a distribution valve
- Valve body and seat made of gun metal
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM
- Stainless-steel spindle

Technical data

Parameters

Control ratio	> 50:1
Leakage rate of control passage A-AB	≤ 0.05% of k_{vs} value
Leakage rate of mixing passage B-AB	≤ 1% of k_{vs} value
Valve stroke	14 mm
Valve characteristic, mixing passage	Linear

Ambient conditions

Operating temperature ¹⁾	-15...130 °C
Operating pressure up to 120 °C	16 bar
Operating pressure up to 130 °C	13 bar

Standards and directives

Pressure and temperature data	DIN 2401
Flow parameters	VDI/VDE 2173

Overview of types

Type	Nominal diameter	k_{vs} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
B6R15F330	DN 15	1 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
B6R15F320	DN 15	1.6 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
B6R15F310	DN 15	2.5 m ³ /h	equal-percentage	brass	G½"	1.2 kg
B6R15F300	DN 15	4 m ³ /h	equal-percentage	brass	G½"	1.2 kg
B6R15F200	DN 15	4 m ³ /h	linear	brass	G½"	1.2 kg
B6R25F310	DN 25	6.3 m ³ /h	equal-percentage	brass	G1"	1.6 kg
B6R25F300	DN 25	10 m ³ /h	equal-percentage	brass	G1"	1.6 kg
B6R25F210	DN 25	6.3 m ³ /h	linear	brass	G1"	1.6 kg
B6R25F200	DN 25	10 m ³ /h	linear	brass	G1"	1.6 kg
B6R40F310	DN 40	16 m ³ /h	equal-percentage	brass	G1½"	3.4 kg
B6R40F300	DN 40	25 m ³ /h	equal-percentage	brass	G1½"	3.4 kg
B6R40F210	DN 40	16 m ³ /h	linear	brass	G1½"	3.4 kg
B6R40F200	DN 40	25 m ³ /h	linear	brass	G1½"	3.4 kg

¹⁾ At temperatures below 0 °C, use stuffing box heater (accessory)



Type	Nominal diameter	k_{vs} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
B6R50F300	DN 50	35 m ³ /h	equal-percentage	brass	G2"	4.6 kg
B6R50F200	DN 50	35 m ³ /h	linear	brass	G2"	4.6 kg

Accessories

Type	Description
0217268001	Stuffing box heater 15 W, 24 V
0217268004	Stuffing box heater 15 W, 230 V
0360391015	Screw fitting, DN 15, incl. seal, 3 pcs. required
0360391025	Screw fitting, DN 25, incl. seal, 3 pcs. required
0360391040	Screw fitting, DN 40, incl. seal, 3 pcs. required
0360391050	Screw fitting, DN 50, incl. seal, 3 pcs. required
0360429000	Adhesive label for distribution valve
0378034001	Stuffing box; with synthetic lubricant; max. 130 °C

☛ **0217268***** Stuffing box heater 15 W, light alloy housing, IP 54, 3 × 0.75 mm² power cable, earth connector, length 1 m, ferrule

☛ **0360429** Sheet with 21 adhesive labels for flow change; see combinations

Combination of B6R with electrical actuators

i *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*

i *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*

i *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Pressure differences

Actuator	AVM234SF132	AVF234SF132 AVF234SF232	AVM322F120 AVM322F122	AVM322SF132
Page	238	245	233	235
Actuating power	2500 N	2000 N	1000 N	1000 N
Control signal	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	28/56/84 s	28/56/84 s	120/240 s	120/80 s

Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_s	Δp_{max}	Δp_{max}
B6R15F330	4.0	4.0	16.0	4.0	4.0
B6R15F320					
B6R15F310					
B6R15F300					
B6R15F200					
B6R25F310					
B6R25F300					
B6R25F210					
B6R25F200					
B6R40F310					
B6R40F300					
B6R40F210					
B6R40F200					
B6R50F300	2.0	2.0	8.6	2.0	2.0
B6R50F200					

Actuator	AVM234SF132	AVF234SF132 AVF234SF232	AVM322F120 AVM322F122	AVM322SF132
Page	238	245	233	235
As distribution valve				
B6R15F330 B6R15F320 B6R15F310 B6R15F300 B6R15F200	3.0	3.0	16.0	4.0
B6R25F310 B6R25F300 B6R25F210 B6R25F200	2.0	2.0	16.0	4.0
B6R40F310 B6R40F300 B6R40F210 B6R40F200	1.5	1.5	16.0	3.0
B6R50F300 B6R50F200	1.0	1.0	16.0	2.0

☛ Accessories required: Mounting set 0372338001 for AVM 234 and AVF 234

☛ Accessories required: Mounting set 0510240012 for AVM 322(S)

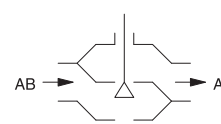
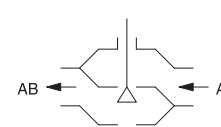
VUD: 2-way flanged valve, PN 6 (el.)

Features

- Continuous control of cold and hot water in closed circuits
- Water quality as per VDI 2035
- In combination with valve actuators AVM 105(S), AVM 115(S), AVM 321(S) and AVF 124 and AVF 125(S) as a control unit
- Not suitable for steam, drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, painted black
- Characteristic can be set with SUT (SAUTER Universal Technology) valve actuator to linear, equal-percentage or quadratic
- The valve is closed when the spindle is moved out
- Closing either against or with the pressure
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plug made of brass with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM



VUD032F300



Technical data

Parameters

Nominal pressure	PN 6
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate	≤ 0.05% of k_{vs} value
Valve stroke	8 mm

Ambient conditions¹⁾

Operating temperature ²⁾	-10...150 °C
Operating pressure	Up to 120 °C; 6 bar At 150 °C; 5.4 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)
Pressure Equipment Directive	97/23/EC (fluid group II) No CE label, article 3.3

Overview of types

Type	Nominal diameter	k_{vs} value	Weight
VUD015F320	DN 15	1.6 m ³ /h	3.2 kg
VUD015F310	DN 15	2.5 m ³ /h	3.2 kg
VUD015F300	DN 15	4 m ³ /h	3.2 kg
VUD020F300	DN 20	6.3 m ³ /h	4.1 kg
VUD025F300	DN 25	10 m ³ /h	4.7 kg

¹⁾ Air humidity must not exceed 75%

²⁾ At temperatures below 0 °C, use stuffing-box heater. Use adaptor (accessory) at temperatures above 100 °C



Type	Nominal diameter	k_{vs} value	Weight
VUD032F300	DN 32	16 m ³ /h	7.3 kg
VUD040F300	DN 40	22 m ³ /h	8.6 kg
VUD050F300	DN 50	28 m ³ /h	11.2 kg
VUD050F200	DN 50	40 m ³ /h	11.2 kg

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adaptor required when temperature of the medium is 100...130 °C (recommended for temperatures < 10 °C) DN 15...50
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of VUD with electrical actuators

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Combination of VUD with electric actuator, actuating power 250 N, 500 N

Actuator	AVM105F100	AVM105F120 AVM105F122	AVM105SF132	AVM115F120 AVM115F122	AVM115SF132
Page	228	228	231	228	231
Actuating power	250 N	250 N	250 N	500 N	500 N
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	120 s	60/120 s

Closes against the pressure	Δp [bar]				
	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
VUD015F320	4.0	4.0	4.0	6.0	6.0
VUD015F310					
VUD015F300					
VUD020F300					
VUD025F300	2.8	2.8	2.8	6.0	6.0
VUD032F300	2.1	2.1	2.1	5.2	5.2
VUD040F300	1.2	1.2	1.2	3.3	3.3
VUD050F300	0.9	0.9	0.9	2.0	2.0
VUD050F200					

Cannot be used to close with the pressure

Combination of VUD with electric actuator with spring return, actuating power

500 N

Actuator	AVF124F130 AVF124F230	AVF125SF132 AVF125SF232
Page	240	243
Actuating power	500 N	500 N
Control signal	3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	60/120 s	60/120 s

Δp [bar]

Closes against the pressure	Δp _{max}	Δp _s	Δp _{max}	Δp _s
VUD015F320	6.0	6.0	6.0	6.0
VUD015F310				
VUD015F300				
VUD020F300				
VUD025F300				
VUD032F300	5.2	5.2	5.2	5.2
VUD040F300	3.3	3.3	3.3	3.3
VUD050F300	2.0	2.0	2.0	2.0
VUD050F200				

Closes with the pressure

VUD015F320	6.0	6.0	6.0	6.0
VUD015F310				
VUD015F300				
VUD020F300				
VUD025F300				
VUD032F300	4.0	6.0	4.0	6.0
VUD040F300	2.5	6.0	2.5	6.0
VUD050F300	1.5	6.0	1.5	6.0
VUD050F200				

 At temperatures above 100°C, accessories are required

Combination of VUD with electric actuator, actuating power 1000 N

Actuator	AVM321F110 AVM321F112	AVM321SF132
Page	233	235
Actuating power	1000 N	1000 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	48/96 s	32/96 s

Δp [bar]

Closes against the pressure	Δp _{max}	Δp _{max}
VUD015F320	6.0	6.0
VUD015F310		
VUD015F300		
VUD020F300		
VUD025F300		
VUD032F300		
VUD040F300		
VUD050F300	4.0	4.0
VUD050F200		

Closes with the pressure

VUD015F320	6.0	6.0
VUD015F310		
VUD015F300		
VUD020F300		
VUD025F300		

Actuator	AVM321F110 AVM321F112	AVM321SF132
Page	233	235
VUD032F300	4.0	4.0
VUD040F300	2.5	2.5
VUD050F300 VUD050F200	1.5	1.5

 At temperatures above 100°C, accessories are required



BUD: 3-way flanged valve, PN 6 (el.)

Features

- Continuous control of cold and hot water in closed circuits
- Water quality as per VDI 2035
- In combination with valve actuators AVM 105(S), AVM 115(S), AVM 321(S) and AVF 124 and AVF 125(S) as a control unit
- Not suitable for drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B, for PN 16 and PN 10
- Regulating valve, free of silicone grease, painted black
- Characteristic can be set with SUT valve actuators to linear, equal-percentage or quadratic
- The control passage is closed when the spindle is moved out
- Used as control valve or as distribution valve
- Valve body with seat made of grey cast iron
- Stainless-steel spindle
- Plug made of brass with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM

Technical data

Parameters	
Nominal pressure	PN 6
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Valve characteristic, mixing passage	Linear
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate of control passage	< 0.05% of k_{vs} value
Leakage rate, mixing passage	< 1% of k_{vs} value
Valve stroke	8 mm

Ambient conditions¹⁾

Operating temperature ²⁾	-10...150 °C
Operating pressure	Up to 120 °C; 6 bar At 150 °C; 5.4 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)
Pressure Equipment Directive	97/23/EC (fluid group II) No CE label, article 3.3

Overview of types

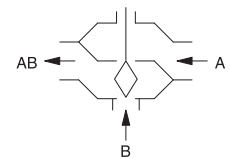
Type	Nominal diameter	k_{vs} value	Weight
BUD015F320	DN 15	1.6 m ³ /h	3.2 kg
BUD015F310	DN 15	2.5 m ³ /h	3.2 kg
BUD015F300	DN 15	4 m ³ /h	3.2 kg
BUD020F300	DN 20	6.3 m ³ /h	4.1 kg

¹⁾ Air humidity must not exceed 75%

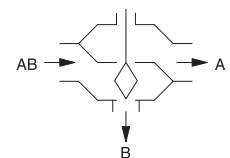
²⁾ At temperatures below 0 °C, use a stuffing box heater. Use adaptor (accessory) at temperatures above 100 °C



BUD032F300



Control valve



Distribution valve



Type	Nominal diameter	k_{vs} value	Weight
BUD025F300	DN 25	10 m ³ /h	4.7 kg
BUD032F300	DN 32	16 m ³ /h	7.1 kg
BUD040F300	DN 40	22 m ³ /h	8.4 kg
BUD050F300	DN 50	28 m ³ /h	10.9 kg
BUD050F200	DN 50	40 m ³ /h	11.2 kg

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adaptor required when temperature of the medium is 100...130 °C (recommended for temperatures < 10 °C) DN 15...50
0372249002	Adaptor required when temperature of the medium is >130 up to 150 °C, DN 15...50
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of BUD with electric actuators

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Combination of BUD with electric actuator, actuating power 250 N, 500 N

Actuator	AVM105F100	AVM105F120 AVM105F122	AVM105SF132	AVM115F120 AVM115F122	AVM115SF132
Page	228	228	231	228	231
Actuating power	250 N	250 N	250 N	500 N	500 N
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	120 s	60/120 s

As control valve	Δp [bar]				
	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
BUD015F320	4.0	4.0	4.0	6.0	6.0
BUD015F310					
BUD015F300					
BUD020F300					
BUD025F300	2.8	2.8	2.8	6.0	6.0
BUD032F300	2.1	2.1	2.1	5.2	5.2
BUD040F300	1.2	1.2	1.2	3.3	3.3
BUD050F300	0.9	0.9	0.9	2.0	2.0
BUD050F200					

Cannot be used as distribution valve

Combination of BUD with electric actuator with spring return, actuating power

500 N

Actuator	AVF124F130 AVF124F230	AVF125SF132 AVF125SF232
Page	240	243
Actuating power	500 N	500 N
Control signal	3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	60/120 s	60/120 s

Δp [bar]

As control valve	Δp _{max}	Δp _s	Δp _{max}	Δp _s
BUD015F320 BUD015F310 BUD015F300 BUD020F300 BUD025F300	6.0	6.0	6.0	6.0
BUD032F300	5.2	5.2	5.2	5.2
BUD040F300	3.3	3.3	3.3	3.3
BUD050F300 BUD050F200	2.0	2.0	2.0	2.0

As distribution valve

BUD015F320 BUD015F310 BUD015F300 BUD020F300	6.0	6.0	6.0	6.0
BUD025F300	5.0	6.0	5.0	6.0
BUD032F300	4.0	6.0	4.0	6.0
BUD040F300	2.5	6.0	2.5	6.0
BUD050F300 BUD050F200	1.5	6.0	1.5	6.0

☀ At temperatures above 100°C, accessories are required

Combination of BUD with electric actuator, actuating power 1000 N

Actuator	AVM321F110 AVM321F112	AVM321SF132
Page	233	235
Actuating power	1000 N	1000 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	48/96 s	32/96 s

Δp [bar]

As control valve	Δp _{max}	Δp _{max}
BUD015F320 BUD015F310 BUD015F300 BUD020F300 BUD025F300 BUD032F300 BUD040F300	6.0	6.0
BUD050F300 BUD050F200	4.0	4.0

As distribution valve

BUD015F320 BUD015F310 BUD015F300 BUD020F300	6.0	6.0
BUD025F300	5.0	5.0
BUD032F300	4.0	4.0

Actuator	AVM321F110 AVM321F112	AVM321SF132
Page	233	235
BUD040F300	2.5	2.5
BUD050F300 BUD050F200	1.5	1.5

 At temperatures above 100°C, accessories are required



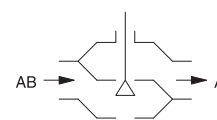
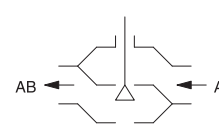
VUE: 2-way flanged valve, PN 16/10 (el.)

Features

- Continuous control of cold/hot water and low-pressure steam up to 115 °C in closed circuits
- Water quality as per VDI 2035
- In combination with valve actuators AVM 105(S), AVM 115(S), AVM 321(S) and AVF 124 and AVF 125(S) as a control unit
- Not suitable for drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B, for PN 16 and PN 10
- Regulating valve, free of silicone grease, painted black
- Characteristic can be set with SUT (SAUTER Universal Technology) valve actuator to linear, equal-percentage or quadratic
- The valve is closed when the spindle is moved out
- Closing either against or with the pressure
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plug made of brass with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM



VUE032F300



Technical data

Parameters

Nominal pressure	PN 16/10
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate	< 0.05% of k_{vs} value
Valve stroke	8 mm

Ambient conditions¹⁾

Operating temperature ²⁾	-10...150 °C
Operating pressure	PN 16: Up to 120 °C, 16 bar At 150 °C, 14.4 bar PN 10: Up to 120 °C, 10 bar At 150 °C, 9 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)
Pressure Equipment Directive	97/23/EC (fluid group II) No CE label, article 3.3

Overview of types

Type	Nominal diameter	k_{vs} value	Weight
VUE015F350	DN 15	0.4 m ³ /h	3.2 kg
VUE015F340	DN 15	0.63 m ³ /h	3.2 kg

¹⁾ Air humidity must not exceed 75%.

²⁾ At temperatures below 0 °C, use a stuffing box heater. Use adaptor (accessory) at temperatures above 100 °C



Type	Nominal diameter	k_{vs} value	Weight
VUE015F330	DN 15	1 m ³ /h	3.2 kg
VUE015F320	DN 15	1.6 m ³ /h	3.2 kg
VUE015F310	DN 15	2.5 m ³ /h	3.2 kg
VUE015F300	DN 15	4 m ³ /h	3.2 kg
VUE020F300	DN 20	6.3 m ³ /h	4.1 kg
VUE025F300	DN 25	10 m ³ /h	4.7 kg
VUE032F300	DN 32	16 m ³ /h	7.3 kg
VUE040F300	DN 40	22 m ³ /h	8.6 kg
VUE050F300	DN 50	28 m ³ /h	11.2 kg
VUE050F200	DN 50	40 m ³ /h	11.2 kg

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adaptor required when temperature of the medium is 100...130 °C (recommended for temperatures < 10 °C) DN 15...50
0372249002	Adaptor required when temperature of the medium is >130 up to 150 °C, DN 15...50
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of VUE with electric actuators

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Combination of VUE with electric actuator, actuating power 250 N, 500 N

Actuator	AVM105F100	AVM105F120 AVM105F122	AVM105SF132	AVM115F120 AVM115F122	AVM115SF132
Page	228	228	231	228	231
Actuating power	250 N	250 N	250 N	500 N	500 N
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	120 s	60/120 s

Closes against the pressure	Δp [bar]				
	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
VUE015F350	4.0	4.0	4.0	6.0	6.0
VUE015F340					
VUE015F330					
VUE015F320					
VUE015F310					
VUE015F300	2.8	2.8	2.8	6.0	6.0
VUE020F300					
VUE025F300					
VUE032F300	2.1	2.1	2.1	5.2	5.2
VUE040F300	1.4	1.4	1.4	3.3	3.3
VUE050F300	0.9	0.9	0.9	2.0	2.0
VUE050F200					

Cannot be used to close with the pressure

Combination of VUE with electric actuator with spring return, actuating power

500 N

Actuator	AVF124F130 AVF124F230	AVF125SF132 AVF125SF232
Page	240	243
Actuating power	500 N	500 N
Control signal	3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	60/120 s	60/120 s

Δp [bar]

Closes against the pressure	Δp _{max}	Δp _s	Δp _{max}	Δp _s
VUE015F350 VUE015F340 VUE015F330 VUE015F320 VUE015F310 VUE015F300	6.0	16.0	6.0	16.0
VUE020F300	6.0	11.0	6.0	11.0
VUE025F300	6.0	6.8	6.0	6.8
VUE032F300	5.2	5.2	5.2	5.2
VUE040F300	3.3	3.3	3.3	3.3
VUE050F300 VUE050F200	2.0	2.0	2.0	2.0

Closes with the pressure

VUE015F350 VUE015F340 VUE015F330 VUE015F320 VUE015F310 VUE015F300 VUE020F300	6.0	16.0	6.0	16.0
VUE025F300	5.0	16.0	5.0	16.0
VUE032F300	4.0	16.0	4.0	16.0
VUE040F300	2.5	16.0	2.5	16.0
VUE050F300 VUE050F200	1.5	16.0	1.5	16.0

☀ At temperatures above 100°C, accessories are required


Combination of VUE with electric actuator, actuating power 1000 N

Actuator	AVM321F110 AVM321F112	AVM321SF132
Page	233	235
Actuating power	1000 N	1000 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	48/96 s	32/96 s

Δp [bar]

Closes against the pressure	Δp _{max}	Δp _{max}
VUE015F350 VUE015F340 VUE015F330 VUE015F320 VUE015F310 VUE015F300 VUE020F300 VUE025F300 VUE032F300 VUE040F300	6.0	6.0

Actuator	AVM321F110 AVM321F112	AVM321SF132
Page	233	235
VUE050F300 VUE050F200	4.0	4.0
Closes with the pressure		
VUE015F350 VUE015F340 VUE015F330 VUE015F320 VUE015F310 VUE015F300 VUE020F300	6.0	6.0
VUE025F300	5.0	5.0
VUE032F300	4.0	4.0
VUE040F300	2.5	2.5
VUE050F300 VUE050F200	1.5	1.5

 At temperatures above 100°C, accessories are required

BUE: 3-way flanged valve, PN 16/10 (el.)

Features

- Continuous control of cold and hot water in closed circuits
- Water quality as per VDI 2035
- In combination with valve actuators AVM 105(S), AVM 115(S), AVM 321(S) and AVF 124 and AVF 125(S) as a control unit
- Not suitable for drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B, for PN 16 and PN 10
- Regulating valve, free of silicone grease, painted black
- Equal-percentage characteristic with F300, can be set with SUT valve actuators (SAUTER Universal Technology) to linear or quadratic
- Valve passage A-AB is closed when the spindle is moved out
- Can be used as a control valve or a distribution valve
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plug made of brass with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM

Technical data

Parameters

Connection	PN 16/10
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Valve characteristic, mixing passage	Linear
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate of control passage	< 0.05% of k_{vs} value
Leakage rate, mixing passage	< 1% of k_{vs} value
Valve stroke	8 mm

Ambient conditions¹⁾

Operating temperature ²⁾	-10...150 °C
Operating pressure	PN 16: Up to 120 °C, 16 bar At 150 °C, 14.4 bar PN 10: Up to 120 °C, 10 bar At 150 °C, 9 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

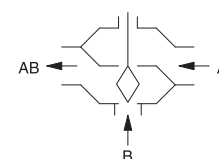
Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)
Pressure Equipment Directive	97/23/EC (fluid group II) No CE label, article 3.3

¹⁾ Air humidity must not exceed 75%

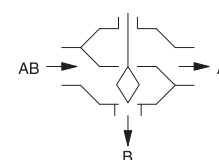
²⁾ At temperatures below 0 °C, use a stuffing box heater. Use adaptor (accessory) at temperatures above 100 °C



BUE032F300



Control valve



Distribution valve



Overview of types

Type	Nominal diameter	k_{vs} value	Weight
BUE015F330	DN 15	1 m ³ /h	3.2 kg
BUE015F320	DN 15	1.6 m ³ /h	3.2 kg
BUE015F310	DN 15	2.5 m ³ /h	3.2 kg
BUE015F300	DN 15	4 m ³ /h	3.2 kg
BUE020F300	DN 20	6.3 m ³ /h	4.1 kg
BUE025F300	DN 25	10 m ³ /h	4.7 kg
BUE032F300	DN 32	16 m ³ /h	7.1 kg
BUE040F300	DN 40	22 m ³ /h	8.4 kg
BUE050F300	DN 50	28 m ³ /h	11.2 kg
BUE050F200	DN 50	40 m ³ /h	11.2 kg

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adaptor required when temperature of the medium is 100...130 °C (recommended for temperatures < 10 °C) DN 15...50
0372249002	Adaptor required when temperature of the medium is >130 up to 150 °C, DN 15...50
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of BUE with electric actuators

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Combination of BUE with electric actuator, actuating power 250 N, 500 N

Actuator	AVM105F100	AVM105F120 AVM105F122	AVM105SF132	AVM115F120 AVM115F122	AVM115SF132
Page	228	228	231	228	231
Actuating power	250 N	250 N	250 N	500 N	500 N
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	120 s	60/120 s

As control valve	Δp [bar]				
	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
BUE015F330	4.0	4.0	4.0	6.0	6.0
BUE015F320					
BUE015F310					
BUE015F300					
BUE020F300	2.8	2.8	2.8	6.0	6.0
BUE025F300					
BUE032F300	2.1	2.1	2.1	5.2	5.2
BUE040F300	1.4	1.4	1.4	3.3	3.3
BUE050F300	0.9	0.9	0.9	2.0	2.0
BUE050F200					

Cannot be used as distribution valve

Combination of BUE with electric actuator with spring return, actuating power 500 N

Actuator	AVF124F130 AVF124F230	AVF125SF132 AVF125SF232
Page	240	243
Actuating power	500 N	500 N
Control signal	3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	60/120 s	60/120 s

Δp [bar]

As control valve	Δp_{max}	Δp_s	Δp_{max}	Δp_s
BUE015F330 BUE015F320 BUE015F310 BUE015F300	6.0	16.0	6.0	16.0
BUE020F300	6.0	11.0	6.0	11.0
BUE025F300	6.0	6.8	6.0	6.8
BUE032F300	5.2	5.2	5.2	5.2
BUE040F300	3.3	3.3	3.3	3.3
BUE050F300 BUE050F200	2.0	2.0	2.0	2.0

As distribution valve

BUE015F330 BUE015F320 BUE015F310 BUE015F300 BUE020F300	6.0	16.0	6.0	16.0
BUE025F300	5.0	16.0	5.0	16.0
BUE032F300	4.0	16.0	4.0	16.0
BUE040F300	2.5	16.0	2.5	16.0
BUE050F300 BUE050F200	1.5	16.0	1.5	16.0

☛ Spring return: 18 ± 10 s

☛ At temperatures above 100°C, accessories are required


Combination of BUE with electric actuator, actuating power 1000 N

Actuator	AVM321F110 AVM321F112	AVM321SF132
Page	233	235
Actuating power	1000 N	1000 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	48/96 s	32/96 s

Δp [bar]

As control valve	Δp_{max}	Δp_{max}
BUE015F330 BUE015F320 BUE015F310 BUE015F300 BUE020F300 BUE025F300 BUE032F300 BUE040F300	6.0	6.0
BUE050F300 BUE050F200	4.0	4.0

Actuator	AVM321F110 AVM321F112	AVM321SF132
Page	233	235
As distribution valve		
BUE015F330		
BUE015F320		
BUE015F310	6.0	6.0
BUE015F300		
BUE020F300		
BUE025F300	5.0	5.0
BUE032F300	4.0	4.0
BUE040F300	2.5	2.5
BUE050F300		
BUE050F200	1.5	1.5

 At temperatures above 100°C, accessories are required



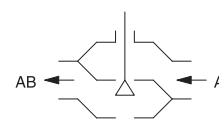
VQD: 2-way flanged valve, PN 6

Features

- Continuous control of cold and hot water in closed circuits
- Water quality as per VDI 2035
- In combination with valve actuators AVM 322(S), AVM 234S and AVF 234S as control unit
- Not suitable for steam, drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, painted black
- Characteristic can be set with SUT (SAUTER Universal Technology) valve actuators to linear, equal-percentage or quadratic
- The valve is closed when the spindle is moved out
- Closing against the pressure
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plugs made of stainless steel with metal-to-metal seal
- Stuffing box made of stainless steel with wiper ring and double O-ring seal made of EPDM



VQD



Technical data

Parameters

Nominal pressure	PN 6
Connection	Flange as per EN 1092-2, form B
Valve characteristic	Equal-percentage
Control ratio of valve	> 30:1
Stuffing box	2 EPDM O-rings
Leakage rate	Class III as per DIN EN 60534-4 (0.001 x k_{vs})
Valve stroke	20 mm (DN 65...80) 40 mm (DN 100)

Ambient conditions¹⁾

Operating temperature ²⁾	-10...150 °C
Operating pressure	Up to 120 °C 6 bar At 150 °C 5.4 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534, (page 3)
Pressure Equipment Directive	97/23/EC (fluid group II) No CE label, article 3.3

Overview of types

Type	Nominal diameter	k_{vs} value	Weight
VQD065F300	DN 65	63 m ³ /h	18.0 kg
VQD080F300	DN 80	100 m ³ /h	25.3 kg
VQD100F300	DN 100	160 m ³ /h	37.1 kg

¹⁾ Air humidity must not exceed 75%

²⁾ At temperatures below 0 °C, use stuffing box heater



Accessories

Type	Description
0372336180	Adapter (required when temperature of the medium is 130...150 °C) from DN 65
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378369101	Complete replacement stuffing box for DN 65...100

Combination of VQD with electric actuators

i *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*

i *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*

i *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Combination of VQD with electric actuator, actuating power 1000 N

Actuator	AVM322F120 AVM322F122	AVM322SF132
Page	233	235
Actuating power	1000 N	1000 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	120/240 s	120/80 s

 Δp [bar]

Closes against the pressure	Δp_{max}	Δp_{max}
VQD065F300	2.5	2.5
VQD080F300	1.5	1.5

Cannot be used to close with the pressure

 *Maximum media temperature: 100 °C*

Combination of VQD with electric actuator, actuating power 2500 N, 2000 N

Actuator	AVM234SF132	AVF234SF132 AVF234SF232
Page	238	245
Actuating power	2500 N	2000 N
Control signal	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA
Running time DN 65, DN 80	40/80/120 s	40/80/120 s
Running time DN 100	80/160/240 s	80/160/240 s

 Δp [bar]

Closes against the pressure	Δp_{max}	Δp_{max}	Δp_s
VQD065F300	3.0	3.0	5.1
VQD080F300	3.0	3.0	3.4
VQD100F300	2.0	2.0	2.2

Cannot be used to close with the pressure

 *Spring return: AVF234SF132 normally closed (NC); AVF234SF232 normally open (NO)*

 *At temperatures above 130 °C, accessories are required*

BQD: 3-way flanged valve, PN 6

Features

- Continuous control of cold and hot water in closed circuits
- Water quality as per VDI 2035
- In combination with valve actuators AVM 322(S), AVM 234S and AVF 234S as control unit
- Not suitable for drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, painted black
- Equal-percentage control passage characteristic, can be set with SUT (SAUTER Universal Technology) valve actuators to linear or quadratic
- Mixing passage, linear characteristic
- The control passage is closed when the spindle is moved out
- Used as control valve or as distribution valve
- Valve body with seat made of grey cast iron
- Stainless-steel spindle
- Plugs made of stainless steel with metal-to-metal seal
- Stuffing box made of stainless steel with wiper ring and double O-ring seal made of EPDM

Technical data

Parameters

Nominal pressure	PN 6
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage	Equal-percentage
Valve characteristic, mixing passage	Linear
Control ratio of valve	> 30:1
Stuffing box	2 EPDM O-rings
Leakage rate	Class III as per DIN EN 60534-4 ($0.001 \times k_{vs}$)
Valve stroke	20 mm (DN 65...80) 40 mm (DN 100)

Ambient conditions¹⁾

Operating temperature ²⁾	-10...150 °C
Operating pressure	Up to 120 °C 6 bar At 150 °C 5.4 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

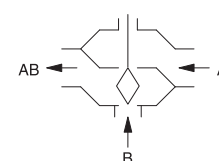
Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534, (page 3)
Pressure Equipment Directive	97/23/EC (fluid group II) No CE label, article 3.3

Overview of types

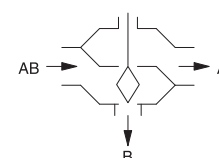
Type	Nominal diameter	k_{vs} value	Weight
BQD065F300	DN 65	63 m ³ /h	14.8 kg
BQD080F300	DN 80	100 m ³ /h	21 kg
BQD100F300	DN 100	160 m ³ /h	31 kg



BQD



Control valve



Distribution valve

¹⁾ Air humidity must not exceed 75%

²⁾ At temperatures below 0 °C, use a stuffing box heater



Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...150 °C) from DN 65
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378369101	Complete replacement stuffing box from DN 65

Combination of BQD with electric actuators

i *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*

i *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*

i *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Combination of BQD with electric actuator, actuating power 1000 N

Actuator	AVM322F120 AVM322F122	AVM322SF132
Page	233	235
Actuating power	1000 N	1000 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	120/240 s	120/80 s

 Δp [bar]

As control valve	Δp_{max}	Δp_{max}
BQD065F300	2.5	2.5
BQD080F300	1.5	1.5

As distribution valve

BQD065F300	2.5	2.5
BQD080F300	1.5	1.5

 *Maximum media temperature: 100 °C*

Combination of BQD with electric actuator, actuating power 2500 N, 2000 N


Actuator	AVM234SF132	AVF234SF132 AVF234SF232
Page	238	245
Actuating power	2500 N	2000 N
Control signal	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA
Running time DN 65, DN 80	40/80/120 s	40/80/120 s
Running time DN 100	80/160/240 s	80/160/240 s

 Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_s
BQD065F300	3.0	3.0	5.1
BQD080F300	3.0	3.0	3.4
BQD100F300	2.0	2.0	2.2

As distribution valve

BQD065F300	1.0	1.0	6.0
BQD080F300	0.75	0.75	6.0
BQD100F300	0.5	0.5	6.0

 *At temperatures above 130 °C, accessories are required*

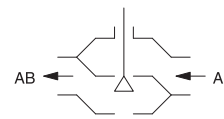
VQE: 2-way flanged valve, PN 16

Features

- Continuous control of cold/hot water and low-pressure steam up to 115 °C in closed circuits
- Water quality as per VDI 2035
- In combination with valve actuators AVM 322(S), AVM 234S and AVF 234S as control unit
- Not suitable for drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, painted black
- Characteristic can be set with SUT (SAUTER Universal Technology) valve actuators to linear, equal-percentage or quadratic
- The valve is closed when the spindle is moved out
- Closing against the pressure
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plugs made of stainless steel with metal-to-metal seal
- Stuffing box made of stainless steel with wiper ring and double O-ring seal made of EPDM



VQE



Technical data

Parameters

Nominal pressure	PN 16
Connection	Flange as per EN 1092-2, form B
Valve characteristic	Equal-percentage
Control ratio of valve	> 30:1
Stuffing box	2 EPDM O-rings
Leakage rate	Class III as per DIN EN 60534-4 (0.001 x k_{vs})
Valve stroke	20 mm (DN 65...80) 40 mm (DN 100...150)

Ambient conditions¹⁾

Operating temperature ²⁾	-10...150 °C
Operating pressure	Up to 120 °C 16 bar At 150 °C 14.4 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)
Pressure Equipment Directive	97/23/EC (fluid group II) With CE label

Overview of types

Type	Nominal diameter	k_{vs} value	Weight
VQE065F300	DN 65	63 m ³ /h	23.8 kg
VQE080F300	DN 80	100 m ³ /h	30.2 kg
VQE100F300	DN 100	160 m ³ /h	41.3 kg
VQE125F300	DN 125	220 m ³ /h	62 kg
VQE150F300	DN 150	320 m ³ /h	89 kg

¹⁾ Air humidity must not exceed 75%

²⁾ At temperatures below 0 °C, use a stuffing box heater. Use adaptor (accessory) at temperatures above 130 °C



Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...150 °C) from DN 65
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378369101	Complete replacement stuffing box from DN 65

Combination of VQE with electric actuators

i *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*

i *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*

i *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Combination of VQE with electric actuators, actuating power 1000 N

Actuator	AVM322F120 AVM322F122	AVM322SF132
Page	233	235
Actuating power	1000 N	1000 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	120/240 s	120/80 s

 Δp [bar]

Closes against the pressure	Δp_{max}	Δp_{max}
VQE065F300	2.5	2.5
VQE080F300	1.5	1.5

Cannot be used to close with the pressure

 *Maximum media temperature: 100 °C*

Combination of VQE with electric actuators, actuating power 2500 N, 2000 N


Actuator	AVM234SF132	AVF234SF132 AVF234SF232
Page	238	245
Actuating power	2500 N	2000 N
Control signal	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA
Running time DN 65, DN 80	40/80/120 s	40/80/120 s
Running time DN 100...150	80/160/240 s	80/160/240 s

 Δp [bar]

Closes against the pressure	Δp_{max}	Δp_{max}	Δp_s
VQE065F300	3.0	3.0	5.1
VQE080F300	3.0	3.0	3.4
VQE100F300	2.0	2.0	2.2
VQE125F300	1.5	1.4	1.4
VQE150F300	1.0	1.0	1.1

Cannot be used to close with the pressure

 *Spring return: AVF234SF132 normally closed (NC); AVF234SF232 normally open (NO)*

 *At temperatures above 130 °C, accessories are required*

BQE: 3-way flanged valve, PN 16

Features

- Continuous control of cold and hot water in closed circuits
- Water quality as per VDI 2035
- In combination with valve actuators AVM 322(S), AVM 234S and AVF 234S as control unit
- Not suitable for drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, painted black
- Equal-percentage control passage characteristic, can be set with SUT (SAUTER Universal Technology) valve actuators to linear or quadratic
- Mixing passage, linear characteristic
- The control passage is closed when the spindle is moved out
- Used as control valve or as distribution valve
- Valve body with seat made of grey cast iron
- Stainless-steel spindle
- Plugs made of stainless steel with metal-to-metal seal
- Stuffing box made of stainless steel with wiper ring and double O-ring seal made of EPDM

Technical data

Parameters

Nominal pressure	PN 16
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage	Equal-percentage
Valve characteristic, mixing passage	Linear
Control ratio of valve	> 30:1
Stuffing box	2 EPDM O-rings
Leakage rate	Class III as per DIN EN 60534-4 ($0.001 \times k_{vs}$)
Valve stroke	20 mm (DN 65...80) 40 mm (DN 100...150)

Ambient conditions¹⁾

Operating temperature ²⁾	-10...150 °C
Operating pressure	Up to 120 °C 16 bar At 150 °C 14.4 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534, (page 3)
Pressure Equipment Directive	97/23/EC (fluid group II) With CE label

Overview of types

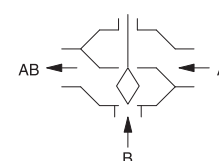
Type	Nominal diameter	k_{vs} value	Weight
BQE065F300	DN 65	63 m ³ /h	19 kg
BQE080F300	DN 80	100 m ³ /h	24 kg
BQE100F300	DN 100	160 m ³ /h	34 kg
BQE125F300	DN 125	220 m ³ /h	52 kg
BQE150F300	DN 150	320 m ³ /h	76 kg

¹⁾ Air humidity must not exceed 75%

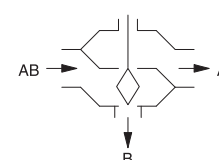
²⁾ At temperatures below 0 °C, use a stuffing box heater. Use adaptor (accessory) at temperatures above 130 °C



BQE



Control valve



Distribution valve



Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...150 °C) from DN 65
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378369101	Complete replacement stuffing box from DN 65

Combination of BQE with electric actuators

i *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*

i *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*

i *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Combination of BQE with electric actuators, actuating power 1000 N

Actuator	AVM322F120 AVM322F122	AVM322SF132
Page	233	235
Actuating power	1000 N	1000 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA
Running time	120/240 s	120/80 s

 Δp [bar]

As control valve	Δp_{max}	Δp_{max}
BQE065F300	2.5	2.5
BQE080F300	1.5	1.5

As distribution valve

BQE065F300	2.5	2.5
BQE080F300	1.5	1.5

 *Maximum media temperature: 100 °C*

Combination of BQE with electric actuators, actuating power 2500 N, 2000 N

Actuator	AVM234SF132	AVF234SF132 AVF234SF232
Page	238	245
Actuating power	2500 N	2000 N
Control signal	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA
Running time DN 65, DN 80	40/80/120 s	40/80/120 s
Running time DN 100...150	80/160/240 s	80/160/240 s

 Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_s
BQE065F300	3.0	3.0	5.1
BQE080F300	3.0	3.0	3.4
BQE100F300	2.0	2.0	2.2
BQE125F300	1.5	1.4	1.4
BQE150F300	1.0	1.0	1.1

As distribution valve

BQE065F300	1.0	1.0	16.0
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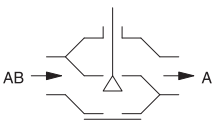
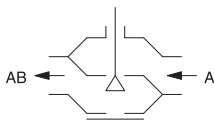
Actuator	AVM234SF132	AVF234SF132 AVF234SF232	
Page	238	245	
BQE080F300	0.75	0.75	16.0
BQE100F300 BQE125F300 BQE150F300	0.5	0.5	16.0

☛ At temperatures above 130 °C, accessories are required





VUG032F304



VUG: 2-way flanged valve, PN 25/16 (el.)

Features

- Continuous control of cold and hot water in closed circuits
- In combination with valve actuators AVM 234S, AVN 224S and AVF 234S as control unit
- Water quality as per VDI 2035
- Valve with flange connection as per EN 1092-2, seal form B
- Nominal pressure 25 bar, except VUG065F316, nominal pressure 16 bar
- Not suitable for drinking water or potentially explosive atmospheres
- Complies with standard for regulating units as per DIN EN 14597¹⁾
- Regulating valve, free of silicone grease, painted black
- Equal-percentage characteristic, can be set with SUT (SAUTER Universal Technology) valve actuators to linear or quadratic
- The valve is closed when the spindle is moved out
- Closes either against or with the pressure
- Valve body of ductile cast iron; seat and spindle of stainless steel
- Plugs of nominal diameter DN 15...50 are made of stainless steel with glass-fibre-reinforced PTFE sealing ring
- Plugs of nominal diameter DN 65...150 are made of stainless steel with metal-to-metal seal
- Maintenance-free stuffing box in brass with spring-loaded PTFE washer

Technical data

Parameters	Equal-percentage
Valve characteristic	Equal-percentage
Control ratio of valve	> 50:1
Leakage rate at max. Δp_s	$\leq 0.05\%$ of k_{vs} value

Admissible ambient conditions

Operating temperature ²⁾	30...200 °C
Operating pressure ³⁾	PN 16: 30 °C, 16 bar At 120 °C, 16 bar At 200 °C, 14 bar PN 25: 30 °C, 18 bar At 120 °C, 25 bar At 200 °C, 21.7 bar

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534
Test marks	TÜV ID: 13556

¹⁾ The VUG065F316 valve does not have TÜV approval. It does not bear the test institute code and is classified under category I of the Directive on Pressure Equipment. These valves can be used with the AVN224SF*** actuator, but not as a safety device. Use stuffing box heater at temperatures below 0 °C; use the relevant adaptor (accessory) at temperatures above 130 °C or 180 °C. Down to -10 °C, as per AD code of practice W 10, use water with anti-freeze and brine solution. For use as per DIN EN 14597. Valve combined with AVN 224S, admissible media temperature > 0 °C.

²⁾ For cold water applications from -20...30 °C, the versions VUG***F3**S with a stuffing box containing silicone (e.g.: VUG015F304S) must be used. The valves VUG***F3**S do not comply with the standard for regulating units as per DIN EN 14597. Use stuffing box heater at temperatures below 0 °C; use the relevant adaptor (accessory) at temperatures above 130 °C or 180 °C. Down to -10 °C, as per AD code of practice W 10, water with anti-freeze and brine solution

³⁾ For operating pressure, see table: Pressure / temperature assignment



Overview of types

Type	Nominal diameter	k_{vs} value	Valve stroke	Connection	Weight
VUG015F374	DN 15	0.16 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F364	DN 15	0.25 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F354	DN 15	0.4 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F344	DN 15	0.63 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F334	DN 15	1 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F324	DN 15	1.6 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F314	DN 15	2.5 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F304	DN 15	4 m ³ /h	20 mm	PN 25/16	4 kg
VUG020F304	DN 20	6.3 m ³ /h	20 mm	PN 25/16	5 kg
VUG025F304	DN 25	10 m ³ /h	20 mm	PN 25/16	5.6 kg
VUG032F304	DN 32	16 m ³ /h	20 mm	PN 25/16	9.1 kg
VUG040F304	DN 40	25 m ³ /h	20 mm	PN 25/16	11.2 kg
VUG050F304	DN 50	40 m ³ /h	20 mm	PN 25/16	13.8 kg
VUG065F316	DN 65	63 m ³ /h	40 mm	PN 16	25 kg
VUG065F304	DN 65	63 m ³ /h	40 mm	PN 25	25 kg
VUG080F304	DN 80	100 m ³ /h	40 mm	PN 25/16	37 kg
VUG100F304	DN 100	160 m ³ /h	40 mm	PN 25	50 kg
VUG125F304	DN 125	250 m ³ /h	40 mm	PN 25	75 kg
VUG150F304	DN 150	340 m ³ /h	40 mm	PN 25	100 kg

Accessories

Type	Description
0372336180	Adapter (required when temperature of the medium is 130...150 °C) from DN 65
0372336240	Adaptor (required when temperature of the medium is 180...240 °C)
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378384001	Torsion protection DN 65...150
0560260001	Stuffing box for VUG/BUG for cold water application with grease containing silicone

Combination of VUG with electric actuators

- i** Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences

Actuator	AVM322F120 AVM322F122	AVM322SF132	AVM234SF132	AVF234SF132 AVF234SF232	AVN224SF132 AVN224SF232
Page	233	235	238	245	248
Actuating power	1000 N	1000 N	2500 N	2000 N	1100 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA
Running time DN 15...50	120/240 s	80/120 s	40/80/120 s	40/80/120 s	40/80/120 s
Running time DN 65...150	-	-	80/160/240 s	80/160/240 s	80/160/240 s

Δp [bar]

Closes against the pressure	Δp [bar]									
	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_{max}	Δp_s	Δp_{max}	Δp_s	
VUG015F374 VUG015F364 VUG015F354 VUG015F344 VUG015F334 VUG015F324 VUG015F314 VUG015F304 VUG020F304	16.0	16.0	16.0	16.0	16.0	16.0	25.0	16.0	25.0	
VUG025F304	15.2	15.2	15.2	15.2	16.0	16.0	25.0	16.0	17.0	
VUG032F304	9.4	9.4	9.4	9.4	16.0	16.0	21.0	10.5	10.5	
VUG040F304	6.1	6.1	6.1	6.1	16.0	13.5	13.5	6.5	6.5	
VUG050F304	4.0	4.0	4.0	4.0	11.0	8.5	8.5	4.0	4.0	
VUG065F316	-	-	-	-	7.1	5.6	5.6	-	-	
VUG065F304	-	-	-	-	7.1	5.6	5.6	3.0	3.0	
VUG080F304	-	-	-	-	4.7	3.4	3.4	2.0	2.0	
VUG100F304	-	-	-	-	3.0	2.2	2.2	1.1	1.1	
VUG125F304	-	-	-	-	2.0	1.6	1.6	0.8	0.8	
VUG150F304	-	-	-	-	1.5	1.2	1.2	0.6	0.6	

Closes with the pressure

VUG015F374 VUG015F364 VUG015F354 VUG015F344 VUG015F334 VUG015F324 VUG015F314 VUG015F304 VUG020F304 VUG025F304 VUG032F304	6.0	6.0	6.0	6.0	6.0	6.0	25.0	6.0	25.0
VUG040F304	5.5	5.5	5.5	5.5	6.0	6.0	25.0	6.0	25.0
VUG050F304	3.5	3.5	3.5	3.5	6.0	6.0	25.0	4.0	25.0
VUG065F316	-	-	-	-	4.5	4.5	25.0	-	-
VUG065F304	-	-	-	-	4.5	4.5	25.0	2.6	25.0
VUG080F304	-	-	-	-	3.5	3.4	25.0	1.7	25.0

Actuator	AVM322F120 AVM322F122		AVM322SF132		AVM234SF132	AVF234SF132 AVF234SF232		AVN224SF132 AVN224SF232	
Page	233		235		238	245		248	
VUG100F304	-	-	-	-	3.0	2.2	25.0	1.1	25.0
VUG125F304	-	-	-	-	2.0	1.6	25.0	0.8	25.0
VUG150F304	-	-	-	-	1.0	1.0	25.0	0.6	25.0

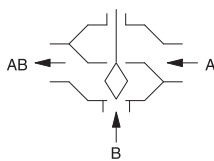
☛ At temperatures above 130 °C, accessories are required

☛ Combination with AVN 224S: with safety function as per DIN EN 14597

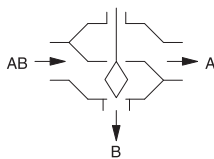




BUG032F304



Control valve



Distribution valve



BUG: 3-way flanged valve, PN 25/16 (el.)

Features

- Valve with flange connection as per EN 1092-2, seal form B
- Nominal pressure 25 bar, except BUG065F316, nominal pressure 16 bar
- Complies with standard for regulating units as per DIN EN 14597 ¹⁾
- Regulating valve, free of silicone grease, painted black
- Equal-percentage characteristic, can be set with SUT valve actuators to linear or quadratic
- The control passage is closed when the spindle is moved out
- Can be used as a control valve or a distribution valve
- Valve body of ductile cast iron
- Stainless-steel seat and spindle
- Plugs of nominal diameter DN 15...50 of stainless steel with glass-fibre-reinforced PTFE sealing ring
- Plugs of nominal diameter DN 65...150 of stainless steel with metal-to-metal seal
- Maintenance-free stuffing box in brass with spring-loaded PTFE washer

Technical data

Parameters

	Control ratio	> 50 : 1
	Valve characteristic, control passage	Equal-percentage
	Valve characteristic, mixing passage	Linear
Leakage rate at max. Δps	Leakage rate of control passage	≤ 0.05% of k_{vs} value
	Leakage rate, mixing passage	≤ 1.0% of k_{vs} value

Ambient conditions

	Operating temperature ²⁾	30...200 °C
	Operating pressure	PN 25: 30 °C, 18 bar At 120 °C, 25 bar At 200 °C, 21.7 bar PN 16: 30 °C, 16 bar Up to 120 °C, 16 bar At 200 °C, 14 bar

Standards and directives

	Pressure and temperature data	EN 764, EN 1333
	Flow parameters	EN 60534
	Test marks	TÜV ID: 0000018388

Overview of types

Type	Nominal diameter	k_{vs} value	Valve stroke	Connection	Weight
BUG015F334	DN 15	1 m ³ /h	20 mm	PN 25/16	3.1 kg
BUG015F324	DN 15	1.6 m ³ /h	20 mm	PN 25/16	3.1 kg
BUG015F314	DN 15	2.5 m ³ /h	20 mm	PN 25/16	3.1 kg

¹⁾ The BUG065F316 valve does not have TÜV approval. It does not bear the test institute code and is classified under category I of the Directive on Pressure Equipment. These valves can be used with the AVN224SF*** actuator, but not as a safety device. Use stuffing box heater at temperatures below 0 °C; use the relevant adaptor (accessory) at temperatures above 130 °C or 180 °C. Down to -10 °C, as per AD code of practice W 10, use water with anti-freeze and brine solution. For use as per DIN/EN 14597. Valve combined with AVN 224S, admissible media temperature > 0 °C.

²⁾ For cold water applications below 30 °C, the versions BUG***F3**S with a stuffing box containing silicone (e.g.: BUG015F304S) should be used. The valves BUG***F3**S do not comply with the standard for regulating units as per DIN EN 14597. Use stuffing box heater at temperatures below 0 °C; use the relevant adaptor (accessory) at temperatures above 130 °C or 180 °C. Down to -10 °C, as per AD code of practice W 10, use water with anti-freeze and brine solution.



Type	Nominal diameter	k_{vs} value	Valve stroke	Connection	Weight
BUG015F304	DN 15	4 m ³ /h	20 mm	PN 25/16	3.1 kg
BUG020F304	DN 20	6.3 m ³ /h	20 mm	PN 25/16	4 kg
BUG025F304	DN 25	10 m ³ /h	20 mm	PN 25/16	4.7 kg
BUG032F304	DN 32	16 m ³ /h	20 mm	PN 25/16	7.2 kg
BUG040F304	DN 40	25 m ³ /h	20 mm	PN 25/16	9.2 kg
BUG050F304	DN 50	40 m ³ /h	20 mm	PN 25/16	11.9 kg
BUG065F316	DN 65	63 m ³ /h	40 mm	PN 16	26.8 kg
BUG065F304	DN 65	63 m ³ /h	40 mm	PN 25	27.1 kg
BUG080F304	DN 80	100 m ³ /h	40 mm	PN 25/16	36.3 kg
BUG100F304	DN 100	160 m ³ /h	40 mm	PN 25	53 kg
BUG125F304	DN 125	250 m ³ /h	40 mm	PN 25	79.1 kg
BUG150F304	DN 150	340 m ³ /h	40 mm	PN 25	108.7 kg

Accessories

Type	Description
0372336180	Adapter (required when temperature of the medium is 130...150 °C) from DN 65
0372336240	Adaptor (required when temperature of the medium is 180...240 °C)
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378384001	Torsion protection DN 65...150
0560260001	Stuffing box for VUG/BUG for cold water application with grease containing silicone

Combination of BUG with electrical actuators

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences

Actuator	AVM322F120 AVM322F122	AVM322SF132	AVM234SF132	AVF234SF132 AVF234SF232	AVN224SF132 AVN224SF232
Page	233	235	238	245	248
Actuating power	1000 N	1000 N	2500 N	2000 N	1100 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA
Running time DN 15...50	120/240 s	80/120 s	40/80/120 s	40/80/120 s	40/80/120 s
Running time DN 65...150	-	-	80/160/240 s	80/160/240 s	80/160/240 s

Δp [bar]

As control valve	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_{max}	Δp_s	Δp_{max}	Δp_s
BUG015F334									
BUG015F324									
BUG015F314	16.0	16.0	16.0	16.0	16.0	16.0	25.0	16.0	25.0
BUG015F304									
BUG020F304									
BUG025F304	15.2	15.2	15.2	15.2	16.0	16.0	25.0	16.0	17.0
BUG032F304	9.4	9.4	9.4	9.4	16.0	16.0	21.0	10.5	10.5
BUG040F304	6.1	6.1	6.1	6.1	16.0	13.5	13.5	6.5	6.5
BUG050F304	4.0	4.0	4.0	4.0	11.0	8.5	8.5	4.0	4.0
BUG065F316	-	-	-	-	7.1	5.6	5.6	-	-

Actuator	AVM322F120 AVM322F122		AVM3225F132		AVM234SF132		AVF234SF132 AVF234SF232		AVN224SF132 AVN224SF232	
Page	233		235		238		245		248	
BUG065F304	-	-	-	-	7.1		5.6	5.6	3.0	3.0
BUG080F304	-	-	-	-	4.7		3.4	3.4	2.0	2.0
BUG100F304	-	-	-	-	3.0		2.2	2.2	1.1	1.1
BUG125F304	-	-	-	-	2.0		1.6	1.6	0.8	0.8
BUG150F304	-	-	-	-	1.5		1.2	1.2	0.6	0.6

As distribution valve

BUG015F334										
BUG015F324										
BUG015F314										
BUG015F304	6.0	6.0	6.0	6.0	6.0	6.0	25.0	6.0	25.0	
BUG020F304										
BUG025F304										
BUG032F304										
BUG040F304	5.5	5.5	5.5	5.5	6.0	6.0	25.0	6.0	25.0	
BUG050F304	3.5	3.5	3.5	3.5	6.0	6.0	25.0	4.0	25.0	
BUG065F316	-	-	-	-	4.5	4.5	25.0	-	-	
BUG065F304	-	-	-	-	4.5	4.5	25.0	2.6	25.0	
BUG080F304	-	-	-	-	3.5	3.4	25.0	1.7	25.0	
BUG100F304	-	-	-	-	3.0	2.2	25.0	1.1	25.0	
BUG125F304	-	-	-	-	2.0	1.6	25.0	0.8	25.0	
BUG150F304	-	-	-	-	1.0	1.0	25.0	0.6	25.0	

⚡ At temperatures above 130 °C, accessories are required

⚡ Combination with AVN 224S: with safety function as per DIN 32730 and DIN EN 14597

VUP: Pressure-relieved 2-way flanged valve, PN 25 (el.)

Features

- Continuous control of cold/warm/hot water and steam in HVAC installations in closed circuits
- In combination with valve actuators AVM 322(S), AVM 234S, AVF 234S and AVN 224S as control unit
- Water quality as per VDI 2035
- Not suitable for drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, with pressure compensation, galvanised and painted black
- Complies with standard for regulating units as per DIN EN 14597¹⁾
- Equal-percentage characteristic, can be set with SUT (SAUTER Universal Technology) valve actuators to linear or quadratic
- The valve is closed when the spindle is moved in
- Valve body of ductile cast iron
- Valve seat, plug and spindle are made of stainless steel
- Closing only against the pressure
- Maintenance-free stuffing box in brass with spring-loaded PTFE-FKM-PTFE washer

Technical data

Parameters

Nominal pressure	25 bar
Connection	PN 25
Valve characteristic	Equal-percentage
Control ratio	> 100:1
Leakage rate at max. Δp_s	< 0.05% of k_{vs} value

Admissible ambient conditions

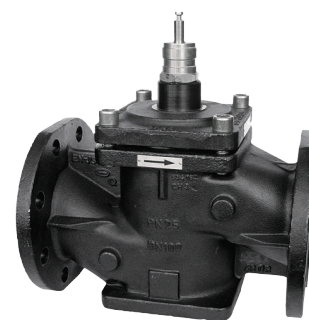
Operating temperature ²⁾	-20...200 °C
Operating pressure	Up to 120 °C, 25 bar up to 200 °C, 20 bar -20...-10 °C, 18 bar

Standards and directives

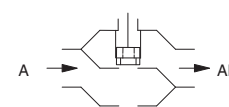
Test marks	TÜV ID: 6973
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Overview of types

Type	Nominal diameter	k_{vs} value	Valve stroke	Weight
VUP040F304	DN 40	25 m ³ /h	14 mm	10 kg
VUP050F304	DN 50	40 m ³ /h	25 mm	14 kg
VUP065F304	DN 65	63 m ³ /h	25 mm	18 kg
VUP080F304	DN 80	100 m ³ /h	25 mm	25.5 kg
VUP100F304	DN 100	160 m ³ /h	40 mm	36.5 kg
VUP125F304	DN 125	250 m ³ /h	40 mm	56.5 kg
VUP150F304	DN 150	350 m ³ /h	40 mm	84.5 kg



VUP040F304



¹⁾ Use stuffing box heater at temperatures below 0 °C; use the relevant adaptor (accessory) at temperatures above 130 °C or 180 °C.

Valve combined with AVN 224S: For use as per DIN EN 14597, the admissible media temperature is > 0 °C.

²⁾ Use stuffing box heater at temperatures below 0 °C; use the relevant adaptor (accessory) at temperatures above 130 °C or 180 °C.

Valve combined with AVN 224S: For use as per DIN EN 14597, the admissible media temperature is > 0 °C.



Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...200 °C)
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378356001	Replacement pack for stuffing box DN 40...80
0378357001	Replacement pack for stuffing box DN 100...150

Combination of VUP with electrical actuators

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Pressure differences

Actuator	AVM322F120 AVM322F122	AVM322SF132	AVM234SF132	AVF234SF132 AVF234SF232	AVN224SF132 AVN224SF232
Page	233	235	238	245	248
Actuating power	1000 N	1000 N	2500 N	2000 N	1100 N
Control signal	2-/3-point	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA
Running time DN 40	84/168 s	56/84 s	28/56/84 s	28/56/84 s	28/56/84 s
Running time DN 50...80	-	-	50/100/150 s	50/100/150 s	50/100/150 s
Running time DN 100...150	-	-	80/160/240 s	80/160/240 s	80/160/240 s

 Δp [bar]

Closes against the pressure	Δp [bar]						
	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_s	Δp_{max}	Δp_s
VUP040F304	25.0	25.0	25.0	25.0	25.0	25.0	25.0
VUP050F304	-	-	25.0	25.0	25.0	20.0	25.0
VUP065F304	-	-	25.0	25.0	25.0	16.0	17.0
VUP080F304	-	-	25.0	25.0	25.0	12.0	15.0
VUP100F304	-	-	25.0	20.0	22.0	9.0	12.0
VUP125F304	-	-	19.0	14.0	20.0	6.0	6.0
VUP150F304	-	-	15.0	10.0	15.0	4.0	4.0

Cannot be used to close with the pressure

 *Combination with AVN 224S: with safety function as per DIN EN 14597*

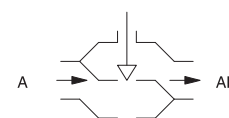
VUS: 2-way flanged valve, PN 40 (el.)

Features

- Continuous control of cold and hot water in closed circuits
- Water quality as per VDI 2035
- Valve with flange connection as per EN 1092-2, seal form B
- Silicone-free regulating valve, matt black
- In combination with valve actuators AVM 234S, AVF 234S and AVN 224S as control unit
- Not suitable for drinking water or potentially explosive atmospheres
- Equal-percentage characteristic, can be set with SUT valve actuators to linear or quadratic
- The valve is closed when the spindle is moved in. Closing only against the pressure
- Valve body of cast steel; spindle, seat and plug of stainless steel
- Maintenance-free stuffing box, made of stainless steel, with spring-loaded PTFE washer up to 220 °C, with graphite seal up to 260 °C



VUS040F305



Technical data

Parameters

Nominal pressure	40 bar
Connection	PN 40
Valve characteristic	Equal-percentage
Control ratio	> 50 : 1
Leakage rate at max. Δp_s	$\leq 0.05\%$ of k_{vs} value

Admissible ambient conditions

Operating temperature ¹⁾	-10...260 °C
Operating pressure	40 bar at -10...50 °C 36.3 bar at 120 °C 29.4 bar at 220 °C 27.8 bar at 260 °C

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534

Overview of types

Type	Nominal diameter	k_{vs} value	Valve stroke	Weight
VUS015F375	DN 15	0.16 m ³ /h	20 mm	5.1 kg
VUS015F365	DN 15	0.25 m ³ /h	20 mm	5.1 kg
VUS015F355	DN 15	0.4 m ³ /h	20 mm	5.1 kg
VUS015F345	DN 15	0.63 m ³ /h	20 mm	5.1 kg
VUS015F335	DN 15	1 m ³ /h	20 mm	5.1 kg
VUS015F325	DN 15	1.6 m ³ /h	20 mm	5.1 kg
VUS015F315	DN 15	2.5 m ³ /h	20 mm	5.1 kg
VUS015F305	DN 15	4 m ³ /h	20 mm	5.1 kg
VUS020F305	DN 20	6.3 m ³ /h	20 mm	5.9 kg
VUS025F305	DN 25	10 m ³ /h	20 mm	6.8 kg
VUS032F305	DN 32	16 m ³ /h	20 mm	8.4 kg
VUS040F305	DN 40	25 m ³ /h	20 mm	10.6 kg
VUS050F305	DN 50	40 m ³ /h	20 mm	13.2 kg
VUS065F305	DN 65	63 m ³ /h	30 mm	18.6 kg
VUS080F305	DN 80	100 m ³ /h	30 mm	25.1 kg
VUS100F305	DN 100	160 m ³ /h	30 mm	36.4 kg

¹⁾ No stuffing box heater required down to -10 °C. Above 130 °C or 180 °C, use the relevant adaptor (accessory). Above 200 °C and up to 260 °C, use stuffing box with graphite seal (accessory)



Type	Nominal diameter	k_{vs} value	Valve stroke	Weight
VUS125F305	DN 125	220 m ³ /h	40 mm	56.4 kg
VUS150F305	DN 150	320 m ³ /h	40 mm	77.9 kg

Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...260 °C)
0378373001	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 15...50
0378373002	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 65...100
0378373003	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 125...150

Combination of VUS with electrical actuators

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences

Actuator	AVM234SF132	AVF234SF132 AVF234SF232	AVN224SF132 AVN224SF232
Page	238	245	248
Actuating power	2500 N	2000 N	1100 N
Control signal	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA
Running time DN 15...50	40/80/120 s	40/80/120 s	40/80/120 s
Running time DN 65...100	60/120/180 s	60/120/180 s	60/120/180 s
Running time DN 125, DN 150	80/160/240 s	80/160/240 s	80/160/240 s

Closes against the pressure	Δp [bar]				
	Δp_{max}	Δp_{max}	Δp_s	Δp_{max}	Δp_s
VUS015F375	40.0	40.0	25.0	24.5	25.0
VUS015F365					
VUS015F355					
VUS015F345					
VUS015F335					
VUS015F325					
VUS015F315					
VUS015F305					
VUS020F305					
VUS025F305	37.8	29.6	25.0	14.7	17.0
VUS032F305	28.7	22.5	21.0	11.1	10.5
VUS040F305	16.4	12.8	13.5	6.2	6.5
VUS050F305	10.5	8.2	8.5	3.9	4.0
VUS065F305	6.1	4.7	5.6	2.1	3.0
VUS080F305	3.9	3.0	3.4	1.3	2.0
VUS100F305	1.5	1.5	2.2	0.8	1.1
VUS125F305	1.0	1.0	1.6	0.4	0.8
VUS150F305	0.7	0.7	1.2	0.2	0.6

Cannot be used to close with the pressure

 At temperatures above 130 °C, accessories are required

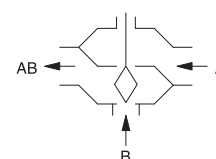
BUS: 3-way flanged valve, PN 40 (el.)

Features

- Continuous control of cold/warm/hot water in HVAC installations in closed circuits
- In combination with valve actuators AVM 234S and AVF 234S as control unit
- Water quality as per VDI 2035
- Not suitable for drinking water or potentially explosive atmospheres
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, matt black
- Control passage, linear characteristic DN 15...100; adjustable with SUT (SAUTER Universal Technology) valve actuators to equal-percentage
- Control passage, equal-percentage characteristic, DN 125...150; adjustable to linear or quadratic with SUT actuators
- Mixing passage, linear characteristic
- The control passage is closed when the spindle is moved out
- For use only as a control valve
- Valve body made of cast steel
- Stainless-steel seat and plug
- Stainless-steel spindle
- Maintenance-free stuffing box, made of stainless steel, with spring-loaded PTFE washer up to 220 °C, with graphite seal up to 260 °C



BUS015F2*5



Technical data

Parameters

	Nominal pressure	40 bar
	Connection	PN 40
	Control ratio	> 30 : 1
	Valve characteristic, mixing passage	Linear
Leakage rate at max. Δp_s	Leakage rate of control passage	$\leq 0.05\%$ of k_{vs} value
	Leakage rate, mixing passage	$\leq 1.0\%$ of k_{vs} value

Ambient conditions

Operating temperature ¹⁾	-10...260 °C
Operating pressure	40 bar at -10...50 °C 36.3 bar at 120 °C 29.4 bar at 220 °C 27.8 bar at 260 °C

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534

Overview of types

Type	Nominal diameter	k_{vs} value	Valve characteristic, control passage	Valve stroke	Weight
BUS015F225	DN 15	1.6 m ³ /h	linear	20 mm	7.2 kg
BUS015F215	DN 15	2.5 m ³ /h	linear	20 mm	7.2 kg
BUS015F205	DN 15	4 m ³ /h	linear	20 mm	7.2 kg
BUS020F205	DN 20	6.3 m ³ /h	linear	20 mm	8.4 kg
BUS025F205	DN 25	10 m ³ /h	linear	20 mm	9.4 kg

¹⁾ No stuffing box heater required down to -10 °C. At temperatures below -10 °C and down to -60 °C, use special version with bellows seal (available on request, only to DN 100). Application: Water with anti-freeze (glycol up to 55% and brine solution), max. operating pressure 30 bar. Above 130 °C or 180 °C, use the relevant adaptor (accessory). Above 220 °C and up to 260 °C, use stuffing box with graphite seal (accessory)



Type	Nominal diameter	k_{vs} value	Valve characteristic, control passage	Valve stroke	Weight
BUS032F205	DN 32	16 m ³ /h	linear	20 mm	12.4 kg
BUS040F205	DN 40	25 m ³ /h	linear	20 mm	15.5 kg
BUS050F205	DN 50	40 m ³ /h	linear	20 mm	19.2 kg
BUS065F205	DN 65	63 m ³ /h	linear	30 mm	27.6 kg
BUS080F205	DN 80	100 m ³ /h	linear	30 mm	36.5 kg
BUS100F205	DN 100	160 m ³ /h	linear	30 mm	61.2 kg
BUS125F305	DN 125	220 m ³ /h	equal-percentage	40 mm	82.5 kg
BUS150F305	DN 150	320 m ³ /h	equal-percentage	40 mm	113.5 kg

Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...260 °C)
0378373001	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 15...50
0378373002	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 65...100
0378373003	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 125...150

Combination of BUS with electrical actuators

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences

Actuator	AVM234SF132	AVN224SF132 AVN224SF232	AVF234SF132 AVF234SF232
Page	238	248	245
Actuating power	2500 N	1100 N	2000 N
Control signal	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA	2-/3-pt., 0...10 V, 4...20 mA
Running time DN 15...50	40/80/120 s	40/80/120 s	40/80/120 s
Running time DN 65...100	60/120/180 s	60/120/180 s	60/120/180 s
Running time DN 125, DN 150	80/160/240 s	80/160/240 s	80/160/240 s

Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_s	Δp_{max}	Δp_s
BUS015F225					
BUS015F215	40.0	24.5	24.5	40.0	40.0
BUS015F205					
BUS020F205	40.0	17.5	17.5	34.7	40.0
BUS025F205	37.8	14.7	14.7	29.6	37.0
BUS032F205	27.0	10.4	10.4	21.1	27.0
BUS040F205	16.4	6.2	6.2	12.8	16.0
BUS050F205	10.5	3.9	3.9	8.2	10.0
BUS065F205	6.1	2.1	2.1	4.7	6.1
BUS080F205	3.9	1.3	1.3	3.0	3.9
BUS100F205	2.5	0.8	0.8	1.9	2.5
BUS125F305	1.7	0.5	0.5	1.3	1.7
BUS150F305	1.2	0.3	0.3	0.9	1.2

Cannot be used as distribution valve

☀ At temperatures above 130 °C, accessories are required



Valve actuators

SAUTER actuators adapt themselves automatically to the valve. Their accurate control provides a high degree of energy efficiency and a low noise level. Furthermore, they can adjust the regulating valves themselves. To save energy, it is possible to include an electric cut-off. SAUTER valve actuators can be used for controllers with a switching or continuous output.

Overview of valve actuators



Type codes	AVM 105, 115	AVM 105S, 115S
Technical data		
Max. nominal stroke (mm)	8	8
Max. pushing force (N)	250, 500	250, 500
Running time s	30, 120	35, 60, 120
Power supply (V)	24/230	24
Control		
2-point	•	•
3-point	•	•
Positioner	–	•
Spring return	–	–
Combination options with valve	VUN/BUN, VUD/BUD, VUE/BUE	VUN/BUN, VUD/BUD, VUE/BUE
Further information	Page 228	Page 230



Type codes	AVM 321, 322	AVM 321S, 322S
Technical data		
Max. nominal stroke (mm)	8, 20	8, 20
Max. pushing force (N)	1000	1000
Running time	6, 12 s/mm	4, 12 s/mm
Power supply (V)	24 (230)	24 (230)
Control		
2-point	•	•
3-point	•	•
Positioner	–	•
Spring return	–	–
Combination options with valve	VUD/BUD/VQD/BQD, VUE/BUE/VQE/BQE, VUG/BUG VUN/BUN, VUS/BUS, VUP, V6R/B6R	VUD/BUD/VQD/BQD, VUE/BUE/VQE/BQE, VUG/BUG, VUN/BUN, VUS/BUS, VUP, V6R/B6R
Further information	Page 232	Page 234



Type codes	AVM 234S	AVF 234S	AVN 224S
Technical data			
Max. nominal stroke (mm)	40	40	40
Max. pushing force (N)	2500	2000	1100
Running time	2, 4, 6, s/mm	2, 4, 6 s/mm	2, 4, 6 s/mm
Power supply (V)	24 (230)	24 (230)	24 (230)
Control			
2-point	•	•	•
3-point	•	•	•
Positioner	•	•	•
Spring return	–	•	•
Combination options with valve	VQD/BQD, VQE/BQE, VUG/BUG, VUS/BUS, VUP, V6R/B6R	VQD/BQD, VQE/BQE, VUG/BUG, VUS/BUS, VUP, V6R/B6R	VQE/BQE, VUG/BUG, VUS/BUS, VUP, V6R/B6R
Further information	Page 237	Page 244	Page 247



AVM1*5F***



AVM 105, 115: Actuator

Features

- Activation of 2-way and 3-way valves of the VUN/BUN, VUD/BUD and VUE/BUE series. For controllers with a switching (2-/3-point) output.
- Synchronous motor with electronic control unit and time-dependent cut-off
- Maintenance-free gear unit
- Gear unit can be disengaged in order to position the valve by hand (hexagon key provided)
- Connection with valve spindle created automatically
- Cap nut for valve fitting made of brass
- Fitting vertically upright to horizontal, not suspended

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 230 V~	±15%, 50...60 Hz

Parameters

Actuator stroke ¹⁾	0...8 mm
Response time	200 ms

Ambient conditions

Admissible ambient temperature	-10...55 °C
Temperature of medium	Max. 100 °C
Admissible ambient humidity	5...95% rh, no condensation

Function

Control	2-/3-point
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Construction

Weight	0.7 kg
Housing	Lower section black, upper section yellow
Housing material	Fire-retardant plastic
Power cable	1.2 m long, 3 × 0.75 mm ²

Standards and directives

Type of protection	IP 54 (EN 60529)
Protection class 24 V	III (IEC 60730)
Protection class 230 V	II (EN 60730)
CE conformity as per EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
Low-voltage directive 2006/95/EC	EN 60730-1 EN 60730-2-14 Over-voltage category III Degree of contamination II
Directive 2006/95/EC	EEC (II B)

Overview of types

Type	Running time (s)	Actuating power (N)	Voltage	Power consumption
AVM105F100	30	250	230 V~	2.4 W, 4.5 VA
AVM105F120	120	250	230 V~	2.0 W, 4.0 VA
AVM105F122	120	250	24 V~	1.6 W, 1.7 VA
AVM115F120	120	500	230 V~	2.0 W, 4.0 VA

¹⁾ Stroke 10 mm for AVM115F901



Type	Running time (s)	Actuating power (N)	Voltage	Power consumption
AVM115F122	120	500	24 V~	1.6 W, 1.7 VA
AVM115F901	160	500	230 V~	2.0 W, 4.0 VA

💡 AVM115F901: For SAUTER Valveco VCL040 and VCL050, inverse scale, inverse connection

💡 KTM 512, TA-Regulator DN 15...50

Accessories

Type	Description
0372145001	Auxiliary change-over contacts, single
0372145002	Auxiliary change-over contacts, double
0372249001	Adaptor required when media temperature > 100 °C (recommended for temperatures < 10 °C)
0372273001	Adapter for Siemens valve VVG/VXG 44, 48
0372286001	Potentiometer, 130 Ω
0372286002	Potentiometer, 1000 Ω
0372286003	Potentiometer, 5000 Ω
0372320001	Hexagon key as visualisation for position indicator
0372459100	External switching, 230 V version for parallel operation with A*M 1*4 or actuators with end switch, incl. junction box
0372459102	External switching, 24 V version for parallel operation with A*M 1*4 or actuators with end switch, incl. junction box

💡 Auxiliary change-over contacts: Infinitely variable 0...100°, admissible load 5(2) A, 24...230 V

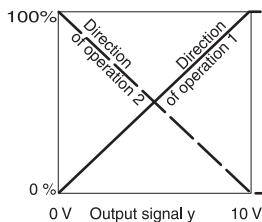
💡 Potentiometers: Only one potentiometer or one set of auxiliary contacts can be fitted for each actuator



AVM 105S, 115S: Valve actuator with SAUTER Universal Technology (SUT)



AVM1*5SF***



Features

- Activation of 2-way and 3-way valves of the VUN/BUN, VUD/BUD and VUE/BUE series. For controllers with switching (2- and 3-point) and continuous (0...10 V) output.
- Stepping motor with SAUTER Universal Technology (SUT) electronic control unit and electronic, force-dependent cut-off
- Automatic recognition of applied control signal (constant or switched)
- Coding switches for selecting characteristic and running time
- Type of characteristic (linear/equal-percentage) can be set on the actuator
- Automatic adaptation to valve stroke
- Direction of operation can be selected on the cable
- Maintenance-free gearbox with magnetic coupling
- Gear unit can be disengaged in order to position the valve by hand (hexagon key provided)
- Connection with valve spindle established automatically after control voltage is applied
- Brass cap nut for fitting the valve
- Fitting vertically upright to horizontal, not suspended

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24 V=	-10%...20%

Parameters

Positioner	Actuator stroke ¹⁾	0...8 mm
	Response time	200 ms
	Control signal	0...10 V; $R_i > 100 \text{ k}\Omega$
	Positional feedback signal	0...10 V; load $> 10 \text{ k}\Omega$
	Starting point U_0	0 or 10 V
	Control span ΔU	10 V
	Switching range X_{sh}	200 mV

Ambient conditions

Admissible ambient temperature	-10...55 °C
Admissible ambient humidity	5...95% rh, no condensation
Temperature of medium	Max. 100 °C

Construction

Weight	0.7 kg
Housing	Lower section black, upper section yellow
Housing material	Fire-retardant plastic
Power cable	1.2 m, 5 × 0.5 mm ²

Standards and directives

CE conformity	Type of protection	IP 54 (EN 60529) horizontal
	Protection class	III (IEC 60730)
	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3, EN 61000-6-4

¹⁾ Stroke 10 mm for AVM115SF901



Overview of types

Type	Running time	Actuating power (N)	Voltage	Power consumption
AVM105SF132	35/60/120 s	250	24 V~/=	4.8 W, 8.5 VA
AVM115SF132	60/120 s	500	24 V~/=	4.9 W, 8.7 VA
AVM115SF901	80/160 s	500	24 V~	4.9 W, 8.7 VA

- ☛ AVM105SF132, AVM115SF132: Equal-percentage characteristic, can be converted to linear
- ☛ AVM115SF901: For SAUTER Valveco VCL040 and VCL050, inverse scale, inverse connection

Accessories

Type	Description
0313529001	Split-range unit for adjusting sequences, fitted in separate junction box
0372145001	Auxiliary change-over contacts, single
0372145002	Auxiliary change-over contacts, double
0372249001	Adaptor required when media temperature > 100 °C (recommended for temperatures < 10 °C)
0372273001	Adapter for Siemens valve VVG/VXG 44, 48
0372286001	Potentiometer, 130 Ω
0372286002	Potentiometer, 1000 Ω
0372286003	Potentiometer, 5000 Ω
0372462001	CASE Drives: PC tool for configuring the drives by computer

- ☛ Auxiliary change-over contacts: Infinitely variable 0...100°, admissible load 5(2) A, 24...230 V
- ☛ Potentiometers: Only one potentiometer or one set of auxiliary contacts can be fitted for each actuator





AVM32*

AVM 321, 322: Valve actuator

Features

- In ventilation air conditioning units¹⁾ For actuating 2-way and 3-way valves of the V6R, VUD, VUE, VUG, VUN, VUP, VUS, B6R, BUD, BUE, BUG, BUN, BUS series
- For controllers with a switching output (2-point or 3-point control)
- Synchronous motor with electronic control unit and load-dependent cut-off
- Direction of operation and positioning time can be set using coding switches
- Crank handle for external manual adjustment with motor cut-off
- Very low operating noise
- Simple assembly with valve; spindle is automatically connected after nominal voltage is applied
- Numerous adaptors enable the unit to be fitted onto non-SAUTER valves
- Electrical parallel operation of five actuators
- Three-piece housing of flame-retardant yellow/black plastic and seals with degree of protection IP54
- Maintenance-free gear unit made of plastic, threaded spindle and gearbox base-plates made of steel
- Patented drive-valve coupling
- Mounting column made of aluminium
- Fixing bracket made of cast light alloy for valve fitting with 20 mm stroke and made of plastic for valve fitting with 8 mm stroke
- Electrical connections (max. 1.5 mm²) with screw terminals
- Two break-out cable inlets for metric cable gland made of plastic M20 × 1.5
- Fitting position vertically upright to horizontal, not hanging

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24 V=	-10...20 °C
Power supply 230 V~	±15%

Parameters

Nominal force ²⁾	1000 N
Operating noise ³⁾	< 30 dB (A) at nominal force
Response time	> 200 ms
Temperature of medium ⁴⁾	0...100 °C max.

Ambient conditions

Operating temperature	-10...55 °C
Storage and transport temperature	-40...80 °C
Humidity without condensation	5...85% rh

Standards and directives

	Type of protection	IP 54 (EN 60529)
	Protection class	II (EN 60730), III (EN 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14 (AVM32*F110 and F120)
	Over-voltage categories	III

¹⁾ To be used outside HVAC applications only after consultation with the manufacturer

²⁾ Actuating power 1000 N under nominal conditions (24 V or 230 V, 25 °C ambient temperature, 50 Hz). With boundary conditions (19.2 V~ / 28.8 V~ / 21.6 V= / 28.8 V=, -10 °C / 55 °C, 60 Hz) and positioning time, the actuating/tensile force is minimised to 800 N

³⁾ Operating noise with the slowest positioning time, measuring distance 1 m

⁴⁾ At media temperature > 100 °C, appropriate accessory must be used (temperature adaptor). At media temperature < 0 °C, appropriate accessory must be used (stuffing box heater).

Degree of contamination	II
Max. altitude	2000 m
Machine directive 2006/42/EC	EN 12100 (according to appendix IIB)

Overview of types

Type	Nominal voltage	Power consumption	Positioning time (s/mm)	Nominal stroke	Dimensions W x H x D	Weight
AVM322F120	230 V~	< 2.4 W, < 4.0 VA	6 (12)	20 mm	160 × 241 × 88	1.6 kg
AVM322F122	24 V~/=	< 2.0 W, < 3.0 VA	6 (12)	20 mm	160 × 241 × 88	1.6 kg
AVM321F110	230 V~	< 2.4 W, < 4.0 VA	12 (6)	8 mm	160 × 187 × 88	1.5 kg
AVM321F112	24 V~/=	< 2.0 W, < 3.0 VA	12 (6)	8 mm	160 × 187 × 88	1.5 kg

☛ AVM32*F1*2: CSA-certified actuators on request (only for devices with supply voltage 24 V~/=)

☛ Power consumption: at nominal voltage, with movement. For more power consumption data, see table "Power consumption for supply voltage".

Accessories

Type	Description
0372336180	Temperature adaptor for media temperature > 100...150 °C
0372336240	Temperature adaptor for media temperature > 130...200 °C
0510600001	Cable module, 1.2 m, 3-wire, PVC
0510600002	Cable module, 1.2 m, 3-wire, halogen-free
0510600003	Cable module, 1.2 m, 6-wire, PVC
0510600004	Cable module, 1.2 m, 6-wire, halogen-free
0510600005	Cable module, 5 m, 3-wire, PVC
0510600006	Cable module, 5 m, 3-wire, halogen-free
0510600007	Cable module, 5 m, 6-wire, PVC
0510600008	Cable module, 5 m, 6-wire, halogen-free
0510240012	Mounting set V6... / B6... up to 20 mm stroke
0510390006	Adaptations for non-SAUTER valves (Siemens) with stroke up to 20 mm and spindle diameter of 10 mm
0510390007	Adaptations for non-SAUTER valves, JCI: VBD-4xx4 DN 15...40, VBD-4xx8 DN 15...40, VBF-2xx4, VBF-2xx8, VBB-2xxx, VG82xx VG84xx, VG88xx VG89xx
0510390008	Adaptations for non-SAUTER valves, Honeywell: V5025A DN 15...80, V5049A or B DN 15...65, V5050A DN 15...80, V5095A DN 15...80, V5328A DN 15...80, V5329A DN 15...80
0510390009	Adaptations for non-SAUTER valves, LDM: RV1 13 R/M, DN15-80
0510390010	Adaptations for ITT, Dräger: PSVF DN 15...32, PSVD DN 15...32, SVF DN 15...32, SVD DN 15...32
0510390012	Adaptation for non-SAUTER valves, Belimo: H6..R DN15...65, H7..R DN 15...65, H4..R DN 15...50, H5..B DN 15...50, H6..N DN 15...65, H7..N DN 15...65



AVM32*S

AVM 321S, 322S:

Features

- In ventilation air conditioning units¹⁾ For actuating 2-way and 3-way valves of the V6R, VUD, VUE, VUG, VUN, VUP, VUS, B6R, BUD, BUE, BUG, BUN, BUS series
- For controllers with constant output (0...10 V / 4...20 mA) or switching output (2-point or 3-point control)
- BLDC motor (brushless DC) with SUT (SAUTER Universal Technology) electronic control unit of the third generation and electronic load-dependent cut-off
- Automatic recognition of applied control signal (continuous or switched), operating display with bi-coloured LED
- Automatic adaptation to the stroke of the valve, between 8 and 20 mm
- Very low operating noise
- With the built-in absolute distance measurement system, the position is always maintained in the case of power failure
- The direction of operation, characteristic (linear / equal percentage), positioning time and control signal (voltage / current) can be adjusted via coding switches
- Integrated forced operation can be set via coding switches (with selectable direction of operation)
- Easy re-initialisation using a coding switch
- Crank handle for external manual adjustment with motor cut-off
- Simple assembly with valve; spindle is automatically connected after control voltage is applied
- Numerous adaptors enable the unit to be fitted onto non-SAUTER valves
- Electrical parallel operation of five actuators
- Parameterisation option via the BUS interface
- Three-piece housing of flame-retardant yellow/black plastic and seals with degree of protection IP54
- Maintenance-free gear unit made of plastic, threaded spindle and gearbox base-plates made of steel
- Patented drive-valve coupling
- Mounting column made of aluminium
- Fixing bracket made of cast light alloy for valve fitting with 20 mm stroke and made of plastic for valve fitting with 8 mm stroke
- Electrical connections (max. 1.5 mm²) with screw terminals
- Two break-out cable inlets for metric cable glands made of plastic M20 × 1.5
- Fitting position vertically upright to horizontal, not hanging
- Nominal thrust 1000 N²⁾

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24 V=	-10...20 °C
Power supply 230 V~	±15%
Power consumption	< 1.7 W, < 3.5 VA (at nominal voltage, with movement)

Parameters

Nominal force ³⁾	1000 N
Operating noise ⁴⁾	< 30 dB (A) at nominal force
Response time	> 200 ms

¹⁾ To be used outside HVAC applications only after consultation with the manufacturer

²⁾ CSA-certified actuators on request

³⁾ Actuating power 1000 N under nominal conditions (24 V, 25 °C ambient temperature, 50 Hz). Actuating power 1000 N under nominal conditions (24 V, 25 °C ambient temperature, 50 Hz).

⁴⁾ Noise level with the slowest positioning time, measuring distance 1 m

Temperature of medium ⁵⁾	0...100 °C
Nominal voltage	24 V~/=
Characteristic	Linear/equal percentage
Control signal y ⁶⁾	0...10 V, R _i ≥ 50 kΩ 4...20 mA, R _i ≤ 50 Ω
Positional feedback y ₀	0...10 V, load ≥ 5kΩ
Starting point U ₀	0 or 10 V
Starting point I ₀	4 or 20 mA
Control span ΔU	10 V
Control span ΔI	16 mA
Hysteresis X _{sh}	160 mV 0.22 mA

Ambient conditions

Operating temperature	-10...55 °C
Storage and transport temperature	-40...80 °C
Humidity without condensation	5...85 % rh

Standards and directives

	Type of protection	IP 54 (EN 60529)
	Protection class	III (EN 60730-1), EN 60730-2-14
CE conformity as per	EMC directive 2004/108/EC	EN 610000-6-1, EN 610000-6-, EN 610000-6-3, EN 610000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14 (AVM32*F110 and F120)
	Over-voltage categories	III
	Degree of contamination	II
	Max. altitude	2000 m
	Machine directive 2006/42/EC	EN 12100 (according to appendix IIB)

Overview of types

Type	Nominal voltage	Positioning time (s/mm)	Nominal stroke	Dimensions W x H x D	Weight
AVM321SF132	24 V~/=	12 (4)	8 mm	160 × 187 × 88	1.5
AVM322SF132	24 V~/=	6 (4)	20 mm	160 × 241 × 88	1.6

Accessories

Type	Description
0372336180	Temperature adaptor for media temperature > 100...150 °C
0372336240	Temperature adaptor for media temperature > 130...200 °C
0510220001	CASE Drives configuration tool
0500420001	Split-range unit module
0500420002	4...20 mA feedback module
0510600001	Cable module, 1.2 m, 3-wire, PVC
0510600002	Cable module, 1.2 m, 3-wire, halogen-free
0510600003	Cable module, 1.2 m, 6-wire, PVC
0510600004	Cable module, 1.2 m, 6-wire, halogen-free
0510600005	Cable module, 5 m, 3-wire, PVC
0510600006	Cable module, 5 m, 3-wire, halogen-free
0510600007	Cable module, 5 m, 6-wire, PVC
0510600008	Cable module, 5 m, 6-wire, halogen-free
0510240012	Mounting set V6... / B6... up to 20 mm stroke
0510390006	Adaptations for non-SAUTER valves (Siemens) with stroke up to 20 mm and spindle diameter of 10 mm

⁵⁾ At media temperature > 100 °C, appropriate accessory must be used (temperature adaptor). At media temperature < 0 °C, appropriate accessory must be used (stuffing box heater).

⁶⁾ Positioner: also for 2- or 3-point, depending on type of connection

Type	Description
0510390007	Adaptations for non-SAUTER valves, JCI: VBD-4xx4 DN 15...40, VBD-4xx8 DN 15...40, VBF-2xx4, VBF2xx8, VBB-2xxx, VG82xx VG84xx, VG88xx VG89xx
0510390008	Adaptations for non-SAUTER valves, Honeywell: V5025A DN 15...80, V5049A or B DN 15...65, V5050A DN 15...80, V5095A DN 15...80, V5328A DN 15...80, V5329A DN 15...80
0510390009	Adaptations for non-SAUTER valves, LDM: RV1 13 R/M, DN15-80
0510390010	Adaptations for ITT, Dräger: PSVF DN 15...32, PSVD DN 15...32, SVF DN 15...32, SVD DN 15...32
0510390012	Adaptation for non-SAUTER valves, Belimo: H6..R DN15...65, H7..R DN 15...65, H4..R DN 15...50, H5..B DN 15...50, H6..N DN 15...65, H7..N DN 15...65
0500570003	230 V power supply unit for SUT



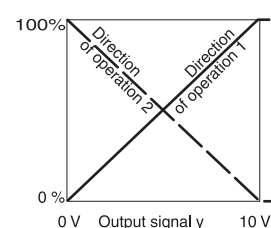
AVM 234S: Valve actuator with SUT positioner

Features

- Operation of 2-way or 3-way valves of type series VUD/BUD, VQD/BQD and VUE/BUE, VQE/BQE DN65...150, as well as V/BUG, V/BUS, VUP and V/B6R DN 15...150
- For controllers with constant output (0...10 V or 4...20 mA) or switching output (2-point or 3-point control)
- Stepping motor with SAUTER Universal Technology (SUT) electronic control unit and electronic, force-dependent cut-off
- Simple assembly with valve; spindle is automatically connected after control voltage is applied (patented system)
- Automatic detection of applied control signal (constant or switched); indicated by two LEDs
- Coding switches for selecting characteristic and running time
- Type of characteristic (linear/quadratic/equal-percentage) can be set on the actuator
- Automatic adaptation to the stroke of the valve (min. valve stroke 8 mm, max. valve stroke 49 mm). The measured stroke is saved and is not lost even in the event of a power failure
- Direction of operation can be selected via screw terminals when making the electrical connection
- Crank handle for external manual adjustment with motor cut-off and as trigger for a re-initialisation
- Numerous adaptors enable the unit to be fitted onto non-SAUTER valves
- Power supply 230 V with module or direct connection for 24 V~ / 24 V=; continuous activation also admissible with 230 V
- Maintenance-free gear unit made of sintered steel; gearbox base-plate made of steel
- Mounting column made of stainless steel; mounting bracket made of cast light alloy for fitting the valve
- Electrical connections (max. 2.5 mm²) with screw terminals
- Three break-out cable inlets for M20 × 1.5 (2×) and M16 × 1.5
- Fitting vertically upright to horizontal, not suspended



AVM234SF132



Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24 V=	±15%
Power supply 230 V~	±15% (with accessories)
Power consumption ¹⁾	10 W/18 VA

Parameters

Running time	2/4/6 s/mm
Actuating power	2500 N
Actuator stroke	0...49 mm
Response time for 3-point	200 ms

Positioner

Control signal 1	0...10 V, R _i > 100 kΩ
Control signal 2	4...20 mA, R _i = 50 Ω
Positional feedback signal	0...10 V; load > 2.5 kΩ
Starting point U ₀	0 or 10 V
Control span ΔU	10 V
Switching range X _{sh}	300 mV

Ambient conditions

Admissible ambient temperature	-10...55 °C
Admissible ambient humidity	< 95% rh, no condensation
Temperature of medium ²⁾	Max. 130 °C (180 °C or 240 °C with accessories)

Construction

Weight	4.1 kg
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¹⁾ Choose transformers for this value, otherwise malfunctions may occur

²⁾ For higher temperatures of the medium (180 °C or 240 °C), use an adaptor (see accessories)



Housing	Two-part, yellow
Housing material	Fire-retardant plastic

Standards and directives

Type of protection	IP 66 (EN60529)
Protection class	III (IEC 60730)
EMC directive 2004/108/EC ³⁾	EN 61000-6-2, EN 61000-6-4
Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14
Over-voltage categories	III
Degree of contamination	III

Overview of types

i Actuator for valves: VQD/BQD, VQE/BQE, VUG/BUG, VUP, VUS/BUS

i Actuator with assembly kit (see accessories) for valves: V6R, B6R

Type	Properties
AVM234SF132	Valve actuator with SUT positioner
AVM234SF132-5	Valve actuator, positioner 24V~ for DN 15...50, V6*/B6*
AVM234SF132-6	Valve actuator, positioner 24V~ for DN 65...150, V6*/B6*

Accessories

Type	Description
0313529001	Split-range unit for adjusting sequences, fitted in separate junction box

Modules can be added for 2-point/3-point and continuous activation; additional power 2 VA

Type	Description
0372332001	230 V ±15%, supply voltage
0372332002	100 V ±15%, supply voltage

Auxiliary change-over contacts (2 each) 12...250 V~

Type	Description
0372333001	Infinitely variable, min. 100 mA and 12 V permissible load 6(2) A
0372333002	Gold-plated contacts, from 1 mA, to max. 30 V, wider range 3(1) A
0372334001	Potentiometer, 2000 Ω, 1 W; 24 V
0372334002	Potentiometer, 130 Ω, 1 W; 24 V
0372334006	Potentiometer, 1000 Ω, 1 W; 24 V
0372336180	Adapter (required when temperature of the medium is 130...150 °C) from DN 65
0372336240	Adaptor (required when temperature of the medium is 180...240 °C)

Assembly kit for AVM234SF132 on SAUTER valves (no adaptor needed for 0372338 002)

Type	Description
0372338001	V/B6 to DN 50, V/BXD, V/BXE, to DN 50, stroke 14 mm
0372338002	V/B6 DN 65...150, V/BXD, V/BXE from DN 65, stroke 40 mm
0372338003	Conversion kit from AV*2*4SF132-5 to standard drive AV*2*4SF132
0372338004	Conversion kit from AV*2*4SF132-6 to standard drive AV*2*4SF132

Adapter set for non-SAUTER valves

Type	Description
0372376010	Siemens with 20 mm stroke or Ø 10 mm spindle
0372376014	Siemens with 40 mm stroke or Ø 14 mm spindle
0372377001	Johnson Controls DN 15...150, 14, 25, 40 mm stroke, Ø 10, 12, 14 mm spindle
0372378001	Honeywell with 20 mm stroke
0372378002	Honeywell with 38 mm stroke
0372386001	LDM type RY113 R/M
0372389001	ITT-Dräger, DN 15...32
0372389002	ITT-Dräger, DN 40...50
0378263001	End stop (needed for V/BXD, V/BXE DN 15...50, V/B6 DN 15 with kvs ≤ 1 m3/h)
0386263001	Cable screw fitting M16 × 1,5

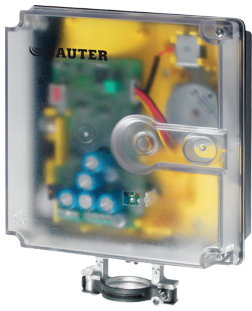
³⁾ EN 61000-6-2: (HF immunity, limitation of feedback signal between 80 MHz and 1000 MHz criterion B, otherwise criterion A)

Type	Description
0386263002	Cable screw fitting M20 × 1.5
0372461001	Forced operation for AV×2×4S

💡 *Adaptor: Not needed for version AV*2*4SF132-6*

💡 *Potentiometer 130 Ω: This potentiometer must only be used as a voltage divider.*





AVF124F130



AVF124F130



AVF124F230

AVF 124: Actuator with spring return

Features

- Activation of through and 3-way valves of the VUN/BUN, VUD/BUD and VUE/BUE series, DN 15 to DN 50. For controllers with a switching output (3-point control)
- Spring return facility moves the unit to the end position in the event of a power failure or when a limit controller is activated
- Stepping motor with electronic control unit and electronic, force-dependent cut-off
- Maintenance-free gear unit
- LED display/indicators
- Coding switch for changing the running time
- Electrical connections (max. 1.5 mm²) with screw terminals
- Cable inlet M20 × 1.5
- Fitting vertically upright to horizontal, not suspended

Technical data

Power supply

Power supply	230 V~, ±15%, 50...60 Hz
Power consumption	4 W, 7.6 VA

Parameters

Running time of motor	60/120 s
Running time of spring	18 s ±10
Actuating power	500 N
Actuator stroke	0...8 mm
Response time	200 ms

Ambient conditions

Admissible ambient temperature	5...60 °C
Temperature of medium	Max. 100 °C
Admissible ambient humidity	< 95% rh, no condensation

Construction

Weight	2.4 kg
Housing	Lower section black, cover transparent
Housing material	Fire-retardant plastic
Materials for gearbox and fitting bracket	Pressure-cast zinc

Standards and directives

Type of protection ¹⁾	IP 54 (EN 60529)
Protection class	II (IEC 60730)
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14
Over-voltage categories	III
Degree of contamination	3
Software	A (EN 60730)
Mode of operation	Type 1 AA (200ms, EN 60730)

Overview of types

Type	Reset function
AVF124F130	Actuator spindle retracted
AVF124F230	Actuator spindle extended

⚡ AVF124F130: Valve normally closed (NC) with: VUD, BUD, VUE, BUE, VUN, BUN

¹⁾ Degree of protection IP 54 only with cable gland



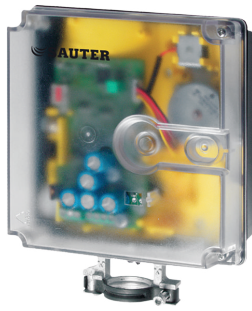
☛ AVF124F230: Valve normally open (NO) with: VUD, BUD, VUE, BUE, VUN, BUN

Accessories

Type	Description
0370881001	Auxiliary change-over contacts, single
0370882001	Auxiliary change-over contacts, single, combined with pot. 2000 Ω , 1 W; 24 V
0370882006	Auxiliary change-over contacts, single, combined with pot. 1000 Ω auxiliary change-over contacts, 1 W; 24 V
0370883001	Potentiometer, 2000 Ω , 1 W; 24 V
0370883006	Potentiometer, 1000 Ω , 1 W; 24 V
0372249001	Adaptor required when media temperature > 100 °C (recommended for temperatures < 10 °C)
0372460001	Cable screw fitting (plastic M20 \times 1,5) incl. locking nut and seal

☛ Auxiliary change-over contacts: Infinitely variable, admissible load 2(1) A, 12...250 V~, min. load 250 mA, 12 V~





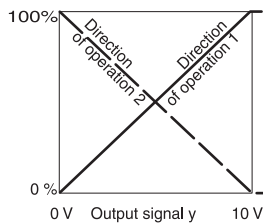
AVF125SF132



AVF125SF132



AVF125SF232



AVF 125S: SUT valve actuator with spring return

Features

- Activation of 2-way and 3-way valves of the VUN/BUN and VUE/BUE series. For controllers with switching (2- and 3-point) and continuous output (0...10 V, 4...20 mA)
- Spring return moves the unit to the end position in the event of a power failure or when a limit controller is activated
- Stepping motor with SAUTER Universal Technology (SUT) electronic control unit and electronic, force-dependent cut-off
- Automatic recognition of applied control signal (constant or switched)
- Coding switches for selecting characteristic and running time
- Type of characteristic (linear/quadratic/equal-percentage) can be set on the actuator
- Automatic adaptation to valve stroke
- Direction of operation can be selected via screw terminals when making the electrical connection
- Maintenance-free gear unit
- LED display
- Electrical connections (max. 1.5 mm²) with screw terminals
- Cable inlet M20 × 1.5
- Fitting vertically upright to horizontal, not suspended

Technical data

Power supply

Power supply	24 V~, ±20%, 50...60 Hz
Power consumption	5 W, 8.4 VA
Power consumption on starting ¹⁾	30 VA (max. 1 s)

Parameters

Running time of motor	60/120 s
Running time of spring	18 s ±10
Actuating power	500 N
Actuator stroke	0...8 mm
Positioner	
Control signal 1	0...10 V, R _i = 100 kΩ
Control signal 2	4...20 mA, R _i = 50 Ω
Positional feedback signal	0...10 V; load > 2.5 kΩ
Starting point U ₀	0 or 10 V
Control span ΔU	10 V
Switching range X _{sh}	200 mV

Ambient conditions

Admissible ambient temperature	-10...55 °C
Admissible ambient humidity	< 95% rh, no condensation
Temperature of medium	Max. 100 °C

Construction

Weight	2.4 kg
Housing	Lower section black, cover transparent
Housing material	Fire-retardant plastic
Materials for gearbox and fitting bracket	Pressure-cast zinc

Standards and directives

Type of protection ²⁾	IP 54 (EN 60529)
Protection class	III (IEC 60730)

¹⁾ Only in the event of a restart or after a spring return

²⁾ Degree of protection IP 54 only with M20 cable gland



EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
Software	A (EN 60730)
Mode of operation	Type 1 AA (200ms, EN 60730)

Overview of types

i For valves with equal-percentage characteristic; can be changed to linear

Type	Reset function
AVF125SF132	Actuator spindle retracted
AVF125SF232	Actuator spindle extended

- ☛ AVF125SF132: Actuator spindle normally moved in; valve normally closed (NC) with VUD, BUD, VUE, BUE, VUN, BUN
- ☛ AVF125SF232: Actuator spindle normally moved out; valve normally open (NO) with VUD, BUD, VUE, BUE, VUN, BUN

Accessories

Type	Description
0313529001	Split-range unit for adjusting sequences, fitted in separate junction box
0370881001	Auxiliary change-over contacts, single
0370882001	Auxiliary change-over contacts, single, combined with pot. 2000 Ω , 1 W; 24 V
0370882006	Auxiliary change-over contacts, single, combined with pot. 1000 Ω auxiliary change-over contacts, 1 W; 24 V
0370883001	Potentiometer, 2000 Ω , 1 W; 24 V
0370883006	Potentiometer, 1000 Ω , 1 W; 24 V
0372249001	Adaptor required when media temperature > 100 °C (recommended for temperatures < 10 °C)
0372460001	Cable screw fitting (plastic M20 \times 1,5) incl. locking nut and seal

- ☛ Auxiliary change-over contacts: Infinitely variable, admissible load 2[1] A, 12...250 V~, min. load 250 mA, 12 V~





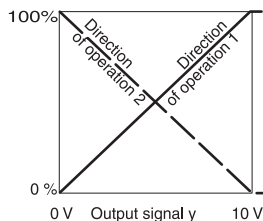
AVF234SF132



AVF234SF132



AVF234SF232



AVF 234S: SUT valve actuator with spring return

Features

- Activation of 2-way and 3-way valves of the VQD/BQD, VQE/BQE, VUG/BUG, VUP, VUS/BUS and V6R/B6R series. For controllers with switching (2- and 3-point) and continuous output (0...10 V, 4...20 mA)
- Spring return moves to end position in the event of a power failure/interruption or when a limit controller is activated
- Stepping motor with SAUTER Universal Technology (SUT) electronic control unit and electronic, force-dependent cut-off
- Simple assembly with valve; spindle is automatically connected after control voltage is applied (patented system)
- Automatic detection of applied control signal (constant or switched); indicated by two LEDs
- Coding switches for selecting characteristic and running time
- Type of characteristic (linear/quadratic/equal-percentage) can be set on the actuator
- Automatic adaptation to the stroke of the valve (min. valve stroke 8 mm, max. valve stroke 49 mm). The measured stroke is saved and is not lost even in the event of a power failure
- Direction of operation can be selected via screw terminals when making the electrical connection
- Crank handle for external manual adjustment with motor cut-off and as trigger for a re-initialisation
- Numerous adaptors enable the unit to be fitted onto non-SAUTER valves
- Power supply 230 V with module or direct connection for 24 V~ or 24 V=; continuous activation also admissible with 230 V
- Maintenance-free gear unit made of sintered steel; gearbox base-plate made of steel
- Spring pack and mounting column made of stainless steel; mounting bracket made of cast light alloy for fitting to valve
- Electrical connections (max. 2.5 mm²) with screw terminals
- Three pre-scored cable inlets for M20 × 1.5 (2×) and M16 × 1.5
- Fitting vertically upright to horizontal, not suspended

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24 V=	±15%
Power supply 230 V~	±15% (with accessories)
Power consumption ¹⁾	7.5 W, 20 VA

Parameters

Running time of motor	2/4/6 s/mm
Running time of spring ²⁾	15...30 s
Actuating power	2000 N
Response time for 3-point	200 ms
Number of spring returns	> 40,000

Positioner

Control signal 1	0...10 V, R _i = 100 kΩ
Control signal 2	4...20 mA, R _i = 50 Ω
Positional feedback 0...10 V	0...10 V; load > 2.5 kΩ
Starting point U ₀	0 V or 10 V
Control span ΔU	10 V
Switching range X _{sh}	300 mV

Ambient conditions

Admissible ambient temperature	-10...55 °C
Admissible ambient humidity	< 95% rh, no condensation

¹⁾ Choose transformers for this value, otherwise malfunctions may occur

²⁾ Return time equates to stroke of 14...40 mm and does not depend on set running time



Temperature of medium ³⁾	Max. 130 °C (180 °C or 240 °C with accessories)
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Construction

Housing	Two-part, yellow
Housing material	Fire-retardant plastic

Standards and directives

Type of protection	IP 66 (EN 60529)
Protection class	III (IEC 60730)
EMC directive 2004/108/EC ⁴⁾	EN 61000-6-2, EN 61000-6-4
Electrical safety 2006/95/EC	EN 60730-1, EN 60730-2-14
Over-voltage categories	III
Degree of contamination	III

Overview of types

Type	Stroke	Weight	Direction of operation of spring
AVF234SF132	14...40 mm	5.6 kg	Spindle retracted
AVF234SF132-5	14 mm	5.6 kg	Spindle retracted
AVF234SF132-6	40 mm	6 kg	Spindle retracted
AVF234SF232	0...40 mm	5.6 kg	Spindle extended

☛ AVF234SF132: Valve normally closed (NC) with: VQD/BQD, VQE/BQE, VUG/BUG, BUS; valve normally open (NO) with: VUS, VUP

☛ AVF234SF132-5, -6: Valve normally closed (NC) with: V6R, B6R

☛ AVF234SF232: Valve normally open (NO) with: VQD/BQD, VQE/BQE, VUG/BUG, BUS; valve normally closed (NC) with: VUS, VUP

Accessories

Type	Description
0313529001	Split-range unit for adjusting sequences, fitted in separate junction box

Modules can be added for 2-point/3-point and continuous activation; additional power 2 VA

Type	Description
0372332001	230 V ± 15%, supply voltage
0372332002	100 V ± 15%, supply voltage

Auxiliary change-over contacts (2 each) 12...250 V~

Type	Description
0372333001	Infinitely variable, min. 100 mA and 12 V permissible load 6(2) A
0372333002	Gold-plated contacts, from 1 mA, to max. 30 V, wider range 3(1) A
0372334001	Potentiometer, 2000 Ω, 1 W; 24 V
0372334002	Potentiometer, 130 Ω, 1 W; 24 V
0372334006	Potentiometer, 1000 Ω, 1 W; 24 V
0372336180	Adapter (required when temperature of the medium is 130...150 °C) from DN 65
0372336240	Adaptor (required when temperature of the medium is 180...240 °C)

Assembly kit for AVF234SF*32 on SAUTER valves (no adaptor needed for 0372338 002)

Type	Description
0372338001	V/B6 to DN 50, V/BXD, V/BXE, to DN 50, stroke 14 mm
0372338002	V/B6 DN 65...150, V/BXD, V/BXE from DN 65, stroke 40 mm
0372338003	Conversion kit from AV*2*4SF132-5 to standard drive AV*2*4SF132
0372338004	Conversion kit from AV*2*4SF132-6 to standard drive AV*2*4SF132

Adapter set for non-SAUTER valves

Type	Description
0372376010	Siemens with 20 mm stroke or Ø 10 mm spindle
0372376014	Siemens with 40 mm stroke or Ø 14 mm spindle

³⁾ Adaptor needed for higher temperatures (180 °C or 240 °C) (see accessories)

⁴⁾ EN 61000-6-2: HF immunity, limitation of feedback signal between 80 MHz and 1000 MHz criterion B, otherwise criterion A

Type	Description
0372377001	Johnson Controls DN 15...150, 14, 25, 40 mm stroke, Ø 10, 12, 14 mm spindle
0372378001	Honeywell with 20 mm stroke
0372378002	Honeywell with 38 mm stroke
0372386001	LDM type RY113 R/M
0372389001	ITT-Dräger, DN 15...32
0372389002	ITT-Dräger, DN 40...50
0378263001	End stop (needed for V/BXD, V/BXE DN 15...50, V/B6 DN 15 with kvs ≤ 1 m ³ /h)
0386263001	Cable screw fitting M16 × 1,5
0386263002	Cable screw fitting M20 × 1.5
0372387001	SAUTER-Satchwell VZF1727 fitting kit
0372461001	Forced operation for AVx2xS

⚡ Adaptor: Not needed for version AV*2*4SF132-6

⚡ Potentiometer 130 Ω: This potentiometer must only be used as a voltage divider.



AVN 224S: SUT valve actuator with safety function

Features

- Operation of 2-way or 3-way valves of type series VUG/BUG and VUP as per DIN EN 14597
- For controllers with constant output (0...10 V or 4...20 mA) and switching output (2-point or 3-point control)
- Valve actuator with safety function (as per DIN 32730, DIN EN 14597) and pushing force of 1100 N, in normally closed (NC) or normally open (NO) version
- Stepping motor with SAUTER Universal Technology (SUT) electronic control unit and electronic, force-dependent cut-off
- Simple assembly with valve; spindle is automatically connected after control voltage is applied (patented system)
- Automatic recognition of applied control signal (constant or switched); indicated by two LEDs
- Coding switches for selecting characteristic and running time
- Type of characteristic (linear/quadratic/equal-percentage) can be set on the actuator
- Automatic adaptation to the valve stroke (min. valve stroke 8 mm, max. valve stroke 49 mm); the measured stroke is stored and is not lost in the event of a power failure
- Direction of operation can be selected via screw terminals when making the electrical connection
- Push-buttons on outside of housing for manual adjustment with motor cut-off and as trigger for re-initialisation
- Numerous adaptors enable the unit to be fitted onto non-SAUTER valves
- Maintenance-free gear unit made of sintered steel; gearbox base-plate made of steel
- Spring pack and mounting column made of stainless steel; mounting bracket made of cast light alloy for fitting to valve
- Electrical connections (max. 2.5 mm²) with screw terminals
- Three break-out cable inlets for M20 × 1.5 (2×) and M16 × 1.5
- Fitting vertically upright to horizontal, not suspended

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24 V=	±15%
Power supply 230 V~	±15% (with accessories)
Power consumption	7 W, 18 VA

Parameters

Running time of motor	2/4/6 s/mm	
Running time of spring ¹⁾	15...30 s	
Actuating power	1100 N	
Number of spring returns	> 40 000	
Response time for 3-point	200 ms	
Positioner	Control signal 1	0...10 V, R _i = 100 kΩ
	Control signal 2	4...20 mA, R _i = 50 Ω
	Positional feedback signal	0...10 V; load > 2.5 kΩ
	Starting point U ₀	0 V or 10 V
	Control span ΔU	10 V
	Switching range X _{sh}	300 mV

Ambient conditions

Admissible ambient temperature	-10...55 °C
Admissible ambient humidity	< 95% rh, no condensation
Temperature of medium	Max. 130 °C

Construction

Housing	Two-part, yellow
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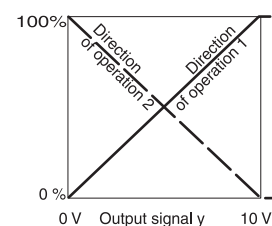
AVN224SF132



AVN224SF132



AVN224SF232



¹⁾ Spring return time equates to stroke of 14...40 mm and does not depend on set running time



Housing material Fire-retardant plastic

Standards and directives

Type of protection	IP 66 (EN 60529)
Protection class	III (IEC 60730)
EMC directive 2004/108/EC ²⁾	EN 61000-6-2, EN 61000-6-4
Electrical safety 2006/95/EC	EN 60730-1, EN 60730-2-14
Over-voltage categories	III
Degree of contamination	III
PED 97/23/EC, cat. IV	Category IV, fluid group II, modules B+D
Test marks	TÜV ID: 0000018388

Overview of types

Type	Actuator stroke	Weight	Direction of operation of spring
AVN224SF132	0...40 mm	5.6 kg	Spindle retracted
AVN224SF132-5	14 mm	5.6 kg	Spindle retracted
AVN224SF132-6	40 mm	6 kg	Spindle retracted
AVN224SF232	0...40 mm	5.6 kg	Spindle extended

- ☛ AVN224SF132, -5, -6: Valve normally closed (NC) with: VUG, BUG (as per DIN 32730, DIN EN 14597); valve normally open (NO) with: VUP
- ☛ AVN224SF232: Valve normally open (NO) with: VUG, BUG; valve normally closed (NC) with: VUP (as per DIN 32730, DIN EN 14597)

Accessories

Type	Description
0313529001	Split-range unit for adjusting sequences, fitted in separate junction box

Modules can be added for 2-point/3-point and continuous activation; additional power 2 VA

Type	Description
0372332001	230 V ±15%, supply voltage
0372332002	100 V ±15%, supply voltage

Auxiliary change-over contacts (2 each) 12...250 V[~]

Type	Description
0372333001	Infinitely variable, min. 100 mA and 12 V permissible load 6(2) A
0372333002	Gold-plated contacts, from 1 mA, to max. 30 V, wider range 3(1) A
0372334001	Potentiometer, 2000 Ω, 1 W; 24 V
0372334002	Potentiometer, 130 Ω, 1 W; 24 V
0372334006	Potentiometer, 1000 Ω, 1 W; 24 V
0372336180	Adapter (required when temperature of the medium is 130...150 °C) from DN 65
0372336240	Adaptor (required when temperature of the medium is 180...240 °C)

Fitting kit for AVN224SF*32 onto SAUTER valves (no adaptor needed for 0372338 002)

Type	Description
0372338001	V/B6 to DN 50, V/BXD, V/BXE, to DN 50, stroke 14 mm
0372338002	V/B6 DN 65...150, V/BXD, V/BXE from DN 65, stroke 40 mm
0372338003	Conversion kit from AV*2*4SF132-5 to standard drive AV*2*4SF132
0372338004	Conversion kit from AV*2*4SF132-6 to standard drive AV*2*4SF132

Adaptor set for non-SAUTER valves

Type	Description
0372376010	Siemens with 20 mm stroke or Ø 10 mm spindle
0372376014	Siemens with 40 mm stroke or Ø 14 mm spindle
0372377001	Johnson Controls DN 15...150, 14, 25, 40 mm stroke, Ø 10, 12, 14 mm spindle
0372378001	Honeywell with 20 mm stroke
0372378002	Honeywell with 38 mm stroke
0372386001	LDM type RY113 R/M

²⁾ EN 61000-6-2: HF immunity, limitation of feedback signal between 80 MHz and 1000 MHz criterion B, otherwise criterion A

Type	Description
0372389001	ITT-Dräger, DN 15...32
0372389002	ITT-Dräger, DN 40...50
0378263001	End stop (needed for V/BXD, V/BXE DN 15...50, V/B6 DN 15 with kvs ≤ 1 m ³ /h)
0386263001	Cable screw fitting M16 × 1,5
0386263002	Cable screw fitting M20 × 1.5
0372387001	SAUTER-Satchwell VZF1727 fitting kit
0372461001	Forced operation for AVx2xS

⚡ Adaptor: Not needed for version AV*2*4SF132-6

⚡ Potentiometer 130 Ω: This potentiometer must only be used as a voltage divider.



Dynamic regulating valves

The automatic hydronic balancing of water distribution networks using dynamic SAUTER valves provides correct supply to the loads, a reduction of temperature fluctuations in the room, and, at the same time, more accurate and more efficient energy usage. The torque-dependent cut-off facility promotes efficient usage of energy. These dynamic valves are used to control the flow in air-conditioning, ventilation and heating equipment. These include fan-coil units, chilled ceilings, central underfloor heating systems, air recirculation systems and segments of installations using thermal and continuous actuators for unit valves.

Overview of dynamic regulating valves



Type codes	Valveco compact	Valveco 010...032	Valveco 040...050
Application			
Preheater for ventilation & air-conditioning	•	•	•
Preheater, cooler for ventilation & air-conditioning	•	•	•
Steam humidifier for ventilation & air-conditioning	–	–	–
Reheater for ventilation & air-conditioning	–	–	–
Chilled ceiling, underfloor heating	•	•	•
Static heating	•	•	•
Cooling tower	–	–	–
Multi-boiler system	–	–	–
Local heating	–	–	–
District heating	–	–	–
Version			
Through	•	•	•
3-way	–	–	–
Female thread	–	–	–
Male thread	•	•	•
Flange	–	–	–
Combination options with actuator	AXT 211, AXS 215 S, AXM 217, AXM 217S	AXT 211, AXS 215 S, AXM 217, AXM 217S	AVM 115, AVM 115S
Further information	Page 251	Page 254	Page 257

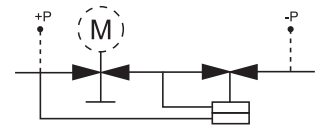
Valveco compact: 2-way regulating valve for dynamic hydronic balancing

Features

- Regulating valve with three functions: Control, preset maximum volume, automatic flow regulation
- Range 30...1330 l/h
- Easy to preset the max. required volume flow
- Control range 14/15...400 kPa = max. Δp over the valve
- Versions with and without pressure measurement nipple
- The valve is closed when the spindle is moved in
- Closing against the pressure
- Slight adaptation of the proven SAUTER actuator technology
- Regulating valve with male thread as per DIN/EN ISO 228-1
- Flat-sealing regulating valve
- Differential pressure across the regulating unit is kept constant; valve authority 1
- Valve body and plug made of dezincification-resistant (DZR) cast brass
- Stainless-steel spindle
- Temperature range of medium 0...120 °C



VDL015F210



Technical data

Parameters

Nominal pressure	25 bar
Maximum operating pressure	25 bar
Valve characteristic	Linear
Leakage rate	0.01% of k_{vs}

Ambient conditions

Admissible operating temperature for valve	0...120 °C
Admissible operating temperature for valve in combination with AXT 211, AXS 215 and AXM 217 (S)	100 °C at the valve

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534, page 3

Overview of types

Type	Nominal diameter (DN)	Volume flow range (l/h)	Control range min Δp ...max Δp (kPa)	Valve stroke (mm)	Connection	Pressure measurement nipple	Weight (kg)
VDL010F200	10	65...370	14...400	5	G $\frac{1}{2}$ " B	–	0.36
VDL010F201	10	65...370	14...400	5	G $\frac{1}{2}$ " B	•	0.45
VDL010F210	10	30...200	14...400	2.5	G $\frac{1}{2}$ " B	–	0.36
VDL010F211	10	30...200	14...400	2.5	G $\frac{1}{2}$ " B	•	0.45
VDL015F200	15	100...575	14...400	2.5	G $\frac{3}{4}$ " B	–	0.38
VDL015F201	15	100...575	14...400	2.5	G $\frac{3}{4}$ " B	•	0.47
VDL015F210	15	65...370	14...400	5	G $\frac{3}{4}$ " B	–	0.38
VDL015F211	15	65...370	14...400	5	G $\frac{3}{4}$ " B	•	0.47
VDL015F220	15	30...200	14...400	2.5	G $\frac{3}{4}$ " B	–	0.38
VDL015F221	15	30...200	14...400	2.5	G $\frac{3}{4}$ " B	•	0.47
VDL020F200	20	220...1330	15...400	5	G1" B	–	0.4
VDL020F201	20	220...1330	15...400	5	G1" B	•	0.5



Type	Nominal diameter (DN)	Volume flow range (l/h)	Control range min Δp ...max Δp (kPa)	Valve stroke (mm)	Connection	Pressure measurement nipple	Weight (kg)
VDL020F210	20	160...990	15...400	4	G1" B	–	0.4
VDL020F211	20	160...990	15...400	4	G1" B	•	0.5
VDL020F220	20	100...575	14...400	2.5	G1" B	–	0.4
VDL020F221	20	100...575	14...400	2.5	G1" B	•	0.5

Accessories

Type	Description
0378133010	1 threaded sleeve, R $\frac{3}{8}$ ", flat-sealing, DN 10, with cap nut and flat seal
0378133015	1 threaded sleeve, R $\frac{1}{2}$ ", flat-sealing, DN 15, with cap nut and flat seal
0378133020	1 threaded sleeve, R $\frac{3}{4}$ ", flat-sealing, DN 20, with cap nut and flat seal
0378134010	1 solder nipple, \varnothing 12, flat-sealing, DN 10, with cap nut and flat seal
0378134015	1 solder nipple, \varnothing 15, flat-sealing, DN 15, with cap nut and flat seal
0378134020	1 solder nipple, \varnothing 22, flat-sealing, DN 20, with cap nut and flat seal
0560332015	Strainer in gun metal, -10...150 °C, mesh aperture 0.5 mm, DN 15
0560332020	Strainer in gun metal, -10...150 °C, mesh aperture 0.8 mm, DN 20

Combination of VDL with electrical actuators

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences

Actuator	AXM217F200	AXM217F202	AXM217SF402
Page	167	167	170
Voltage	230 V~	24 V~/=	24 V~/=
Control signal	3-point	3-point	0/2...10 V, 0...5 V, 5...10 V, 0/4...20 mA
Running time	13 s/mm	13 s/mm	8 s/mm

Closes against the pressure	Δp [bar]		
	Δp_{max}	Δp_{max}	Δp_{max}
VDL010F200	4.0	4.0	4.0
VDL010F201			
VDL010F210			
VDL010F211			
VDL015F200			
VDL015F201			
VDL015F210			
VDL015F211			
VDL015F220			
VDL015F221			
VDL020F200			
VDL020F201			
VDL020F210			
VDL020F211			
VDL020F220			
VDL020F221			

Cannot be used to close with the pressure

Actuator	AXT211F210 AXT211HF210 AXT211F110 AXT211F110B AXT211F110M AXT211F190 AXT211HF110	AXT211F212 AXT211HF212 AXT211F112 AXT211F112B AXT211F112M AXT211F192 AXT211HF112
Page	162	162
Voltage	230 V~	24 V~/=
Control signal	2-point	2-point
Running time	33 s/mm	40 s/mm

Δp [bar]

Closes against the pressure	Δp _{max}	Δp _s	Δp _{max}	Δp _s
VDL010F200				
VDL010F201				
VDL010F210				
VDL010F211				
VDL015F200				
VDL015F201				
VDL015F210				
VDL015F211	4.0	4.0	4.0	4.0
VDL015F220				
VDL015F221				
VDL020F200				
VDL020F201				
VDL020F210				
VDL020F211				
VDL020F220				
VDL020F221				

Cannot be used to close with the pressure

Actuator	AXS215SF222 AXS215SF222B AXS215SF122 AXS215SF122B
Page	166
Voltage	24 V~
Control signal	0...10 V
Running time	30 s/mm

Δp [bar]

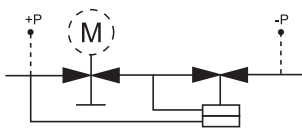
Closes against the pressure	Δp _{max}	Δp _s
VDL010F200		
VDL010F201		
VDL010F210		
VDL010F211		
VDL015F200		
VDL015F201		
VDL015F210		
VDL015F211	4.0	4.0
VDL015F220		
VDL015F221		
VDL020F200		
VDL020F201		
VDL020F210		
VDL020F211		
VDL020F220		
VDL020F221		

Cannot be used to close with the pressure

Valveco 010...032: 2-way regulating valve for dynamic hydronic balancing



VCL010F210



Features

- Regulating valve with three functions: Control, preset maximum volume, automatic flow regulation
- Large volume flow range: 30...3600 l/h
- Simple presetting of maximum volume flow without dismantling the actuator
- Control range 15/20...400 kPa = max. Δp over the valve
- Easy fitting of pressure measurement nipples
- Control passage A-AB is closed when the spindle is moved in
- Closing against the pressure
- Stuffing box can be replaced under system pressure
- Slight adaptation of the proven SAUTER actuator technology
- Regulating valve with male thread as per DIN/EN ISO 228-1
- Flat-sealing regulating valve (with conical sealing surface for DN 20, without insert)
- Differential pressure across the regulating unit is kept constant; valve authority 1
- Valve body made of dezincification-resistant (DZR) brass
- Stainless-steel spindle
- Plug of PTFE

Technical data

Parameters

Nominal pressure	PN 16
Valve characteristic	Linear
Leakage rate	0.01% of k_{vs} value

Ambient conditions

Operating temperature	0...120 °C
Maximum operating pressure	16 bar
Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534, page 3

Overview of types

Type	Nominal diameter	Volume flow setting range	Control range Δp	Valve stroke (mm)	Connection	Weight (kg)
VCL010F210	DN 10	30...210 l/h	20...400 kPa	2.8	G $\frac{1}{2}$ " B	0.38
VCL010F200	DN 10	90...450 l/h	20...400 kPa	2.8	G $\frac{1}{2}$ " B	0.38
VCL015F220	DN 15	30...210 l/h	20...400 kPa	2.8	G $\frac{3}{4}$ " B	0.45
VCL015F210	DN 15	90...450 l/h	20...400 kPa	2.8	G $\frac{3}{4}$ " B	0.45
VCL015F200	DN 15	150...1050 l/h	20...400 kPa	2.8	G $\frac{3}{4}$ " B	0.45
VCL020F210	DN 20	150...1050 l/h	20...400 kPa	2.8	G1" B	0.52
VCL020F200	DN 20	180...1300 l/h	15...400 kPa	3.5	G1" B	0.73
VCL025F200	DN 25	300...2000 l/h	15...400 kPa	4	G1 $\frac{1}{4}$ " B	1.8
VCL032F200	DN 32	600...3600 l/h	15...400 kPa	4	G1 $\frac{3}{4}$ " B	1.9

Accessories

Type	Description
0378133010	1 threaded sleeve, R $\frac{3}{8}$ ", flat-sealing, DN 10, with cap nut and flat seal
0378133015	1 threaded sleeve, R $\frac{1}{2}$ ", flat-sealing, DN 15, with cap nut and flat seal
0378133020	1 threaded sleeve, R $\frac{3}{4}$ ", flat-sealing, DN 20, with cap nut and flat seal
0378133025	1 threaded sleeve, R1", flat-sealing, DN 25, with cap nut and flat seal
0378133032	1 threaded sleeve, R1 $\frac{1}{4}$ ", flat-sealing, DN 32, with cap nut and flat seal



Type	Description
0378134010	1 solder nipple, Ø 12, flat-sealing, DN 10, with cap nut and flat seal
0378134015	1 solder nipple, Ø 15, flat-sealing, DN 15, with cap nut and flat seal
0378134020	1 solder nipple, Ø 22, flat-sealing, DN 20, with cap nut and flat seal
0570260001	Stuffing box, can be replaced under pressure
0570360001	Pressure measurement nipple, set of 2
0560332015	Strainer in gun metal, - 10...150 °C, mesh aperture 0.5 mm, DN 15
0560332020	Strainer in gun metal, - 10...150 °C, mesh aperture 0.8 mm, DN 20
0560332025	Strainer in gun metal, - 10...150 °C, mesh aperture 0.8 mm, DN 25
0560332032	Strainer in gun metal, - 10...150 °C, mesh aperture 0.8 mm, DN 32
0560332040	Strainer in gun metal, - 10...150 °C, mesh aperture 0.8 mm, DN 40
0560332050	Strainer in gun metal, - 10...150 °C, mesh aperture 0.8 mm, DN 50

Combination of VCL with electrical actuators

i *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.

i *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.

i *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Pressure differences with motorised actuators

Actuator	AXM217F200	AXM217F202	AXM217SF402
Page	167	167	170
Voltage	230 V~	24 V~/=	24 V~/=
Control signal	3-point	3-point	0/2...10 V, 0...5 V, 5...10 V, 0/4...20 mA
Running time VCL010, VCL015, VCL020F210	36 s	36 s	36 s
Running time VCL20F200	45 s	45 s	45 s
Running time VCL025, VCL032	52 s	52 s	52 s

Δp [bar]

Closes against the pressure	Δp_{max}	Δp_{max}	Δp_{max}
VCL010F210	4.0	4.0	4.0
VCL010F200			
VCL015F220			
VCL015F210			
VCL015F200			
VCL020F210			
VCL020F200			
VCL025F200			
VCL032F200			

Cannot be used to close with the pressure

Pressure differences with thermal actuators

Actuator	AXT211F210 AXT211HF210	AXT211F212 AXT211HF212	AXT211F110 AXT211F110B AXT211F110M AXT211F190 AXT211HF110	AXT211F112 AXT211F112B AXT211F112M AXT211F192 AXT211HF112	AXS215SF122 AXS215SF122B AXS215SF222 AXS215SF222B
Page	162	162	162	162	166
Voltage	230 V~	24 V~/=	230 V~	24 V~/=	24 V~
Control signal	2-point	2-point	2-point	2-point	0...10 V
Running time VCL010, VCL015, VCL020F210	92 s	112 s	92 s	112 s	84 s
Running time VCL20F200	115 s	140 s	115 s	140 s	105 s
Running time VCL025, VCL032	132 s	160 s	132 s	160 s	120 s

 Δp [bar]

Closes against the pressure	Δp_{\max}	Δp_{\max}	Δp_{\max}	Δp_s	Δp_{\max}	Δp_s	Δp_{\max}	Δp_s
VCL010F210	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
VCL010F200								
VCL015F220								
VCL015F210								
VCL015F200								
VCL020F210								
VCL020F200								
VCL025F200								
VCL032F200								

Cannot be used to close with the pressure

Valveco 040...050: 2-way regulating valve for dynamic hydronic balancing

Features

- Regulating valve with three functions: Control, preset maximum volume, automatic flow regulation
- Large volume flow range: 1500...10000 l/h
- Simple presetting of maximum volume flow without dismantling the actuator
- Control range 20...400 kPa = max. Δp over the valve
- Pressure measurement nipple on valve (for optimising)
- When the spindle is moved out, the valve is closed
- Closes against the pressure
- Stuffing box can be replaced under system pressure
- Slight adaptation of the proven SAUTER actuator technology
- Regulating valve with male thread as per DIN/EN ISO 228-1
- Flat-sealing regulating valve
- Differential pressure across the regulating unit is kept constant; valve authority 1
- Valve body made of gunmetal
- Plug made of dezincification-resistant (DZR) brass
- Spindle made of DZR
- Seal: PTFE, EPDM

Technical data

Parameters

Nominal pressure	PN 16
Maximum operating pressure	16 bar
Control range Δp	20...400 (kPa)
Valve characteristic	Linear
Valve stroke	Max. 10.0 mm
Leakage rate in % of k_{vs}	0.01 %

Ambient conditions

Admissible operating temperature for valve	0...120 °C
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Interface, communication

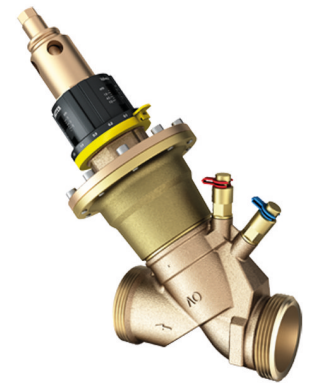
Connection	G2¼" B
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Overview of types

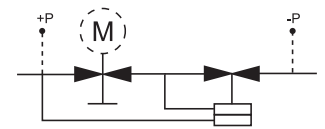
Type	Nominal diameter	Volume flow setting range	Weight
VCL040F200	DN 40	1500...7500 l/h	5.7 kg
VCL050F200	DN 50	2500...10000 l/h	6.4 kg

Accessories

Type	Description
0361951040	1 screw fitting for male thread with flat seal, DN 40
0361951050	1 screw fitting for male thread with flat seal, DN 50
0560332040	Strainer in gun metal, -10...150 °C, mesh aperture 0.8 mm, DN 40
0560332050	Strainer in gun metal, -10...150 °C, mesh aperture 0.8 mm, DN 50



VCL040F200



Combination of VCL with electrical actuators

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Pressure differences

Actuator	AVM115F901	AVM115SF901
Page	229	231
Voltage	230 V~	24 V~
Control signal	2-/3-point	2-/3-point, 0...10 V
Running time	160 s	80/160 s

Δp [bar]		
Closes against the pressure	Δp _{max}	Δp _{max}
VCL040F200	4.0	4.0
VCL050F200		

Cannot be used to close with the pressure

Regulating ball valves

The body of these control ball valves from SAUTER is made of top-quality DZR brass. This enables them to be used in a wide range of applications, and even for domestic water. Due to the outstanding physical properties of the de-zincification-resistant, chrome-plated brass ball with its polished surface, these valves provide excellent control accuracy and permit very flexible usage. They are used for the continuous regulation of cold and hot water in closed circuits.

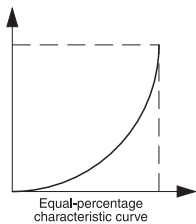
Overview of control ball valves



Type codes	VKR	BKR
Application		
Single-room control	•	•
Preheater for ventilation & air-conditioning	•	•
Preheater, cooler for ventilation & air-conditioning	•	•
Reheater for ventilation & air-conditioning	•	•
Chilled ceiling	•	•
Static heating	•	•
Multi-boiler system	•	•
Local heating	•	•
Version		
2-way	•	–
3-way	–	•
Combination options with actuator	AKM 105(S) AKM 115(S), AKF 112, AKF 113(S)	AKM 105(S) AKM 115(S), AKF 112, AKF 113(S)
Further information	Page 260	Page 264



VKR040F300



VKR: 2-way regulating ball valve with female thread, PN 40

Features

- Regulating 3-way ball valve for continuous control of cold and hot water in closed circuits
- In combination with valve actuators AKM 105(S), 115(S), and AKF 112, 113(S) as a control unit
- Equal-percentage ball valve characteristic; contour inside the ball provides regulation
- Characteristic can be set with SUT rotary actuator (SAUTER Universal Technology) to linear or quadratic
- Spindle with large sliding surface and PTFE glide ring
- Low torque due to collar mounted on O-ring
- Ball valve with female thread as per ISO 7/1 Rp or NPT
- Body made of DZR (dezincification resistant) cast brass
- Spindle made of DZR brass with PTFE glide ring
- Ball made of DZR brass, chrome-plated and polished surface
- Stem seal with double O-ring made of EPDM
- Strainer and screw fitting available as accessories
- Water quality as per VDI 2035

Technical data

Parameters

Nominal pressure	40 bar
Valve characteristic	Equal-percentage
Control ratio of ball valve	500:1
Control ratio with actuator	> 50:1
Leakage rate	0.001% of k_{vs} value
Angle of rotation	90°

Ambient conditions

Operating temperature ¹⁾	-10...130 °C, no condensation
Operating pressure	-10...50 °C, 40 bar 130 °C, 35 bar

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)

Overview of types

Type	Nominal diameter	Connection ISO 7/1 Rp	k_{vs} value	Weight
VKR015F350-FF	DN 15	Rp 1/2"	1 m ³ /h	0.29 kg
VKR015F340-FF	DN 15	Rp 1/2"	1.6 m ³ /h	0.29 kg
VKR015F330-FF	DN 15	Rp 1/2"	2.5 m ³ /h	0.29 kg
VKR015F320-FF	DN 15	Rp 1/2"	4 m ³ /h	0.29 kg
VKR015F310-FF	DN 15	Rp 1/2"	6.3 m ³ /h	0.29 kg
VKR015F300-FF	DN 15	Rp 1/2"	10 m ³ /h	0.29 kg
VKR020F320-FF	DN 20	Rp 3/4"	4 m ³ /h	0.32 kg
VKR020F310-FF	DN 20	Rp 3/4"	6.3 m ³ /h	0.32 kg
VKR020F300-FF	DN 20	Rp 3/4"	10 m ³ /h	0.32 kg
VKR025F320-FF	DN 25	Rp 1"	6.3 m ³ /h	0.49 kg
VKR025F310-FF	DN 25	Rp 1"	10 m ³ /h	0.49 kg
VKR025F300-FF	DN 25	Rp 1"	16 m ³ /h	0.49 kg
VKR032F320-FF	DN 32	Rp 1 1/4"	10 m ³ /h	0.73 kg

¹⁾ No stuffing box heater required at temperatures below 0 °C; use temperature adaptor (accessory) at temperatures above 100 °C



Type	Nominal diameter	Connection ISO 7/1 Rp	k_{vs} value	Weight
VKRO32F310-FF	DN 32	Rp 1¼"	16 m³/h	0.73 kg
VKRO32F300-FF	DN 32	Rp 1¼"	25 m³/h	0.73 kg
VKRO40F320-FF	DN 40	Rp 1½"	16 m³/h	1.1 kg
VKRO40F310-FF	DN 40	Rp 1½"	25 m³/h	1.1 kg
VKRO40F300-FF	DN 40	Rp 1½"	40 m³/h	1.1 kg
VKRO50F320-FF	DN 50	Rp 2"	25 m³/h	1.76 kg
VKRO50F310-FF	DN 50	Rp 2"	40 m³/h	1.76 kg
VKRO50F300-FF	DN 50	Rp 2"	63 m³/h	1.76 kg

🔧 Ball valves with NPT thread on request

Accessories

Type	Description
0510420001	Adaptor required when temperature of the medium > 100 °C
0560283015	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 15
0560283020	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 20
0560283025	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 25
0560283032	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 32
0560283040	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 40
0560283050	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 50
0560332015	Strainer in gun metal, - 10...150 °C, mesh aperture 0.5 mm, DN 15
0560332020	Strainer in gun metal, - 10...150 °C, mesh aperture 0.8 mm, DN 20
0560332025	Strainer in gun metal, - 10...150 °C, mesh aperture 0.8 mm, DN 25
0560332032	Strainer in gun metal, - 10...150 °C, mesh aperture 0.8 mm, DN 32
0560332040	Strainer in gun metal, - 10...150 °C, mesh aperture 0.8 mm, DN 40
0560332050	Strainer in gun metal, - 10...150 °C, mesh aperture 0.8 mm, DN 50
0510240001	Assembly kit for VKR/BKR ball valves as spare part and as accessory for rotary actuators ASF 112, 113 from index B



Combination of VKR with electrical actuators

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the ball valve) at which the actuator reliably closes the ball valve using the return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the ball valve.*

Pressure differences

Actuator	AKM105F100 AKM105F120 AKM105F122 AKM105SF132	AKM115F120 AKM115F122	AKM115SF132	AKM115SF152
Page	269	269	272	274
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	6 s

Closes against the pressure	Δp [bar]			
	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
VKR015F350-FF VKR015F340-FF VKR015F330-FF VKR015F320-FF VKR015F310-FF VKR015F300-FF VKR020F320-FF VKR020F310-FF VKR020F300-FF VKR025F320-FF VKR025F310-FF VKR025F300-FF	1.8	3.5	3.5	3.5
VKR032F320-FF VKR032F310-FF VKR032F300-FF VKR040F320-FF VKR040F310-FF VKR040F300-FF VKR050F320-FF VKR050F310-FF VKR050F300-FF	1.2	2.4	2.4	2.4

Cannot be used to close with the pressure

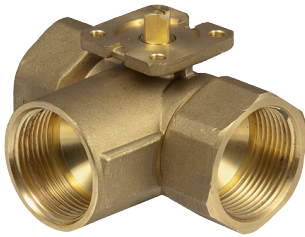
Actuator	AKF112F120 AKF112F122	AKF113F122	AKF113SF122
Page	275	275	276
Torque	7 Nm	7 Nm	7 Nm
Control signal	2-point	3-point	0...10 V
Running time	90 s	90 s	90 s

 Δp [bar]

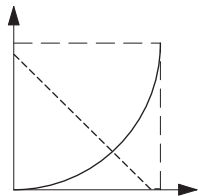
Closes against the pressure	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s
VKR015F350-FF	3.5	5.4	3.5	5.4	3.5	5.4
VKR015F340-FF						
VKR015F330-FF						
VKR015F320-FF						
VKR015F310-FF						
VKR015F300-FF						
VKR020F320-FF						
VKR020F310-FF						
VKR020F300-FF						
VKR025F320-FF						
VKR025F310-FF						
VKR025F300-FF						
VKR032F320-FF	2.4	3.5	2.4	3.5	2.4	3.5
VKR032F310-FF						
VKR032F300-FF						
VKR040F320-FF						
VKR040F310-FF						
VKR040F300-FF						
VKR050F320-FF						
VKR050F310-FF						
VKR050F300-FF						

Cannot be used to close with the pressure





BKR025F310



--- Characteristic of mixing passage: linear
 — Characteristic of control passage: =%

BKR: 3-way ball valve with female thread, PN 40

Features

- 3-way ball valve for continuous control of cold and hot water in closed circuits
- As a control unit in combination with valve actuators AKM105(S), 115(S) and AKF112, 113(S)
- Control contour integrated directly in the ball
- Control passage characteristic can be set to linear or quadratic with SUT rotary actuator
- Low torque due to collar mounted on O-ring
- Spindle with large sliding surface and PTFE ring
- Ball valve with female thread as per ISO 7/1 Rp or NPT
- Body, stem and the ball made of DZR (dezincification-resistant) cast brass (ball: chrome-plated and polished)
- Stem seal with double O-ring made of EPDM
- Strainer and screw fitting (as accessories)
- Water quality as per VDI 2035

Technical data

Parameters

Nominal pressure	40 bar
k_{vs} value for mixing passage	- 10...-30% through the control passage
Valve characteristic, control passage	Equal-percentage
Valve characteristic, mixing passage	Linear
Control ratio of ball valve	500:1
Control ratio with actuator	Approx. 50:1
Leakage rate of control passage	0.001% of k_{vs} value
Leakage rate, mixing passage	< 1%
Angle of rotation	90°

Ambient conditions

Operating temperature ¹⁾	- 10...130 °C, no condensation
Operating pressure	40 bar (-10...50 °C) 35 bar (130 °C)

Overview of types

Type	Nominal diameter	Connection ISO 7/1 Rp	k_{vs} value, control passage	Weight
BKR015F340-FF	DN 15	Rp 1/2"	1.6 m ³ /h	0.31 kg
BKR015F330-FF	DN 15	Rp 1/2"	2.5 m ³ /h	0.31 kg
BKR015F320-FF	DN 15	Rp 1/2"	4 m ³ /h	0.31 kg
BKR015F310-FF	DN 15	Rp 1/2"	6.3 m ³ /h	0.33 kg
BKR020F320-FF	DN 20	Rp 3/4"	4 m ³ /h	0.4 kg
BKR020F310-FF	DN 20	Rp 3/4"	6.3 m ³ /h	0.4 kg
BKR025F310-FF	DN 25	Rp 1"	10 m ³ /h	0.63 kg
BKR032F310-FF	DN 32	Rp 1 1/4"	16 m ³ /h	0.97 kg
BKR040F310-FF	DN 40	Rp 1 1/2"	25 m ³ /h	1.4 kg
BKR050F310-FF	DN 50	Rp 2"	40 m ³ /h	2.67 kg

Ball valves with NPT thread on request

¹⁾ No stuffing box heater required at temperatures below 0 °C; use temperature adaptor (accessory) at temperatures above 100 °C



Accessories

Type	Description
0510420001	Adaptor required when temperature of the medium > 100 °C
0560283015	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 15
0560283020	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 20
0560283025	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 25
0560283032	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 32
0560283040	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 40
0560283050	1 screw fitting of brass, flat-sealing, female thread/male thread for DN 50
0560332015	Strainer in gun metal, -10...150 °C, mesh aperture 0.5 mm, DN 15
0560332020	Strainer in gun metal, -10...150 °C, mesh aperture 0.8 mm, DN 20
0560332025	Strainer in gun metal, -10...150 °C, mesh aperture 0.8 mm, DN 25
0560332032	Strainer in gun metal, -10...150 °C, mesh aperture 0.8 mm, DN 32
0560332040	Strainer in gun metal, -10...150 °C, mesh aperture 0.8 mm, DN 40
0560332050	Strainer in gun metal, -10...150 °C, mesh aperture 0.8 mm, DN 50
0510240001	Assembly kit for VKR/BKR ball valves as spare part and as accessory for rotary actuators ASF 112, 113 from index B
0510240011	Adaptor required when temperature of the medium < 5 °C

Combination of BKR with electrical actuators

i *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*

i *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Pressure differences

Actuator	AKM105F100 AKM105F120 AKM105F122 AKM105SF132	AKM115F120 AKM115F122	AKM115SF132	AKM115SF152
Page	269	269	272	274
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	6 s

 Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
BKR015F340-FF BKR015F330-FF BKR015F320-FF BKR015F310-FF BKR020F320-FF BKR020F310-FF BKR025F310-FF	1.8	2.0	2.0	2.0
BKR032F310-FF BKR040F310-FF BKR050F310-FF	1.2	2.0	2.0	2.0

Cannot be used as distribution valve

Actuator	AKF112F120 AKF112F122	AKF113F122	AKF113SF122
Page	275	275	276
Torque	7 Nm	7 Nm	7 Nm
Control signal	2-point	3-point	0...10 V
Running time	90 s	90 s	90 s

Δp [bar]						
As control valve	Δp_{\max}	Δp_s	Δp_{\max}	Δp_s	Δp_{\max}	Δp_s
BKRO15F340-FF	2.0	5.4	2.0	5.4	2.0	5.4
BKRO15F330-FF						
BKRO15F320-FF						
BKRO15F310-FF						
BKRO20F320-FF						
BKRO20F310-FF	2.0	3.5	2.0	3.5	2.0	3.5
BKRO25F310-FF						
BKRO32F310-FF						
BKRO40F310-FF	2.0	3.5	2.0	3.5	2.0	3.5
BKRO50F310-FF						

Cannot be used as distribution valve

Actuators for ball valves

SAUTER actuators for ball valves adapt themselves automatically to the ball valves and enable them to be controlled accurately. The actuators are switched off as a function of the torque. These SAUTER actuators are suitable for operating two- and three-way ball valves. Furthermore, they can be used for controllers with switching or continuous outputs.

Overview of actuators for ball valves



Type codes	AKM 105, 115	AKM105SF132 AKM115SF132	AKM115SF152
Technical data			
Adjustable characteristic	Equal-percentage	Equal-percentage, linear, quadratic	Equal-percentage, linear, quadratic
Running time (s)	30, 120	35, 60, 120	6
Return time (s)	–	–	–
Power supply (V)	24, 230	24	24
Control			
2-point	•	•	•
3-point	•	•	•
High-speed	–	–	•
Positioner	–	•	•
Spring return	–	–	–
Combination options with ball valve	VKR, BKR	VKR, BKR	VKR, BKR
Further information	Page 269	Page 271	Page 273



Type codes	AKF 112, 113	AKF 113S
Technical data		
Adjustable characteristic	-	-
Running time (s)	90	90
Return time (s)	15	15
Power supply (V)	24, 230	24, 230
Control		
2-point	•	•
3-point	•	•
High-speed	–	–
Positioner	–	•
Spring return	•	•
Combination options with ball valve	VKR, BKR	VKR, BKR
Further information	Page 275	Page 276

AKM 105, 115: Rotary actuator for ball valve

Features

- For actuating 2- and 3-way ball valves (types VKR and BKR)
- For controllers with a switching output (2-/3-point control)
- Fitted to ball valves up to DN 50 without the need to use tools
- Synchronous motor with electronic activation and cut-out
- Maintenance-free gear unit
- Gear unit can be disengaged in order to position the ball valve manually (using the lever)
- Bracket and bayonet ring made of glass-fibre-reinforced plastic for fitting onto ball valve
- Fitting vertically upright to horizontal, not suspended



AKM115F12*



Technical data

Power supply		
Power supply 230 V~		±15%, 50...60 Hz
Power supply 24 V~		±20%, 50...60 Hz
Parameters		
Power cable		1.2 m, 3 × 0.75 mm ²
Response time		Min. 200 ms
Angle of rotation		90°
Ambient conditions		
Admissible ambient temperature		-10...55 °C
Admissible ambient humidity		5...95% rh, no condensation
Temperature of medium ¹⁾		Max. 100 °C
Operation		
Control		2-/3-point
Construction		
Weight		0.7 kg
Housing		Lower section black, upper section yellow
Housing material		Fire-retardant plastic
Standards and directives		
Type of protection ²⁾		IP 54 as per EN 60529 (horizontal)
Protection class 24 V		III as per IEC 60730
Protection class 230 V		II as per IEC 60730
Over-voltage categories		III
Degree of contamination		II
CE conformity as per	Directive 2006/95/EC	EN 60730-1/EN 60730-2-14
	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Power consumption	Running time	Torque	Voltage
AKM105F100	2.4 W, 4.5 VA	30 s	4 Nm	230 V~
AKM105F120	2.0 W, 4.0 VA	120 s	4 Nm	230 V~
AKM105F122	1.6 W, 1.7 VA	120 s	4 Nm	24 V~
AKM115F120	2.0 W, 4.0 VA	120 s	8 Nm	230 V~
AKM115F122	1.6 W, 1.7 VA	120 s	8 Nm	24 V~

¹⁾ At media temperatures < 5 °C or > 100 °C, appropriate accessory must be used

²⁾ See fitting instructions P100001578



Accessories

Type	Description
0372459100	External switching, 230 V version for parallel operation with A*M 1** or drives with limit switch, incl. junction box
0372459102	External switching, 24 V version for parallel operation with A*M 1** or drives with limit switch, incl. junction box
0510420001	Adaptor required when temperature of the medium > 100 °C
0510240011	Adaptor required when temperature of the medium < 5 °C
0510480001	Auxiliary change-over contacts, single
0510480002	Auxiliary change-over contacts, double

⚡ Auxiliary change-over contacts: infinitely variable 0...100%, admissible load 5(2) A, 24...230 V



AKM 105S, 115S: Rotary actuator with SAUTER Universal Technology (SUT) for ball valve

Features

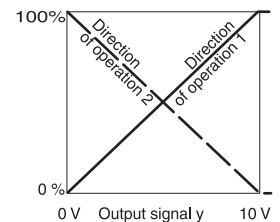
- For actuation of 2- and 3-way ball valves (VKR and BKR series)
- For controllers with constant output (0...10 V) or switching output (2-/3-point control)
- For ball valves up to DN 50
- Fitted to ball valve without the use of tools
- Stepping motor with SAUTER Universal Technology (SUT) electronic control unit
- Electronic force-dependent motor cut-off
- Automatic recognition of applied control signal (constant or switched)
- Coding switch for selection of characteristic and running time (35, 60 or 120 sec)
- Type of characteristic (linear/quadratic/equal-percentage) can be set on the actuator
- Direction of operation can be selected on the cable
- Maintenance-free gear unit
- Gear unit can be disengaged in order to position the ball valve manually (using the lever)
- Bracket and bayonet ring made of glass-fibre-reinforced plastic for fitting onto ball valve

Technical data

Power supply		
Power supply 24 V~		±20%, 50...60 Hz
Power supply 24 V=		-10%...20%
Power consumption		4.9 W, 8.7 VA
Parameters		
	Running time ¹⁾	35/60/120 s
	Angle of rotation	90°
	Response time	200 ms
	Power cable	1.2 m, 5 × 0.5 mm ²
Positioner		
	Positioning signal y	0...10 V, R _i > 100 kΩ
	Positional feedback signal	0...10 V; load > 10 kΩ
	Starting point U ₀	0 V or 10 V
	Control span ΔU	10 V
	Switching range X _{sh}	200 mV
Ambient conditions		
	Temperature of medium ²⁾	Max. 100 °C
	Admissible ambient temperature	-10...55 °C
	Admissible ambient humidity	5...95% rh, no condensation
Construction		
	Fitting	Vertically upright to horizontal, not upside down
	Weight	0.7 kg
	Housing	Lower section black, upper section yellow
	Housing material	Fire-retardant plastic
Standards and directives		
	Type of protection	IP 54 as per EN 60529
	Protection class	III as per IEC 60730



AKM115SF132



¹⁾ For a running time of 35 s, the torque is halved

²⁾ At media temperatures < 5 °C or > 100 °C, appropriate accessory must be used



CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3 EN 61000-6-4
	Directive 2006/95/EC	Machine directive (EN 1050)

Overview of types

Type	Torque
AKM105SF132	4 Nm
AKM115SF132	8 Nm

Accessories

Type	Description
0313529001	Split-range unit for adjusting sequences, fitted in separate junction box
0372462001	CASE Drives PC tool for configuring the drives by computer
0510420001	Adaptor required when temperature of the medium > 100 °C
0510240011	Adaptor required when temperature of the medium < 5 °C
0510480001	Auxiliary change-over contacts, single
0510480002	Auxiliary change-over contacts, double

 Auxiliary change-over contacts: infinitely variable 0...100%, admissible load 5(2) A, 24...230 V



AKM 115S F152: High-speed rotary actuator with SAUTER Universal Technology (SUT) for ball valve

Features

- For actuating 2- and 3-way ball valves (VKR and BKR series)
- For controllers with constant output (0...10 V/4...20 mA) or switching output (2-/3-point control)
- For ball valves up to DN 50
- Fitted to ball valve without the use of tools
- Brushless motor with electronic activation and cut-out
- Intelligent adaptation of angle of rotation, incl. feedback adjustment
- Electronic force-dependent cut-off
- Direction of rotation selected with DIP switch
- Pulse length correction in 3-point operation, i.e. internal adjustment of start-up time
- Gear unit can be disengaged in order to position the ball valve manually (using the lever)
- Maintenance-free
- Free configuration using the CASE Drive PC tool
- Bracket and bayonet ring made of glass-fibre-reinforced plastic for fitting onto ball valve



AKM115SF152



Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24 V=	-10%...20%
Power consumption	6.5 W, 9 VA (at nominal voltage)

Parameters

Torque	8 Nm
Noise during operation (unloaded)	< 49 dB(A)
Response time	10 ms
Angle of rotation	90°
Running time	6 s
Characteristic	linear

Positioner

Positioning signal y	0...10 V/2...10 V, R _i = 100 kΩ, 0...20 mA/4...20 mA, R _i = 500 kΩ
Positional feedback y ₀	0...10 V; load > 10 kΩ
Starting point U ₀	0 or 10 V or 2 or 10 V
Starting point I ₀	0 or 20 mA or 4 or 20 mA
Control span ΔU	10 V
Switching range X _{sh}	100 mV
Control span ΔI	20 mA
Switching range X _{sh}	0.1 mA

Ambient conditions

Operating temperature	-20...55 °C
Temperature of medium ¹⁾	Max. 100 °C
Storage and transport temperature	-30...65 °C
Admissible ambient humidity	5...85% rh, no condensation

Construction

Fitting	Vertically upright to horizontal
Dimensions W x H x D	70 x 138 x 127 mm
Weight	0.7 kg
Housing	Lower section black, upper section yellow

¹⁾ Use the appropriate accessory when temperature of the medium is > 100 °C



Housing material	Fire-retardant plastic
Power cable	1.2 m, 6 × 0.5 mm ²

Standards and directives

	Type of protection	IP 54 (EN 60529), horizontal
	Protection class	III (EN 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
AKM115SF152	High-speed rotary actuator with SAUTER Universal Technology for ball valve

Accessories

Type	Description
0313529001	Split-range unit for adjusting sequences, fitted in separate junction box
0372459102	External switching, 24 V version for parallel operation with A*M 1** or drives with limit switch, incl. junction box
0372462001	CASE Drives PC tool for configuring the drives by computer
0510420001	Adaptor required when temperature of the medium > 100 °C
0510240011	Adaptor required when temperature of the medium < 5 °C



AKF 112, 113: Rotary actuator with spring return for control ball valves

Features

- For actuation of 2- and 3-way ball valves
- For controllers with a switching output (2-/3-point control)
- Returns to the starting position in the event of a power failure or the activation of a safety device
- Electronic torque-dependent cut-off
- Direction of rotation can be selected during fitting



AKF112F122



Technical data

Power supply

Power supply 230 V~	±10%, 50...60 Hz
Power supply 24 V~	±20%, 50...60 Hz
Power supply 24...48 V=	±20%

Parameters

Torque and holding torque	7 Nm
Angle of rotation	Max. 95°
Power cable	0.9 m, 0.75 mm ² (fixed to housing)
Running time for 90° motor	90 s
Running time for 90° spring	15 s

Ambient conditions

Admissible ambient temperature	-32...55 °C
Admissible ambient humidity	5...95% rh

Construction

Weight	1.2 kg
Housing	Two-piece
Housing material	Cast aluminium

Standards and directives

Type of protection	IP 54 as per EN 60529	
Protection class 230 V	II as per IEC 60730	
Protection class 24 V	III as per IEC 60730	
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-2, EN 61000-6-3
Only for AKF120F120	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14
Over-voltage categories	III	
Degree of contamination	II	

Overview of types

Type	Power consumption	Control function	Voltage
AKF112F120	4.5 W, 7.5 VA	2-point	230 V~
AKF112F122	3.5 W, 5.0 VA	2-point	24 V~/24...48 V=
AKF113F122	3.5 W, 5.0 VA	3-point	24 V~/24...48 V=

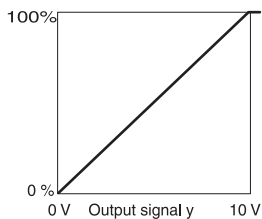
Accessories

Type	Description
0510240001	Assembly kit for VKR/BKR ball valves as spare part and as accessory for rotary actuators ASF 112, 113 from index B





AKF113SF122



AKF 113S: Rotary actuator with spring return and positioner

Features

- For actuation of 2- and 3-way ball valves
- For controllers with a continuous output (0...10 V)
- Returns to the starting position in the event of a power failure or the activation of a safety device
- Electronic torque-dependent cut-off
- Direction of rotation can be selected during fitting

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24...48 V=	±20%
Power consumption during operation	3.5 W, 5 VA
Power consumption when idle	2.5 W, 2.5 VA

Parameters

Positioner	Positioning signal y	0...10 V, $R_i = 100 \text{ k}\Omega$
	Positional feedback signal	0...10 V (0...100%)
	Admissible load	> 10 k Ω
	Starting point U_0	0 V
	Control span ΔU	10 V
	Switching range X_{sh}	0.2 V
	Torque and holding torque	7 Nm
	Angle of rotation	Max. 95°
	Power cable	0.9 m, 4 × 0.75 mm ² (fixed to housing)
	Running time for 90° motor	90 s
Running time for 90° spring	15 s	

Ambient conditions

Admissible ambient temperature	-32...55 °C
Admissible ambient humidity	< 95% rh

Construction

Weight	1.3 kg
Housing	Two-piece
Housing material	Cast aluminium

Standards and directives

CE conformity as per	Type of protection	IP 54 as per EN 60529
	Protection class	III as per IEC 60730
	EMC directive 2004/108/EC	EN 61000-6-2, EN 61000-6-3

Overview of types

Type	Properties
AKF113SF122	Rotary actuator with spring return and positioner

Accessories

Type	Description
0510240001	Assembly kit for VKR/BKR ball valves as spare part and as accessory for rotary actuators ASF 112, 113 from index B



Control valves and butterfly valves

SAUTER control valves are used to control heating and cooling systems in buildings. The 3-way version is suitable for controlling and change-over functions, while the 4-way version is employed for higher temperatures in the return circuit. SAUTER butterfly valves are very versatile and are used for control and shut-off functions. Because they close absolutely tightly, they reduce energy consumption.

Overview of control valves and butterfly valves



Type codes	M3R, M4R	MH32F, MH42F	DEF
Application			
Preheater for ventilation & air-conditioning	•	•	–
Static heating	•	•	–
Cooling tower	–	–	•
Multi-boiler system	–	–	•
Version			
Control valve	•	•	–
Butterfly valve	–	–	•
Technical data			
Nominal diameter (DN)	15...50	20...150	25...200
Nominal pressure (bar)	10	6	16
Combination options with actuator	AR30 W, ASM 105, 115, 124	AR30 W, ASM 105, 115, 124	AR30 W, A44 W, ASF 122, 123
Further information	Page 278	Page 280	Page 282



M3R015F200



M3R0**F200



M4R0**F200

M3R, M4R: Control valve with threaded connection, PN 10

Features

- M3R: 3-way valves with nominal diameters DN 15...50
- M4R: 4-way valves with nominal diameters DN 20...50
- Used in combination with the AR30 and ASM 105, 115, 124 motorised actuators
- Manual adjustment by means of lever and end stops
- Brass body and gate
- Lever of ABS
- Double O-ring of EPDM ensures the tightness of the seal at the spindle

Technical data

Parameters

Nominal pressure	10 bar
Angle of rotation	90°
Valve characteristic	Linear

Ambient conditions

Operating temperature	2...110 °C
Operating pressure	Max. 10 bar

Overview of types

Type	Nominal diameter	k_{vs} value	Leakage rate in % of k_{vs}	Weight
M3R015F200	DN 15 (Rp $\frac{1}{2}$)	2.5 m ³ /h	1 %	0.8 kg
M3R020F200	DN 20 (Rp $\frac{3}{4}$)	6 m ³ /h	1 %	0.7 kg
M3R025F200	DN 25 (Rp1)	12 m ³ /h	1 %	1.2 kg
M3R032F200	DN 32 (Rp1 $\frac{1}{4}$)	18 m ³ /h	1 %	1.2 kg
M3R040F200	DN 40 (Rp1 $\frac{1}{2}$)	26 m ³ /h	1 %	2.2 kg
M3R050F200	DN 50 (Rp2)	40 m ³ /h	1 %	2.3 kg
M4R020F200	DN 20 (Rp $\frac{3}{4}$)	6 m ³ /h	1.5 %	0.8 kg
M4R025F200	DN 25 (Rp1)	12 m ³ /h	1.5 %	1.2 kg
M4R032F200	DN 32 (Rp1 $\frac{1}{4}$)	18 m ³ /h	1.5 %	1.3 kg
M4R040F200	DN 40 (Rp1 $\frac{1}{2}$)	26 m ³ /h	1.5 %	2.3 kg
M4R050F200	DN 50 (Rp2)	40 m ³ /h	1.5 %	2.5 kg

☛ M3R0**F200: 3-way valve: body, cover, front gate and spindle made of brass

☛ M4R0**F200: 4-way valve: body, cover, front gate and spindle made of brass

Accessories

Type	Description
0361775000	Assembly materials for M3R/M4R, MH32F/MH42F with AR30
0361977001	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 124
0361977002	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 105, 115



Combination M3R/M4R with electric actuators

i Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.

i Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after control valve) at which the actuator reliably closes the valve by means of a return spring.

i Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.

Actuator	ASM105F100	ASM105F120 ASM105F122	ASM105SF132	ASM115F120 ASM115F122	ASM115SF132
Page	296	296	300	296	300
Torque	5 Nm	5 Nm	5 Nm	10 Nm	10 Nm
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	120 s	60/120 s

Δp [bar]

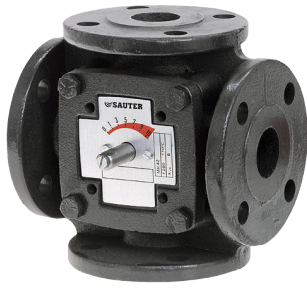
As control valve	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
M3R015F200	2.0	2.0	2.0	-	-
M3R020F200 M4R020F200	1.0	1.0	1.0	-	-
M3R025F200 M3R032F200 M3R040F200 M3R050F200 M4R025F200 M4R032F200 M4R040F200 M4R050F200	1.0	1.0	1.0	1.0	1.0

Actuator	AR30W23F001	AR30W23F020	AR30W23SF020	ASM124SF132	ASM124F120 ASM124F122
Page	286	286	288	307	302
Torque	-	15 Nm	15 Nm	15 Nm	18 Nm
Control signal	3-point	3-point	0...10 V	2-/3-point, 0...10 V	2-/3-point
Running time	120 s	120 s	120 s	60/120 s	120 s

Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
M3R015F200	2.0	2.0	2.0	-	-
M3R020F200 M3R025F200 M4R020F200 M4R025F200	1.0	1.0	1.0	-	-
M3R032F200 M3R040F200 M3R050F200 M4R032F200 M4R040F200 M4R050F200	1.0	1.0	1.0	1.0	1.0

⚠ Accessories required: Assembly materials; see accessories. With ASM124, it is not possible to fit auxiliary contacts or a potentiometer



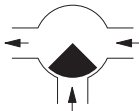
MH32F40F200



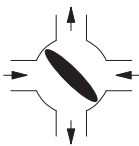
MH32F**F200



MH42F**F200



3-way valve



4-way valve

MH32F, MH42F: Control valve with flange connection, PN 6

Features

- MH32F: 3-way valves with nominal diameters DN 20...150
- MH42F: 4-way valves with nominal diameters DN 32...50
- Can be combined with the AR30 and ASM 105, 115, 124 motorised actuators
- Manual adjustment by a lever
- Body made of grey cast iron; brass gate
- Spindle made of brass up to DN 25 or stainless steel from DN 32
- Stuffing box with double O-ring guarantees the tightness of the seal at the spindle

Technical data

Parameters

Nominal pressure	6 bar
Angle of rotation	90°
Valve characteristic	Linear

Ambient conditions

Operating temperature	2...110 °C
Operating pressure	Max. 6 bar

Overview of types

Type	Nominal diameter	k_{vs} value	Leakage rate in % of k_{vs}	Weight
MH32F20F200	DN 20	12 m ³ /h	1 %	2.7 kg
MH32F25F200	DN 25	18 m ³ /h	1 %	3.5 kg
MH32F32F200	DN 32	28 m ³ /h	1 %	4.6 kg
MH32F40F200	DN 40	44 m ³ /h	1 %	5.6 kg
MH32F50F200	DN 50	66 m ³ /h	1 %	7.9 kg
MH32F65F200	DN 65	100 m ³ /h	1 %	9.2 kg
MH32F80F200	DN 80	150 m ³ /h	1 %	14.2 kg
MH32F100F200	DN 100	225 m ³ /h	1 %	19 kg
MH32F125F200	DN 125	310 m ³ /h	1 %	25.8 kg
MH32F150F200	DN 150	420 m ³ /h	1 %	35.5 kg
MH42F32F200	DN 32	28 m ³ /h	1.5 %	5.7 kg
MH42F40F200	DN 40	44 m ³ /h	1.5 %	7.1 kg
MH42F50F200	DN 50	66 m ³ /h	1.5 %	8.3 kg

💡 MH32F20...25: 3-way valve: Zinc cover, brass spindle

💡 MH32F32...150: 3-way valve: Cover of grey cast iron, spindle of stainless steel

💡 MH42F32...50: 4-way valve: Cover of grey cast iron, spindle of stainless steel

Accessories

Type	Description
0360392020	Welding flange, DN 20, smooth, PN 6, incl. asbestos-free seal
0360392025	Welding flange, DN 25, smooth, PN 6, incl. asbestos-free seal
0360392032	Welding flange, DN 32, smooth, PN 6, incl. asbestos-free seal
0360392040	Welding flange, DN 40, smooth, PN 6, incl. asbestos-free seal
0360392050	Welding flange, DN 50, smooth, PN 6, incl. asbestos-free seal
0360392065	Welding flange, DN 65, smooth, PN 6, incl. asbestos-free seal
0360392080	Welding flange, DN 80, smooth, PN 6, incl. asbestos-free seal
0360392100	Welding flange, DN 100, smooth, PN 6, incl. asbestos-free seal
0360392125	Welding flange, DN 125, smooth, PN 6, incl. asbestos-free seal
0360392150	Welding flange, DN 150, smooth, PN 6, incl. asbestos-free seal



Type	Description
0361775000	Assembly materials for M3R/M4R, MH32F/MH42F with AR30
0361977001	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 124
0361977002	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 105, 115

Combination of MH32F/MH42F with electric actuators

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Max. admissible pressure drop in the event of a malfunction (pipe break after control valve) at which the actuator reliably closes the control valve using the return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*

Pressure differences

Actuator	ASM105F100	ASM105F120 ASM105F122	ASM105SF132	ASM115F120 ASM115F122	ASM115SF132
Page	296	296	300	296	300
Torque	5 Nm	5 Nm	5 Nm	10 Nm	10 Nm
Control signal	2-/3-point	2-/3-point	2-/3-point, 0...10 V	2-/3-point	2-/3-point, 0...10 V
Running time	30 s	120 s	35/60/120 s	120 s	60/120 s

Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
MH32F20F200 MH32F25F200 MH32F32F200 MH32F40F200	1.0	1.0	1.0	1.0	1.0
MH32F50F200 MH32F65F200 MH32F80F200	-	-	-	0.5	0.5

Actuator	AR30W23F001	AR30W23F020	AR30W23SF020	ASM124SF132	ASM124F120 ASM124F122
Page	286	286	288	307	302
Torque	-	15 Nm	15 Nm	15 Nm	18 Nm
Control signal	3-point	3-point	0...10 V	2-/3-point, 0...10 V	2-/3-point
Running time	120 s	120 s	120 s	60/120 s	120 s

Δp [bar]

As control valve	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}	Δp_{max}
MH32F20F200 MH32F25F200 MH32F32F200 MH32F40F200 MH42F32F200 MH42F40F200	1.0	1.0	1.0	1.0	1.0
MH32F50F200 MH32F65F200 MH32F80F200 MH32F100F200 MH32F125F200 MH32F150F200 MH42F50F200	0.5	0.5	0.5	0.5	0.5

- ⚙** *Accessories required: Assembly materials; see accessories. With ASM124, it is not possible to fit auxiliary contacts or a potentiometer*



DEF100F200



DEF: Tight-sealing butterfly valve, PN 16

Features

- Continuous control of water, air and low-pressure steam up to 110 °C or as a shut-off unit
- Butterfly valve with 3-way brass bearing bush as spindle bearing
- Fits PN 6, PN 10 and PN 16 flanges
- Can be combined with the motorised actuators of the AR30W and A44W type or ASF 122 and 123 damper actuators with spring return
- Damper body made of grey cast iron
- Collar made of ethylene-propylene rubber
- Butterfly wafer made of stainless steel
- Spindle in stainless steel sealed with two O-rings

Technical data

Parameters

Nominal pressure	16 bar
Valve characteristic	Linear
Angle of rotation	90°
Leakage rate ¹⁾	< 0,0001% of the k_{vs} value

Ambient conditions

Operating temperature	-10...130 °C
Maximum operating pressure	16 bar

Overview of types

Type	Nominal diameter	k_{vs} value	Weight
DEF025F200	DN 25	36 m ³ /h	1 kg
DEF032F200	DN 32	40 m ³ /h	1.15 kg
DEF040F200	DN 40	50 m ³ /h	2.75 kg
DEF050F200	DN 50	85 m ³ /h	3.05 kg
DEF065F200	DN 65	215 m ³ /h	4.05 kg
DEF080F200	DN 80	420 m ³ /h	4.3 kg
DEF100F200	DN 100	800 m ³ /h	4.85 kg
DEF125F200	DN 125	1010 m ³ /h	7.2 kg
DEF150F200	DN 150	2100 m ³ /h	9.5 kg
DEF200F200	DN 200	4000 m ³ /h	12 kg

Accessories

Type	Description
0361632***	Two welding flanges, complete PN 6 as per EN 1092-1 DN 25, DN 32, DN 40, DN 50, DN 65, DN 80, DN 100, DN 125, DN 150, DN 200
0361633***	Two welding flanges, complete PN 10 (DN 25...100) as per EN 1092-1 and PN 16 (DN 25...200) as per EN 1092-1 DN 25, DN 32, DN 40, DN 50, DN 65, DN 80, DN 100, DN 125, DN 150, DN 200
0361634200	2 welding flanges complete PN 10 (DN 200) as per EN 1092-1
0378108001	Assembly parts; DEF DN 25...65 for AR30
0378109001	Assembly parts; DEF DN 80...100 for AR30
0378110001	Assembly parts; DEF DN 25...65 for A44
0378111001	Assembly parts; DEF DN 80...125 for A44
0378112001	Assembly parts; DEF DN 150...200 for A44
0378113001	Assembly parts; DEF DN 25...100 for ASF122/123
0372455001	Assembly part; DEF DN25...65 for ASM 124/134

¹⁾ At p 1.5 bar



Type	Description
0372455002	Assembly part; DEF DN80...100 for ASM 124; DN125 for ASM 134
0372455003	Assembly part; DEF DN150...200 for ASM 134

 Ordering information: DN 25 = /025, DN 100 = /100

Combination of DEF with electric actuators

i *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*

i *Definition of Δp_s : Max. admissible pressure drop in the event of a malfunction (pipe break after the damper) at which the actuator reliably closes the damper using the return spring.*

i *Definition of Δp_{max} : Max. admissible pressure drop in control mode at which the actuator reliably opens and closes the damper.*

Pressure differences

Actuator	AR30W23F001	AR30W23F020	AR30W23SF020
Page	286	286	288
Torque	-	15 Nm	15 Nm
Control signal	3-point	3-point	0...10 V
Running time	120 s	120 s	120 s

Δp [bar]

Closes against the pressure	Δp_{max}	Δp_{max}	Δp_{max}
DEF025F200 DEF032F200 DEF040F200 DEF050F200	10.0	10.0	10.0
DEF065F200	7.0	7.0	7.0
DEF080F200	4.0	4.0	4.0
DEF100F200	2.0	2.0	2.0

Actuator	ASF122F120 ASF122F122 ASF122F220 ASF122F222	ASF123F122	ASF123SF122
Page	312	312	314
Torque	18 Nm	18 Nm	18 Nm
Control signal	2-point	3-point	0...10 V
Running time	90 s	90 s	90 s

Δp [bar]

Closes against the pressure	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s
DEF025F200 DEF032F200 DEF040F200 DEF050F200	10.0	10.0	10.0	10.0	10.0	10.0
DEF065F200	7.0	7.0	7.0	7.0	7.0	7.0
DEF080F200	4.0	4.0	4.0	4.0	4.0	4.0
DEF100F200	2.0	2.0	2.0	2.0	2.0	2.0

Actuator	A44W2F001 A44W2F020	A44W2SF001
Page	290	293
Torque	30 Nm	30 Nm
Control signal	3-point	0...10 V; 4...20 mA
Running time	120 s	120 s

Δp [bar]		
Closes against the pressure	Δp_{\max}	Δp_{\max}
DEF025F200	10.0	10.0
DEF032F200		
DEF080F200		
DEF100F200		
DEF040F200	16.0	16.0
DEF050F200		
DEF065F200		
DEF125F200	6.0	6.0
DEF150F200	5.0	5.0
DEF200F200	3.0	3.0

 Accessories required: Assembly parts; see accessories

Rotary actuators

Rotary actuators from SAUTER save energy by switching off the power when in the end positions. They are used to control regulating units, such as air dampers, control valves and butterfly valves. They are suitable for controllers with a switching output and those with a continuous output.

Overview of rotary actuators



Type codes	AR30 W21...23	AR30 W2 2S, W23S	A44 W0...W2	A44 W0S...W2S
Technical data				
Torque (Nm)	15	15	25, 30	25, 30
Running time for 90°/(s)	30, 60, 120	60, 120	30, 60, 120	30, 60, 120
Power (V~)	24, 230	24	24, 230	24
Control				
3-point	•	–	•	–
Positioner	–	•	–	•
Further information	Page 286	Page 288	Page 290	Page 292



AR30W23SF020



AR30 W21...23: Motorised actuator

Features

- For controllers with a switching output (3-point)
- Synchronous motor with limit switch
- Maintenance-free gear unit
- Moves the regulating unit to any position
- Cable gland M20 × 1.5

Technical data

Power supply

	Power supply 230 V~	±15%, 50...60 Hz
	Power supply 24 V~	±20%, 50...60 Hz
	Power consumption 230 V~	3.7 VA
	Power consumption 24 V~	4.8 VA
	Operating time	Duty cycle 100%
Power consumption with 50Hz	230 V~	4.2 VA
	24 V~	5.4 VA

Parameters

	Angle of rotation ¹⁾	90°
	Torque and holding torque	15 Nm
	Admissible damper surface area ²⁾	5 m ²

Ambient conditions

	Storage and transport temperature	-30...70 °C
	Admissible ambient temperature	-20...60 °C
	Admissible ambient humidity	< 95% rh

Construction

	Weight	1.1 kg
	Housing material	Light-metal alloy; cover made of transparent, fire-retardant thermoplastic

Standards and directives

	Type of protection ³⁾	IP 55 (EN 60529), in hanging position IP 54
Type AR30W21F001 CE conformity as per	Directive 2006/95/EC	EN 60730-1/ EN 60730-2-14
Type AR30W21F001 and AR30W21F020 CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1/EN 60730-2-14 EN 61000-6-3/EN 61000-6-4

Overview of types

Type	Running time for 90°	Voltage
AR30W21F001	30 s	230 V~
AR30W21F020	30 s	24 V~
AR30W22F001	60 s	230 V~
AR30W22F020	60 s	24 V~
AR30W23F001	120 s	230 V~
AR30W23F020	120 s	24 V~

¹⁾ Angle of rotation of end shaft is adjustable from 30° min. to 320° max. by means of a switching cam (starting point is freely selectable). If a potentiometer is fitted: Observe angle of rotation of potentiometer

²⁾ Recommended value for equal-sided, smooth-running air dampers, for AR30W21 damper area = 4 m²

³⁾ Degree of protection IP 55 with cable gland M20 × 1.5



Accessories

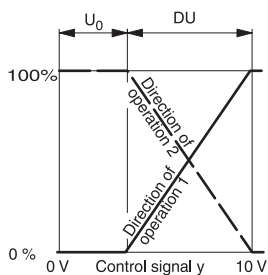
Type	Description
0188813000	Ball joint for clamping lever
0294148000	Fixing bracket for wall mounting
0294967000	Pivot pin for clamping lever
0370059000	Clamping lever for shaft, Ø 8...18 mm
0370772001	Two sets of auxiliary contacts, permissible load 10 (2) A, 250 V~
0370774001	Crank handle for manual adjustment
0370785001	Position indicator
0370819000	Flat-sided hub
0372460001	Cable screw fitting (plastic M20 × 1,5) incl. locking nut and seal
0370780001	Potentiometer, 2000 Ω, 1 W
0370781001	Dual-operation potentiometer 130/2000 Ω, 1 W
0370644001	Rotation-angle cog set 90° or 180°, with coupling
0370644002	Rotation-angle cog set 120° or 150°, with coupling

☛ Auxiliary change-over contacts: Switching cam 180° ON or 180° OFF can be positioned at any point over the entire angle of rotation (360°)





AR30W23SF020



AR30 W22S, W23S: Motorised actuator with positioner

Features

- Actuation of control elements such as air dampers, control valves, butterfly valves, etc.
- For controllers with continuous output (0...10 V/0...20 mA)
- Synchronous motor with limit switch and integrated positioner
- Maintenance-free gear unit
- Moves the regulating unit to any position
- Angle of rotation min. 30° to max. 320°
- Direction of operation can be selected by means of a switch.
- Electrical connections (max. 1.5 mm²) via screw terminals
- Cable gland M20 × 1.5

Technical data

Power supply

Power supply	24 V~, ± 20%, 50 Hz
Power consumption during operation	Approx. 5.1 W
Power consumption when idle	Approx. 0.7 VA

Parameters

	Admissible operating time	100 %
Positioner	Control signal 0...10 V	R _i = 30 kΩ
	Control signal 0...20 mA	R _i = 50 kΩ
	Positional feedback 0...10 V	Permissible load ≥ 2.5 kΩ
	Positional feedback 0...620 mV	Permissible load ≥ 100 kΩ
	Starting point U ₀	0.4...9.1 V
	Control span ΔU	1...10 V
	Switching range X _{sh}	4% of ΔU
	Admissible damper surface area ¹⁾	5 m ²
Angle of rotation ²⁾	90°	
Torque and holding torque	15 Nm	

Ambient conditions

Admissible ambient temperature	-5...60 °C
Admissible ambient humidity	< 95% rh
Storage and transport temperature	-30...70 °C

Construction

Weight	1.1 kg
Housing material	Light-metal alloy; cover made of transparent, fire-retardant thermoplastic

Standards and directives

	Type of protection ³⁾	IP 55 (EN 60529), in pendent position IP 54 (EN 60529)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-3 EN 61000-6-4

Overview of types

Type	Running time for 90°
AR30W22SF020	60 s
AR30W23SF020	120 s

¹⁾ Recommended value for equal-sided, smooth-running air dampers

²⁾ Angle of rotation of end shaft is 90 °C (factory set). Changing the arrangement to 180° is possible by reversing the cogs and readjusting the limit switches

³⁾ Degree of protection IP 55 with cable gland M20 × 1.5



Accessories

Type	Description
0188813000	Ball joint for clamping lever
0294148000	Fixing bracket for wall mounting
0294967000	Pivot pin for clamping lever
0370059000	Clamping lever for shaft, Ø 8...18 mm
0370774001	Crank handle for manual adjustment
0370785001	Position indicator
0370819000	Flat-sided hub
0372460001	Cable screw fitting (plastic M20 × 1,5) incl. locking nut and seal





A44W*F0**



A44 W0...W2: Motorised actuator

Features

- Actuation of control elements such as air dampers, gates, butterfly valves etc.
- For controllers with a switching output (3-point)
- Synchronous motor with end switch
- Maintenance-free gear unit
- Positions the regulating unit to any position
- Cable gland M20 × 1.5
- Crank handle for manual adjustment

Technical data

Power supply

Power supply 230 V~	±15%, 50...60 Hz
Power supply 24 V~	±20%, 50...60 Hz

Parameters

Angle of rotation ¹⁾	90°
---------------------------------	-----

Ambient conditions

Admissible ambient temperature ²⁾	-20...60 °C
Admissible ambient humidity	< 95% rh
Storage and transport temperature	-30...70 °C

Construction

Screw terminals	For wire of up to 1.5 mm ²
Housing material	Light-metal alloy, cover made of fire-retardant plastic

Standards and directives

	Type of protection ³⁾	IP 43 (EN 60529)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4

Overview of types

i Admissible damper surface area: the recommended admissible damper area applies to equal-sided, smooth-running air dampers

Type	Torque (Nm)	Holding torque (Nm)	Running time for 90° (s)	Admissible damper surface area (m ²)	Power consumption (W)	Voltage	Weight (kg)
A44W0F001	25	22	30	8	10.4	230 V~	2.5
A44W0F020	25	22	30	8	10.4	24 V~	2.5
A44W1F001	30	30	60	10	10.4	230 V~	2.5
A44W1F020	30	30	60	10	10.4	24 V~	2.5
A44W2F001	30	30	120	10	4.8	230 V~	2.2
A44W2F020	30	30	120	10	4.8	24 V~	2.2

¹⁾ Angle of rotation of end shaft is adjustable from 30° min. to 320° max. by means of a switching cam (starting point is freely selectable). If a potentiometer is fitted: Observe angle of rotation of potentiometer

²⁾ At temperatures under 0 °C, use heating resistor (accessory)

³⁾ Degree of protection IP 43 only in conjunction with M20 × 1.5 cable gland. Degree of protection IP 55 with steel or aluminium cover (accessory) and M20 × 1.5 cable gland



Accessories

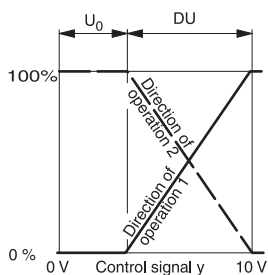
- i** Potentiometer with rigid coupling: obligatory for certain TÜV-approved burner control systems
- i** Pluggable auxiliary change-over contacts: switching cam 180° ON or 180° OFF can be positioned at any point over the entire angle of rotation (360°)

Type	Description
0188614000	Fixing bracket for wall mounting
0274605000	Angled ball joint for clamping lever with nut (M10)
0294967000	Pivot pin for clamping lever
0370205002	Heating resistor 5 W, 24 V~
0370396000	3 insertable auxiliary change-over contacts, 10(2) A 250 V~
0370479000	Steel hood + manual adjuster, hammer enamel finish RAL 1020
0370486000	Clamping lever, complete (including square hub)
0370493000	2 auxiliary contacts Min. load: 100 mA, 24 V~
0370628000	Adaptor plate including 4 M6 countersunk screws for replacing A33 W. with A44 W.
0370638000	Straight ball joint for clamping lever with nut (M10)
0370715001	Cover made of die-cast aluminium with rubber seal, type of protection IP 55
0371290001	Cover, black, made of die-cast aluminium with display window, rubber seal, position indicator and scale, type of protection IP 55
0372460001	Cable screw fitting (plastic M20 × 1,5) incl. locking nut and seal
0370640001	Potentiometer 2000 Ω, 1.0 W with friction coupling
0370640002	Potentiometer 130 Ω, 1.0 W with friction coupling
0370640006	Potentiometer 1000 Ω, 1.0 W with friction coupling
0370641001	Dual-operation potentiometer 130/2000 Ω, 1.0 W with friction coupling
0370641002	Dual-operation potentiometer 2000/2000 Ω, 1.0 W with friction coupling
0370641006	Dual-operation potentiometer 130/140 Ω, 1.0 W with friction coupling
0370644001	Rotation-angle cog set 90° or 180°, with coupling
0370644002	Rotation-angle cog set 120° or 150°, with coupling
0370645006	Potentiometer 1000 Ω, 1.0 W with rigid coupling
0370645007	Potentiometer 5000 Ω, 1.0 W with rigid coupling
0370646001	Rotation-angle cog set 90°, without coupling
0370646002	Rotation-angle cog set 120°, without coupling

- ☛ 0370396000: (3 auxiliary contacts) Min. load: 100 mA, 24 V~
- ☛ 0370479000: (steel hood + manual adjuster) olive yellow, hammer enamel finish RAL 1020
- ☛ 0370493000: (2 auxiliary contacts) Min. load: 100 mA, 24 V~



A44W*SF001



A44 W0S...W2S: Motorised actuator with positioner

Features

- Actuation of control elements such as air dampers, gates, butterfly valves etc.
- For controllers with continuous output (0...10 V/0...20 mA)
- Synchronous motor with limit switch and integrated positioner
- Maintenance-free gear unit
- Moves the regulating unit to any position
- Direction of operation can be selected with switch
- Cable gland M20 × 1.5
- Crank handle for manual adjustment

Technical data

Power supply

Power supply	24 V~, ±20%, 50...60 Hz
Power consumption when idle	3 VA
Power consumption with 60 Hz	A44WS02, A44W1S → 13.4 W A44W2S → 7.8 W at standstill → 3 VA

Parameters

Positioner	Control signal 0...10 V	$R_i = 30 \text{ k}\Omega$
	Control signal 0...20 mA	$R_i = 50 \text{ k}\Omega$
	Positional feedback 0...10 V	Permissible load $\geq 2.5 \text{ k}\Omega$
	Positional feedback 0...620 mV	Permissible load $\geq 100 \text{ k}\Omega$
	Starting point U_0	0.4...9.1 V
	Control span ΔU	1...10 V
	Switching range X_{sh}	4% of ΔU
	Angle of rotation ¹⁾	30°...320° (90° nominal)

Ambient conditions

Admissible ambient temperature	-5...50 °C
Admissible ambient humidity	< 95% rh
Storage and transport temperature	-30...70 °C

Construction

Housing material	Light-metal alloy, cover made of fire-retardant plastic
Screw terminals	For wire of up to 1.5 mm ²

Standards and directives

Type of protection ²⁾	IP 43 (EN 60529)
EMC directive 2004/108/EC	EN 61000-6-1/EN 61000-6-3 EN 61000-6-4

¹⁾ Angle of rotation of end shaft is 90° (factory set). Changing the arrangement to 180° is possible by reversing the cogs and readjusting the limit switches. Refer to fitting instruction MV 505228

²⁾ Degree of protection IP 43 only in conjunction with M20 × 1.5 cable gland. Degree of protection IP 55 is attained with steel or aluminium cover (accessory) and M20 × 1.5 cable gland.



Overview of types

i Admissible damper surface area: the recommended admissible damper area applies to equal-sided, smooth-running air dampers

Type	Torque (Nm)	Holding torque (Nm)	Running time for 90° (s)	Admissible damper surface area (m ²)	Power consumption (W)	Weight (kg)
A44W0SF001	25	22	30	8	12.2	2.7
A44W1SF001	30	30	60	10	12.2	2.7
A44W2SF001	30	30	120	10	6.8	2.4

Accessories

Type	Description
0188614000	Fixing bracket for wall mounting
0274605000	Angled ball joint for clamping lever with nut (M10)
0294967000	Pivot pin for clamping lever
0370479000	Steel hood + manual adjuster, hammer enamel finish RAL 1020
0370486000	Clamping lever, complete (including square hub)
0370493000	2 auxiliary contacts Min. load: 100 mA, 24 V~
0370628000	Adaptor plate including 4 M6 countersunk screws for replacing A33 W. with A44 W.
0370638000	Straight ball joint for clamping lever with nut (M10)
0371290001	Cover, black, made of die-cast aluminium with display window, rubber seal, position indicator and scale, type of protection IP 55
0372460001	Cable screw fitting (plastic M20 × 1,5) incl. locking nut and seal



Damper and rotary actuators

SAUTER damper and rotary actuators provide a torque- and time-dependent cut-off facility for the efficient usage of energy. The overload protection and the end position detector also make useful contributions to energy saving. SAUTER rotary actuators can be used for controllers with continuous or switched output, so are suitable for operating air dampers, shut-off dampers, butterfly valves and multi-leaf dampers.

Overview of damper and rotary actuators



Type codes	ASM 105, 115	ASM 105S, 115S F132	ASM 105S, 115S F152	ASM 124
Technical data				
Torque (Nm)	5, 10	5, 10	5, 10	18
Running time (s)	30, 120	35, 60, 120	3, 6	120
Power supply (V)	24, 230	24	24	24, 230
Control				
2-point	•	•	•	•
3-point	•	•	•	•
High-speed	–	–	•	–
Positioner	–	•	•	–
Spring return	–	–	–	–
Further information	Page 296	Page 300	Page 298	Page 302



Type codes	ASM 134	ASM 124S, 134S	ASF 112, 113	ASF 113S
Technical data				
Torque (Nm)	30	5, 30	7	7
Running time (s)	120, 240	60, 120, 240	90	90
Power supply (V)	230	24, 230	24	24
Control				
2-point	–	•	•	–
3-point	•	•	•	–
High-speed	–	–	–	–
Positioner	–	•	–	•
Spring return	–	–	•	•
Further information	Page 304	Page 306	Page 308	Page 310



Type codes	ASF 122, 123	ASF 123S
Technical data		
Torque (Nm)	18	18
Running time (s)	90	90
Power supply (V)	24, 230	230
Control		
2-point	•	–
3-point	•	–
High-speed	–	–
Positioner	–	•
Spring return	•	•
Further information	Page 312	Page 314



ASM105F122



ASM 105, 115: Damper actuator

Features

- For controllers with switching output (2- or 3-point)
- Self-centring spindle adapter
- Gear unit can be disengaged to position the damper and for manual adjustment
- Synchronous motor with electronic activation and cut-out
- Maintenance-free
- Direction of rotation changed by transposing the connections
- Suitable for all fitting positions
- Version with halogen-free cable on demand

Technical data

Parameters

Angle of rotation	Max. 95°
Admissible damper shaft	Ø 8...16 mm, □ 6,5...12.5 mm
Admissible damper shaft (hardness)	Max. 300 HV
Operating noise	< 30 dB(A)
Response time	200 ms

Ambient conditions

Admissible ambient temperature ¹⁾	-20...65 °C
Admissible ambient humidity	5...85% rh, no condensation

Operation

Control	2-/3-point
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Construction

Weight	0.7 kg
Housing	Lower section black, upper section yellow
Housing material	Fire-retardant plastic
Power cable	1.2 m long, 3 × 0.75 mm ²

Standards and directives

Type of protection	IP 54 (EN 60529)
Protection class 24 V	III (IEC 60730)
Protection class 230 V	II (IEC 60730)

CE conformity as per

EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
Directive 2006/95/EC	EN 1050
Low-voltage directive 2006/95/EC ²⁾	EN 60730-1, EN 60730-2-14 Over-voltage category III Degree of contamination II

Overview of types

Type	Torque and holding torque	Running time for 90°	Power supply	Power consumption
ASM105F100	5 Nm	30 s	230 V~	2.4 W, 5.4 VA
ASM105F120	5 Nm	120 s	230 V~	2.0 W, 5.0 VA
ASM105F122	5 Nm	120 s	24 V~	1.6 W, 1.7 VA
ASM115F120	10 Nm	120 s	230 V~	2.0 W, 5.0 VA
ASM115F122	10 Nm	120 s	24 V~	1.6 W, 1.7 VA

¹⁾ Operating time approx. 80% up to 65 °C, 100% up to 55 °C

²⁾ Only for ASM1*5F1*0



Accessories

Type	Description
0361977002	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 105, 115
0372145001	Auxiliary change-over contacts, single
0372145002	Auxiliary change-over contacts, double
0372286001	Potentiometer, 130 Ω
0372286002	Potentiometer, 1000 Ω
0372286003	Potentiometer, 5000 Ω
0372300001	Torsion protection, long (230 mm)
0372301001	Spindle adaptor for squared end hollow profile (x 15 mm), pack of 10 pcs.
0372320001	Hexagon key as visualisation for position indicator
0372459100	External switching, 230 V version for parallel operation with A*M 1** or drives with limit switch, incl. junction box
0372459102	External switching, 24 V version for parallel operation with A*M 1** or drives with limit switch, incl. junction box

☛ Auxiliary change-over contacts: Infinitely variable 0...90°, admissible load 5(2) A, 24...230 V

☛ Potentiometers: Only one potentiometer or one set of auxiliary contacts can be fitted for each actuator



ASM 105S, 115S F152: High-speed damper actuator with SAUTER Universal Technology (SUT)



ASM115SF152



Features

- For controllers with switching (2- and 3-point) or continuous output (0...10 V)
- Brushless motor with electronic activation and cut-out
- Intelligent adaptation of angle of rotation, incl. feedback adjustment
- Electronic force-dependent cut-off
- Direction of rotation selected with DIP switches \odot and \ominus
- Pulse length correction in 3-point operation, i.e. internal adjustment of start-up time
- Self-centring spindle adaptor
- Gear unit can be disengaged to position the damper and for manual adjustment
- Free configuration using the CASE Drive PC tool
- Maintenance-free
- Fitting: Vertically upright to horizontal, but not suspended

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24 V=	+20%, -10%

Parameters

	Angle of rotation	Max. 95°
	Admissible damper shaft	∅ 8...16 mm, □ 6,5...12.5 mm
	Admissible damper shaft (hardness)	Max. 300 HV
	Noise during operation (unloaded)	< 49 dB(A)
	Response time	10 ms (electrically compensated)
Positioner	Control signal y	0...10 V/2...10 V, $R_i = 100 \text{ k}\Omega$
	Control signal y	0...20 mA/4...20 mA, $R_i = 500 \text{ k}\Omega$
	Positional feedback y_0	0...10 V; load > 10 k Ω
	Starting point U_0	0 or 10 V/2 or 10 V
	Starting point I_0	0 or 20 mA/4 or 20 mA
	Control span ΔU	10 V
	Switching range X_{sh}	100 mV
	Control span ΔI	20 mA
	Switching range X_{sh}	0.1 mA

Ambient conditions

Operating temperature	-20...55 °C
Storage and transport temperature	-30...65 °C
Admissible ambient humidity	5...85% rh, no condensation

Construction

Dimensions W x H x D	70 × 63 × 133 mm
Weight	0.7 kg
Housing	Lower section black, upper section yellow
Housing material	Fire-retardant plastic
Power cable	1.2 m long, 6 × 0.5 mm ²

Standards and directives

	Type of protection	IP 54 (EN 60529)
	Protection class	III (EN 60730)
CE conformity	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4



Overview of types

i Torque and holding torque: holding torque is typically 1.5 Nm when the drive is without power

Type	Torque and holding torque	Running time for 90°	Power consumption
ASM105SF152	5 Nm	3 s	6.0 W, 8.5 VA
ASM115SF152	10 Nm	6 s	6.5 W, 9.0 VA

Accessories

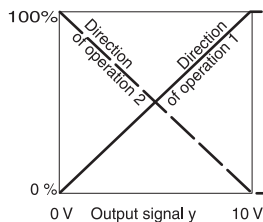
Type	Description
0313529001	Split-range unit for adjusting sequences, fitted in separate junction box
0372459102	External switching, 24 V version for parallel operation with A*M 1** or drives with limit switch, incl. junction box
0361977002	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 105, 115
0372300001	Torsion protection, long (230 mm)
0372301001	Spindle adaptor for squared end hollow profile (x 15 mm), pack of 10 pcs.
0372462001	CASE Drives PC tool for configuring the drives by computer



ASM 105S, 115S F132: Damper actuator with SAUTER Universal Technology (SUT)



ASM105SF132



Features

- For controllers with switching (2- and 3-point) or continuous output (0...10 V)
- Self-centring spindle adapter
- Gear unit can be disengaged to position the damper and for manual adjustment
- Stepping motor with electronic activation and cut-out
- Maintenance-free
- Intelligent adaptation of angle of rotation, incl. feedback adjustment
- Free configuration using the CASE Drive PC tool
- Direction of rotation changed by transposing the connections
- Suitable for all fitting positions
- Version with halogen-free cable on demand

Technical data

Power supply

Power supply 24 V~	±20%, 51...60 Hz
Power supply 24 V=	±20%

Parameters

	Angle of rotation	Max. 95°
	Admissible damper shaft	∅ 8...16 mm, □ 6,5...12.5 mm
	Admissible damper shaft (hardness)	Max. 300 HV
	Operating noise	< 30 dB(A)
	Response time	200 ms
Positioner	Control signal y	0...10 V, R _i > 100 kΩ
	Positional feedback y ₀	0...10 V; load > 10 kΩ
	Starting point U ₀	0 or 10 V
	Control span ΔU	10 V
	Switching range X _{sh}	200 mV

Ambient conditions

Admissible ambient temperature	-20...55 °C
Admissible ambient humidity	< 95% rh, no condensation

Construction

Weight	0.7 kg
Housing	Lower section black, upper section yellow
Housing material	Fire-retardant plastic
Power cable	1.2 m long, 5 × 0.5 mm ²

Standards and directives

	Type of protection	IP 54 (EN 60529)
	Protection class	III (IEC 60730)
CE conformity	EMC directive 2004/108/EC	EN 61000-6-1 EN 61000-6-3 EN 61000-6-4
	Directive 2006/95/EC	EN 1050

Overview of types

Type	Torque and holding torque (Nm)	Running time for 90°	Power consumption
ASM105SF132	5	35/60/120 s	5.0 W, 9.0 VA
ASM115SF132	10	60/120 s	4.8 W, 8.7 VA



Accessories

Type	Description
0313529001	Split-range unit for adjusting sequences, fitted in separate junction box
0361977002	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 105, 115
0372145001	Auxiliary change-over contacts, single
0372145002	Auxiliary change-over contacts, double
0372286001	Potentiometer, 130 Ω
0372286002	Potentiometer, 1000 Ω
0372286003	Potentiometer, 5000 Ω
0372300001	Torsion protection, long (230 mm)
0372301001	Spindle adaptor for squared end hollow profile (x 15 mm), pack of 10 pcs.
0372320001	Hexagon key as visualisation for position indicator
0372462001	CASE Drives PC tool for configuring the drives by computer

☛ Auxiliary change-over contacts: Infinitely variable 0...90°, admissible load 5(2) A, 24...230 V

☛ Potentiometers: Only one potentiometer or one set of auxiliary contacts can be fitted for each actuator





ASM124F12*



ASM 124: Damper actuator

Features

- For controllers with switching (2- and 3-point) output
- For operating air dampers, shut-off dampers, butterfly valves and multi-leaf dampers
- Synchronous motor with electronic activation and cut-out
- Maintenance-free gear unit
- Electronic end position detector and motor cut-off
- Self-centring spindle adaptor for fitting onto damper spindle
- Gear unit can be disengaged to position the damper and for manual adjustment
- Suitable for all fitting positions
- Threaded holes (M5) for fitting to bracket
- Version with halogen-free cable on demand

Technical data

Power supply	
Power supply 230 V~	±15%, 50...60 Hz
Power supply 24 V~	±20%, 50...60 Hz
Parameters	
Torque and holding torque	18 Nm
Running time for 90°	120 s
Angle of rotation	Max. 95°
Admissible damper shaft	∅ 10...20 mm, □ 10...16 mm
Admissible damper shaft (hardness)	max. 300 HV
Operating noise	< 30 dB(A)
Response time	200 ms
Ambient conditions	
Admissible ambient temperature	-20...55 °C
Admissible ambient humidity	< 95% rh, no condensation
Construction	
Weight	1.2 kg
Housing	Lower section black, upper section yellow
Housing material	Fire-retardant plastic
Power cable	1.2 m long, 3 × 0.75 mm ²
Standards and directives	
Type of protection	IP 40 (EN 60529), IP 43 (EN 60529), IP 54 (EN 60529), IP 55 (EN 60529)
Protection class 230 V	II (IEC 60730)
Protection class 24 V	III (IEC 60730)
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14
Over-voltage categories	III
Degree of contamination	II
Mode of operation	Type 1C (EN 60730); type 1 AB (EN 60730)
Software	A (EN 60730)

Overview of types

Type	Voltage	Power consumption
ASM124F120	230 V~	2.9 W, 5.6 VA
ASM124F122	24 V~	2.3 W, 2.4 VA



- 💡 *Power consumption when idle:*
- 💡 ASM124F120: 0.5 W, 5.1 VA
- 💡 ASM124F122: 0.03 W, 0.4 VA

Accessories

Type	Description
0361977001	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 124
0370059000	Clamping lever for shaft, Ø 8...18 mm
0370990001	Auxiliary change-over contacts, single
0370990002	Auxiliary change-over contacts, double
0370992001	Potentiometer, 2000 Ω, 1 W
0370992002	Potentiometer, 130 Ω, 1 W
0372200001	Fitting bracket
0372201001	Spindle extension with coupling
0372202001	Lever, fitting strip
0372203001	Driver axle for auxiliary contacts
0372204001	Spindle for clamping lever 0370059

- 💡 *Auxiliary change-over contacts: Infinitely variable 0...90°, admissible load 5(2) A, 24...230 V*





ASM134F130



ASM 134: Damper actuator

Features

- For controllers with a switching (3-point) output
- For operating air dampers, shut-off dampers, butterfly valves and multi-leaf dampers
- Self-centring spindle adapter
- Gear unit can be disengaged to position the damper and for manual adjustment
- Stepping motor with electronic activation and cut-out
- Direction of rotation changed by transposing the connections
- Suitable for all fitting positions
- Maintenance-free
- Version with halogen-free cable on demand

Technical data

Power supply

Power supply	230 V~, ±15%, 50...60 Hz
Power consumption	3.7 W, 4.7 VA

Parameters

Torque and holding torque	30 Nm
Running time for 90°	120/240 s
Angle of rotation	Max. 95°
Admissible damper shaft	Ø 12...20 mm, □ 10...16 mm
Admissible damper shaft (hardness)	Max. 300 HV
Operating noise	< 30 dB(A)
Response time	200 ms

Ambient conditions

Admissible ambient temperature	-20...55 °C
Admissible ambient humidity	< 95% rh, no condensation

Construction

Weight	1.8 kg
Housing	Lower section black, upper section yellow
Housing material	Fire-retardant plastic
Power cable	1.2 m long, 3 × 0.75 mm ²

Standards and directives

Type of protection	IP 40 (EN 60529), IP 54 (EN 60529), IP 55 (EN 60529)
Protection class	II (IEC 60730)
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14
Over-voltage categories	III
Degree of contamination	III
Mode of operation	Type 1C (EN 60730)
Software	A (EN 60730)

Overview of types

Type	Power consumption during operation	Power consumption when idle
ASM134F130	3,7 W, 4,7 VA	1,1 W, 2,7 VA



Accessories

Type	Description
0361977001	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 124
0370990001	Auxiliary change-over contacts, single
0370990002	Auxiliary change-over contacts, double
0370992001	Potentiometer, 2000 Ω , 1 W
0370992002	Potentiometer, 130 Ω , 1 W
0372200001	Fitting bracket
0372201001	Spindle extension with coupling
0372202001	Lever, fitting strip
0372203001	Driver axle for auxiliary contacts
0372204001	Spindle for clamping lever 0370059

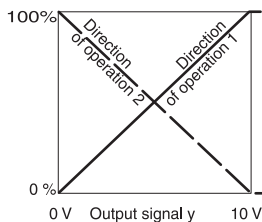
 Auxiliary change-over contacts: Infinitely variable 0...90°, admissible load 5(2) A, 24...230 V



ASM 124S, 134S: Damper actuator with SAUTER Universal Technology (SUT)



ASM1*4SF132



Features

- For controllers with switching (2- and 3-point) or continuous output (0...10 V)
- For operating air dampers, shut-off dampers, butterfly valves and multi-leaf dampers
- Self-centring spindle adapter
- Gear unit can be disengaged to position the damper and for manual adjustment
- Stepping motor with electronic activation and cut-out
- Maintenance-free
- Intelligent adaptation of angle of rotation, incl. feedback adjustment
- Direction of rotation changed by transposing the connections
- Suitable for all fitting positions
- Version with halogen-free cable on demand

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24 V= ¹⁾	±20%

Parameters

	Angle of rotation	Max. 95°
	Admissible damper shaft (hardness)	Max. 300 HV
	Operating noise	< 30 dB(A)
	Response time	200 ms
Positioner	Control signal	0...10 V, R _i > 100 kΩ
	Positional feedback signal	0...10 V; load > 10 kΩ
	Starting point U ₀	0 or 10 V
	Control span ΔU	10 V
	Switching range X _{sh}	200 mV

Ambient conditions

Admissible ambient temperature	-20...55 °C
Admissible ambient humidity	< 95% rh, no condensation

Construction

Weight	1.6 kg
Housing	Lower section black, upper section yellow
Housing material	Fire-retardant plastic
Power cable	1.2 m long, 2 × 0.75 mm ²

Standards and directives

Type of protection	IP 40 (EN 60529), IP 43 (EN 60529), IP 54 (EN 60529)
Protection class	III (IEC 60730)
EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Mode of operation	Type 1C (EN 60730); type 1 AB (EN 60730)
Software	A (EN 60730)

¹⁾ 24 V= only for control signals 0...10 V



Overview of types

Type	Torque	Holding torque	Running time for 90°	Power consumption	Admissible damper shaft
ASM124SF132	15 Nm	15 Nm	60, 120 s	2.4 W, 4.4 VA	Ø 10...20 mm, □ 10...16 mm
ASM134SF132	30 Nm	30 Nm	120, 240 s	2.4 W, 4.3 VA	Ø 12...20 mm, □ 10...16 mm

 *Power consumption when idle:*

 ASM124SF132: 0.25 W, 0.46 VA

 ASM134SF132: 0.26 W, 0.48 VA

Accessories

Type	Description
0313529001	Split-range unit for adjusting sequences, fitted in separate junction box
0361977001	Assembly materials for M3R/M4R, MH32F/MH42F with ASM 124
0370059000	Clamping lever for shaft, Ø 8...18 mm
0370990001	Auxiliary change-over contacts, single
0370990002	Auxiliary change-over contacts, double
0370992001	Potentiometer, 2000 Ω, 1 W
0370992002	Potentiometer, 130 Ω, 1 W
0372200001	Fitting bracket
0372201001	Spindle extension with coupling
0372202001	Lever, fitting strip
0372203001	Driver axle for auxiliary contacts
0372204001	Spindle for clamping lever 0370059

 *Auxiliary change-over contacts: Infinitely variable 0...90°, admissible load 5(2) A, 24...230 V*





ASF112F122



ASF 112, 113: Damper actuator with spring return

Features

- For controllers with switching (2- and 3-point) output
- For operating air dampers, shut-off dampers, butterfly valves and multi-leaf dampers
- Self-centring spindle adapter
- Manual adjustment using hexagon socket, including locking of gear unit
- Wear-free brushless motor
- Maintenance-free
- Change direction of rotation by simply turning the actuator
- Suitable for all fitting positions

Technical data

Power supply

Power supply 230 V~	±10%, 50...60 Hz
Power supply 24 V~	±20%, 50...60 Hz
Power supply 24...48 V=	±20%

Parameters

Torque and holding torque	7 Nm
Angle of rotation	Max. 95°
Admissible damper surface area ¹⁾	Approx. 1.5 m ²
Running time for 90° motor	90 s
Running time for 90° spring	15 s

Ambient conditions

Admissible ambient temperature	-32...55 °C
Admissible ambient humidity	5...95% rh, no condensation

Construction

Housing	Cast aluminium
Power cable	0.9 m, 0.75 mm ²

Standards and directives

Type of protection	IP 42 (EN 60529)
Protection class 24 V	III (IEC 60730)
Protection class 230 V	II (IEC 60730)
EMC directive 2004/108/EC	EN 61000-6-2, EN 61000-6-3
Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14
Degree of contamination	II
Over-voltage categories	III

Overview of types

Type	Control function	Voltage	Power consumption	Weight
ASF112F120	2-point	230 V~	4.5 W, 7.0 VA	1.2 kg
ASF112F122	2-point	24 V~/24...48 V=	3.5 W, 5.0 VA	1.2 kg
ASF112F220	2-point	230 V~	4.5 W, 7.0 VA	1.3 kg
ASF112F222	2-point	24 V~/24...48 V=	3.5 W, 5.0 VA	1.3 kg
ASF113F122	3-point	24 V~/24...48 V=	3.5 W, 5.0 VA	1.2 kg

⚡ ASF112F220, ASF112F222: Double auxiliary contacts 6(2) A; 24...250 V~ with cable 0.9 m; 6 × 0.75 mm²



¹⁾ Recommended value for smooth-running air dampers

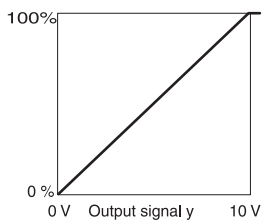
Accessories

Type	Description
0372245001	Lever adaptor for converting rotation into stroke
0372245002	Lever adaptor for converting rotation into stroke, with carrier plate for mounting on wall or plinth
0510240001	Assembly kit for VKR/BKR ball valves as spare part and as accessory for rotary actuators ASF 112, 113 from index B





ASF113SF122



ASF 113S: Damper actuator with spring return and positioner

Features

- For controllers with a continuous output (0...10 V)
- For operating air dampers, shut-off dampers, butterfly valves and multi-leaf dampers
- Self-centring spindle adapter
- Manual adjustment using hexagon socket, including gear unit locks
- Wear-free brushless motor
- Maintenance-free
- Change direction of rotation by simply turning the actuator
- Suitable for all fitting positions

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 24...48 V=	±20%
Power consumption	3.5 W, 5.0 VA

Parameters

	Running time for 90° motor	90 s
	Running time for 90° spring	15 s
	Torque	7 Nm
	Holding torque	7 Nm
	Angle of rotation	Max. 95°
Positioner	Control signal	0...10 V, R _i = 100 kΩ
	Positional feedback signal	0...10 V (0...100%)
	Admissible load	> 10 kΩ
	Switching range X _{sh}	0.2 V
Setting range	Starting point U ₀	0 V
	Control span ΔU	10 V

Ambient conditions

Admissible ambient temperature	-32...55 °C
Admissible ambient humidity	< 95% rh

Construction

Weight	1.3 kg
Housing	Cast aluminium
Power cable	0.9 m, 4 × 0.75 mm ²

Standards and directives

Type of protection	IP 42 (EN 60529)
Protection class	III (IEC 60730)
Degree of contamination	II
Over-voltage categories	III
Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14
EMC directive 2004/108/EC	EN 61000-6-2, EN 61000-6-3

Overview of types

Type	Properties
ASF113SF122	Damper actuator with spring return and positioner



Accessories

Type	Description
0372245001	Lever adaptor for converting rotation into stroke
0372245002	Lever adaptor for converting rotation into stroke, with carrier plate for mounting on wall or plinth
0510240001	Assembly kit for VKR/BKR ball valves as spare part and as accessory for rotary actuators ASF 112, 113 from index B





ASF122F122



ASF 122, 123: Damper actuator with spring return

Features

- For controllers with switching (2- and 3-point) output
- For operating air dampers, shut-off dampers, butterfly valves and multi-leaf dampers
- Self-centring spindle adapter
- Manual adjustment using hexagon socket, including locking of gear unit
- Wear-free brushless motor
- Maintenance-free
- Change direction of rotation by simply turning the actuator
- Suitable for all fitting positions

Technical data

Power supply

Power supply 24 V~	±20%, 50...60 Hz
Power supply 230 V~	±10%, 50...60 Hz
Power supply 24...48 V=	±20%

Parameters

Running time for 90° motor	90 s
Running time for 90° spring	15 s
Torque and holding torque	18 Nm
Angle of rotation	Max. 90°
Admissible damper surface area ¹⁾	Approx. 3 m ²

Ambient conditions

Admissible ambient temperature	-32...55 °C
Admissible ambient humidity	5...95% rh

Construction

Housing	Cast aluminium
Power cable	0.9 m, 0.75 mm ²

Standards and directives

Type of protection	IP 42 (EN 60529)
Protection class 24 V	III (IEC 60730)
Protection class 230 V	II (IEC 60730)
EMC directive 2004/108/EC	EN 61000-6-2, EN 61000-6-3
Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14
Over-voltage categories	III
Degree of contamination	II

Overview of types

Type	Control function	Voltage	Power consumption	Weight
ASF122F120	2-point	230 V~	6 W, 8 VA	2 kg
ASF122F122	2-point	24 V~/24...48 V=	5 W, 7 VA	2 kg
ASF122F220	2-point	230 V~	6 W, 8 VA	2.1 kg
ASF122F222	2-point	24 V~/24...48 V=	5 W, 7 VA	2.1 kg
ASF123F122	3-point	24 V~/24...48 V=	5 W, 7 VA	2 kg

⚡ ASF122F220, ASF122F222: With double auxiliary contacts 6(2) A; 24...250 V~; with cable 0.9 m; 6 x 0.75 mm²

¹⁾ Recommended value for smooth-running air dampers



Accessories

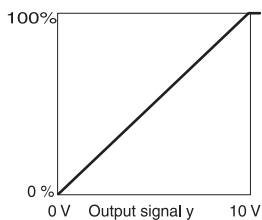
Type	Description
0370997001	Lever adaptor for converting rotation into stroke
0370998001	Lever adaptor for converting rotation into stroke, with carrier plate for mounting on wall or plinth



ASF 123S: Damper actuator with spring return and positioner



ASF123SF122



Features

- For controllers with a continuous output (0...10 V)
- For operating air dampers, shut-off dampers, butterfly valves and multi-leaf dampers
- Self-centring spindle adapter
- Manual adjustment using hexagon socket, including locking of gear unit
- Wear-free brushless motor
- Maintenance-free
- Change direction of rotation by simply turning the actuator
- Suitable for all fitting positions

Technical data

Power supply		
	Power supply 24...48 V=	±20%
	Power consumption	5.4 W, 7.5 VA
Parameters		
	Running time for 90° motor	90 s
	Running time for 90° spring	15 s
	Torque and holding torque	18 Nm
	Angle of rotation	Max. 95°
Positioner		
	Control signal	0...10 V, R _i = 100 kΩ
	Positional feedback signal	0...10 V (0...100%)
	Admissible load	> 10 kΩ
	Switching range X _{sh}	0.2 V
Setting range		
	Starting point U ₀	0 V
	Control span ΔU	10 V
Ambient conditions		
	Admissible ambient temperature	-32...55 °C
	Admissible ambient humidity	< 95% rh
Construction		
	Weight	2 kg
	Housing	Cast aluminium
	Power cable	0.9 m, 4 × 0.75 mm ²
Standards and directives		
	Type of protection ¹⁾	IP 54 (EN 60529)
	Protection class	III (IEC 60730)
	EMC directive 2004/108/EC	EN 61000-6-2, EN 61000-6-3
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-14
	Over-voltage categories	III
	Degree of contamination	II

Overview of types

Type	Properties
ASF123SF122	Damper actuator with spring return and positioner



¹⁾ Depending on fitting position, ensure IP 54

Accessories

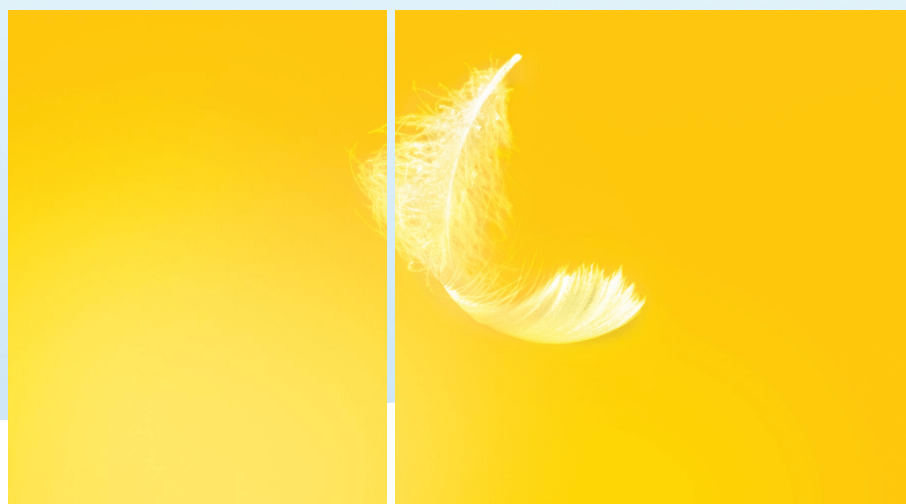
Type	Description
0370997001	Lever adaptor for converting rotation into stroke
0370998001	Lever adaptor for converting rotation into stroke, with carrier plate for mounting on wall or plinth



Pneumatic controlling and regulating equipment

The best possible control quality for clean rooms and high-security laboratories.

Reliable, flexible and robust systems are essential in order to obtain accurate air-conditioning and contamination control in clean rooms and high-security laboratories. The SAUTER pneumatic control systems are the leaders in control quality and stability in room pressure maintenance, and they work reliably, precisely and safely in every situation.



Pneumatic control and regulating equipment

Relays and magnetic valves

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Single-room control

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centair controller system

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Accessories

XEP: e/p and p/e converter	337
XP: Pneumatic line restrictor	339
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RUEP5F00*



RUEP: Electropneumatic relay

Features

- Electromagnetic change-over valve
- Valve body made of brass, valve disc with soft seal made of FKM
- Cable gland for cables \varnothing 6...7 mm and connecting cables up to 1.5 mm²
- Compressed air connection on upper part of valve G 1/8" A, male thread

Technical data

Power supply		
Admissible operating time		100 %
Power consumption		5 W (5.5 VA)
Parameters		
Nominal flow rate ¹⁾		6.3 m ³ _n /h
Leakage rate		0.6 l/h ($\Delta p = 1$ bar)
Differential pressure		1.7 bar
Ambient conditions		
Admissible ambient temperature		0...55 °C
Admissible ambient humidity		< 90% rh
Construction		
Connecting thread		Rp 1/8"
Weight		0.34 kg
Standards and directives		
Type of protection		IP 65 (EN 60529)
Low-voltage directive 2006/95/EC		EN 61010-1, EN 50178

Overview of types

Type	Control signal
RUEP5F001	230 V~, $\pm 15\%$, 50...60 Hz
RUEP5F002	24 V~, $\pm 20\%$, 50...60 Hz

💡 RUEP5F002: also suitable for 24 V DC, $\pm 20\%$

Accessories

Type	Description
0274469000	Polyamide screw-in elbow with R 1/8" male thread
0277717000	Polyamide screw fitting with R 1/8" male thread
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 × 7.5 mm and 35 × 15 mm
0296937000	Fixing clip for rail EN 60715-C 20
0296938000	Fixing bracket for wall mounting
0381140001	Polyamide screw fitting with R 1/8" female thread

¹⁾ Flow of air at 1 bar in relation to atmosphere



Single-room controllers

Pneumatic single-room controllers from SAUTER enable the room temperature to be controlled accurately. The preferred room temperature can be set using the setpoint adjuster. These controllers are used for continuous temperature control in air-conditioning systems or for activating VAV controllers and unit valves.

Overview of single-room controllers



Type codes	TSP, TSFP, TSSP	RLP 100
Temperature measurement		
Room	•	–
Channel	–	–
Volume flow control		
1-channel	–	•
2-channel	–	•
Room-pressure controller	–	–
Control characteristics		
P-controller	•	–
PI controller	–	•
Certification		
Explosion protection as per ATEX certification	–	• ¹⁾
Further information	Page 321	Page 325

¹⁾ Only for certain product types; see RLP 100 fitting instructions



Type codes	RLP100F910, F916, F918	RLP100F903, F908	RLP100F901, F915, F924
Temperature measurement			
Room	–	–	–
Channel	–	–	–
Volume flow control			
1-channel	–	•	–
2-channel	•	–	–
Room-pressure controller	–	–	•
Control characteristics			
P-controller	–	–	–
PI controller	•	–	•
Certification			
Explosion protection as per ATEX certification	•	•	•
Further information	Page 327	Page 329	Page 332

TSP, TSFP, TSSP: Pneumatic room-temperature controller

Features

- Sturdy bimetal sensor
- P control characteristic
- Setpoint adjuster with +/- scale and adjustable stops for limiting the setpoint

Technical data

Parameters

Supply pressure ¹⁾	1.3 bar ±0.1
Output pressure	0.2...1.0 bar
Setting range	17...27 °C
P-band X_p	Approx. 2 K
Time constant in moving air (0.2 m/s)	Approx. 7 min

Ambient conditions

Admissible ambient temperature	0...55 °C
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Inputs/Outputs

Linearity error	2%
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Construction

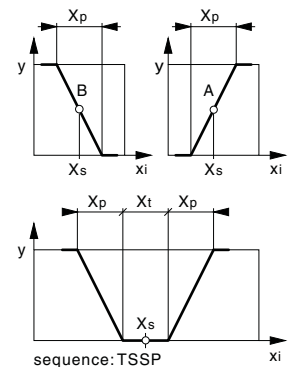
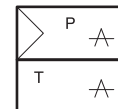
Housing	72 × 72 mm
Housing material	Thermoplastic, pure white
Weight	0.1 kg

Standards and directives

Conformity	Directive 97/23/EC Art. 3.3 for pressure equipment
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TS***F117



Overview of types

i Control function: "fixed/schedule" requires an external command signal of 0...1.2 bar. Setpoint shift ±6 K. Setpoint increase: 0.6...1.2 bar = 0...6 K. Setpoint decrease: 0.6...0 bar = 0...-6 K

i Air recovery: to prevent excessive bleed-off noise, this value should not be exceeded

Type	Control function	Control action	Air capacity	Air consumption	Air recovery	External restrictor required	Dead zone X_t (sequence)
TSP80AF117	fixed value	A	33 l _n /h	33 l _n /h	50 l _n /h	1 piece	-
TSP80BF117	fixed value	B	33 l _n /h	33 l _n /h	50 l _n /h	1 piece	-
TSP81AF117	fixed value	A	200 l _n /h	20 l _n /h	34 l _n /h	0 piece	-
TSP81BF117	fixed value	B	200 l _n /h	20 l _n /h	34 l _n /h	0 piece	-
TSSP80F117	fixed value	A and B	2 × 33 l _n /h	66 l _n /h	50 l _n /h	2 piece	2 K

i TSSP80F117: sequence (heating/cooling)

Accessories

Type	Description
0228234001	Setpoint adjuster (pure white) with raised bridge
0296218000	Adaptor, buckle-proof, for plug-in installation
0296990000	Adaptor, buckle-proof, for screw-type installation
0297441000	Cover plate, pure white, for various recessed junction boxes
0297354000	Short screw-in connector R $\frac{1}{8}$ ", for soft plastic tubing \varnothing 4 mm (internal)
0303124000	Recessed junction box

¹⁾ For regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants



Type	Description
0297416001	Housing lid (pure white), screw-type, without setpoint adjuster
0297418032	Housing lid (pure white), screw-type, with setpoint adjuster, scale 17...27 °C
0297555001	Cover plate (pure white), for large recessed junction boxes (e.g. USA)
0297560001	Cover plate (pure white), for panels, for covering large apertures
0297557000	Wall insulation, prevents false readings due to draughts from the wall
0369573001	Surface junction box, pure white
0369573002	Surface junction box, black



RLP 10: Pneumatic air-volume controllers

Features

- ATEX-certified for use in areas of zone 1 where there is a risk of explosions
- Conformity test as per EN 13463-1 and EN 1127-1 (Ex II 2 G T6)
- Controls constant, switchable or variable air volumes
- Static differential pressure sensor with large measuring range (10...250 Pa)
- Front plate printed with circuit diagrams for easy identification of the controller's functions
- Compressed-air connection with Rp $\frac{1}{8}$ " female thread
- Low-pressure connections with two-step connector for soft plastic tubing (internal \varnothing 4 and 6 mm)
- 1 input for command variables
- 2 outputs
 - Actual value
 - Control of damper actuator
- 2 setpoint adjusters for maximum and minimum limitation of the air volume

Technical data

Specifications

Supply pressure	1.3 bar \pm 0.1
Setting range, volume flow	20...100% \dot{V}
Setting range for pressure difference Pa ¹⁾	10...250 Pa
Air capacity	330 l _n /h
Output pressure	0.2...1.0 bar
Response sensitivity ²⁾	0.5 Pa
Air consumption	44 l _n /h
Input, setpoint shift w ³⁾	20...100% $\dot{V} \triangleq$ 0.2...1.0 bar
Operating range P _{stat}	0...3 kPa
Low-pressure connections	10 kPa (permissible pressure)
Linearity error and accuracy of root extraction ⁴⁾	2%

Ambient conditions

Admissible ambient temperature	0...55 °C
--------------------------------	-----------

Structural design

Housing material	thermoplastic
Fitting	wall or top-hat rail (rail as per EN 60715)
Weight	0.2 kg

Standards and directives

Type of protection	IP 20
Conformity	Directive 97/23/EC Art. 3.3 for pressure equipment

¹⁾ Factory setting 10...250 Pa; the range can be changed from 5...125 Pa [E = 0.7] to 20...500 Pa [E = 1.4] using the XYP 3 test unit

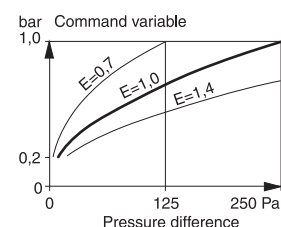
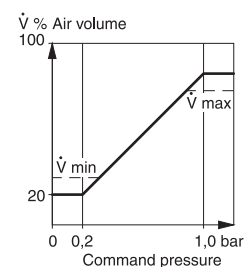
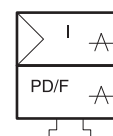
²⁾ For regulations concerning the quality of the air supply, particularly at low ambient temperatures, see www.sauer-controls.com/en/pneumatic_plants

³⁾ For port 6, it is advisable to use temperature controllers without amplifier (TS*P 80, TK*P 80), since these controllers are supplied directly by the internal restrictor of the RLP

⁴⁾ The percentages given are based on 100% volume flow



RLP10F***



Overview of types

Type	Control action
RLP10F001	B
RLP10F905	A

💡 RLP10F001, RLP10F905: Integrated air-volume controller for supply air and return air

Accessories

Type	Description
0226551015	Scale 10...250 Pa when using as duct pressure controller
0226551017	Scale 20...500 Pa when using as duct pressure controller
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 × 7.5 mm and 35 × 15 mm
0297354000	Short screw-in connector R $\frac{1}{8}$ " for soft plastic tubing Ø 4 mm (internal)
0297680001	Specification \dot{V} min., \dot{V} max. set and labelled
0297680002	Influence E set and labelled

💡 0226551017: Factory setting 10...250 Pa; the range can be changed from 5...125 Pa (E = 0.7) to 20...500 Pa (E = 1.4) using the XYP 3 test unit

💡 0297354000: 3 pieces required



RLP 100: Pneumatic air volume controller

Features

- Suitable for explosion hazard zone 1 II 2 G T6
- Conformity tested as per EN 13463-1 and EN 1127-1 (ex zone 1 II 2 G T6)
- Controls constant, switchable or variable air volumes
- Accurate, static differential pressure sensor with large measuring range (1...160 Pa)
- Front plate printed with circuit diagrams for easy identification of the controller functions
- Compressed-air connections with Rp $\frac{1}{8}$ " female thread
- Special measuring connection for detecting the air volume
- Low-pressure connections with dual-diameter connector for soft plastic tubing (internal \varnothing 4 and 6 mm)
- 2 inputs
 - Command variable
 - Setpoint shift $\Delta \dot{V}$
- 2 outputs
 - Actual value
 - Control of damper actuator
- 1 adjuster for calibrating the sensor measuring range
- 3 setpoint adjusters for maximum and minimum limitation of volume flow and for limiting the setpoint shift $\Delta \dot{V}$ to max. $\pm 20\%$

Technical data

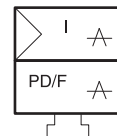
Parameters	
Output pressure	0.2...1.0 bar
Setting range, volume flow	20...100% \dot{V}
Measuring range Δp	6.4...160 Pa (factory setting), can be reduced to 1...25 Pa
Response sensitivity	0.1 Pa
Supply pressure ¹⁾	1.3 bar ± 0.1
Integral action time	1 s (F123)
Input, setpoint shift w	20...100% $\dot{V} \pm 0.2...1.0$ bar
Operating range P_{stat}	0...3000 Pa
Low-pressure connections	3000 Pa
Air consumption	44 l _n /h (F123 = 90 l _n /h)
Air consumption l _n /h with setpoint shift $\Delta \dot{V}$	60
Ambient conditions	
Admissible ambient temperature	0...55 °C
Inputs/Outputs	
Linearity and accuracy of root extraction ²⁾	2%
Construction	
Housing material	Glass-fibre-reinforced thermoplastic
Fitting	Wall/top-hat rail (rail as per EN 60715)
Weight	0.6 kg
Standards and directives	
Type of protection	IP 30

¹⁾ For regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants

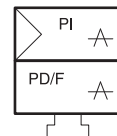
²⁾ The percentages given are based on 100% volume flow



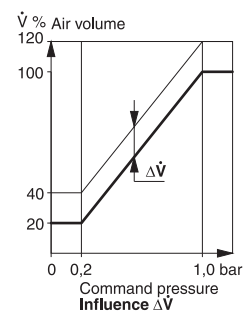
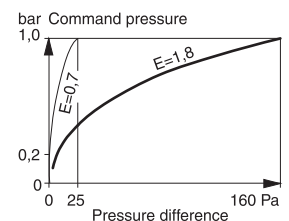
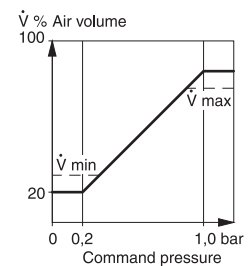
RLP100F003



RLP100F003, RLP100F914



RLP100F123



Overview of types

i Air capacity: the integration time can be extended for dynamically unfavourable control loops (accessory 0297653)

Type	Direction of operation	Setpoint shift $\Delta \dot{V}$	Air capacity
RLP100F003	B/A	3...20% \dot{V}	330 l _n /h
RLP100F123	A	-	900 l _n /h
RLP100F914	A	3...20% \dot{V}	330 l _n /h

💡 RLP100F003: for supply air and return air (integral indoor-air control)

💡 RLP100F123: for return air with aggressive gases (PI fume-cupboard control)

💡 RLP100F914: for return air with aggressive gases, with interface relay (integral indoor-air control)

Accessories

Type	Description
0297354000	Short screw-in connector R $\frac{1}{8}$ ", for soft plastic tubing \varnothing 4 mm (internal)
0297653000	Resistance 10 Ω , for air capacity 180 l _n /h (not for F123)
0297762001	Restrictor \varnothing 0.8 mm for damping turbulent low-pressure signals
0274571000	Restrictor \varnothing 0.5 mm for damping turbulent low-pressure signals
0297772001	Screw-in connector M4 with seal for soft hose, internal \varnothing 4 mm
0297838001	Manometer bracket for 2 XMP manometers
0297091000	Cover for unused manometer apertures
0297680001	Specification \dot{V} min., \dot{V} max. set and labelled
0297680002	Influence E set and labelled
0297870001	Bracket for fixing to ceilings, floors or in panels

💡 0297354000: F003, F123, F914 - 5 of each required

💡 0297680001: not for F123

💡 0297762 001: Can be plugged into soft plastic hose, inner \varnothing 4 mm. If the attenuation is insufficient, instead of the \varnothing 0.8 mm restrictor, the \varnothing 0.5 mm restrictor can be used. (Accessory 0274571; this is not suitable for RLP 100 F908, F914, F123)

💡 0274571 000: Can be plugged into soft plastic hose, inner \varnothing 4 mm. Suitable for extreme cases when the \varnothing 0.8 mm restrictor (accessory 0297762) does not provide sufficient attenuation. Not suitable for volume flow controllers (RLP 100 F914, F123) and transducers (RLP 100 F908) where the "+" and "-" low pressure line is constantly supplied with a very small quantity of air, because the pressure signals in the lower measuring range are falsified and the positioning time of 1...2 s (RLP 100 F123) is not achieved.

💡 0297838 001: Also supplied: 2 screws, 1 reduction piece (0297596) for hose with inner \varnothing 1.7 / \varnothing 4; 1 connector (0297112) with seal M4/plug nipple for hose with inner \varnothing 1.7; 1 m hose with inner \varnothing 1.7. Use cover 0297091 for unused pressure gauge aperture.

RLP100F910, F916, F918: Dual-channel air-volume controller

Features

- Optimum use of energy thanks to RLP100 2-channel controller in combination with room operating units of the TSP, TSFP and TSSP series
- Compatible with practically all currently-available mixing boxes
- Suitable for explosion hazard zone 1 II 2 G T6
- Conformity tested as per EN 13463-1 and EN 1127-1 (ex zone 1 II 2 G T6)
- Controls constant, switchable or variable air volumes
- Accurate, static differential pressure sensor with large measuring range
- Front plate printed with circuit diagrams for easy identification of the controller functions
- Compressed-air connections with Rp $\frac{1}{8}$ " female thread
- Special measuring connection for detecting the air volume
- Low-pressure connections with dual-diameter connector for soft plastic tubing (internal \varnothing 4 and 6 mm)
- 2 inputs
 - Command variable
 - Day/night change-over or heating/cooling signal
- 3 outputs
 - Actual value, air volume
 - Activates two damper actuators, heating and cooling
- 1 adjuster for setting the sensor measuring range
- 2 setpoint adjusters for maximum and minimum limitation of the air volume

Technical data

Parameters

Admissible pressure	Low-pressure connections	3000 Pa
	Supply pressure	1.3 bar \pm 0.1
	Operating range P_{stat}	0...3000 Pa
	Response sensitivity	0.1 Pa
	Input for setpoint shift w1, w2; 20...100% \dot{V}	0.2...1.0 bar
	Measuring range Δp (factory setting)	6.4...160 Pa, can be reduced to 1...25 Pa

Ambient conditions

Admissible ambient temperature	0...55 °C
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Inputs/Outputs

Setting range for setpoint	20...100% \dot{V}
Output pressures	0.2...1.0 bar
Linearity and accuracy of root extraction	2% of 100% \dot{V}

Construction

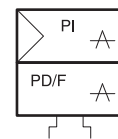
Housing material	Glass-fibre-reinforced thermoplastic
Fitting	To walls or top-hat rails (EN 60715 rail)
Weight	0.6 kg

Standards and directives

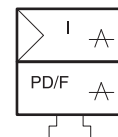
Type of protection	IP 30
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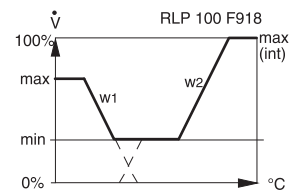
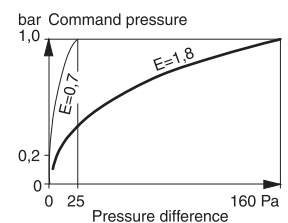
RLP100F91*



RLP100F910, RLP100F916



RLP100F918



Overview of types

Type	RLP100F910	RLP100F916
Properties	Constant-air-volume controller (PI) for full-range actuators	Constant VAV controller (PI) for sequential actuators
Air capacity, connection 2, cooling	400 l _n /h	100 l _n /h
Air capacity, connection 7, heating	400 l _n /h	18 l _n /h
Air consumption	53 l _n /h	60 l _n /h
P-band (fixed)	100%	400%

Accessories

Type	Description
0297354000	Short screw-in connector R $\frac{1}{8}$ " for soft plastic tubing \varnothing 4 mm (internal)
0297762001	Restrictor \varnothing 0.8 mm for damping turbulent low-pressure signals
0274571000	Restrictor \varnothing 0.5 mm for damping turbulent low-pressure signals
0297870001	Bracket for fixing to ceilings, floors or in panels

- 0297354000: 5 pieces required
- 0297762 001: Can be plugged into soft plastic hose, inner \varnothing 4 mm. If attenuation is insufficient, instead of the \varnothing 0.8 mm restrictor, the \varnothing 0.5 mm restrictor can be used (accessory 0274571; this restrictor is not suitable for RLP100F908, F914, F123).
- 0274571 000: Can be plugged into soft plastic hose, inner \varnothing 4 mm. Suitable for extreme cases when the \varnothing 0.8 mm restrictor (accessory 0297762) does not provide sufficient attenuation. Not suitable for volume flow controllers (RLP100F914, F123) and transducers (RLP100F908) where the "+ and -" low pressure line is constantly supplied with a very small quantity of air, because the pressure signals in the lower measuring range are falsified and the positioning time of 1...2 s (RLP100F123) is not achieved.

RLP100F903, F908: Pneumatic air-volume transducer

Features

- Root-extracted output signal as command variable for extended control loops
- Special version available for measuring aggressive gases
- Suitable for explosion hazard zone 1 II 2 G T6
- Conformity tested as per EN 13463-1 and EN 1127-1 (ex zone 1 II 2 G T6)
- Accurate, static differential pressure sensor with large measuring range
- Front plate printed with circuit diagrams for easy identification of the controller functions
- Compressed-air connections with Rp $\frac{1}{8}$ " female thread
- Special measuring connection for detecting the air volume
- Low-pressure connections with dual-diameter connector for soft plastic tubing (internal \varnothing 4 and 6 mm)
- 1 input
 - Setpoint shift $\Delta\dot{V}$
- 1 output
 - Actual value, air volume
- 1 adjuster for calibrating the sensor measuring range
- 1 setpoint adjuster for limiting the setpoint shift $\Delta\dot{V}$ to max. $\pm 20\%$

Technical data

Parameters

Supply pressure ¹⁾	1.3 bar ± 0.1
Measuring range Δp ²⁾	1.6...160 Pa
Response sensitivity	0.1 Pa
Measuring range, volume flow	10...100% \dot{V}
Air capacity	320 l _n /h
Air consumption	38 l _n /h
Operating range P_{stat}	0...3000 Pa
Output pressure	0.1...1.0 bar
Low-pressure connections	3000 Pa

Ambient conditions

Admissible ambient temperature	0...55 °C
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Inputs/Outputs

Input for setpoint shift $\Delta\dot{V}$	3...20% \dot{V}
Linearity, accuracy of root extraction 20...100% \dot{V}	2% of \dot{V}_{100}
Linearity, accuracy of root extraction 10...20% \dot{V}	4% of \dot{V}_{100}

Construction

Housing material	Glass-fibre-reinforced thermoplastic
Fitting	To walls or top-hat rails (EN 60715 rail)
Weight	0.6 kg

Standards and directives

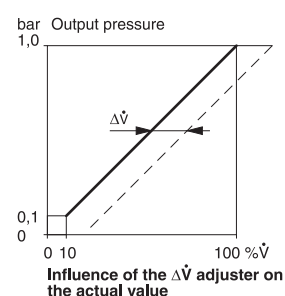
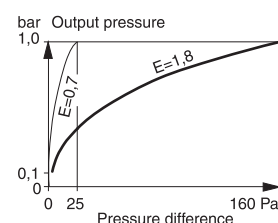
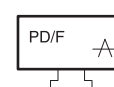
Type of protection	IP 30
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¹⁾ For regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants

²⁾ Factory setting ($E = 1.8$), can be reduced to 1...25 Pa ($E = 0.7$) using E adjuster



RLP100F90*



Overview of types

Type	Properties
RLP100F903	-
RLP100F908	for aggressive gases

Accessories

Type	Description
0297354000	Short screw-in connector R $\frac{1}{8}$ " for soft plastic tubing \varnothing 4 mm (internal)
0297762001	Restrictor \varnothing 0.8 mm for damping turbulent low-pressure signals
0274571000	Restrictor \varnothing 0.5 mm for damping turbulent low-pressure signals
0297870001	Bracket for fixing to ceilings, floors or in panels

- 0297354000: 3 pieces required
- 0297762 001: Can be plugged into soft plastic hose, inner \varnothing 4 mm. If attenuation is insufficient, instead of the \varnothing 0.8 mm restrictor, the \varnothing 0.5 mm restrictor can be used (accessory 0274571; this restrictor is not suitable for RLP100F908, F914, F123).
- 0274571 000: Can be plugged into soft plastic hose, inner \varnothing 4 mm. Suitable for extreme cases when the \varnothing 0.8 mm restrictor (accessory 0297762) does not provide sufficient attenuation. Not suitable for volume flow controllers (RLP100F914, F123) and transducers (RLP100F908) where the "+" and "-" low pressure line is constantly supplied with a very small quantity of air, because the pressure signals in the lower measuring range are falsified and the positioning time of 1...2 s (RLP100F123) is not achieved.



Solutions for laboratories and clean rooms

SAUTER solutions for fume cupboards provide reliable, demand-led control of air flows in laboratories. Because of their ATEX certification, these systems can also be used in potentially explosive atmospheres.

Overview of solutions for laboratories and clean rooms

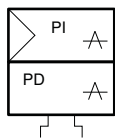


Type codes	RLP100F901, F915, F924
Temperature measurement	
Room	–
Channel	–
Volume flow control	
1-channel	–
2-channel	–
Room-pressure controller	•
Control characteristics	
P-controller	–
PI controller	•
Certification	
Explosion protection as per ATEX certification	•
Further information	Page 332

RLP100F901, F915, F924: Pneumatic room-pressure controllers



RLP100F9**



Features

- Suitable for explosion hazard zone 1 II 2 G T6
- Room-pressure control in tightly-sealed rooms, e.g. clean rooms or laboratories (up to BSL-4)
- Fast and accurate control system in conjunction with the RLP 100 pneumatic air volume controllers
- Accurate static sensor; can also be used in areas with contaminated air
- Conformity tested as per EN 13463-1 and EN 1127-1 (ex zone 1 II 2 G T6)
- Front plate is printed with diagrams for easy identification of the controller's functions
- Compressed-air connections with Rp 1/8" female thread
- Special measuring connection for detecting the room pressure
- Low-pressure connections with dual-diameter connector for soft plastic tubing (internal Ø 4 and 6 mm)
- 1 input
 - Remote setpoint adjustment
- 2 outputs
 - Actual value for room pressure
 - Command signal for air-volume controller (air volume shift)
- Setpoint adjuster for room pressure (minimal limitation for room pressure for setpoint remote adjustment) and adjuster for T_n and X_p

Technical data

Parameters

Admissible pressure	Low-pressure connections	±3000 Pa
	Supply pressure ¹⁾	1.3 bar ±0.1
	Output pressure	0.2...1.0 bar
	Integral action time	0...15 s (0...100%)
	Remote setpoint adjustment	0.2...1.0 bar
	Air capacity	400 l _n /h
	Air consumption	50 l _n /h
	Linearity error	1%

Ambient conditions

Admissible ambient temperature	0...55 °C
Admissible operating pressure p_{stat}	±3000 Pa

Construction

Housing material	Glass-fibre-reinforced thermoplastic
Fitting	To walls or top-hat rails (EN 60715 rail)
Weight	0.6 kg

Standards and directives

Type of protection	IP 30
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Overview of types

Type	Setting range	P-band 0...100% \triangle	Response sensitivity
RLP100F901	-20...20 Pa	0...40 Pa	0.1 Pa
RLP100F915	-50...50 Pa	0...100 Pa	0.25 Pa

¹⁾ For regulations concerning the quality of the air supply, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants



Accessories

Type	Description
XMP50/50PF001	Manometer, scale -50...50 Pa/-20...20 Pa
0297354000	Short screw-in connector R $\frac{1}{8}$ ", for soft plastic tubing \varnothing 4 mm (internal)
0297838001	Manometer bracket for 2 XMP manometers
0297091000	Cover for unused manometer apertures
0297867001	Reference pressure container
0297870001	Bracket for fixing to ceilings, floors or in panels

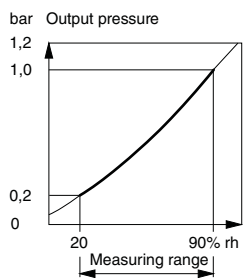
☛ 0297354000: 3 pieces required

☛ 0297838 001: Also supplied: 1 reduction piece (0297596) for hose with inner \varnothing 1.7 / \varnothing 4.0; 1 connector (0297112) with seal M4/plug nipple for hose with inner \varnothing 1.7; 1 m hose with inner \varnothing 1.7 and 2 screws. Use cover 0297091 for unused pressure gauge aperture. The pressure gauge to indicate the room pressure must be connected to the actual value connection M.





HSUP1F001



HSUP: Pneumatic humidity transducer for wall fitting

Features

- Part of the centair system family
- Converts the measured relative humidity into a pneumatic standard signal of 0.2...1.0 bar
- Compressed air is connected via a plug nipple for soft plastic tubing \varnothing 4 mm (internal)
- Nozzle-ball system

Technical data

Parameters

Supply pressure via ext. restrictor ¹⁾	1.3 bar \pm 0.1 (\varnothing 0.2 mm)
Air capacity, air consumption	33 l _n /h
Linearity error	< 2%
Time constant in moving air (0.2 m/s)	Approx. 10 min
Temperature influence	-0.5% rh/K
Measuring range	20...90% rh
Output pressure	0.2...1.0 bar
Hysteresis	5% rh

Ambient conditions

Admissible ambient temperature	10...40 °C
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Structural design

Material	Thermoplastic
Housing cover	Front plate pure white (RAL 9010), frame grey-white (RAL 9002)
Weight	0.17 kg

Standards and directives

Conformity	Directive 97/23/EC Art 3.3 for pressure equipment
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Overview of types

Type	Description
HSUP1F001	Pneumatic humidity transducer for wall fitting

Accessories

Type	Description
0296218000	Adaptor, buckle-proof, for plug-in installation
0296990000	Adaptor, buckle-proof, for screw-type installation
0303124000	Recessed junction box
0310315000	Surface junction box

¹⁾ Restrictors (\varnothing 0.2 mm) are installed at inputs 3 and 4 in the RCP and RPP 20 standard controllers; For regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants



HTP: Pneumatic humidity transducer for duct fitting

Features

- Converts the measured relative humidity into a pneumatic standard signal of 0.2...1.0 bar
- Measuring element consisting of a temperature-compensated humidity sensor with a stabilised synthetic textile strip
- Compressed-air connection Rp $\frac{1}{8}$ "
- Nozzle-ball system

Technical data

Parameters

Supply pressure via ext. restrictor ¹⁾	1.3 bar \pm 0.1 (\varnothing 0.2 mm)
Air capacity, air consumption	33 l _n /h
Hysteresis	4% rh
Linearity error	See characteristic
Time constant in moving air (0.2 m/s)	Approx. 3 min
Measuring range	20...90% rh
Output pressure	0.2...1.0 bar
Temperature influence	Compensated
Max. air speed	10 m/s

Ambient conditions

Admissible ambient temperature	0...70 °C
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Construction

Material	Sensor tube of glass-fibre-reinforced thermoplastic
Fitting	Flange with seal for duct and wall
Weight	0.3 kg

Standards and directives

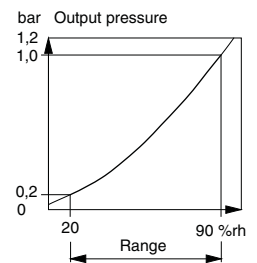
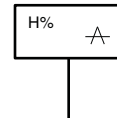
Conformity	Directive 97/23/EC Art 3.3 for pressure equipment
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Overview of types

Type	Description
HTP151F001	Pneumatic humidity transducer for duct fitting, centair



HTP151F001

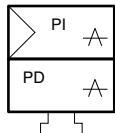


¹⁾ Restrictors (\varnothing 0.2 mm) are installed at inputs 3 and 4 on the RCP and RPP 20 standard controllers; for regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants





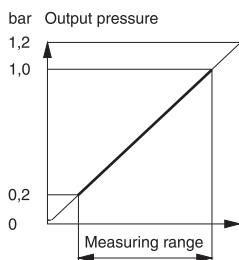
RUP1**F001



RUP105F001



RUP140F001



RUP: Differential pressure controller/transducer, centair

Features

- Conversion of measured differential pressures into a pneumatic standard signal 0.2...1.0 bar by a pressure sensor
- PI controller
- Easy to use, PI-controller not operational when used only as a transducer
- Differential pressure measuring range up to 500 Pa and 4000 Pa
- Front plate printed with circuit diagrams for easy identification of the controller functions
- Compressed-air connections with Rp $\frac{1}{8}$ " female thread
- Nozzle-ball system

Technical data

Parameters		
Controllers	Supply pressure	1.3 bar \pm 0.1
	Air capacity	100 l _n /h
	Air consumption	50 l _n /h
Transducers	Supply pressure ¹⁾	1.3 bar \pm 0.1 (via ext. restrictor \varnothing 0.2 mm)
	Air consumption	33 l _n /h
	Air capacity	33 l _n /h
	Output pressure	0.2...1.0 bar
	P-band (fixed)	400%
	Setpoint	0...100%
	Integral action time	0.5...3 s
	Remote setpoint adjustment	0.2...1.0 bar
	Linearity error	2%
	Hysteresis	0.5%
	Low-pressure connections	100 mbar (permissible pressure)

Ambient conditions

Admissible ambient temperature	0...55 °C
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Construction

Housing material	Thermoplastic
Fitting	Wall/top-hat rail
Weight	0.15 kg

Overview of types

Type	Measuring range (Pa)
RUP105F001	0...500 Pa
RUP140F001	0...4000 Pa

Accessories

Type	Description
0297354000	Short screw-in connector R $\frac{1}{8}$ ", for soft plastic tubing \varnothing 4 mm (internal)
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 × 7.5 mm and 35 × 15 mm

☛ 0297354000: 3 pieces required

¹⁾ Restrictors (\varnothing 0.2 mm) are installed at inputs 3 and 4 on the RCP and RPP 20 controllers; for regulations concerning the quality of the air supply, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants



XEP: e/p and p/e converter

Features

- Coupling component between electronic and pneumatic control units
- Electronic activation of pneumatic actuators in HVAC installations
- For converting electrical signals into pneumatic ones and vice versa
- Available with or without electric amplifier for use in combination with equipment with low air capacities
- XEP 301 has an electric amplifier and a p/e converter for bi-directional conversion of signals
- Easy to integrate pneumatic standard signals on the automation level
- Compressed-air connections with Rp $\frac{1}{8}$ " female thread
- Thermoplastic housing suitable for fitting to walls or top-hat rail (EN 60715)

Technical data

Parameters		
	Supply pressure ¹⁾	1.3 bar \pm 0.1
	Control action	A (acts directly)
Admissible ambient conditions		
	Admissible humidity	< 90% rh
Standards and directives		
	Conformity	Directive 97/23/EC Art 3.3 for pressure equipment
	Type of protection	IP 54 (EN 60529)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
For XEP10F001	EMC directive	Not EN 61000-6-2

Overview of types

Type	Voltage	Input signal	Output signal	Air capacity	Weight
XEP1F001	-	2...10 V	0.2...1.0 bar	19 l _n /h	0.24 kg
XEP1F002	-	4...20 mA	0.2...1.0 bar	19 l _n /h	0.24 kg
XEP10F001	-	2...10 V	0.2...1.0 bar	400 l _n /h	0.26 kg
XEP10F002	-	4...20 mA	0.2...1.0 bar	400 l _n /h	0.26 kg
XEP110F001	24 V~/=	2...10 V	0.2...1.0 bar	400 l _n /h	0.27 kg
XEP110F011	24 V~/=	0...10 V	0.2...1.0 bar	400 l _n /h	0.27 kg
XEP301F001	24 V~/=	2...10 V 0.2...1.0 bar	0.2...1.0 bar 2...10 V	16 l _n /h	0.26 kg
XEP301F011	24 V~/=	0...10 V, 0.2...1.0 bar	0.2...1.0 bar = 0...10 V	16 l _n /h	0.26 kg

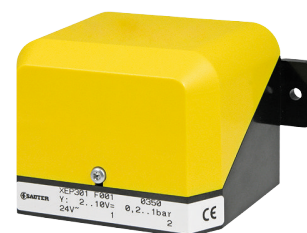
☛ Air capacity, XEP 1: Supply is normally provided via an in-built restrictor in connection 1. If air is constantly extracted from RCP, RLP (connection 6), connection 1 should be closed off.

☛ Air capacity, XEP 301: Supply is normally provided via another bleed-off SAUTER device with a restrictor \varnothing 0.14 mm (e.g. RLP). For autonomous operation with a line restrictor (e.g. XP 4) or for circuits supplied by a TSFP 80 (restrictor \varnothing 0.2 mm), the following applies: air capacity = air consumption = 33 l_n/h, linearity error 2%, zero-point shift approx. +3%, adjustable (see fitting instructions at www.sauter-controls.com).

☛ XEP 1...10: e/p converter without electric pre-amplifier

☛ XEP 110: e/p converter with electric pre-amplifier

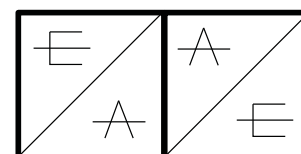
☛ XEP 301: e/p converter with electric pre-amplifier and additional p/e converter



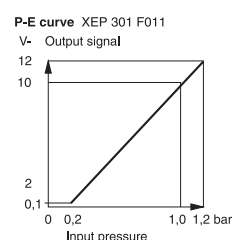
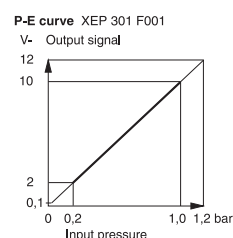
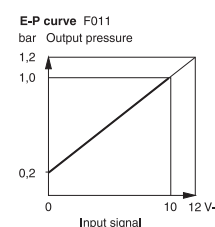
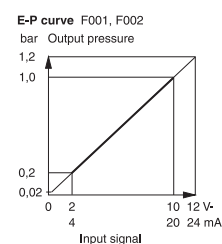
XEP301FF001



XEP1 ***



XEP301FO**



¹⁾ For regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants



	XEP 1, XEP 10	XEP 110	XEP 301
Power supply 24 V~	-	±20%, 50...60 Hz	±20%, 50...60 Hz
Power supply 24 V=	-	±20%	+20%/-10%
Power consumption	-	2 VA	2 VA
Input resistance	F001 590 Ω F002 120 Ω	100 kΩ	100 kΩ
Temperature influence	±0.04%/K	±0.02%/K	±0.05%/K
Admissible ambient temperature	0...55 °C	0...50 °C	0...55 °C
Linearity error e/p	< 2%	1%	1% ²⁾
Air consumption	20 I _n	20 I _n	16 I _n ³⁾
Linearity error p/e	-	-	0.3%
Admissible load p/e	-	-	> 5 kΩ

Accessories

Type	Description
0274700000	Fixing bracket for AVP 142, AV 43, AV 44 P (includes connection kit to the actuator)
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 × 7.5 mm and 35 × 15 mm
0370560011	Cable screw fitting PG 11, plastic, for cable of Ø 9...11 mm

²⁾ See notes on XEP 301 air capacity

³⁾ See notes on XEP 301 air capacity

XP: Pneumatic line restrictor

Features

- To provide an air supply when no other air supply is available

Technical data

Parameters

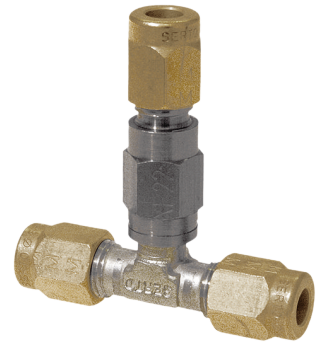
Supply pressure ¹⁾	1.3 ±0.1 bar
Nominal flow rate	33 l _n /h
Restrictor Ø mm ²⁾	0.2

Admissible ambient conditions

Admissible ambient temperature	0...70 °C
--------------------------------	-----------

Overview of types

Type	Type of connection	Weight
XP22F001	Copper tubes, hard plastic pipes Ø 6 mm (external)	0.09 kg
XP41F001	Hard plastic tubing Ø 4 mm (internal)	0.01 kg
XP4F002	Soft plastic tubing Ø 4 mm (internal)	0.005 kg



XP22F001



XP41F001



XP4F002



¹⁾ For regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants

²⁾ The restrictors (Ø 0.2 mm) are fitted at inputs 3 and 4 in the RCP and RPP 20 standard controllers





XFRP5F001



XFRP 5: Pressure-reducing station

Features

- Removes dust, water and oil from the compressed air
- Optical indicator for the level of contamination of the sub-micron filter
- Accurate pressure controller for maintaining the supply pressure
- Integrated safety valve protects pneumatic controllers against overload
- Fine filter with separation rate of 99.999% for particles down to 0.01 μm
- Residual oil content: 1 mg/m^3

Technical data

Parameters

Setting range	0.2...1.7 bar
Air capacity	20 m^3/h (max.)
Air consumption	75 l_n/h
Max. upstream pressure ¹⁾	8 bar
Min. upstream pressure	2 bar
Pressure gauge display	0...2.5 bar

Admissible ambient conditions

Admissible ambient temperature	0...55 °C
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Construction

Weight	2.2 kg
--------	--------

Standards and directives

Conformity	Directive 97/23/EC Art 3.3 for pressure equipment
------------	---

Overview of types

Type	Condition ex works
XFRP5F001	Fitted
XFRP5F002	Not fitted

Accessories

Type	Description
0277938000	Shut-off ball valve made of brass
0381003001	Fine filter with contamination indicator and double connector for fitting to sub-micron filter
0297651000	Pressure control valve with flat seal, bleed-off at 1.7 bar
0297652000	Assembly kit
0381002001	Sub-micron filter with contamination indicator
0381007001	Pressure controller with 2 manometer connections
0381008001	Manometer 0...2.5 bar, accuracy class 1.6

¹⁾ For regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants



XRP: Pneumatic relays, pluggable

Features

- Auxiliary relay with low air capacity for converting/decoupling pneumatic pressure signals
- Bleed-off nozzle/deflector system

Technical data

Parameters

Supply pressure ¹⁾	1.3 ±0.1 bar
Air recovery	50 l _n /h (max.)
Admissible input pressure	0...1.4 bar
Admissible output pressure	0...1.4 bar

Admissible ambient conditions

Admissible ambient temperature	0...55 °C
--------------------------------	-----------

Standards and directives

Conformity	Directive 97/23/EC Art 3.3 for pressure equipment
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Overview of types

Type	Properties	Air capacity, air consumption	Input pressure	Output pressure	Weight
XRP101F001	Interface relay	33 l _n /h	0.2...1.0 bar	0.2...1.0 bar	22 g
XRP102F001	Reversing relay	19 l _n /h	0.2...1.0 bar	1.0...0.2 bar	50 g
XRP103F001	Sequence relay	33 l _n /h	0.6...1.0 bar	0.2...1.0 bar	10 g
XRP104F001	Seq.-reversing relay	33 l _n /h	0.2...0.6 bar	1.0...0.2 bar	50 g

💡 XRP103F001: Starting point can be set between 0.2 and 0.6 bar; factory setting is 0.6 bar

💡 XRP104F001: Starting point can be set between 0.6 and 1.0 bar; factory setting is 0.6 bar

Accessories

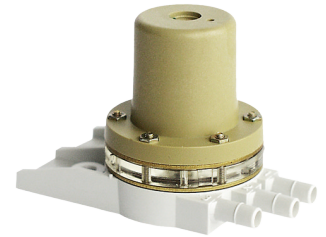
Type	Description
0296936000	Fixing brackets for rail: top-hat rail EN 60715, 35 × 7.5 mm and 35 × 15 mm
0296937000	Fixing clip for rail EN 60715-C 20

💡 Accessories do not apply to XRP 103



1:1

XRP101F001



XRP102/104F001



XRP103F001

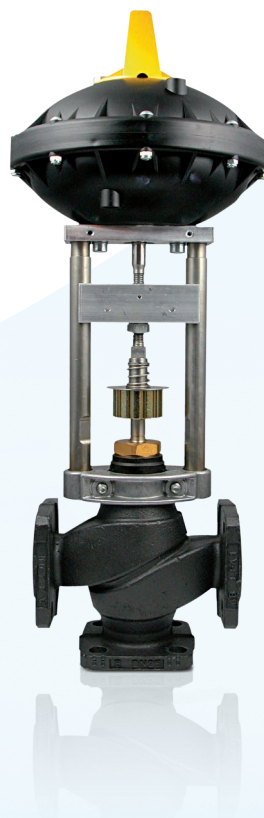
¹⁾ Supplied via ext. restrictor Ø 0.2 mm (XRP102F001 reversing relay: internal restrictor Ø 0.15 mm)
When used with RLP air-volume controllers, the restrictor and the air consumption do not apply
Up to three RLP units can be connected to a relay
For regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants



Pneumatic actuators and valves

A powerful and proven combination: pneumatic actuators and valves from SAUTER.

The pneumatic combinations from SAUTER are always the first choice whenever fast or high pushing forces are required. With decades of experience in the pneumatic field and countless proven solutions in practice, SAUTER can offer you pneumatic actuators and valves with guaranteed value.



Pneumatic actuators and valves

Pneumatic actuators

Overview of pneumatic actuators	344	AVP 142: Pneumatic valve actuator	348
AK31 P: Pneumatic actuator	345	AVP 242...244: Pneumatic valve actuators	350
AK 41...43 P: Pneumatic actuators	346		

Regulating valves (combined with actuator)

V6R: 2-way valve with female thread	351	VUG: 2-way flanged valve	363
B6R: 3-way valve	353	BUG: 3-way flanged valve	366
VUD: 2-way flanged valve	355	VUP: Pressure-relieved 2-way flanged valve	368
BUD: 3-way flanged valve	357	VUS: 2-way flanged valve	370
VUE: 2-way flanged valve	359	BUS: 3-way flanged valve	372
BUE: 3-way flanged valve	361		

Accessories

XSP: Pneumatic positioner	374
XAP: Position alarm/transmitter	375



Pneumatic actuators

Pneumatic actuators from SAUTER achieve high pushing forces, enabling fast control. They accurately control dampers or valves with a minimum air requirement. The automatic coupling of the actuators enables fast assembly times.

Overview of pneumatic actuators



Type codes	AK31 P	AK41...43 P	AVP 142	AVP 242...244
Technical data				
Control pressure (bar)	0...1.2	0...1.2	0...1.2	0...1.2
Effective area (cm ²)	30	40...160	180	180...500
Maximum pressure (bar)	1.5	1.5	1.5	1.5
Certification				
Explosion protection as per ATEX certification	•	• (AK41 P)	–	–
Further information	Page 345	Page 346	Page 348	Page 350

AK31 P: Pneumatic actuator

Features

- Conformity tested as per EN 13463-1 and EN 1127-1 (ex zone 1 II 2 G T6)
- Rolling diaphragms made of silicone; drive spindle in stainless steel with M8 male thread
- Plug nipple for connecting plastic tubing with an internal diameter of 4 mm

Technical data

Parameters

Control pressure ¹⁾	0...1.2 bar
Maximum pressure	1.5 bar
Effective area	30 cm ²
Stroke	50 mm
Lever length for 90°	35 mm
Running time for 100% stroke ²⁾	5 s

Ambient conditions

Admissible ambient temperature	-5...60 °C
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Construction

Housing material	Fire-retardant plastic
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Standards and directives

Type of protection	IP 20
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Overview of types

i Admissible damper surface area: Recommended value for equal-sided, smooth-running air dampers. The increased actuating force required to overcome the slit seals must be taken into account for tightly sealed air dampers in accordance with DIN 1946

Type	AK31P1F001	AK31P2F001	AK31P3F001
Working pressure range	0.3...0.9 bar	0.2...0.6 bar	0.3...0.9 bar
Pushing force at 0 bar	70 N	40 N	160 N
Pushing force at 1.2 bar	70 N	160 N	40 N
Torque 0 bar	1.8 Nm	1 Nm	4 Nm
Torque 1.2 bar	1.8 Nm	4 Nm	1 Nm
Admissible damper surface area	0.6 m ²	0.3 m ²	0.3 m ²
Air consumption for 100% stroke	0.3 l _n	0.2 l _n	0.2 l _n
Weight	0.3	0.32	0.32

Accessories

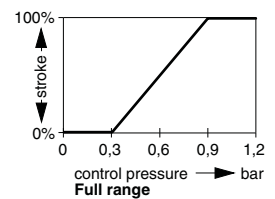
Type	Description
0274587000	Fixing bracket
0274589000	Straight ball joint with 2 nuts (M8)
0274593000	Angled ball joint with 2 nuts (M8)
0370039000	Coupling nut (M8), 2 lock nuts (M8)
0370040000	Threaded rod (M8), length 500 mm
0370059000	Clamping lever for shaft, Ø 8...18 mm

¹⁾ Required to achieve the actuating power; for regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants

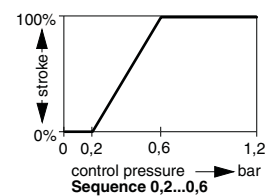
²⁾ In respect of the certain air capacity (400 l_n/h) and a supply line with a length of 20 m and a diameter of 4 mm



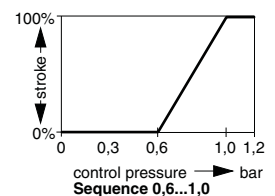
AK31P*F001



AK31P1F001



AK31P2F001

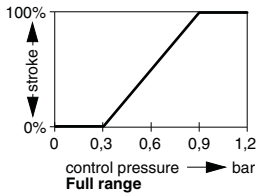


AK31P3F001

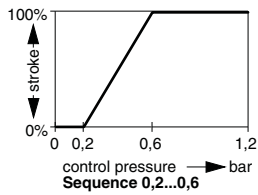




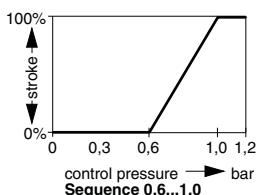
AK42PF003



AK41...43 P



AK41P2F003



AK41P3F003

AK 41...43 P: Pneumatic actuators

Features

- ATEX-certified for use in areas of zone 1 where there is a risk of explosions
- Compliant with EN 13463-1 and EN 1127-1 (Ex II 2 G T6) with actuators of the AK 41 P and AK 42 P series
- Rolling diaphragms made of silicone; drive spindle in stainless steel with M8 male thread
- Plug nipple for connecting plastic tubing with an internal diameter of 4 mm (AK41)
- Compressed-air connection with Rp 1/8" female thread (AK42, 43)

Technical data

Parameters

Control pressure	0...1.2 bar
Maximum pressure	1.5 bar

Ambient conditions

Admissible ambient temperature ¹⁾	-10...70 °C
--	-------------

Construction

Housing material	Fire-retardant thermoplastic (AK41, 42), light metal (AK43)
------------------	---

Standards and directives

Type of protection	IP 20
Conformity	Directive 97/23/EC Art. 3.3 for pressure equipment

Overview of types

i Admissible damper surface area: Recommended value for equal-sided, smooth-running air dampers. The increased actuating force required to overcome the slat seals must be taken into account for tightly sealed air dampers in accordance with DIN 1946

i Running time for 100% stroke: with reference to the centair air flow rate (400 l_n/h) and a supply line with a length of 20 m and a diameter of 4 mm

Type	AK41P1F003	AK41P2F003	AK41P3F003	AK42PF003	AK43PF002
Working pressure range	0.3...0.9 bar	0.2...0.6 bar	0.6...1.0 bar	0.3...0.9 bar	0.3...0.9 bar
Pushing force at 0 bar	100 N	60 N	200 N	200 N	400 N
Pushing force at 1.2 bar	100 N	200 N	60 N	200 N	400 N
Torque 0 bar	3 Nm	2 Nm	6 Nm	10 Nm	20 Nm
Torque 1.2 bar	3 Nm	6 Nm	2 Nm	10 Nm	20 Nm
Admissible damper surface area	1 m ²	0.6 m ²	0.6 m ²	3 m ²	6 m ²
Stroke	63 mm	63 mm	63 mm	100 mm	100 mm
Effective area	40 cm ²	40 cm ²	40 cm ²	80 cm ²	160 cm ²
Air consumption for 100% stroke	0.5 l _n	0.4 l _n	0.5 l _n	1.7 l _n	3.5 l _n
Running time for 100% stroke	7 s	6 s	7 s	20 s	35 s
Explosion protection	•	•	•	•	–
Lever length for 90°	40 mm	40 mm	40 mm	70 mm	70 mm
Weight	0.55 kg	0.55 kg	0.6 kg	1.4 kg	4.8 kg

¹⁾ When used in fresh air ducts, temporarily -20 °C



Accessories

Type	Description
XSP31	Pneumatic positioner (see product data sheet)
XAP1	Auxiliary contacts (see product data sheet)
XAP2	Potentiometer unit (see product data sheet)
0274354000	Rod 600 mm long, Ø 10 mm, with ball joint

For AK 41, AK 42

Type	Description
0226518003	Assembly kit for XAP with AK41, separate delivery
0226519003	Assembly kit for XAP with AK42, separate delivery
0226521002	Assembly kit for XSP 31 with AK41, separate delivery
0226522002	Assembly kit for XSP 31 with AK42, separate delivery
0274586000	Straight ball joint with 2 nuts (M8) for XSP 31 with AK41
0274587000	Fixing bracket
0274589000	Straight ball joint with 2 nuts (M8)
0274593000	Angled ball joint with 2 nuts (M8)
0274595000	Fixing bracket with screw (M8 × 30)
0274597000	Adaptor with nut (M8)
0370039000	Coupling nut (M8), 2 lock nuts (M8)
0370040000	Threaded rod (M8), length 500 mm

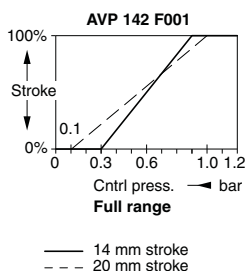
For AK 43

Type	Description
0226520003	Assembly kit for XAP, separate delivery
0226523002	Assembly kit for XSP 31, separate delivery
0274596000	Fixing bracket with screw (M10 × 40)
0274598000	Adaptor with nut (M10)
0274605000	Angled ball joint for clamping lever with nut (M10)





AVP142F001



AVP 142: Pneumatic valve actuator

Features

- Actuation of 2-way and 3-way valves of the V6R/B6R series for continuous control facilities or for OPEN/CLOSE control
- Silicone-free, therefore usable in many applications
- Rubber diaphragms with long-term stability
- The direction of operation can be reversed by fitting the head of the actuator to the fixing bracket the opposite way round
- Stroke indicator enables the position of the actuator to be determined quickly
- Compressed-air connection with Rp 1/8" female thread

Technical data

Parameters

Control pressure ¹⁾	0...1.2 bar
Maximum pressure	1.5 bar
Effective area	180 cm ²
Valve with 14 mm stroke: span (bar)	0.6
Valve with 14 mm stroke: air consumption (l _n /stroke)	0.8
Valve with 20 mm stroke: span (bar)	0.9
Valve with 20 mm stroke: air consumption (l _n /stroke)	1.1

Ambient temperature

Admissible ambient temperature	-15...50 °C
Temperature at the diaphragm	max. 70 °C

Construction

Weight	2 kg
Housing material	Housing of glass-fibre-reinforced plastic; fixing bracket of light metal

Standards and directives

Conformity	Directive 97/23/EG Art 3.3 for pressure equipment
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Overview of types

Type	Description
AVP142F001	Pneumatic valve actuator

Assembly materials for the V6R and B6R valve series

Type of actuator	XSP3 1	XSP3 1 G	XAP	XEP
AVP142	0226504002	0226532002	0226512003	0274700

Accessories

Type	Description
XSP3 1	Pneumatic positioner (see product data sheet)
XAP1	Auxiliary contacts (see product data sheet)
XAP2	Potentiometer unit (see product data sheet)
XEP	Electro-pneumatic converter for continuous signals (see product data sheet)

¹⁾ Required to achieve the actuating power; for regulations concerning the quality of the supply air, particularly at low ambient temperatures, see www.sauter-controls.com/en/pneumatic_plants



- *Electro-pneumatic converter: Of the accessories, only one positioner (XSP 31), one feedback unit (XAP) and one electro-pneumatic converter (XEP) can be fitted; if the XSP 31 and XAP are fitted, the XEP must be screwed onto the side of the fixing bracket*
- *Positioner, auxiliary contact unit, potentiometer: Can be used for minimum or maximum limitation of the stroke; hand wheel can be removed*
- *XSP 31, XAP 1, XAP 2: Fitted at the factory to the valve/actuator combination*



AVP 242...244: Pneumatic valve actuators



AVP242F0*1



AVP243F0*1



AVP24*F0*1

Features

- Activation of 2-way and 3-way valves of the VUD/BUD, VUE/BUE, VUG/BUG, VUS/BUS and VUP series for continuous control facilities or for open/close control
- Silicone-free, therefore usable in many applications
- Rubber diaphragms with long-term stability
- The direction of operation can be reversed by fitting the unit to the bracket the opposite way round
- Stroke indicator enables the position of the actuator to be determined quickly
- Compressed-air connection with Rp 1/8" female thread
- Patented actuator-valve coupling enables the two units to be connected quickly and easily

Technical data

Parameters

Control pressure	0...1.2 bar
Maximum pressure	1.5 bar
Control span	0.6 bar

Ambient temperature

Admissible ambient temperature	-15...50 °C
Temperature at the diaphragm	Max. 70 °C

Standards and directives

Conformity	Directive 97/23/EC for pressure equipment
------------	---

Overview of types

Type	For valve with stroke	Air consumption for 100% stroke	Effective area	Weight
AVP242F001	8 mm	0.30 l _n	180 cm ²	3 kg
AVP242F021	14/20/25 mm	0.65 l _n	180 cm ²	3 kg
AVP243F021	20 mm	1.10 l _n	250 cm ²	6 kg
AVP243F031	30/40 mm	2.00 l _n	250 cm ²	6 kg
AVP244F021	20 mm	1.90 l _n	500 cm ²	12 kg
AVP244F031	30/40 mm	3.30 l _n	500 cm ²	12 kg

Assembly materials for the VUD/BUD, VUE/BUE, VUG/BUG, VUS/BUS and VUP valve series

Type of actuator	XSP31	XAP	XEP
AVP24*	297933001	297934001	297935001

Accessories

Type	Description
XSP31	Pneumatic positioner (see product data sheet)
XAP1	Auxiliary contacts (see product data sheet)
XAP2	Potentiometer unit (see product data sheet)
XEP	Electro-pneumatic converter for continuous signals (see product data sheet)
0274521000	Manual adjuster for AVP 243 and 244; weight 1.7 kg

- *Electro-pneumatic converter: Of the accessories, only one positioner (XSP 31), one feedback unit (XAP) and one electro-pneumatic converter (XEP) can be fitted; if the XSP 31 and XAP are fitted, the XEP must be screwed onto the side of the fixing bracket*
- *Positioner, auxiliary contact unit, potentiometer, manual adjuster: Can be used for minimum or maximum limitation of the stroke; hand wheel can be removed*
- *XSP 31, XAP 1, XAP 2: Fitted at the factory to the valve/actuator combination*



V6R: 2-way valve with female thread, PN 16 (pn.)

How energy efficiency is improved

Efficiency means precise and reliable control

Features

- Regulating valve, free of silicone grease, with DIN/EN ISO 228-1 G female thread
- Equal-percentage (F3**) or linear (F2**) characteristic
- Control passage A-AB is closed when the spindle is moved out
- Closing against the pressure
- Valve body and seat made of gun metal
- Stainless-steel spindle
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM

Technical data

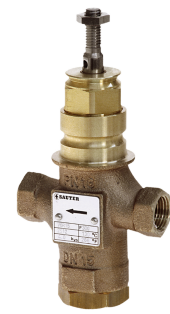
Parameters	
Control ratio	> 50:1
Leakage rate	≤ 0.05% of k_{vs} value
Valve stroke	14 mm
Nominal pressure	16 bar

Ambient conditions

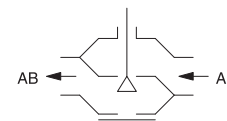
Operating temperature ¹⁾	- 15...130 °C
Operating pressure up to 120 °C	16 bar
Operating pressure up to 130 °C	13 bar

Overview of types

Type	Nominal diameter	k_{vs} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
V6R15F350	DN 15	0.4 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F340	DN 15	0.63 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F330	DN 15	1 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F320	DN 15	1.6 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
V6R15F310	DN 15	2.5 m ³ /h	equal-percentage	brass	G½"	1.2 kg
V6R15F300	DN 15	4 m ³ /h	equal-percentage	brass	G½"	1.2 kg
V6R15F200	DN 15	4 m ³ /h	linear	brass	G½"	1.2 kg
V6R25F310	DN 25	6.3 m ³ /h	equal-percentage	brass	G1"	1.6 kg
V6R25F300	DN 25	10 m ³ /h	equal-percentage	brass	G1"	1.6 kg
V6R25F210	DN 25	6.3 m ³ /h	linear	brass	G1"	1.6 kg
V6R25F200	DN 25	10 m ³ /h	linear	brass	G1"	1.6 kg
V6R40F310	DN 40	16 m ³ /h	equal-percentage	brass	G1½"	3.4 kg
V6R40F300	DN 40	25 m ³ /h	equal-percentage	brass	G1½"	3.4 kg
V6R40F210	DN 40	16 m ³ /h	linear	brass	G1½"	3.4 kg
V6R40F200	DN 40	25 m ³ /h	linear	brass	G1½"	3.4 kg

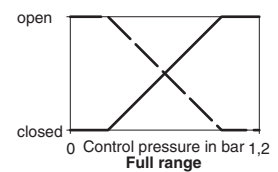


V6R15F300



Pressure-stroke characteristic (with valve fitted)

AVP142 F001



—— Condition ex works
 - - - - Fitting variant A


¹⁾ At temperatures below 0 °C, use stuffing box heater (accessory)



Type	Nominal diameter	k_{vs} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
V6R50F300	DN 50	35 m ³ /h	equal-percentage	brass	G2"	4.6 kg
V6R50F200	DN 50	35 m ³ /h	linear	brass	G2"	4.6 kg

Accessories

Type	Description
0217268001	Stuffing box heater 15 W, 24 V
0217268004	Stuffing box heater 15 W, 230 V
0360391015	Screw fitting, DN 15, incl. seal, 2 pcs. required
0360391025	Screw fitting, DN 25, incl. seal, 2 pcs. required
0360391040	Screw fitting, DN 40, incl. seal, 2 pcs. required
0360391050	Screw fitting, DN 50, incl. seal, 2 pcs. required
0378034001	Stuffing box; with synthetic lubricant; max. 130 °C

 **0217268****** Stuffing box heater 15 W, light alloy housing, IP 54, 3 x 0.75 mm² power cable, earth connector, length 1 m, ferrule

Combination of V6R with pneumatic actuator

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.
- i** *The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.*

Pressure differences

Actuator	AVP142F001
Page	348
Admissible pressure p_{stat}	≤ 16 bar
Running time	10 s

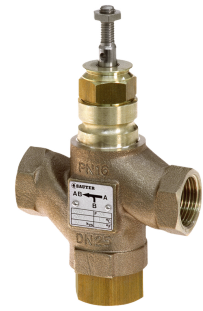
Closes against the pressure	Δp [bar]	
	Δp_{max}	Δp_s
V6R15F350	4.0	16.0
V6R15F340		
V6R15F330		
V6R15F320		
V6R15F310		
V6R15F300		
V6R15F200	4.0	13.6
V6R25F310		
V6R25F300		
V6R25F210		
V6R25F200	3.0	3.1
V6R40F310		
V6R40F300		
V6R40F210		
V6R40F200	2.0	2.3
V6R50F300		
V6R50F200		

Cannot be used to close with the pressure

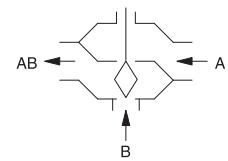
B6R: 3-way valve with female thread, PN 16 (pn.)

Features

- Regulating valve for continuous control of cold water or domestic hot water in closed circuits
- In combination with valve actuators AVM 322, AVM 322S, AVM 234S, AVF 234S
- Regulating valve, free of silicone grease, with DIN/EN ISO 228-1 G female thread
- The valve is closed when the spindle is moved out
- Used as a control valve
- Valve body and seat made of gun metal
- Stainless-steel spindle
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM

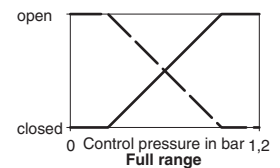


B6R25F300



Pressure-stroke characteristic (with valve fitted)

AVP142 F001



—— Condition ex works
 - - - - Fitting variant A

Technical data

Parameters

Control ratio	> 50:1
Nominal pressure	PN 16
Leakage rate of control passage A-AB	≤ 0.05% of k_{vs} value
Leakage rate of mixing passage B-AB	≤ 1% of k_{vs} value
Valve stroke	14 mm
Valve characteristic, mixing passage	Linear

Ambient conditions

Operating temperature ¹⁾	- 15...130 °C
Operating pressure up to 120 °C	16 bar
Operating pressure up to 130 °C	13 bar

Standards and directives

Pressure and temperature data	DIN 2401
Flow parameters	VDI/VDE 2173

Overview of types

Type	Nominal diameter	k_{vs} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
B6R15F330	DN 15	1 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
B6R15F320	DN 15	1.6 m ³ /h	equal-percentage	Stainless steel	G½"	1.2 kg
B6R15F310	DN 15	2.5 m ³ /h	equal-percentage	brass	G½"	1.2 kg
B6R15F300	DN 15	4 m ³ /h	equal-percentage	brass	G½"	1.2 kg
B6R15F200	DN 15	4 m ³ /h	linear	brass	G½"	1.2 kg
B6R25F310	DN 25	6.3 m ³ /h	equal-percentage	brass	G1"	1.6 kg
B6R25F300	DN 25	10 m ³ /h	equal-percentage	brass	G1"	1.6 kg
B6R25F210	DN 25	6.3 m ³ /h	linear	brass	G1"	1.6 kg
B6R25F200	DN 25	10 m ³ /h	linear	brass	G1"	1.6 kg
B6R40F310	DN 40	16 m ³ /h	equal-percentage	brass	G1½"	3.4 kg
B6R40F300	DN 40	25 m ³ /h	equal-percentage	brass	G1½"	3.4 kg
B6R40F210	DN 40	16 m ³ /h	linear	brass	G1½"	3.4 kg
B6R40F200	DN 40	25 m ³ /h	linear	brass	G1½"	3.4 kg


¹⁾ At temperatures below 0 °C, use stuffing box heater (accessory)



Type	Nominal diameter	k_{vs} value	Valve characteristic	Materials for valve plug	Type of connection	Weight
B6R50F300	DN 50	35 m ³ /h	equal-percentage	brass	G2"	4.6 kg
B6R50F200	DN 50	35 m ³ /h	linear	brass	G2"	4.6 kg

Accessories

Type	Description
0217268001	Stuffing box heater 15 W, 24 V
0217268004	Stuffing box heater 15 W, 230 V
0378034001	Stuffing box; with synthetic lubricant; max. 130 °C
0360391015	Screw fitting, DN 15, incl. seal, 3 pcs. required
0360391025	Screw fitting, DN 25, incl. seal, 3 pcs. required
0360391040	Screw fitting, DN 40, incl. seal, 3 pcs. required
0360391050	Screw fitting, DN 50, incl. seal, 3 pcs. required

 **0217268****** Stuffing box heater 15 W, light alloy housing, IP 54, 3 x 0.75 mm² power cable, earth connector, length 1 m, ferrule

Combination of B6R with pneumatic actuator

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.
- i** *The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.*

Pressure differences

Actuator	AVP142F001
Page	348
Admissible pressure p_{stat}	≤ 16 bar
Running time	10 s

As control valve	Δp [bar]	
	Δp_{max}	Δp_s
B6R15F330 B6R15F320 B6R15F310 B6R15F300 B6R15F200	4.0	16.0
B6R25F310 B6R25F300 B6R25F210 B6R25F200	4.0	13.5
B6R40F310 B6R40F300 B6R40F210 B6R40F200	2.4	3.1
B6R50F300 B6R50F200	2.0	2.3

Cannot be used as distribution valve

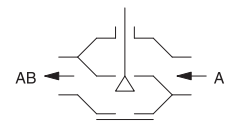
VUD: 2-way flanged valve, PN 6 (pn.)

Features

- Continuous control of cold and hot water in closed circuits¹⁾
- Water quality as per VDI 2035
- In combination with AVP 242 valve actuators as control unit
- Not suitable for steam or drinking water
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, painted black
- The valve is closed when the spindle is moved out
- Closing against the pressure
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plugs of nominal diameter DN 15...50 made of brass, with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM



VUD032F300



Technical data

Parameters

Nominal pressure	PN 6
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate	≤ 0.05% of k_{vs} value
Valve stroke	8 mm

Ambient conditions

Operating temperature ²⁾	-10...150 °C
Operating pressure	Up to 120 °C; 6 bar At 150 °C; 5.4 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)
CE conformity	PED 97/23/EC (fluid group II)

Overview of types

Type	Nominal diameter	k_{vs} value	Weight
VUD015F320	DN 15	1.6 m ³ /h	3.2 kg
VUD015F310	DN 15	2.5 m ³ /h	3.2 kg
VUD015F300	DN 15	4 m ³ /h	3.2 kg
VUD020F300	DN 20	6.3 m ³ /h	4.1 kg
VUD025F300	DN 25	10 m ³ /h	4.7 kg
VUD032F300	DN 32	16 m ³ /h	7.3 kg
VUD040F300	DN 40	22 m ³ /h	8.6 kg
VUD050F300	DN 50	28 m ³ /h	11.2 kg
VUD050F200	DN 50	40 m ³ /h	11.2 kg

¹⁾ Air humidity must not exceed 75%

²⁾ At temperatures below 0 °C, use stuffing-box heater. Use adaptor (accessory) at temperatures above 100 °C



Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adaptor required when temperature of the medium is 100...130 °C (recommended for temperatures < 10 °C) DN 15...50
0372249002	Adaptor required when temperature of the medium is >130 up to 150 °C, DN 15...50
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of VUD with pneumatic actuator

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*
- i** *The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.*

Combination of VUD with pneumatic actuator AVP 242

Actuator	AVP242F001
Page	350
Admissible pressure p_{stat}	≤ 6 bar
Running time	8 s

Closes against the pressure	Δp [bar]	
	Δp_{max}	Δp_s
VUD015F320 VUD015F310 VUD015F300 VUD020F300 VUD025F300 VUD032F300	6.0	6.0
VUD040F300	4.0	4.0
VUD050F300 VUD050F200	2.5	2.5

Cannot be used to close with the pressure

- ⚠** *At temperatures above 100°C, accessories are required*

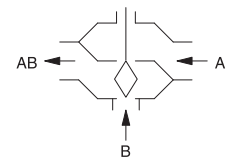
BUD: 3-way flanged valve, PN 6 (pn.)

Features

- Continuous control of cold and hot water in closed circuits¹⁾
- Water quality as per VDI 2035
- In combination with AVP 242 valve actuators as control unit
- Not suitable for drinking water
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, painted black
- The control passage is closed when the spindle is moved out
- Used as a control valve
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plugs of nominal diameter DN 15...50 made of brass, with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM



BUD032F300



Technical data

Parameters

Nominal pressure	PN 6
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Valve characteristic, mixing passage	Linear
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate of control passage	< 0.05% of k_{vs} value
Leakage rate, mixing passage	< 1% of k_{vs} value
Valve stroke	8 mm

Ambient conditions

Operating temperature ²⁾	-10...150 °C
Operating pressure	Up to 120 °C; 6 bar At 150 °C; 5.4 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)
CE conformity	PED 97/23/EC (fluid group II)

Overview of types

Type	Nominal diameter	k_{vs} value	Weight
BUD015F320	DN 15	1.6 m ³ /h	3.2 kg
BUD015F310	DN 15	2.5 m ³ /h	3.2 kg
BUD015F300	DN 15	4 m ³ /h	3.2 kg
BUD020F300	DN 20	6.3 m ³ /h	4.1 kg
BUD025F300	DN 25	10 m ³ /h	4.7 kg
BUD032F300	DN 32	16 m ³ /h	7.1 kg
BUD040F300	DN 40	22 m ³ /h	8.4 kg

¹⁾ Air humidity must not exceed 75%

²⁾ At temperatures below 0 °C, use a stuffing box heater. Use adaptor (accessory) at temperatures above 100 °C



Type	Nominal diameter	k_{vs} value	Weight
BUD050F300	DN 50	28 m ³ /h	10.9 kg
BUD050F200	DN 50	40 m ³ /h	11.2 kg

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adaptor required when temperature of the medium is 100...130 °C (recommended for temperatures < 10 °C) DN 15...50
0372249002	Adaptor required when temperature of the medium is >130 up to 150 °C, DN 15...50
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50

Combination of BUD with pneumatic actuator


- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*
- i** *The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.*

Combination of BUD with pneumatic actuator AVP 242

Actuator	AVP242F001
Page	350
Admissible pressure p_{stat}	≤ 6 bar
Running time	8 s

As control valve	Δp [bar]	
	Δp_{max}	Δp_s
BUD015F320	6.0	6.0
BUD015F310		
BUD015F300		
BUD020F300		
BUD025F300		
BUD032F300	4.0	4.0
BUD040F300		
BUD050F300	2.5	2.5
BUD050F200		

Cannot be used as distribution valve

 At temperatures above 100°C, accessories are required

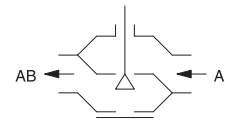
VUE: 2-way flanged valve, PN 16/10 (pn.)

Features

- Continuous control of cold/hot water and low-pressure steam up to 115 °C in closed circuits¹⁾
- Water quality as per VDI 2035
- In combination with AVP 242 valve actuators as control unit
- Not suitable for drinking water
- Valve with flange connection as per EN 1092-2, seal form B, for PN 16 and PN 10
- Regulating valve, free of silicone grease, painted black
- The valve is closed when the spindle is moved out
- Closing against the pressure
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plug made of brass with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM



VUE032F300



Technical data

Parameters

Nominal pressure	PN 16/10
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate	< 0.05% of k_{vs} value
Valve stroke	8 mm

Ambient conditions

Operating temperature ²⁾	-10...150 °C
Operating pressure	PN 16: Up to 120 °C, 16 bar At 150 °C, 14.4 bar PN 10: Up to 120 °C, 10 bar At 150 °C, 9 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)
CE conformity	PED 97/23/EC (fluid group II)

Overview of types

Type	Nominal diameter	k_{vs} value	Weight
VUE015F350	DN 15	0.4 m ³ /h	3.2 kg
VUE015F340	DN 15	0.63 m ³ /h	3.2 kg
VUE015F330	DN 15	1 m ³ /h	3.2 kg
VUE015F320	DN 15	1.6 m ³ /h	3.2 kg
VUE015F310	DN 15	2.5 m ³ /h	3.2 kg
VUE015F300	DN 15	4 m ³ /h	3.2 kg

¹⁾ Air humidity must not exceed 75%

²⁾ At temperatures below 0 °C, use a stuffing box heater. Use adaptor (accessory) at temperatures above 100 °C



Type	Nominal diameter	k_{vs} value	Weight
VUE020F300	DN 20	6.3 m ³ /h	4.1 kg
VUE025F300	DN 25	10 m ³ /h	4.7 kg
VUE032F300	DN 32	16 m ³ /h	7.3 kg
VUE040F300	DN 40	22 m ³ /h	8.6 kg
VUE050F300	DN 50	28 m ³ /h	11.2 kg
VUE050F200	DN 50	40 m ³ /h	11.2 kg

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adaptor required when temperature of the medium is 100...130 °C (recommended for temperatures < 10 °C) DN 15...50
0372249002	Adaptor required when temperature of the medium is >130 up to 150 °C, DN 15...50
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50
0378369001	Complete replacement stuffing box for DN 65...150


Combination of VUE with pneumatic actuator

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.
- i** The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.

Combination of VUE with pneumatic actuator AVP 242

Actuator	AVP242F001
Page	350
Admissible pressure p_{stat}	≤ 16 bar
Running time	8 s
Stroke	8 mm

Closes against the pressure	Δp [bar]	
	Δp_{max}	Δp_s
VUE015F350	10.0	16.0
VUE015F340		
VUE015F330		
VUE015F320		
VUE015F310		
VUE015F300		
VUE020F300		
VUE025F300	10.0	12.0
VUE032F300	6.5	6.5
VUE040F300	4.0	4.0
VUE050F300	2.5	2.5
VUE050F200		

 At temperatures above 100°C, accessories are required

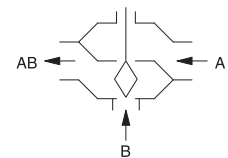
BUE: 3-way flanged valve, PN 16/10 (pn.)

Features

- Continuous control of cold and hot water in closed circuits¹⁾
- Water quality as per VDI 2035
- In combination with AVP 242 valve actuators as control unit
- Not suitable for drinking water
- Valve with flange connection as per EN 1092-2, seal form B, for PN 16 and PN 10
- Regulating valve, free of silicone grease, painted black
- The control passage is closed when the spindle is moved out
- Used as a control valve
- Valve body and seat made of grey cast iron
- Stainless-steel spindle
- Plug made of brass with glass-fibre reinforced PTFE sealing ring
- Stuffing box made of brass with wiper ring and double O-ring seal made of EPDM



BUE032F300



Technical data

Parameters

Nominal pressure	PN 16/10
Connection	Flange as per EN 1092-2, form B
Valve characteristic, control passage F200	Linear
Valve characteristic, control passage F300	Equal-percentage
Valve characteristic, mixing passage	Linear
Control ratio of valve	> 50:1
Stuffing box	2 EPDM O-rings
Leakage rate of control passage	< 0.05% of k_{vs} value
Leakage rate, mixing passage	< 1% of k_{vs} value
Valve stroke	8 mm

Ambient conditions

Operating temperature ²⁾	- 10...150 °C
Operating pressure	PN 16: Up to 120 °C, 16 bar At 150 °C, 14.4 bar PN 10: Up to 120 °C, 10 bar At 150 °C, 9 bar Between 120 °C and 150 °C, a linear interpolation can be performed

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534 (page 3)
CE conformity	PED 97/23/EC (fluid group II)

Overview of types

Type	Weight	k_{vs} value	Nominal diameter
BUE015F330	3.2 kg	1 m ³ /h	DN 15
BUE015F320	3.2 kg	1.6 m ³ /h	DN 15
BUE015F310	3.2 kg	2.5 m ³ /h	DN 15
BUE015F300	3.2 kg	4 m ³ /h	DN 15

¹⁾ Air humidity must not exceed 75%

²⁾ At temperatures below 0 °C, use a stuffing box heater. Use adaptor (accessory) at temperatures above 100 °C



Type	Weight	k_{vs} value	Nominal diameter
BUE020F300	4.1 kg	6.3 m ³ /h	DN 20
BUE025F300	4.7 kg	10 m ³ /h	DN 25
BUE032F300	7.1 kg	16 m ³ /h	DN 32
BUE040F300	8.4 kg	22 m ³ /h	DN 40
BUE050F300	11.2 kg	28 m ³ /h	DN 50
BUE050F200	11.2 kg	40 m ³ /h	DN 50

Accessories

Type	Description
0372240001	Manual adjustment for valves with 8 mm stroke
0372249001	Adaptor required when temperature of the medium is 100...130 °C (recommended for temperatures < 10 °C) DN 15...50
0372249002	Adaptor required when temperature of the medium is >130 up to 150 °C, DN 15...50
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378368001	Complete replacement stuffing box for DN 15...50
0378369001	Complete replacement stuffing box for DN 65...150

Combination of BUE with pneumatic actuator

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.
- i** *The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.*

Combination of BUE with pneumatic actuator AVP 242

Actuator	AVP242F001
Page	350
Admissible pressure p_{stat}	≤ 10 bar
Running time	8 s
Stroke	8 mm

As control valve	Δp [bar]	
	Δp_{max}	Δp_s
BUE015F330	10.0	16.0
BUE015F320		
BUE015F310		
BUE015F300		
BUE020F300		
BUE025F300	10.0	12.0
BUE032F300	6.0	6.5
BUE040F300	4.0	4.0
BUE050F300	2.5	2.5
BUE050F200		

Cannot be used as distribution valve

 At temperatures above 100°C, accessories are required

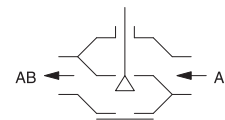
VUG: 2-way flanged valve, PN 25/16 (pn.)

Features

- Valve with flange connection as per EN 1092-2, seal form B
- Nominal pressure 25 bar, except VUG065F316, nominal pressure 16 bar
- Regulating valve, free of silicone grease, painted black
- The valve is closed when the spindle is moved out
- Closing against the pressure
- Valve body of ductile cast iron; seat and spindle of stainless steel
- Plugs of nominal diameter DN 15...50 are made of stainless steel with glass-fibre-reinforced PTFE sealing ring
- Plugs of nominal diameter DN 65...150 are made of stainless steel with metal-to-metal seal
- Maintenance-free stuffing box in brass with spring-loaded PTFE washer



VUG032F304



Technical data

Parameters

Valve characteristic	Equal-percentage
Control ratio of valve	> 50:1
Leakage rate at max. Δp_s	$\leq 0.05\%$ of k_{vs} value

Admissible ambient conditions

Operating temperature ¹⁾	30...200 °C
Operating pressure	PN 16:
	30 °C, 16 bar
	At 120 °C, 16 bar
	At 200 °C, 14 bar
PN 25:	30 °C, 18 bar
	At 120 °C, 25 bar
	At 200 °C, 21.7 bar

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534

Overview of types

Type	Nominal diameter	k_{vs} value	Valve stroke	Connection	Weight
VUG015F374	DN 15	0.16 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F364	DN 15	0.25 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F354	DN 15	0.4 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F344	DN 15	0.63 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F334	DN 15	1 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F324	DN 15	1.6 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F314	DN 15	2.5 m ³ /h	20 mm	PN 25/16	4 kg
VUG015F304	DN 15	4 m ³ /h	20 mm	PN 25/16	4 kg
VUG020F304	DN 20	6.3 m ³ /h	20 mm	PN 25/16	5 kg
VUG025F304	DN 25	10 m ³ /h	20 mm	PN 25/16	5.6 kg
VUG032F304	DN 32	16 m ³ /h	20 mm	PN 25/16	9.1 kg
VUG040F304	DN 40	25 m ³ /h	20 mm	PN 25/16	11.2 kg
VUG050F304	DN 50	40 m ³ /h	20 mm	PN 25/16	13.8 kg
VUG065F316	DN 65	63 m ³ /h	40 mm	PN 16	25 kg

¹⁾ For cold water applications from -20...30 °C, the versions VUG***F3**S with a stuffing box containing silicone [e.g.: VUG015F304S] must be used.

Use stuffing box heater at temperatures below 0 °C; use the relevant adaptor (accessory) at temperatures above 130 °C or 180 °C. Down to -10 °C, as per AD code of practice W 10, water with anti-freeze and brine solution



Type	Nominal diameter	k_{vs} value	Valve stroke	Connection	Weight
VUG065F304	DN 65	63 m ³ /h	40 mm	PN 25	25 kg
VUG080F304	DN 80	100 m ³ /h	40 mm	PN 25/16	37 kg
VUG100F304	DN 100	160 m ³ /h	40 mm	PN 25	50 kg
VUG125F304	DN 125	250 m ³ /h	40 mm	PN 25	75 kg
VUG150F304	DN 150	340 m ³ /h	40 mm	PN 25	100 kg

Accessories

Type	Description
0372336180	Adapter (required when temperature of the medium is 130...150 °C) from DN 65
0372336240	Adaptor (required when temperature of the medium is 180...240 °C)
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378384001	Torsion protection DN 65...150

Combination of VUG with pneumatic actuator

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*
- i** *The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.*

Pressure differences

Actuator	AVP242F021	AVP243F021	AVP244F021	AVP243F031	AVP244F031
Page	350	350	350	350	350
Admissible pressure p_{stat}	≤ 25 bar	≤ 25 bar	≤ 25 bar	≤ 25 bar	≤ 25 bar
Running time	8 s	24 s	40 s	24 s	40 s
Stroke	20 mm	20 mm	20 mm	40 mm	40 mm

Closes against the pressure	Δp [bar]									
	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s
VUG015F374										
VUG015F364										
VUG015F354										
VUG015F344	16.0	16.5	16.0	22.7	16.0	25.0	-	-	-	-
VUG015F334										
VUG015F324										
VUG015F314										
VUG015F304										
VUG020F304	13.0	13.0	16.0	18.0	16.0	25.0	-	-	-	-
VUG025F304	8.8	8.8	12.2	12.2	16.0	24.5	-	-	-	-
VUG032F304	5.5	5.5	7.8	7.8	15.5	15.5	-	-	-	-
VUG040F304	3.7	3.7	5.2	5.2	10.3	10.3	-	-	-	-
VUG050F304	2.5	2.5	3.3	3.3	6.6	6.6	-	-	-	-
VUG065F316	-	-	-	-	-	-	2.2	2.2	4.4	4.4
VUG065F304										
VUG080F304	-	-	-	-	-	-	1.5	1.5	3.0	3.0
VUG100F304	-	-	-	-	-	-	1.0	1.0	2.0	2.0
VUG125F304	-	-	-	-	-	-	0.7	0.7	1.3	1.3
VUG150F304	-	-	-	-	-	-	0.5	0.5	1.0	1.0

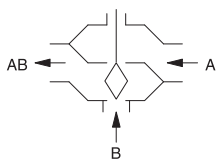
Cannot be used to close with the pressure

☀ At temperatures above 130 °C, accessories are required





BUG032F304



BUG: 3-way flanged valve, PN 25/16 (pn.)

Features

- Valve with flange connection as per EN 1092-2, seal form B
- Nominal pressure 25 bar; except BUG065F316, nominal pressure 16 bar
- Regulating valve, free of silicone grease, painted black
- The control passage is closed when the spindle is moved out
- Used as a control valve
- Valve body of ductile cast iron
- Stainless-steel seat and spindle
- Nominal diameter DN 15...50 plugs of stainless steel with glass-fibre-reinforced PTFE sealing ring
- Plugs of nominal diameter DN 65...150 are made of stainless steel with metal-to-metal seal
- Maintenance-free stuffing box in brass with spring-loaded PTFE washer

Technical data

Parameters

Valve characteristic, control passage	Equal-percentage
Control ratio	> 50 : 1
Valve characteristic, mixing passage	Linear
Leakage rate of control passage	≤ 0.05% of k_{vs} value
Leakage rate, mixing passage	≤ 1.0% of k_{vs} value

Ambient conditions

Operating temperature ¹⁾	30...200 °C
Operating pressure up to 120 °C	25 bar
Operating pressure up to 240 °C	20 bar (BUG065F316 to 240 °C, 16 bar)

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534

Overview of types

Type	Nominal diameter	Connection	k_{vs} value	Weight	Valve stroke
BUG015F304	DN 15	PN 25/16	4 m ³ /h	3.1 kg	20 mm
BUG015F314	DN 15	PN 25/16	2.5 m ³ /h	3.1 kg	20 mm
BUG015F324	DN 15	PN 25/16	1.6 m ³ /h	3.1 kg	20 mm
BUG015F334	DN 15	PN 25/16	1 m ³ /h	3.1 kg	20 mm
BUG020F304	DN 20	PN 25/16	6.3 m ³ /h	4 kg	20 mm
BUG025F304	DN 25	PN 25/16	10 m ³ /h	4.7 kg	20 mm
BUG032F304	DN 32	PN 25/16	16 m ³ /h	7.2 kg	20 mm
BUG040F304	DN 40	PN 25/16	25 m ³ /h	9.2 kg	20 mm
BUG050F304	DN 50	PN 25/16	40 m ³ /h	11.9 kg	20 mm
BUG065F304	DN 65	PN 25	63 m ³ /h	27.1 kg	40 mm
BUG065F316	DN 65	PN 16	63 m ³ /h	26.8 kg	40 mm
BUG080F304	DN 80	PN 25/16	100 m ³ /h	36.3 kg	40 mm
BUG100F304	DN 100	PN 25	160 m ³ /h	53 kg	40 mm
BUG125F304	DN 125	PN 25	250 m ³ /h	79.1 kg	40 mm
BUG150F304	DN 150	PN 25	340 m ³ /h	108.7 kg	40 mm

¹⁾ For cold water applications below 30 °C, the versions BUG***F3**S with a stuffing box containing silicone (e.g.: BUG015F304S) should be used.

Use stuffing box heater at temperatures below 0 °C; use the relevant adaptor (accessory) at temperatures above 130 °C or 180 °C. Down to -10 °C, as per AD code of practice W 10, use water with anti-freeze and brine solution.



Accessories

Type	Description
0372336180	Adapter (required when temperature of the medium is 130..150 °C) from DN 65
0372336240	Adaptor (required when temperature of the medium is 180..240 °C)
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378384001	Torsion protection DN 65...150

Combination of BUG with pneumatic actuator

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*
- i** *The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.*

Pressure differences

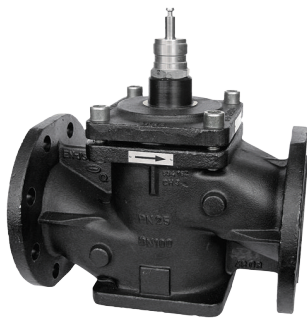
Actuator	AVP242F021	AVP243F021	AVP244F021	AVP243F031	AVP244F031
Page	350	350	350	350	350
Admissible pressure p_{stat}	≤ 16 bar	≤ 16 bar	≤ 16 bar	≤ 25 bar	≤ 25 bar
Running time	8 s	24 s	40 s	24 s	40 s

 Δp [bar]

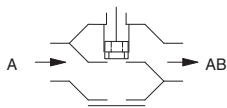
As control valve	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s
BUG015F304	16.0	16.5	16.0	22.7	16.0	25.0	-	-	-	-
BUG015F314										
BUG015F324										
BUG015F334										
BUG020F304	10.0	13.0	16.0	18.0	16.0	25.0	-	-	-	-
BUG025F304	6.5	8.8	11.9	12.2	16.0	24.4	-	-	-	-
BUG032F304	4.0	5.5	7.4	7.8	15.5	15.5	-	-	-	-
BUG040F304	2.6	3.7	4.2	5.2	10.3	10.3	-	-	-	-
BUG050F304	1.7	2.4	3.1	3.3	6.5	6.5	-	-	-	-
BUG065F304	-	-	-	-	-	-	2.2	2.2	4.4	4.4
BUG065F316										
BUG080F304	-	-	-	-	-	-	1.5	1.5	3.0	3.0
BUG100F304	-	-	-	-	-	-	1.0	1.0	2.0	2.0
BUG125F304	-	-	-	-	-	-	0.6	0.7	1.3	1.3
BUG150F304	-	-	-	-	-	-	0.4	0.5	1.0	1.0

Cannot be used as distribution valve

 At temperatures above 130 °C, accessories are required



VUP100F304



VUP: Pressure-relieved 2-way flanged valve, PN 25 (pn.)

Features

- Continuous control of cold/warm/hot water, steam or air in HVAC installations in closed circuits
- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, with pressure compensation, galvanised and painted black
- The valve is closed when the spindle is moved in
- Valve body of ductile cast iron
- Valve seat, plug and spindle are made of stainless steel
- Closing only against the pressure
- Maintenance-free stuffing box in brass with spring-loaded PTFE-FKM-PTFE washer

Technical data

Parameters

Nominal pressure	25 bar
Connection	PN 25
Valve characteristic	Equal-percentage
Control ratio	> 100:1
Leakage rate at max. Δp_s	< 0.05% of k_{vs} value

Admissible ambient conditions

Operating temperature ¹⁾	-20...200 °C
Operating pressure	Up to 120 °C, 25 bar up to 200 °C, 20 bar -20...-10 °C, 18 bar

Overview of types

Type	Nominal diameter	k_{vs} value	Valve stroke	Weight
VUP040F304	DN 40	25 m ³ /h	14 mm	10 kg
VUP050F304	DN 50	40 m ³ /h	25 mm	14 kg
VUP065F304	DN 65	63 m ³ /h	25 mm	18 kg
VUP080F304	DN 80	100 m ³ /h	25 mm	25.5 kg
VUP100F304	DN 100	160 m ³ /h	40 mm	36.5 kg
VUP125F304	DN 125	250 m ³ /h	40 mm	56.5 kg
VUP150F304	DN 150	350 m ³ /h	40 mm	84.5 kg

Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...200 °C)
0378284100	Stuffing box heater 230V~, 15 W for medium below 0 °C
0378284102	Stuffing box heater 24V~, 15 W for medium below 0 °C
0378356001	Replacement pack for stuffing box DN 40...80
0378357001	Replacement pack for stuffing box DN 100...150

¹⁾ Use stuffing box heater at temperatures below 0 °C; use the relevant adaptor (accessory) at temperatures above 130 °C or 180 °C



Combination of VUP with pneumatic actuator

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*
- i** *The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.*
- i** *VUP with AVP is possible only in combination with XSP31.*

Pressure differences

Actuator	AVP242F021	AVP243F031	AVP244F031
Page	350	350	350
Running time	8 s	24 s	40 s

Δp [bar]			
Closes against the pressure	Δp _{max}	Δp _{max}	Δp _{max}
VUP040F304	22.2	-	-
VUP050F304	15.1	-	-
VUP065F304	9.8	-	-
VUP080F304	-	18.5	25.0
VUP100F304	-	10.7	25.0
VUP125F304	-	-	-
VUP150F304	-	-	-

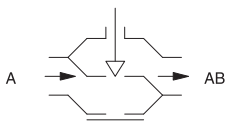
Cannot be used to close with the pressure

-  *At temperatures above 130 °C, accessories are required*





VUS040F305



VUS: 2-way flanged valve, PN 40 (pn.)

Features

- Valve with flange connection as per EN 1092-2, seal form B
- Nominal pressure 40 bar
- Regulating valve, free of silicone grease, matt black
- When the spindle is retracted, the valve is closed
- Closing only against the pressure
- Version with graphite seal up to 260 °C, available as accessory
- Valve body made of cast steel
- Stainless-steel seat and plug
- Stainless-steel spindle
- Maintenance-free stuffing box, made of stainless steel, with spring-loaded PTFE washer

Technical data

Parameters	
Nominal pressure	40 bar
Connection	PN 40
Valve characteristic	Equal-percentage
Control ratio	> 50 : 1
Leakage rate at max. Δp_s	$\leq 0.05\%$ of k_{vs} value

Admissible ambient conditions

Operating temperature ¹⁾	-10...260 °C
Operating pressure	40 bar at -10...50 °C 36.3 bar at 120 °C 29.4 bar at 220 °C 27.8 bar at 260 °C

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534

Overview of types

Type	Nominal diameter	k_{vs} value	Valve stroke	Weight
VUS015F375	DN 15	0.16 m ³ /h	20 mm	5.1 kg
VUS015F365	DN 15	0.25 m ³ /h	20 mm	5.1 kg
VUS015F355	DN 15	0.4 m ³ /h	20 mm	5.1 kg
VUS015F345	DN 15	0.63 m ³ /h	20 mm	5.1 kg
VUS015F335	DN 15	1 m ³ /h	20 mm	5.1 kg
VUS015F325	DN 15	1.6 m ³ /h	20 mm	5.1 kg
VUS015F315	DN 15	2.5 m ³ /h	20 mm	5.1 kg
VUS015F305	DN 15	4 m ³ /h	20 mm	5.1 kg
VUS020F305	DN 20	6.3 m ³ /h	20 mm	5.9 kg
VUS025F305	DN 25	10 m ³ /h	20 mm	6.8 kg
VUS032F305	DN 32	16 m ³ /h	20 mm	8.4 kg
VUS040F305	DN 40	25 m ³ /h	20 mm	10.6 kg
VUS050F305	DN 50	40 m ³ /h	20 mm	13.2 kg
VUS065F305	DN 65	63 m ³ /h	30 mm	18.6 kg
VUS080F305	DN 80	100 m ³ /h	30 mm	25.1 kg

¹⁾ No stuffing box heater required down to -10 °C. At temperatures below -10 °C and down to -60 °C, use special version with bellows-type mechanical seal (available on request). Application: Water with anti-freeze (glycol up to 55% and brine solution), max. operating pressure 30 bar. Above 130 °C or 180 °C, use the relevant adaptor (accessory). Above 200 °C and up to 260 °C, use stuffing box with graphite seal (accessory)



Type	Nominal diameter	k_{vs} value	Valve stroke	Weight
VUS100F305	DN 100	160 m ³ /h	30 mm	36.4 kg
VUS125F305	DN 125	220 m ³ /h	40 mm	56.4 kg
VUS150F305	DN 150	320 m ³ /h	40 mm	77.9 kg

Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...260 °C)
0378373001	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 15...50
0378373002	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 65...100
0378373003	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 125...150

Combination of VUS with pneumatic actuator

- i** *Warranty: The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.*
- i** *Definition of Δp_s : Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.*
- i** *Definition of Δp_{max} : Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.*
- i** *The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.*

Pressure differences

Actuator	AVP242F021	AVP243F021	AVP244F021	AVP243F031	AVP244F031
Page	350	350	350	350	350
Admissible pressure p_{stat}	≤ 32 bar	≤ 40 bar	≤ 40 bar	≤ 25 bar	≤ 40 bar
Running time	8 s	24 s	40 s	24 s	40 s

Δp [bar]

Closes against the pressure	Δp [bar]									
	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s
VUS015F375										
VUS015F365										
VUS015F355										
VUS015F345										
VUS015F335	15.5	15.5	21.7	21.7	40.0	40.0	-	-	-	-
VUS015F325										
VUS015F315										
VUS015F305										
VUS020F305										
VUS025F305	9.5	9.5	13.1	13.1	26.2	26.2	-	-	-	-
VUS032F305	7.2	7.2	10.0	10.0	19.9	19.9	-	-	-	-
VUS040F305	4.1	4.1	5.7	5.7	11.4	11.4	-	-	-	-
VUS050F305	2.7	2.7	3.7	3.7	7.4	7.4	-	-	-	-
VUS065F305	-	-	-	-	-	-	2.2	2.2	4.4	4.4
VUS080F305	-	-	-	-	-	-	1.5	1.5	2.9	2.9
VUS100F305	-	-	-	-	-	-	1.0	1.0	1.5	1.9
VUS125F305	-	-	-	-	-	-	0.6	0.6	1.0	1.2
VUS150F305	-	-	-	-	-	-	0.4	0.4	0.6	0.8

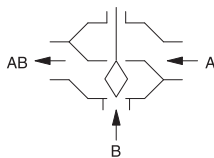
Cannot be used to close with the pressure

 At temperatures above 130 °C, accessories are required

BUS: 3-way flanged valve, PN 40 (pn.)



BUS025F205



Features

- Valve with flange connection as per EN 1092-2, seal form B
- Regulating valve, free of silicone grease, matt black
- The valve is closed when the spindle is moved out
- For use only as a control valve
- Version with graphite seal up to 260 °C, available as accessory
- Valve body made of cast steel
- Stainless-steel seat and plug
- Stainless-steel spindle
- Maintenance-free stuffing box, made of stainless steel, with spring-loaded PTFE washer

Technical data

Parameters		
Nominal pressure		40 bar
Connection		PN 40
Valve characteristic, mixing passage		Linear
Control ratio		> 50 : 1
Leakage rate at max. Δp_s	Leakage rate of control passage	$\leq 0.05\%$ of k_{vs} value
	Leakage rate, mixing passage	$\leq 1.0\%$ of k_{vs} value

Ambient conditions

Operating temperature ¹⁾	-10...240 °C
Operating pressure	40 bar at -10...50 °C
	36.3 bar at 120 °C
	29.4 bar at 220 °C
	27.8 bar at 260 °C
Operating pressure up to 120 °C	36 bar
Operating pressure up to 220 °C	29 bar

Standards and directives

Pressure and temperature data	EN 764, EN 1333
Flow parameters	EN 60534

Overview of types

Type	Nominal diameter	k_{vs} value	Valve characteristic, control passage	Valve stroke	Weight
BUS015F225	DN 15	1.6 m ³ /h	linear	20 mm	7.2 kg
BUS015F215	DN 15	2.5 m ³ /h	linear	20 mm	7.2 kg
BUS015F205	DN 15	4 m ³ /h	linear	20 mm	7.2 kg
BUS020F205	DN 20	6.3 m ³ /h	linear	20 mm	8.4 kg
BUS025F205	DN 25	10 m ³ /h	linear	20 mm	9.4 kg
BUS032F205	DN 32	16 m ³ /h	linear	20 mm	12.4 kg
BUS040F205	DN 40	25 m ³ /h	linear	20 mm	15.5 kg
BUS050F205	DN 50	40 m ³ /h	linear	20 mm	19.2 kg
BUS065F205	DN 65	63 m ³ /h	linear	30 mm	27.6 kg
BUS080F205	DN 80	100 m ³ /h	linear	30 mm	36.5 kg
BUS100F205	DN 100	160 m ³ /h	linear	30 mm	61.2 kg

¹⁾ No stuffing box heater required down to -10 °C. At temperatures below -10 °C and down to -60 °C, use special version with bellows-type mechanical seal (available on request). Application: Water with anti-freeze (glycol up to 55% and brine solution), max. operating pressure 30 bar. Above 130 °C or 180 °C, use the relevant adaptor (accessory). Above 220 °C and up to 260 °C, use stuffing box with graphite seal (accessory).



Type	Nominal diameter	k_{vs} value	Valve characteristic, control passage	Valve stroke	Weight
BUS125F305	DN 125	220 m ³ /h	equal-percentage	40 mm	82.5 kg
BUS150F305	DN 150	320 m ³ /h	equal-percentage	40 mm	113.5 kg

Accessories

Type	Description
0372336180	Adaptor (required when temperature of the medium is 130...180 °C)
0372336240	Adaptor (required when temperature of the medium is 180...260 °C)
0378373001	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 15...50
0378373002	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 65...100
0378373003	Stuffing box with graphite seal for temperatures of 220...260 °C; DN 125...150

Combination of BUS with pneumatic actuator

- i** *Warranty:* The technical data and pressure differences indicated here are applicable only in combination with SAUTER valve actuators. The warranty does not apply if used with valve actuators from other manufacturers.
- i** *Definition of Δp_s :* Maximum admissible pressure drop in the event of a malfunction (pipe break after the valve) at which the actuator reliably closes the valve by means of a return spring.
- i** *Definition of Δp_{max} :* Maximum admissible pressure drop in control mode at which the actuator reliably opens and closes the valve.
- i** *The running time is based on the centair air flow rate (400 l_n/h) and on a supply line with a length of 20 m and a diameter of 4 mm.*

Pressure differences

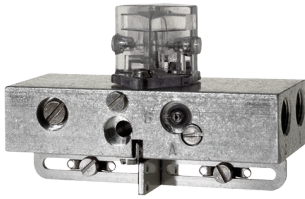
Actuator	AVP242F021	AVP243F021	AVP244F021	AVP243F031	AVP244F031
Page	350	350	350	350	350
Admissible pressure p_{stat}	≤ 32 bar	≤ 40 bar	≤ 40 bar	≤ 25 bar	≤ 40 bar
Running time	8 s	24 s	40 s	24 s	40 s

Δp [bar]

As control valve	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s	Δp_{max}	Δp_s
BUS015F225										
BUS015F215	12.1	15.6	21.1	21.7	24.5	24.5	-	-	-	-
BUS015F205										
BUS020F205	7.7	15.6	13.5	21.7	17.5	17.5	-	-	-	-
BUS025F205	6.6	9.4	11.6	13.1	14.7	14.7	-	-	-	-
BUS032F205	4.7	7.2	8.3	9.9	10.4	10.4	-	-	-	-
BUS040F205	3.0	4.1	5.3	5.7	6.2	6.2	-	-	-	-
BUS050F205	1.9	2.6	3.4	3.7	3.9	3.9	-	-	-	-
BUS065F205	-	-	-	-	-	-	1.7	2.2	4.4	4.4
BUS080F205	-	-	-	-	-	-	1.1	1.5	2.9	2.9
BUS100F205	-	-	-	-	-	-	0.7	0.9	1.9	1.9
BUS125F305	-	-	-	-	-	-	0.4	0.7	1.3	1.3
BUS150F305	-	-	-	-	-	-	0.3	0.5	1.0	1.0

Cannot be used as distribution valve

 At temperatures above 130 °C, accessories are required



XSP31F001



XSP: Pneumatic positioner

Features

- Conversion of a continuous positioning signal into a defined position on the pneumatic drive
- The use of a positioner provides increased positioning accuracy, partitioning of the control range, reversal of the direction of action and an increase in positioning speed
- Compressed-air connections with Rp $\frac{1}{8}$ " female thread
- Measuring connection for output pressure with M4 thread
- Measures the valve stroke using a measuring spring

Technical data

Parameters

Control pressure	1.3 bar \pm 0.1
Max. control pressure	1.4 bar
Max. air capacity	1000 l _n /h
Air consumption	Approx. 30 l _n /h
Setting range, zero point (bar)	0.2...1.0 bar
Setting range, span (bar)	0.2...1.0 bar

Admissible ambient conditions

Admissible ambient temperature	0...70 °C
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Inputs/outputs

Linearity error	Approx. 1%
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Structural design

Housing material	light metal
Fitting	with cover
Weight	0.1 kg

Standards and directives

Conformity	Directive 97/23/EC Art. 3.3 for pressure equipment
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Overview of types

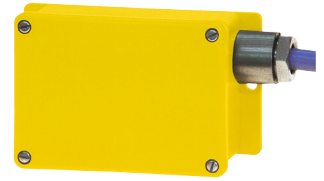
Type	Description
XSP31F001	Pneumatic positioner



XAP: Position alarm/transmitter

Features

- Additional equipment for AK41...43 P pneumatic actuators and AV43, AVP 142 and AVP 242...244 pneumatic valve actuators
- Position feedback for monitoring tasks
- Auxiliary contact unit with two contacts
- The relevant contacts are switched depending on whether the actuator spindle is extended or retracted
- Potentiometer, the resistance of which changes in accordance with the actuating force



XAP*F001



XAP1F001



XAP2F001

Technical data

Parameters

XAP1	Admissible contact load	10(2) A, 250 V~
	Switching point 'extended'	Approx. 5% before end position
	Switching point 'retracted'	Approx. 5% before end position
	Switching difference	2.5% of the stroke
XAP2	Potentiometer resistance	2000 Ω
	Resistance "extended"	10...50 Ω
	Resistance 'retracted'	1.5...1.8 kΩ
	Resolution	2 Ω
	Load	Max. 4 W, 42 V

Admissible ambient conditions

Admissible ambient temperature	-15...50 °C
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Structural design

Weight	0.3 kg
Housing material	Glass-fibre-reinforced, fire-retardant plastic

Standards and directives

Type of protection	IP 54 (EN 60529)
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Overview of types

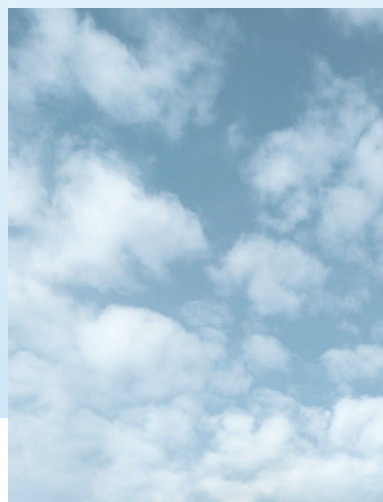
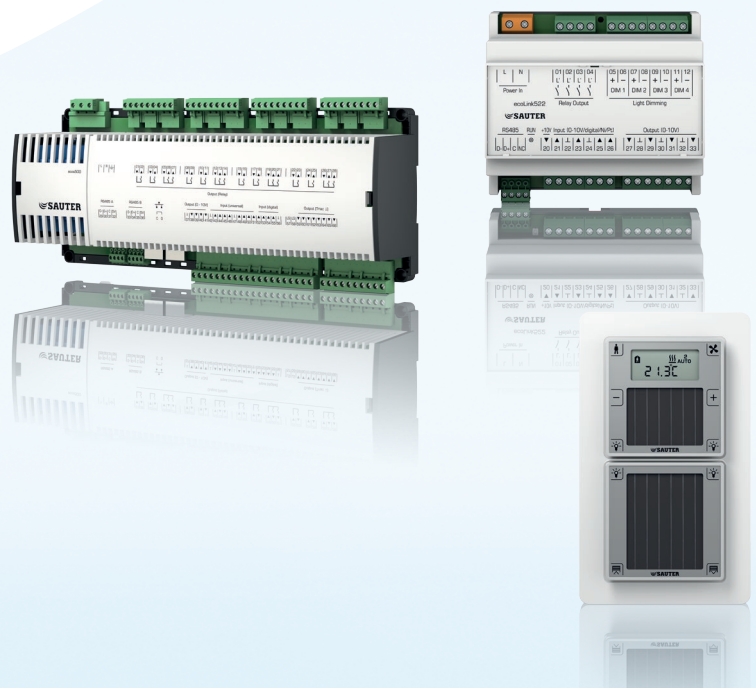
Type	Properties	Output signal	Power cable
XAP1F001	Auxiliary contact unit	2 contacts, open/close	4 × 1 mm ²
XAP2F001	Potentiometer unit	Approx. 10...1800 Ω	3 × 0.5 mm ²



SAUTER EY-modulo 5

The epitome of modern building automation: open, efficient and multifunctional.

The SAUTER EY-modulo 5 automation technology turns the most complex requirements into convenient, efficient building management. EY-modulo 5 fulfils all the requirements for open, modular, cross-platform building automation with intelligent functions and completely forwards- and backwards-compatible modules, even with third-party systems. The future-oriented technology of SAUTER EY-modulo 5 is completely based on the open BACnet/IP communication protocol.



SAUTER EY-modulo 5

HVAC automation

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SAUTER EY-modulo 5 automation stations

SAUTER EY-modulo 5 automation stations regulate, control, monitor and improve energy efficiency in HVAC installations. The installation network is based on BACnet/IP - the communication protocol for networked building intelligence.

Overview of automation stations



Type codes	EY-AS525F001	ES-AS525F005
Product name	modu525	modu525
Power supply	230 V~	24 V~/=
Inputs/Outputs		
Universal inputs	8	8
Digital inputs	8	8
Analogue outputs	4	4
Digital outputs	6	6
Further information	Page 379	Page 379



Type codes	EY-AS521F001	EY-AS521F005
Product name	modu521	modu521
Power supply	85...265 V~ / 24 V=	24 V=
Inputs/Outputs		
Universal inputs	16	16
Digital inputs	8	8
Digital inputs/outputs for open collector	8	8
Analogue outputs	8	8
Digital outputs	6	6
Further information	Page 382	Page 382

EY-AS 525: Modular automation station, modu525

Features

- Part of the SAUTER EY-modulo 5 system family
- Modular automation station (AS)
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering.
- Expandable with eight I/O modules for up to 154 inputs/outputs in total
- Expandable with communication modules for integrating non-SAUTER systems
- Communication: BACnet/IP (EN ISO 16484-5)
- Integrated web server
- Programming/parameterisation via PC using CASE Suite (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Predictive control based on meteorological forecast data
- Data recording
- Can be equipped with local operating and indicating units, located up to 10 m away
- Alive signal output pulsed



EY-AS525F00*



Technical data

Power supply		
	Power loss	≤ 5 W (excluding accessories)
Parameters		
	Battery (buffer: RTC/SRAM)	CR2032, pluggable
Inputs/Outputs		
	Digital inputs	8 (alarm/status)
	Digital outputs	6 (relays, 24...250 V~, 2 A)
	Universal inputs	8 (Ni1000/Pt1000, U/I/R, DI)
	Analogue outputs	4 (0...10 V)
	Watchdog output pulsed	1 (5 Hz)
Operation		
	BACnet data point objects	512 (incl. HW)
	BACnet client links	200 (Peer to Peer)
	Control	32 (Loop)
	Active COV subscription	1500
	Structured view	128 (Structured View)
	BBMD in BDT	32
	FD in FDT	32
Dynamic objects		
	Time programmes	64 (Schedule)
	Calendar	16 (Calendar)
	Historical data	100 (Trend Log) up to 30,000 entries
	Alarms	16 (Notification Class)
	Chart	32 (Log View), only via moduWeb
Architecture		
	Processor	32 bit, 400 MHz
	Flash	16 MB
	Embedded web server	moduWeb
	Application data	via CASE Engine
	SDRAM (synchronous dynamic RAM)	32 MB
	SRAM (static RAM)	1 MB
Interfaces and communication		
	Ethernet network	1 × RJ-45 socket



Operating and indicating units	10/100 BASE-T(X)	10/100 Mbit/s
	Communication protocols	BACnet/IP (DIX)
	Local operating unit, modu840 (LOP)	1 × integrated interface
	Connection for modu6 (LOI)	1 × integrated interface
	Connection, I/O and COM modules	1 × integrated I/O bus plug for up to 8 modules (max. load 1100 mA)
	Hardware extension	≤ 8 I/O modules
	Integration of non-SAUTER systems	≤ 2 COM modules

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Construction

Fitting	on top-hat rail
Dimensions W x H x D	160 × 170 × 115 mm
Weight	0.8 kg

Standards and directives

CE conformity as per	Type of protection ¹⁾	IP 20 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-9, EN 60950-1
	Software class A	EN 60730-1 Annexe H

Overview of types

Type	Power supply	Power consumption
EY-AS525F001	230 V~, ±10%, 50...60 Hz	≤ 13 VA/5 W (excluding accessories)
EY-AS525F005	24 V=, ±10%, 24 V~, ±20%, 50...60 Hz	≤ 11 VA/4 W (excluding accessories)

Accessories**Plug-in I/O modules**

Type	Description
EY-IO530F001	Digital and universal inputs (8 DI/8 UI)
EY-IO531F001	Digital inputs (16 DI)
EY-IO532F001	Universal inputs (16 UI)
EY-IO533F001	Universal and digital inputs (8 UI/4 DI/4 SO)
EY-IO534F001	Analogue inputs with galvanic isolation (8 AI current/voltage)
EY-IO550F001	Digital outputs (6 DO, relays)
EY-IO551F001	Digital outputs (16 DO, open collector)
EY-IO570F001	Analogue outputs and universal inputs (4 AO/8 UI)
EY-IO571F001	Digital inputs/outputs (16 DI/DO, open collector)
EY-IO572F001	Analogue outputs, universal and digital inputs (4 AO/8 UI/3 DI)

Plug-in communication modules (COM)

Type	Description
EY-CM721F010	Integration of non-SAUTER systems via EIA-232 and EIA-485 for Modbus/RTU master
EY-CM721F020	Integration of non-SAUTER systems via EIA-232 and EIA-485 for M-Bus
EY-CM731F020	M-Bus and EIA-232 integration of non-SAUTER systems for M-Bus

Local operation and indication

Type	Description
EY-LO625F001	Operation/indication, 6 switches Auto-0-1, 4 LEDs alarm/status, 4 setpoint transmitters (A-0...100%), 8 LED alarm/status
EY-LO630F001	16-LED indication, bi-colour

¹⁾ Only on front with terminal cover, blanking piece for LOI and transparent cover

Type	Description
EY-LO650F001	6 switches, auto-O-I, 4 LEDs operation/indication
EY-LO650F002	3 switches, auto-O-II, 4 LEDs operation/indication
EY-LO670F001	4 setpoint transmitters (A-0...100%), 8 LEDs for operation/indication
EY-OP840F001	Local operating and display unit modu840
0930240511	Front frame for 4 operating/indicating units
0930240540	Connection adaptor for RJ-45 operating/indicating units for front frame
0930240541	Connection adaptor for RJ-45 operating panel for front frame

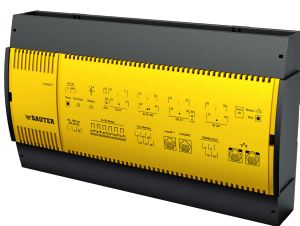
Replacement relay

Type	Description
0929360005	PCB relays (2 × pluggable electronic PCB with 3 relays, including connection terminals)

Manuals

Type	Description
7010050001	Operating manual for moduWeb, German
7010050002	Operating manual for moduWeb, French
7010050003	Operating manual for moduWeb, English





EY-AS521F00*

EY-AS 521: Compact automation station, modu521

Features

- Part of the SAUTER EY-modulo 5 system family
- Compact automation station (AS)
- Regulation, controlling, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- Communication: BACnet/IP (EN ISO 16484-5)
- Integrated web server
- Programming/parameterisation via PC using CASE Suite (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Data recording on microSDHC card (up to 32GB)
- Predictive control based on meteorological forecast data
- Can be equipped with local operating and indicating units, located up to 10 m away
- Can be extended with 4 ecoLink modules
- Can be extended with 2 ecoUnit room control units
- Alive signal output pulsed

Technical data

Power supply

Power supply F001	85...265 V~, 50...60 Hz and 24 V= ±5%
Power supply F005	24 V= ±5%
Power loss	Max. 10 W
Battery (buffer: RTC)	Type CR2032, pluggable

Inputs/Outputs

Digital inputs	8
Digital inputs/outputs open collector	8
Universal inputs	16 (Ni/Pt1000, U/I/R, DI, Poti)
Analogue outputs	8 (0...10 V/4 × 0...20 mA)
Digital outputs	6 (relay, 230 V~, 2A)

Interfaces and communication

Ethernet network	2 × RJ-45 socket
10/100 BASE-T(X) switched	10/100 Mbit/s
Communication protocols	BACnet/IP (DIX)
Local operating unit, modu840 (OP)	1 × RJ-45 socket
Operating and indicating units modu 6 (LOI)	1 × RJ-45 socket
Connected ecoLink modules/ecoUnit operating units	1 × SLC bus 4-position screw terminals
Hardware extension	Up to 4 ecoLink modules Up to 2 ecoUnit operating units

Architecture

Processor	TI OMAP 3505 Cortex A8
SDRAM (synchronous dynamic RAM)	256 MB
NAND flash (static memory)	128 MB
NOR flash	16 MB
External memory, microSD-HC	Up to 32 GB
Embedded web server	moduWeb

Operation

BACnet data point objects	600 (incl. HW)
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Dynamic objects	Time programmes	32 (Schedule)
	Trend Log	120 up to 60000 entries
	Alarms	16 (Notification Class)
	Chart (only via moduWeb)	32 (Log View)
	Active COV subscription	1500
	Structured view	64 (Structured View)
	Control	32 (Loop)
	BACnet client links	200 (Peer to Peer)
	BBMD in BDT	32
FD in FDT	32	

Ambient conditions

Operating temperature	0...50 °C
Storage and transport temperature	-25...70 °C
Humidity without condensation	10...85% rh

Construction

Weight	1.1 kg
Dimensions W x H x D	300 × 170 × 60 mm
Fitting	Unit mounted on top-hat rail

Standards and directives

Type of protection	IP 00 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
Software class A	EN 60730-1 Annexe H

CE conformity as per	Low-voltage directive 2006/95/EC	EN 60730-1, EN60730-2-9
	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Power supply	Power consumption
EY-AS521F001	85...265 V~, 24 V=	13 W max.
EY-AS521F005	24 V=	20 W max.

Accessories

Type	Description
EY-OP840F001	Local operating and display unit modu840
EY-EM580F001	Bi-directional EnOcean wireless interface ecoMod580
0930240511	Front frame for 4 operating/indicating units

Manuals

Type	Description
7010050001	Operating manual for moduWeb, German
7010050002	Operating manual for moduWeb, French
7010050003	Operating manual for moduWeb, English

Type	Description
EY-LO6**	Operating and indicating units of the modu 6 series
EY-RU3**	Room control units, ecoUnit 3 series
EY-RU1**	Room control units with EnOcean wireless technology, ecoUnit 1 series (via EY-EM580F001 wireless interface)
EY-EM51*, EY-EM52*	Remote ecoLink 5 I/O modules



SAUTER EY-modulo 5 I/O modules

SAUTER I/O modules are compatible with the EY-modulo 5 series and are used to capture digital and analogue signals in HVAC installations. They control devices such as contactors, relays and valve actuators.

Overview of I/O modules



Type codes	EY-IO530F001	EY-IO531F001	EY-IO532F001	EY-IO533F001	EY-IO534F001
Product name	modu530	modu531	modu532	modu533	modu534
Power supply	From modu525 AS	From modu525 AS	From modu525 AS	From modu525 AS	From modu525 AS
Inputs/Outputs					
Digital inputs	8	16	–	8 (4 × S0)	–
Universal inputs	8	–	16	8	–
Analogue inputs (with power applied)	–	–	–	–	8
Optional operating elements	modu630	modu630	modu630	modu630	modu630
Digital outputs	–	–	–	–	–
Analogue outputs	–	–	–	–	–
Digital inputs/outputs	–	–	–	–	–
Further information	Page 385	Page 387	Page 389	Page 391	Page 393



Type codes	EY-IO550F001	EY-IO551F001	EY-IO570F001	EY-IO571F001	EY-IO572F001
Product name	modu550	modu551	modu570	modu571	modu572
Power supply	From modu525 AS	From modu525 AS	From modu525 AS	From modu525 AS	From modu525 AS
Inputs/Outputs					
Digital inputs	–	–	–	–	3
Universal inputs	–	–	8	–	8
Optional operating elements	modu630, modu650	modu630, modu650	modu630, modu670	modu630, modu650	modu630, modu670
Digital outputs	6	16	–	–	–
Analogue outputs	–	–	4	–	4
Digital inputs/outputs	–	–	–	16	–
Further information	Page 395	Page 397	Page 399	Page 401	Page 403

EY-IO 530: I/O module, digital and universal inputs, modu530

Features

- Part of the SAUTER EY-modulo 5 family of systems
- Power supply of modu525 automation station (AS)
- Pluggable element for extending the modu525 automation station
- Recording digital (alarm/status) and analogue inputs (Ni/Pt1000, U/I/R) in operational systems, e.g. in HVAC engineering
- Modular design (baseplate/electronics)
- Direct labelling on the front
- Can be equipped with a local indicating unit



EY-IO530F001

Technical data

Power supply

Power supply	from modu525 AS via I/O bus
Power consumption ¹⁾	≤ 1.6 VA/0.65 W
Power loss	≤ 0.65 W
Current consumption ²⁾	40 mA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Digital inputs	8 fixed assignment (alarm/status)
Pulse counter	≤ 50 Hz
Universal inputs	8
Analogue	Ni1000/Pt1000, U/I/R, pot
Digital	DI (approx. 3 Hz)

Construction

Fitting	on top-hat rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

Interfaces and communication

Connection for modu6 (LOI)	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm ²)

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
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Overview of types

Type	Properties
EY-IO530F001	I/O module, digital and universal inputs, modu530

¹⁾ On the primary side of modu525 base station (230V~)

²⁾ Supply via modu525 base station



Accessories**Local operating and indicating units (LOI)**

Type	Description
EY-LO630F001	16-LED indication, bi-colour

Components

Type	Description
0920360003	24 V I/O module baseplate (pack of 3)
0929360530	Electronics module, modu530, 8 UI, 8 DI



EY-IO 531: I/O module, digital inputs, modu531

Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu525 automation station (AS)
- Power supply from modu525 AS
- Recording digital inputs (alarm/status) in operational systems, e.g. in HVAC engineering
- Modular design (baseplate/electronics)
- Direct labelling on the front
- Can be equipped with a local indicating unit



EY-IO531F001

Technical data

Power supply

Power supply	from modu525 AS via I/O bus
Power consumption ¹⁾	≤ 1 VA/0.4 W
Power loss	≤ 0.4 W
Current consumption ²⁾	25 mA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...85% rh, no condensation

Inputs/Outputs

Digital inputs	16
Pulse counter	≤ 10 Hz

Interfaces and communication

Connection for modu6 (LOI)	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm ²)

Construction

Fitting	on top-hat rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC
	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-IO531F001	I/O module, digital inputs, modu531

Accessories

Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour

¹⁾ On the primary side of modu525 base station (230 V~)

²⁾ Supply via modu525 base station



Components

Type	Description
0920360003	24 V I/O module baseplate (pack of 3)
0929360531	Electronics module, modu531, 16 DI



EY-IO 532: I/O module, universal inputs, modu532

Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu525 automation station (AS)
- Recording digital (alarm/status) and analogue inputs (Ni/Pt1000, U/I/R) in operational systems, e.g. in HVAC engineering
- Modular design (baseplate/electronics)
- Power supply from modu525 AS
- Direct labelling on the front
- Can be equipped with a local indicating unit



EY-IO532F001

Technical data

Power supply

Power supply	from modu525 AS via I/O bus
Power consumption ¹⁾	≤ 1.2 VA/0.5 W
Power loss	≤ 0.5 W
Current consumption ²⁾	35 mA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Universal inputs	16
Analogue	Ni1000/Pt1000, U/I/R, pot
Digital	DI (≤ 3 Hz)

Interfaces and communication

Connection for modu6 (LOI)	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm ²)

Construction

Fitting	on top-hat rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-IO532F001	I/O module, universal inputs, modu532

Accessories

Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour

¹⁾ On the primary side of modu525 base station (230 V~)

²⁾ Supply via modu525 base station



Components

Type	Description
0920360003	24 V I/O module baseplate (pack of 3)
0929360532	Electronics module, modu531, 16 UI



EY-IO 533: I/O module, universal, digital, S0 inputs, modu533

Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu525 automation station (AS)
- Power supply from modu525 AS
- Recording digital (alarm/status), analogue inputs (Ni/Pt1000, U/I/R) and counter signal S0 in operational systems, e.g. in HVAC engineering
- Modular design (baseplate/electronics)
- Direct labelling on the front
- Can be equipped with a local indicating unit



EY-IO533F001

Technical data

Power supply

Power supply	from modu525 AS via I/O bus
Power consumption ¹⁾	≤ 2.9 VA/1.5 W
Power loss	≤ 1.5 W
Current consumption ²⁾	100 mA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Universal inputs	8
Analogue	Ni1000/Pt1000, U/I(2x)/R, pot
Digital	DI (≤ 3 Hz)
Digital inputs	8 (≤ 50 Hz)
Fixed assignment	4
Meter inputs S0	4 (as per IEC 62053-31)

Interfaces and communication

Connection for modu6 (LOI)	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm ²)

Construction

Fitting	on top-hat rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
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Overview of types

Type	Properties
EY-IO533F001	I/O module, universal, digital, S0 inputs, modu533

¹⁾ On the primary side of modu525 base station (230 V~)

²⁾ Supply via modu525 base station



Accessories**Local operating and indicating units (LOI)**

Type	Description
EY-LO630F001	16-LED indication, bi-colour

Components

Type	Description
0920360003	24 V I/O module baseplate (pack of 3)
0929360533	Electronics module, modu533, 8 UI, 4 DI, 4 SO



EY-IO 534: I/O module, analogue inputs with galvanic isolation, modu534

Features

- Part of the SAUTER EY-modulo 5 system family
- I/O module power supply from modu525 AS
- Plug-in element for extending the modu525 automation station (AS)
- 8 analogue inputs (U/I) with electrical isolation for non-isolated sensors with external power supply
- Modular design (baseplate/electronics)
- Direct labelling on the front
- Can be equipped with a local indicating unit



EY-IO534F001

Technical data

Parameters

Power supply	From modu525 via I/O bus
Power consumption ¹⁾	Up to 3.5 VA / 1.3 W
Power loss	Up to 1.1 W
Current consumption ²⁾	80 mA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity without condensation	10...85% rh

Version

Analogue inputs	8 (with power applied)
Voltage	0(2)...10 V
Current	0(4)...20 mA
Max. disturbance voltage	Common-mode voltage 80 V=/50 V~

Interfaces and communication

Connection, I/O bus	12-pin, integrated
Connection terminals	24, 0.5...2.5 mm ²
Connection for modu6 (LOI)	6-pin, integrated

Construction

Fitting	On top-hat rail
Weight	0.285 kg
Dimensions W x H x D	42 × 170 × 115 mm

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	3K3 (IEC 60721)

Overview of types

Type	Description
EY-IO534F001	I/O module, analogue inputs

¹⁾ Primary side of modu525 base station

²⁾ Supply via modu525 base station



Accessories

Type	Description
EY-LO630F001	16-LED indication, bi-colour
0920362003	24 V I/O module baseplate, galvanic isolation (pack of 3)
0929360534	modu534 electronics module, 8 U/1



EY-IO 550: I/O module, digital outputs (relays), modu550

Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu525 automation station (AS)
- Power supply from modu525 AS
- Modular design (baseplate/electronics/relay)
- Direct labelling on the front
- Can be equipped with a local operating and indicating unit



EY-IO550F001

Technical data

Power supply

Power supply	from modu525 AS via I/O bus
Power consumption ¹⁾	≤ 2.9 VA/1.6 W
Power loss	≤ 1.6 W
Current consumption ²⁾	≤ 100 mA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Digital outputs	6
Type of outputs	Relay (0-1), NO contacts, galvanically isolated
Load	24...250 V~/2 A
Switching frequency, mechanical	10 ⁶ cycles

Interfaces and communication

Connection for modu6 (LOI)	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	12 (0.5...2.5 mm ²)

Construction

Fitting	on top-hat rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.3 kg

Standards and directives

Type of protection	IP 20 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
Software class A	EN 60730-1

CE conformity as per	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-9
	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-IO550F001	I/O module, digital outputs (relays), modu550

¹⁾ On the primary side of modu525 base station (230 V~)

²⁾ Supply via modu525 base station



Accessories

Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour
EY-LO650F001	6 switches, auto-0-I, 4 LEDs operation/indication
EY-LO650F002	3 switches, auto-0-I-II, 4 LEDs operation/indication

Components

Type	Description
0929360005	PCB relays (2 × pluggable electronic PCB with 3 relays, including connection terminals)
0920361003	230 V I/O module baseplate (pack of 3)
0929360550	Electronics module, modu550, 6 DO, 250 V~



EY-IO 551: I/O module, digital outputs (open collector), modu551

Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu525 automation station (AS)
- Power supply from modu525 AS
- Modular design (baseplate/electronics)
- Direct inscription on the front
- Can be equipped with a local operating and indicating unit



EY-IO551F001

Technical data

Power supply

Power supply	from modu525 AS via I/O bus
Power consumption ¹⁾	≤ 0.7 VA/0.35 W
Power loss	≤ 0.35 W
Current consumption ²⁾	≤ 30 mA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/outputs

Digital outputs	16
Type of outputs	Open collector, NO contacts (0-1) outputs switched with respect to earth
Power supply for DO	external, positive ≤ 24 V=
Load	0.5 mA up to 100 mA

Interfaces and communication

Connection for modu6**	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm ²)

Construction

Fitting	on top-hat rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ³⁾ EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-IO551F001	I/O module, digital outputs (open collector), modu551

¹⁾ On the primary side of modu525 base station (230 V~)

²⁾ Supply via modu525 base station

³⁾ EN 61000-6-2: In order to meet the European standard, the power cable should not exceed 30 metres in length.



Accessories

Type	Description
EY-LO630F001	16-LED indication, bi-colour
EY-LO650F001	6 switches, auto-0-I, 4 LEDs operation/indication
EY-LO650F002	3 switches, auto-0-I-II, 4 LEDs operation/indication
0920360003	24 V I/O module baseplate (pack of 3)
0929360551	Electronics module, modu551, 16 DO (OC) 24 V



EY-IO 570: I/O module, analogue outputs and universal inputs, modu570

Features

- Part of the SAUTER EY-modulo 5 system family
- Pluggable element for extending the modu525 automation station (AS)
- Power supply from modu525 AS
- Modular design (baseplate/electronics)
- Direct inscription on the front
- Can be equipped with a local operating and indicating unit



EY-IO570F001

Technical data

Power supply

Power supply	from modu525 AS via I/O bus
Power consumption ¹⁾	≤ 1.5 VA/0.8 W
Power loss	≤ 0.8 W
Current consumption ²⁾	≤ 50 mA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Analogue outputs	4 (push-pull)
Load	≤ 2 mA
Universal inputs	8
Analogue	Ni1000/Pt1000, U/I/R, pot
Digital	DI (approx. 3 Hz)

Interfaces and communication

Connection for modu6 (LOI)	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm ²)

Construction

Fitting	on top-hat rail
Dimensions W x H x D	42 x 170 x 115 mm
Weight	0.29 kg

Standards and directives

	Type of protection	IP 30 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-IO570F001	I/O module, analogue outputs and universal inputs, modu570

¹⁾ On the primary side of modu525 base station (230 V~)

²⁾ Supply via modu525 base station



Accessories

Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour
EY-LO670F001	4 setpoint transmitters (A-0...100%), 8 LEDs for operation/indication

Components

Type	Description
0920360003	24 V I/O module baseplate (pack of 3)
0929360570	Electronics module, modu570, 8 UI / 4 AO 24 V



EY-IO 571: I/O module, digital inputs/outputs (open collector), modu571

Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu525 automation station (AS)
- Modular design (baseplate/electronics)
- Power supply from modu525 AS
- Direct inscription on the front
- Can be equipped with a local operating and indicating unit



EY-IO571F001

Technical data

Power supply

Power supply	from modu525 AS via I/O bus
Power consumption ¹⁾	≤ 1 VA/0.4 W
Power loss	≤ 0.4 W
Current consumption ²⁾	≤ 25 mA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rF ohne Kondensation

Inputs/Outputs

Digital inputs/outputs	16
Type of inputs/outputs	Open collector, NO contacts (0-1), outputs switched with respect to earth (any arrangement)
Power supply for DO	external, positive ≤ 24 V=
Load	0 mA up to 100 mA
Power supply for DI	internal, 13.5 V
Pulse counter	(DI) ≤ 10 Hz

Interfaces and communication

Connection for modu6**	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm ²)

Construction

Fitting	on top-hat rail
Dimensions W x H x D	42 x 170 x 115 mm
Weight	0.29 kg

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ³⁾ EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-IO571F001	I/O module, digital inputs/outputs (open collector), modu571

¹⁾ On the primary side of modu525 base station (230 V~)

²⁾ Supply via modu525 base station

³⁾ EN 61000-6-2: In order to meet the European standard, the power cable should not exceed 30 metres in length.



Accessories

Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour
EY-LO650F001	6 switches, auto-0-I, 4 LEDs operation/indication
EY-LO650F002	3 switches, auto-0-I-II, 4 LEDs operation/indication

Components

Type	Description
0920360003	24 V I/O module baseplate (pack of 3)
0929360571	Electronics module, modu571, 16 DI/DO (OC) 24 V



EY-IO 572: I/O module, analogue outputs, universal and digital inputs, modu572

Features

- Part of the SAUTER EY-modulo 5 system family
- Plug-in element for extending the modu525 automation station (AS)
- Power supply from modu525 AS
- Modular design (baseplate/electronics)
- Direct labelling on the front
- Can be equipped with a local operating and indicating unit



EY-IO572F001

Technical data

Power supply

Power supply	from modu525 AS via I/O bus
Power consumption ¹⁾	≤ 1.8 VA/0.8 W
Power loss	≤ 0.8 W
Current consumption ²⁾	≤ 110 mA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Analogue outputs	4 × 0...10 V/0...20 mA (source)
Load	≤ 20 mA
Universal inputs	8
Analogue	Ni1000/Pt1000, U/I/R, pot
Digital	DI (≤ 3 Hz)
Digital inputs	3 fixed allocation
Pulse counter	≤ 10 Hz

Interfaces and communication

Connection for modu6 (LOI)	6-pin, integrated
Connection, I/O bus	12-pin, integrated
Connection terminals	24 (0.5...2.5 mm ²)

Construction

Fitting	on top-hat rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.29 kg

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-IO572F001	I/O module, analogue outputs, universal and digital inputs, modu572

¹⁾ On the primary side of modu525 base station (230 V~)

²⁾ Supply via modu525 base station



Accessories

Local operating and indicating units (LOI)

Type	Description
EY-LO630F001	16-LED indication, bi-colour
EY-LO670F001	4 setpoint transmitters (A-0...100%), 8 LEDs for operation/indication

Components

Type	Description
0920360003	24 V I/O module baseplate (pack of 3)
0929360572	Electronics module, modu572, 8 UI, 4 AO 24 V, 3 DI



SAUTER EY-modulo 5 operating units

SAUTER operating units allow you to display the current status of the digital inputs and to directly override the outputs of the automation station (AS) and the I/O modules.

Overview of operating units



Type codes	EY-OP840F001	EY-LO625F001	EY-LO630F001
Product name	modu840	modu625	modu630
Power supply	From AS	From AS	From AS or I/O module
Device	Operating unit	Operating unit with LED	Operating unit with LED
Operation	Visualisation, operation	6 manual/auto switches, 4 slide switches	Status/alarm
Display	Structured installations	6 DO (A-0-I), 4 LEDs, 4 AO (A-0...100%), 8 LEDs	16 LEDs
For stations	modu525, modu521	modu525, modu521	modu525, modu521
For I/O modules	–	–	modu530...533, modu550, modu551, modu571, modu570, modu572
Interfaces	I/O bus	I/O bus	I/O bus
Further information	Page 406	Page 408	Page 408



Type codes	EY-LO650F001	EY-LO650F002	EY-LO670F001
Product name	modu650	modu650	modu670
Power supply	From AS or I/O module	From AS or I/O module	From AS or I/O module
Device	Operating unit with LED	Operating unit with LED	Operating unit with LED
Operation	6 manual/auto switches	3 manual/auto switches	4 slide switches
Display	6 DO (A-0-I), 4 LEDs	3 DO (A-0-I), 4 LEDs	4 AO (A-0...100%), 8 LEDs
For stations	modu525, modu521	modu525, modu521	modu525, modu521
For I/O modules	modu550, modu551, modu571	modu550, modu551, modu571	modu570, modu572
Interfaces	I/O bus	I/O bus	I/O bus
Further information	Page 408	Page 408	Page 408



EY-OP840F001

EY-OP 840: Local operating unit, modu840

Features

- Part of the SAUTER EY-modulo 5 system family
- Can be plugged directly onto an EY-modulo 5 automation station
- Pluggable element for extending the modu525 automation station
- Local operating and indicating unit for direct local and manual operation of the modu525 AS
- Intuitive single-button operation (using the 'turn and press' method)
- Graphic display with various font sets and types
- Menu-led navigation with user login for operation rights
- Visualisation of information with structured plant display
- Two LED indicators for plant alarm and function status
- Displays objects, alarms and other information
- Choice of four languages
- Can be installed remotely (using accessories) in cabinet

Technical data

Power supply

Power supply	from AS
Power consumption	≤ 50 mA
Power loss	≤ 0.1 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Indicators, display, operation

Resolution	160 × 100 pixels, monochrome (LCD)
Operation	turn and press
Rotary knob	+/-, down/up
Acknowledgement	OK (short), start (long > 3 s)

Interfaces and communication

Internal connection	5-pin pogo pins for supply and data communication
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Construction

Weight	0.11 kg
Dimensions W x H x D	85 × 94 × 25 mm

Standards and directives

	Type of protection	IP 20 (EN 60529)
	Protection class	III (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 55024

Overview of types

Type	Properties
EY-OP840F001	Local operating unit, modu840



Accessories

Type	Description
7010035001	modu840 user manual, German
7010035002	modu840 user manual, French
7010035003	modu840 user manual, English
0930240511	Front frame for 4 operating/indicating units
0930240541	Connection adaptor for RJ-45 operating panel for front frame



EY-LO 625...670: Local operating and indicating units, modu625...670



EY-LO625F001



EY-LO630F001



EY-LO650F001



EY-LO650F002



EY-LO670F001

Features

- Part of the SAUTER EY-modulo 5 system family
- Pluggable elements for direct operation/indication of automation station(AS) modu525 and I/O modules
- Direct operation via switches/sliders (as per EN ISO 16484-2:2004 «Local override and indicating units»)
- Separate indicator for manual operation
- Ready for use without parametrising

Technical data

Power supply

Power supply	From AS modu5** I/O module
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Parameters

Factory setting	All switches set to «A» (Auto)
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Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rF no condensation

Interfaces and communication

Connection for I/O module / AS or lowering frame	Spring contacts, 9-pin
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Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	III (EN 60730-1) PELV
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-3

Overview of types

i Power consumption: on primary side of base station (230 V~)

i Current consumption: supply via base station

Type	EY-LO625F001	EY-LO630F001	EY-LO650F001	EY-LO650F002	EY-LO670F001
Use	modu521, modu525 (from hardware index C)	modu525, modu530...572	modu525, modu550, 551, 571	modu525, modu550, 551, 571	modu525, modu570, 572
Power consumption	≤ 2 VA/0.7 W	≤ 1 VA/0.35 W	≤ 1 VA/0.35 W	≤ 1 VA/0.35 W	≤ 1 VA/0.35 W
Dissipated power	≤ 0.7 W	≤ 0.35 W	≤ 0.35 W	≤ 0.35 W	≤ 0.35 W
Current consumption	≤ 40 mA	≤ 20 mA	≤ 20 mA	≤ 20 mA	≤ 20 mA
Operation	6 switches (A-0-I), 4 sashes (A-0...100%)	-	6 switches (A-0-I)	3 switches (A-0-II)	4 sliding switches (A-0...100%)
Indicator/display	4 LEDs (bi-colour), analogue: 8 LEDs (bi-colour)	16 LEDs (bi-colour)	4 LEDs (bi-colour)	4 LEDs (bi-colour)	8 LEDs (bi-colour)
Dimensions W x H x D	84 x 92 x 13 mm	42 x 92 x 13 mm	42 x 92 x 13 mm	42 x 92 x 13 mm	42 x 92 x 13 mm
Weight	0.07 kg	0.03 kg	0.03 kg	0.03 kg	0.03 kg



Accessories

Type	Description
0930240511	Front frame for 4 operating/indicating units
0930240540	Connection adaptor for RJ-45 operating/indicating units for front frame





EY-WS500F005

EY-WS 500: Web server for moduWeb Vision and moduWeb500 BACnet networks

Features

- Part of the SAUTER EY-modulo 5 system family
- Visualisation and operation of facilities
- The facilities are operated via the internet using a standard web browser
- Online notification via e-mail and text message
- Recording of historical values and alarms
- Time and calendar functions (BACnet Schedule Client)
- Visualisation either in lists, dynamic images or diagrams
- Engineering/parametrising via PC using CASE Suite
- Communication to the web client via standard HTTP protocol
- Secure communication with web client via encrypted HTTPS protocol
- Communication with mail server and SMS gateway via standard SMTP
- Communication with automation devices via BACnet/IP and BACnet web services (EN ISO 16484-5)
- Integrated firewall

Technical data

Power supply

Power supply	24 V~, ±20%, 50...60 Hz= (EY-WS500F005, moduWeb500 hardware)
Low-voltage connector	10...35 V= Ø 5.5 mm external, Ø 2.5 mm internal
Power consumption	≤ 6.5 VA/5.5 W
Battery (buffer: RTC)	Lithium button-cell (CR2032), insertable
Serviceable life of battery	10 a

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...65 °C
Admissible ambient humidity	5...85% rh, no condensation

Architecture

Watchdog	Processor	ARM Cortex A8, 600 MHz
	RAM	RAM, 256 MB
	Flash	128 MB (permanent memory)
	Memory expansion	SD-HC card slot ≤ 32 GB
	Back-up medium	USB mass storage device, ≤ 250 mA

Interfaces and communication

Ethernet network	1 × RJ-45 socket
10/100 BASE-T(X)	10/100 Mbit/s
Communication protocols	BACnet/IP (DIX)
Max. load	15 V, 10 mA

Construction

Weight	0.8 kg
Dimensions W x H x D	133 × 170 × 61 mm
Fitting	panel, top-hat rail



Standards and directives

	Type of protection ¹⁾	IP 20 (EN 60529)
	Protection class	III (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60950-1
CE conformity as per	EMC directive 2004/108/EC	EN 55022, EN 55024
	Software class A	EN 60730-1 Appendix H

Overview of types

Type	Description
EY-WS500F005	moduWeb500 hardware
EY-WS505F010	moduWeb Vision software for 800 DP, 75 diagrams, 25 users
EY-WS505F011	Upgrade from EY-WS505F010 to 2500 DP, 250 diagrams, 100 users
EY-WS505F020	moduWeb Vision software for 2500 DP, 250 diagrams, 100 users
EY-WS506F100	moduWeb Vision Touch, optional, incl. various resolutions
EY-TC505F110	Touch Client software for Windows 7

Accessories**Manuals**

Type	Description
7010083001	Operating manual for moduWeb Vision, German
7010083002	Operating manual for moduWeb Vision, French
7010083003	Operating manual for moduWeb Vision, English

¹⁾ Only on front with terminal cover

SAUTER EY-modulo 5 communication modules

SAUTER communication modules enable third-party systems to be incorporated on the automation level. Field-bus protocols, based on EIA-232 or EIA-485, such as Modbus/RTU and M-Bus, can be integrated directly on the automation station. The data is mapped in BACnet objects and is visible on the BACnet/IP network.

Overview of communication modules



Type codes	EY-CM 721	EY-CM 731
Product name	modu721	modu731
Interfaces	EIA-232 EIS-485	EIA-232 M-Bus
Protocol	Modbus M-Bus	M-Bus
Further information	Page 413	Page 415

EY-CM 721: Communication module with EIA-232 and EIA-485 interfaces, modu721

Features

- Part of the SAUTER EY-modulo 5 system family
- Pluggable element for extending the modu525 automation station (AS)
- Modular design (baseplate/electronics/LED indicators)
- Direct inscription on the front
- Connection to non-SAUTER systems (PLC, chillers, meters etc.)
- Connection for point-to-point protocols with EIA-232 interface
- Connection for field bus protocols based on EIA-485
- 2-wire EIA-485 (half-duplex)
- Galvanic isolation up to 300 V
- Jumper for EIA-485 bus voltage, bus termination and connection for galvanic isolation
- One or two COM modules per modu525 AS
- M-Bus and further integration of third-party products with the modu525 AS for integrated control and optimised regulation and the option to use BACnet/IP communication with the management level.



EY-CM721F010

Technical data

Power supply

Power supply	from modu525
Per AS at location 1 or 2	≤ 2 COM modules
Current consumption	≤ 150 mA
Power loss	≤ 1.2 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Architecture

Protocol processor	FPGA
COM interface	UART
Memory	Flash memory (user and protocol data)
Number of data points	≤ 200

Interfaces and communication

COM port, EIA-232 (DTE)	D-sub connector (9-pin, male)
COM port, EIA-485	6 screw terminals (2 × C, 2 × D+, 2 × D-)
Baud rate	0.3...57.6 kbit/s
Data bits	5, 6, 7, 8
Stop bits	1, 1.5, 2
Parity	none, even, odd
Connection, I/O bus	12-pin, integrated in socket

Construction

Fitting	on top-hat rail
Dimensions W x H x D	42 × 170 × 115 mm
Weight	0.8 kg

Standards and directives

Type of protection	IP 20 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	3K3 (IEC 60721)



	Software class A	EN 60730-1 Annexe H
CE conformity as per	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Protocol
EY-CM721F010	Communication module for Modbus/RTU (master, EIA-232 or EIA-485)
EY-CM721F020	Communication module for M-Bus/RTU (master, EIA-232 or EIA-485)

Accessories

Type	Description
7010037001	Manual for moduCom communication modules, German
7010037002	Manual for moduCom communication modules, French
7010037003	Manual for moduCom communication modules, English
0386301001	Connection cable COM DB9(f)-DB9(f), 3 m (null modem)



¹⁾ EN 61000-6-1: EIA-232 cable max. 15 m in length; EIA-485: shielded cable 2 x 2 twisted pair

EY-CM 731: Communication module with M-Bus and EIA-232 interfaces, modu731

Features

- Part of the SAUTER EY-modulo system family
- Plug-in element for extending the modu525 automation station (AS)
- One or two COM modules per modu525 AS
- Modular design (baseplate/electronics/LED indicators)
- EIA-232 interface for point-to-point connection with an M-Bus level converter
- Two-wire M-Bus network (as per EN 1434-3)
- Connection to M-Bus meter networks for up to 200 meters (heat meter, electricity meter, etc.)
- Recording counter readings at automation level allows optimum control and regulation of systems and offers the option of using BACnet/IP communication at the management level.
- Without external power supply: up to 10 M-Bus meters
- With external power supply: up to 50 M-Bus meters
- D-sub plugs (9-pin, male, DTE) for connecting to external M-Bus level converter
- Direct labelling on the front



EY-CM731F020

Technical data

Power supply		
	Power supply	From modu525
	Current consumption	≤ 200 mA
	Power loss	≤ 3.28 W
External power supply		
	For 1...50 meters on the M-Bus network	24 V~ (±20%)/24 V= (±20%)
	Power consumption	5 W, 6 VA (for 11...50 meters on the M-Bus network)
	Screw terminals	2 (MM, LS)
Ambient conditions		
	Operating temperature	0...45 °C
	Storage and transport temperature	-25...70 °C
	Admissible ambient humidity	10...85% rh, no condensation
Architecture		
	Protocol processor	FPGA
	COM interface	UART
	Memory	Flash memory (user and protocol data)
	Number of data points	≤ 200
Interfaces and communication		
	COM port, EIA-232 (DTE)	D-sub connector (9-pin, male)
	COM interface, M-Bus (EN 1434-3)	4 screw terminals (2 × M+, 2 × M-)
	Baud rate	0.3...9.6 (38.4) kBit/s
	Connection, I/O bus	12-pin, integrated in socket
	Protocol	M-Bus (master)
Construction		
	Fitting	on top-hat rail
	Dimensions W x H x D	42 × 170 × 115 mm
	Weight	0.8 kg
Standards and directives		
	Type of protection	IP 20 (EN 60529)
	Protection class	III (EN 60730-1)



	Environment class	3K3 (IEC 60721)
	Software class A	EN 60730-1 Annexe H
CE conformity as per	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-CM731F020	Communication module with M-Bus and EIA-232 interface, modu731

Accessories

Type	Description
7010037001	Manual for moduCom communication modules, German
7010037002	Manual for moduCom communication modules, French
7010037003	Manual for moduCom communication modules, English
0386301001	Connection cable COM DB9(f)-DB9(f), 3 m (null modem)



¹⁾ EN 61000-6-1: EIA-232 cable max. 15 m in length. M-Bus cable: two-core, twisted pair

SAUTER EY-modulo 5 room automation stations

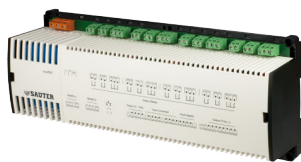
The areas of use for the SAUTER ecos 5 room automation stations range from precise room control with heating and cooling to integrated room automation with demand-based ventilation, lighting and shading. The scalable solutions for controlling and regulating the rooms are individually adjusted to the required functional scope and the usage profile. You thus reduce your energy consumption, your costs and the CO₂ emissions while providing maximum comfort and well-being.

The ecos 5 enables the floor space to be adjusted flexibly during operation by dividing the area on each floor into room segments.

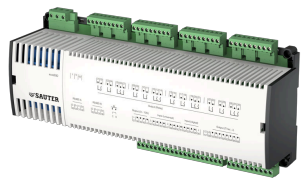
Overview of room automation stations



Type codes	EY-RC500F001	EY-RC502F001
Product name	ecos500	ecos502
Operation	4 room segments	2 room segments
Power supply	230 V~	230 V~
Room operating units	4	4
Extension interface RS-485 B	1	–
Plug-in terminals	EY-RC500F002	–
Inputs/Outputs		
Universal inputs	8	8
Digital inputs	4	4
NO relays	16	16
Change-over relays	–	2
Triac	8	8
Analogue outputs	4	4
Objects		
Data points	256	256
Loop	32	32
Calendar	8	8
Schedule	32	32
Trend Log	16	16
Notification Class	16	16
Further information	Page 418	Page 420



EY-RC500F001



EY-RC500F002



EY-RC 500: Room automation station, ecos500

Features

- Part of the SAUTER EY-modulo 5 system family
- Communication: BACnet/IP (EN ISO 16484-5)
- Programming/parameterisation via PC using CASE Suite (based on IEC 61131-3)
- Room automation station for up to four rooms or room segments
- Can be extended with up to sixteen ecoLink remote I/O modules
- Free arrangement of hardware
- The ecoUnit 3 (EY-RU 3**) and ecoUnit 1 (EY-RU 1**) room operating units enable individual adjustment of the room climate – mixed mode is possible
- Optimises energy consumption thanks to occupancy function, window contact monitoring, needs-driven switching of fan speeds, control of lighting and window blinds, and time-dependent setpoint specification
- Predictive control based on meteorological forecast data
- Time and calendar function
- Integration into the building management system via Ethernet/BACnet/IP data interface
- Control libraries

Technical data

Power supply		
Power supply		230 V~, ±10%, 50...60 Hz
Power consumption		≤ 34 VA (incl. 12 VA external)
Dissipated power		≤ 15 W
Battery (buffer: RTC/SRAM)		Lithium button-cell (CR2032), insertable
Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...70 °C
Admissible ambient humidity		10...85% rh, no condensation
Inputs/Outputs		
Inputs	Universal inputs	8, Ni1000, Pt1000, 0...10 V, DI
	Digital inputs	4
Outputs	Relay	16 normally-open contacts (250 V~) Terminals 1 to 28
	Triac	8 (24 V~)
	Analogue	4, 0...10 V
Operation		
Number of dynamic objects	BACnet data point objects	256 incl. HW
	Time programmes	32 (Schedule)
	Calendar	8 (Calendar)
	Alarms	16 (Notification Class)
	Historical data	16 (Trend Log)
	Control	32 (Loop)
	COV notifications	500
	Structured view	64 (Structured View)
	BACnet client links	200 (Peer-to-Peer)
	Number of BBMDs in BDT	32
	Number of FDs in FDT	32
Architecture		
	Processor	32 bit, 200 MHz
	SDRAM (synchronous dynamic RAM)	32 MB
	SRAM (static RAM)	128 kB



Flash	16 MB
Operating system	Linux
Cycle time	100 ms
Application data	via CASE Engine

Interfaces and communication

Ethernet network	2 × RJ-45 socket (switch)
10/100 BASE-T(X)	10/100 Mbit/s
Communication protocols	BACnet/IP
Operating units	≤ 4 in total, EY-RU 3** RS-485 A EY-RU 1** via EY-EM 580 to RS-485 A
Extension interface	RS-485 B

Construction

Fitting	top-hat rail/wall
Dimensions W x H x D	299 × 120 × 73 mm
Weight	1.6 kg

Standards and directives

	Type of protection ¹⁾	IP 00 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Mode of operation	Type 1 CI (EN 60730)
	Software class A	EN 60730-1 Annexe H
CE conformity as per	EMC directive 2004/108/EC ²⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-9
Valid for eu.bac. devices EY-RC500F511, EY-RC500F521	Energy Performance of Buildings Directive 2010/31/EC	EN 15500
	eu.bac licence	no. 211169

Overview of types

Type	Description
EY-RC500F001	With screw terminals
EY-RC500F002	With plug-in connectors
EY-RC500F511	With screw terminals, eu.bac application for fan coil unit system - 4-pipe
EY-RC500F521	With screw terminals, eu.bac application for chilled-beam system

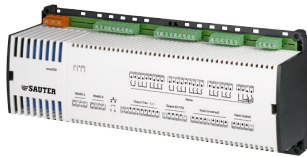
⚠ On the EY-RC500F5** versions, it is not permitted to make any changes to the user program that have an influence on the control quality, otherwise the eu.bac certificate loses its validity

Accessories

Type	Description
0900240002	Terminal cover, 295 mm (2 pcs.)
0900240011	Wiring box, 295 mm (2 pcs.)

¹⁾ IP 10 with terminal cover (accessory 0900240002); IP 20 with wiring box (accessory 0900240011)

²⁾ EN 61000-6-2: If it is mandatory to comply with the European standard, the power cables for the digital inputs (DI), analogue inputs and outputs (AI/AO) and the RS-485 cables must not exceed 30 metres in length



EY-RC502F001



EY-RC 502: Room automation station, ecos502

Features

- Part of the SAUTER EY-modulo 5 system family
- Communication: BACnet/IP (EN ISO 16484-5)
- Programming/parameterisation via PC using CASE Suite (based on IEC 61131-3)
- Integration into the building management system via Ethernet/BACnet/IP data interface
- Room automation station for up to two rooms or room segments
- Free arrangement of hardware
- The ecoUnit 3 (EY-RU 3**) and ecoUnit 1 (EY-RU 1**) room operating units enable individual adjustment of the room climate – mixed mode is possible
- Optimises energy consumption thanks to occupancy function, window contact monitoring, needs-driven switching of fan speeds, control of lighting and window blinds, and time-dependent setpoint specification
- Time and calendar function
- Control libraries

Technical data

Power supply

Power supply	230 V~, ±10%, 50...60 Hz
Power consumption	≤ 34 VA (incl. 12 VA external)
Power loss	≤ 15 W
Battery (buffer: RTC/SRAM)	Lithium button-cell (CR2032), insertable

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...85% rh, no condensation

Inputs/Outputs

Inputs	Universal inputs	8, Ni1000, Pt1000, 0...10 V, DI
	Digital inputs	4
Outputs	Relay outputs	16 NO contacts (250 V~) Terminals 1 to 24 2 commutating pole circuit (24 V=) Terminals 25 to 28
	Triac	8 (24 V~)
	Analogue	4 (0...10 V)

Operation

Number of dynamic objects	BACnet data point objects	256 incl. HW
	Time programmes	32 (Schedule)
	Calendar	8 (Calendar)
	Alarms	16 (Notification Class)
	Historical data	16 (Trend Log) ≤ 2000 entries
	Control	32 (Loop)
	COV notifications	500
	Structured view	64 (Structured View)
	Number of BACnet client links	200 (Peer-to-Peer)
	BBMD in BDT	32
	FD in FDT	32

Architecture

Processor	32 bit, 200 MHz
SDRAM (synchronous dynamic RAM)	32 MB
SRAM (static RAM)	128 kB
Flash	16 MB



Operating system	Linux
Cycle time, user program	100 ms
Application data	via CASE Engine

Interfaces and communication

Ethernet network	2 × RJ-45 socket (switch)
10/100 BASE-T(X)	10/100 Mbit/s
Communication protocols	BACnet/IP
Operating units	total of up to 4 operating units
EY-RU 3**	RS-485 A
EY-RU 1**	via EY-EM 580 to RS-485 A

Construction

Fitting	top-hat rail/wall
Dimensions W x H x D	299 × 120 × 73 mm
Weight	1.6 kg

Standards and directives

	Type of protection ¹⁾	IP 00 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ²⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-9
	Software class A	EN 60730-1 Annexe H
Valid for eu.bac. devices EY-RC502F511, EY-RC502F521	Energy Performance of Buildings Directive 2010/31/EC	EN 15500
	eu.bac licence	no. 211168

Overview of types

Type	Properties
EY-RC502F001	Room automation station
EY-RC502F521	Room automation station with screw terminals, eu.bac application for chilled-beam system
EY-RC502F511	Room automation station with screw terminals, eu.bac application for fan convection system - 4-pipe

⚠ On the EY-RC502F5** versions, it is not permitted to make any changes to the user program that have an influence on the control quality, otherwise the eu.bac certificate loses its validity

Accessories

Type	Description
0900240002	Terminal cover, 295 mm (2 pcs.)
0900240011	Wiring box, 295 mm (2 pcs.)

¹⁾ IP 10 with terminal cover (accessory 0900240002); IP 20 with wiring box (accessory 0900240011)

²⁾ If it is mandatory to comply with the European Standard (EN 61000-6-2), the connecting cables for the digital inputs (DI), analogue inputs and outputs (AI/AO) and the RS-485 cables must not be longer than 30 metres

SAUTER EY-modulo 5 room operating units

The SAUTER ecoUnit room operating unit combines technology with design. The keys can be freely assigned with various functions. Due to the standard internal dimensions of 55 x 55 mm, these devices fit both SAUTER frames and the frames of third-party manufacturers of light switches.

Overview of room operating units



Type codes	EY-RU310F001	EY-RU311F001	EY-RU314F001	EY-RU316F001
Product name	ecoUnit310	ecoUnit311	ecoUnit314	ecoUnit316
Operation	Temperature sensor	Temperature sensor, setpoint correction	Temperature sensor, setpoint correction, occupancy, fan	Temperature sensor, setpoint correction, occupancy, fan, lighting/window blind
For stations	ecos500, ecos502, modu521	ecos500, ecos502, modu521	ecos500, ecos502, modu521	ecos500, ecos502, modu521
Interface	RS-485	RS-485	RS-485	RS-485
Display	–	–	–	–
Temperature sensor	•	•	•	•
Push-button functions	–	–	2	4
Fan speeds	–	–	AUTO-0-1-2-3	AUTO-0-1-2-3
Setpoint correction	–	Rotary knob	Rotary knob	Rotary knob
Room occupancy	–	–	3 modes	3 modes
Further information	Page 424	Page 424	Page 424	Page 424



Type codes	EY-RU341F001	EY-RU344F001	EY-RU346F001
Product name	ecoUnit341	ecoUnit344	ecoUnit346
Operation	Temperature sensor, setpoint correction	Temperature sensor, setpoint correction, occupancy, fan	Temperature sensor, setpoint correction, occupancy, fan, lighting/window blind
For stations	ecos500, ecos502, modu521	ecos500, ecos502, modu521	ecos500, ecos502, modu521
Interface	RS-485	RS-485	RS-485
Display	LCD	LCD	LCD
Temperature sensor	•	•	•
Push-button functions	2	4	6
Fan speeds	–	AUTO-0-1-2-3	AUTO-0-1-2-3
Setpoint correction	Digitally adjustable	Digitally adjustable	Digitally adjustable
Room occupancy	–	3 modes	3 modes
Further information	Page 426	Page 426	Page 426



Type codes	EY-RU110F100	EY-RU141F100	EY-RU144F100	EY-RU146F100
Product name	ecoUnit110	ecoUnit141	ecoUnit144	ecoUnit146
Operation	Temperature sensor	Temperature sensor, setpoint correction	Temperature sensor, setpoint correction, occupancy, fan	Temperature sensor, setpoint correction, occupancy, fan, lighting/window blind
For stations	With ecoMod580 for: ecos500, ecos502 modu521	With ecoMod580 for: ecos500, ecos502 modu521	With ecoMod580 for: ecos500, ecos502 modu521	With ecoMod580 for: ecos500, ecos502 modu521
Interface	EnOcean wireless	EnOcean wireless	EnOcean wireless	EnOcean wireless
Display	–	LCD	LCD	LCD
Temperature sensor	•	•	•	•
Push-button functions	–	2	4	6
Fan speeds	–	–	AUTO-0-1-2-3	AUTO-0-1-2-3
Setpoint correction	–	Digitally adjustable	Digitally adjustable	Digitally adjustable
Room occupancy	–	–	3 modes	3 modes
Further information	Page 428	Page 428	Page 428	Page 428



Type codes	EY-SU306F001	EY-SU106F100
Product name	ecoUnit306	ecoUnit106
Operation	Push-button unit	Push-button unit
For stations	For connection to ecoUnit3** and ecoUnit2** room operating units	For connection to ecoUnit1** room operating units
Interface	–	–
Display	–	–
Temperature sensor	–	–
Push-button functions	6	6
Fan speeds	–	–
Setpoint correction	–	–
Room occupancy	–	–
Further information	Page 501	Page 430



EY-RU316F001



EY-RU310F001

EY-RU 310...316: Room operating units, ecoUnit310...316

Features

- Part of the SAUTER EY-modulo 5 system family
- Operating unit to control and guarantee the highest possible room comfort.
- Recording the temperature and controlling rooms with different conditions using communicative EY-modulo 5 ecos unitary controllers
- Can be extended with EY-SU 306 push-button unit
- Room operating unit with a wide range of different functions, designs and colours
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory
- Indoor climate can be adapted individually
- The operating mode can be set for the room occupancy and the actuation of a 3-speed fan
- Control of window blinds, windows and lighting (ON/OFF/dim)
- Multi-colour LED indicators for visualisation of local energy consumption

Technical data

Power supply

Power supply	From ecos5
Current consumption	≤ 25 mA ≤ 38 mA with 2 × EY-SU306

Parameters

Sensors	Measuring range	0...40 °C
	Resolution	0.1 K
	Time constant	approx. 7 min
Functionality	Setpoint correction	variable
	Room occupancy (presence)	3 modes, LED indicator
	Fan speeds	5 functions, LED indicator
	Position LED	Switchable: green/red/OFF
Connection	Line	4-core twisted
	Length	≤ 30 m
	Connection terminals	pluggable; for wire of 0.12...0.5 mm ² (Ø 0.4...0.8 mm)

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Construction

Fitting	recessed/surface-mounted (see accessories)
Dimensions W x H x D	59.5 × 59.5 × 25 mm
Weight	0.1 kg

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC
	EN 61000-6-1, EN 61000-6-3

Overview of types

Type	Properties	Buttons
EY-RU310F001	NTC sensor	-
EY-RU311F001	NTC sensor, setpoint adjuster dXs (rotary knob)	-



Type	Properties	Buttons
EY-RU314F001	NTC sensor, setpoint adjuster dXs (rotary knob), fan, occupancy	2
EY-RU316F001	NTC sensor, setpoint adjuster dXs (rotary knob), fan, occupancy, window blinds / light	4

Accessories

Operating unit

Type	Description
EY-SU306F001	Push-button unit, without frame

Fitting

Type	Description
0940240***	For frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.055
0949360002	4-pin plug-in connector for connecting ecos room operating unit (10 pcs.)
0949241301	Transparent cover (10 pcs.)
0949241302	RAL 9010 white cover (10 pcs.)

💡 0949241302: for EY-RU310F001 only





EY-RU346F001

EY-RU 341...346: Room operating unit, ecoUnit341...346

Features

- Part of the SAUTER EY-modulo 5 system family
- Can be extended using EY-SU 306 switching unit
- Recording the temperature and controlling rooms with different conditions using communicative EY-modulo 5 ecos unitary controllers
- The operating mode can be set for the room occupancy and the actuation of a 3-speed fan
- Room operating unit with a wide range of different functions, designs and colours
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Indoor climate can be adapted individually
- Control of window blinds, windows and lighting (on/off, dim)
- Display with extensive status information on room conditions
- Multicolour LED indicators for visualisation of local energy consumption
- Frame can be ordered as an accessory

Technical data

Power supply

Power supply	From ecos5
Current consumption	≤ 8 mA, ≤ 20 mA with 2 × EY-SU 306

Parameters

Sensor	Measuring range	0...40 °C
	Resolution	0.1 K
	Time constant	Approx. 7 min
Functionality	Setpoint correction	variable
	Room occupancy (presence)	3 modes, LCD
	Fan speeds	5 functions, LCD
	Position LED	Switchable: green/red/OFF
Connection	Line	4-core twisted
	Length	≤ 30 m
	Connection terminals	Pluggable for wire of 0.12...0.5 mm ² (Ø 0.4...0.8 mm)

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Structural design

Fitting	recessed/surface-mounted (see list of accessories)
Dimensions W x H x D	59.5 × 59.5 × 25 mm
Weight	0.1 kg

Standards and directives

CE conformity as per	Type of protection	IP 30 (EN 60529)
	Protection class	III (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4



Overview of types

Type	Properties	Buttons
EY-RU341F001	LCD, NTC sensor, dXs setpoint correction	2
EY-RU344F001	LCD, NTC sensor, dXs setpoint correction, fan, occupancy	4
EY-RU346F001	LCD, NTC sensor, dXs setpoint correction, fan, occupancy, window blinds/lighting	6

Accessories

Type	Description
EY-SU306F001	Push-button unit, without frame

Fitting

Type	Description
0940240***	For frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.055
0949360002	4-pin plug-in connector for connecting ecos room operating unit (10 pcs.)
0949241301	Transparent cover (10 pcs.)



EY-RU 110...146: Room operating unit with EnOcean wireless technology, ecoUnit 110...146



EY-RU146F100



EY-RU110F100



Features

- Part of the SAUTER EY-modulo 5 system family
- Room control unit compatible with EnOcean interfaces of third-party manufacturers
- Battery-free with LCD; EY-SU 106 push-button unit can be added
- Display with extensive status information on room conditions
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory
- Indoor climate can be adapted individually
- The operating mode can be set for the room occupancy and the actuation of a 3-speed fan
- Control of window blinds, windows and lighting (ON/OFF/dim)
- Room operating unit with a wide range of different functions, designs and colours

Technical data

Power supply

Power supply	From integrated solar panel (battery operation optional)
Illuminance	Min. 250 lux, 5 h
Bridging time without lighting (fully charged devices)	60 h of full operation Additional 60 h in Low Power mode

Parameters

Sensors	Measuring range	0...40 °C
	Resolution	0.1 K
	Time constant	Approx. 7 min
	Measuring accuracy, temperature	Typ. 0.5 K in the 15...35 °C range
Functionality	Setpoint correction	Adjustable and resettable
	Room occupancy (presence)	3 modes, LCD
	Fan speeds	5 functions, LCD
	Technology	EnOcean, STM 300
	Transmission frequency	868.3 MHz
Range	Up to 30 m, depending on building structure	

Interfaces and communication

Connection ¹⁾	No wiring required, connection to SLC via EY-EM580 wireless interface
EnOcean Equipment Profile (EEP V2.6.1) ²⁾	EEP: D2-00-01 (in bi-directional mode), EEP: A5-10-01 (in uni-directional mode), EEP: F6-03-01 (push-buttons 3, 4, 7...12)

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	5...85% rh, no condensation

Construction

Weight	0.1 kg
Dimensions W x H x D	59.5 x 59.5 x 25 mm
Housing	Pure white (RAL 9010)
Plastic insert	Silver (similar to Pantone 877 C)

¹⁾ See the ecoMod580 quick reference

²⁾ D2-00-01: ecoUnit141...146
A5-10-01, F6-03-01: ecoUnit110...146



Fitting	Recessed/surface-mounted (see list of accessories)
---------	---

Standards and directives

	Type of protection	IP 30 (EN 60529)
	Protection class	III (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	R&TTE Wireless Directive 1999/5/EC	EN 50371, EN 300489-1 (V1.8.1), EN 300489-3 (V1.4.1), EN 300220-1 (V2.1.1), EN 300220-2 (V2.1.2)

Overview of types

Type	Properties	Buttons
EY-RU110F100	NTC sensor	–
EY-RU141F100	Operating unit with LCD, NTC, dXs setpoint correction	2
EY-RU144F100	Operating unit with LCD, NTC, dXs setpoint correction, fan, occupancy	4
EY-RU146F100	Operating unit with LCD, NTC, dXs setpoint correction, fan, occupancy, window blinds/lighting	6

Accessories**Operating unit**

Type	Description
EY-SU106F100	Push-button unit with solar panel, 6 push-buttons, without frame

Fitting

Type	Description
0940240***	For frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.055
0949241301	Transparent cover (10 pcs.)
0949360002	4-pin plug-in connector for connecting ecos room operating unit (10 pcs.)

Energy supply in permanently darkened room

Type	Description
0949570001	Battery pack, 10 pcs.



EY-SU 106: Push-button unit for room operating unit with radio technology, ecoUnit106



EY-SU106F100

Features

- Part of the SAUTER EY-modulo 5 system family
- Push-button unit to supplement the ecoUnit 1 10 or ecoUnit 1 41...146
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory
- Integrated solar cell for additional power supply for ecoUnit 1
- Control window blinds and lighting (ON/OFF, dim)
- Six button functions
- Many different design and colour variations

Technical data

Power supply		
	Power supply	From ecoUnit 1
Parameters		
Connection	Line	4-wire
	Length ¹⁾	≤ 1 m (for ecoUnit 1)
Ambient conditions		
	Operating temperature	0...45 °C
	Storage and transport temperature	-25...70 °C
	Admissible ambient humidity	10...85% rh, no condensation
Construction		
	Fitting	Recessed/surface-mounted (see list of accessories)
	Dimensions W x H x D	59.5 × 59.5 × 25 mm
	Weight	0.1 kg
Standards and directives		
	Type of protection	IP 30 (EN 60529)
	Protection class	III (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-SU106F100	Push-button unit with 6 button functions, integrated solar cell

Accessories

Type	Description
0940240***	For frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.055
0949241301	Transparent cover (10 pcs.)
0949360002	4-pin plug-in connector for connecting ecos room operating unit (10 pcs.)

¹⁾ See connection diagram



Frame for device inserts with 55 × 55 mm fitting dimensions

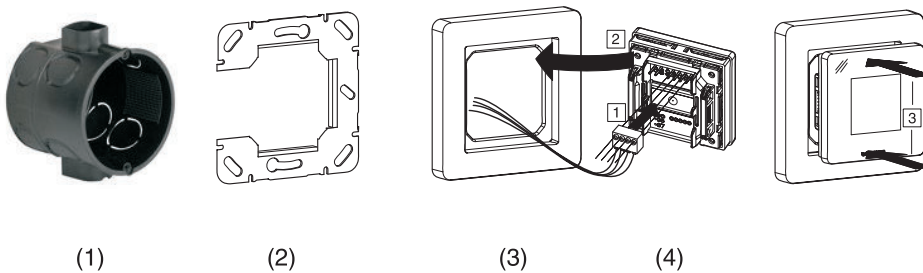
Features

- Accessory components for SAUTER device inserts with 55 × 55 mm aperture
- Suitable for ecoUnit 1 room operating units EY-RU 1** and EY-SU 106
- Suitable for ecoUnit 2 room operating units EY-RU2**
- Suitable for ecoUnit 3 room operating units EY-RU 3** and EY-SU 306
- Suitable for EGT 33* room sensors
- Suitable for viaSens room sensors
- Adhesive plate for smooth surfaces
- Surface and recessed mounting
- Adaptation to the GIRA series: Standard55, E2, Event, Esprit
- Adaptation to the Jung series: LS990, A500, A plus, A Creation, CD500
- Adaptation to the MERTEN series: M-smart, ARTEC, M-Plan, M-ARC
- Adaptation to the Busch-Jaeger series: Future, Future linear
- Adaptation to the Berker series: B.1
- Adaptation to the Feller series: EDIZIOdue



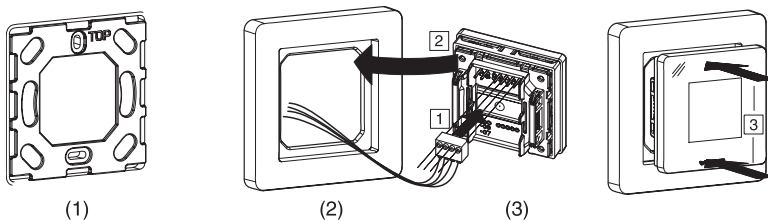
EY-RU 346, EY-SU 306

Recessed mounting with SAUTER frame



- (1) Recessed junction box
 (2) Mounting plate
 (3) Frame
 (4) Device insert

Surface mounting with SAUTER frame



- (1) Optional cable cover plate
 (2) Baseplate including surface mounting plate
 (3) Device insert

Accessories

Mounting plate

Type	Description
0940240703	Mounting plate, single, for recessed fitting (10 pcs.)
0940240704	Mounting plate, single, type 2, for recessed fitting (10 pcs.)
0940240802	Mounting plate, double, for recessed fitting (10 pcs.)



Frames for recessed mounting

Type	Description
0940240102	Frame, single, pure white, RAL 9010 (10 pcs.)
0940240202	Frame, double, pure white, RAL 9010 (10 pcs.)

Frames for surface mounting

Type	Description
0940240301	Baseplate, single (for wall mounting), 10 pcs.
0940240401	Baseplate, double (for wall mounting), 10 pcs.
0940240501	Cable plate, single (for surface-mounted wiring), 10 pcs.
0940240601	Cable plate, double (for surface-mounted wiring), 10 pcs.
0940240710	Adhesive plate, single, black, 83 × 83 mm, 10 pcs.
0940240711	Adhesive plate, double, black, 83 × 143 mm, 10 pcs.

Spacer frames for adapting non-SAUTER frames

Type	Description
0940240751	Spacer frame, 0.5 mm (10 pcs.)
0940240752	Spacer frame, 1.0 mm (10 pcs.)
0940240753	Spacer frame, 1.5 mm (10 pcs.)
0940240755	Spacer frame, F1 (10 pcs.)



EY-EM 580: Wireless interface, ecoMod580

Features

- Part of the SAUTER EY-modulo 5 system family, bi-directional wireless communication for energy-efficient control of the room
- Incorporation of SAUTER ecoUnit1 10...146 wireless room control units and other EnOcean wireless standard sensors/actuators
- Wireless interface in a wide range of designs and colours
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory



EY-EM580F001



Technical data

Power supply

Power supply	From ecos5
Current consumption	typically 60 mA

Ambient conditions

Operating temperature	0...40 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh

Interfaces, wireless communication

	Wireless technology	EnOcean, TCM300
	Transmission frequency	868.3 MHz
	Range	Approx. 30 m, depending on structure
Connection to automation station	Interface	RS485
	Protocol	SLC
	Control	ecos5, modu521
	Line	4-wire, twisted (shielding recommended)
	Cable length	≤ 100 m

Construction

Fitting	recessed/surface-mounted (see list of accessories)
Dimensions W x H x D	59.5 × 59.5 × 25 mm
Housing	Pure white (RAL 9010)
Plastic insert	Silver (similar to Pantone 877 C)
Weight	0.1 kg

Standards and directives

	Type of protection	IP 30 (EN 60529)
	Protection class	III (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	R&TTE Wireless Directive 1999/5/EC	EN 50371, EN 300489-1 (V1.8.1) EN 300489-3 (V1.4.4) EN 300220-1 (V2.1.1) EN 300200-2 (V2.1.2)

Overview of types

Type	Properties
EY-EM580F001	Wireless interface, bi-directional, with EnOcean wireless standard



Accessories

Type	Description
0940240***	For frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.055
0949241301	Transparent cover (10 pcs.)
0949241302	RAL 9010 white cover (10 pcs.)
0949360002	4-pin plug-in connector for connecting ecos room operating unit (10 pcs.)



SAUTER EY-modulo 5 remote I/O modules

The SAUTER ecolink modules are remote modules for flexibly expanding the I/O mix of the ecos500 room automation stations and the modu521 automation stations. The modules are used to capture digital and analogue signals from sensors and HVAC installations. They control valve actuators, dampers, fans, dimmable lamps or sunshade actuators. The remote fitting reduces the wiring costs for the sensors and actuators.

Overview of remote I/O modules



Type codes	EY-EM510F001	EY-EM511F001	EY-EM512F001
Product name	ecolink510	ecolink511	ecolink512
For stations	ecos500, modu521	ecos500, modu521	ecos500, modu521
Power supply	24 V~	24 V~	24 V~
Inputs/Outputs			
Universal inputs	–	–	–
0-10 V / digital inputs	4	4	4
Ni1000/Pt100 inputs	2	2	–
DIM-10 V outputs	–	–	–
NO relays	3	–	–
Change-over relays	–	–	–
Triac	3	3	2
Analogue outputs	3	3	3
Further information	Page 437	Page 437	Page 437



Type codes	EY-EM520F001	EY-EM521F001
Product name	ecolink520	ecolink521
For stations	ecos500, modu521	ecos500, modu521
Power supply	230 V~	230 V~
Inputs/Outputs		
Universal inputs	–	–
0-10 V/digital inputs	4	4
Ni1000/Pt100 inputs	–	–
DIM-10 V outputs	2	2
NO relays	4	2
Change-over relays	–	–
Triac	–	–
Analogue outputs	–	–
Further information	Page 439	Page 439

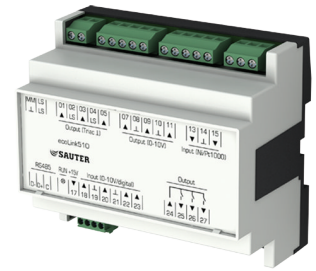


Type codes	EY-EM522F001	EY-EM523F001	EY-EM526F001
Product name	ecolink522	ecolink523	ecolink526
For stations	ecos500, modu521	ecos500, modu521	ecos500, modu521
Power supply	230 V~	230 V~	230 V~
Inputs/Outputs			
Universal inputs	4	4	–
0-10 V/digital inputs	–	–	4
Ni1000/Pt100 inputs	–	–	–
DIM-10 V outputs	4	4	2
NO relays	4	–	–
Change-over relays	–	–	3
Triac	–	–	–
Analogue outputs	4	4	–
Further information	Page 441	Page 441	Page 439

EY-EM 510...512: Remote I/O module, ecoLink510...512

Features

- Part of the SAUTER EY-modulo 5 system family
- Regulation, control, monitoring and optimisation of operational systems, e.g. room automation or HVAC engineering
- Remote I/O module for ecos500 and modu521
- Communicative connection of actuators to automation stations (AS)
- Can be located up to 500 m from the AS



EY-EM510F001

Technical data

Power supply

Power supply	24 V~, ±20%, 50...60 Hz
Current consumption	≤ 0.2 A, without load current from Triac and relay outputs
Power loss	≤ 5 W (typically approx. 0.5 W)
Power consumption	≤ 6.6 VA Triac outputs without load, ≤ 48 VA Triac outputs with rated load

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs and outputs

Inputs	Analogue/digital	0...10 V/0-1
	Ni1000/Pt1000	-20...100 °C
Relay outputs	Type	0-1, NO contacts
	Load ¹⁾	230 V~, 5 A (total max. 10 A)
	Switching frequency	> 3 × 10 ⁵ cycles
Triac outputs	Type	0-1, 24 V~/0.5 A
Analogue outputs	Type	0...10 V=, 2 mA

Interfaces and communication

Control	From ecos500 or modu521
Connection to ecos500 ²⁾	≤ 500 m (depending on type of cable)

Structural design

Weight	0.22 kg
Dimensions W x H x D	105 × 95 × 60 mm

Standards and directives

	Type of protection ³⁾	IP 00 (EN 60730)
	Protection class	II (EN 60730-1) for EY-EM 510, III (EN 60730-1) for EY-EM 511, EY-EM 512
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ⁴⁾	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

¹⁾ See the section "Digital outputs (relays)".

²⁾ See the section "Engineering notes".

³⁾ IP 20 with terminal cover (accessory 0900240020); IP 40 at front when fitted

⁴⁾ EN 61000-6-2: In order to meet the European standard, the power cables for the inputs and outputs should not exceed 30 metres in length



Overview of types

Type	Description
EY-EM510F001	Remote I/O module, 24 V~, 3 relays, 3 Triacs
EY-EM511F001	Remote I/O module, 24 V~, 3 Triacs
EY-EM512F001	Remote I/O module, 24 V~, 2 Triacs

Overview of I/O mix	EY-EM 510	EY-EM 511	EY-EM 512
Relay	3	0	0
Triac	3	3	2
0...10 V Out	3	3	2
Ni1000/Pt1000	2	2	0
0...10 V In, Digital In	4	4	4

Accessories

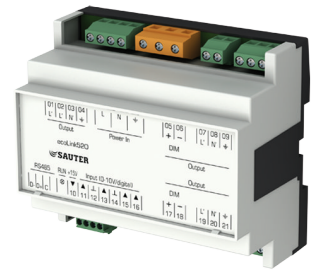
Type	Description
0900240020	Terminal cover
0450573001	Transformer 230 V~/24 V~ 42 VA; for 35 mm top-hat rail (EN 50022)



EY-EM 520...526: Remote I/O module, ecoLink520...526

Features

- Part of the SAUTER EY-modulo 5 system family
- Regulation, control, monitoring and optimisation of operational systems, e.g. room automation or HVAC engineering
- Remote I/O module for ecos500 and modu521
- Communicative connection of actuators to automation stations (AS)
- Can be located up to 500 m from the AS



EY-EM520F001

Technical data

Power supply

Power supply	230 V~, ±10%, 50...60 Hz
Current consumption	≤ 35 mA (typically 20 mA) excl. load current of the digital outputs
Power loss	≤ 8 W (typically approx. 4 W)

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh

Inputs/Outputs

Inputs	Analogue/digital	0...10 V / O-I
Outputs	DIM-10 V	Passive output
Digital outputs	Load ¹⁾	230 V~/1 A or 5 A (total max. 10 A)
	Electrical life	> 3 × 10 ⁵ cycles

Interfaces and communication

Control	From ecos500 or modu521
Connection to ecos500 ²⁾	≤ 500 m (depending on type of cable)

Construction

Dimensions W x H x D	105 × 95 × 60 mm
Weight	0.32 kg

Standards and directives

	Type of protection ³⁾	IP 00 (EN 60730)
	Protection class	I (EN 60730-1) II (EN 60730-1) for EY-EM 526
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ⁴⁾	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

Type	Description
EY-EM520F001	Remote I/O module, 230 V~, 4 relays, normally-open contacts
EY-EM521F001	Remote I/O module, 230 V~, 2 relays, normally-open contacts
EY-EM526F001	Remote I/O module, 230 V~, 3 relays, change-over contacts

¹⁾ See the section "Digital outputs (relays)".

²⁾ See the section "Engineering notes"

³⁾ IP 20 with terminal cover (accessory 0900240020); IP 40 at front when fitted

⁴⁾ EN 61000-6-2: In order to meet the European standard, the power cables for the inputs and outputs must not exceed 30 m in length



Overview of I/O mix	EY-EM 520	EY-EM 521	EY-EM 526
Normally-open relay (with voltage applied)	4	2	0
Change-over relay (potential-free)	0	0	3
DIM-10 V	2	2	2
0... 10 V In, Digital In	4	4	4

Accessories

Type	Description
0900240020	Terminal cover



EY-EM 522, 523: Remote I/O module, ecoLink522, 523

Features

- Part of the SAUTER EY-modulo system family
- Remote I/O module for ecos500 and modu521
- Switching and dimming of up to 4 lamps
- Can be located up to 500 m from the automation station

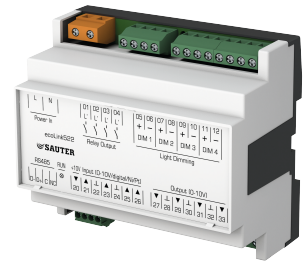
Technical data

Power supply		
Power supply		230 V~, ±10%, 50...60 Hz
Current consumption		Max. 20 mA (typically 14 mA) Without load current of relays
Power loss		Max. 2.5 W (typically 1.5 W)
Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...70 °C
Admissible ambient humidity		10...85% rh, no condensation
Inputs/Outputs		
Relay outputs	Type	O-I relay, NO contacts 230 V~ with voltage applied
	Load	230 V~/5 A resistive load Total max. 10 A
	Electrical life	> 3 × 10 ⁵ cycles
DIM-10V	Type	1...10 V passive output for electronic ballasts as per EN 60929 Electrically isolated
Analogue outputs	Type	0...10 V / 2 mA
Universal inputs	Analogue	0...10 V / 0...1 V
	Digital	O/I
	Resistance	100...2500 Ω
	Potentiometer	1...10 kΩ
	Ni1000/Pt1000	-20...100 °C
Interfaces and communication		
Connection to automation station	Control	From ecos500 or modu521
	Protocol	RS485, SLC
	Cable length ¹⁾	Up to 500 m (depending on cable type)
Construction		
	Dimensions W x H x D	105 × 95 × 60 mm
	Weight	0.32 kg
Standards and directives		
	Type of protection ²⁾	IP 00 (EN 60730)
	Protection class	II (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ³⁾	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

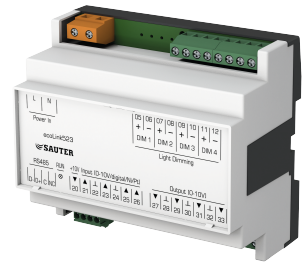
¹⁾ See the section "Engineering notes"

²⁾ IP 20 with terminal cover (accessory 0900240020); IP 40 at front when fitted

³⁾ EN 61000-6-2: In order to meet the European standard, the power cables for the inputs and outputs must not exceed 30 m in length



EY-EM522F001



EY-EM523F001



Overview of types

Type	Description
EY-EM522F001	Remote I/O module, 230 V~, 4 normally-open relay contacts, 4 DIM outputs
EY-EM523F001	Remote I/O module, 230 V~, 4 DIM outputs

Overview of I/O mix	EY-EM 522	EY-EM 523
Normally-open relay contacts (with voltage applied)	4	-
DIM-10V	4	4
Analogue outputs	4	4
Universal inputs	4	4

Accessories

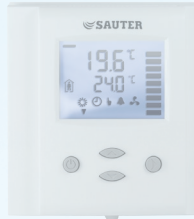
Type	Description
0900240020	Terminal cover



SAUTER EY-modulo 3

Room automation – easy and communicative for the most flexible applications.

For simple room automation projects, SAUTER offers the EY-modulo 3 family of systems with the parameterisable and communicative ecos 3 room controllers, and with an intuitive ecoUnit382 LCD room operating unit for adjustment to local room climate requirements. The open communication via BACnet MS/TP enables flexible HVAC applications and seamless integration into the building automation network. Many configurable applications enable optimal operation of the room climate. The controllers are designed for easy installation and operation. SAUTER EY-modulo 3 stands for a high level of planning security and reliable functionality.



SAUTER EY-modulo 3

Room automation

Overview of room automation stations	446
EY-RC 301, 302: Room controller, ecos301, ecos302	447
Overview of room operating units	449
EY-RU 382: Room control unit ecoUnit382 for ecos 3	450



SAUTER EY-modulo 3 room automation stations

The BACnet MS/TP SAUTER ecos 3 room controllers are freely parameterisable, application-specific controllers (B-ASC) for a wide range of applications such as fan coil units, chilled ceilings, chilled beams or radiators. In the room they ensure an optimal room climate (heating, cooling, ventilation) with easy but also flexible parameterisation (2-pipe/4-pipe installations, changeover, frost protection, reheaters, and connecting presence detectors, window/door contacts, etc.). The controllers can be easily integrated into the building automation network and visualised in the building and room automation management system.

Overview of room automation stations



Type codes	EY-RC301F005	EY-RC302F001
Product name	ecos301	ecos302
Operation	BACnet MS/TP room controller	BACnet MS/TP room controller
Power supply	24 V~/=	230 V~
Room operating unit	1	1
Inputs/Outputs		
Passive inputs (digital input, contact, NTC10k, potentiometer)	3	4
Active inputs (0...10 V, 2...10 V)	3	2
Virtual inputs (BACnet AV objects)	4	4
Analogue outputs (0...10 V)	3	3
Normally-open relay contact (2 A)	4	4
Normally-open relay contact (10 A)	–	1
Triac (24 V~)	–	2
Power supply output 24 V~ (6 VA)	–	1
Further information	Page 447	Page 447

EY-RC 301, 302: Room controller, ecos301, 302

Features

- Part of the SAUTER EY-modulo 3 system family (BACnet MS/TP)
- Single-room controller for an energy-optimised room climate
- BACnet room controller (B-ASC) for fan coil unit, chilled beam, chilled ceiling, radiator heater etc.
- Individual adjustment of the room climate with the ecoUnit382 room operating unit (EY-RU 382)
- Universal PI and/or binary controller sequence for all the analogue and digital input/output signals
- Optimises energy consumption thanks to occupancy function, window contact monitoring, needs-driven switching of fan speeds and time-dependent setpoint specification
- Additional functions: Automatic heating/cooling changeover, automatic switching on, setpoint compensation, free external cooling and other
- mathematical functions for universal inputs: subtraction, mean, min. and max.
- Eight freely assignable alarm conditions with a selectable status for the outputs for an alarm condition
- Time and weekly calendar function (time software)
- Integration into building management system via BACnet router (MS/TP to IP)
- Parametrisation with ecoUnit382 room operating unit
- System bus: RS485 (BACnet MS/TP)
- Bus for operating unit: RS485 (VCP)



EY-RC301F005

EY-RC302F001

Technical data

Interfaces and communication

Interface	Room operating unit (RGB)	1 × RS485 for EY-RU 382 (VCP)
Communication	BACnet MS/TP	1 × RS485 galv. isolated, ½ load

Inputs / outputs

Active inputs	Analogue inputs	U/(I)
		0...10 V _± , 2...10 V _±
Passive inputs	Temperature sensor	NTC 10k (-40...140 °C), Type 2
	Resistance input	0...20 kΩ (for potentiometer)
	Digital input, open contact	100%/0% (ON/OFF)
Virtual inputs	BACnet AV object	4 ×
Outputs	Triac switching outputs	0-I, PWM (24 V~ , total 250 mA)
	Relay switching outputs	Normally-open contacts (250 V~ /24 V _± , 2 A) Normally-open contacts (250 V~ , 10 A)
	Analogue outputs	3 × 0...10 V _± , 2...10 V _± (load ≥ 1 kΩ)

Ambient conditions

Operating temperature	0...50 °C
Humidity without condensation	Max. 95% rh

Construction

Dimensions W x H x D	147 × 115 × 57 mm ³
Electrical connection	Screw terminals for cables from 0.34...2.5 mm ²
Power supply, bus and RGB connection	Pluggable screw terminals

Standards and directives

Type of protection ¹⁾	IP 00 (EN 60529)
Protection class	II (IEC 60536)

¹⁾ The type of protection is IP30...IP40 (depending on the cover in the cabinet) from the front side, if installed correctly as per EN 60730-1



	Degree of contamination	II (EN 60730-1)
	Environment class	3K3 (IEC 60721-3-3)
CE conformity as per	EMC directive	2004/108/EC
	Low-voltage directive	2006/95/EC
Product standards	Automatic electric regulating and control devices	EN 60730-1
	Special requirements for temperature-dependent control devices	EN 60730-2-9
	Electromagnetic compatibility for residential premises (type 1)	Emission:EN 60730-1 (Type 1) Immunity:EN 60730-1 (Type 1)

Overview of types

Type	EY-RC301F005	EY-RC302F001
Power supply	24 V~ ±10%, 50/60 Hz 24 V= ±10% SELV, HD 384, Class II, 48 VA	230 V~, ±10%, 50/60Hz
Power consumption	Max. 10 VA	Max. 13 VA
Output for power supply	–	24 V~, max. 6 VA
Number of I/Os	13	16
Passive inputs	3	4
Active inputs	3	2
Triac	–	2 (24 V~)
Relay	4 (2 A)	4 (2 A), 1 (10 A)
Weight	268 g	550 g

Accessories

Type	Description
0940183005	Memory plug-in for ecos 3 controller (contains 5 pcs of 0940183001)

Suitable products

AXT*** / AXS***	Thermal actuators for unit valves (see product data sheets)
AXM***	Motorised actuators for unit valves (see product data sheets)
EGT***	External temperature sensors (active or NTC 10k) (see product data sheet)
EGT638	Room temperature sensor (with adjuster)
EGH102	Dew point monitor with sensor
0313367***	Cable-type sensor (NTC 10k)
0450232001	Outside temperature sensor (NTC 10k)

SAUTER EY-modulo 3 room operating units

The ecoUnit382 room operating unit is the eye of the ecos 3 room controller, and aside from the room-temperature measurement, it is also used to operate and monitor the individual room climate. With the room operating unit consisting of an LCD and four intuitive control buttons, you can define the room-temperature setpoint and fan speed, and display various statuses and measured values for the room climate. The operating unit is also used to adjust all the control, user and communication parameters.

Overview of room operating unit



Type code	EY-RU382F001
Product name	ecoUnit382
Usage	Temperature, setpoint, occupancy, fan
For controllers	ecos301, ecos302
Display	LCD
Illumination	• (blue)
Display values	3
Display modes	2 (standard, control loop)
Temperature sensor	NTC10kOhm, type 2
Push-button functions	4
Fan speeds	AUTO-0-I-II-III (right button)
Setpoint adjustment	+/- (up/down button; absolute)
Room occupancy	2 modes (left button; occupied/comfort-unoccupied/reduced)
Additional function	Parameterising unit
Further information	Page 450



EY-RU382F001

EY-RU 382: Room control unit ecoUnit382 for ecos 3

Features

- Part of the SAUTER EY-modulo 3 system family (BACnet MS/TP)
- Room control unit for ecos 3 for control and for ensuring individual room comfort
- Integrated temperature sensor (NTC 10k) for room-temperature control with ecos 3
- Display, configuration and operation of the ecos 3 room controller as a remotely installable unit
- Room control unit with many different functions
- Individual settings (occupancy/absence and room temperature and fan speed setpoints)
- Setting of operating modes and setpoints for controlling the installation, such as fan coil unit, chilled beams, chilled ceiling, etc.
- Display of operating statuses and actual values and setpoints
- Display of inputs according to the real values (based on units such as °C/°F, %, p)
- Display and operation for configuration parameters
- Digital communication with 4-wire connection to ecos 3
- Large, blue-lit LCD display

Technical data

Power supply

Power supply	From ecos 3 (10...30 V=, 10...26 V~)
Power consumption	Max. 0.5 VA

Parameters

Sensor	NTC 10kOhm@25°C (Type 2)
Measuring range	0...50 °C
Accuracy	0.2 K
Setpoint	Adjustable, parameterisable
Room occupancy	2 modes, LCD symbol display
Fan speeds	5 modes, LCD

Interfaces and communication

Communication	RS485
Connections	Screw terminals
Power cable	4-wire, 0.34...2.5 mm ²
Cable type	Shielded, twisted pairs
Cable impedance	100...120 Ω
Cable capacity	≤ 50 pF/m
Protocol	VCP (point-to-point)

Ambient conditions

Operating temperature	0...50 °C
Humidity without condensation	Max. 95% rh

Construction

Weight	120 g
Dimensions W x H x D	88 × 88 × 30 mm ³
Fitting	Metal plate for standard recessed junction box (perforation 55 × 55 mm ²)

Standards and directives

Type of protection	IP 30 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	3K5 (IEC 60721-3-3)
Degree of contamination	II (EN 60730)



CE conformity	EMC directive	2004/108/EG
Product standards	Automatic electric regulating and control devices	EN 60730-1
	Special requirements for temperature-dependent control devices	EN 60730-2-9
	Electromagnetic compatibility for residential premises (type 1)	Emission: EN 60730-1 (type 1) Immunity: EN 60730-1 (type 1)

Overview of types

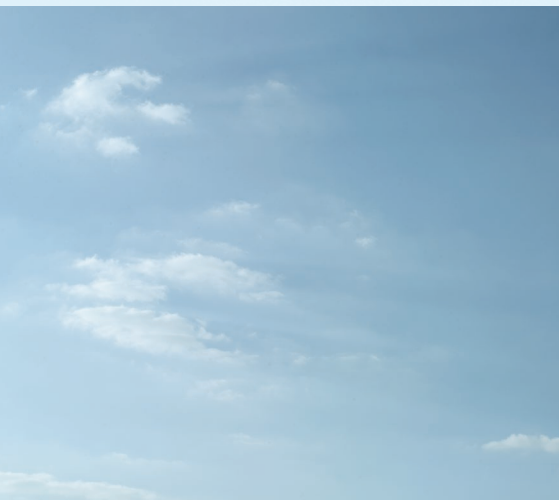
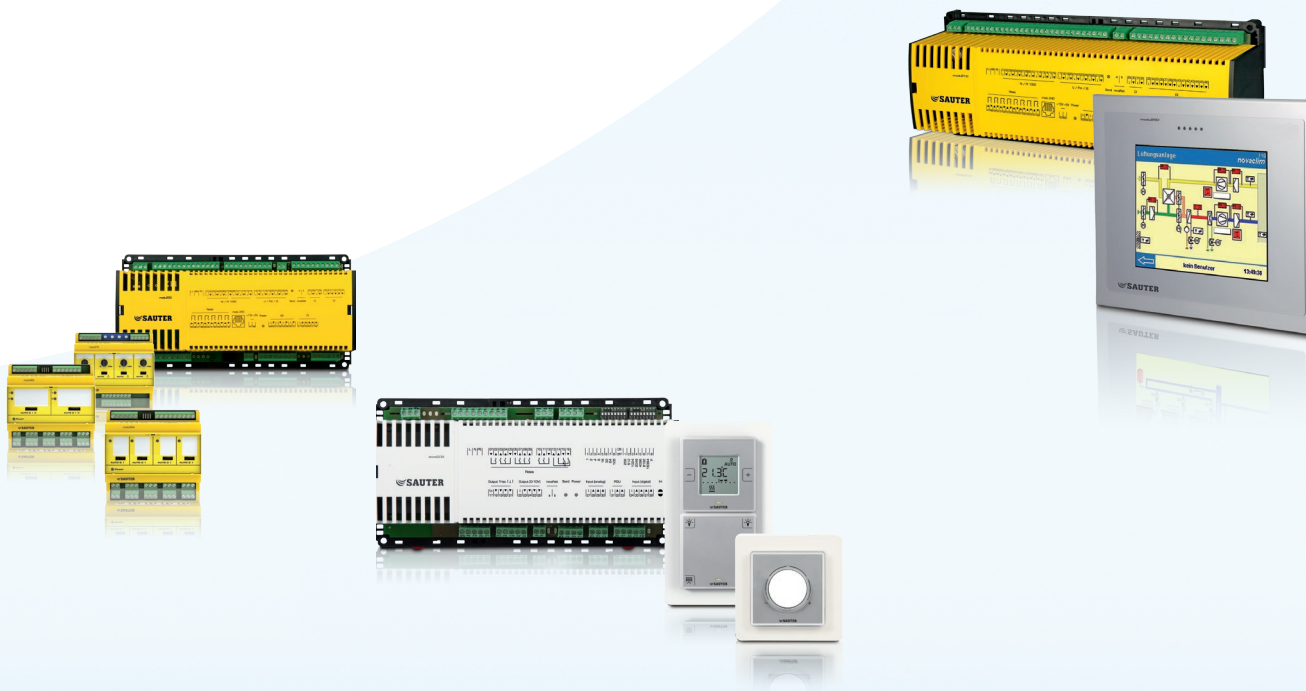
Type	Properties
EY-RU382F001	ecoUnit382, room operating unit for ecos 3, with NTC sensor, LCD, 4 push-buttons



SAUTER EY-modulo 2

Meets ever-increasing standards – modular, efficient and compatible.

SAUTER EY-modulo 2 is the logical further development of the successful building and room automation based on the EY3600 system and novaNet. EY-modulo 2 provides intelligent automation stations, freely-programmable unitary controllers and customised function modules. The system impresses with solutions that fulfil all the requirements of multifaceted building automation. With its variety of operating stations and regulating, controlling and field devices, SAUTER EY-modulo 2 provides small and large installations with maximum flexibility and functionality without interface losses.



SAUTER EY-modulo 2

HVAC automation

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Room automation

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EYE 202: DDC unitary controller, ecos202	489	EY-RU 241...246: Room operating unit, ecoUnit241...246	499
EYE 206: DDC air volume controller, ecos206	491	EY-SU 306: Push-button unit, ecoUnit306	501
EY-RC 208, 209: Room automation stations, ecos208, 209	493	Frame for device inserts	502

Communication and network

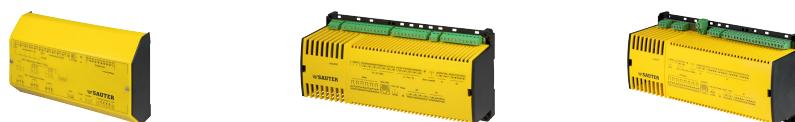
Communication and network overview	504
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SAUTER EY-modulo 2 automation stations

SAUTER EY-modulo 2 automation stations regulate, control, monitor and improve energy efficiency in HVAC installations. The installation network is based on the tried and tested novaNet bus system.

Overview of automation stations



Type codes	EYR203F001	EY-AS200F001	EY-AS201F001
Product name	moduFlex	modu200	modu201
Power supply	24 V~	24 V~/=	24 V~/=
Inputs/Outputs			
Analogue inputs	10	12	2
Digital inputs	8	12	24
Pulse counters	–	2	2
Analogue outputs	4	4	2
Digital outputs	6	6	8
Further information	Page 455	Page 457	Page 459



Type codes	EY-AS210F001	EY-AS225F001
Product name	modu210	modu225
Power supply	24 V~/=	24 V~/=
Inputs/Outputs		
Analogue inputs	14	14
Digital inputs	12	12 (+ 48 moduLink174)
Pulse counters	2	2
Analogue outputs	6	6 (+ 4 moduLink170)
Digital outputs	8	8 (+ 8 moduLink164, 165)
Further information	Page 461	Page 463

EYR 203: Universal controller, moduFlex

Features

- Universal controller for regulation and control
- 18 inputs
- 10 outputs
- Can be given network and communication capability by fitting an auxiliary module for novaNet
- Communication with EY-OP 250 touch-panel possible via auxiliary module
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Data recording: historical database (HDB)



EYR203F001

Technical data

Power supply

Power supply	24 V~, ±20%, 50...60 Hz
Power consumption	10 VA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Digital inputs	8 (2 can be used as pulse counters)
Analogue inputs	5 × Ni1000/Pt1000, 5 × 0...10 V
Digital outputs	2 × 0-I, 2 × 0-II
Analogue outputs	4 × 0...10 V

Interfaces and communication

AS network/novaNet	With auxiliary module on main pcb
Local operating unit, modu240	1 × RJ-45 socket
modu250 touch-panel	With point-to-point auxiliary module
Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish (for other languages, see accessories)
MFA	128
Time commands	320 entries

HDB entries

Digital	1792 (block 1)
Analogue	1792 (block 2)

Construction

Weight	0.8 kg
Dimensions W x H x D	235 × 147.5 × 64.5 mm

Standards and directives

	Type of protection	IP 10 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Mode of operation	Type 1 CY (EN 60730)
CE conformity as per	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-4 Interference Class A
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-9
	Software	A (EN 60730)

¹⁾ EN 61000-6-2: In order to meet the European standard, the power cable should not exceed 30 metres in length.



Overview of types

Type	Properties
EYR203F001	Universal controller, moduFlex

Accessories**Operating unit**

Type	Description
EY-OP240F001	Local operating unit, modu240
EY-OP250F001	modu250 touch-panel, coloured
EY-OP250F002	modu250 touch-panel, monochrome

Microprogram

Type	Description
0501149002	Microprogram for modu240 languages: German, French, English, Polish, Slovene, Hungarian, Romanian, Russian, Czech, Turkish, Slovakian

Connecting cables

Type	Description
0367842002	moduFlex to modu240: 1.5 m
0367842003	moduFlex to modu240: 2.9 m
0367842004	moduFlex to modu240: 6.0 m
0367862001	moduFlex to modu250: 1.5 m
0367862002	moduFlex to modu250: 2.9 m
0367862003	moduFlex to modu250: 6.0 m

Data memory

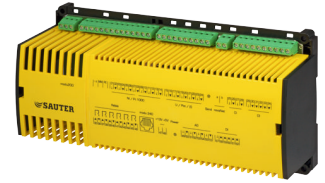
Type	Description
0367883001	6× EPROM (empty) (User EPROM)

Auxiliary module

Type	Description
0374413001	Auxiliary module, novaNet
0374448001	Auxiliary module, pt. to pt. for direct connection of modu250, distance max. 6 m



EY-AS 200: Automation station, modu200



EY-AS200F001

Features

- Part of the SAUTER EY-modulo 2 system family
- Compact automation station (AS)
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- 26 inputs
- 10 outputs
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Data recording in historical database (HDB)

Technical data

Power supply

Power supply	24~, ±20%, 50...60 Hz 24 V= (18...30 V)
Power consumption	≤ 11.5 VA
Power loss	≤ 6 W
Max. peak inrush current	AC: 32 A (2 ms); DC: 36 A (2 ms)
Battery (buffer: RTC/SRAM)	Lithium button-cell (CR2032), insertable

Parameters

Factory setting	All switches to 'Off' position
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Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Digital inputs	12 (alarm/status)
Analogue inputs	7 (Ni1000/Pt1000) 5 (U, Pot)
Pulse counter	2
Digital outputs	6 (relay)
Analogue outputs	4 (0...10 V)

Interfaces and communication

AS network/novaNet	1 × a/b terminal, insertable
Local operating unit, modu240	1 × RJ-45 socket
Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish, Polish, Slovenian, Hungarian, Rumanian, Russian, Czech, Turkish, Slovakian
MFA	256
Time commands	320 entries

HDB entries

Digital	2 × 3584 (Block 1; 3)
Analogue	2 × 3584 (Block 2; 4)

Construction

Dimensions W x H x D	244 × 120 × 73 mm
Weight	0.65 kg



Standards and directives

	Type of protection ¹⁾	IP 00 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Software class A	EN 60730-1 Annexe H
	Mode of operation	Type 1C (EN 60730)
CE conformity as per	EMC directive 2004/108/EC ²⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-9

Overview of types

Type	Properties
EY-AS200F001	Automation station, modu200

Accessories**Manual operating unit**

Type	Description
EY-OP240F001	Local operating unit, modu240
EY-OP250F001	modu250 touch-panel, coloured
EY-OP250F002	modu250 touch-panel, monochrome

Connecting cables

Type	Description
0367842002	Automation station - modu240 1.5 m (4.9 ft)
0367842003	Automation station - modu240 2.9 m (9.5 ft)
0367842004	Automation station - modu240 6.0 m (19.7 ft)

Data memory

Type	Description
0367883002	PROM memory, 1 MB empty (user data), pack of 5

General information

Type	Description
0900240001	Terminal cover (240 mm), pack of 2
0929360001	Plug-in connector, novaNet for AS, pack of 10

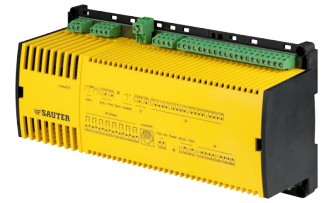
¹⁾ IP 10 with terminal cover (accessory 0900240001)

²⁾ EN 61000-6-2: In order to meet the European Standard, the power cables for the digital inputs, analogue inputs, analogue outputs, meter inputs and the voltage outputs (5, 13 V) must not exceed 30 metres in length

EY-AS 201: Automation station, modu201

Features

- Part of the SAUTER EY-modulo 2 system family
- Compact automation station (AS)
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- 28 inputs
- 10 outputs
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Data recording in historical database (HDB)



EY-AS201F001

Technical data

Power supply

Power supply	24 V~, ±20%, 50...60 Hz 24 V= (18...30 V)
Power consumption	≤ 13.5 VA
Power loss	≤ 7 W
Max. peak inrush current	AC: 28 A (2 ms); DC: 30 A (2 ms)
Battery (buffer: RTC/SRAM)	Lithium button-cell (CR2032), insertable

Parameters

Factory setting	All switches to 'Off' position
-----------------	--------------------------------

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Digital inputs	24 (alarm/status)
Analogue inputs	2 (U, Pot)
Pulse counter	2
Digital outputs	8 (relay)
Analogue outputs	2 (0...10 V)

Interfaces and communication

AS network/novaNet	1 × a/b terminal, insertable
Local operating unit, modu240	1 × RJ-45 socket
Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish, Polish, Slovenian, Hungarian, Rumanian, Russian, Czech, Turkish, Slovakian
MFA	256
Time commands	320 entries

HDB entries

Digital	2 × 3584 (Block 1; 3)
Analogue	2 × 3584 (Block 2; 4)

Construction

Dimensions W x H x D	244 × 120 × 73 mm
Weight	0.61 kg



Standards and directives

	Type of protection ¹⁾	IP 00 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Software class A	EN 60730-1 Annexe H
CE conformity as per	EMC directive 2004/108/EC ²⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-9

Overview of types

Type	Properties
EY-AS201F001	Automation station, modu201

Accessories**Manual operating unit**

Type	Description
EY-OP240F001	Local operating unit, modu240
EY-OP250F001	modu250 touch-panel, coloured
EY-OP250F002	modu250 touch-panel, monochrome

Connecting cables

Type	Description
0367842002	Automation station - modu240 1.5 m (4.9 ft)
0367842003	Automation station - modu240 2.9 m (9.5 ft)
0367842004	Automation station - modu240 6.0 m (19.7 ft)

Data memory

Type	Description
0367883002	PROM memory, 1 MB empty (user data), pack of 5

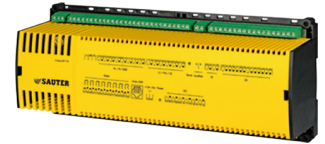
General information

Type	Description
0900240001	Terminal cover (240 mm), pack of 2
0929360001	Plug-in connector, novaNet for AS, pack of 10

¹⁾ IP 10 with terminal cover (accessory 0900240001)

²⁾ EN 61000-6-2: In order to meet the European Standard, the power cables for the digital inputs, analogue inputs, analogue outputs, meter inputs and the voltage outputs (5, 13 V) must not exceed 30 metres in length

EY-AS 210: Automation station, modu210



EY-AS210F001

Features

- Part of the SAUTER EY-modulo 2 system family
- Compact automation station (AS)
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- 28 inputs
- 14 outputs
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Data recording in historical database (HDB)

Technical data

Power supply		
Power supply	24~, ±20%, 50...60 Hz	24= (18...30 V)
Power consumption	≤ 14.5 VA	
Power loss	≤ 7.5 W	
Max. peak inrush current	AC: 48 A (2 ms); DC: 54 A (2 ms)	
Battery (buffer: RTC/SRAM)	Lithium button-cell (CR2032), insertable	
Parameters		
Factory setting	All switches to 'Off' position	
Ambient conditions		
Operating temperature	0...45 °C	
Storage and transport temperature	-25...70 °C	
Admissible ambient humidity	10...85% rh, no condensation	
Inputs/Outputs		
Digital inputs	12 (alarm/status)	
Analogue inputs	8 (Ni1000/Pt1000)	
Analogue inputs	6 (U, Pot)	
Pulse counter	2	
Analogue outputs	6 (0...10 V/2 × 0...20 mA)	
Digital outputs	8 (relay)	
Interfaces and communication		
AS network/novaNet	1 × a/b terminal, insertable	
Local operating unit, modu240	1 × RJ-45 socket	
Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish, Polish, Slovenian, Hungarian, Rumanian, Russian, Czech, Turkish, Slovakian	
MFA	256	
Time commands	320 entries	
HDB entries		
Digital	2 × 3584 (Block 1; 3)	
Analogue	2 × 3584 (Block 2; 4)	
Construction		
Dimensions W x H x D	300 × 120 × 73 mm	
Weight	0.75 kg	



Standards and directives

	Type of protection ¹⁾	IP 00 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Software class A	EN 60730-1 Annexe H
	Mode of operation	Type 1C (EN 60730)
CE conformity as per	EMC directive 2004/108/EC ²⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-9

Overview of types

Type	Properties
EY-AS210F001	Automation station, modu210

Accessories**Manual operating unit**

Type	Description
EY-OP240F001	Local operating unit, modu240

Touch-panel

Type	Description
EY-OP250F001	modu250 touch-panel, coloured
EY-OP250F002	modu250 touch-panel, monochrome

Connecting cables

Type	Description
0367842002	Automation station - modu240 1.5 m (4.9 ft)
0367842003	Automation station - modu240 2.9 m (9.5 ft)
0367842004	Automation station - modu240 6.0 m (19.7 ft)

Data memory

Type	Description
0367883002	PROM memory, 1 MB empty (user data), pack of 5

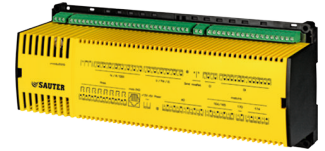
General information

Type	Description
0900240002	Terminal cover, 295 mm (2 pcs.)
0929360001	Plug-in connector, novaNet for AS, pack of 10

¹⁾ IP 10 with terminal cover (accessory 0900240001)

²⁾ EN 61000-6-2: In order to meet the European Standard, the power cables for the digital inputs, analogue inputs, analogue outputs, meter inputs and the voltage outputs (5, 13 V) must not exceed 30 metres in length

EY-AS 225: Automation station, modu225



EY-AS225F001

Features

- Compact automation station (AS)
- Part of the SAUTER EY-modulo 2 system family
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- 28 inputs
- 14 outputs
- Can be extended to 102 inputs/outputs using moduLink field modules
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Data recording in historical database (HDB)

Technical data

Power supply

Power supply	24 V~, ±20%, 50...60 Hz 24 V= (18...30V)
Power consumption	17 VA/43 VA with field modules
Power loss	8.7 W/23 W with field modules
Max. peak inrush current	AC: 48 A (2 ms); DC: 54 A (2 ms)
Battery (buffer: RTC/SRAM)	Lithium button-cell (CR2032), insertable

Parameters

Factory setting	All switches to 'Off' position
-----------------	--------------------------------

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Digital inputs	12 (alarm/status)
Analogue inputs	8 (Ni1000/Pt1000) 6 (U, Pot)
Pulse counter	2
Digital outputs	8 (relay 0-1)
Analogue outputs	6 (0...10 V/2 × 0...20 mA)

Extension

Digital inputs	48 (moduLink174)
Digital outputs	8 (moduLink164, 165)
Analogue outputs	4 (moduLink170)

Interfaces and communication

AS network/novaNet	1 × a/b terminal, insertable
Local operating unit, modu240	1 × RJ-45 socket
Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish, Polish, Slovenian, Hungarian, Rumanian, Russian, Czech, Turkish, Slovakian
MFA	256
Time commands	320 entries

HDB entries

Digital	2 × 3584 (Block 1; 3)
Analogue	2 × 3584 (Block 2; 4)



Construction

Dimensions W x H x D	300 × 120 × 73 mm
Weight	0.8 kg

Standards and directives

Type of protection ¹⁾	IP 00 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
Software class A	EN 60730-1 Annexe H
Mode of operation	Type 1C (EN 60730)
CE conformity as per	EMC directive 2004/108/EC ²⁾ EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC EN 60730-1, EN 730-2-9

Overview of types

Type	Properties
EY-AS225F001	Automation station, modu225

Accessories**Manual operating unit**

Type	Description
EY-OP240F001	Local operating unit, modu240

Touch-panel

Type	Description
EY-OP250F001	modu250 touch-panel, coloured
EY-OP250F002	modu250 touch-panel, monochrome

Field modules

Type	Description
EY-FM164F001	moduLink 164 digital output 4× 0-I (change-over relay)
EY-FM165F001	moduLink 165 digital output 2× 0-II (change-over relay)
EY-FM170F001	moduLink 170 analogue output 4× 0...10 V (2× 0...20 mA)
EY-FM174F001	moduLink 174 digital input 16×

Connecting cables

Type	Description
0367842002	Automation station - modu240 1.5 m (4.9 ft)
0367842003	Automation station - modu240 2.9 m (9.5 ft)
0367842004	Automation station - modu240 6.0 m (19.7 ft)

Data memory

Type	Description
0367883002	PROM memory, 1 MB empty (user data), pack of 5

General information

Type	Description
0900240002	Terminal cover, 295 mm (2 pcs.)
0929360001	Plug-in connector, novaNet for AS, pack of 10

¹⁾ IP 10 with terminal cover (accessory 0900240001)

²⁾ EN 61000-6-2: In order to meet the European Standard, the power cables for the digital inputs, analogue inputs, analogue outputs, meter inputs and the voltage outputs (5, 13 V) must not exceed 30 metres in length

SAUTER EY-modulo 2 field modules

Field modules from SAUTER expand the automation stations by adding more inputs and outputs. The field modules can be situated up to 100 metres away from the automation station.

Overview of field modules



Type codes	EY-FM164F001	EY-FM165F001	EY-FM170F001	EY-FM174F001
Product name	modu164	modu165	modu170	modu174
Power supply	Via Bus, 24 V~/=	Via Bus, 24 V~/=	Via Bus, 24 V~/=	Via Bus
For stations	modu590, modu225	modu590, modu225	modu590, modu225	modu590, modu225
Connection	novalink	novalink	novalink	novalink
Inputs/Outputs				
Digital inputs	–	–	–	16
Analogue outputs	–	–	4	–
Digital outputs	4	4	–	–
Further information	Page 466	Page 468	Page 470	Page 472



Type codes	EY-FM264F001	EY-FM265F001	EY-FM270F001	EY-FM260F001
Product name	modu264	modu265	modu270	modu260
Power supply	24 V~/=	24 V~/=	24 V~/=	24 V~/= 12 V=
For stations	EY-modulo 2, 5, EY3600	EY-modulo 2, 5, EY3600	EY-modulo 2, 5, EY3600	EY-modulo 2, 5, EY3600
Connection	Straight wiring	Straight wiring	Straight wiring	Straight wiring
Inputs/Outputs				
Analogue outputs	–	–	4	4
Digital outputs	4	4	–	–
Analogue inputs (Ni/Pt)	–	–	–	4
Further information	Page 473	Page 475	Page 477	Page 478



EY-FM164F001

EY-FM 164: Field module digital outputs 0-I, moduLink164

Features

- Part of the SAUTER EY-modulo system family
- Remote unit for modu 590 and modu 225
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- Front insert for direct labelling
- Can be located up to 100 m from the automation station (AS)
- Defined relay statuses can be preselected for the priority/watchdog functions
- Can be used for local priority operation with manual control of outputs
- Communication/power supply via novalink connection (2-wire) of AS
- 1 output, novalink bus monitoring
- LED indicator and manual operation

Technical data

Power supply

Power supply	From AS (via novalink)
External supply	24 V~/=
Current consumption	≤ 150 mA
Power loss	≤ 1 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Digital outputs	4 × 0-I relay, change-over contacts
Electrical life	> 5 × 10 ⁶ cycles
Load	250 V~/2 A resistive load

Interfaces and communication

Control	From modu590, modu225, nova225, nova106 (EYX 168)
Connection	novalink bus ≤ 100 m (cable shielded, twisted and earthed on both ends < 5 nF/< 7.5 Ω)

Construction

Dimensions W x H x D	105 × 90 × 60 mm
Weight	0.24 kg

Standards and directives

Type of protection	IP 00 (EN 60529)
Protection class	II (EN 60730-1)
Environment class	3K3 (IEC 60721)
Mode of operation	Type 1C (EN 60730)
CE conformity as per	EMC directive 2004/108/EC ¹⁾ EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC EN 60730-1

Overview of types

Type	Properties
EY-FM164F001	Field module for digital outputs 0-I, moduLink164

¹⁾ EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs must not exceed 30 m in length



Accessories

Type	Description
0920000164	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated





EY-FM165F001

EY-FM 165: Field module digital outputs 0-I-II, moduLink 165

Features

- Part of the SAUTER EY-modulo 2 system family
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- Remote unit for modu590 and modu225
- Front insert for direct labelling
- Can be located up to 100 m from the automation station (AS)
- Defined relay statuses can be preselected for the priority/watchdog functions
- Can be used for local priority operation with manual control of outputs
- Communication/power supply via novalink connection (2-wire) of AS
- 1 output, novalink bus monitoring
- LED indicator and manual operation

Technical data

Power supply

Power supply	From AS (via novalink)
External supply	24 V~/=
Current consumption	≤ 150 mA
Power loss	≤ 1 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Digital outputs	2 × 0-I-II relay, change-over contacts
Electrical life	> 5 × 10 ⁶ cycles
Load	250 V~/2 A resistive load

Interfaces and communication

Control	From modu590, modu225, nova225, nova106 (EYX 168)
Connection	novalink bus ≤ 100 m (cable shielded, twisted and earthed on both ends < 5 nF/< 7.5 Ω)

Construction

Dimensions W x H x D	105 × 90 × 60 mm
Weight	0.24 kg

Standards and directives

Type of protection	IP 00 (EN 60529)
Protection class	II (EN 60730-1)
Environment class	3K3 (IEC 60721)
Mode of operation	Type 1C (EN 60730)
CE conformity as per	EMC directive 2004/108/EC ¹⁾ EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC EN 60730-1

Overview of types

Type	Properties
EY-FM165F001	Field module for digital outputs 0-I-II, moduLink 165

¹⁾ EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs must not exceed 30 m in length



Accessories

Type	Description
0920000165	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated





EY-FM170F001

EY-FM 170: Field module analogue outputs 0...10 V (0...20 mA), moduLink170

Features

- Part of the SAUTER EY-modulo 2 system family
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- Remote unit for modu590 and modu225
- Front insert for direct labelling
- Can be located up to 100 m from the automation station (AS)
- Defined signal values can be preselected for the priority or watchdog functions
- Can be used for local priority operation with manual control of outputs
- Communication and power supply via novaLink connection (2-wire) of AS
- 1 output, novaLink bus monitoring

Technical data

Power supply	
Power supply	From AS (via novaLink)
External supply	24 V~/=
Current consumption	≤ 100 mA
Power loss	≤ 1 W
Ambient conditions	
Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation
Inputs/Outputs	
Analogue outputs	2 × 0...10 V 2 × 0...10 V/0...20 mA
Interfaces and communication	
Control	From modu590, modu225, nova225, nova106 (EYX172)
Connection	novaLink bus ≤ 100 m (cable screened, twisted and earthed at both sides, < 5 nF/< 7.5 Ω)
Construction	
Dimensions W x H x D	105 × 90 × 60 mm
Weight	0.24 kg
Standards and directives	
Type of protection	IP 00 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ¹⁾ EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-FM170F001	Field module for analogue outputs 0...10 V (0...20 mA), moduLink170

¹⁾ EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs must not exceed 30 m in length



Accessories

Type	Description
0920000170	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated





EY-FM174F001

EY-FM 174: Field module digital inputs, moduLink 174

Features

- Part of the SAUTER EY-modulo system family
- Recording digital inputs (alarm/status) in operational systems, e.g. in HVAC engineering
- Remote unit for modu590 and modu225
- Front insert for direct labelling
- Can be located up to 100 m from the automation station (AS)
- Bi-colour LED indicators (red/green)
- Communication and power supply via novalink bus (2-wire) of AS

Technical data

Power supply

Power supply	From AS (via novalink)
Current consumption	≤ 120 mA
Input resistance	≤ 1 kΩ (incl. cable)
Power loss	≤ 1 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Digital inputs	16 potential-free contacts, grounded
Polling cycle	150 ms
Recording time	30 ms

Interfaces and communication

Control	From modu590, modu225, nova225, nova106 (EYX 176)
Connection	novalink bus ≤ 100 m (cable shielded, twisted and grounded at both ends, < 5 nF/< 7.5 Ω)

Construction

Dimensions W x H x D	105 × 90 × 60 mm
Weight	0.24 kg

Standards and directives

Type of protection	IP 00 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ¹⁾ EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-FM174F001	Field module for digital inputs, moduLink 174

Accessories

Type	Description
0920000174	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated

¹⁾ EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs must not exceed 30 m in length



EY-FM 264: Field module digital outputs 0-I, modu264

Features

- Remote unit as part of the SAUTER EY3600 and EY-modulo 2, 4 and 5 system families
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- Independent, local priority operation through external power supply
- Individual activation of field module
- Manual control of digital outputs
- Feedback (digital output status) available
- Priority function with definable relay statuses for system errors
- Front insert for direct labelling
- LED indicators and manual operation



EY-FM264F001

Technical data

Power supply

Power supply	24 V~, ±20%, 50...60 Hz 24 V=, ±10%
Current consumption	≤ 290 mA
Power consumption	≤ 3 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

Digital outputs	4 × 0-I relay, change-over contacts
Electrical life	> 5 × 10 ⁶ cycles
Load	250 V~/10 A resistive load
Connections	Screw terminals for power supply function activation priority control control of devices feedback signals

Construction

Dimensions W × H × D	105 × 90 × 60 mm
Weight	0.25 kg

Standards and directives

Type of protection	IP 00 (EN 60529)
Protection class	II (EN 60730-1)
Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ¹⁾ EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC EN 60730-1

Overview of types

Type	Properties
EY-FM264F001	Field module for digital outputs 0-I, modu264

¹⁾ EN 61000-6-2: In order to meet the European Standard (EN 61000-6-2), the power cables for the outputs must not exceed 30 m in length



Accessories

Type	Description
0920000164	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated



EY-FM 265: Field module digital outputs 0-I-II, modu265

Features

- Remote unit as part of the SAUTER EY3600 and EY-modulo 2, 4 and 5 system families
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- Independent, local priority operation through external power supply
- Individual activation of field module
- Manual control for each digital output
- Feedback (digital output status) available
- Priority function, definable relay statuses for system errors
- Front insert for direct labelling
- LED indicators and manual operation



EY-FM265F001

Technical data

Power supply		
Power supply		24 V~, ±20%, 50...60 Hz 24 V=, ±10%
Current consumption		≤ 300 mA
Power consumption		≤ 3 W
Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...70 °C
Admissible ambient humidity		10...85% rh, no condensation
Inputs/Outputs		
Digital outputs		2 × 0-I-II relay, change-over contacts
Electrical life		> 5 × 10 ⁶ cycles
Load		250 V~/10 A resistive load
Connections		Screw terminals for power supply function activation priority control control of devices feedback signals
Construction		
Dimensions W x H x D		105 × 90 × 60 mm
Weight		0.25 kg
Standards and directives		
Type of protection		IP 00 (EN 60529)
Protection class		II (EN 60730-1)
Environment class		3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730-1

Overview of types

Type	Properties
EY-FM265F001	Field module for digital outputs 0-I-II, modu265

¹⁾ EN 61000-6-2: In order to meet the European Standard, the power cables for the inputs must not exceed 30 m in length



Accessories

Type	Description
0920000165	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated



EY-FM 270: Field module analogue outputs 0...10 V, modu270

Features

- Remote unit as part of the SAUTER EY3600 and EY-modulo 2, 4 and 5 system families
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- Independent, local priority operation through external power supply
- Individual activation of field module
- Manual control for each analogue output
- Manual operation feedback available
- Priority function with definable signal values in the event of system errors
- Front insert for direct labelling



EY-FM270F001

Technical data

Power supply		
Power supply		24 V~, ±20%, 50...60 Hz 24 V=, ±10%
Current consumption		≤ 190 mA
Power consumption		≤ 1.8 W
Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...70 °C
Admissible ambient humidity		10...85% rh, no condensation
Inputs/Outputs		
Connections		Screw terminals for power supply function activation priority control control of devices feedback signals for manual operation
Analogue outputs		4 × 0...10 V, max. 20 mA (source) or 4 × 2...10 V=, max. 5 mA (sink)
Construction		
Dimensions W x H x D		105 × 90 × 60 mm
Weight		0.2 kg
Standards and directives		
Type of protection		IP 00 (EN 60529)
Protection class		III (EN 60730-1)
Environment class		3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-FM270F001	Field module for analogue outputs 0...10 V, modu270

Accessories

Type	Description
0920000170	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated

¹⁾ EN 61000-6-2: In order to meet the European Standard, the power cable for the outputs must not exceed 30 metres in length





EY-FM260F001

EY-FM 260: Signal converter, modu260

Features

- Remote unit as part of the SAUTER EY-modulo system family
- Regulation, control, monitoring and optimisation of operational systems, e.g. in HVAC engineering
- Four channels for signal conversion of Ni/Pt sensor to voltage signal
- Front insert for direct labelling
- Reference voltage from automation stations SAUTER EY3600, EY-modulo 2 and 5

Technical data

Power supply

	Power supply	24 V~, ±20%, 50...60 Hz 24 V=, ±10% 12 V=
	Current consumption	≤ 110 mA
	Power loss	≤ 1.6 W
Reference voltage U_{ref}	Internal	5.1 V
	EY3600	1.02 V (pulsed)
	EY-modulo 2	5.1 V
	EY-modulo 5	1.225 V

Ambient conditions

	Operating temperature	0...45 °C
	Storage and transport temperature	-25...70 °C
	Admissible ambient humidity	10...85% rh, no condensation

Inputs/Outputs

	Inputs	4 × Ni1000, Ni200/Pt100
	Outputs	4 × 0...10 V

Interfaces and communication

	connections (screw terminals)	-Power supply -reference voltage -sensor connections (3-wire connection is possible) -output signals
	Selection of input sensor	Via jumper coding

Construction

	Dimensions W x H x D	105 × 90 × 60 mm
	Weight	0.16 kg

Standards and directives

	Type of protection	IP 00 (EN 60529)
	Protection class	III (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Description
EY-FM260F001	Signal converter field module Ni/Pt to 0...10 V

¹⁾ In order to meet the European Standard (EN 61000-6-2), the power cables for the outputs must not exceed 30 m in length



Accessories

Type	Description
0920000260	Front insert, printable, yellow, 1 A4 sheet with 6 inserts each, perforated



SAUTER EY-modulo 2 operating units

SAUTER operating units are distinguished by their clear displays and easy navigation, which makes it easy to operate the automation stations intuitively on site.

Overview of operating units



Type codes	EY-OP 240	EY-OP 250
Product name	modu240	modu250
Resolution (pixels)	128 × 64	320 × 240
Display	Text	Graphic
Operation	6-button	Touch
Further information	Page 481	Page 483

EY-OP 240: Local operating unit, modu240

Features

- Part of the SAUTER EY-modulo 2 system family
- Local operating and indication unit for direct local and manual operation of automation stations
- Menu-guided user interface to visualise the data points of an AS
- Display of measured values, alarms and status reports
- Input of setpoints, parameters and digital positioning commands
- Operated using six membrane keys
- Edit time programmes
- Display: 8 lines of 21 characters each
- Multilingual character set direct from AS
- RJ-45 interface for point-to-point connection with AS
- Can be installed remotely in front of panel



EY-OP240F001

Technical data

Power supply

Power supply	From AS
Power consumption	100 mA
Power loss	1.5 W

Parameters

1 × RJ-45 socket	Range	≤ 20 m, shielded
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Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...65 °C
Admissible ambient humidity	10...85% rh, no condensation

Indicators, display, operation

Resolution	128 × 64 pixels (LCD)
Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish, Polish, Slovenian, Hungarian, Russian, Czech, Turkish, Slovakian

Construction

Dimensions W x H x D	80 × 144 × 36 mm
Weight	0.3 kg

Standards and directives

Type of protection	IP 40/20 (EN 60529)
Protection class	III (EN 60730-1)
Environment class	IEC 60721 3K3
CE conformity as per	EMC directive 2004/108/EC
	EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, EN 55022 Class A

Overview of types

Type	Properties
EY-OP240F001	Local operating unit, modu240



Accessories**Connecting cables**

Type	Description
0367842001	Automation station to modu240: 0.35 m
0367842002	Automation station to modu240: 1.5 m
0367842003	Automation station to modu240: 2.9 m
0367842004	Automation station to modu240: 6.0 m

Fitting

Type	Description
0367829001	Bracket for front fitting for modu240
0367878001	Holder for wall or top-hat rail
0367880001	Desktop stand



EY-OP 250: Touch-panel, modu250

Features

- Part of the SAUTER EY-modulo 2 system family
- Graphic, pressure-sensitive operating and display unit for network-wide operation of the automation stations (AS)
- Menu-guided user interface to visualise ASs and plants
- Alarm lists, data point lists, time switching programmes, calendars and trend data
- Change specified setpoints, positioning values and digital positioning commands
- Edit time switching programmes and calendars
- Freely-programmable graphic plant presentations with dynamic data points
- Access rights with users created individually
- Can be parameterised via CASE Suite (languages, applications)
- RJ-45, DB-9 interfaces for parameterisation and updating
- RJ-11 interface for novaNet system bus



EY-OP250F001

Technical data

Power supply

Power supply	85...250 V~ (48...62 Hz)
Power consumption	≤ 7 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Admissible ambient humidity	10...80% rh, no condensation

Indicators, display, operation

Display	5.7 inches
Resolution	320 × 240 pixels (QVGA)
Active area (W x H)	140 × 105 mm
Touch	Resistive, 4-wire
Illumination	Time-controlled cut-off
Memory	8 MB flash, 8 MB RAM

Interfaces and communication

novaNet	1 × RJ-11 socket
Ethernet	1 × RJ-45 socket (10BaseT)
EIA-232	1 × DB9 connector

Construction

Dimensions W x H x D	204 × 156 × 46 mm
Weight	1 kg

Standards and directives

Type of protection	IP 20 (EN 60529)
Protection class	I (EN 60950-1)
Environment class	3K3 (IEC 60721)
Low-voltage directive 2006/95/EC	EN 60950-1

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, EN 55022 Class A
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Overview of types

Type	Description
EY-OP250F001	Touch-panel, colour (256 colours)
EY-OP250F002	Touch-panel, monochrome (b/w)



Accessories**Software**

Type	Description
GZS100F599	CASE Tools CD, latest version (CASE TPC, CASE HWC, CASE Sun, novaNet292 SW ...)
7001064001	User manual, German

Connecting cables

Type	Description
0367862001	Automation station to modu250: 1.5 m
0367862002	Automation station to modu250: 2.9 m
0367862003	Automation station to modu250: 6.0 m

General information

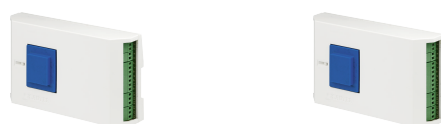
Type	Description
0374494001	Stylus set for modu250
0374509001	Connector, 3-pin, packaged
0374515001	Set to extend degree of protection, IP 65 (incl. seal, 0374680001)
0374680001	Seal, single (for set 0374515001)



SAUTER EY-modulo 2 room automation stations

The high-performance room automation stations from the SAUTER EY-modulo 2 range enable accurate room control, thereby ensuring minimum energy consumption. They are used for controlling fan-coil units, in chilled-ceiling systems, VAV applications and complete single-room control systems. Devices that are eu.bac-certified underline the high degree of product quality and the excellent control features.

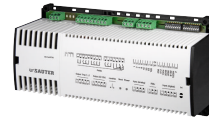
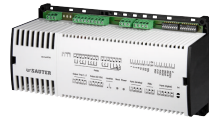
Overview of room automation stations



Type codes	EYE200F001	EYE200F002
Product name	ecos200	ecos200
Operation	DDC unitary controller	DDC unitary controller
Power supply	230 V~	230 V~
Room operating units	1	1
Inputs/Outputs		
Temperature sensor	1	1
Analogue inputs	–	–
Digital inputs	2	2
Analogue outputs	2	2
NO relays	3	4
Change-over relays	–	–
Triac	2	2
Further information	Page 487	Page 487



Type codes	EYE202F001	EYE206F002
Product name	ecos202	ecos206
Operation	DDC unitary controller	DDC air volume controller
Power supply	24 V~	24 V~
Room operating units	1	1
Inputs/Outputs		
Temperature sensor	2	2
Analogue inputs	1	1
Digital inputs	3	3
Analogue outputs	2	2
NO relays	3	1
Change-over relays	–	–
Triac	2	3
Further information	Page 489	Page 491



Type codes	EY-RC208F001	EY-RC209F001
Product name	ecos208	ecos209
Operation	DDC unitary controller	DDC unitary controller
Power supply	230 V~	230 V~
Room operating units	1	1
Inputs/Outputs		
Temperature sensor	2	2
Analogue inputs	1	1
Digital inputs	4	4
Analogue outputs	4	4
NO relays	5	8
Change-over relays	1	2
Triac	2	2
Further information	Page 493	Page 493

EYE 200: DDC single-room controller, ecos200

Features

- Part of the SAUTER EY-modulo 2 system family
- Individual unitary control, fan coil units, chilled-beam control system, etc.
- Individual adjustment of the room climate via room operating units of the EY-RU 2** and EYB 2** series
- Reduces energy consumption thanks to occupancy function, monitoring of window contacts, demand-led switching of fan speeds and time-dependent setpoint specification
- Time and calendar function
- Recording in historical data base (HDB)
- Integration into the building management system via novaNet data interface
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- novaNet system bus (2-wire)



EYE200F001



Technical data

Electrical supply

Power supply	230 V~, ±10%, 50/60 Hz
Power consumption	≤ 14 VA, incl. 6 VA external
Power loss	≤ 14 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...45 °C
Humidity	≤ 85% rF no condensation

Inputs and outputs

Inputs	Operating unit	EYB 2**/EY-RU 2**
	Temperature sensor	Ni1000
	Control contacts	2, ON/OFF
Outputs	Triac switching outputs	2, 0-III (24 V~, 1 A)
	Relay switching outputs	3 normally-open contacts 250 V~, 2 A, 1 normally-open contact 250 V~, 10 A (only with type EYE200F002)
	Analogue	2, 0...10 V (load ≥ 1 kΩ)

Structural design

Dimensions W x H x D	178 × 103 × 53 mm
Weight	0.7 kg

Standards and directives

CE conformity as per	Type of protection	IP 10 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Mode of operation	Type 1 CY (EN 60730)
Valid for eu.bac. devices EYE200F00*E1, EYE200F00*E2	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730
	Software class A	EN 60730-1 Appendix A
Valid for eu.bac. devices EYE200F00*E1, EYE200F00*E2	Energy Performance of Buildings Directive 2010/31/EC	EN 15500
	eu.bac licence EYE200F001E*	Nr. 211167
	eu.bac licence EYE200F002E*	Nr. 211166

¹⁾ EN 61000-6-2: If it is mandatory to comply with the European standard, the power cables for the digital inputs (DI), analogue inputs and outputs (AI/AO) and the counter inputs (CI) should not exceed 30 metres in length



Overview of types

Type	Description
EYE200F001	3 relays
EYE200F001E1	3 relays, eu.bac application for fan convection system - 4-pipe
EYE200F001E2	3 relays, eu.bac application for chilled-beam system
EYE200F002	4 relays
EYE200F002E1	4 relays, eu.bac application for fan convection system - 4-pipe
EYE200F002E2	4 relays, eu.bac application for chilled-beam system

⚡ On the EYE200F00*E* versions, it is not permitted to make any changes to the user program that have an influence on the control quality, otherwise the eu.bac certificate loses its validity



EYE 202: DDC unitary controller, ecos202



Features

- Part of the SAUTER EY-modulo 2 system family
- Individual unitary control, fan coil units, chilled-beam control system, etc.
- Individual adjustment of the room climate via room operating units of the EY-RU 2** and EYB 2** series
- Reduces energy consumption thanks to occupancy function, monitoring of window contacts, demand-led switching of fan speeds and time-dependent setpoint specification
- Time and calendar function
- Recording in historical data base (HDB)
- Integration into the building management system via novaNet data interface
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- novaNet system bus (2-wire)

Technical data

Power supply		
Power supply		24 V~, ±20%, 50/60 Hz
Power consumption		10 VA
Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...45 °C
Humidity		< 85% rh, no condensation
Construction		
Dimensions W x H x D		178 × 103 × 42 mm
Weight		0.37 kg
Standards and directives		
Type of protection		IP 10 (EN 60529)
Protection class		I (EN 60730-1)
Software class A		EN 60730-1 Appendix H
CE conformity as per	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-2 EN 61000-6-4 EN 55022 Class A
	Low-voltage directive 2006/95/EC	EN 60730-1, EN 60730-2-9

Eingänge		EYE202F001
Bedieneinheit	EYB 2**/EY-RU 2**	1
Temperaturfühler	Ni1000	2
Führungsgrosse	0...10 V, (R _i = 10 kΩ)	1
Steuerkontakt	EIN/AUS	3
Ausgänge		
Triac Schaltausgänge	0-HI (24 V~, 1 A)	2
Relais Schaltausgänge	Schliesser (250 V~, 2 A)	3
Analog	0...10 V (Bürde ≥ 1 kΩ)	2

Overview of types

Type	Description
EYE202F001	DDC single-room controller, 3 relays

¹⁾ EN 61000-6-2: In order to meet the European Standard, the power cables must not exceed 30 metres in length.



Accessories

Type	Description
0450573001	Transformer 230 V~/24 V~ 42 VA; for 35 mm top-hat rail (EN 50022)



EYE 206: DDC air volume controller, ecos206



EYE206F002

Features

- Part of the SAUTER EY-modulo 2 system family
- Can be used for variable volume flow control in single rooms
- Ventilator control
- 2- and 4-pipe systems, heating/cooling
- Electric reheater
- Frost-protection facility
- Room lighting control
- Compact DDC air-volume controller
- Static differential-pressure sensor (location-independent)
- Time and calendar functions
- novaNet system bus (2-wire)

Technical data

Power supply

Power supply	24 V~, ±20%, 50/60 Hz
Power consumption	10 VA
Battery	Buffer for parameters, time, calendar function

Parameters

Static differential pressure	Pressure range ¹⁾	0...250 Pa
	Linearity	Typ. 2% FS
	Reproducibility	typ. 0.2% FS
	Diaphragms	Liquid silicone rubber
	Influence of position	±0.51% FS
	Zero point stability	< 0.2% FS

Ambient conditions

Operating temperature	0...45 °C
Admissible operating pressure p_{stat}	±3 kPa
Humidity	< 85% rh, no condensation

Inputs/Outputs

Inputs	Operating unit	EYB 2**/EY-RU ***
	Temperature sensor	Ni1000
	Command variable	0...10 V, $R_i = 10\text{ k}\Omega$
	Control contacts	ON/OFF
Outputs	Triac switching outputs	0-II, 24 V~, 1 A
	Relay switching outputs	NO contacts (250 V~, 2 A)
	Analogue	0...10 V; load $\geq 1\text{ k}\Omega$

Construction

Dimensions W x H x D	178 × 103 × 42 mm
Weight	0.4 kg

Standards and directives

Type of protection	IP 10 (EN 60529)
Protection class	II (EN 60730-1)
Mode of operation	Type 1 CY (EN 60730)

¹⁾ Static pressure difference: for the plant to operate ideally, the minimum pressure difference for V_{min} should not go below 2 Pa



CE conformity as per	EMC directive 2004/108/EC ²⁾	EN 61000-6-1, EN 61000-6-2 EN 61000-6-4 (Interference Class A) EN 55022 Class A
	Low-voltage directive 2006/95/EC Software class A	EN 60730-1, EN 60730-2-9 EN 60730-1 Annexe H

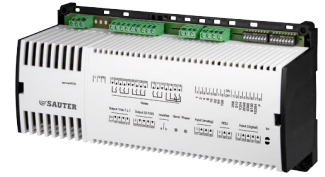
Overview of I/O mix	EYE206F002
Inputs	
Operating unit	1
Temperature sensor	2
Command variable	1
Control contacts	3
Outputs	
Triac switching outputs	3
Relay switching outputs	1
Analogue	2

Overview of types

Type	Description
EYE206F002	DDC air volume controller

²⁾ EN 61000-6-2: If it is mandatory to comply with the European Standard, the power cables for the digital inputs (DI), analogue inputs and outputs (AI/AO) and the counter inputs (CI) must not exceed 30 metres in length

EY-RC 208, 209: Room automation stations, ecos208, 209



EY-RC209F001

Features

- Part of the SAUTER EY-modulo 2 system family
- Individual adjustment of the room climate via room operating units of the EY-RU 2** and EYB 2** series
- Optimises energy consumption thanks to occupancy function, window contact monitoring, needs-driven switching of fan speeds, control of lighting and window blinds, and time-dependent setpoint specification
- EY-RC 209: Angle adjustment of window blinds through precisely-timed activation of the relay outputs
- Time and calendar function
- Recording of historical data (HDB)
- Integration into the building management system via novaNet data interface
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- novaNet system bus (2-wire)

Technical data

Power supply		
Power supply		230 V~, ±10%
Power consumption/dissipated power		≤ 24 VA/8W (unloaded outputs) ≤ 40 VA/32W (external load 20 VA)
Battery (buffer: RTC/SRAM)		Insertable lithium button-cell (CR2032)
Ambient conditions		
Operating temperature		0...45 °C
Humidity		≤ 85% rh
Inputs/Outputs		
Inputs	Operating unit	EYB 2**/EY-RU 2**
	Temperature sensor	Ni1000
	Voltage	0...10 V=, potentiometer
	Control contacts	ON/OFF
Outputs	Triac switching outputs	0-II (24 V~, 1 A)
	Relay switching outputs	Change-over contacts, 250 V~, 10 A NO contacts, 250 V~, 1 A; start-up current 80 A NO contacts, 250 V~, 1 A change-over contacts, 250 V~, 1 A
	Analogue	0...10 V, load = 1 kΩ
Construction		
Dimensions W x H x D		244 × 120 × 72.5 mm
Standards and directives		
	Type of protection ¹⁾	IP 00 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Software	A (EN 60730)
	Mode of operation	Type 1 CY (EN 60730)
CE conformity as per	EMC directive 2004/108/EC ²⁾	EN 61000-6-1, EN 61000-6-2 EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730

¹⁾ IP 10 with terminal cover (accessory 0900240001)
IP 20 with wiring box (accessory 0900240010)

²⁾ EN 61000-6-2: If it is mandatory to comply with the European standard, the power cables for the digital inputs (DI), analogue inputs and outputs (AI/AO) and the counter inputs (CI) must not exceed 30 metres in length



Overview of I/O mix	EY-RC208F001	EY-RC209F001
Inputs		
Operating unit	1	1
Temperature sensors	2	2
U/potentiometer	1	1
Control contacts	4	4
Outputs		
Triac switching outputs	2	2
Relay switching outputs, change-over contacts 10 A	1	1
Relay switching outputs, NO contacts, 1 A, start-up current 80 A	2	2
Relay switching outputs, NO contacts, 1 A	3	6
Relay switching outputs, change-over contacts 1 A	-	1
Analogue	4	4

Overview of types

Type	Description	Weight
EY-RC208F001	6 relays	1.35 kg
EY-RC209F001	10 relays	1.4 kg

Accessories

Type	Description
0900240001	Terminal cover (240 mm), pack of 2
0900240010	Wiring box, 240 mm (2 pcs.)
0367883002	PROM memory, 1 MB empty (user data), pack of 5

SAUTER EY-modulo 2 room operating units

The SAUTER ecoUnit room operating unit combines technology with design. The keys can be freely assigned with various functions. Due to the standard internal dimensions of 55 x 55 mm, these devices fit both SAUTER frames and the frames of third-party manufacturers of light switches.

Overview of room operating units



Type codes	EY-RU210F001	EY-RU211F001	EY-RU214F001	EY-RU216F001
Product name	ecoUnit210	ecoUnit211	ecoUnit214	ecoUnit216
Operation	Temperature sensor	Temperature sensor, setpoint correction	Temperature sensor, setpoint correction, occupancy, fan	Temperature sensor, setpoint correction, occupancy, fan, lighting/window blind
For stations	ecos200...209	ecos200...209	ecos200...209	ecos200...209
Display	–	–	LED	LED
Temperature sensor	•	•	•	•
Push-button functions	–	–	2	4
Fan speeds	–	–	AUTO-0-1-2-3	AUTO-0-1-2-3
Setpoint correction	–	Rotary knob	Rotary knob	Rotary knob
Room occupancy	–	–	3 modes	3 modes
Further information	Page 497	Page 497	Page 497	Page 497



Type codes	EY-RU241F001	EY-RU244F001	EY-RU246F001	EY-SU306F001
Product name	ecoUnit241	ecoUnit244	ecoUnit246	ecoUnit306
Operation	Temperature sensor, set-point correction	Temperature sensor, set-point correction, occupancy, fan	Temperature sensor, set-point correction, occupancy, fan, lighting/window blind	Push-button unit
For stations	ecos200...209	ecos200...209	ecos200...209	For connection to ecoUnit3** and ecoUnit2** room operating units
Display	LCD	LCD	LCD	–
Temperature sensor	•	•	•	6
Push-button functions	2	4	6	–
Fan speeds	–	AUTO-0-1-2-3	AUTO-0-1-2-3	–
Setpoint correction	Digitally adjustable	Digitally adjustable	Digitally adjustable	–
Room occupancy	–	3 modes	3 modes	–
Further information	Page 499	Page 499	Page 499	Page 501

EY-RU 210...216: Room operating unit, ecoUnit210...216

Features

- Part of the SAUTER EY-modulo 2 system family
- EY-RU 216 can be extended using EY-SU 306 switching unit
- Room operating unit with a wide range of different functions, designs and colours
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory
- Indoor climate can be adapted individually
- The operating mode can be set for the room occupancy and the actuation of a 3-speed fan

Technical data

Power supply

Power supply	From ecos 2
--------------	-------------

Parameters

Sensors	Measuring range	0...40 °C
	Resolution	0.1 K
	Time constant in still air	Approx. 10 min
Functionality	Setpoint correction	Variable
	Room occupancy (presence)	3 modes, LED indicator
	Fan speeds	5 functions, LED indicator
	Position LED	Green

Connection

Line	3-core, twisted
Length	≤ 100 m
Connection terminals	Pluggable for wire of 0.12...0.5 mm ² (Ø 0.4...0.8 mm)

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...85% rh, no condensation

Construction

Fitting	Recessed/surface-mounted (see list of accessories)
Dimensions W x H x D	59.5 × 59.5 × 25 mm
Weight	0.1 kg

Standards and directives

	Type of protection	IP 30 (EN 60529)
	Protection class	III (EN 60730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties	Buttons
EY-RU210F001	NTC sensor	-
EY-RU211F001	NTC sensor, dXs setpoint correction (rotary knob)	-



EY-RU216F001



EY-RU210F001

¹⁾ EN 61000-6-2: In order to meet the European standard, the power cable should not exceed 30 metres in length.



Type	Properties	Buttons
EY-RU214F001	NTC sensor, dXs setpoint correction (rotary knob)	2
EY-RU216F001	NTC sensor, dXs setpoint correction (rotary knob)	4

Accessories

Operating unit

Type	Description
EY-SU306F001	Push-button unit, without frame

Fitting

Type	Description
0949360002	4-pin plug-in connector for connecting ecos room operating unit (10 pcs.)
0949241302	RAL 9010 white cover (10 pcs.)
0949241301	Transparent cover (10 pcs.)
0940240***	For frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.055

💡 0949241302: for EY-RU210F001 only

💡 For frames, mounting plates and adaptors for third-party frames, see frame for device inserts with fitting dimensions 55 × 55 mm (product data sheet PDS 94.055)

EY-RU 241...246: Room operating unit, ecoUnit241...246

Features

- Part of the SAUTER EY-modulo 2 system family
- Can be extended using EY-SU 306 switching unit
- Room operating unit with a wide range of different functions, designs and colours
- Display various function symbols
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory
- Indoor climate can be adapted individually
- The operating mode can be set for the room occupancy and the actuation of a 3-speed fan



EY-RU246F001

Technical data

Power supply		
	Power supply	From ecos 2
Parameters		
Sensors	Measuring range	0...40 °C
	Resolution	0.2 K
	Time constant	Approx. 12 min
Functionality	Setpoint display (LCD)	0...10 V= / 16...25.5 °C (via terminal 4)
	Setpoint correction	Variable
	Room occupancy (presence)	3 modes, LCD
	Fan speeds	5 functions, LCD
	Position LED	Green
Ambient conditions		
	Operating temperature	0...45 °C
	Storage and transport temperature	-25...70 °C
	Humidity	10...85% rh, no condensation
Interfaces and communication		
Connection	Line	3(4)-wire, twisted, shielded
	Length	≤ 100 m
	Connection terminals	For wire of 0.12...0.5 mm ² , pluggable (Ø 0.4...0.8 mm)
Construction		
	Fitting	In single or double frame
	Dimensions W x H x D	59.5 × 59.5 × 25 mm
	Housing	Pure white (RAL 9010)
	Plastic insert	Silver (similar to Pantone 877 C)
	Weight	0.1 kg
	Cable inlet	At rear
Standards and directives		
	Type of protection	IP 30 (EN 60529)
	Protection class	III (EN 6730-1)
	Environment class	3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

¹⁾ EN 61000-6-2: In order to meet the European standard, the power cable should not exceed 30 metres in length.



Overview of types

Type	Properties	Buttons
EY-RU241F001	Operation terminal ecos 2, LCD, NTC sensor, dXs setpoint correction	2
EY-RU244F001	Operation terminal ecos 2, LCD, NTC sensor, dXs setpoint correction	4
EY-RU246F001	Operation terminal ecos 2, LCD, NTC sensor, dXs setpoint correction	6

Accessories**Operating unit**

Type	Description
EY-SU306F001	Push-button unit, without frame

Fitting

Type	Description
0949360002	4-pin plug-in connector for connecting ecos room operating unit (10 pcs.)
0949241301	Transparent cover (10 pcs.)
0940240***	For frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.055



EY-SU 306: Push-button unit for room operating unit, ecoUnit306

Features

- Part of the SAUTER EY-modulo 5 system family
- Push-button unit to supplement ecoUnit310...346 or ecoUnit216...246
- Many different design and colour variations
- Device insert with transparent front, fits into frame with 55 x 55 mm aperture
- Frame can be ordered as an accessory
- Control window blinds and lighting (ON/OFF/dim)
- Six button functions



EY-SU306F001

Technical data

Power supply		
Power supply		from ecoUnit 3 or ecoUnit 2
Ambient conditions		
Operating temperature		0...45 °C
Storage and transport temperature		-25...70 °C
Admissible ambient humidity		10...85% rh, no condensation
Parameters		
Functionality	Position LED	green
Connection	Line	2-wire
	Length	≤ 30 m (ecoUnit 2 or ecoUnit 3)
Construction		
Fitting		recessed/surface-mounted (see list of accessories)
Dimensions W x H x D		59.5 × 59.5 × 25 mm
Weight		0.1 kg
Standards and directives		
Type of protection		IP 30 (EN 60529)
Protection class		III (EN 60730-1)
Environment class		3K3 (IEC 60721)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Properties
EY-SU306F001	Push-button unit with 6 button functions

Accessories

Type	Description
0940240***	For frames, mounting plates and adaptors for third-party frames: see product data sheet PDS 94.055
0949241301	Transparent cover (10 pcs.)



Frame for device inserts with 55 × 55 mm fitting dimensions

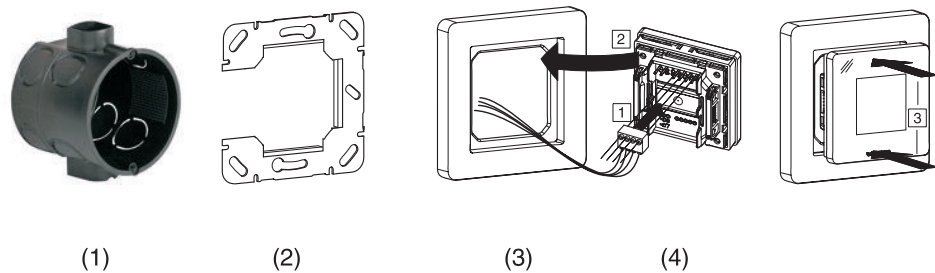


EY-RU 346, EY-SU 306

Features

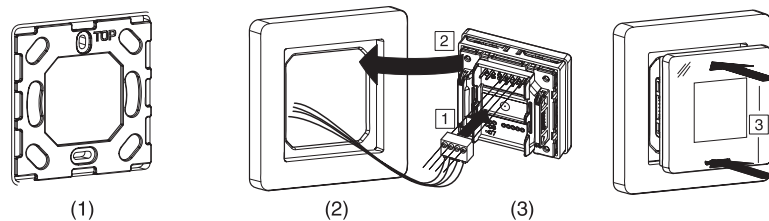
- Accessory components for SAUTER device inserts with 55 × 55 mm aperture
- Suitable for ecoUnit 1 room operating units EY-RU 1** and EY-SU 106
- Suitable for ecoUnit 2 room operating units EY-RU2**
- Suitable for ecoUnit 3 room operating units EY-RU 3** and EY-SU 306
- Suitable for EGT 33* room sensors
- Suitable for viaSens room sensors
- Adhesive plate for smooth surfaces
- Surface and recessed mounting
- Adaptation to the GIRA series: Standard55, E2, Event, Esprit
- Adaptation to the Jung series: LS990, A500, A plus, A Creation, CD500
- Adaptation to the MERTEN series: M-smart, ARTEC, M-Plan, M-ARC
- Adaptation to the Busch-Jaeger series: Future, Future linear
- Adaptation to the Berker series: B.1
- Adaptation to the Feller series: EDIZIOdue

Recessed mounting with SAUTER frame



- (1) Recessed junction box
 (2) Mounting plate
 (3) Frame
 (4) Device insert

Surface mounting with SAUTER frame



- (1) Optional cable cover plate
 (2) Baseplate including surface mounting plate
 (3) Device insert

Accessories

Mounting plate

Type	Description
0940240703	Mounting plate, single, for recessed fitting (10 pcs.)
0940240704	Mounting plate, single, type 2, for recessed fitting (10 pcs.)
0940240802	Mounting plate, double, for recessed fitting (10 pcs.)



Frames for recessed mounting

Type	Description
0940240102	Frame, single, pure white, RAL 9010 (10 pcs.)
0940240202	Frame, double, pure white, RAL 9010 (10 pcs.)

Frames for surface mounting

Type	Description
0940240301	Baseplate, single (for wall mounting), 10 pcs.
0940240401	Baseplate, double (for wall mounting), 10 pcs.
0940240501	Cable plate, single (for surface-mounted wiring), 10 pcs.
0940240601	Cable plate, double (for surface-mounted wiring), 10 pcs.
0940240710	Adhesive plate, single, black, 83 × 83 mm, 10 pcs.
0940240711	Adhesive plate, double, black, 83 × 143 mm, 10 pcs.

Spacer frames for adapting non-SAUTER frames

Type	Description
0940240751	Spacer frame, 0.5 mm (10 pcs.)
0940240752	Spacer frame, 1.0 mm (10 pcs.)
0940240753	Spacer frame, 1.5 mm (10 pcs.)
0940240755	Spacer frame, F1 (10 pcs.)



SAUTER EY-modulo 2 communication and network

The devices of the moduNet series enable the SAUTER novaNet bus system to be incorporated into parent IT networks. A direct Ethernet interface and BAC-net gateway functionality are provided for this purpose.

Communication and network overview



Type codes	EY-BU 292	EY-BU 180	EY-AM 300
Product name	moduNet292	moduNet180	moduNet300
Property	Connection of novaNet to Ethernet/IP	Repeater for novaNet networks	Integration of novaNet on Bac-Net/IP
Further information	Page 505	Page 507	Page 509

EY-BU 292: novaNet-Ethernet interface, moduNet292

Features

- Part of the SAUTER EY-modulo 2 system family
- Bus access device for novaNet system bus with Ethernet interface
- To integrate novaNet stations (EY3600, EY-modulo 2) into IP networks based on Ethernet (LAN/WAN)
- For SAUTER CASE Suite applications
- To download programmes onto the stations
- For SAUTER novaPro visualisations
- For remote monitoring via the internet
- TCP/IP communication
- Communication with two-wire novaNet system bus
- RJ-45 plug for Ethernet 10 Base-T (10 Mbit/s)
- Fixed IP addressing
- RS-232 interface for parameterisation and updating
- Five LEDs for Error, novaNet Send, Power, Activity, Link



EY-BU292F001



EY-BU292F002

Technical data

Power supply

Power supply	230 V~, +10%, -15%
	115 V~, +10%, -15% (50...60 Hz)
Power consumption	6 VA, < 7 W

Ambient conditions

Operating temperature	0...45 °C (32...113 °F)
Storage and transport temperature	-25...70 °C (-13...158 °F)
Admissible ambient humidity	10...85% rh, no condensation

Interfaces and communication

Ethernet	1 × RJ-45 socket 10 Mbit/s (10 Base-T)
RS-232 serial port	1 × DB-9 (male) as per DTE (57k6, 8n1)

Standard settings

TCP/IP address	192.168.10.20
Subnet mask	255.255.255.0
TCP port (App 1)	51806 (nova292-Server)
TCP port (App 2)	51807 (nova291-Emulation)

Construction

Fitting	EY-BU292F001: DIN rail Installation EY-BU292F002: desktop model
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Standards and directives

Type of protection	IP 00 (EN 60529); IP 20 (EN 60529)
Protection class	I (EN 60730-1)
Software class A	EN 60730-1 Annexe H

CE conformity as per

EMC directive 2004/108/EC	EN 61000-6-1, EN61000-6-2, EN 61000-6-4
Low-voltage directive 2006/95/EC	EN 60950-1

Overview of types

Type	Description	Dimensions W x H x D	novaNet	Weight
EY-BU292F001	panel-fitted model	193 × 131 × 41 mm	1 × a/b terminal	0.65 kg
EY-BU292F002	desktop model	228 × 131 × 41 mm	1 × RJ-11 socket	0.7 kg



Accessories**Software**

Type	Description
GZS100F599	CASE Tools CD, latest version (CASE TPC, CASE HWC, CASE Sun, novaNet292 SW ...)

Connecting cables

Type	Description
0367862001	novaNet RJ-11 to RJ-11: 1.5 m
0367862002	novaNet RJ-11 to RJ-11: 2.9 m
0367862003	novaNet RJ-11 to RJ-11: 6.0 m
0367842002	Ethernet RJ-45 to RJ-45: 1.5 m
0367842003	Ethernet RJ-45 to RJ-45: 2.9 m
0367842004	Ethernet RJ-45 to RJ-45: 6.0 m
0386507001	Ethernet crossover RJ-45 to RJ-45: 3.0 m

General information

Type	Description
0374509001	Connector, 3-pin, packaged
0010240105	Cable housing for 0374509 001, cable cord grip
0374677001	Installation kit for 2-DIN rail mounting (for F001)



EY-BU 180: novaNet Repeater system bus, moduNet180



EY-BU180F001

Features

- Part of the SAUTER EY-modulo 2 system family
- Device for physically extending the novaNet system bus
- Transparent repeater with four channels with equal rights
- Provision for connecting copper cable and OWG with RS-232
- Send and Receive LEDs for each novaNet channel

Technical data

Power supply

Power supply	230 V~, ±20%, 50...60 Hz 24 V~/=, ±10%
Power consumption	≤ 11 VA
Current consumption	400 mA
Power loss	≤ 5 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...85% rh, no condensation

Indicators, display, operation

LED	Power	1 × green
	novaNet (telegram traffic)	4 × yellow (send/receive)

Interfaces and communication

Delay time	Approx. 20 µs for novaNet, Approx. 25 µs for OWG
novaNet bus system	2-core twisted, 200 nF/300 Ω
Number of segments	4 for novaNet copper cable, 3 of which are for OWG
Power supply for E/O converter	13 V= ≤ 100 mA

Construction

Dimensions W x H x D	244 × 120 × 73 mm
Weight	0.9 kg

Standards and directives

CE conformity as per	Type of protection ¹⁾	IP 00 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Over-voltage categories	II
	EMC directive 2004/108/EC ²⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60950-1

Overview of types

Type	Properties
EY-BU180F001	novaNet repeater system bus, moduNet180

¹⁾ IP 10 with terminal cover (accessory 0900240001)

²⁾ EN 61000-6-2: In order to meet the European Standard, the power cables for the voltage output (13 V) must not exceed 30 metres in length, while the power cables for the RS-232 ports must not exceed 3 metres in length



Accessories

Type	Description
0900240001	Terminal cover (240 mm), pack of 2



EY-AM 300: novaNet BACnet application master, moduNet300



EY-AM300F001

Features

- Part of the SAUTER EY-modulo 2 system family
- BACnet application master for novaNet
- To integrate novaNet stations (EY3600, EY-modulo 2) in BACnet/IP systems (EY-modulo 5)
- Automatic generation of BACnet I/O objects from defined stations based on novaNet
- Special features such as loop objects and intrinsic reporting for I/O objects
- Objects that can be generated dynamically, such as time programmes and calendars for optimised, time-controlled plant operation
- Trend Log objects that can be generated dynamically to analyse the plant
- Event Enrollment objects that can be generated dynamically for individual notification
- BACnet/IP network integration with BBMD and/or FD functionality
- Communication: BACnet/IP (EN ISO 16484-5)
- Communication with two-wire novaNet system bus as novaNet PC
- Six LEDs for status, link, activity, speed, novaNet send, power

Technical data

Power supply		
	Power consumption	10 VA
	Power loss	5 W
Ambient conditions		
	Operating temperature	0...45 °C
	Storage and transport temperature	-25...70 °C
	Humidity	10...85% rh, no condensation
Operation		
Number of dynamic objects	Number of BACnet objects	≤ 1000 (Total)
	Time programmes	≤ 100 (Schedule)
	Calendar	≤ 40 (Calendar)
	Historical data	≤ 50 (Trend Log)
	Data files log	≤ 10000 (Log Buffer)
	Notification objects	≤ 16 (Notification Class)
	Event reporting objects	≤ 100 (Event Enrollment)
	Number of BACnet client links	≤ 100 (Peer-to-Peer Links)
	Number of BBMDs in BDT	≤ 16
	Number of FDs in FDT	≤ 16
Interfaces and communication		
	COM interface	2 × DB-9 plugs (male, DTE)
	COM 1	RS-232 parameterising, configuration
	COM 2	RS-232
	novaNet interface	RJ-11 socket (6/6), 2 × a/b terminals
	BACnet interface	RJ-45 Ethernet socket
	10/100 Base Tx	Auto-sensing
	Communication protocols	BACnet/IP, novaNet
Construction		
	Dimensions W x H x D	244 × 120 × 73 mm
Standards and directives		
	Type of protection	IP 00 (EN 60529)
	Protection class	I
	Environment class	3K3 (IEC 60721)



	Over-voltage categories	II
	Software	A (EN 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2
	Low-voltage directive 2006/95/EC	EN 60950-1

Overview of types

Type	Power supply	Weight
EY-AM300F001	24 V~, ±20%, 50/60 Hz, 24 V= (18...30 V=)	0.6 kg
EY-AM300F002	230 V~, ±10%, 50/60 Hz	1 kg

Accessories

Manuals

Type	Description
7001007001	Operating manual, German
7001007002	Operating manual, French
7001007003	Operating manual, English

Connecting cables

Type	Description
0367842002	Ethernet RJ-45 to RJ-45: 1.5 m
0367842003	Ethernet RJ-45 to RJ-45: 2.9 m
0367842004	Ethernet RJ-45 to RJ-45: 6.0 m
0367862001	novaNet RJ-11 to RJ-11: 1.5 m
0367862002	novaNet RJ-11 to RJ-11: 2.9 m
0367862003	novaNet RJ-11 to RJ-11: 6.0 m

General information

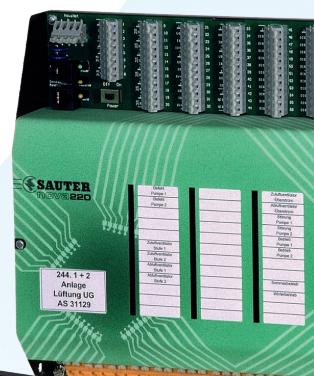
Type	Description
0900240001	Terminal cover (240 mm), pack of 2



SAUTER EY3600

Compatibility, comfort and energy efficiency at all levels of building automation.

The SAUTER EY3600 building management system provides continuity and security of investment for existing buildings. As it can be expanded with SAUTER EY-modulo 2 or EY-modulo 5, the system makes it easy to perform tasks to increase comfort and energy efficiency.



SAUTER EY3600

HVAC automation

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SAUTER EY3600 automation stations

SAUTER EY3600 automation stations regulate, control, monitor and improve energy efficiency in HVAC installations. The installation network is based on the tried and tested novaNet bus system.

Overview of automation stations



Type codes	EYR 203, 207	EYL 220	EYL 225	EYL 230
Product name	novaFlex	nova220	nova225	nova230
Power supply	24 V~	230 V~	230 V~ (F001) 24 V~ (F005)	230 V~
Inputs/Outputs				
Analogue inputs	12 or 10	14	20	10
Digital inputs	8	32	(64 via modulink174)	16
Pulse counters	–	2	2	2
Analogue outputs	4	6	(12 via modulink170)	3
Digital outputs	6	12	(16 or 32 via modulink164 or 165)	7
Further information	Page 515	Page 517	Page 519	Page 521

EYR 203, 207: Universal controller, novaFlex

Features

- Universal controllers of the EY3600 system family
- Used for control and regulation in HVAC engineering
- EYR 203: 18 inputs and 10 outputs
- EYR 207: 20 inputs and 10 outputs
- Network and communication capability via novaNet auxiliary module
- Communication with modu250 touch-panel possible via auxiliary module
- Programming/parameterisation via PC with EY3600 CASE software (IEC 1131-3 FBD Editor)
- Control libraries
- Time and calendar function
- Data recording in historical database (HDB)



EYR207F001

Technical data

Power supply

Power supply	24 V~, ±20%, 50...60 Hz
Power consumption	10 VA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Inputs/Outputs

Digital inputs	8 (2 can be used as pulse counters)
Analogue inputs	5 × 0...10 V 5 × Ni1000/Pt1000 (EYR 203) 7 × Ni1000/Pt1000 (EYR 207)
Digital outputs	2 × 0-I, 2 × 0-II
Analogue outputs	4 × 0...10 V

Interfaces and communication

AS network/novaNet	With auxiliary module on main pcb
Local operating unit, modu240	1 × RJ-45 socket
modu250 touch-panel	With auxiliary module (point to point)
Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish (for other languages, see accessories)
MFA	128
Time commands	320 entries

HDB entries

Digital	1792 (block 1)
Analogue	1792 (block 2)

Construction

Dimensions W x H x D	235 × 147.5 × 64.5 mm
Weight	0.8 kg

Standards and directives

Type of protection	IP 10
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)

CE conformity as per

EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-4 Interference Class A
Low-voltage directive 2006/95/EC	EN 60730



Overview of types

Type	Properties
EYR203F002	novaFlex with 1 relay, 5 Triacs and 5 Ni1000/Pt1000
EYR207F001	novaFlex with 6 relays and 7 Ni1000/Pt1000

Accessories**Operating units**

Type	Description
EY-OP240F001	Local operating unit, modu240
EY-OP250F001	modu250 touch-panel, coloured
EY-OP250F002	modu250 touch-panel, monochrome

Microprogram

Type	Description
0501149002	Microprogram for modu240 languages: German, French, English, Polish, Slovene, Hungarian, Romanian, Russian, Czech, Turkish, Slovakian

Connecting cables

Type	Description
0367842002	Automation station - modu240 1.5 m (4.9 ft)
0367842003	Automation station - modu240 2.9 m (9.5 ft)
0367842004	Automation station - modu240 6.0 m (19.7 ft)
0367862001	novaNet291 or moduNet292 automation station 1.5 m (4.9 ft)
0367862002	novaNet291 or moduNet292 automation station 2.9 m (9.5 ft)
0367862003	novaNet291 or moduNet292 automation station 6.0 m (19.7 ft)

Data memory

Type	Description
0367883001	6× EPROM (empty) (User EPROM)
0367883002	PROM memory, 1 MB empty (user data), pack of 5

Fitting

Type	Description
0367829001	Bracket for front fitting for modu240

Auxiliary modules

Type	Description
0374413001	Auxiliary module, novaNet
0374448001	Auxiliary module, pt. to pt. for direct connection of modu250, distance max. 6 m

EYL 220: Compact automation station, nova220

Features

- Part of the SAUTER EY3600 system family
- Compact automation station (AS)
- Communication: SAUTER novaNet
- 48 inputs
- 18 outputs
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Data recording in historical database (HDB)



EYL220F***

Technical data

Power supply		
	Power consumption	24 VA
	Max. power loss	27 W
Parameters		
	Factory setting	All switches to 'Off' position
Ambient conditions		
	Operating temperature	0...45 °C (32...113 °F)
	Storage and transport temperature	-25...70 °C (-13...158 °F)
	Humidity	10...90% rh, no condensation
Inputs/outputs		
	Digital inputs	32
	Analogue inputs	8 × Ni1000/Pt1000, 6 × U/I/R
	Meter	2
	Digital outputs	4 × 0-I, 4 × 0-II
	Analogue outputs	6 × 0...10 V (2 × 0...20 mA)
Interfaces and communication		
	AS network/data line	2 × a/b terminals, 1 × RJ-11 socket (6/6)
	Local operating unit, modu240	1 × RJ-45 socket
	Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish (for other languages, see accessories)
	MFA	256
	Time commands	32
HDB entries		
	Digital	2 × 3584 (Block 1; 3)
	Analogue	2 × 3584 (Block 2; 4)
Structural design		
	Dimensions W × H × D	280 × 266 × 78 mm (11" × 10.5" × 3")
Standards and directives		
	Type of protection	IP 00 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Mode of operation	Type 1C (EN 60730)
	Software	A (EN 60730)



CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730

Overview of types

Type	Properties	Power supply	Weight
EYL220F001	Compact AS	230 V~, 50...60 Hz	3.0 kg (6.6 lb)
EYL220F101	Compact AS with LED	230 V~, 50...60 Hz	3.1 kg (6.8 lb)

Accessories

Operating unit

Type	Description
EY-OP240F001	Local operating unit, modu240

Microprogram

Type	Description
0501112002	nova220 microprogram with modu240 languages: German, French, English, Polish, Slovene, Hungarian, Romanian, Russian, Czech, Turkish, Slovakian

Connecting cables

Type	Description
0367842002	Automation station - modu240 1.5 m (4.9 ft)
0367842003	Automation station - modu240 2.9 m (9.5 ft)
0367842004	Automation station - modu240 6.0 m (19.7 ft)
0367862001	novaNet291 or moduNet292 automation station 1.5 m (4.9 ft)
0367862002	novaNet291 or moduNet292 automation station 2.9 m (9.5 ft)
0367862003	novaNet291 or moduNet292 automation station 6.0 m (19.7 ft)

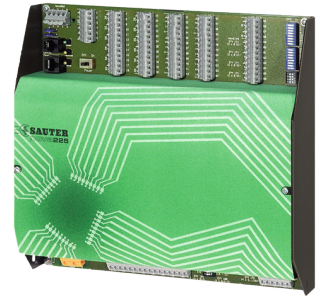
Data memory

Type	Description
0367883002	PROM memory, 1 MB empty (user data), pack of 5
0367888001	5× EPROM (4 MBit (empty))

General information

Type	Description
0367894001	Conversion kit: EYL220F001 (without LED) to EYL220F101 (with LED)
0374504001	Cover with BACnet communication card

EYL 225: Compact automation station, nova225



EYL225F00*

Features

- Part of the SAUTER EY3600 system family
- Compact automation station (AS)
- Communication: SAUTER novaNet
- 86 inputs
- 28 outputs
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Data recording in historical database (HDB)

Technical data

Power supply		
	Power consumption	34 VA
	Power loss	Max. 34 W
Parameters		
	Factory setting	All switches to 'Off' position
Ambient conditions		
	Operating temperature	0...45 °C (32...113 °F)
	Storage and transport temperature	-25...70 °C (-13...158 °F)
	Humidity	10...90% rh, no condensation
Inputs/outputs		
	Digital inputs	64 (4 channels for moduLink174 field modules)
	Analogue inputs	12 × Ni1000/Pt1000, 8 × U/I/R
	Meter	2
	Digital outputs	16 (4 channels for moduLink164 field module) 32 (8 channels for moduLink165 field module)
	Analogue outputs	12 (3 channels for moduLink170 field modules)
Interfaces and communication		
	AS network/novaNet	2 × a/b terminals, 1 × RJ-11 socket (6/6)
	Local operating unit, modu240	1 × RJ-45 socket
	Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish (for other languages, see accessories)
	MFA	256
	Time commands	32
HDB entries		
	Digital	2 × 3584 (Block 1; 3)
	Analogue	2 × 3584 (Block 2; 4)
Structural design		
	Weight	3 kg (6.6 lb)
	Dimensions W × H × D	280 × 266 × 78 mm (11" × 10.5" × 3")



Standards and directives

	Type of protection	IP 00 (EN 60529)
	Protection class	I (EN 60730-1)
	Environment class	3K3 (IEC 60721)
	Software	A (EN 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730

Overview of types

Type	Properties	Power supply
EYL225F001	Compact AS	230 V~, 50...60 Hz

Accessories**Operating unit**

Type	Description
EY-OP240F001	Local operating unit, modu240

Microprogram

Type	Description
0501113002	nova215 and nova225 microprogram with modu240 languages: German, French, English, Polish, Slovene, Hungarian, Romanian, Russian, Czech, Turkish

Connecting cables

Type	Description
0367842002	Automation station - modu240 1.5 m (4.9 ft)
0367842003	Automation station - modu240 2.9 m (9.5 ft)
0367842004	Automation station - modu240 6.0 m (19.7 ft)
0367862001	novaNet291 or moduNet292 automation station 1.5 m (4.9 ft)
0367862002	novaNet291 or moduNet292 automation station 2.9 m (9.5 ft)
0367862003	novaNet291 or moduNet292 automation station 6.0 m (19.7 ft)

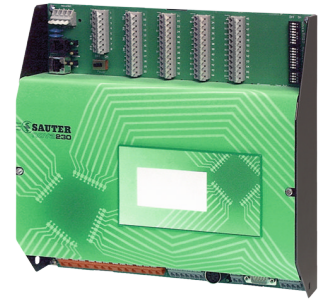
Data memory

Type	Description
0367883002	PROM memory, 1 MB empty (user data), pack of 5
0367888001	5× EPROM (4 MBit (empty))

EYL 230: Compact universal automation station, nova230

Features

- Part of the SAUTER EY3600 system family
- Compact automation station (AS)
- Communication: SAUTER novaNet
- Control and regulation for HVAC engineering
- COM interface (EIA-232) for system integration and integration of third-party devices, for data exchange or printer function
- 256 MFA (machine fine addresses = data points), up to 192 of which are for system integration
- 28 inputs
- 10 outputs
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Data recording in historical database (HDB)



EYL230F010

Technical data

Power supply

Power consumption	36 VA
Max. power loss	Approx. 38 W

Parameters

Factory setting	All switches to 'Off' position
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Ambient conditions

Operating temperature	0...45 °C (32...113 °F)
Humidity	10...90% rh, no condensation

Inputs/Outputs

Digital inputs	16
Analogue inputs	6 × Ni1000/Pt1000, 4 × U/I/R
Meter	2
Digital outputs	1 × 0-I, 3 × 0-II
Analogue outputs	3 × 0...10 V, (1 × 0...20 mA)

Interfaces and communication

novaNet	2 × a/b terminals, 1 × RJ-11 socket
Local operating unit, modu240	EY-OP 240, 1 × RJ-45 socket
Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish (for other languages, see accessories)
Service	RS-232 7-pin DIN socket
Connection to non-SAUTER systems	RS-232 9-pin plug, M-Bus from terminal (EYL230F010)

Construction

Dimensions W x H x D	280 × 266 × 78 mm (11" × 10.5" × 3")
Weight	2 kg

Standards and directives

Type of protection	IP 00 (EN 60529)
Protection class	I (EN 60730-1)
Environment class	3K3 (IEC 60721)
Mode of operation	Type 1C (EN 60730)



	Software	A (EN 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	Low-voltage directive 2006/95/EC	EN 60730

Overview of types

Type	Description	Power supply
EYL230F010	Compact AS with M-Bus interface	230 V~, 50/60 Hz
EYL230F020	Data point router	230 V~, 50/60 Hz
EYL230F040	Compact AS, Modbus/RTU	230 V~, 50/60 Hz
EYL230F110	Compact AS, LON (Sysmik)	230 V~, 50/60 Hz

Accessories

Microprogrammes

Type	Description
0501130001	F010, F040...F120 versions (languages: German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish)
0501130002	F010, F040...F120 versions (languages: German, French, English, Polish, Slovene, Hungarian, Romanian, Russian, Czech, Turkish)
0501133001	F020 version
0367862001	novaNet291 or moduNet292 automation station 1.5 m (4.9 ft)
0367862002	novaNet291 or moduNet292 automation station 2.9 m (9.5 ft)
0367862003	novaNet291 or moduNet292 automation station 6.0 m (19.7 ft)
0374504001	Cover with BACnet communication card

Connecting cables

Type	Description
0367862001	novaNet291 or moduNet292 automation station 1.5 m (4.9 ft)
0367862002	novaNet291 or moduNet292 automation station 2.9 m (9.5 ft)
0367862003	novaNet291 or moduNet292 automation station 6.0 m (19.7 ft)

General information

Type	Description
0374504001	Cover with BACnet communication card

SAUTER EY3600 modular automation stations

Using plug-in cards, SAUTER modular EY3600 automation stations can be flexibly adapted to the particular requirements of the installation; they regulate, control, monitor and improve energy efficiency in HVAC installations. The installation network is based on the tried and tested novaNet bus system.

Overview of modular automation stations



Type codes	EYU 109	EYK300	EYS 100	EYL 106
Product name	nova106	nova106	nova106	nova106
Further information	Page 524	Page 525	Page 527	Page 528



Type codes	EYS 110	EYS 121	EYS 141	EYS 155
Product name	nova106	nova106	nova106	nova106
Further information	Page 530	Page 531	Page 532	Page 533



Type codes	EYX 168	EYX 172	EYX 176
Product name	nova106	nova106	nova106
Further information	Page 534	Page 535	Page 536



Type codes	EYZ 101	EYZ 291
Product name	–	novaNet291
Further information	Page 537	Page 538



EYU109F001

EYU 109: Rack for modular automation station, nova106

Features

- Part of the SAUTER EY3600 system family
- Basic unit for modular system
- Communication: SAUTER novaNet
- 60 hardware addresses

Technical data

Power supply

Power supply	230 V~, 50/60 Hz
Max. power consumption	40 VA
Max. current consumption	3 A
Max. power loss	10 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Interfaces and communication

novaNet station network	2 × a/b terminals, insertable 1 × RJ-11 socket
-------------------------	---

Structural design

Card slots	11
Fitting	Panel
Dimensions W x H x D	267 × 465 × 180 mm
Weight	5 kg

Standards and directives

Type of protection	IP 00
Protection class	I (EN 60730)
Environment class	3K3 (IEC 60721)

CE conformity as per	Low-voltage directive 2006/95/EC	EN 60730
	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2 EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Description
EYU109F001	Rack for the modular automation station

Accessories

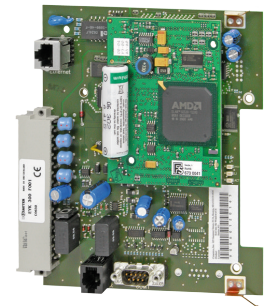
Type	Description
0367846001	Front plate (EYU 109)



EYK 300: BACnet communication card, nova106

Features

- Part of the SAUTER EY-modulo system family
- BACnet communication card for novaNet
- To integrate novaNet stations (EY3600, EY-modulo 2) in BACnet/IP systems (EY-modulo 5)
- Can be installed in the EY3600 AS rack for nova106 (slot A)
- Automatic generation of BACnet I/O objects from defined stations, based on novaNet
- Special features such as loop objects and intrinsic reporting for I/O objects
- Objects that can be generated dynamically, such as time programmes and calendars for optimised, time-controlled plant operation
- Trend Log objects that can be generated dynamically to analyse the plant
- Event Enrollment objects that can be generated dynamically for individual notification
- BACnet/IP network integration with BBMD and/or FD functionality
- Communication: BACnet/IP (EN ISO 16484-5)
- Communication with two-wire novaNet system bus as novaNet PC
- Four LEDs for status, link, activity, speed



EYK300F001

Technical data

Power supply

Power supply	From AS rack (EYU 109, 108)
Max. current consumption	0.4 A

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Operation

Total of BACnet objects	Number of BACnet objects	≤ 1000 (Total)
Number of dynamic objects	Time programmes	≤ 100 (Schedule)
	Calendar	≤ 40 (Calendar)
	Historical data	≤ 50 (Trend Log)
	Data files log	≤ 10000 (Log Buffer)
	Notification objects	≤ 16 (Notification Class)
BACnet Link Layer	Event reporting objects	≤ 100 (Event Enrollment)
	Number of BACnet client links	≤ 100 (Peer-to-Peer Links)
	Number of BBMDs in BDT	≤ 16
	Number of FDs in FDT	≤ 16

Interfaces and communication

COM interface	RS-232, DB9 plug as per DTE
novaNet interface	RJ-11 socket (6/6)
BACnet interface	RJ-45 Ethernet
Transport protocol	BACnet/IP
Configuration	TCP/IP (port 51966) RS-232

Construction

Weight	0.23 kg
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Standards and directives

Type of protection	IP 00 (EN 60529)
Environment class	3K3 (IEC 60721)



	Software	A (EN 60730)
CE conformity as per	EMC directive 2004/108/EC ¹⁾	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4, EN 50024

Overview of types

Type	Properties
EYK300F001	BACnet communication card, nova106

Accessories

Type	Description
0367842002	Connecting cable, Ethernet RJ45-RJ45: 1.5 m
0367842003	Connecting cable, Ethernet RJ45-RJ45: 2.9 m
0367842004	Connecting cable, Ethernet RJ45-RJ45: 6 m
0367862004	Connecting cable, novaNet RJ11-RJ11: 0.21 m (supplied)

¹⁾ EN 61000-6-3: This is class A equipment. It may cause radio interference in residential premises; in this case, the operator may be requested to implement appropriate measures.

EYS 100: UPS card, nova106

Features

- Function card for modular system
- Part of the SAUTER EY3600 system family
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Data recording (historical database)

Technical data

Power supply

Power supply	From rack
Max. current consumption	165 mA
Power consumption	7 VA
Max. power loss	7 W
Max. charging current for battery	150 mA
Accumulator specifications	12 V/6.0 Ah lead battery

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Construction

Weight	0.1 kg
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Standards and directives

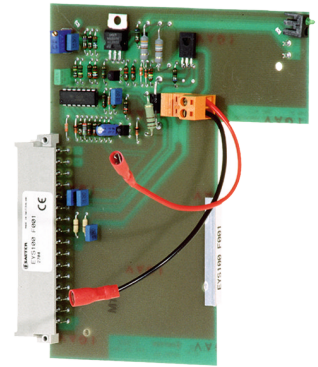
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
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Overview of types

Type	Properties
EYS100F001	UPS card, nova106

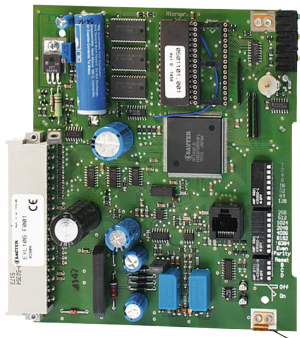
Accessories

Type	Description
0367887001	12 V/6 Ah lead battery



EYS100F001





EYL106F001

EYL 106: Processor and power supply card, nova106

Features

- Part of the SAUTER EY3600 system family
- CPU card for modular system
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Control libraries
- Time and calendar function
- Data recording in historical database (HDB)

Technical data

Power supply

Power supply	From rack
Current consumption	250 mA
Max. power loss	3 W
Current load	Max. 3 A from 12 V supply
AS address range	0...28671

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Interfaces and communication

Local operating unit, modu240	1 × RJ-45 socket
Languages	German, French, English, Italian, Dutch, Spanish, Swedish, Norwegian, Danish, Portuguese, Finnish (for other languages, see accessories)

Structural design

Weight	0.235 kg
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Standards and directives

	Software	A (EN 60730)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, EN 55022 class A

Overview of types

Type	Properties
EYL106F001	Processor and power supply card, nova106

Accessories

Operating unit

Type	Description
EY-OP240F001	Local operating unit, modu240

Microprogram

Type	Description
0501101002	nova106 microprogram with modu240 languages: German, French, English, Polish, Slovene, Hungarian, Romanian, Russian, Czech, Turkish

Connecting cables

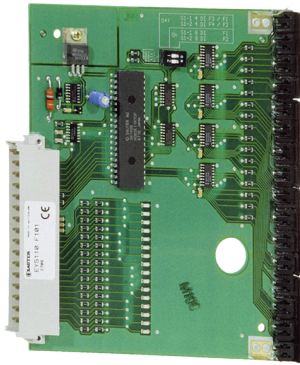
Type	Description
0367842001	Automation station to modu240: 0.35 m
0367842002	Automation station to modu240: 1.5 m



Type	Description
0367842003	Automation station to modu240: 2.9 m
0367842004	Automation station to modu240: 6.0 m

Data memory

Type	Description
0367883002	PROM memory, 1 MB empty (user data), pack of 5
0367888001	5× EPROM (4 MBit (empty))



EYS110F101

EYS 110: DI function card, nova106

Features

- Part of the SAUTER EY3600 system family
- Function card for modular system
- 16 inputs
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Data recording (historical database)

Technical data

Power supply

Power supply	From rack
Max. output current of the input	1.3 mA with respect to earth
Max. admissible input resistance	1 k Ω (incl. cable)
Protection against disturbance voltage	≤ 24 V~/=
Max. power loss	2 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Inputs/outputs

Number of inputs	16, digital
Type of inputs	Potential-free contacts (with ground connection) Opto-coupler Transistor (open collector)

Standards and directives

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
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Overview of types

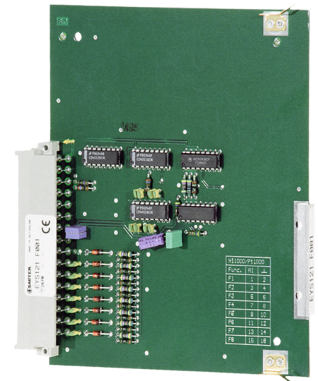
Type	Properties	Max. current consumption	Weight
EYS110F001	Digital input card	17 mA	0.23 kg
EYS110F101	Digital input card with LED	160 mA (all LEDs on)	0.24 kg



EYS 121: Function card for Ni1000/Pt1000 temperature measurement, nova106

Features

- Part of the SAUTER EY3600 system family
- Function card for modular system
- 8 inputs (Ni1000/Pt1000)
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Data recording (historical database)



EYS121F001

Technical data

Power supply

Power supply	From rack
Max. current consumption	12 mA
Max. power loss	0.1 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Inputs/outputs

Number of inputs	8
Type of inputs	Ni1000 (EN 43760) Pt1000 (EN 60751)
Measuring current	Max. 1 mA to earth, pulsed

Measuring range	Ni1000	-50...150 °C
	Pt1000	-100...500 °C

Accuracy	Ni1000 (linearity)	±0.06 °C
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Structural design

Weight	0.12 kg
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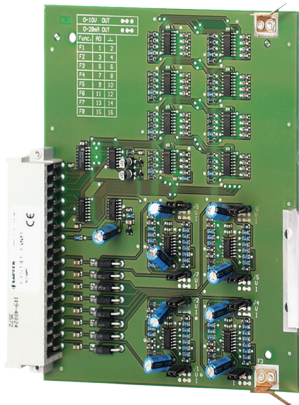
Standards and directives

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
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Overview of types

Type	Properties
EYS121F001	Function card for Ni1000, Pt1000 temperature measurement, nova106





EYS141F001

EYS 141: Function card AO 0...10 V or 0...20 mA, nova106

Features

- Part of the SAUTER EY3600 system family
- Function card for modular system
- 8 outputs
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Data recording in historical database (HDB)

Technical data

Power supply

Power supply	From rack
Max. current consumption	190 mA
Max. power loss	2.2 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rF no condensation

Inputs/Outputs

	Number of outputs	8, analogue
Type of outputs	Voltage	0...10 V, max. 20 mA
	Current	0...20 mA, max. 10 V
	Protection against disturbance voltage	600 V/1 ms

Construction

Weight	0.145 kg
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Standards and directives

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-4, EN 55022 Class A
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Overview of types

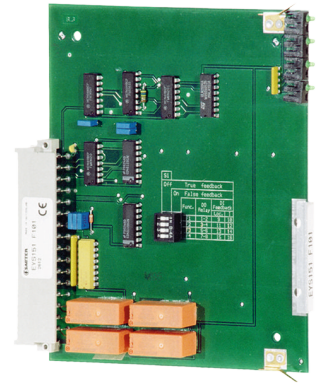
Type	Properties
EYS141F001	Function card for AO 0...10 V or 0...20 mA, nova106



EYS 155: Function card, command 0-I/0-I-II, nova106

Features

- Part of the SAUTER EY3600 system family
- Function card for modular system
- 8 digital outputs
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Data recording in historical database (HDB)



EYS155F101

Technical data

Power supply

Power supply	From rack
Max. current consumption	170/185 mA
Max. power loss	6.2 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Inputs/outputs

Number of outputs	8 × 0-I/ 4 × 0-I-II
Type of outputs	Relay
Load on outputs	42 V~/=/2A

Structural design

Weight	0.18 kg
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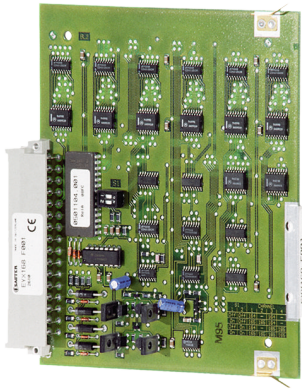
Standards and directives

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
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Overview of types

Type	Properties	Max. current consumption
EYS155F001	-	170 mA
EYS155F101	with LED	185 mA





EYX168F001

EYX 168: Driver card DO, nova106

Features

- Part of the SAUTER EY3600 system family
- Function card for modular system
- Communication: SAUTER novaNet
- 2/4 output channels
- 6 outputs
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Data recording in historical database (HDB)

Technical data

Power supply

Power supply	From rack
Max. current consumption	220 mA
Max. power loss	2.6 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Parameters

Factory setting	All switches to 'Off' position
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Inputs/outputs

	Field telegram, novaLink	≤ 100 m (5 nF/7.5 Ω) twisted and shielded, both ends to ground
novaLink channels	Digital outputs	8 (2 channels for moduLink164 field module) 16 (4 channels for moduLink165 field module)

Structural design

Weight	0.175 kg
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Standards and directives

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
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Overview of types

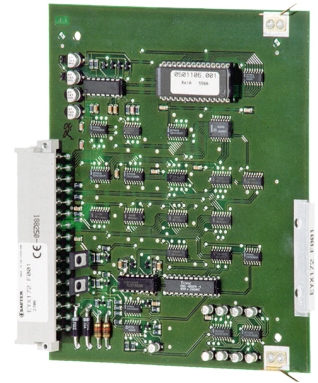
Type	Properties
EYX168F001	Driver card DO, nova106



EYX 172: Driver card AO 0...10 V, nova106

Features

- Part of the SAUTER EY3600 system family
- Function card for modular system
- 2 output channels
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Data recording in historical database (HDB)



EYX172F001

Technical data

Power supply

Power supply	From rack
Max. current consumption	120 mA
Max. power loss	0.1 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Inputs/outputs

Field telegram, novaLink	≤ 100 m (5 nF/7.5 Ω) twisted and shielded, both ends to ground
Analogue outputs	8 (2 channels for moduLink170 field modules)

Structural design

Weight	0.17 kg
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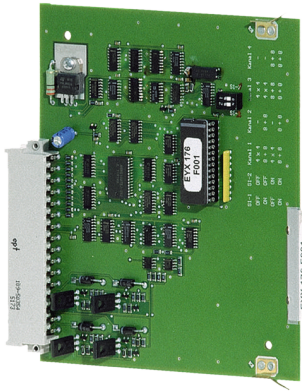
Standards and directives

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
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Overview of types

Type	Properties
EYX172F001	Driver card AO 0...10 V, nova106





EYX176F001

EYX 176: Driver card for field module DI, nova106

Features

- Part of the SAUTER EY3600 system family
- Function card for modular system
- 4 input channels
- Communication: SAUTER novaNet
- Programming/parameterisation via PC using CASE Suite software (based on IEC 61131-3)
- Data recording in historical database (HDB)

Technical data

Power supply

Power supply	From rack
Max. current consumption	600 mA
Max. power loss	7.2 W

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Inputs/outputs

Field telegram, novaLink	100 m max. (5 nF/7.5 Ω) twisted and shielded, both ends to ground
Digital inputs	64 (4 channels for modulink174 field modules)

Structural design

Weight	0.3 kg
Card slots	1...7

Standards and directives

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
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Overview of types

Type	Properties
EYX176F001	Driver card for field module DI, nova106



EYZ 101: UPS for compact AS and field modules

Features

- Part of the SAUTER EY-modulo 2 and EY3600 system families
- Uninterruptible power supply (UPS) for EY3600 compact automation stations (AS) and field modules
- Provides an uninterrupted change-over to battery mode for the EY3600 compact AS in the event of a power failure
- Used for emergency power supply of 24 V~ for moduLink or novaLink field modules
- 4 LEDs (Power, AS UPS, EYY UPS and Fault) for diagnostic purposes



EYZ101F001

Technical data

Power supply

Max. charging current	100 mA, - 12 V from AS or 24 V
Charging voltage	13.5 V
Charging time	72 h (max. for 6 Ah batt.)
Deactivation	< 9.8 V
Emergency power supply	From 11.9 V
Accumulator specifications	12 V/6.0 Ah lead battery
Information outputs	Battery mode, alarm

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Structural design

Weight	0.1 kg
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Standards and directives

CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
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Overview of types

Type	Properties
EYZ101F001	UPS for compact AS and field modules

Accessories

Type	Description
0367887001	12 V/6 Ah lead battery





EYZ291F001

EYZ 291: Router, novaNet291

How energy efficiency is improved

SAUTER novaNet communication, technology that has proven itself thousands of times over

Features

- Part of the EY-modulo 2 and EY3600 system family
- Bus access device for novaNet system bus with RS-232 interface
- For configuring EY-modulo 2 and EY3600 stations with SAUTER CASE applications
- For management-level software and all SAUTER novaPro visualisations and novaNet OPC servers
- Direct communication from novaNet stations to PC with a serial connection
- Remote access with router function via RS-232 modem
- Remote monitoring in routel mode via RS-232 modem (i.e. automatic uploading of events)
- Communication using two-wire novaNet system bus
- Communication with RS-232-compatible pairs of devices (dial-up modem, ISDN adaptor, electronic surge protector, OWG converter, wireless modem etc.)
- 1 MB buffer for separating the time characteristics of novaNet and RS-232 interface

Technical data

Power supply

Power supply	230 V~, 50/60 Hz
Max. current consumption	10 VA

Ambient conditions

Operating temperature	0...45 °C (32...113 °F)
Storage and transport temperature	-25...70 °C (-13...158 °F)
Humidity	10...90% rh, no condensation

Interfaces and communication

COM port (DTE)	DB9 plug
novaNet	1 × a/b terminal, 1 × RJ-11 socket
DIP switch	4 (baud rate, router/routel function)

Construction

Weight	0.99 kg (2.2 lb)
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Standards and directives

	Type of protection	IP 20 (EN 60529)
CE conformity as per	EMC directive 2004/108/EC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4

Overview of types

Type	Description
EYZ291F001	novaNet router

Accessories

Type	Description
0367862001	novaNet291 or moduNet292 automation station 1.5 m (4.9 ft)
0367862002	novaNet291 or moduNet292 automation station 2.9 m (9.5 ft)
0367862003	novaNet291 or moduNet292 automation station 6.0 m (19.7 ft)



YYO 300: OPC server

Features

- Integration of novaNet stations from the EY-modulo 2 and EY3600 ranges
- novaNet bus access with the devices
 - a. novaNet291 router as a direct connection or via modem for a remote connection
 - b. moduNet292-novaNet-Ethernet interface
- Data exchange for status, commands, measured values and setpoints
- Query of historical data
- Display and setting of time programmes and calendars in the stations (ActiveX components)
- OPC specification: in accordance with OPC Data Access 2.0 (OPC DA 2.0)
- For visualisation software with OPC client function and optional support for ActiveX
- Windows operating systems:
 - Windows XP Professional, Windows 7 (32- and 64-bit), Windows Server 2008
- PC interfaces:
 - EIA-232 (COM interface for novaNet291/router)
 - EIA-232/modem (modem interface for dial-up operation with novaNet291/router)
 - Ethernet (via novaVPort driver for moduNet292)



YYO300F010

Overview of types

Type	Properties
YYO300F010	novaNet OPC server for EY-modulo 2 and EY3600 (incl. USB key/dongle)

Accessories

Type	Description
EY-BU292F001	novaNet-Ethernet interface (cabinet model)
EY-BU292F002	novaNet-Ethernet interface (desktop model)
EYZ291F001	novaNet router





EYZ485F0001

EYZ 485: DL converter for V.24

Features

- Part of the SAUTER system family for integrating EY2400
- Auxiliary device for integrating EY2400 on the management level
- Communication on EY2400 data line via EIA-232/V.24 to PC
- For process visualisation of EY2400 substations
- Data line access for novaPro Open to EY2400 substations
- For the parameterisation of EY2400 substations

Technical data

Power supply

Power supply	230 V~, 50/60 Hz
Power consumption	5 VA

Ambient conditions

Operating temperature	0...45 °C
Storage and transport temperature	-25...70 °C
Humidity	10...90% rh, no condensation

Interfaces and communication

EIA-232/V.24	Max. 15 m cable length, with monitoring of handshake signal
EY2400 data line	Max. 300 Ω/200 nF (4 km)

Structural design

Dimensions W x H x D	178.5 × 103 × 43 mm
Weight	0.4 kg

Standards and directives

Type of protection	IP 20 (EN 60529)
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Overview of types

Type	Properties
EYZ485F001	DL converter for V.24



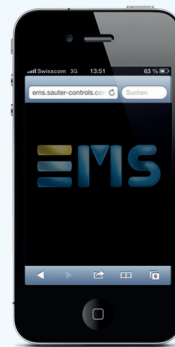
Management level

SAUTER software solutions enable open, flexible building management – for the highest level of efficiency in installations of all sizes.

SAUTER believes that efficiency begins with flexibility. With novaPro Open, Vision Center and the Energy Management Solution (EMS), SAUTER provides software solutions for all the specific requirements of building management. They enable the customer's particular wishes to be implemented. For instance, novaPro Open can handle large and small systems – existing and new ones. SAUTER Vision Center unifies building management and the mobility requirements of the internet generation and provides integral building automation on all levels. EMS shows the energy flows and consumptions to users and operators transparently. This helps to improve energy efficiency and reduce costs. SAUTER novaPro Open, Vision Center and EMS naturally support open interfaces and communicate in all the conventional protocols in order to integrate sub-systems.



SAUTER
Vision Center

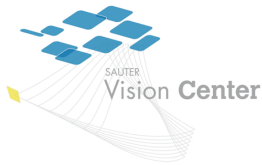


Management level

Software

YZP 480...495: SAUTER Vision Center	544
YZP 410...430: novaPro Open Suite	546
EMS 100, 200: Energy Management Solution (EMS)	548
EDL 50/55: Energy Data Logger for EMS	552
EDL 1000: Energy Data Logger	553





YZP 480...495: SAUTER Vision Center

SAUTER Vision Center (SVC)

SAUTER Vision Center is one of the leading building management software tools of the fourth generation. It combines the basic functions of building management with the mobility requirements of the internet generation and the openness of today's information technologies. Basic functions such as creating alarm and data point lists, graphics or reports can easily be customised, and innovative tools enable them to be expanded. Using additional components, the user can adjust the standard solution to his or her own specific requirements, e.g. the energy management module for monitoring the energy consumption.

Functions of the building management

- Alarms
- User management
- Audit trail
- Navigation/images
- Object list
- Reports
- Schedules and calendars
- Multi-protocol (web services with moduWeb Vision, BACnet native, OPC UA from version 3.0)

Advanced functions of the building management

- Alarm statistics, alarm report
- Configurable audit trail
- Interactive object list
- Periodic/manual reporting for alarms
- Alarm-based report creation
- Language selection during operation
- Alarm forwarding via e-mail or SMS via e-mail

Optional modules

- Energy monitoring, including calculations and alarms
- User-friendly export module

Maintenance

Nowadays, the maintenance of computer systems is a fixed component of company strategy. With the maintenance contract, additional functions can regularly be added to SVC. This ensures that investments are protected in the long term and that the software functions optimally.

Engineering

The CASE Suite tools enable easy, effective development of the SVC project. It enables the necessary structures and images to be created.

Description of basic licence

- Alarm modules
- Alarm forwarding
- Address list module
- Navigation/images
- Graphic module
- Audit trail modules
- Report
- Time programme module
- Native BACnet driver
- moduWeb Vision driver



- Date archiving
- Licence for 500 objects

Overview of types

i References

Type	Description
YZP480F200	SAUTER Vision Center, basic package with maintenance
YZP481F200	SAUTER Vision Center, 100 objects with maintenance
YZP481F210	SAUTER Vision Center, 1000 objects with maintenance
YZP481F220	SAUTER Vision Center, 10000 objects with maintenance
YZP485F***	SAUTER Vision Center OPC client UA (DA implemented via UA/DA gateway)
YZP485F201	SAUTER Vision Center, Energy management with maintenance
YZP480F999	SAUTER Vision Center, Engineering licence with maintenance
YZP480F099	SAUTER Vision Center, DVD

Accessories

Type	Description
0900360001	Hardlock VM





YZP41*F*0*

YZP 410...430: novaPro Open Suite

Features

- More than 100 drivers for the integration of non-SAUTER systems
- Connection to databases via ODBC, DDE, SQL, OPC
- Due to scalability and modularity, can be adjusted to the particular requirements of a system
- Advanced alarm management enables notification of events via text message, e-mail, fax or voice mail.
- The integrated time planner provides better planning of the duty personnel who are called out when an alarm occurs.
- Tools for CASE Suite and project management
- novaPro Open Suite basic package includes:
 - Visualisation
 - Scheduler
 - Driver for EY3600 novaNet
 - 5 web clients
 - Report generator
 - PLC functionality
 - OPC server and OPC client
 - ZP3600, ZP2400, BACnet scheduler
- novaPro Open Suite Runtime includes:
 - Runtime (no Studio)
 - 300 tags
 - 1 web client
 - 1 driver (3600 or BACnet)
 - PLC functionality
 - All drivers and OPC included free of charge
 - ZP3600 and ZP2400

Overview of types

Type	Features
YZP410F001	novaPro Open Suite basic package, incl. 500 addresses
YZP410F101	novaPro Open Suite basic package, incl. 2000 addresses
YZP410F201	novaPro Open Suite basic package, incl. 5000 addresses
YZP410F301	novaPro Open Suite basic package, incl. 65000 addresses

Accessories

Type	Description
EY-BU292	moduNet292 (see product data sheet)
EYZ291	novaNet291, novaNet router (see product data sheet)
EYZ485	V.24/EY2400 DL converter (see product data sheet)
YZP416F101	Driver for EY2400
YZP416F201	Driver for EY3600 (included in YZP410F***)
YZP416F311	Driver for native BACnet (vpiwnbcn.dll)
YZP417F101	Access for 10 web clients
YZP417F201	Access for 20 web clients
YZP417F301	Access for 100 web clients
YZP418F001	AAM Advanced Alarm Module
YZP418F201	Real Speak™
YZP419F101	Upgrade from 500 to 2000 addresses
YZP419F201	Upgrade from 2000 to 5000 addresses
YZP419F301	Upgrade from 5000 to 65000 addresses



Type	Description
YZP420F003	Version update: previous version to latest version
YZP420F004	Version update: older versions to latest version
YZP420F999	novaPro Open Suite: latest DVD
YZP421F002	novaPLC upgrade from 500 to 65000 addresses
YZP422F001	Exchange of parallel dongle to USB
YZP427F006	FPS Single Flat/Rolled Optical FBI USB
YZP430F001	LDAPe Enrolment Licence
YZP430F002	LDAPV Verification Licence



EMS 100, 200: Energy Management Solution (EMS) version 3 incl. EMS Mobile



Transparency and visualisation of energy consumption and CO₂ emissions

SAUTER EMS offers all the advantages of a state-of-the-art cloud solution. For example, energy management information can be called up at any time online, and reports can be automatically sent in a variety of formats.

As an alternative, EMS is also available as a licence solution for implementation in an existing IT infrastructure.

Measurement data is analysed and displayed in standardised reports or on portal pages that are available online and can be called up in a WEB browser via smartphones and tablets (iOS or Android), and via standard PCs and notebooks.

EMS Mobile is available to access alarms and portal pages and is specially optimised for smartphones and tablets.

Features

- Centralised management of energy data for centralised and decentralised sites based on measurement data, key figures and reference variables
- EMS Mobile can optimise significantly manual data entry for meter reading rounds, and also ensures the data quality and that the data is available more quickly. Another function is the forwarding of alarms from SAUTER EMS to building management systems (BMS) and the closer linking of SAUTER EMS and BMS, which enables fully automatic energy management.
- Standard reports for displaying measurement data, with comprehensive analysis options with Scatter Plots, Carpet Plots and load curves. These are important components and requirements for a wide variety of "green building" certifications according to standards such as LEED, BREEAM, EnEV, MINERGIE, HQE, GreenCalc+, and for company certification according to ISO 50001.
- Logbook for documenting measures and entering comments and notes, in line with ISO 50001
- Displaying portal elements in external applications, including websites, PowerPoint presentations and Green Building Monitors
- Software Data Connector (SDC), including SSL functionality for building management systems such as novaPro Open, novaPro Enterprise for Energy Data Loggers (EDLs), and for e-mail, SNMP (licence model only) and SQL
- SDC FTP data source for automatic import of CSV, XML, MSCONS and LPEX file formats
- Direct data acquisition (independent of SAUTER) through one or more Energy Data Loggers (EDL hardware module)
- Data acquisition, validation and automatic aggregation to daily, weekly, monthly and yearly values
- Entering and using time-dependent reference variables such as areas, operating and opening times, production times or high- and low-rate times
- Display of measurement data, reference variables and key figures as time series in charts for any periods
- Web-based graphic display of energy consumption including the basis for generating the Energy Performance Certificate
- Web-based graphic energy consumption comparisons with standardised benchmarks
- Alarm management
- Optional creation of reports directly using the report module integrated in the SAUTER EMS server
- Creation of reports in completely automated form, and automatic sending of these reports via e-mail
- Seamless integration into facility management systems¹⁾ Possible as an option with SAUTER EMS server
- Allocation of consumption and costs to internal cost centres and third-party tenants. Optional connection of maintenance, CAFM and accounting systems²⁾

Technical description

- Alarm management
- Data point management
- Management of measurement data

¹⁾ The development of the function is charged separately

²⁾ The development of the function is charged separately



- Aggregation (compression) of measurement data
- Manual and automatic correction of measurement data
- Presentation of measured values
- Benchmarking
- Standard reporting (daily/weekly/monthly/yearly energy report)
- Creation and automatic export of the report
- User administration
- Data export
- Configurable heating degree days

Technical data

Hardware

Processor	Dual-core CPU 64-bit / x64-compatible
Clock rate	> 2 GHz
RAM	At least 4 GB RAM if the server is being used for EMS on a dedicated basis (2 GB must be used for VMware)
Memory capacity	20 GB free HDD space for VM partition

Software

Operating system ³⁾	VMware ESX(i) Server from 4.0 (recommended) or MS Windows 7 (x64), MS Windows Server 2008 (x64/from standard), Windows Server 2012 (VMware Workstation is required for MS OS)
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EMS licence basic packages and user licences

Products	Description
EMS100F011	Basic system package including 10 data points (DP), 1 simultaneous user, 5 portal clients and an SDC for novaPro Open
EMS100F012	Basic system package including 10 DP, 1 simultaneous user, 5 portal clients and an SDC for EDL
EMS100F013	Basic system package including 10 DP, 1 simultaneous user, 5 portal clients and an SDC for novaPro
EMS100F014	Basic system package including 10 DP, 1 simultaneous user, 5 portal clients and an SDC for novaPro 32
EMS100F015	Basic system package including 10 DP, 1 simultaneous user, 5 portal clients and an SDC for novaPro Web
EMS100F016	Basic system package including 10 DP, 1 simultaneous user, 5 portal clients and an SDC for novaPro Enterprise
EMS120F010	(Sys) 1 additional simultaneous user (local user on EMS server)
EMS120F012	(Sys) 5 additional portal clients for accessing EMS Mobile and the Standard EMS Portal
EMS110F001	(Sys) each with 10 EMS DP from 11 to 30 DP
EMS110F002	(Sys) each with 10 EMS DP from 31 to 100 DP
EMS110F003	(Sys) each with 10 EMS DP from 101 to 200 DP
EMS110F004	(Sys) each with 100 EMS DP from 201 to 1000 DP
EMS110F005	(Sys) each with 200 EMS DP from 1001 to 2000 DP
EMS110F006	(Sys) each with 500 EMS DP from 2001 to 6000 DP
EMS110F007	(Sys) each with 1000 EMS DP from 6001 to 10000 DP
EMS420F001	(Sys) software maintenance contract (18% per year)
EMS110F999	Current software on DVD

³⁾ The SAUTER EMS server is supplied as a virtual machine (VMware)

Software Data Connector (SDC) options for data acquisition for various BMS, e-mail, FTP, SQL and SNMP systems

Options	
Type	Description
EMS140F001	(Sys) SDC for novaPro Open
EMS140F002	(Sys) SDC for novaPro Web
EMS140F003	(Sys) SDC for novaPro 32
EMS140F004	(Sys) SDC for novaPro
EMS140F005	(Sys) SDC for novaPro Enterprise
EMS140F009	(Sys) SDC for EDL
EMS140F020	(Sys) SDC for generic SQL for 10 data points (DP)
EMS140F021	(Sys) SDC for SNMP for 10 DP
EMS140F022	(Sys) SDC for e-mail (CSV, MSCONS, LPEX) for 10 DP
EMS140F023	(Host) SDC for FTP (CSV, XML, MSCONS, LPEX) for 10 DP
EMS140F025	(Sys) update DP for SDC e-mail, each with 10 DP from 11 DP to 100 DP
EMS140F026	(Sys) update DP for SDC e-mail, each with 100 DP from 101 DP to 1000 DP
EMS140F027	(Sys) update DP for SDC e-mail, each with 1000 DP from 1001 DP to 5000 DP
EMS140F028	(Sys) update DP for SDC SNMP, each with 10 DP from 11 DP to 100 DP
EMS140F029	(Sys) update DP for SDC SNMP, each with 100 DP from 101 DP to 1000 DP
EMS140F030	(Sys) update DP for SDC SNMP, each with 1000 DP from 1001 DP to 5000 DP
EMS140F031	(Sys) update DP for SDC SQL, each with 10 DP from 11 DP to 100 DP
EMS140F032	(Sys) update DP for SDC SQL, each with 100 DP from 101 DP to 1000 DP
EMS140F033	(Sys) update DP for SDC SQL, each with 1000 DP from 1001 DP to 5000 DP
EMS140F034	(Sys) update DP for SDC FTP, each with 10 DP from 11 DP to 100 DP
EMS140F035	(Sys) update DP for SDC FTP, each with 100 DP from 101 DP to 1000 DP
EMS140F036	(Sys) update DP for SDC FTP, each with 1000 DP from 1001 DP to 5000 DP

EMS hosting basic packages and user licences

Products	
Type	Description
EMS200F001	Basic hosting package including 10 data points (DP), 1 user and 1 SDC for novaPro Open
EMS200F002	Basic hosting package including 10 DP, 1 user and 1 SDC for EDL
EMS200F003	Basic hosting package including 10 DP, 1 user and 1 SDC for novaPro
EMS200F004	Basic hosting package including 10 DP, 1 user and 1 SDC for novaPro 32
EMS200F005	Basic hosting package including 10 DP, 1 user and 1 SDC for novaPro Web
EMS200F006	Basic hosting package including 10 DP, 1 user and 1 SDC for novaPro Enterprise
EMS210F001	(Host) each with 10 EMS DP from 11 to 30 DP
EMS210F002	(Host) each with 10 EMS DP from 31 to 100 DP
EMS210F003	(Host) each with 10 EMS DP from 101 to 200 DP
EMS210F004	(Host) each with 100 EMS DP from 201 to 1000 DP
EMS210F005	(Host) each with 200 EMS DP from 1001 to 2000 DP
EMS210F006	(Host) each with 500 EMS DP from 2001 to 6000 DP
EMS210F007	(Host) each with 1000 EMS DP from 6001 to 50000 DP
EMS220F001	(Host) 1 additional simultaneous user (user access on host)
EMS220F002	(Host) 5 portal clients for accessing EMS Mobile and the Standard EMS Portal

Software Data Connector (SDC) options for hosting for data acquisition for various BMS, e-mail, FTP and SQL systems

Options	
Type	Description
EMS240F001	(Host) SDC for novaPro Open
EMS240F002	(Host) SDC for novaPro Web
EMS240F003	(Host) SDC for novaPro 32
EMS240F004	(Host) SDC for novaPro
EMS240F005	(Host) SDC for novaPro Enterprise
EMS240F009	(Host) SDC for EDL
EMS240F020	(Host) SDC for generic SQL for 10 data points (DP)

Options	
EMS240F022	(Host) SDC for e-mail (CSV, XML, MSCONS, LPEX) for 10 DP
EMS240F023	(Host) SDC for FTP (CSV, XML, MSCONS, LPEX) for 10 DP
EMS240F025	(Host) update DP for SDC e-mail, each with 10 DP from 11 DP to 100 DP
EMS240F026	(Host) update DP for SDC e-mail, each with 100 DP from 101 DP to 1000 DP
EMS240F027	(Host) update DP for SDC e-mail, each with 1000 DP from 1001 DP to 5000 DP
EMS240F031	(Host) update DP for SDC SQL, each with 10 DP from 11 DP to 100 DP
EMS240F032	(Host) update DP for SDC SQL, each with 100 DP from 101 DP to 1000 DP
EMS240F033	(Host) update DP for SDC SQL, each with 1000 DP from 1001 DP to 5000 DP
EMS240F034	(Host) update DP for SDC FTP, each with 10 DP from 11 DP to 100 DP
EMS240F035	(Host) update DP for SDC FTP, each with 100 DP from 101 DP to 1000 DP
EMS240F036	(Host) update DP for SDC FTP, each with 1000 DP from 1001 DP to 5000 DP

Accessories

Type	Description
EDL50F001	Energy Data Logger 50 for max. 50 DP, incl. M-Bus Master for 25 devices, without software
EDL50F002	EDL 50/55 software licence for 10 DP each for the EDL50 and EDL 55 GSM models, incl. driver for BACnet/IP, M-Bus and Modbus (IP/RTU), KNX IP
EDL55F001	Energy Data Logger 55 GSM for max. 50 DP with GSM module, incl.(same as EDL50..)
EDL1000F001	Energy Data Logger 1000 including 10 data points (DP) for data acquisition and drivers for BACnet/IP, M-Bus and Modbus (IP-RTU), KNX IP and DIN mounting kit
EDL1000F002	EDL 1000 update for each 10 data points (DP) from 11 to 100 DP
EDL1000F003	EDL 1000 update for each 100 DP from 101 to 1000 DP
EDL1000F004	EDL 1000 update for each 1000 DP from 1001 to 10000 DP





EDL50F001



EDL55F001

EDL 50/55: Energy Data Logger for EMS

How energy efficiency is improved

The SAUTER EDL 50 and EDL 55 enable you to analyse energy consumption comprehensively. The Energy Data Loggers gather data from different meters as well as other sources and send it to the EMS server. This enables you to keep track of your consumption values at all times independently of a Building Management System (BMS)

Features

- Integrated M-Bus master for 25 devices
- No moving parts
- No fan
- Flash card as storage medium
- SIM card (EDL 55 only)
- EDL 50/55 can be mounted directly on the top-hat rail according to EN 60715
- Power supply: 18...30 V= (max. 0.7 A, typ. 2.4 W) via connection terminal block using Phoenix screw terminals

Technical data

Parameters

Power supply	18...30 V= (max. 0.7 A, typ. 2.4 W)
Power consumption	12 W (typical)

Ambient conditions

Operating temperature	-25...75 °C
Humidity without condensation	5...95% relative air humidity

Architecture

Processor	ARM9, 400MHz
Memory	128 MB RAM + 256 MB flash

Interfaces and communication

Ethernet	1x 10/100 Base-T RJ45
COM 1	1x RS-232, 1x RS-485
Hardware extension	Slot for SD card (max. 32 GB)
Driver	BACnet/IP Modbus (TCP & RTU) M-BUS (master for 25 slaves) KNX-IP, IEC 61107 M-Bus converter included

Construction

Fitting	Top-hat rail as per EN 60715
Weight	0.225 kg
Dimensions W x H x D	88 x 57 x 91

Standards and directives

EMC directive 2004/108/EC	EN60950, EMC:EN55022 (9:2003), EN55024 (10:2003) EN60950, EMC: EN55022 (9:2003), EN55024 (10:2003)
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Overview of types

Type	Description
EDL50F001	Energy Data Logger 50 for max. 50 DP, without GSM, without software
EDL55F001	Energy Data Logger 55 for max. 50 DP, with GSM, without software
EDL50F002	EDL 50/55 software licence for 10 data points, obligatory for EDL50 and EDL55



EDL 1000: Energy Data Logger for EMS



EDL1000F001

Features

- No moving parts
- No fan
- Flash card as storage medium
- Power supply via terminal block connector using Phoenix screw terminals¹⁾
- Delivery includes adaptor for fitting onto top-hat rail as per EN 60715

Technical data

Power supply

Power supply	9...36 V= (min. 36 W)
Power consumption	12 W (typical)

Ambient conditions

Operating temperature	-10...70 °C
Admissible ambient humidity	95% rh at 40 °C, no condensation

Architecture

Processor	Intel Atom N450, 1.67 GHz
Memory	2 GB DDR2 SDRAM Built-in
Printer port	1 × DB25
Audio	5.1 Audio channel HD audio

Interfaces and communication

Ethernet	Dual 10/100/1000 Base-T RJ-45
COM	2 × RS-232/485 (COM 1-2), 2 × RS-232/422/485 with 128 kB FIFO (COM A-B)
Display	DB 15 VGA connector
USB	6 × USB 2.0 supported
Extension	1 × PC/104+ and PCI-104 support

Construction

Fitting	Wall fitting, DIN-rail VESA
Dimensions W x H x D	255 × 50 × 160 mm
Weight	2.5 kg

Standards and directives

EMC directive 2004/108/EC	FCC class A, CE, Energy Star
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Overview of types

Type	Description
EDL1000F001	Energy Data Logger 1000 including 10 data points (DP) for data acquisition and drivers for BACnet/IP, M-Bus and Modbus (IP-RTU), KNX IP and DIN mounting kit

Accessories

Type	Description
EDL1000F002	EDL 1000 update for each 10 data points (DP) from 11 to 100 DP
EDL1000F003	EDL 1000 update for each 100 DP from 101 to 1000 DP
EDL1000F004	EDL 1000 update for each 1000 DP from 1001 to 10000 DP

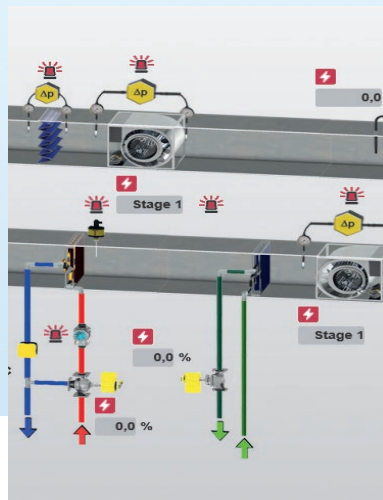
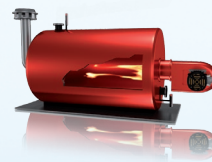
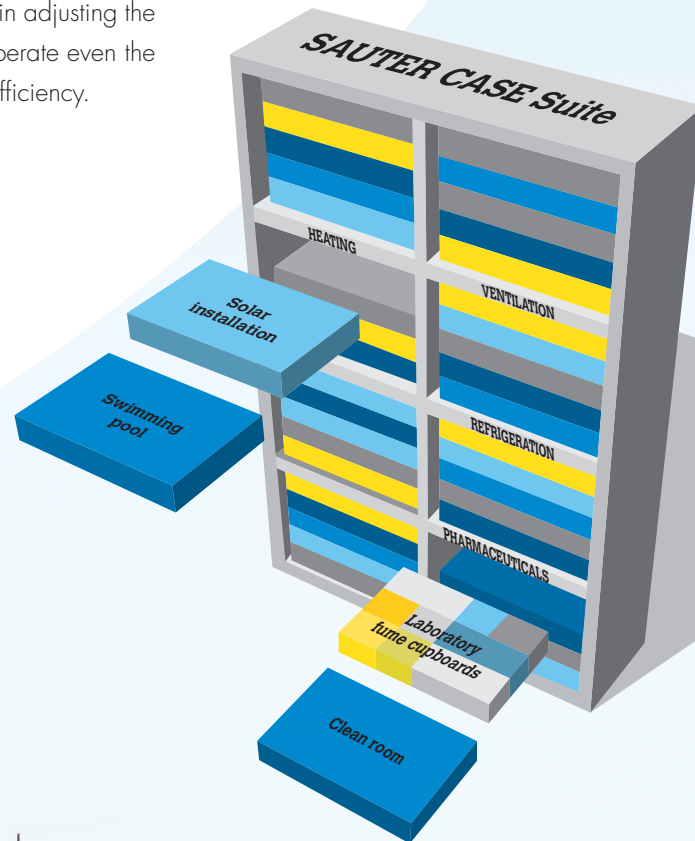
¹⁾ Power supply not included in delivery



SAUTER CASE Suite

Project engineering made easy.

SAUTER CASE Suite is used to carry out the technical project processing for both building management systems and conventional controlling. Energy-efficient strategies and methods are already incorporated in the extensive and proven library. Furthermore, SAUTER CASE Suite is very flexible in adjusting the solutions to meet special requirements, in order to be able to operate even the most unusual customer installations with a high level of energy efficiency.

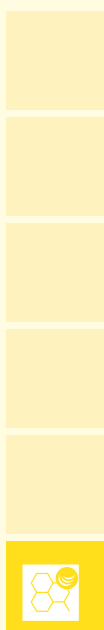


SAUTER CASE Suite

Engineering

GZS 100, 150: CASE Suite

556





GZS 100, 150

GZS 100, 150: CASE Suite

Features

- Supports the whole process of a project, from the planning stage to the engineering, commissioning and servicing phases
- 'Nerve centre' for the project data and software programs
- Seamless integration of the solution libraries
- Safeguards the workflow between the specialist sub-programs (CASE Builder, CASE Engine, CASE Vision)
- Planning and documentation of the plant technology
- Commercial and technical project processing
- Creates the regulation, control and optimisation functions
- Puts the automation stations into service
- Based on Microsoft's Windows operating system
- Multi-lingual program (German, English and French) on DVD
- Licence is required for full use of the program

Overview of types

i All licences delivered without CASE Suite application software

Type	Description
GZS150F010	CASE Suite Enterprise licence
GZS150F011	CASE Suite Enterprise licence, excluding servicing
GZS150F020	CASE Suite Enterprise time licence
GZS150F021	CASE Suite Partner time licence
GZS150F022	CASE Suite Designer time licence
GZS100F599	CASE Tools DVD, latest version (CASE TPC, CASE HWC, CASE Sun, novaNet292 SW etc.)
GZS100F699	CASE Suite DVD, latest version

⚡ GZS150F010: Includes a servicing contract for which an annual fee is charged

Accessories

Type	Description
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