

SideControl Positioner



- Electropneumatic positioner for pneumatically actuated process valves
- II (1) 2 G EEx ia IIC T6 approval

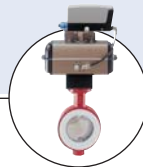
Type 8635 can be combined with...



Type 2712
Globe valve



Globe valve
acc. to NAMUR/IEC



Type 8805
Rotary actuator

The SideControl Positioner Type 8635 is an electropneumatic positioner for pneumatically actuated process valves with linear or part-turn actuators. It is excited in two conductor technology.

Signal processing, control and actuation of the internal positioning system are accomplished with microprocessor-controlled electronics. The software function Autotune implemented therein enables automatic adaptation of the positioner to the control valve in use.

The positioner is parametrized and operated comfortably via three operating keys and a plain-text display. It is possible to set up a decentralized control system if a process controller with PID characteristics is used.

As an option, the SideControl Positioner Type 8635 can be supplied with approval for use in the Ex area (Zone 1) to ATEX. Because of its compact and robust design, the housing is suitable for use in chemical and process engineering.

| Technical data | |
|---------------------------------------|--|
| Body material | Aluminium, hard anodized and plastic coated |
| Other external parts | Stainless steel V4A |
| Seal material | NBR, Neoprene |
| Control medium | neutral gases |
| Processing | DIN ISO 8573-1 |
| Dust content | Class 5 ($\leq 40 \mu\text{m}$ particle size) |
| Particle density | Class 5 ($\leq 10 \text{ mg/m}^3$) |
| Pressure dew point | min. 10° under min. operating conditions |
| Oil concentration | Class 3 ($\leq 1 \text{ mg/m}^3$) |
| Control air temperature | $-25 \dots +60 \text{ }^\circ\text{C}^{1)}$ |
| Ambient temperature | $-25 \dots +60 \text{ }^\circ\text{C}^{1)}$ |
| Supply pressure | $1.4 \dots 6 \text{ bar}^{3)}$ |
| Air flow capacity²⁾ | 55 l/min at $1.4 \text{ bar}^{3)}$ |
| Control valve | 170 l/min at $6 \text{ bar}^{3)}$ for pressurizing and venting |
| Intrinsic air consumption | 0 l/min |
| Positioning range | |
| Linear actuator | $3 \dots 130 \text{ mm}$ |
| Part-turn actuator | $0 \dots 120^\circ$ |
| Position sensor system | High-resolution, conductive plastic, rotary potentiometer |
| Operation | Operating keys and plain-text display |
| Electrical connection | $2 \times \text{M20} \times 1.5$ -bushing Clamping range $6 \dots 12 \text{ mm}$ Screw terminals for $0.14 \dots 1.5 \text{ mm}^2$ |

¹⁾ Up to $+65 \text{ }^\circ\text{C}$ temperature class T4/T5 or without EEx i approval.

²⁾ May be adapted to actuator size with throttle screw.

³⁾ Pressure data in bar; overpressure to ambient.

Technical data (continued)

| Technical data | |
|--------------------------------|------------------------------------|
| Electrical data | |
| Type 8635 | |
| Current supply for electronics | via setpoint signal 4 ... 20 mA |
| Burden voltage | < 10.2 V DC |
| Setpoint setting | 4 ... 20 mA |
| Control air sockets | |
| | G 1/4 |
| | NPT 1/4; RC 1/4 on request |

| Technical data | |
|---|--|
| Mounting kits for linear actuator for part-turn actuator | Namur recommendation acc. to DIN IEC 534 T6 acc. to VDI/VDE 3845 |
| Weight | ca. 1.5 kg |
| Protection class | IP65 acc. to EN 60529 |
| Type of ignition protection | II (1) 2 G EEx ia IIC T6 acc. to DIN EN 50020 |
| Certification | acc. to ATEX 2027 (PTB04) |
| Conformity | EMV-89/336/EWG |

Other electrical data

| | Function values | | Permissible maxima as per Certificate of Conformity | |
|--|-------------------------------|-------------|---|---------|
| | | | | |
| Power Supply | U | 10.2 V | U _i | 30 V |
| | I | 4 mA | I _i | 100 mA |
| Process value input (only for version with process controller) | Burden | 10 Ω | P _i | 1 W |
| | Burden voltage U | < 200 mV | U _i | 30 V |
| | | | I _i | 100 mA |
| | | | C _i | 14.3 nF |
| P _i | 1 W | | | |
| Binary input | make/break contact (conf.) | - | Co | 5.5 μF |
| | | | Lo | 1000 mH |
| Analog feedback (Option) | U | 12 ... 30 V | U _o | 30 V |
| | I | 4 ... 20 mA | I _o | 100 mA |
| | | | P _o | 1 W |
| | | | U _o | 15.5 V |
| Limit switches (Option) (NAMUR initiators) | U | 8 V | I _o | 52 mA |
| | I uncoated | 3 mA | P _o | 150 mA |
| | I coated | 1 mA | | |

Recommendations for isolation transformers / DC transformers input 4 ... 20 mA / output 4 ... 20 mA

| Company | Model | Burden | Ex | active/passive |
|-----------------|----------------|--------|----|----------------|
| Pepperl+Fuchs | KFD2-CD-Ex1.32 | 850 Ω | x | A |
| Foxboro Eckardt | TV228-S-EGX | 700 Ω | x | A |
| Foxboro Eckardt | MT228-S-EGX | 750 Ω | x | A |
| Foxboro Eckardt | II949-S1 ZZZ | 750 Ω | - | A |
| Steel | 9318/16-22-10 | 700 Ω | x | A |
| Steel | M318/12-11-00 | 1000 Ω | x | A |
| PhoenixContact | PI/EX-ID-I/I | 800 Ω | x | A |

- Data given without guarantee of accuracy.
- For dimensioning and operation of intrinsically safe circuits, the user/owner is responsible.

Software functions (depending on the device configuration chosen)

Type 8635

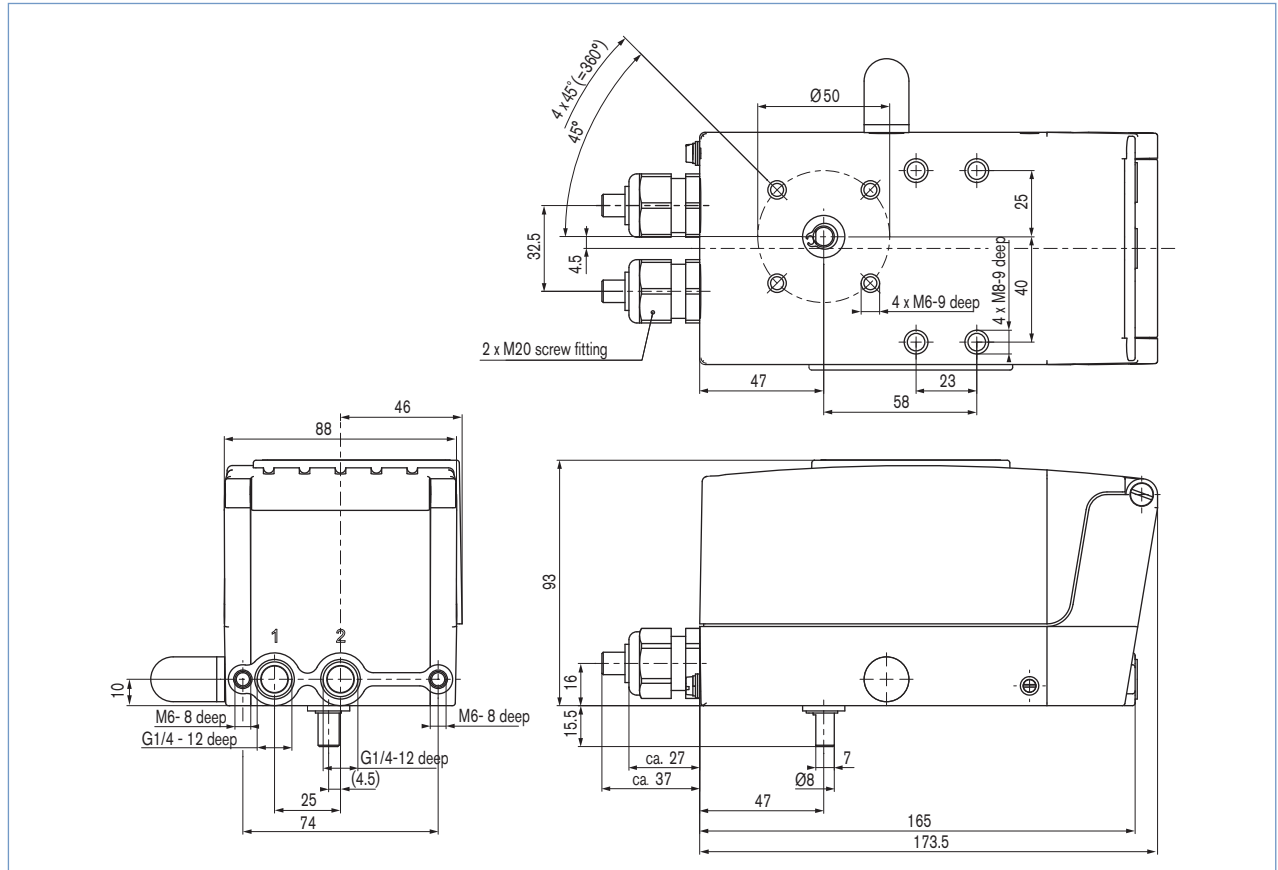
- Automatic commissioning of control system
- Parametrization of the positioner
- Automatic or manual entry of characteristic curve for correction of operating characteristic
- Setting of the tight-closure or maximum stroke threshold
- Stroke limitation
- Limitation of positioning speed
- Dead band
- Direction of action of the controller setpoint
- Signal range splitting (split range up to 4 times)
- Setting of direction of movement
- Definition of a safety position
- Calibration of input and display
- Configuration of binary input
- Code protection for settings/operation
- RESET of factory settings

Software functions (depending on the device configuration chosen)

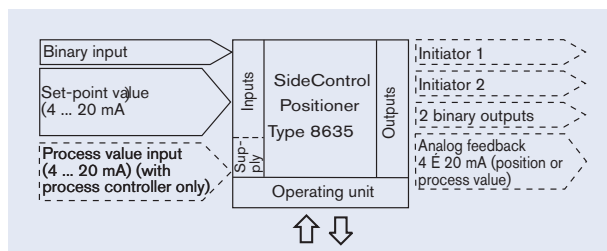
Other software functions on Type 8635

- Optional built-in process controller (PID)
- Automatic parametrization of the process controller
- Setting of the parameters of the process controller
- Calibration of the setpoint input and display
- Configuration of the analog input
- Configuration of the binary input and binary outputs

Dimensions [mm]



Interfaces



Note

The optional inputs and outputs are shown by dotted lines.

Ordering chart (excerpt, other versions on request)

Type 8635

| Function ¹⁾ | Position sensor system | Communication | Initiator DIN EN 60947-5-6 | Analog feedback incl. 2 binary outputs | Mounting on pneumatic linear or part-turn actuator | EEEx approval (acc. to ATEX) | Item no. |
|------------------------|------------------------|---------------|----------------------------|--|--|------------------------------|----------|
| Pos | external | none | | no | mounting on control valve Type 27XX | EEEx ia II C T6 | 150 347 |
| Pos | external | none | | yes | mounting on control valve Type 27XX | EEEx ia II C T6 | 155 369 |
| Pos | internal | none | | no | NAMUR (DIN IEC 534-6; VDI/VDE 3845) | EEEx ia II C T6 | 147 263 |
| Pos | internal | none | 2 open/close | no | NAMUR (DIN IEC 534-6; VDI/VDE 3845) | EEEx ia II C T6 | * |
| Pos | internal | none | | yes | NAMUR (DIN IEC 534-6; VDI/VDE 3845) | EEEx ia II C T6 | 155 371 |
| Pos | internal | none | 2 open/close | yes | NAMUR (DIN IEC 534-6; VDI/VDE 3845) | none | * |
| Pos+Pro | external | none | | no | mounting on control valve Type 27XX | EEEx ia II C T6 | 151 111 |
| Pos+Pro | external | none | | yes | mounting on control valve Type 27XX | EEEx ia II C T6 | 155 373 |
| Pos+Pro | internal | none | | no | NAMUR (DIN IEC 534-6; VDI/VDE 3845) | EEEx ia II C T6 | 147 264 |
| Pos+Pro | internal | none | | yes | NAMUR (DIN IEC 534-6; VDI/VDE 3845) | EEEx ia II C T6 | 155 375 |
| Pos | internal | none | | no | NAMUR (DIN IEC 534-6; VDI/VDE 3845) | none | 147 265 |
| Pos | external | none | | no | mounting on control valve Type 27XX | none | 147 267 |
| Pos+Pro | internal | none | | no | NAMUR (DIN IEC 534-6; VDI/VDE 3845) | none | 147 266 |
| Pos+Pro | external | none | | no | mounting on control valve Type 27XX | none | 147 268 |

¹⁾ Pos.: positioner; pro: process controller

* available on request

Type 8635 is designed for attachment to single-acting actuators.

Other options

- Universal integrated attachment (air channelling without piping)
- Manometer block VA (inlet air and actuator chamber)
- Initiators to NAMUR as limit switches (optional)

Ordering chart for accessories

| Version | Item no. |
|--|----------|
| Mounting kit for linear actuators to DIN IEC 534-6 | 787 215 |
| Mounting kit for part turn actuators to VDI/VDE 3845, without bracket | 787 338 |
| Console VA VDI/VDE3845-ISO5211 FO5 for attachment to a pneumatic actuator from ball valve, Type 8805 | 672 243 |
| Manometer block with 2 manometers, VA | 654 602 |
| Attachment kit for piston actuators Type 27XX, 80 mm | 651 771 |
| Attachment kit for piston actuators Type 27XX, 100 mm/125 mm | 651 772 |
| Attachment kit for piston actuators Type 27XX, 175 mm/225 mm | 655 567 |
| Position sensor system for piston actuators Type 27XX, 80 mm | 651 751 |
| Position sensor system for piston actuators Type 27XX, 100 mm/125 mm | 653 021 |
| Position sensor system for piston actuators Type 27XX, 175 mm/225 mm | 655 535 |

Ordering note

When attached to a Burkert control valve, the SideControl positioner Type 8635 will be supplied only as part of a complete control valve (positioner, position sensor system, associated attached parts and control valve).

- To select a suitable control valve, use the data sheets of Types 27XX.
To order a complete control valve, state the following numbers:
 - the order no. of the SideControl positioner Type 8635
 - the order no. of the position sensor system,
 - the order no. of the selected control valve and
 - the order no. of the associated attached parts with the remark
SideControl positioner Type 8635 control valve.

- Burkert supplies a completely assembled and tested control valve.