

SideControl Positioner

8635

- Electropneumatic positioner for pneumatically actuated process valves
- Optional for use in hazardous areas II (1) 2 G EEx ia IIC T6 approval



The SideControl Positioner, Type 8635, is an electropneumatic positioner for pneumatically actuated process valves with linear or part-turn actuators. It is executed 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.

Technical Data

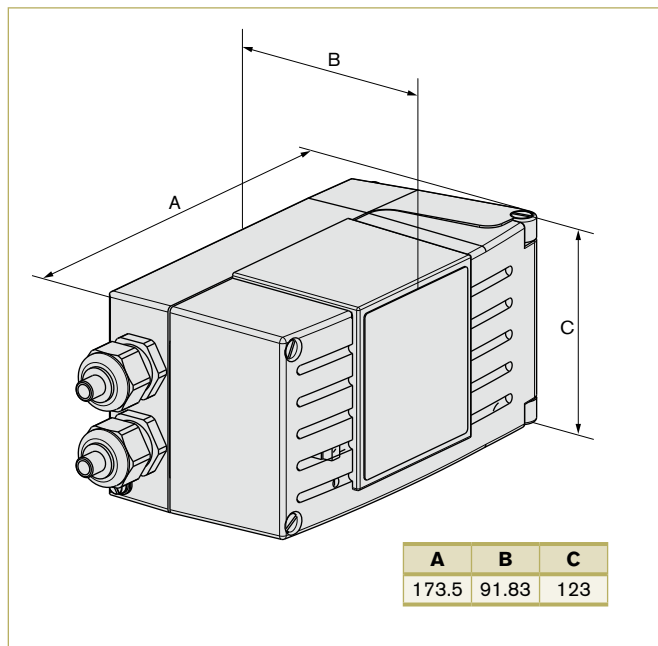
Body material	Aluminium, hard anodized and plastic coated
Other external parts	Stainless steel V4A
Seal material	NBR, Neoprene
Control medium	neutral gases
Processing	DIN ISO 8573-1
Dust content	Class 5 ($\leq 40 \mu\text{m}$ particle size)
Particle density	Class 5 ($\leq 10 \text{ mg/m}^3$)
Pressure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

¹⁾ Up to $+65^\circ\text{C}$ 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 atmospheric pressure

Dimensions [mm] (see datasheet for more details)



Technical Data (continued)

Mounting kits	NAMUR recommendation
for linear actuator	acc. to DIN IEC 534 T6
for part-turn actuator	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

Options

- Universal integrated attachment (air conduction without piping)
- Manometer VA (supply and drive chamber),
- Switches according to NAMUR as limit switches (optional)

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

Other electrical data

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

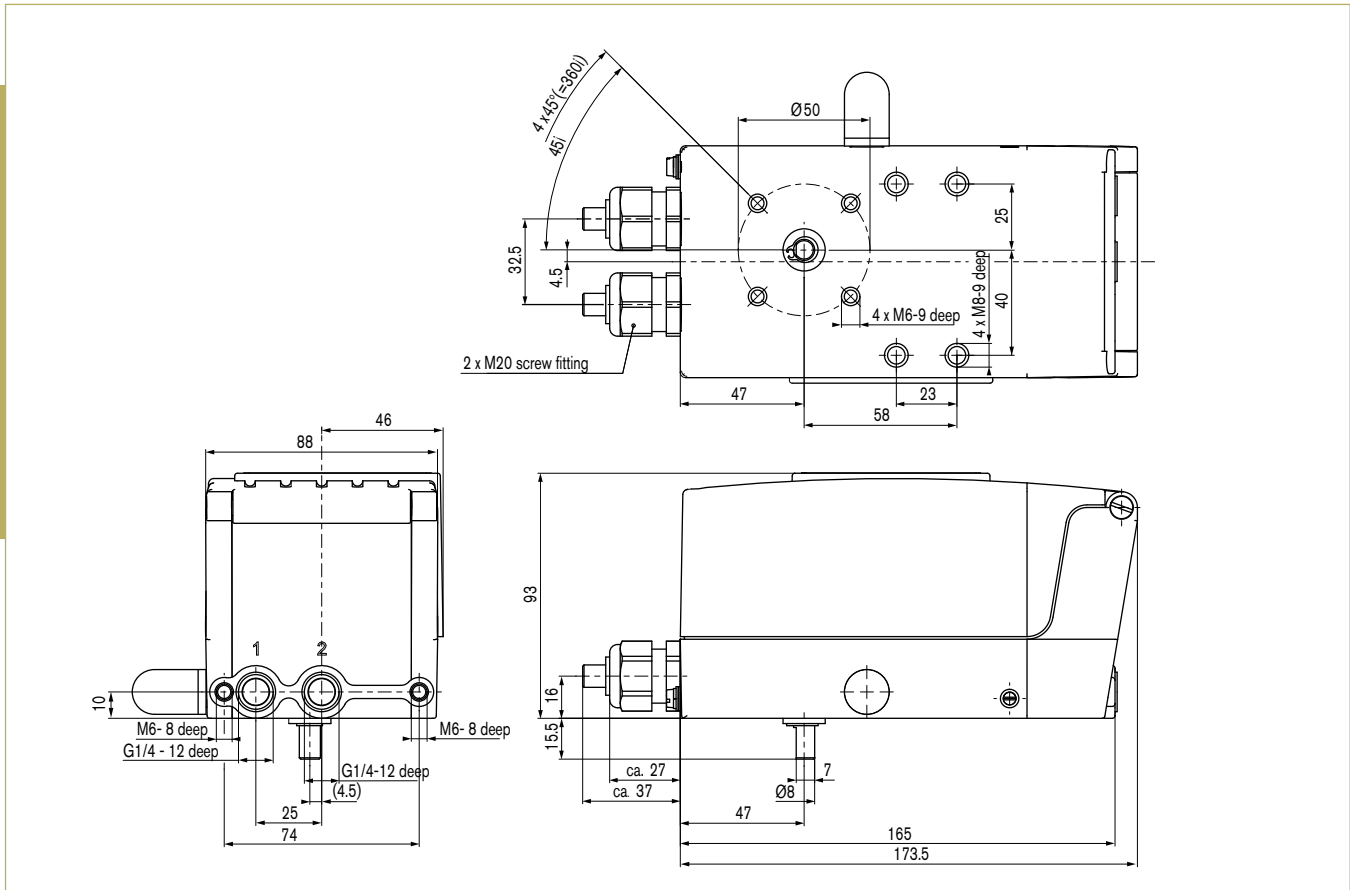
- Data given without guarantee of accuracy.
- For dimensioning and operation of intrinsically safe circuits, the user/owner is responsible.

Software functions (depending on the device configuration chosen)

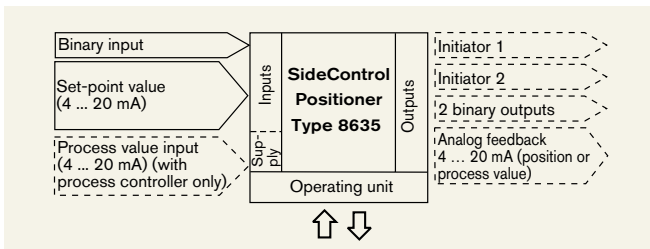
Type 8635

- 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

Dimensions [mm]



Interfaces

**Note**

The optional inputs and outputs are shown by dotted lines.

Ordering chart

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

8635

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 F05 for attachment to a pneumatic actuator from ball valve, Type 8805	770 294
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

- 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, (see accessories)
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.