



## Digital electropneumatic Positioner for the integrated mounting on process control valves

- Compact stainless steel design
- Integrated valve position registration
- Easy start-up
- Binary input
- Analogue feedback (option)
- Internal control air channel

Type 8694 can be combined with...



**Type 2301**  
Globe control valve

**Type 2300**  
Angle-seat control valve

**Type 2103**  
Control diaphragm valve

**Type 2702**  
Angle-seat control valve

**Customised adaption**

Compact positioner for integrated mounting on pneumatically operated process valves. Remote setpoint adjustment via a 4-20 mA signal or through AS-Interface.

A contact-free analog position sensor measures the position of the valve spindle.

Simple installation through automatic tune function and setting through DIP-switch:

- Close tight function
- Characteristic curves selection
- Reversal of effective direction
- Switching manual /automatic operation
- Binary input

Additional parametrisation options are possible through DTM devices.

A software interface can be used for, amongst others, linearisation of the operation characteristics by using free programmable fixed points. The valve position indication is shown through LED components.

As an option an analogue position feedback can be integrated.

1) The supply pressure has to be 0,5 - 1 bar above the minimum required pilot pressure for the valve actuator.

Technical data	
<b>Material</b>	Body Cover Sealing
	PPS, stainless steel PC EPDM
<b>Power supply</b>	24 VDC +/- 10%
<b>Ripple</b>	10%, no technical direct current!
<b>Setpoint setting</b>	4 to 20 mA
<b>Output resistance</b>	180 Ω
<b>Control medium</b>	neutral gases, air DIN ISO 8573-1 Class 5 (<40µm particle size)
Dust concentration	Class 5 (<10mg/m³)
Particle density	Class 3 (<-20°C)
Pressure condensation point	Class 5 (<25mg/m³)
Oil concentration	
<b>Ambient temperature</b>	0 to +60°C
<b>Pilot air ports</b>	Push-in connector (external Ø 6 mm or 1/4") or threaded ports G1/8
<b>Supply pressure</b>	Low air flow rate 0 to 7 bar <sup>1)</sup> High air flow rate 3 to 7 bar (in preparation)
<b>Air input filter</b>	Exchangeable (mesh aperture~0.1mm)
<b>Actuator system</b>	Actuator series 23XX Actuator series 27XX
	Low air flow rate: Ø Actuator 70 / 90 mm Low air flow rate: Ø Actuator 80 / 100 mm High air flow rate: Ø Actuator 125 mm (in preparation)
<b>Position detection module</b>	Contact-free, wear-free
<b>Stroke range valve spindle</b>	3 to 28 mm (47 mm on request)
<b>Installation</b>	as required, preferably with actuator in upright position
<b>Protection class</b>	IP 65/67 according to EN 60529 (NEMA4x in preparation)
<b>Power consumption</b>	< 3.5 W
<b>Electrical connection</b>	Multipole connection Cable gland (in preparation)
	M12 (8-pins), stainless steel 1xM16x1.5 (cable-Ø5-10mm), terminal screws (1.5 mm²)
<b>Protection class</b>	3 according to VDE 0580
<b>Type of protection</b>	II 3 G nA II B T4 (in preparation) II 3 D tD A22 T135° (in preparation)
<b>Conformity</b>	CE acc. to EMV2004/108/EG
<b>Options</b>	Analogue position feedback, 4-20mA
<b>Approval</b>	CSA (in preparation)
<b>Communication</b>	AS-Interface (option, in preparation)

**Ordering information for TopControl-Control valve systems**

A complete **TopControl-Control valve system** consists of a TopControl Basic **Type 8694** and a process valve **Type 23XX or 27XX**. The following information is necessary for the selection of a complete control valve:

- **Item no.** of the Positioner TopControl Basic **Type 8694** without process valve, see ordering chart on p. 3
- **Item no.** of the desired process valve **Type 23XX or 27XX** (see separate datasheets, e.g. 2300, 2301 or 2702, 2712, 2730)
- **Note:** TopControl-Control valve system

When you click on the orange box "More info." below, you will come to our website for the resp. product where you can download the datasheet.

**Example of variations of control valves**

**8694 Positioner TopControl Basic**

**Required process valve, example**



**More info.**

2301  
Globe control  
valve



**More info.**

2300  
Angle-seat  
control valve



**More info.**

2702  
Angle-seat  
control valve

**Complete control valve  
with required body and  
port connection**



**Valve system  
Continuous ELEMENT  
Type 8802-GD-L  
2301 + 8694**



**Valve system  
Continuous ELEMENT  
Type 8802-YG-L  
2300 + 8694**



**Valve system  
Continuous Classic  
Type 8802-YC-L  
2702 + 8694**

Ordering chart Type 8694 (other versions on request)

Valve function	Supply voltage	Electrical connection	Analogue feedback	Pilot air ports	Item no.
<b>Actuator series 23XX</b>					
<b>Actuator size Ø 70 and 90 mm</b>					
Low air flow rate	24 V DC	Multipole M12	No	Push-in connector external Ø 6 mm or 1/4"	201 709
			4 - 20 mA	Push-in connector external Ø 6 mm or 1/4"	201 711
			No	Threaded ports G1/8	201 713
			4 - 20 mA	Threaded ports G1/8	201 715
<b>Actuator series 27XX</b>					
<b>Actuator size Ø 80 and 100 mm</b>					
Low air flow rate	24 V DC	Multipole M12	No	Push-in connector external Ø 6 mm or 1/4"	185 130
			4 - 20 mA	Push-in connector external Ø 6 mm or 1/4"	185 132
			No	Threaded ports G1/8	185 134
			4 - 20 mA	Threaded ports G1/8	185 137
<b>Actuator size Ø 125 mm</b>					
High air flow rate	24 V DC	Multipole M12	No	Push-in connector external Ø 6 mm or 1/4"	■
			4 - 20 mA	Push-in connector external Ø 6 mm or 1/4"	■
			No	Threaded ports G1/8	■
			4 - 20 mA	Threaded ports G1/8	■

■ in preparation

**i Further versions on request**



Ordering chart adapter kit (has to be ordered separately)

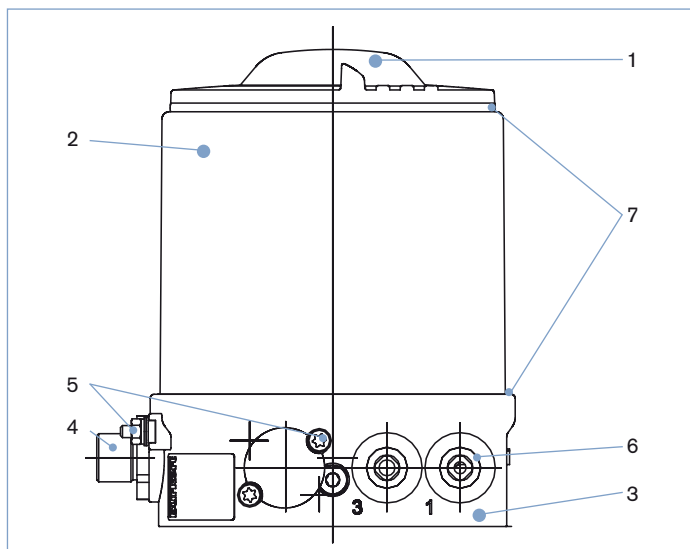
Description	Actuator size	Control function	Item no.
Adapter kit for Type 23xx	Ø 70 / 90 mm	Universal	665 721
Adapter kit for Type 27xx	Ø 80 mm	Universal	675 703
	Ø 100 mm	Universal	675 705
	Ø 125 mm	Universal	■

■ in preparation

Ordering chart accessories

Description	Item no.
M12 socket, 8-pins, 2 m assembled cable	919 061
Silencer G1/8	780 779
Silencer, push-in connector	902 662
Interface for serial communication	659 467

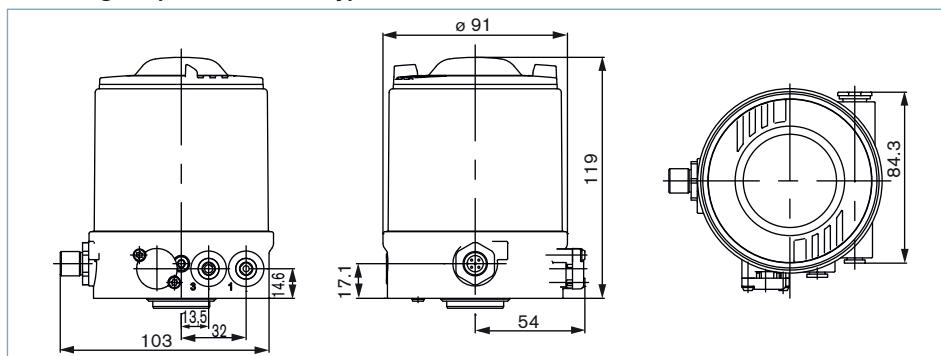
**Materials**



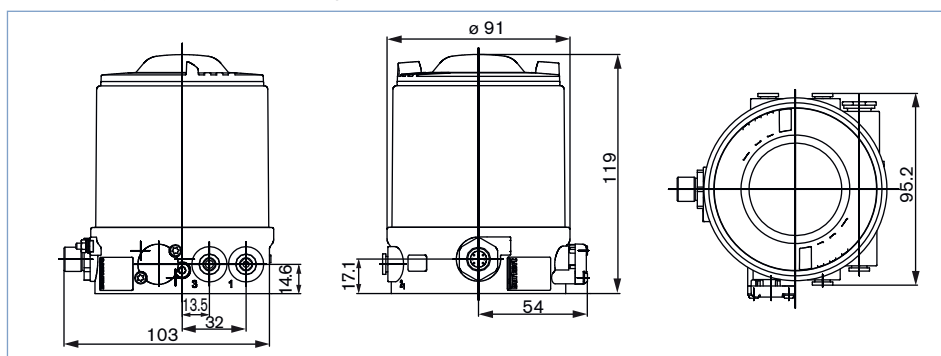
<b>1 Cover</b>	PC
<b>2 Body casing</b>	Stainless steel
<b>3 Basic body</b>	PPS
<b>4 Plug M12</b>	Stainless steel
<b>5 Screws</b>	Stainless steel
<b>6 Push-in connector Threaded ports G1/8</b>	POM/stainless steel Stainless steel
<b>7 Sealing</b>	EPDM

**Dimensions [mm]**

**Mounting on process valve Type 23xx**

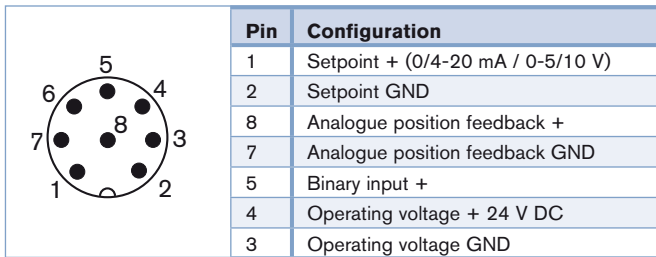


**Mounting on process valve Type 27xx**



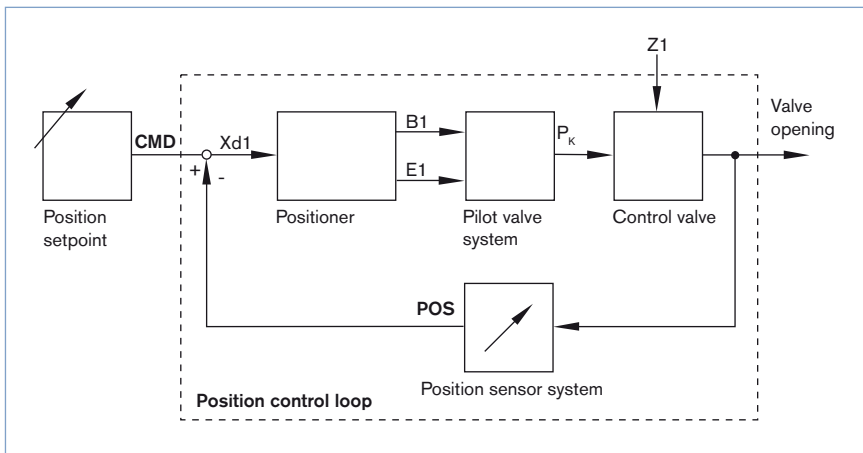
**Connection options**

**Connection Multipole**



**Signal flow diagram**

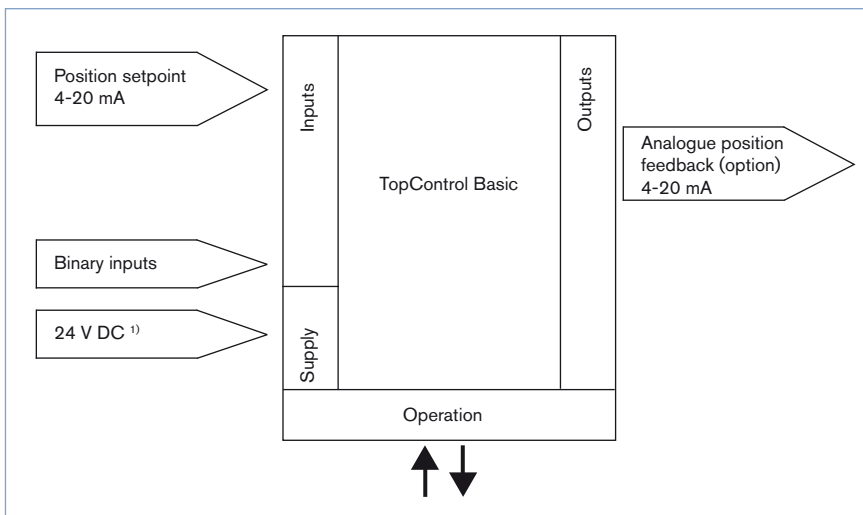
**Position control loop**



**TopControl Basic functions**

- Automatic start of the control system
- Linear or progressive characteristic curves selection (DIP-switch); free programmable over Software interface
- Close tight function
- Reversal of effective direction of the setpoint signal
- Switching manual / automatic operation
- Binary input (controller enable)
- Parametrisation of the device through DTM

**Schematic diagram of the TopControl Basic**



1) The operating voltage is supplied with a 3-wire unit independent from the setpoint signal.

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