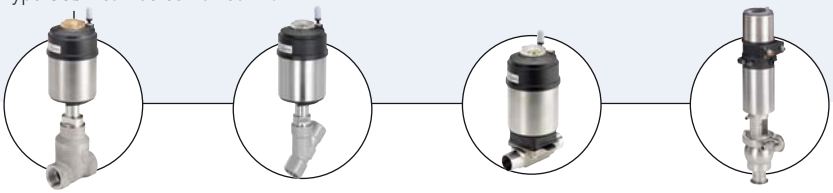
bürkert
FLUID CONTROL SYSTEMS

DTS 1000110876 EN Version: D Status: RL (released | freigegeben | validé) printed: 17.09.2009

Digital electropneumatic Positioner for the integrated mounting on process control valves

- Compact stainless steel design
- Graphic display with backlight
- Easy start-up
- Comprehensive range of additional software functions
- Internal control air channel
- Profibus DPV1 or DeviceNet (option)

Type 8692 can be combined with…



Type 2301
Globe control valve

Type 2300
Angle-seat control valve

Type 2103
Control diaphragm valve

Customised adaption

The compact Positioner Type 8692 is optimised for integrated mounting on the pneumatic actuators in the process valve series Type 23XX/2103 and is specially designed for the requirements of a hygienic process environment.

The control air channel is integrated in the actuator without external tubings. The easy handling and the selection of additional software functions are done either on a big graphic display with backlight and keypad or over a PC interface.

The Positioner registers the valve position without deterioration through a contact-free, analog position sensor. The control of single- or double-acting actuators is done without internal air consumption. Communication interfaces such as Profibus DPV1 or DeviceNet and analogue as well as binary feedback can also be chosen.

Technical data	
Material	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
Power supply	24 VDC +/- 10%
Ripple	10%, no technical direct current!
Setpoint setting	0/4 to 20mA and 0 to 5/10 V
Output resistance	0/4 to 20 mA: 180 Ω 0 to 5/10 V: 19 k Ω
Control medium	neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (<40µm particle size)
Particle density	Class 5 (<10mg/m³)
Pressure condensation point	Cass 3 (<-20°C)
Oil concentration	Class 5 (<25mg/m³)
Ambient temperature	0 to +55°C
Pilot air ports	Push-in connector (external ø 6 mm or 1/4") or threaded ports G1/8
Supply pressure	Low air flow rate 0 to 7 bar [1)] High air flow rate 3 to 7 bar
Air input filter	Exchangeable (mesh aperture~0.1mm)
Actuator system	Low air flow rate: ø Actuator 70 / 90 mm High air flow rate: ø Actuator 130 mm
Position detection module	Contact-free, wear-free
Stroke range valve spindle	3 to 28 mm (3 to 45 mm on request)
Installation	as required, preferably with actuator in upright position
Protection class	IP 65/67 according to EN 60529 (NEMA4x in preparation)
Power consumption	< 5 W
Electrical connection	
Multipole connection	M12, 8-pins or 4-pins
Cable gland	2xM16x1,5 (cable-Ø10mm) on terminal screws (1,5 mm²)
Bus communication	Profibus DPV1, DeviceNet
Protection class	3 according to VDE 0580
Type of protection	II 3 G nA II B T4 II 3 D tD A22 T135°
Conformity	EMV2004/108/EG
Approval	CSA (in preparation)

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

Ordering information for TopControl-Control valve systems

A complete TopControl-Control valve system consists of a TopControl Type 8692 and a process valve Type 23XX/2103. The following information is necessary for the selection of a complete control valve:

- **Item no.** of the Positioner TopControl **Type 8692** without process valve, see ordering chart on p. 3
- **Item no.** of the selected process valve **Type 23XX/2103** (see separate datasheets, e.g. 2300, 2301 or 2103)

You order two components and receive a complete assembled and certified valve.

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

8692 Positioner TopControl

Required process valve, example

More info.

2301
Globe Control Valve

More info.

2300
Angle-Seat Control Valve

More info.

2103
Control Diaphragm Valve

Complete control valve with required body and port connection

Valve system
Continuous ELEMENT
Type 8802-GD-I
2301 + 8692

Valve system
Continuous ELEMENT
Type 8802-YG-I
2300 + 8692

Valve system
Continuous ELEMENT
Type 8802-DF-I
2103 + 8692

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Ordering chart Type 8692 (other versions on request)

Valve function	Communi-cation	Electrical connection	Analogue feedback	Analogue feedback+ 2 binary out-puts	Initiator	Binary input	Pilot air ports	Item no.
Actuator size ø 70 / 90 mm								
single-acting	No	Cable gland	No	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	176 621
			4 - 20 mA	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	179 026
			No	No	No	Yes	Threaded ports G1/8	185 139
	No	Multipole	No	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	176 622
			4 - 20 mA	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 164
			No	Yes	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 165
			No	No	Yes	Yes	Push-in connector external ø 6 mm or 1/4″	179 025
	Profibus	Multipole	No	No	No	No	Push-in connector external ø 6 mm or 1/4″	179 027
	DeviceNet	Multipole	No	No	No	No	Push-in connector external ø 6 mm or 1/4″	185 163
Actuator size Ø 130 mm								
Single-acting	No	Cable gland	No	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 166
			4 - 20 mA	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 169
			No	No	No	Yes	Threaded ports G1/8	185 167
		Multipole	No	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 168
			4 - 20 mA	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 170
			No	Yes	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 171
			No	No	Yes	Yes	Push-in connector external ø 6 mm or 1/4″	185 172
	Profibus	Multipole	No	No	No	No	Push-in connector external ø 6 mm or 1/4″	185 173
	DeviceNet	Multipole	No	No	No	No	Push-in connector external ø 6 mm or 1/4″	185 174
Actuator size ø 70 / 90 mm								
Double-acting	No	Cable gland	No	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 175
			4 - 20 mA	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 178
			No	No	No	Yes	Threaded ports G1/8	185 176
		Multipole	No	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 177
			4 - 20 mA	No	No	Yes	Push-in connector external ø 6 mm or 1/4″	185 179
			No	No	Yes	Yes	Push-in connector external ø 6 mm or 1/4″	185 180
	Profibus	Multipole	No	No	No	No	Push-in connector external ø 6 mm or 1/4″	185 181
	DeviceNet	Multipole	No	No	No	No	Push-in connector external ø 6 mm or 1/4″	185 182

Further versions on request

Approvals
CSA

Ordering chart adapter kit (has to be ordered separately)

Descrip-tion	Actuator size	Control function	Item no.
Adapter set for Type 23xx / 2103	ø 70 / 90 mm	NC / NO / springless (A / B / I)	665 721

Ordering chart accessories

Descrip-tion	Item no.
M12 socket, 8-pins, 2 m assembled cable	919 061
M12 socket, 4-pins, 5 m assembled cable	918 038
Silencer G1/8	780 779
Silencer, push-in connector	902 662

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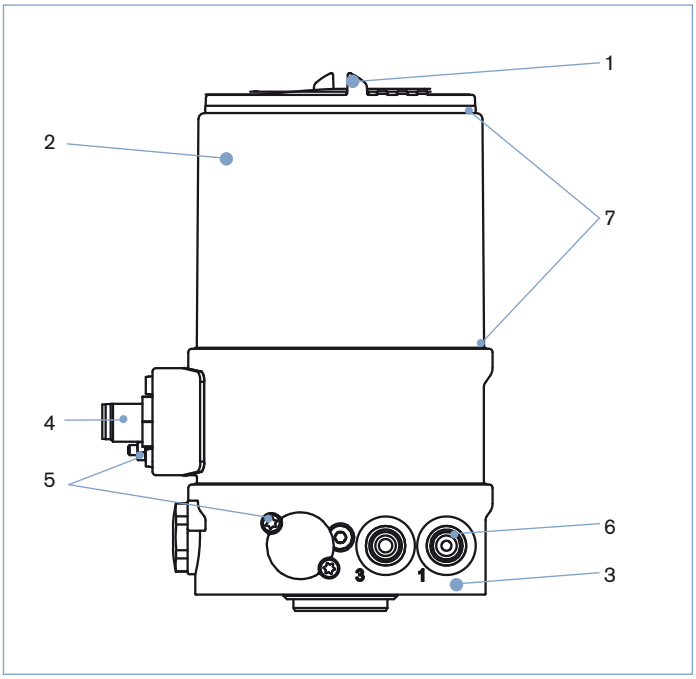
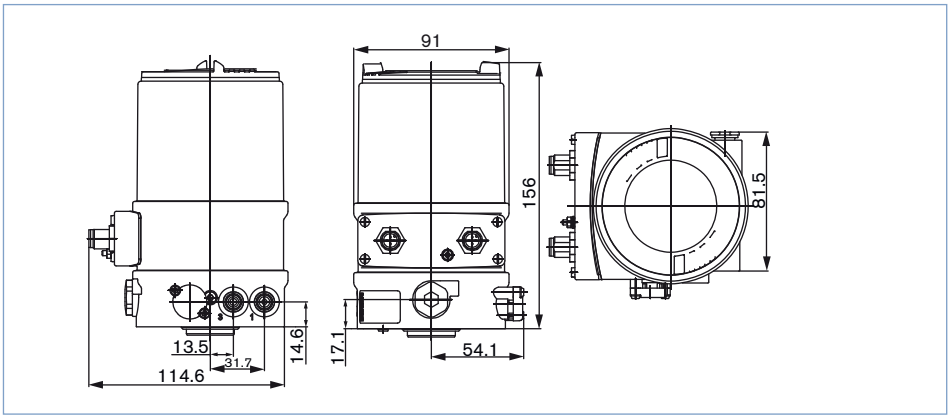
Materials



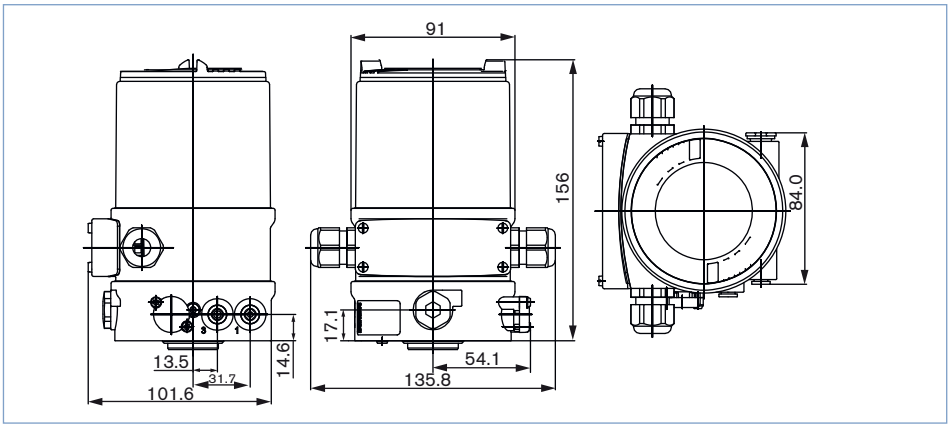
1	**Cover**	PC
2	**Body casing**	Stainless steel
3	**Basic body**	PPS
4	**Plug M12**	Stainless steel
5	**Screws**	Stainless steel
6	**Push-in connector** **Threaded ports G1/8**	POM/stainless steel Stainless steel
7	**Sealing**	EPDM

Dimensions [mm]

Version connection Multipole



Version connection cable glands



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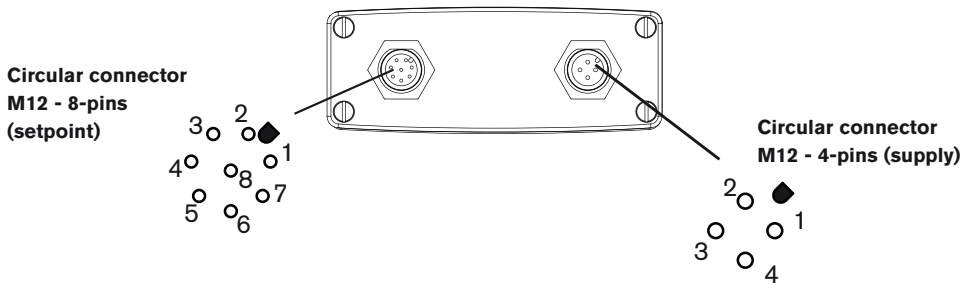
Connection options

Connection Multipole



Circular connector M12 - 8-pins (setpoint)

Pin	Configuration
8	Setpoint + (0/4 - 20 mA / 0 - 5/10 V)
7	Setpoint GND

Circular connector M12 - 8-pins (in / output signal)*

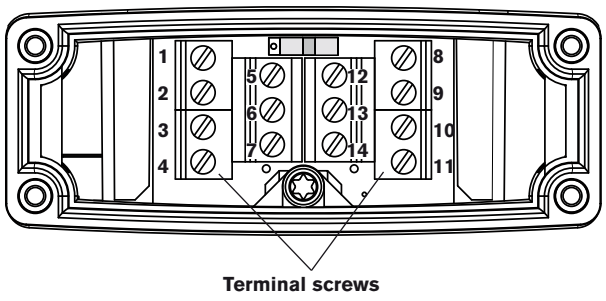
Pin	Configuration
6	Analogue feedback +
5	Analogue feedback GND
4	Binary output 1
3	Binary output 2
2	Binary output GND
1	Binary input +

* with the option analogue feedback or binary output

Circular connector M12 - 4-pins (supply)

Pin	Configuration
1	Operating voltages + 24 VDC
3	Operating voltage GND

Connection cable glands



Clamp	Configuration
11	Setpoint + (0/4 - 20 mA / 0 - 5/10 V)
10	Setpoint GND
14	Operating voltages + 24 VDC
13	Operating voltage GND
12	Binary input +
13	Binary input GND
9*	Analogue position feedback +
8*	Analogue position feedback GND
5*	Binary output 1
6*	Binary output GND
7*	Binary output 2

* with the option analogue feedback or binary output

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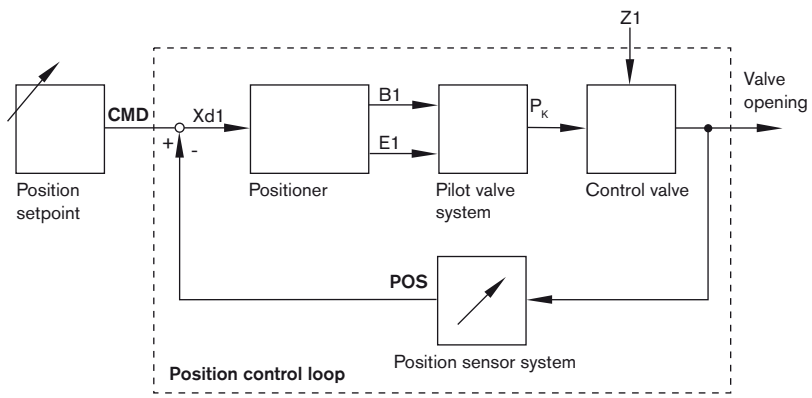
Signal flow diagram

Position control loop

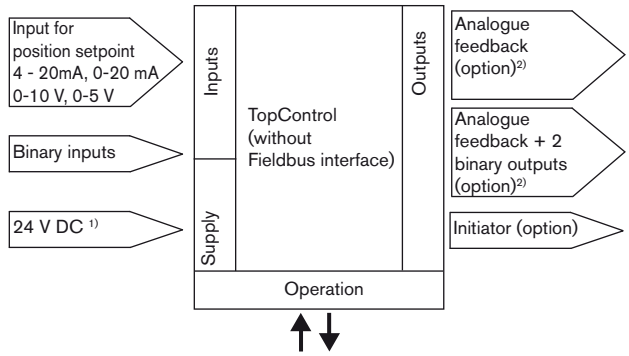


Additional software functions of the TopControl Type 8692

- Automatic start of the control system
- Automatic or manual characteristic curves selection
- Setting of the seal and the maximum stroke threshold respectively
- Parameterization of the Positioner
- Limitation of the stroke range
- Limitation of the manipulating speed
- Setting of the moving direction
- Configuration of the binary input
- Signal range splitting on several controllers
- Configuration of an analogue or double binary outputs
- Signal fault detection
- Safety position
- Code protection
- Contrast inversion of the display
- Language selection
- Diagnostic functions

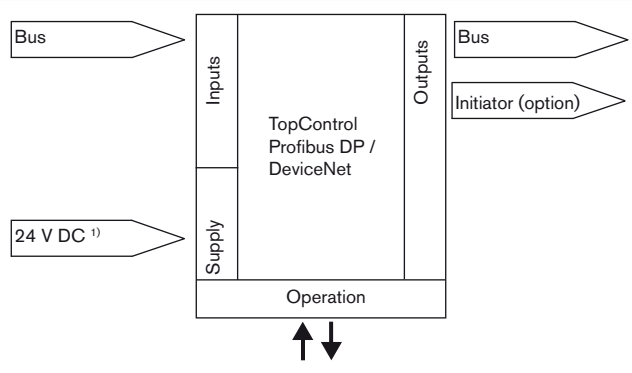
Schematic diagram of the TopControl Type 8692

Without fieldbus interface



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

With Profibus DP / DeviceNet



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

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