

## Digital electropneumatic positioner



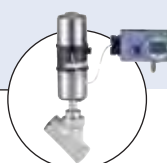
Type 8792 can be combined with...



**Yoke type actuators**



**Rack/pinion actuators**



**Process control valve with remote positioner**

- Compact metal housing
- Graphic display with backlight
- Easy start-up
- Comprehensive range of additional software functions
- Profibus DPV1 (optional)
- Assembly acc. to IEC 534-6 / VDI VDE 3845

The robust and compact positioner is designed to standardisation acc. to IEC 534-6 or VDI/VDE 3845 for assembly with linear and rotary actuators. In addition, the remote version with the displacement position sensor can be combined with Bürkert process control valves. The digital electropneumatic positioner SideControl can be operated with the usual current and voltage standard signals and can also be equipped with the fieldbus interface PROBUS DPV1. Additionally to the digital graphic display the valve opening is signaled by a mechanical indicator element.

Operation occurs via the external operation and display module. It consists of a backlit graphical display and a robust transparency keyboard with four keys with software driven function indication. For the user operation is very simple and clear, identical to the Bürkert positioner or process controller TopControl, Type 8692/8693.

The pilot valve system can be used equally for single and double-acting drives. It is characterised by a defined safety feature in case of failure of the electrical or pneumatic power supply and possesses an enormous air capacity range with pressure supply up to 7 bar.

Technical data	
<b>Material</b>	
Body	Aluminium plastic-coated
Seal	EPDM, NBR, FKM
<b>Operating voltages</b>	24 VDC +/- 10%
<b>Residual ripple</b>	max. 10%
<b>Setpoint setting</b>	0/4 to 20mA and 0 to 5/10 V
<b>Input resistance</b>	0/4 to 20 mA: 180 Ω 0 to 5/10 mA: 19 k Ω
<b>Analogue feedback</b>	4-20 mA, 0-20 mA 0-10 V, 0-5 V
<b>Binary input</b>	galvanically isolated, 0-5 V = log "0", 10-30 V = log "1"
<b>Binary output</b>	2 Outputs (optional), galvanically separated
Current limit	100 mA, Output will be synchronised when overloaded
<b>Control medium</b>	Neutral gases, air DIN ISO 8573-1
Dust concentration	Class 5 (<40µm particle size)
Particle density	Class 5 (<10mg/m <sup>3</sup> )
Pressure condensation point	Class 3 (<-20°C)
Oil concentration	Class 5 (<25mg/m <sup>3</sup> )
<b>Ambient temperature</b>	0 to +60°C
<b>Pilot air ports</b>	Threaded ports G 1/4
<b>Supply pressure</b>	1.4 to 7 bar <sup>1)</sup>
<b>Air supply filter</b>	Exchangeable (aperture size ~0.1mm)
<b>Actuator system</b>	single and double-acting to 150 l <sub>N</sub> /min.
Air capacity	95 l <sub>N</sub> /min (with 1.4 bar <sup>2)</sup> ) for aeration and ventilation 150 l <sub>N</sub> /min (with 6 bar <sup>2)</sup> ) for aeration and ventilation (Q <sub>Nn</sub> = 100 l <sub>N</sub> /min (acc. to the definition with decrease in pressure from 7 to 6 bar absolute)
<b>Position detection module</b>	Potentiometer, max. angle 180°
<b>Stroke range valve spindle</b>	min. 30° on the rotary shaft, depending on lever
<b>Installation</b>	as required, display above or sideways

*continued on next page*

<sup>1)</sup> The supply pressure has to be 0.5-1 bar above the minimum required pilot pressure for the valve actuator  
<sup>2)</sup> Pressure specifications: Overpressure with respect to atmospheric pressure

**Technical data, continued**

Technical data	
<b>Type of protection</b>	IP 65/67 acc. to EN 60529 (NEMA4x in preparation)
<b>Power consumption</b>	< 5 W
<b>Electrical connection</b>	Multipole connection Cable gland Remote version
	M12, 8-pin/4-pin; M8, 4-pin 2xM20x1.5 (cable Ø10mm) on screw terminals (0.14-1.5 mm <sup>2</sup> ) 1xM12x1.5 (cable Ø3 to 6.5mm)
<b>Bus communication</b>	Profibus DPV1 (optional)
<b>Inductive proximity switch</b>	on request
<b>Protection class</b>	3 acc. to VDE 0580
<b>Type of ignition protection</b>	II 3 G nA II B T4 (in preparation) II 3 D tD A22 T135° (in preparation)
<b>Conformity</b>	EMV2004/108/EG
<b>Approvals</b>	CSA (in preparation)

Technical data - Remote Position Sensor	
<b>Type of protection</b>	IP 65/67 acc. to EN 60529 (NEMA4x in preparation)
<b>Electrical connection</b>	Cable length for connection cable Cable gland
	10m 1xM16x1.5 (cable-Ø5-10mm) on Terminal screws (0.14-1.5 mm <sup>2</sup> )
<b>Signal lstoposition</b>	digital (RS485)
<b>Ambient temperature</b>	-25 to +80 °C
<b>Protection class</b>	3 acc. to VDE 0580
<b>Type of ignition protection</b>	II 3 G nA II B T4 (in preparation) II 3 D tD A22 T135° (in preparation)
<b>Conformity</b>	EMV2004/108/EG
<b>Approvals</b>	CSA (in preparation)

Using a remote positioner the length of the control air pipes influences the dynamics and attainable accuracy of the position control loop. The length of the control air pipes therefore should be as short as possible.

**Example of assembly variations of Positioner SideControl**

**Positioner SideControl Type 8792**



**Linear actuators  
IEC 534-6**



**Rotary actuators  
VDI/VDE 3845**



**Control valve system**



**Control valve system**

Type 8805  
+  
Type 8792

Type 2300  
+  
Type 8792  
Positioner  
Remote  
+  
Type 8798  
Remote Position  
Sensor

Type 2702  
+  
Type 8792  
Positioner  
Remote  
+  
Type 8798  
Remote  
Position Sensor

Assembly options

Standard Version

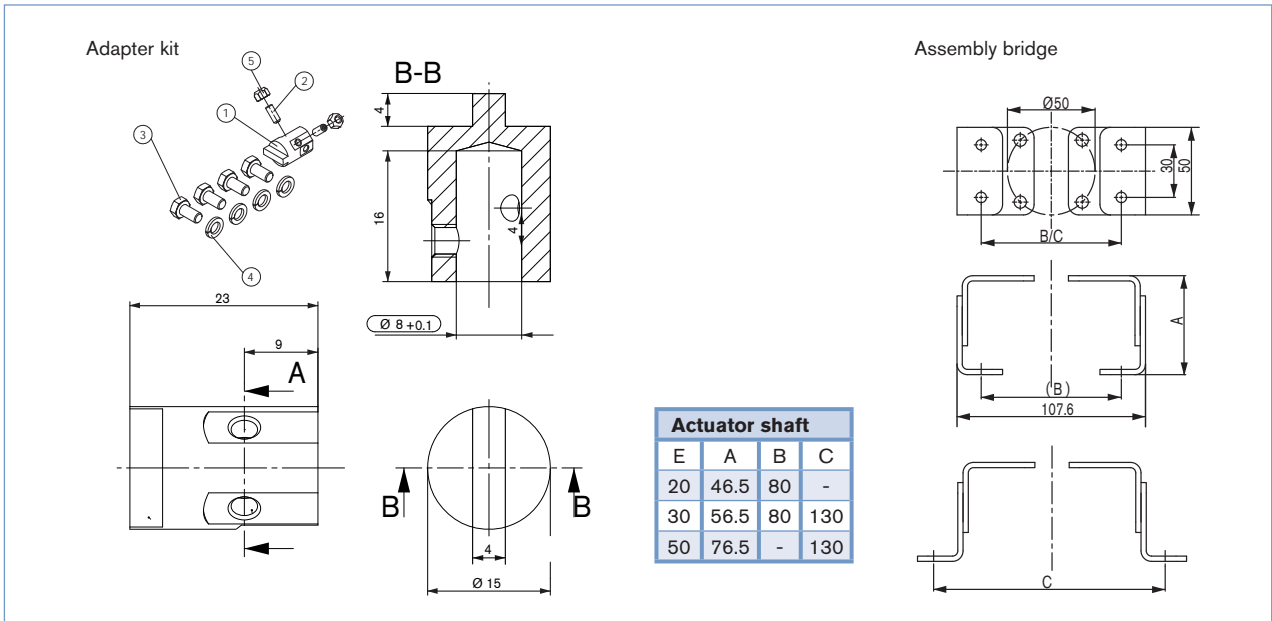
(Positioner with integrated position sensor, assembly acc. to NAMUR/IEC 534-6 and VDI/VDE 3845)

Assembly on rotary actuator



Item no. for adapter kit	787 338
Item no. assembly bridge	770 294

Dimensions [mm]



Assembly on linear actuator



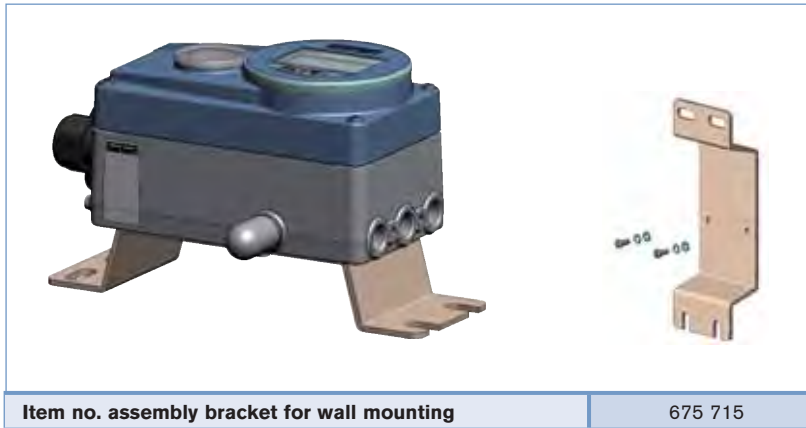
Item no. for adapter kit	787 215
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Assembly options *continued*

Remote version

(Remote positioner from actuator with displacement position)

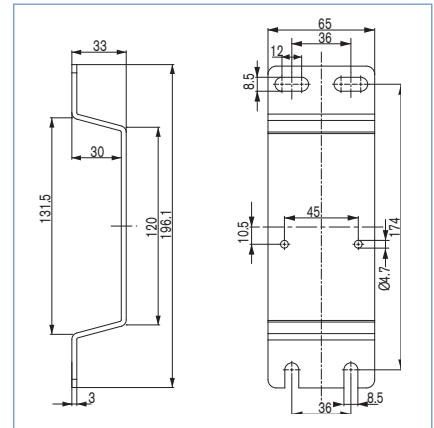
Assembly with accessory brackets



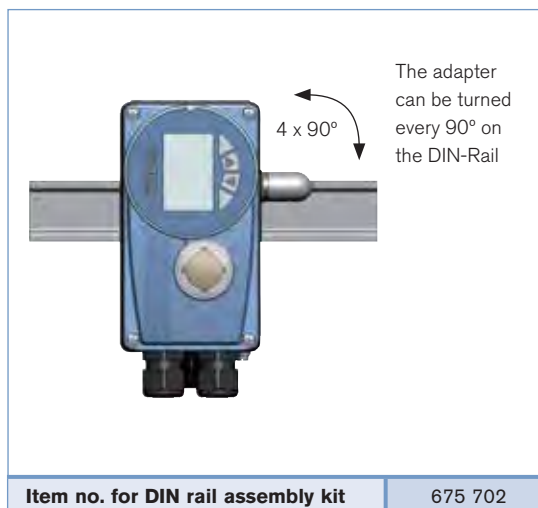
Item no. assembly bracket for wall mounting

675 715

Dimensions [mm]



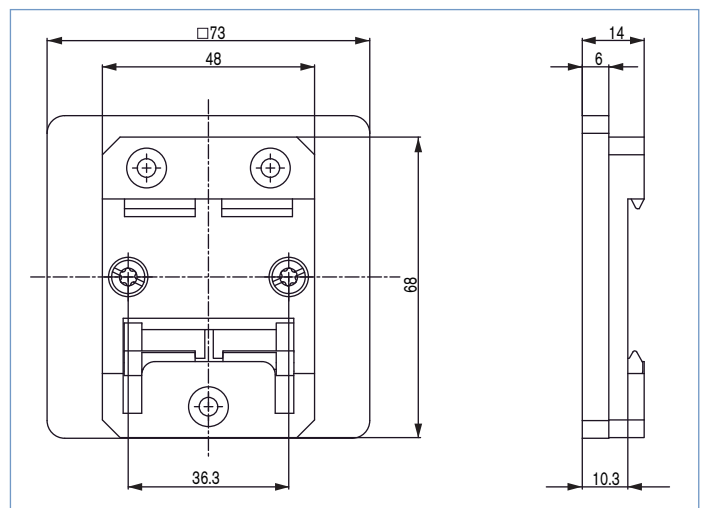
Assembly on DIN-Rail



Item no. for DIN rail assembly kit

675 702

Dimensions [mm]



Assembly options *continued*

Remote version

(Remote positioner from actuator with displacement position sensor)

Type 8798



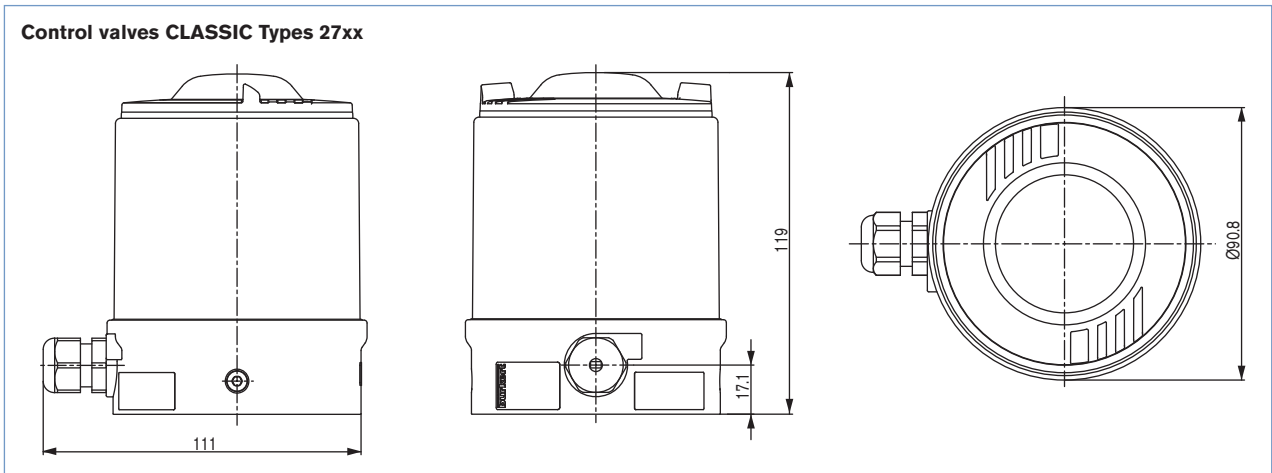
Item no.

Remote Position Sensor

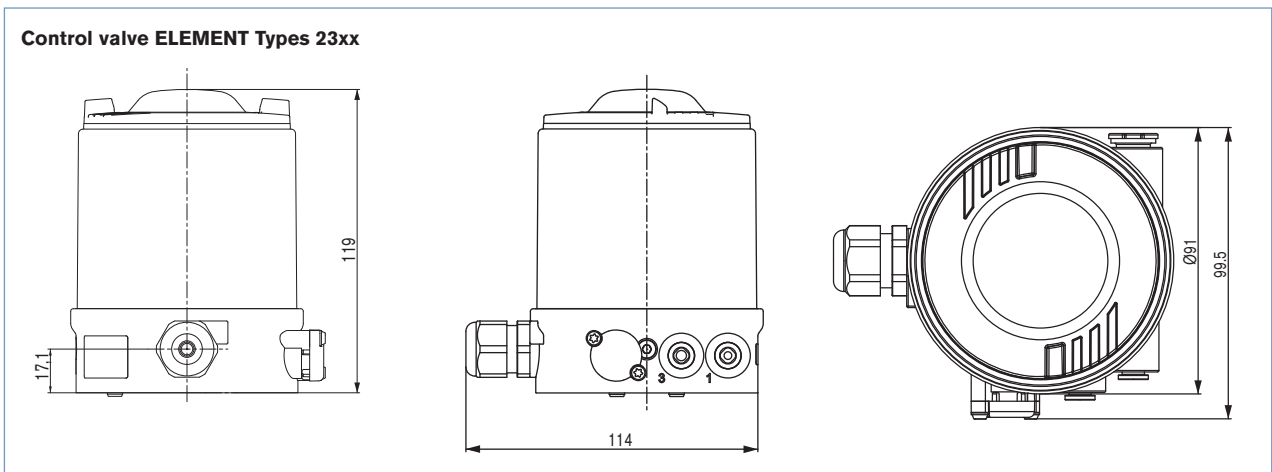
Control valves CLASSIC Types 27xx	211 535
Control valves ELEMENT Types 23xx	212 360

Dimensions

Control valves CLASSIC Types 27xx



Control valve ELEMENT Types 23xx



Ordering chart (other versions on request)

Assembly variations	Communication	Electrical connection	Analogue feedback	2 Binary outputs	Binary input	Initiator	Control function single and double-acting	Item no.
NAMUR IEC 534-6 VDI/VDE 3845	no	Cable gland	no	no	yes	no	yes	206 610
			no	no	yes	2	yes	on request
			no	yes	yes	no	yes	206 612
			yes	yes	yes	no	yes	206 611
			yes	yes	yes	2	yes	on request
	Profibus DPV1	Multipole	no	no	yes	no	yes	206 613
			no	no	yes	2	yes	on request
			no	yes	yes	no	yes	206 615
			yes	yes	yes	no	yes	206 614
			yes	yes	yes	2	yes	on request
			via Bus	no	yes	no	yes	206 616
			via Bus	no	yes	2	yes	on request
			via Bus	yes	yes	no	yes	206 617
Remote	no	Cable gland	no	no	yes	no	yes	206 623
			no	yes	yes	no	yes	206 625
			yes	yes	yes	no	yes	206 624

**i Further versions on request**

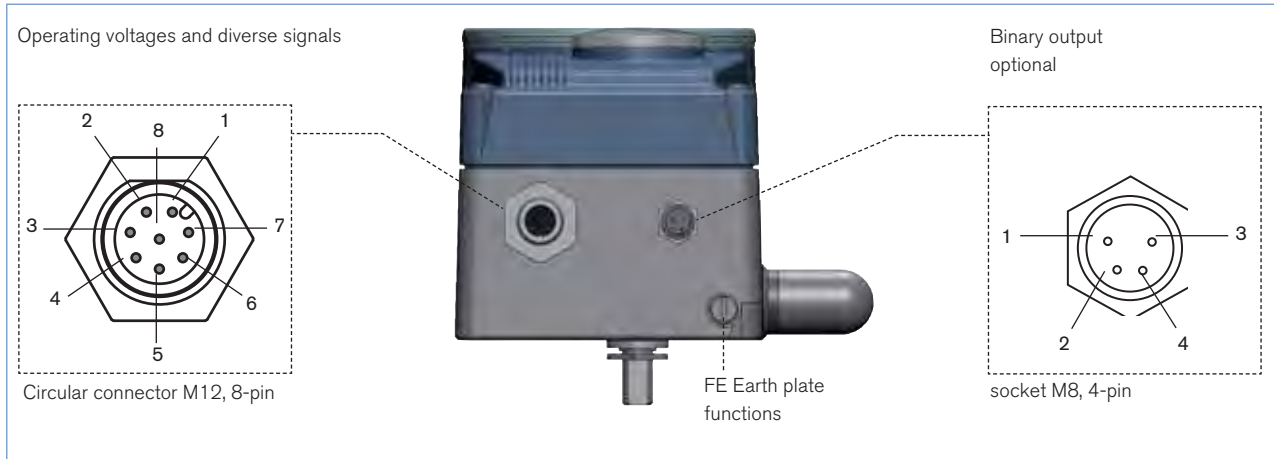
- > Additional**
- CSA-Approval
- Type of protection NEMA4x
- inductive proximity switches
- II 3 G nA II B T4
- II 3 D tD A22 T135°

Ordering chart for accessories

Description	Item no.
Assembly bridge VDI/VDE 3845, Stainless steel	770 294
Adapter kit VDI/VDE 3845, Stainless steel	787 338
Adapter kit linear actuators IEC 534-6, stainless steel	787 215
Silencer G 1/4" (replacement part)	780 780
M12 socket, 8-pin, 2 m cable set	919 061
M8 plug, 4-pin for binary outputs, without cable	917 131
<b>Accessories Remote version</b>	
Bracket for wall mounting, Stainless steel	675 715
DIN rail assembly kit	675 702
Remote sensor control valves CLASSIC Types 27xx	211 535
Remote sensor control valves ELEMENT Types 23xx	212 360
Adapter kit remote sensor ELEMENT Types 23xx	665 721
Adapter kit remote sensor CLASSIC Types 27xx	
Actuator size Ø 80mm	677 214
Actuator size Ø 100mm	677 215
Actuator size Ø 125mm	677 216
Actuator size Ø 175/ Ø225mm	677 217

Connection options

Multi-pin connection



Circular connector M12 - 8-pin (Setpoint)

Pin	Configuration	External Circuitry / level signal
1	Setpoint + (0/4-20 mA or 0-5/10 V)	1  + (4-20 mA or 0-10 V) Complete galvanically separated
2	Setpoint GND	2  GND
3	GND	3  24 V DC ± 10% max. Residual ripple 10%
4	+ 24 V	4  24 V DC ± 10% max. Residual ripple 10%
5	Binary input +	5  +
6	Binary Output GND	6  GND

Optional analogue feedback

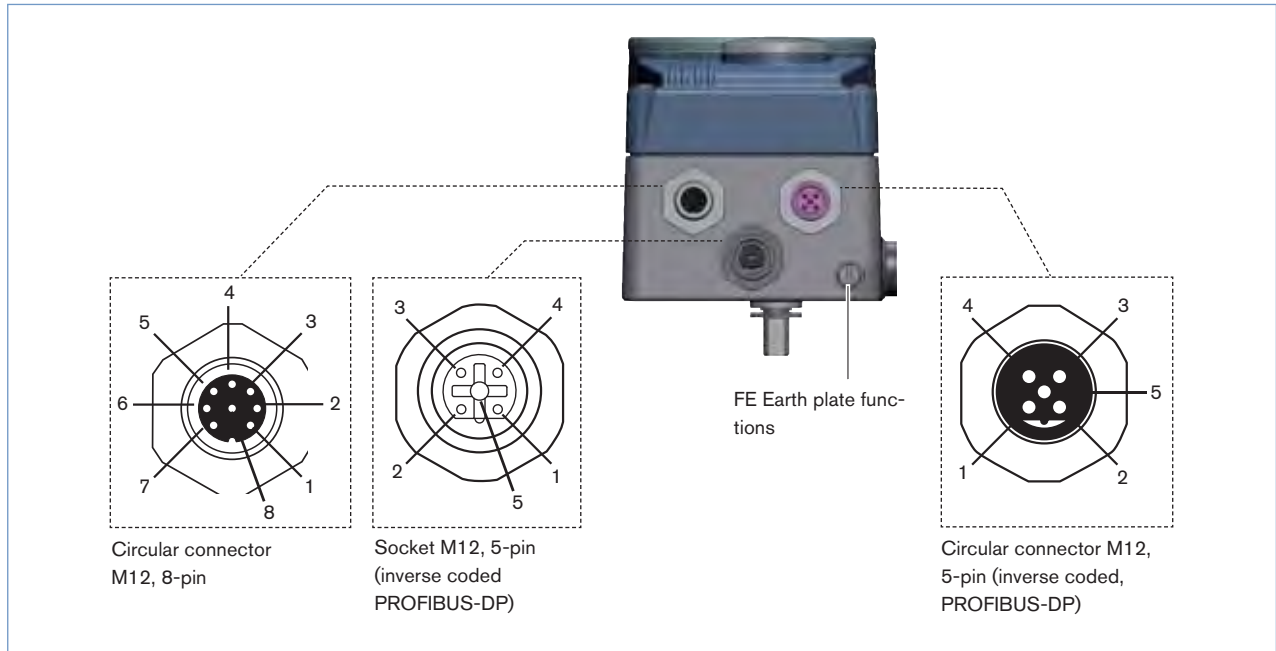
8	Analogue feedback +	8  + (0/4-20 mA or 0-5/10 V, ) Complete galvanically separated
7	Analogue feedback GND	7  GND

socket M8, 4-pin (only with Binary Output Option)

Pin	Configuration	External Circuitry / level signal
1	Binary Output 1	1  0-24 V
2	Binary Output 2	2  0-24 V
3	Binary Output GND	3  GND

Connection options, continued

Connection PROFIBUS-DP



Operating voltages - Circular connector M12, 8-pin

Pin	Configuration	External Circuitry / level signal
1	not configured	
2	not configured	
3	GND	<p>24 V DC <math>\pm</math> 10 % max. Residual ripple 10 %</p>
4	+24 V	
5	Binary input +	
6	Binary input -	
7	Binary Output 1 (oriented at Pin 3)	
8	Binary Output 2 (oriented at Pin 3)	

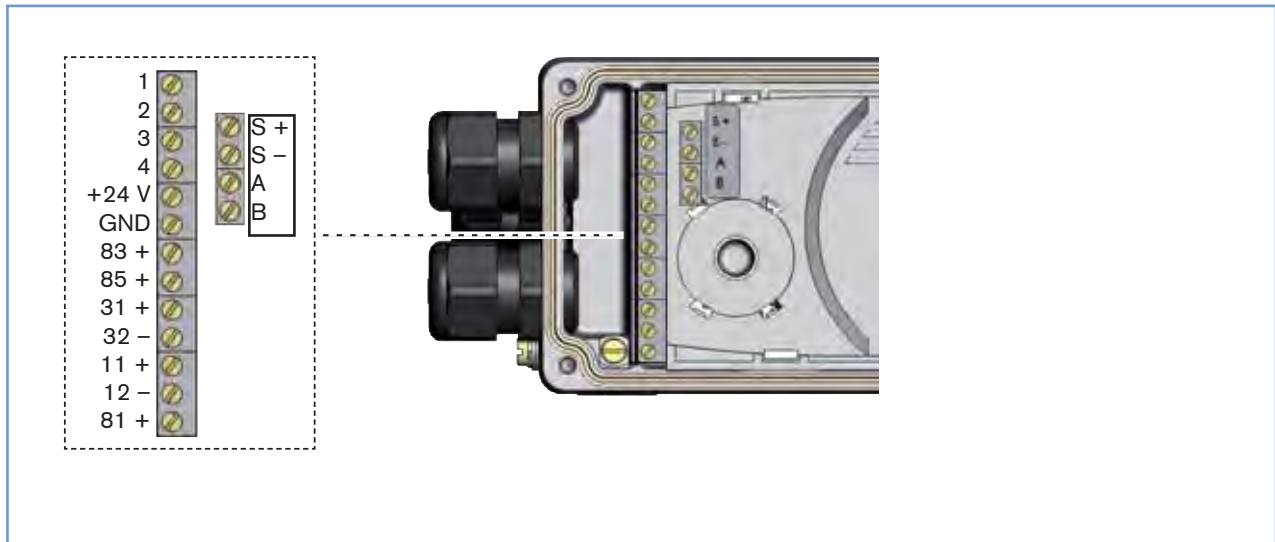
Bus-Connection - socket/Circular connector M12, 5-pin

Pin	Configuration	External Circuitry / level signal
1	VP+5	load resistance supply
2	RxD/TxD-N	Receive and send information -N, A Circuitry
3	DGND	Information transfer potential (measured to 5 V)
4	RxD/TxD-P	Receive and send information -P, B-Leitung
5	Shield	Shield / protective earth



Connection options, continued

Cable gland connection



Terminal	Configuration	External Circuitry / level signal
11 +	Setpoint +	11 +  + (4-20 mA or 0-10 V) Complete galvanically separated
12 -	Setpoint GND	12 -  GND
81 +	Binary input +	81 +  + obtained at GND operating voltages (GND clamps)
+24 V	operating voltages +	+24 V  24 V DC $\pm$ 10 % max. Residual ripple 10 %
GND	operating voltages GND	GND

Optional Analogue feedback / Binary Output

Terminal	Configuration	External Circuitry / level signal
83 +	Binary Output 1	83 +  24 V / 0 V, NC / NO obtained at GND operating voltages ( GND clamps)
85 +	Binary Output 2	85 +  24 V / 0 V, NC / NO obtained at GND operating voltages ( GND clamps)
31 +	Analogue feedback +	31 +  + (0/4-20 mA or 0-5/10 V) Complete galvanically separated
32 -	Analogue feedback GND	32 -  GND

Terminal 1, 2, 3, 4 : NC

Optional remote version in connection with remote positioner sensor Type 8798

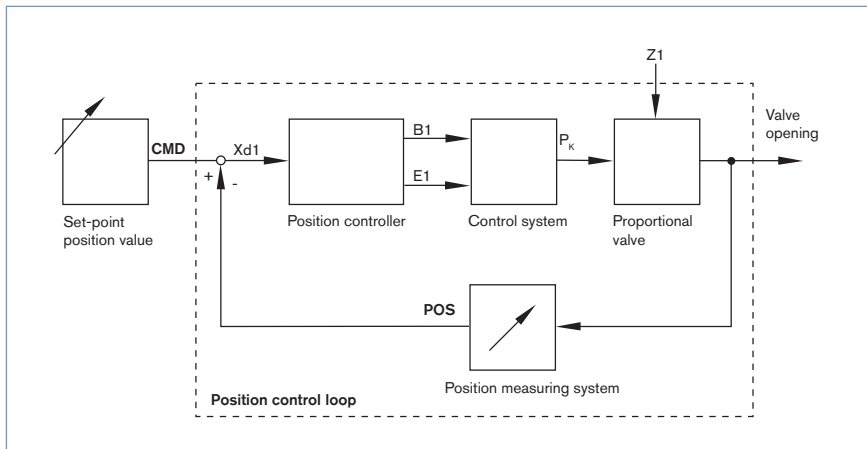
Terminal	Configuration	External Circuitry / level signal
S +	Supply sensor +	S +  +
S -	Supply sensor -	S -  -
A	Serial Interface, A cable	A  A line
B	Serial Interface, B cable	B  B line

Remote sensor Type 8798

Terminal	Wire colour for cable type		Configuration	External Circuitry
	1	2		
1	white	black	Supply Sensor -	1  8791 or
2	brown		Supply Sensor +	2  8792 / 8793
3	yellow	orange	Serial Interface, B line	3  8791 or
4	green	red	Serial Interface, A line	4  8792 / 8793

Signal flow plan

Position control loop

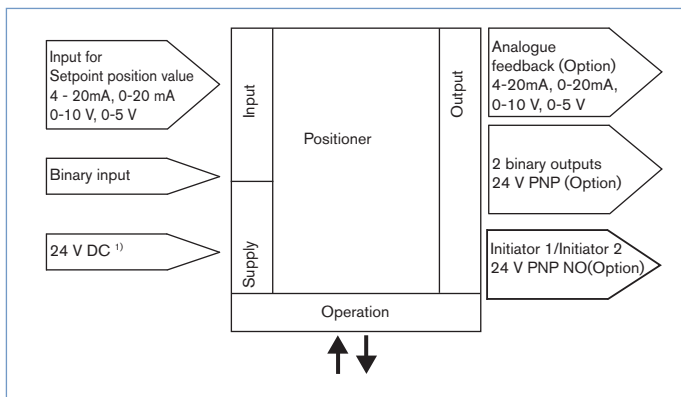


**Additional software options of the Side-Control Positioner Type 8792 (extract)**

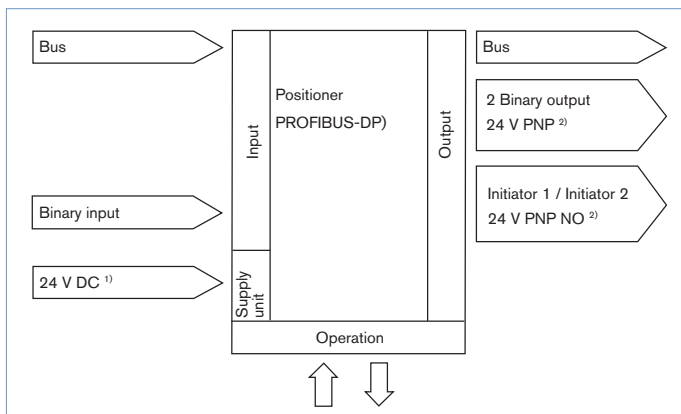
- Automatic start of the control system
- Automatic or manual characteristics curves selection
- Setting of the seal and the maximum stroke threshold respectively
- Parameterisation of the Positioner
- Limitation of the stroke range
- Limitation of the manipulating speed
- Setting of the moving direction
- Configuration of the binary input
- Signal range splitting on several controllers
- Configuration of analogue or 2 binary outputs
- Signal fault detection
- Safety position
- Code protection
- Contrast inversion of the display
- Diagnostic functions

Schematic diagram of SideControl, Typ 8792

without Fieldbus interface



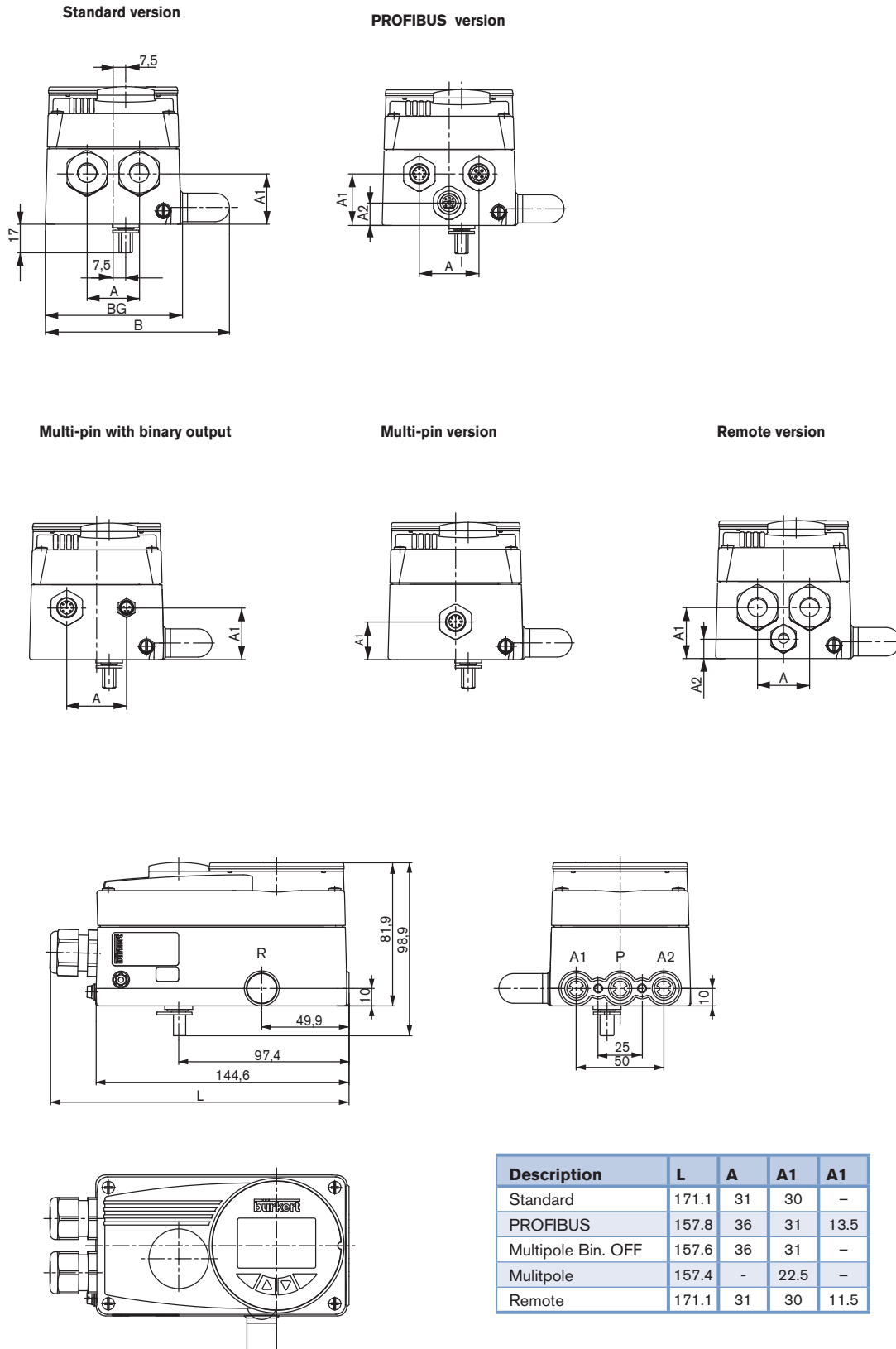
with Profibus DP



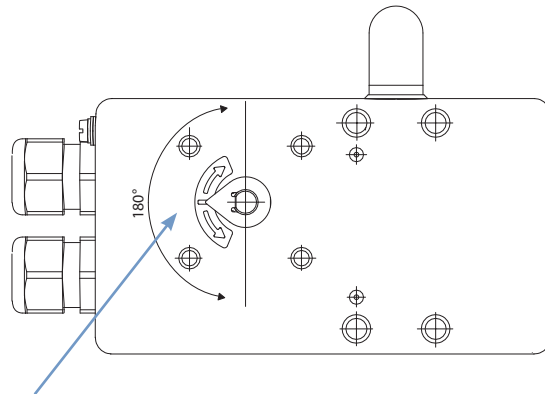
<sup>1)</sup> The operating voltage is supplied with a 3-wire unit independent from the setpoint signal

<sup>2)</sup> Alternative options

Dimensions [mm]



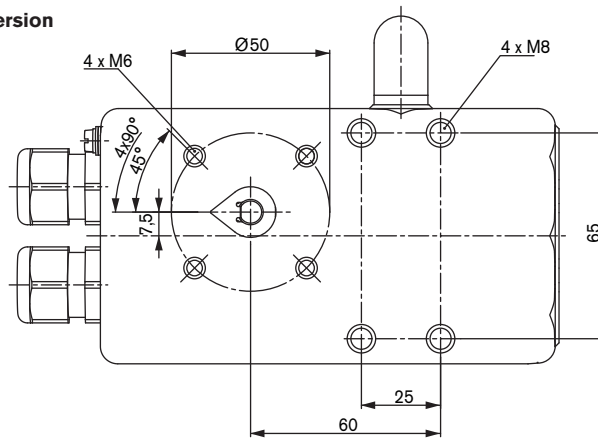
Dimensions [mm], continued



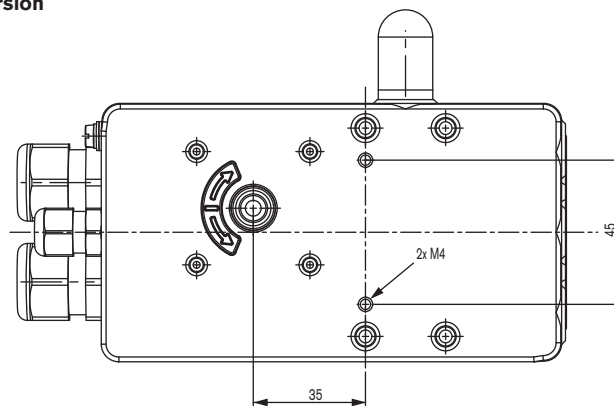
The rotation angle of the sensor must be within a range of 180°

With the valve open approx. 50%, the sensor indicator should be in this position.

**Standard Version**



**Remote version**



DTS 1000121137 EN Version: D validé printed: 13.04.2010 Status: RL (released | freigegeben |

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