

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

continued on next page

¹⁾ The supply pressure has to be 0.5-1 bar above the minimum required pilot pressure for the valve actuator

²⁾ Pressure specifications: Overpressure with respect to atmospheric pressure

Technical data, continued

| Technical data | |
|------------------------------------|---|
| Type of protection | IP 65/67 acc. to EN 60529 (NEMA4x in preparation) |
| Power consumption | < 5 W |
| Electrical connection | 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 ²) 1xM12x1.5 (cable Ø3 to 6.5mm) |
| Bus communication | Profibus DPV1 (optional) |
| Inductive proximity switch | on request |
| Protection class | 3 acc. to VDE 0580 |
| Type of ignition protection | II 3 G nA II B T4 (in preparation) II 3 D tD A22 T135° (in preparation) |
| Conformity | EMV2004/108/EG |
| Approvals | CSA (in preparation) |

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

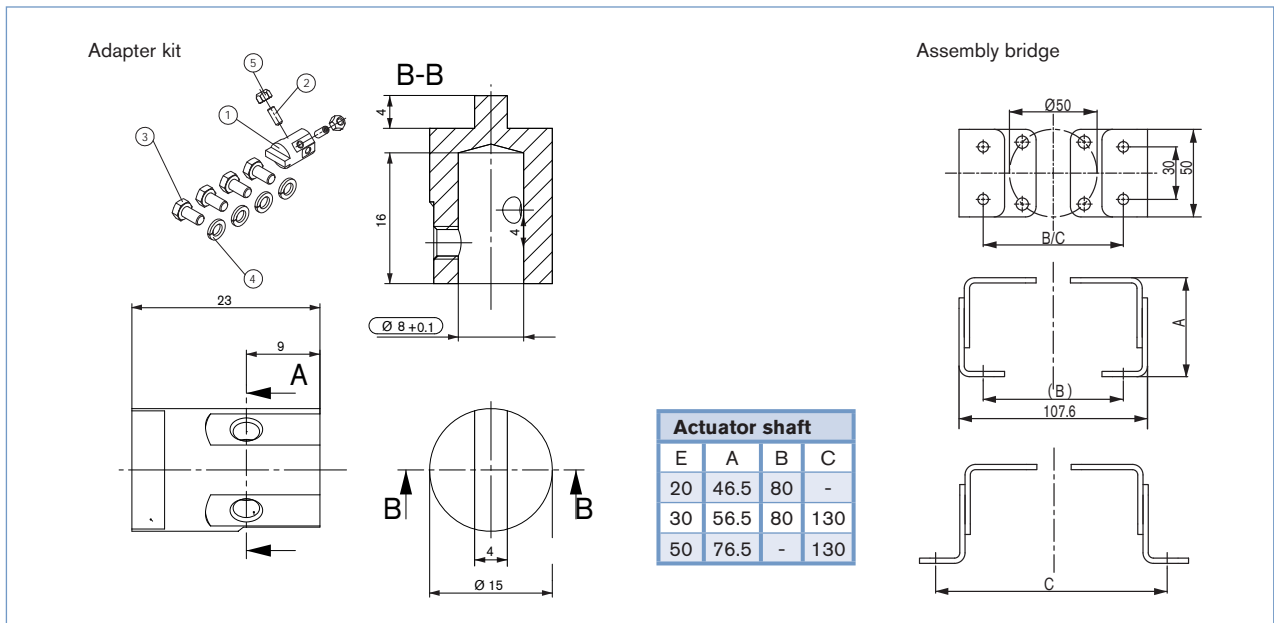
(Positioner with integrated position sensor, assembly acc. to NAMUR/IEC 534-6 and VDI/VDE 3845)

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 |
|--------------------------|---------|

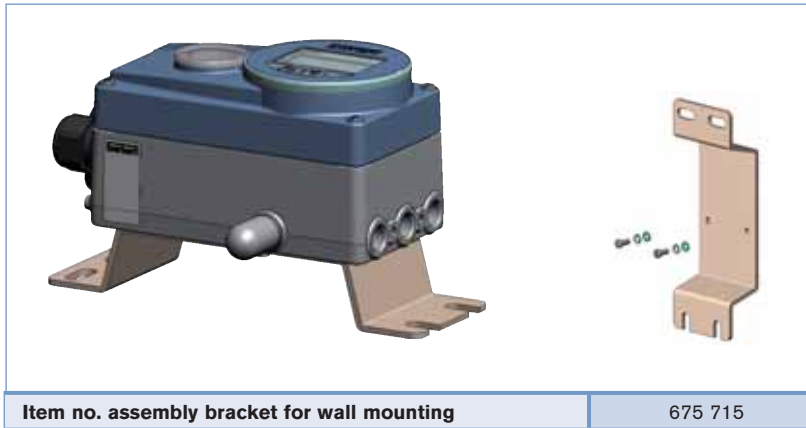
Assembly options *continued*

Remote version

(Remote positioner from actuator with displacement position)

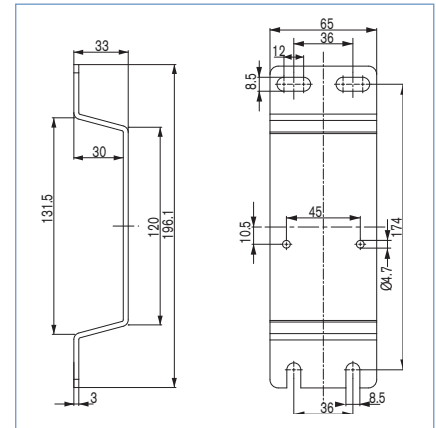
Assembly with accessory brackets

Dimensions [mm]



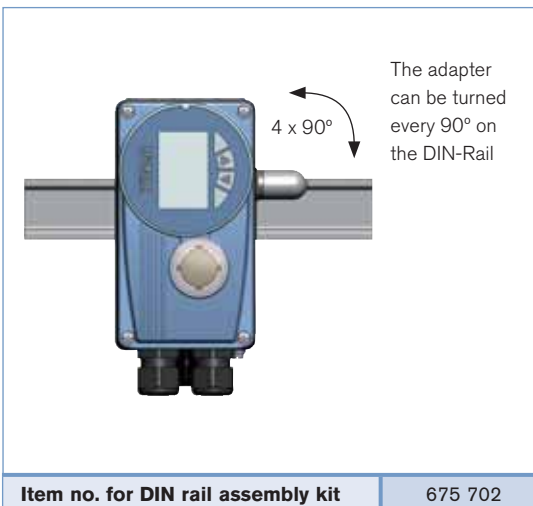
Item no. assembly bracket for wall mounting

675 715



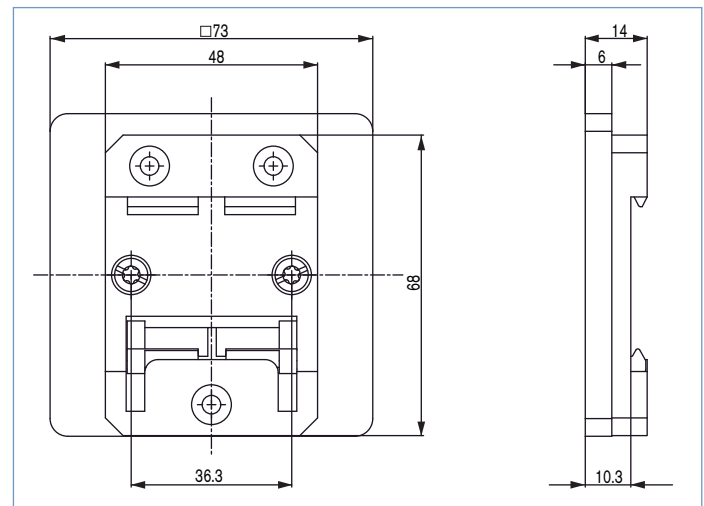
Assembly on DIN-Rail

Dimensions [mm]



Item no. for DIN rail assembly kit

675 702



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

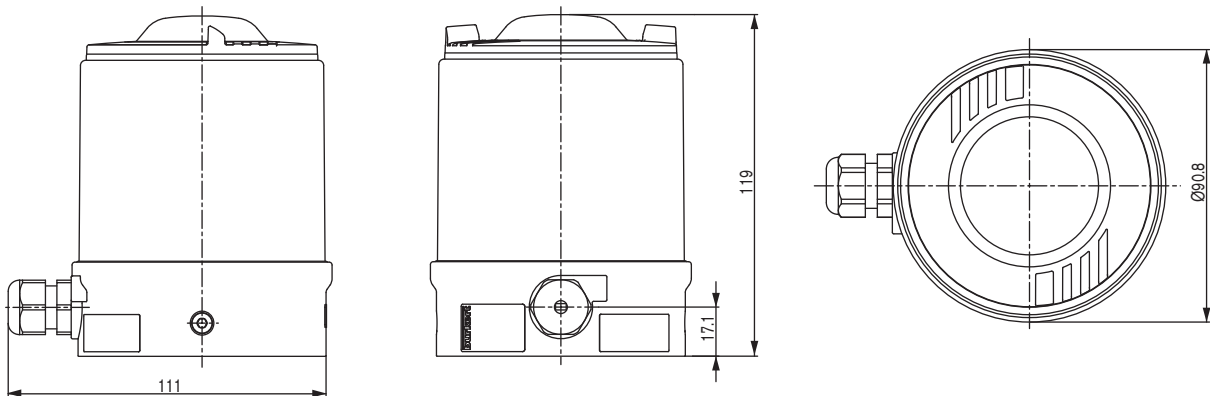
211 535

Control valves ELEMENT Types 23xx

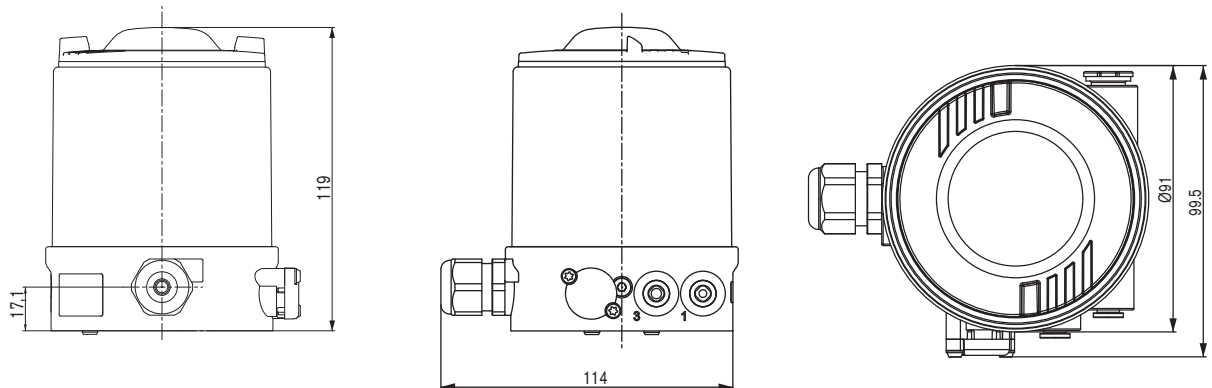
212 360

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 |
| | | 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 |
| | Profibus DPV1 | Multipole | 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 |
| no | | | | yes | yes | no | yes | 206 625 |
| yes | | | | yes | yes | no | yes | 206 624 |

i Further versions on request

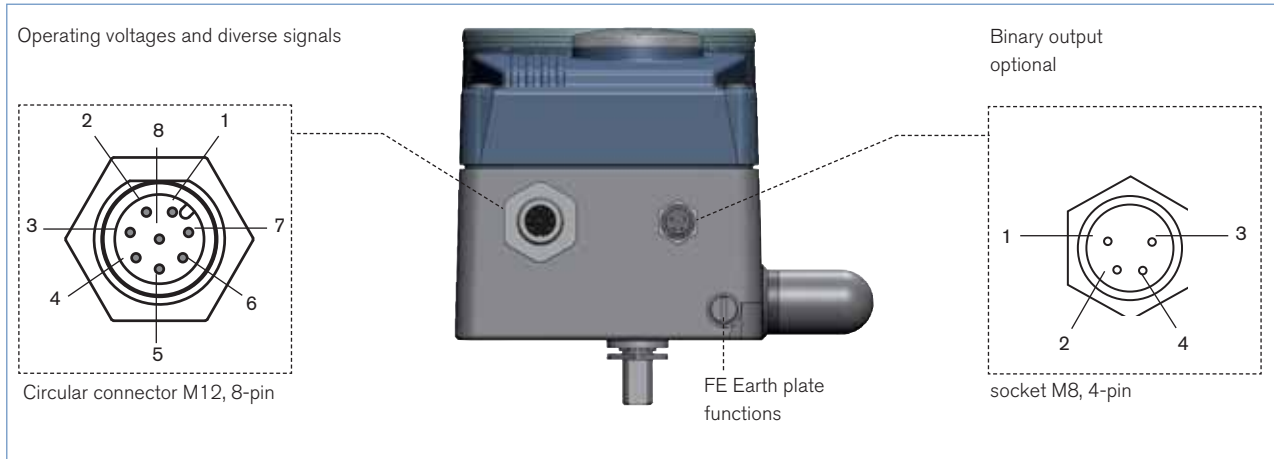
- > **Additional**
CSA-Approval
Type of protection NEMA4x
inductive proximity switches
II 3 G nA II B T4
II 3 D tD A22 T135°

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 |
| Accessories Remote version | |
| 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 + |
| 5 | Binary input + | 5 + 0-5 V (log. 0) 10-30 V (log. 1) |
| 6 | Binary Output GND | 6 GND |

Optional analogue feedback

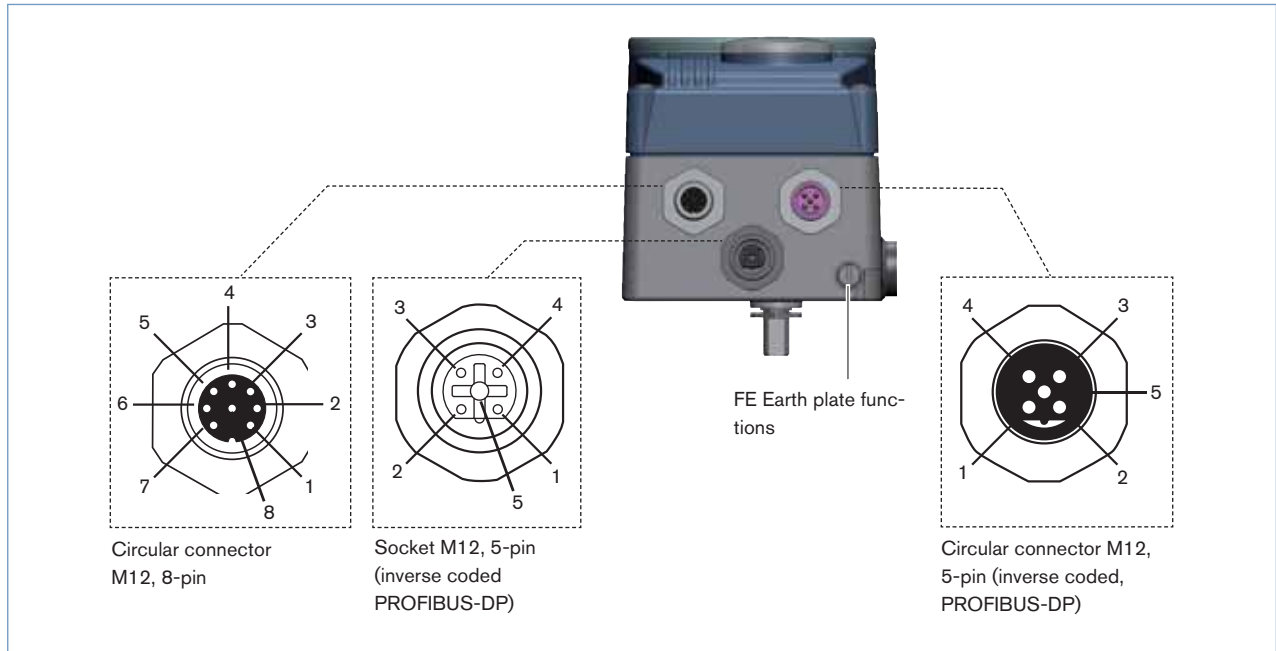
| | | |
|---|-----------------------|---|
| 8 | Analogue feedback + | 8 + (0/4-20 mA or 0-5/10 V,) Complete galvanically separated |
| 7 | Analogue feedback GND | 7 GND |

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

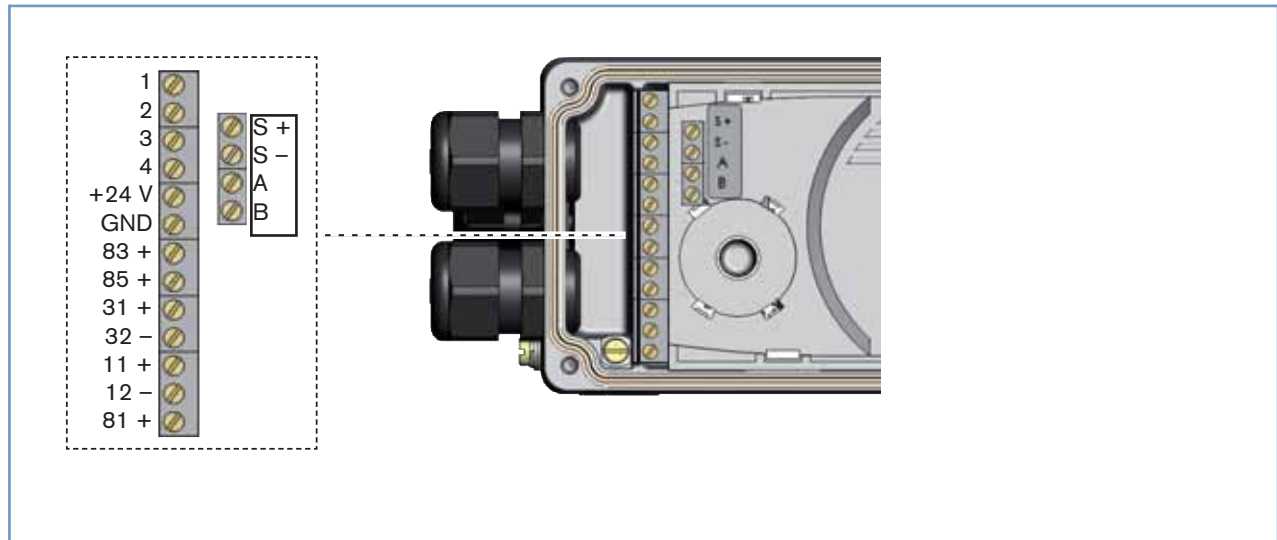
| Pin | Configuration | External Circuitry / level signal |
|-----|-------------------------------------|--|
| 1 | not configured | |
| 2 | not configured | |
| 3 | GND | <p>24 V DC \pm 10 % max. Residual ripple 10 %</p> |
| 4 | +24 V | |
| 5 | Binary input + | |
| 6 | Binary input - | |
| 7 | Binary 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 + + 05 V (log. 0) 10 V (log. 1) 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

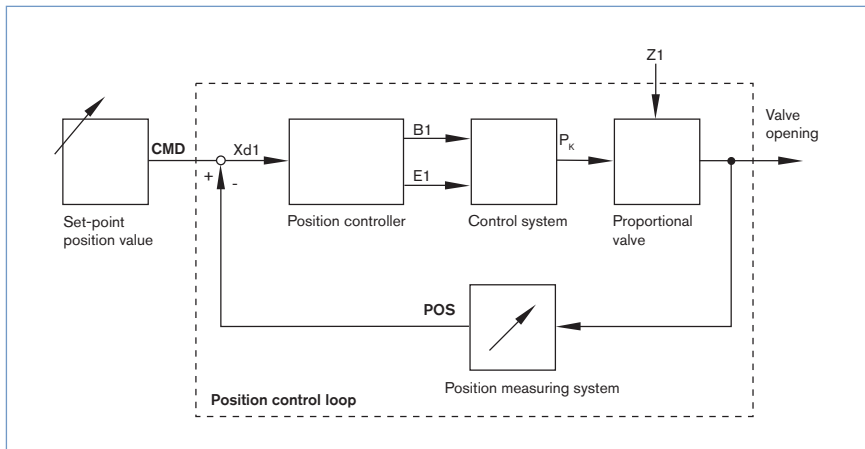
| Terminal | Configuration | External Circuitry / level signal |
|----------|---------------------------|-----------------------------------|
| S + | Supply sensor + | S + + |
| S - | Supply sensor - | S - - |
| A | Serial Interface, A cable | A A line |
| B | Serial Interface, B cable | B B line |

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

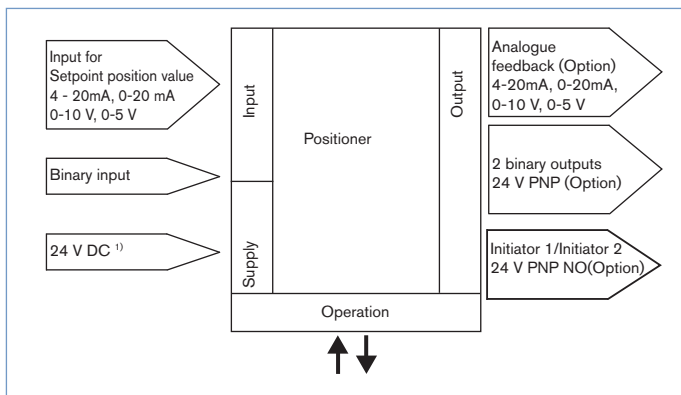


Additional software options of the Side-Control Positioner Type 8792 (extract)

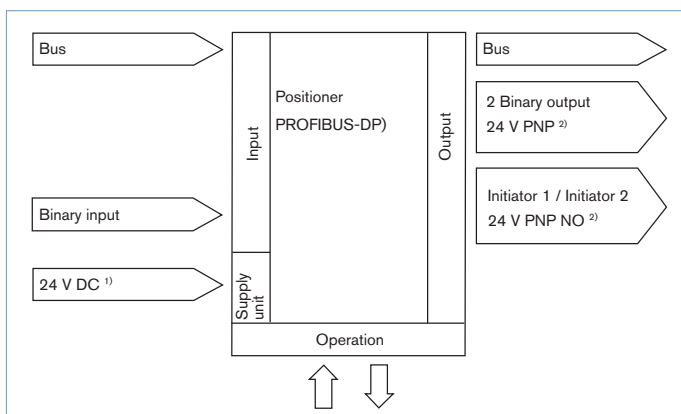
- Automatic start of the control system
- Automatic or manual characteristics curves selection
- Setting of the seal and the maximum stroke threshold respectively
- Parameterisation of the Positioner
- Limitation of the stroke range
- Limitation of the manipulating speed
- Setting of the moving direction
- 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



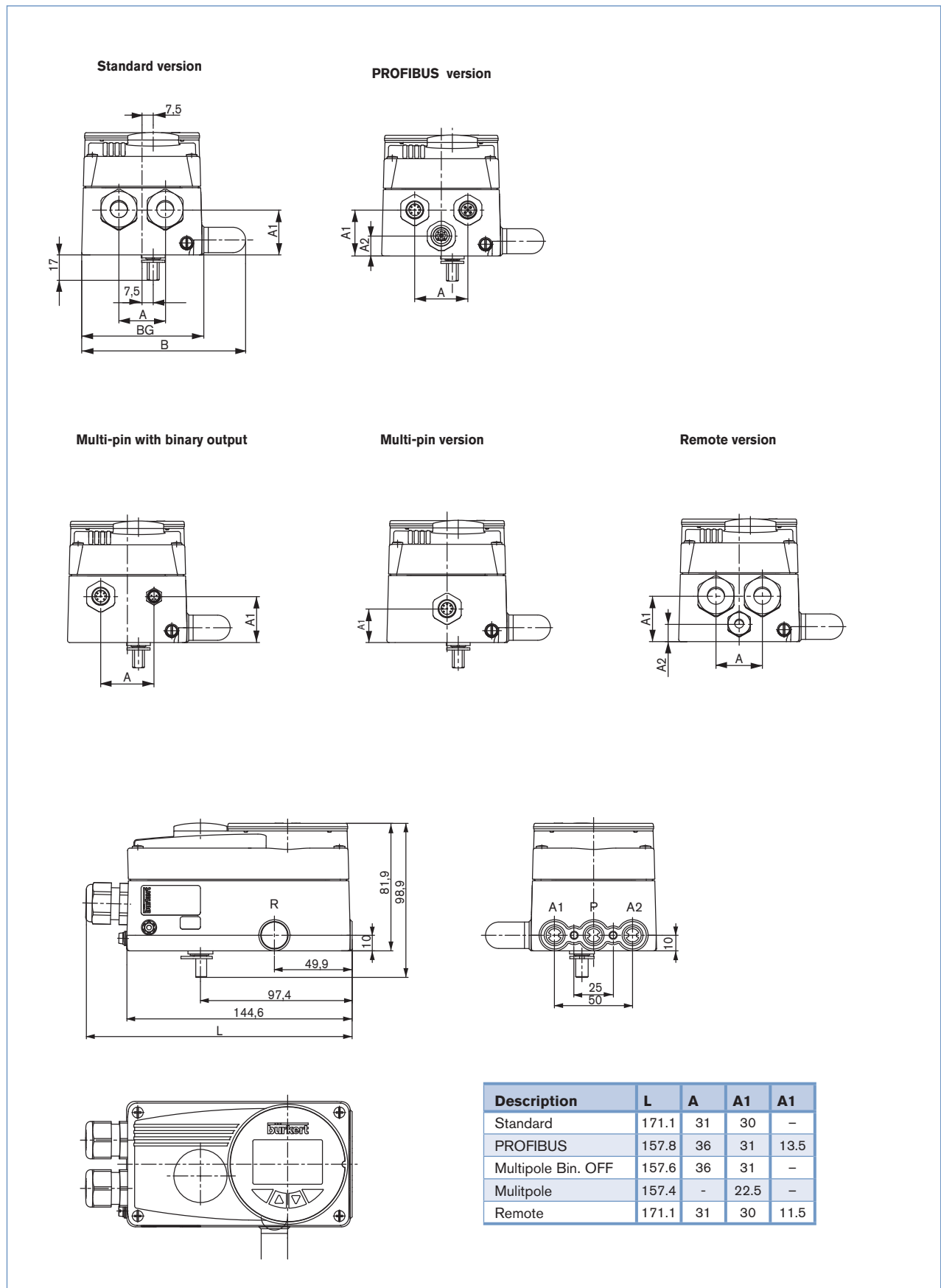
with Profibus DP



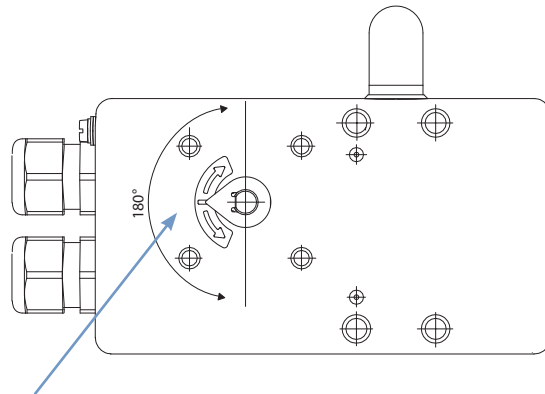
¹⁾ The operating voltage is supplied with a 3-wire unit independent from the setpoint signal

²⁾ Alternative options

Dimensions [mm]



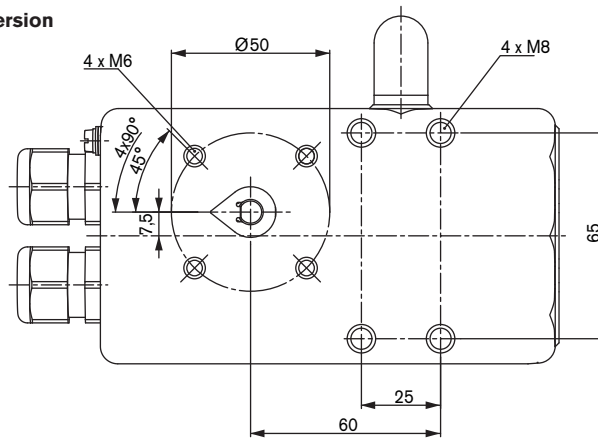
Dimensions [mm], continued



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

