

Series ED02

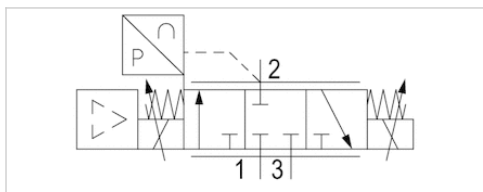


AVENTICS™ Series ED02



E/P pressure regulator, Series ED02

- Q_n = 120 l/min
- Compressed air connection output G 1/8, 1/8 NPT
- Electr. connection via signal connection
- Signal connection input and output, Plug, M12, 5-pin



Version	Poppet valve
Mounting orientation	$\pm\alpha = 0 \dots 90^\circ \pm\beta = 0 \dots 90^\circ$
Certificates	CE declaration of conformity
Working pressure max	See table below
Ambient temperature min./max.	0 ... 50 °C
Medium temperature min./max.	0 ... 50 °C
Compressed air connection input	G 1/8 1/8 NPT
Compressed air connection output	G 1/8, 1/8 NPT
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	1 mg/m ³
Nominal flow Q _n	120 l/min
Control	Analog
DC operating voltage	24 V
Voltage tolerance DC	-20% / +20%
Permissible ripple	5%
Max. power consumption	300 mA
Protection class	IP65
Weight	0.32 kg
Nominal flow Q _n with working pressure 7 bar , with secondary pressure 6 bar and $\Delta p = 0.2$ bar	

Technical data

Part No.	Working pressure max	Pressure setting range min./max.	Nominal input value
			Min./max.
R414001197	-	0 ... -1 bar	0 ... 10 V
R414001198	1.5 bar	-1 ... 1 bar	0 ... 20 mA
R414001199	1.5 bar	-1 ... 1 bar	4 ... 20 mA
R414001200	1.5 bar	-1 ... 1 bar	0 ... 10 V
R414002405	0.7 bar	0 ... 0.3 bar	0 ... 20 mA
R414002406	0.7 bar	0 ... 0.3 bar	4 ... 20 mA
R414002407	0.7 bar	0 ... 0.3 bar	0 ... 10 V
R414002408	0.7 bar	0 ... 0.3 bar	0 ... 10 V
R414003364	3 bar	0 ... 1 bar	0 ... 20 mA
R414003365	3 bar	0 ... 1 bar	4 ... 20 mA
R414004660	3 bar	0 ... 1 bar	0 ... 10 V
R414003879	3 bar	0 ... 1 bar	0 ... 10 V
R414003370	7 bar	0 ... 2 bar	0 ... 20 mA
R414003371	7 bar	0 ... 2 bar	4 ... 20 mA
R414003372	7 bar	0 ... 2 bar	0 ... 10 V
R414003373	7 bar	0 ... 2 bar	0 ... 10 V
R414002400	8 bar	0 ... 6 bar	0 ... 20 mA

Part No.	Working pressure max	Pressure setting range min./max.	Nominal input value
			Min./max.
R414002401	8 bar	0 ... 6 bar	4 ... 20 mA
R414002402	8 bar	0 ... 6 bar	0 ... 10 V
R414002403	8 bar	0 ... 6 bar	0 ... 10 V
R414002410	12 bar	0 ... 10 bar	0 ... 20 mA
R414002411	12 bar	0 ... 10 bar	4 ... 20 mA
R414002412	12 bar	0 ... 10 bar	0 ... 10 V
R414002413	12 bar	0 ... 10 bar	0 ... 10 V

Part No.	Actual output value	Control	Hysteresis	Fig.	
	Min./max.				
R414001197	0 ... 10 V	Analog	0.01 bar	Fig. 2	-
R414001198	0 ... 20 mA	Analog	0.02 bar	Fig. 1	-
R414001199	4 ... 20 mA	Analog	0.02 bar	Fig. 1	-
R414001200	0 ... 10 V	Analog	0.02 bar	Fig. 2	-
R414002405	0 ... 20 mA	Analog	0.003 bar	Fig. 1	-
R414002406	4 ... 20 mA	Analog	0.003 bar	Fig. 1	-
R414002407	10 V	Analog	0.003 bar	Fig. 3	1)
R414002408	0 ... 10 V	Analog	0.003 bar	Fig. 2	-
R414003364	0 ... 20 mA	Analog	0.01 bar	Fig. 1	-
R414003365	4 ... 20 mA	Analog	0.01 bar	Fig. 1	-
R414004660	10 V	Analog	0.01 bar	Fig. 3	1)
R414003879	0 ... 10 V	Analog	0.01 bar	Fig. 2	-
R414003370	0 ... 20 mA	Analog	0.025 bar	Fig. 1	-
R414003371	4 ... 20 mA	Analog	0.025 bar	Fig. 1	-
R414003372	10 V	Analog	0.025 bar	Fig. 3	1)
R414003373	0 ... 10 V	Analog	0.025 bar	Fig. 2	-
R414002400	0 ... 20 mA	Analog	0.05 bar	Fig. 1	-
R414002401	4 ... 20 mA	Analog	0.05 bar	Fig. 1	-
R414002402	-	Analog	0.05 bar	Fig. 3	1)
R414002403	0 ... 10 V	Analog	0.05 bar	Fig. 2	-
R414002410	0 ... 20 mA	Analog	0.05 bar	Fig. 1	-
R414002411	4 ... 20 mA	Analog	0.05 bar	Fig. 1	-
R414002412	-	Analog	0.05 bar	Fig. 3	1)
R414002413	0 ... 10 V	Analog	0.05 bar	Fig. 2	-

Minimum working pressure = 0.5 bar + max. required secondary pressure, Additional pressure setting ranges available on request

1) Output 10V constant to supply a set point potentiometer.

Technical information

The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

With oil-free, dry air, other installation positions are possible on request.

ED02 series valves can be assembled into blocks using tie rods (see accessories).

The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.

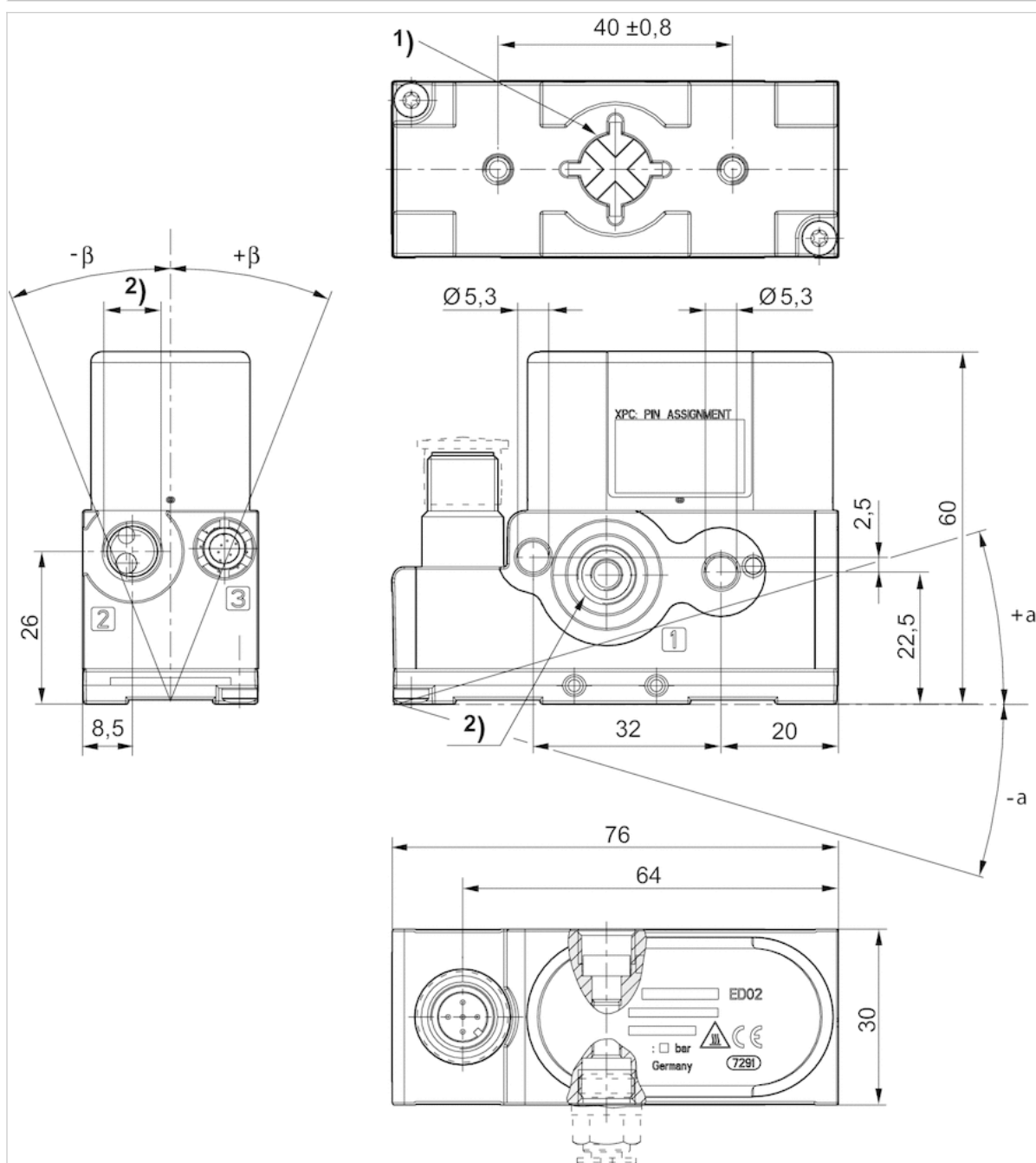
The compressed air connection threads fit both G 1/8 and 1/8 NPTF.

Technical information

Material	
Housing	Die-cast aluminum Steel
Seals	Hydrogenated acrylonitrile butadiene rubber

Dimensions

Dimensions

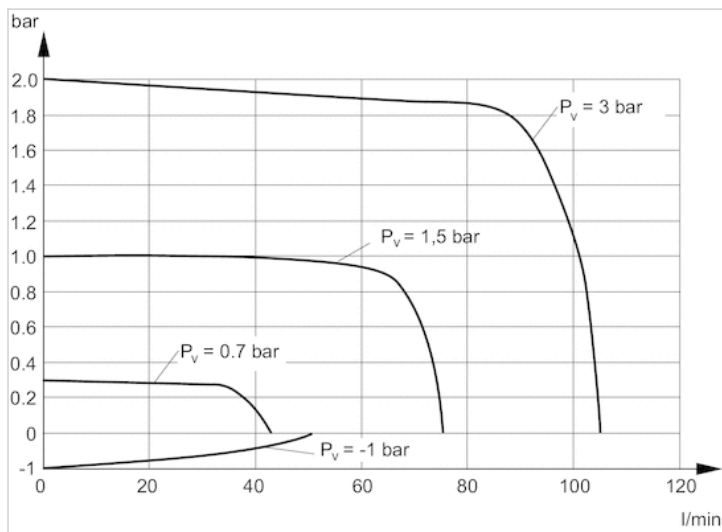


1) Housing exhaust

2) Universal threaded connection, suitable for G1/8 according to ISO 228/1:2000 and 1/8-27 NPTF

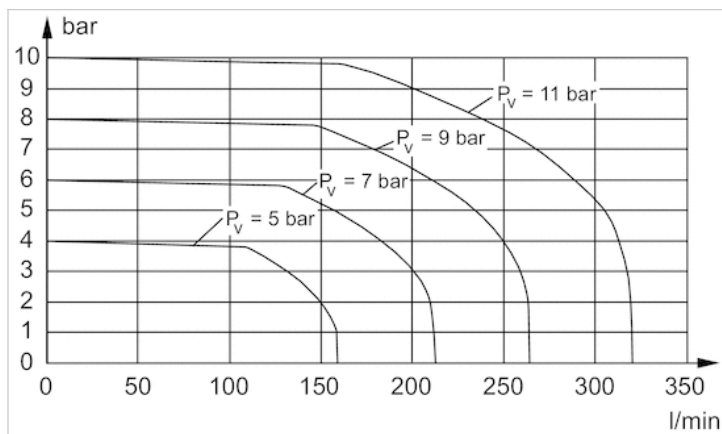
Diagrams

Flow diagram for pressure range up to 2 bar



P_v = Supply pressure

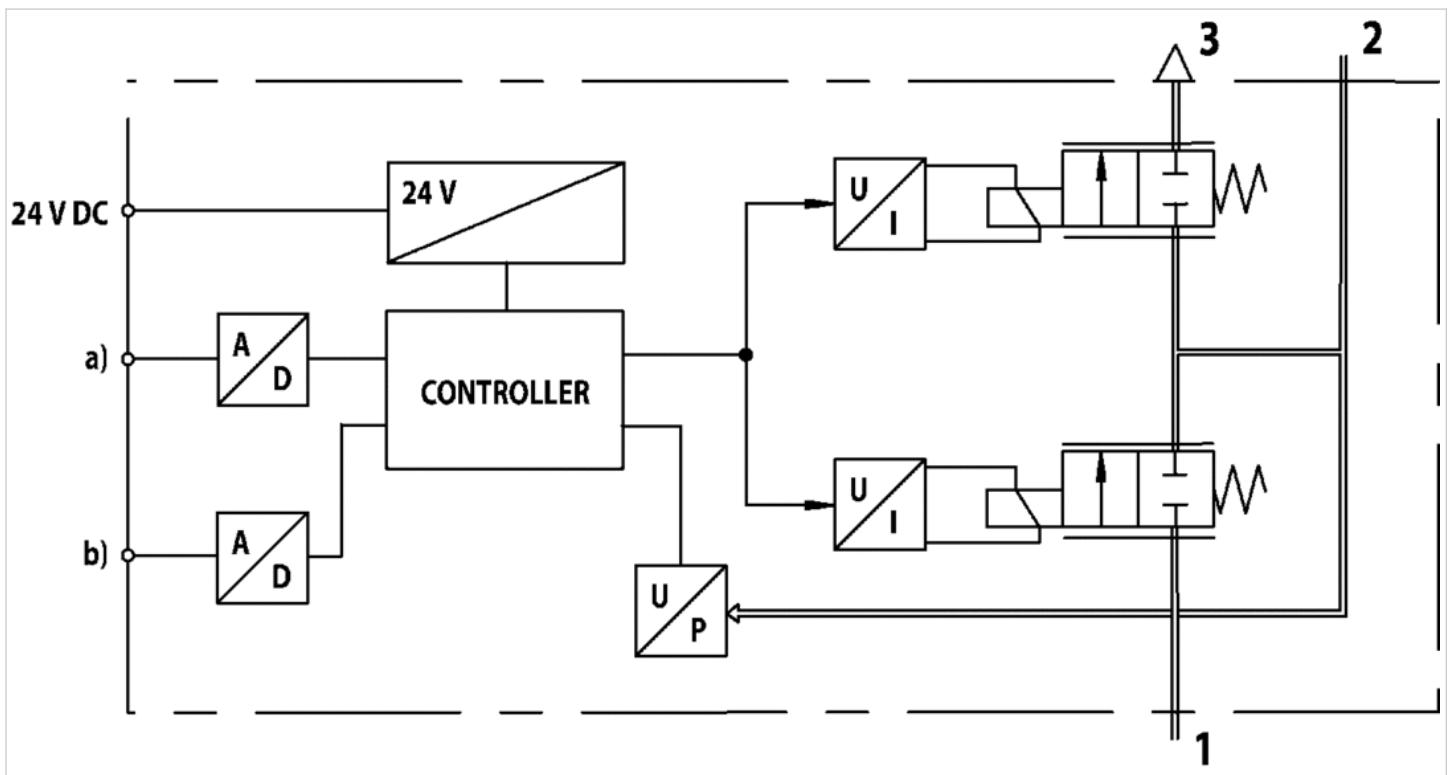
Durchflussdiagramm für Druckbereich bis 10 bar



P_v = Supply pressure

Circuit diagram

Functional diagram

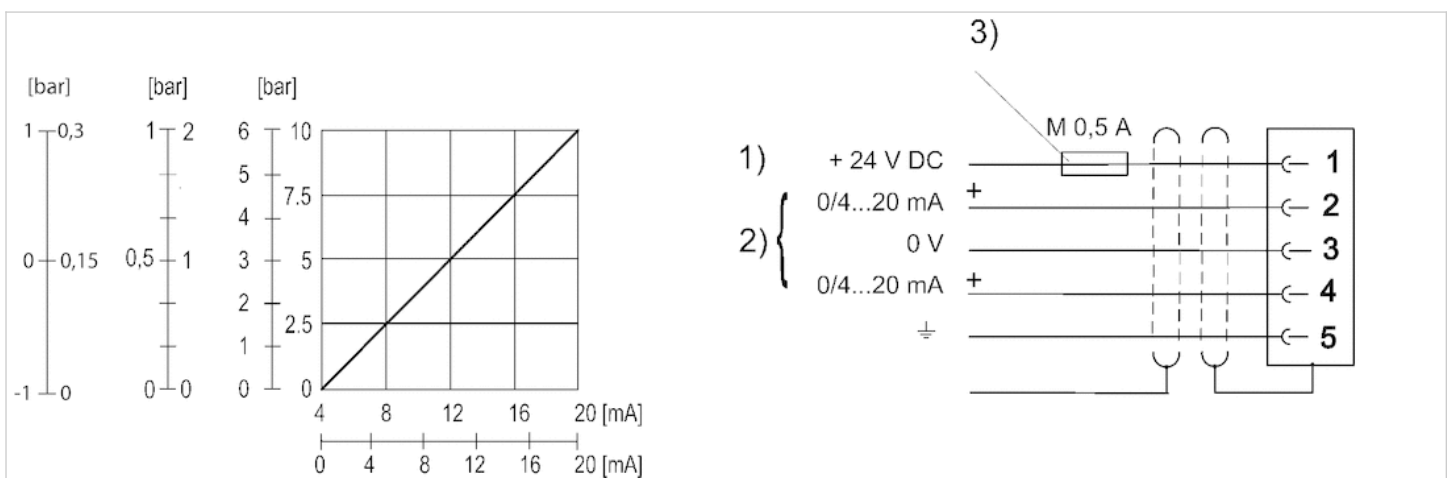


a) Nominal input value b) Actual output value

The E/P pressure control valve modulates the pressure corresponding to an analog electrical nominal input value.

- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust

Fig. 1, Characteristic and pin assignment for current control with actual output value



1) Supply Voltage

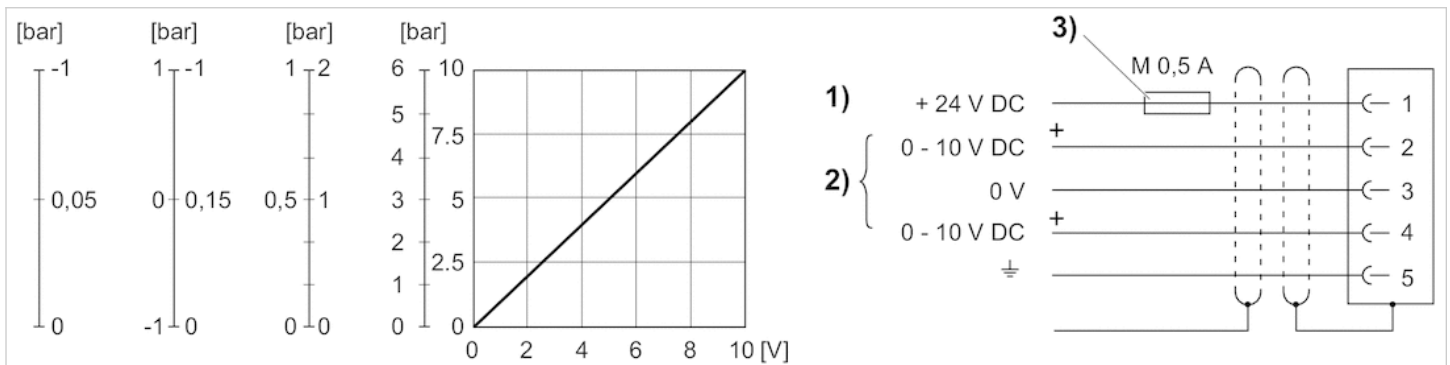
2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V.

Current control (ohmic load 100 Ω). Actual value output (max. total resistance of downstream devices 500 Ω).

3) The operating voltage must be protected by an external M 0.5 A fuse.

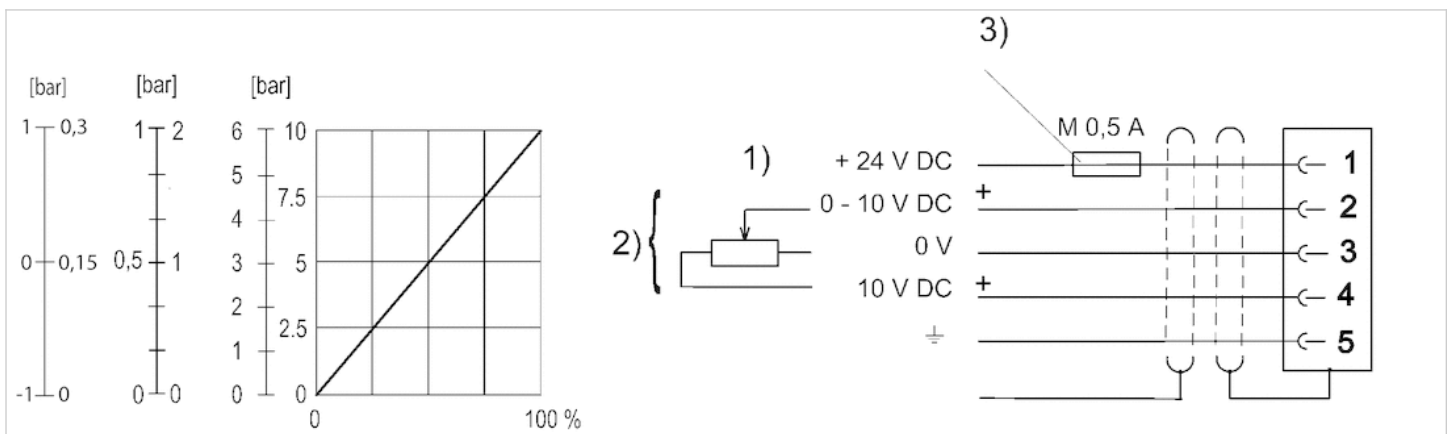
Connect the plug via a shielded cable to ensure EMC.

Fig. 2, Characteristic and pin assignment for voltage control with actual output value



- 1) Supply voltage 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V.
Min. load resistance of nominal value output = 1 kΩ.
- 3) The operating voltage must be protected by an external M 0.5 A fuse.
Connect the plug via a shielded cable to ensure EMC.

Fig. 3, Characteristic and pin assignment for potentiometer control without actual output value



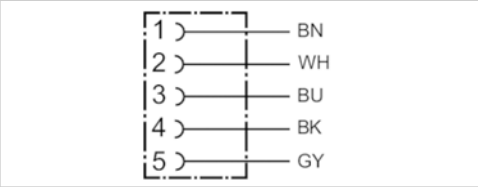
- 1) Supply voltage
- 2) Potentiometer supply (pin 4) and nominal value (pin 2) are related to 0 V.
Potentiometer resistance min. 0-2 kΩ, max. 0-10 kΩ.
- 3) The operating voltage must be protected by an external M 0.5 A fuse.
Connect the plug via a shielded cable to ensure EMC.

Round plug connector, Series CON-RD

- Socket M12x1 5-pin A-coded angled 90°
- open cable ends
- with cable
- shielded



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.34 mm²
Weight	See table below



Technical data

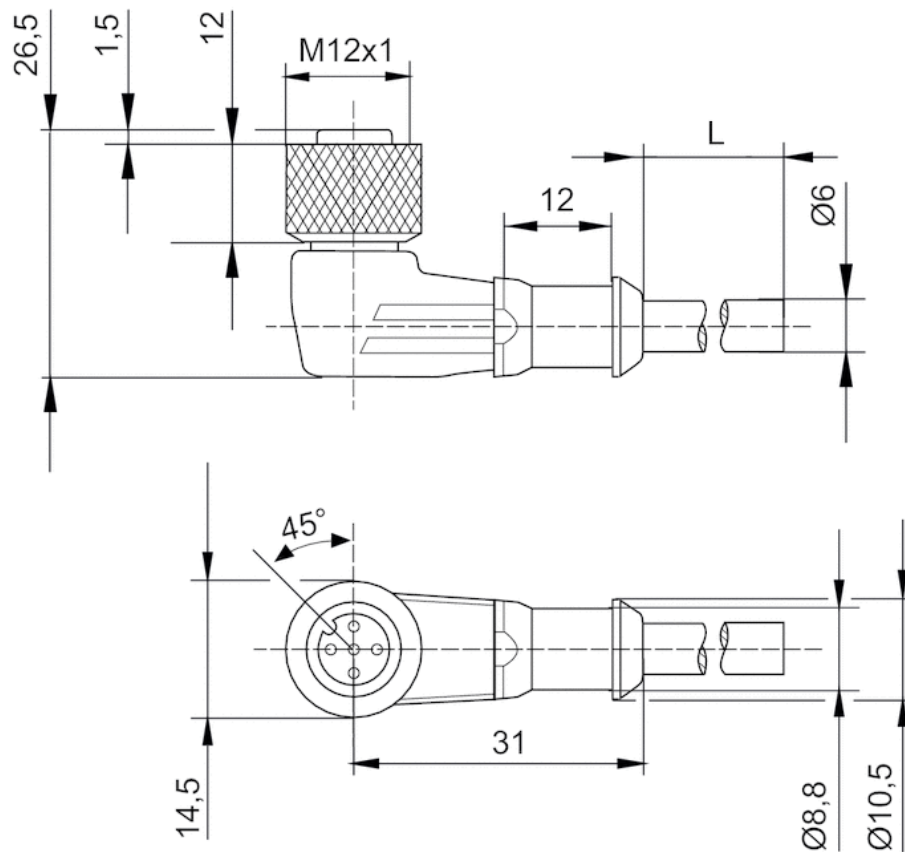
Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
R419800109	4 A	5	6 mm	2.5 m	0.145 kg
R419800110	4 A	5	6 mm	5 m	0.27 kg
R419800546	4 A	5	6 mm	10 m	0.514 kg

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyurethane

Dimensions

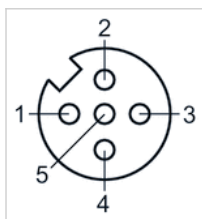
Dimensions



L = length

Pin assignments

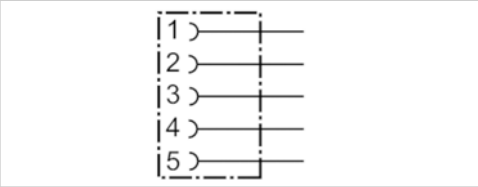
Pin assignment, socket



- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=grey

Round plug connector, Series CON-RD

- Socket, M12x1, 5-pin, A-coded, angled, 90°
- for CANopen
- UL (Underwriters Laboratories)
- shielded



Connection type	Screws
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.072 kg

Technical data

Part No.	Max. current	suitable cable-Ø min./max
1824484029	4 A	6 / 8 mm

Technical information

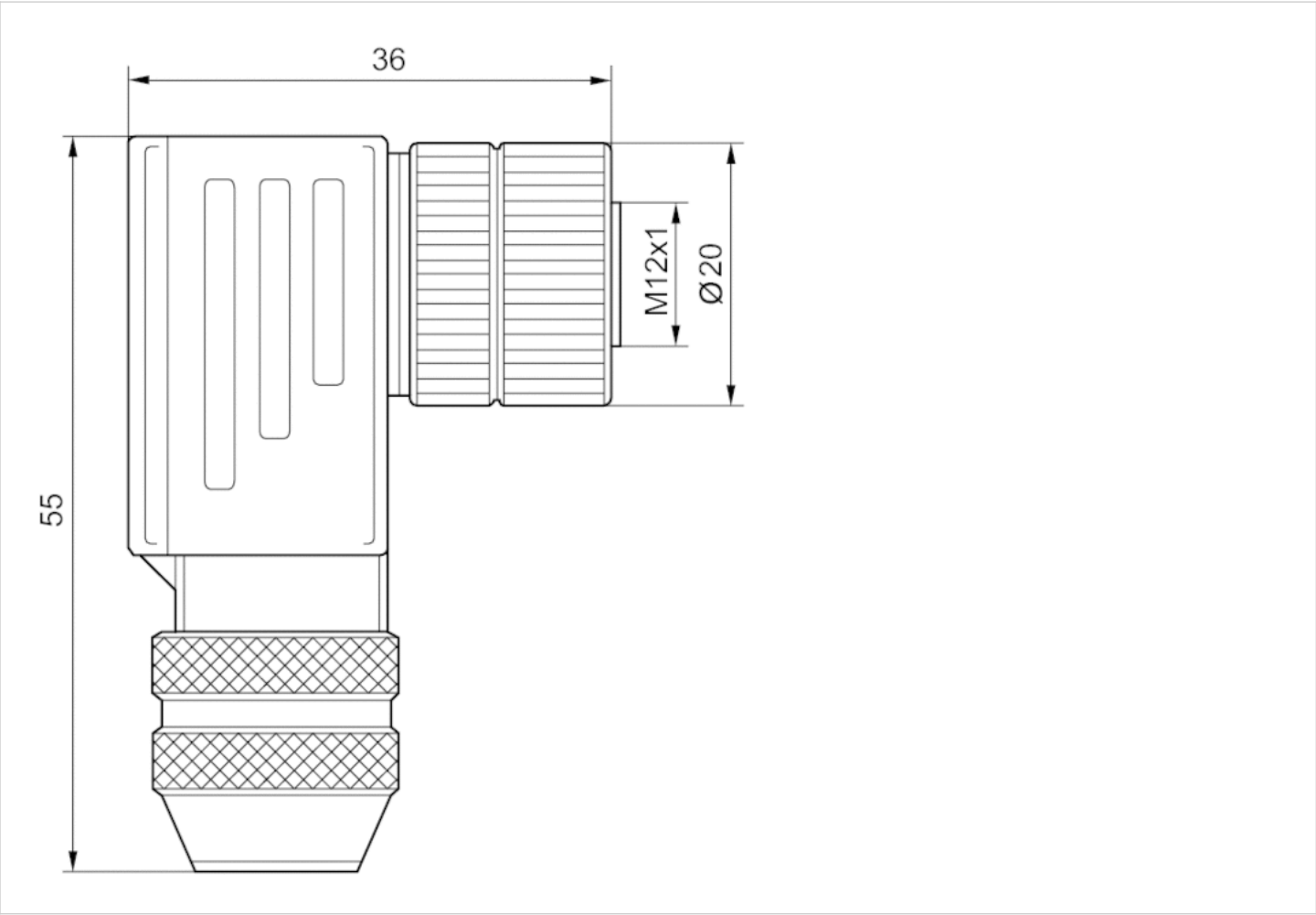
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Die cast zinc

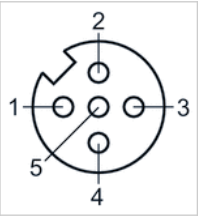
Dimensions

Dimensions



Pin assignments

Pin assignment, socket



Kits for linking

- for ED02



Weight

See table below

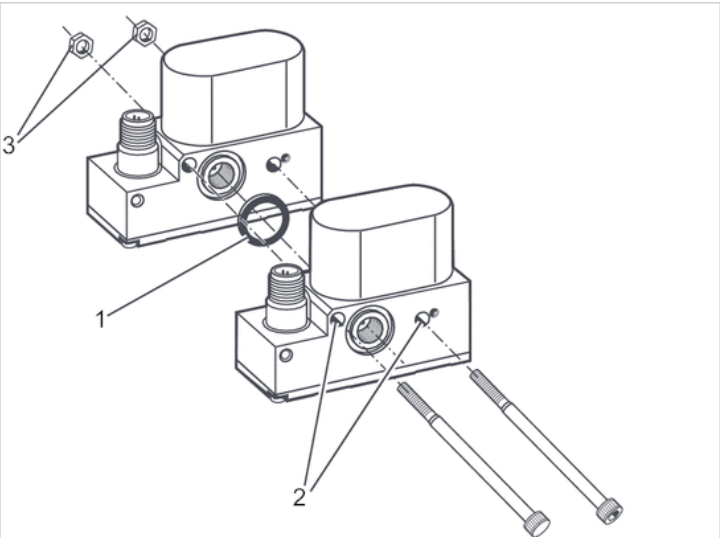
Technical data

Part No.	Type	Weight
R414002579	Kit for linking of 2 units	0.027 kg
R414002580	Kit for linking of 3 units	0.036 kg
R414002581	Kit for linking of 4 units	0.045 kg

Scope of delivery: 2 cylinder screws M5, 2 nuts M5 DIN 934, O-rings (quantity depends on kit)

Dimensions

Dimensions



- 1) Seal
- 2) through-hole
- 3) Nut

Mounting for TH35-7.5 rail

- for ED02



Weight

0.008 kg

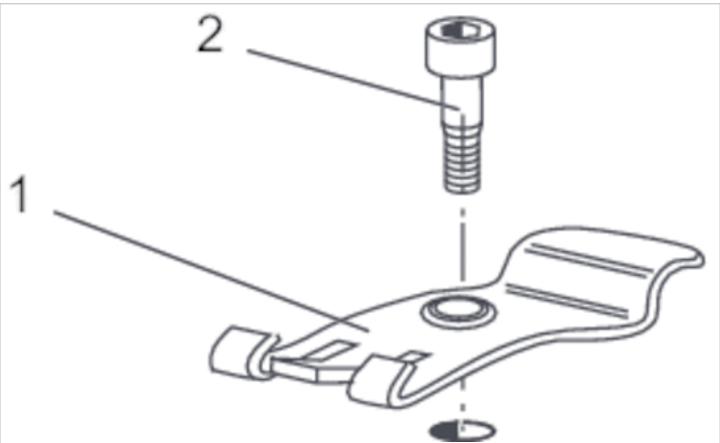
Technical data

Part No.	Type	Delivery unit
R414002583	Mounting kit for DIN rail	1 piece

Scope of delivery: 1x mounting plate and 1x mounting screw

Dimensions

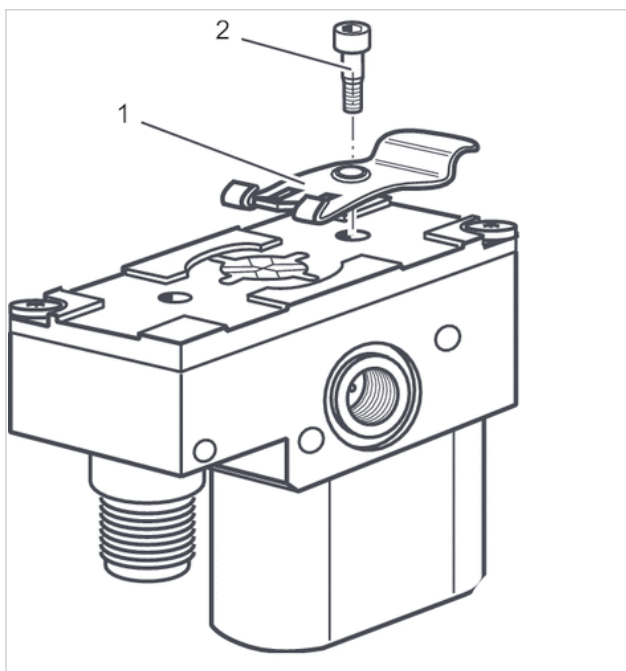
Dimensions



Scope of delivery

- 1) Mounting plate
- 2) Mounting screw Tightening torque: 1 Nm

Application example



Mounting kit, for mounting plate

- for ED02, EV03



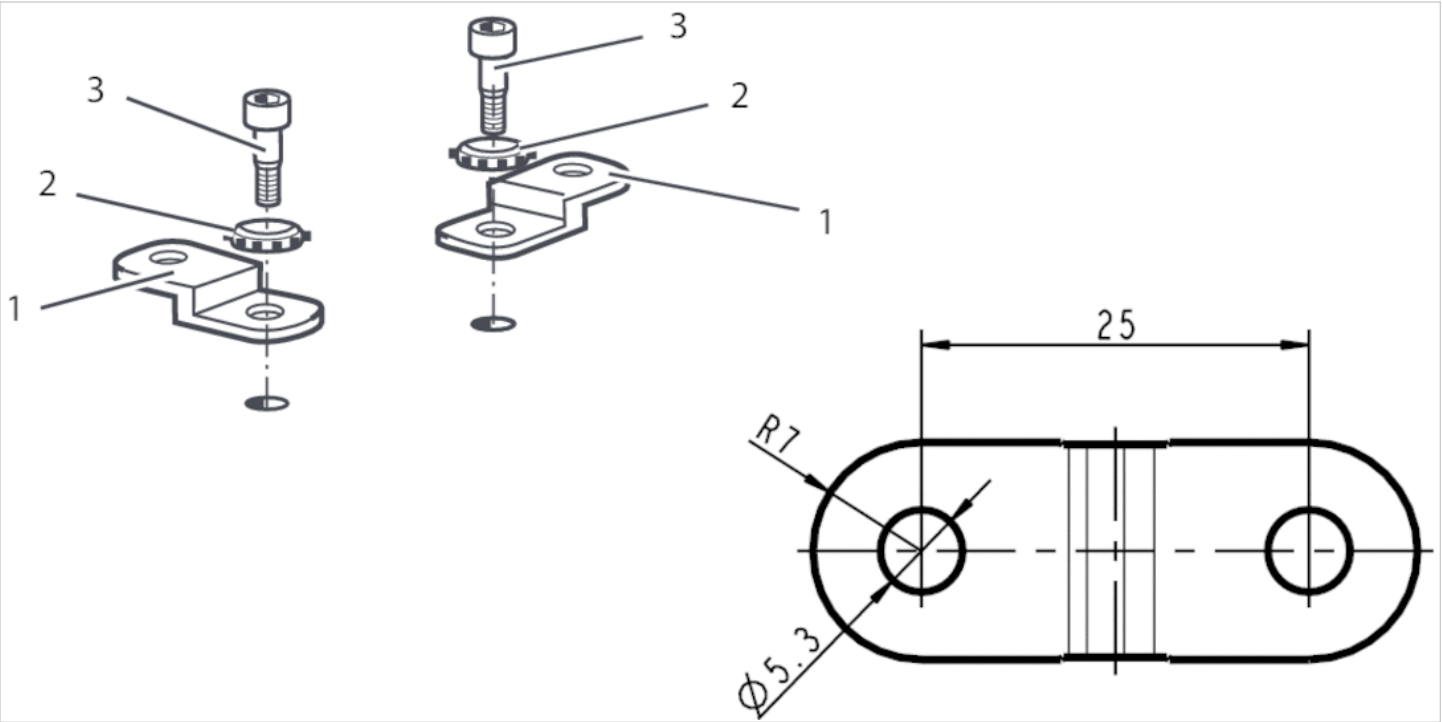
Weight

0.02 kg

Technical data

Part No.	Type	Delivery unit
R414002582	Mounting kit	1 piece

Dimensions



- 1) Mounting plate
 - 2) toothed ring
 - 3) Mounting screw
- Tightening torque: 6 Nm

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