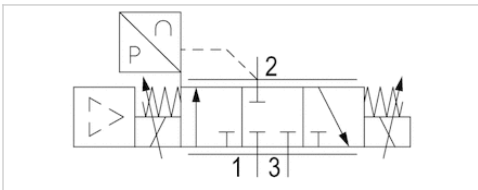


# E/P pressure regulator, Series ED02

- $Q_n = 0.122 \text{ Cv}$
- 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.	32 ... 122 °F
Medium temperature min./max.	32 ... 122 °F
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 $\mu\text{m}$
Oil content of compressed air	1 mg/m <sup>3</sup>
Nominal flow $Q_n$	0.122 Cv
Control	Analog
DC operating voltage	24 V
Voltage tolerance DC	-20% / +20%
Permissible ripple	5%
Max. power consumption	300 mA
Protection class	IP65
Weight	0.705 lbs
	Nominal flow $Q_n$ with working pressure 101.5 psi , with secondary pressure 87 psi and $\Delta p = 2.9$ psi

## Technical data

Part No.	Working pressure max	Pressure setting rangemin./max.	Nominal input value
			Min./max.
R414001197	-	0 ... -15 psi	0 ... 10 V
R414001198	21 psi	-	0 ... 20 mA
R414001199	21 psi	-	4 ... 20 mA
R414001200	21 psi	-	0 ... 10 V
R414002405	10 psi	0 ... 4 psi	0 ... 20 mA
R414002406	10 psi	0 ... 4 psi	4 ... 20 mA
R414002407	10 psi	0 ... 4 psi	0 ... 10 V
R414002408	10 psi	0 ... 4 psi	0 ... 10 V
R414003364	43 psi	0 ... 14 psi	0 ... 20 mA
R414003365	43 psi	0 ... 14 psi	4 ... 20 mA
R414004660	43 psi	0 ... 14 psi	0 ... 10 V
R414003879	43 psi	0 ... 14 psi	0 ... 10 V
R414003370	101 psi	0 ... 29 psi	0 ... 20 mA
R414003371	101 psi	0 ... 29 psi	4 ... 20 mA
R414003372	101 psi	0 ... 29 psi	0 ... 10 V
R414003373	101 psi	0 ... 29 psi	0 ... 10 V

Part No.	Working pressure max	Pressure setting rangemin./max.	Nominal input value
			Min./max.
R414002400	116 psi	0 ... 87 psi	0 ... 20 mA
R414002401	116 psi	0 ... 87 psi	4 ... 20 mA
R414002402	116 psi	0 ... 87 psi	0 ... 10 V
R414002403	116 psi	0 ... 87 psi	0 ... 10 V
R414002410	174 psi	0 ... 145 psi	0 ... 20 mA
R414002411	174 psi	0 ... 145 psi	4 ... 20 mA
R414002412	174 psi	0 ... 145 psi	0 ... 10 V
R414002413	174 psi	0 ... 145 psi	0 ... 10 V

Part No.	Actual output value	Control	Hysteresis	Fig.	
	Min./max.				
R414001197	0 ... 10 V	Analog	0.145 psi	Fig. 2	-
R414001198	0 ... 20 mA	Analog	0.29 psi	Fig. 1	-
R414001199	4 ... 20 mA	Analog	0.29 psi	Fig. 1	-
R414001200	0 ... 10 V	Analog	0.29 psi	Fig. 2	-
R414002405	0 ... 20 mA	Analog	0.044 psi	Fig. 1	-
R414002406	4 ... 20 mA	Analog	0.044 psi	Fig. 1	-
R414002407	0 ... 10 V	Analog	0.044 psi	Fig. 3	1)
R414002408	0 ... 10 V	Analog	0.044 psi	Fig. 2	-
R414003364	0 ... 20 mA	Analog	0.145 psi	Fig. 1	-
R414003365	4 ... 20 mA	Analog	0.145 psi	Fig. 1	-
R414004660	0 ... 10 V	Analog	0.145 psi	Fig. 3	1)
R414003879	0 ... 10 V	Analog	0.145 psi	Fig. 2	-
R414003370	0 ... 20 mA	Analog	0.363 psi	Fig. 1	-
R414003371	4 ... 20 mA	Analog	0.363 psi	Fig. 1	-
R414003372	0 ... 10 V	Analog	0.363 psi	Fig. 3	1)
R414003373	0 ... 10 V	Analog	0.363 psi	Fig. 2	-
R414002400	0 ... 20 mA	Analog	0.725 psi	Fig. 1	-
R414002401	4 ... 20 mA	Analog	0.725 psi	Fig. 1	-
R414002402	-	Analog	0.725 psi	Fig. 3	1)
R414002403	0 ... 10 V	Analog	0.725 psi	Fig. 2	-
R414002410	0 ... 20 mA	Analog	0.725 psi	Fig. 1	-
R414002411	4 ... 20 mA	Analog	0.725 psi	Fig. 1	-
R414002412	-	Analog	0.725 psi	Fig. 3	1)
R414002413	0 ... 10 V	Analog	0.725 psi	Fig. 2	-

Minimum working pressure = 7.25 psi + 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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

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.

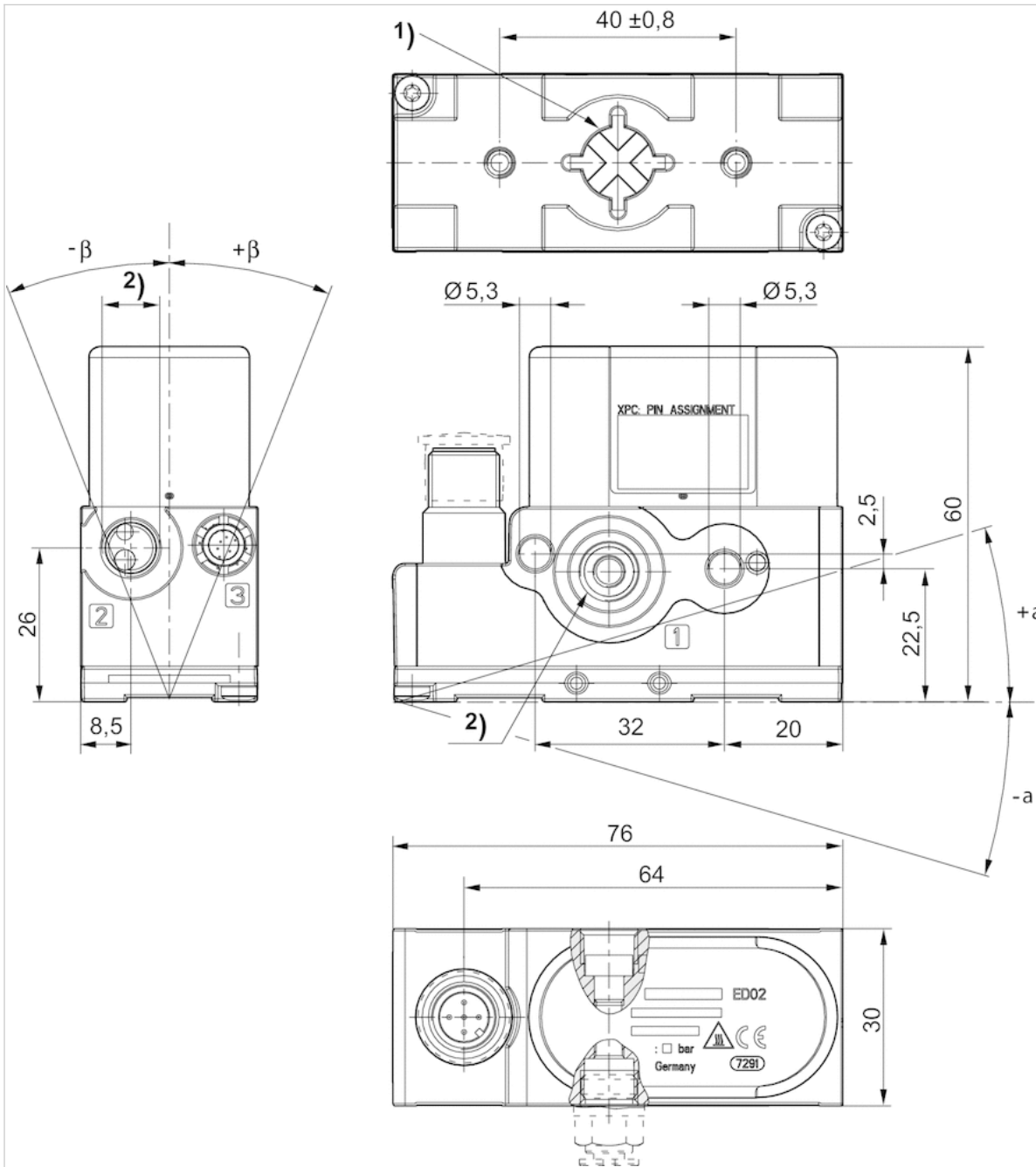
The compressed air connection threads fit both G 1/8 and 1/8 NPTF.

## Technical information

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

Dimensions

Dimensions

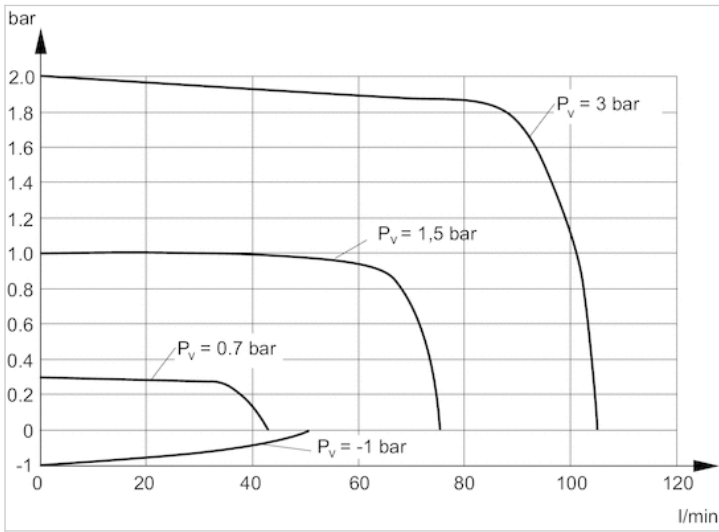


1) Housing exhaust

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

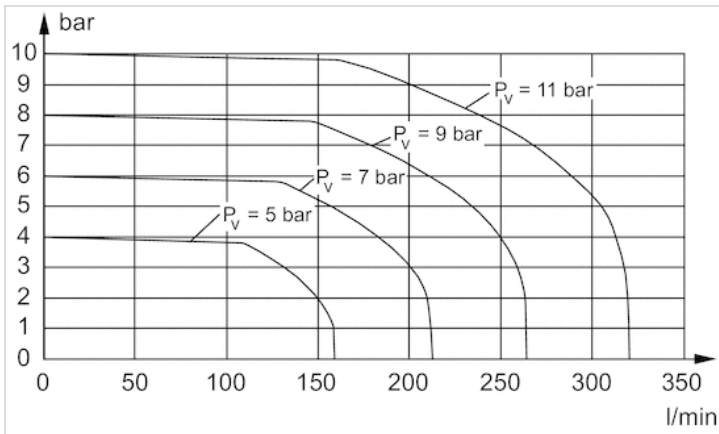
# Diagrams

## Flow diagram for pressure range up to 2 bar



P<sub>v</sub> = Supply pressure

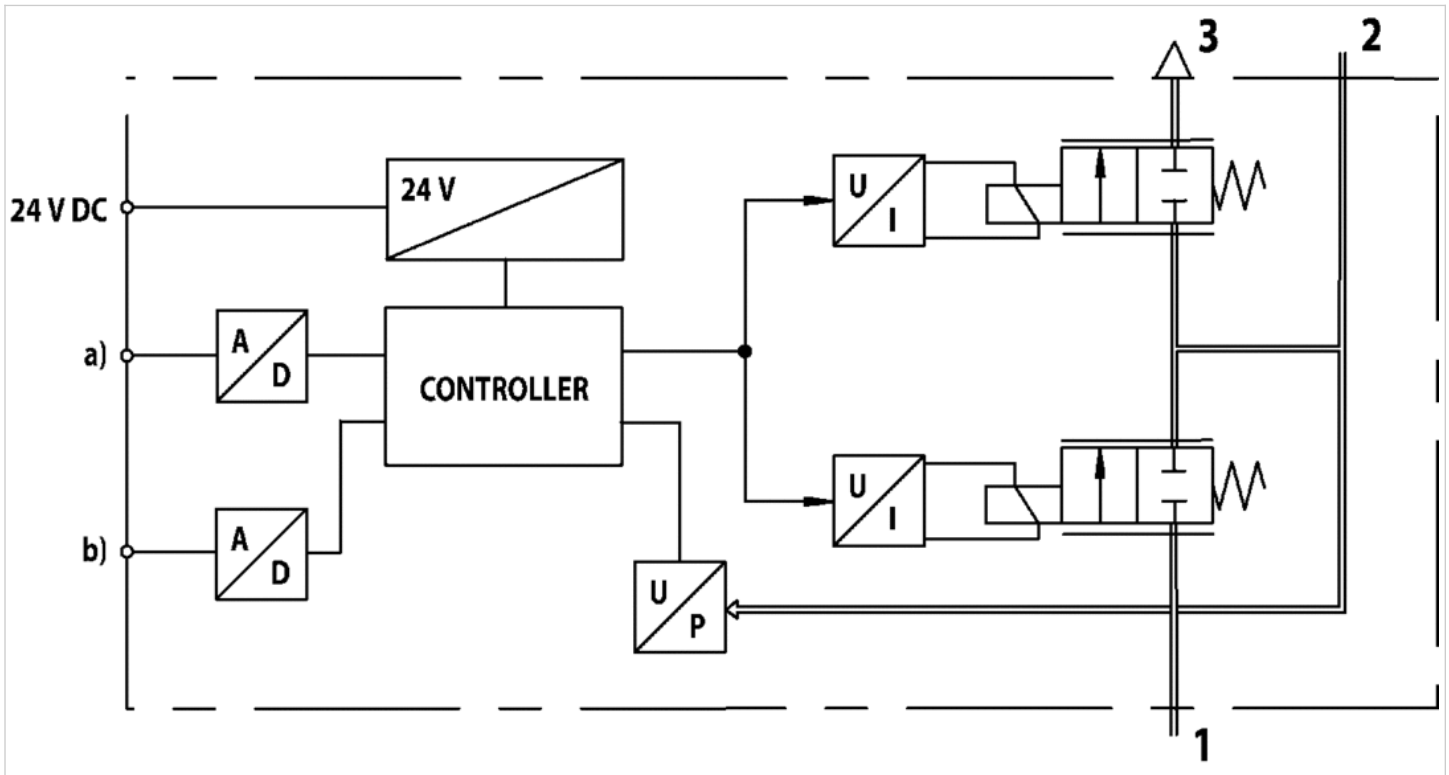
## Durchflussdiagramm für Druckbereich bis 10 bar



P<sub>v</sub> = Supply pressure

Circuit diagram

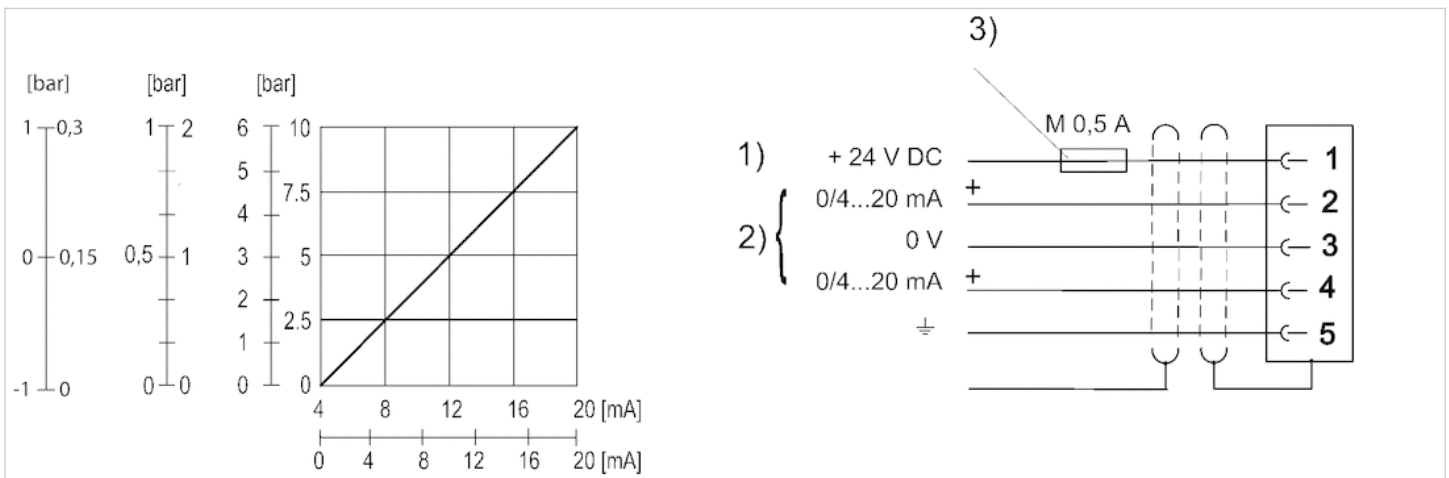
Functional diagram



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.

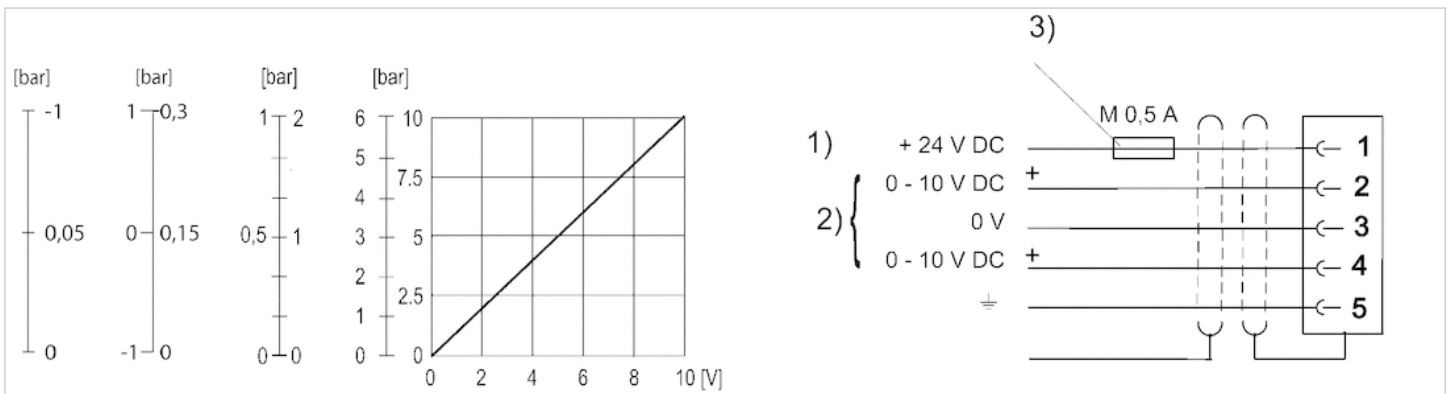
- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust

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



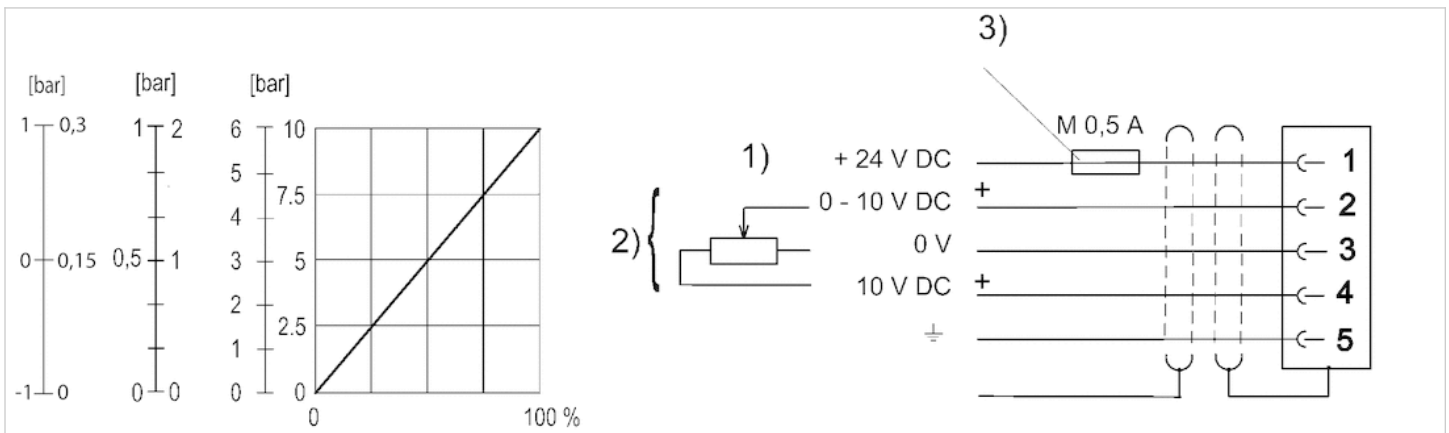
1) Supply Voltage 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V. Current control (ohmic load 100 Ω). Actual value output (max. total resistance of downstream devices 500 Ω). 3) The operating voltage must be protected by an external M 0.5 A fuse. Connect the plug via a shielded 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.