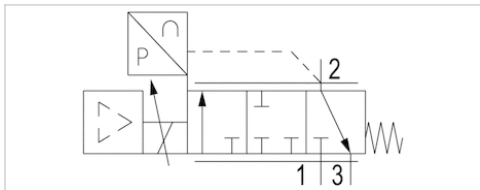


# E/P pressure regulator, Series ED05

- $Q_n = 1000 \text{ l/min}$
- Compressed air connection output G 1/4
- Electr. connection via signal connection
- Signal connection input and output, Plug, M12, 5-pin



|                                                                                                                 |                                          |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------|
| Type                                                                                                            | Poppet valve                             |
| Mounting orientation                                                                                            | $\alpha = 0-90^\circ \beta = 0-90^\circ$ |
| Certificates                                                                                                    | CE declaration of conformity             |
| Working pressure max                                                                                            | 11 bar                                   |
| Ambient temperature min./max.                                                                                   | 0 ... 70 °C                              |
| Medium temperature min./max.                                                                                    | 0 ... 70 °C                              |
| Compressed air connection input                                                                                 | G 1/4                                    |
| Compressed air connection output                                                                                | G 1/4                                    |
| Compressed air connection, exhaust                                                                              | G 1/4                                    |
| Medium                                                                                                          | Compressed air                           |
| Max. particle size                                                                                              | 50 $\mu\text{m}$                         |
| Oil content of compressed air                                                                                   | 0 ... 1 mg/m <sup>3</sup>                |
| Nominal flow $Q_n$                                                                                              | 1000 l/min                               |
| Control                                                                                                         | Analog                                   |
| DC operating voltage                                                                                            | 24 V                                     |
| Voltage tolerance DC                                                                                            | -20% / +20%                              |
| Hysteresis                                                                                                      | 0.06 bar                                 |
| Permissible ripple                                                                                              | 5%                                       |
| Protection class                                                                                                | IP65                                     |
| Weight                                                                                                          | 0,95 kg                                  |
| Nominal flow $Q_n$ with working pressure 7 bar , with secondary pressure 6 bar and $\Delta p = 0.2 \text{ bar}$ |                                          |

## Technical data

| Part No.   | Pressure setting range min./max. | Nominal input value | Actual output value | Control |
|------------|----------------------------------|---------------------|---------------------|---------|
|            |                                  | Min./max.           | Min./max.           |         |
| R414002003 | 0 ... 6 bar                      | 0 ... 20 mA         | 0 ... 20 mA         | Analog  |
| R414002004 | 0 ... 6 bar                      | 4 ... 20 mA         | 4 ... 20 mA         | Analog  |
| R414002005 | 0 ... 6 bar                      | 0 ... 10 V          | 0 ... 10 V          | Analog  |
| R414002006 | 0 ... 6 bar                      | 0 ... 20 mA         | -                   | Analog  |
| R414002294 | 0 ... 6 bar                      | 4 ... 20 mA         | -                   | Analog  |
| R414002295 | 0 ... 6 bar                      | 0 ... 10 V          | -                   | Analog  |
| R414002007 | 0 ... 10 bar                     | 0 ... 20 mA         | 0 ... 20 mA         | Analog  |
| R414002008 | 0 ... 10 bar                     | 4 ... 20 mA         | 4 ... 20 mA         | Analog  |
| R414002009 | 0 ... 10 bar                     | 0 ... 10 V          | 0 ... 10 V          | Analog  |
| R414002010 | 0 ... 10 bar                     | 0 ... 20 mA         | -                   | Analog  |
| R414002296 | 0 ... 10 bar                     | 4 ... 20 mA         | -                   | Analog  |
| R414002297 | 0 ... 10 bar                     | 0 ... 10 V          | -                   | Analog  |

| Part No.   | Fig.   |   |
|------------|--------|---|
| R414002003 | Fig. 1 | - |

| Part No.   | Fig.   |    |
|------------|--------|----|
| R414002004 | Fig. 1 | -  |
| R414002005 | Fig. 2 | -  |
| R414002006 | Fig. 3 | 1) |
| R414002294 | Fig. 3 | 1) |
| R414002295 | Fig. 3 | 1) |
| R414002007 | Fig. 1 | -  |
| R414002008 | Fig. 1 | -  |
| R414002009 | Fig. 2 | -  |
| R414002010 | Fig. 3 | 1) |
| R414002296 | Fig. 3 | 1) |
| R414002297 | Fig. 3 | 1) |

1) Acknowledge signal - output from + Ub, if the outlet pressure corresponds to the setpoint +/- 200 mbar

## 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.

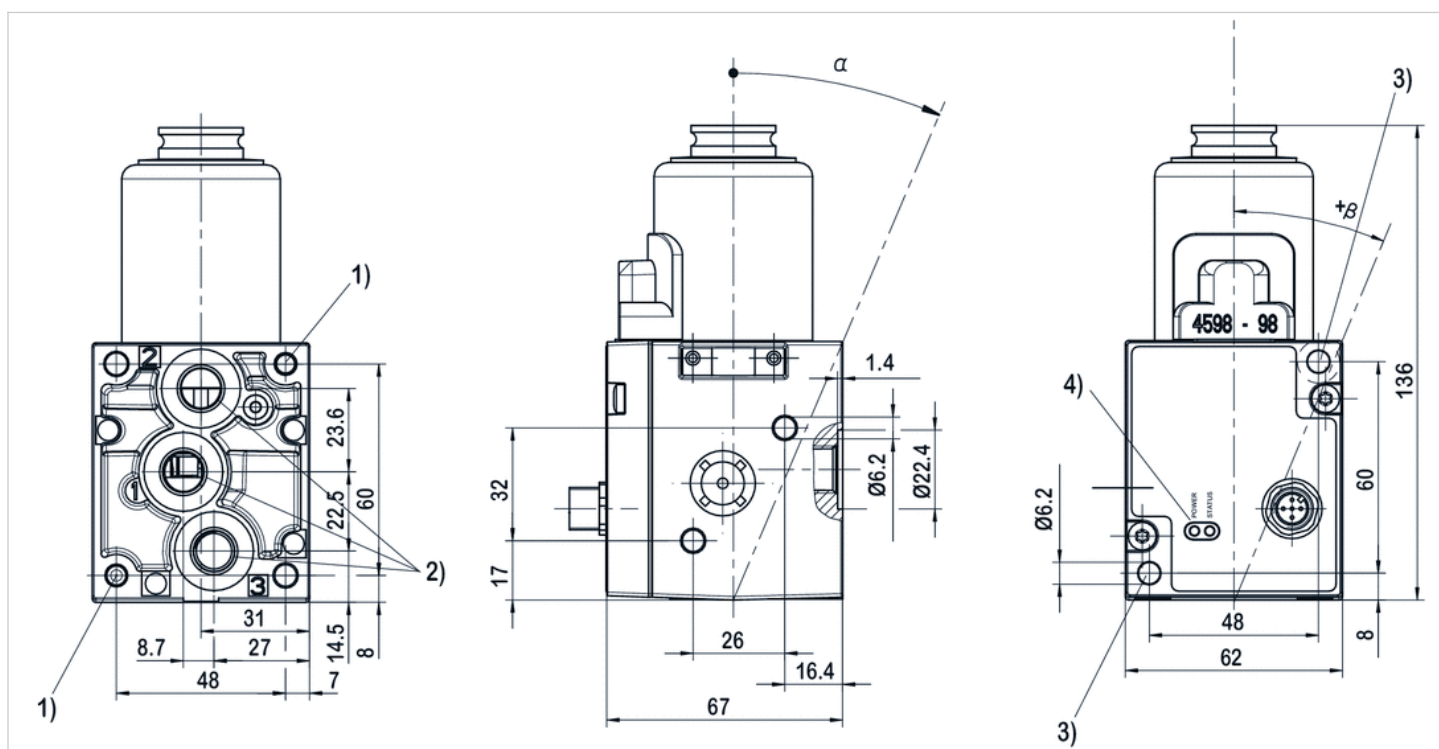
The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.

## Technical information

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

## Dimensions

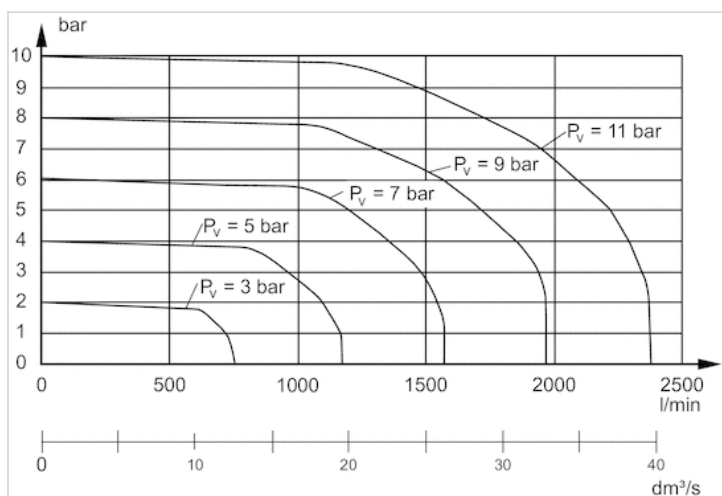
### Dimensions



- 1) Core hole 15 mm deep for self-tapping screws M6
- 2) Universal threaded connection, suitable for G1/4 according to ISO 228/1:2000 and 1/4-27 NPTF
- 3) Through hole
- 4)

## Diagrams

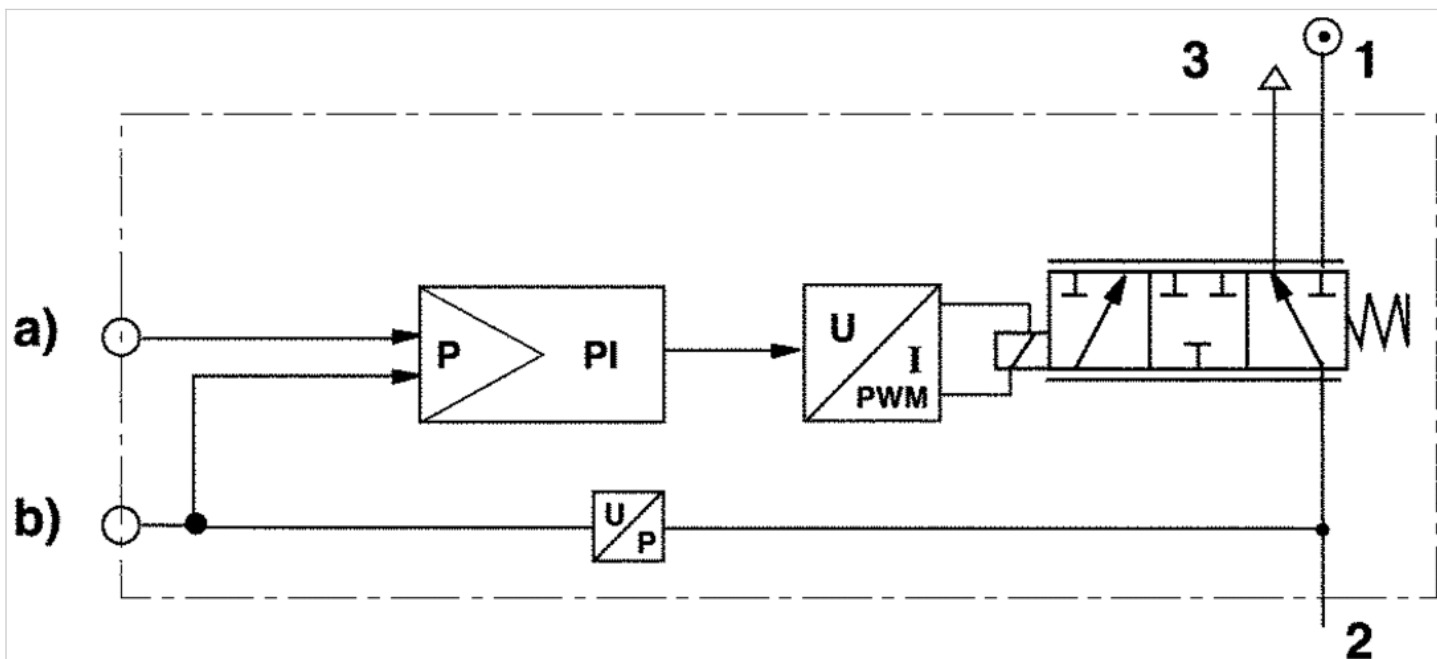
### Flow diagram



Connect the plug via a shielded cable to ensure EMC

## Circuit diagram

## Functional diagram

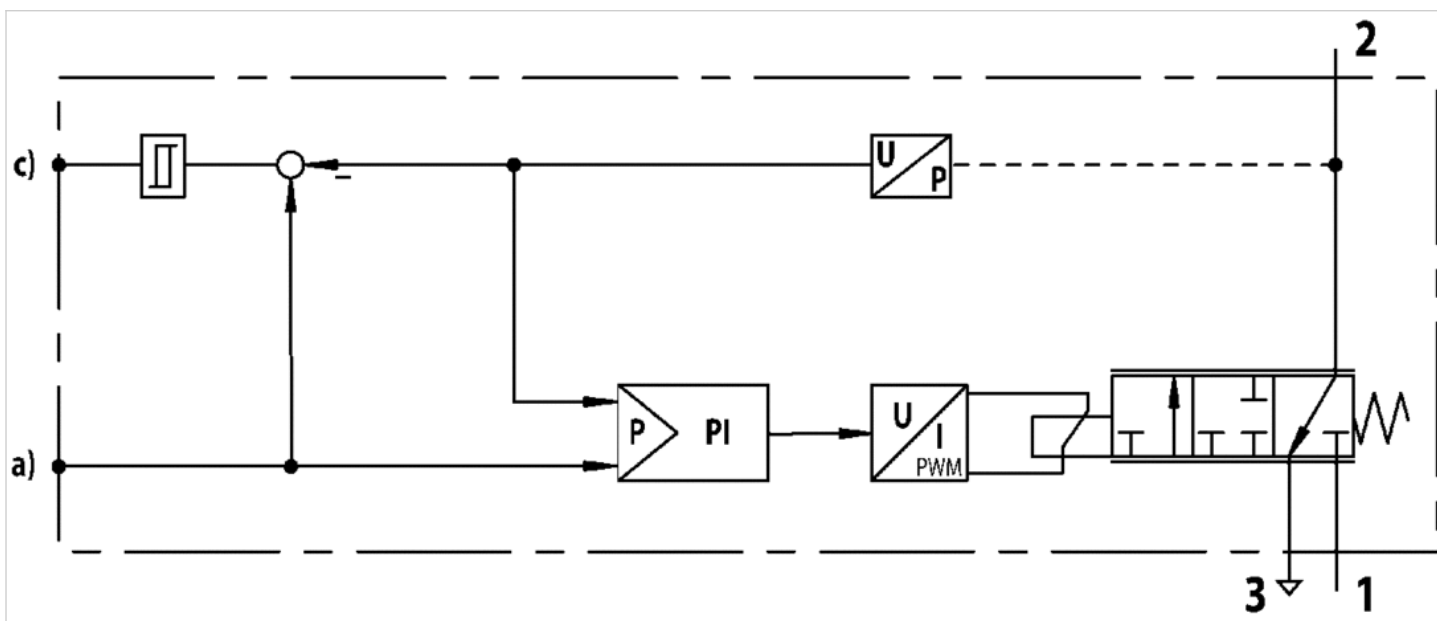


a) Nominal input value b) Actual output value

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

## Functional diagram for switch output (acknowledge signal)



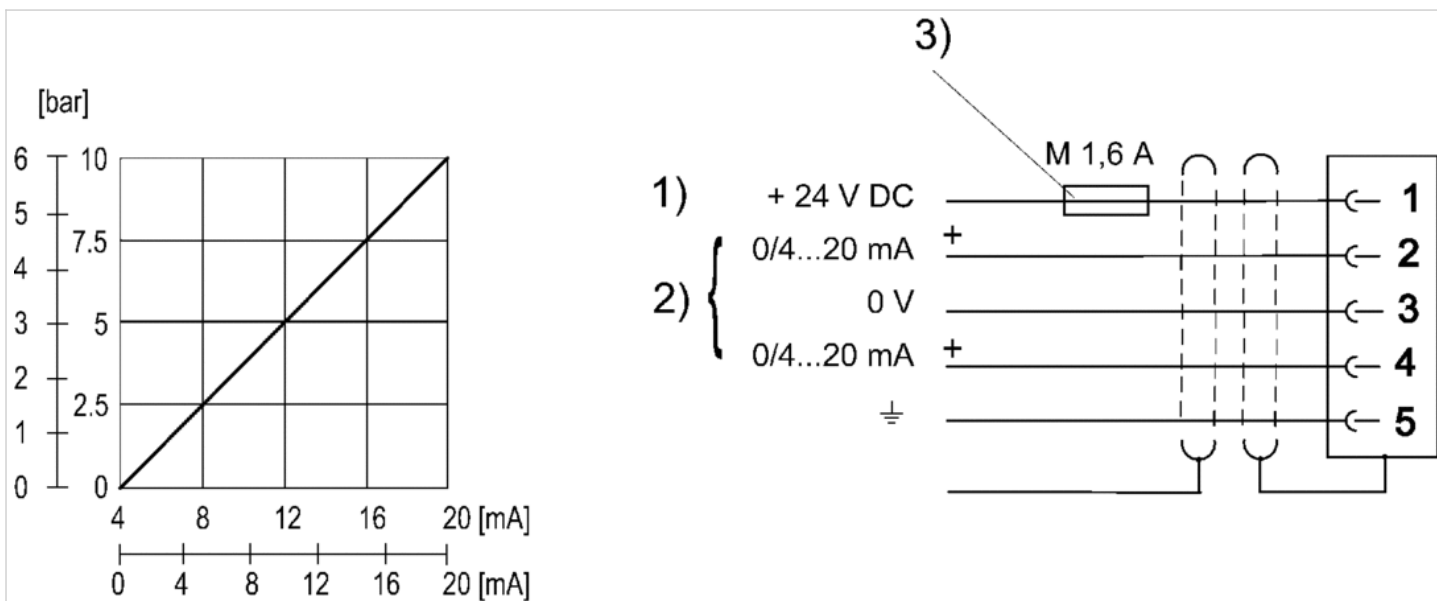
a) Nominal input value

c) Switch output (acknowledge signal)

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) Operational voltage

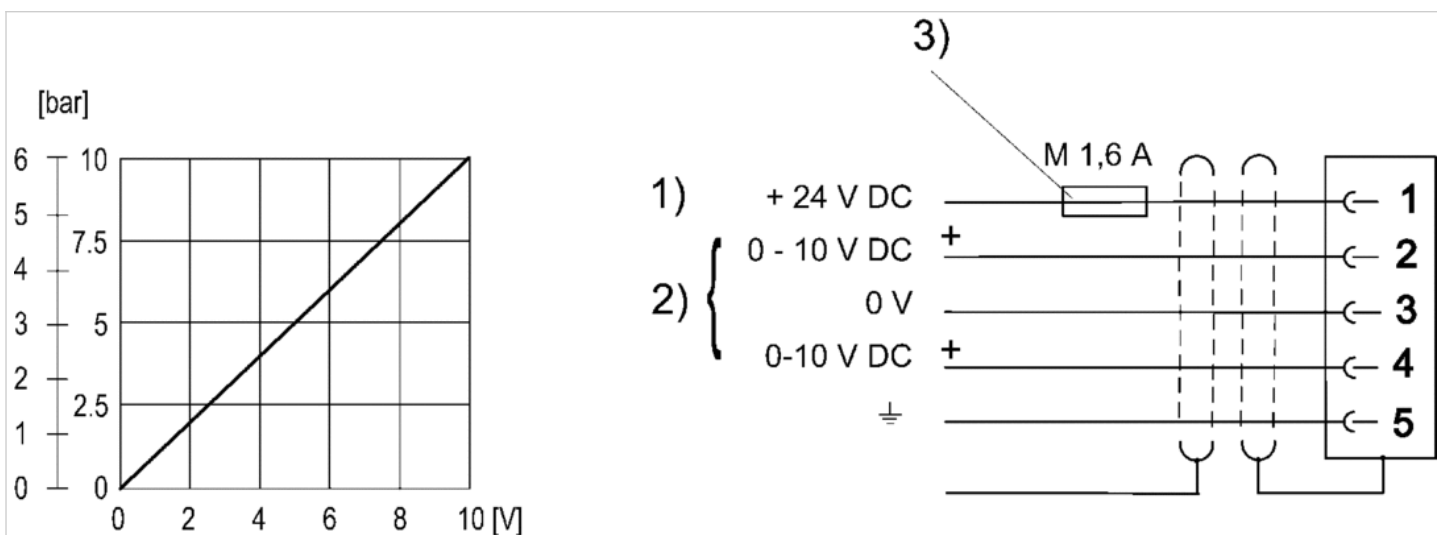
2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (control voltage).

Nominal input value current (ohmic load 100  $\Omega$ ). Actual output value (max. total resistance of downstream devices 300  $\Omega$ ).

3) The operating voltage must be protected by an external M 1.6 A fuse.

Connect plug 2 via a shielded cable to ensure EMC.

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



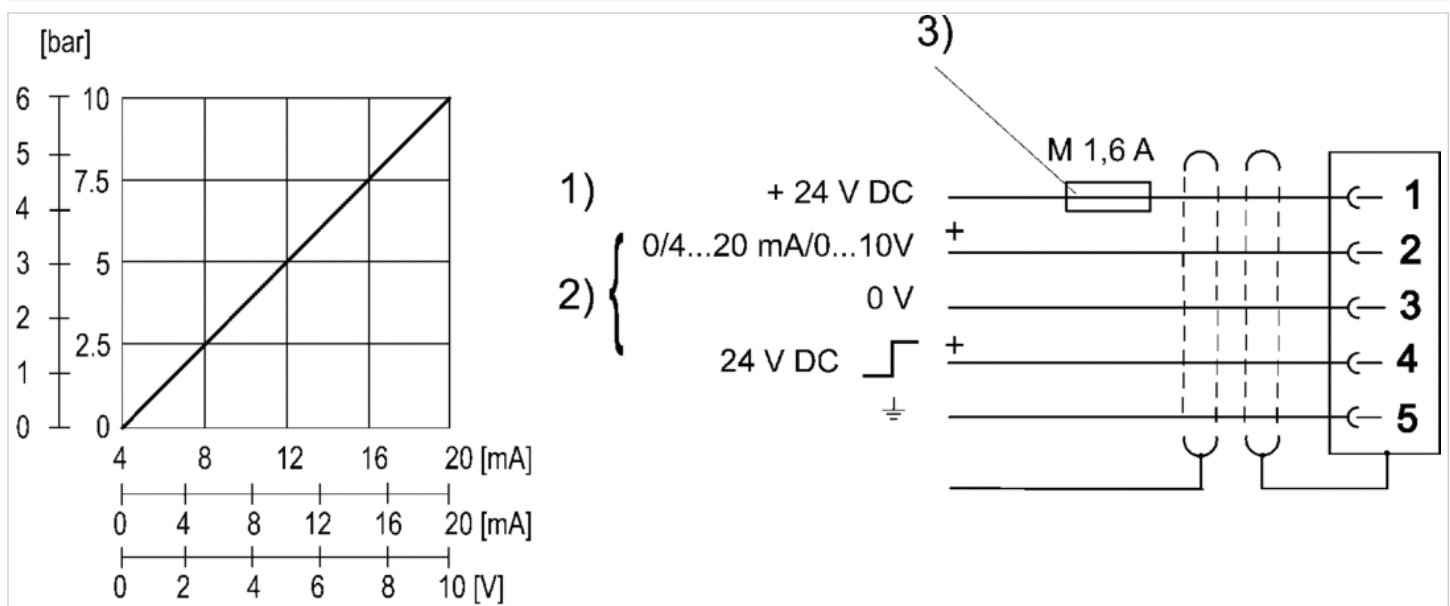
1) Operational voltage

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

3) The operating voltage must be protected by an external M 1.6 A fuse.

Connect plug 2 via a shielded cable to ensure EMC.

Fig. 3, Characteristic and pin assignment for current and voltage control with actual output value



1) Operational voltage

2) Nominal value (pin 2) and switch output (pin 4) are related to 0 V. Acknowledge signal

3) The operating voltage must be protected by an external M 1.6 A fuse.