

Series EV12



AVENTICS™ Series EV12

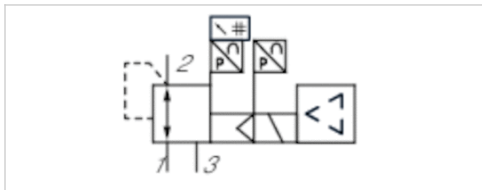


E/P pressure regulator, Series EV12

- Pressure supply, left, Display: display
- Qn = 6500 l/min
- Compressed air connection output G 1/2 G 3/8
- Electr. connection M12, 5-pin, A-coded
- serial control IO-Link
- Pilot valves



Version	Poppet valve
Ambient temperature min./max.	0 ... 50 °C
Medium temperature min./max.	0 ... 50 °C
Medium	Neutral gases
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Nominal flow Qn	6500 l/min
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Hysteresis	0.12 bar
Permissible ripple	5%
Max. power consumption	220 mA
Weight	1.4 kg



Technical data

Part No.	Pressure setting range min./max.	Compressed air connection	
		Input	
R414011386	0 ... 10 bar	G 1/2	
R414011387	0 ... 10 bar	G 1/2	
R414011389	0 ... 10 bar	G 1/2	
R414011398	0 ... 10 bar	G 3/8	
R414011399	0 ... 10 bar	G 3/8	
R414011401	0 ... 10 bar	G 3/8	

Part No.	Compressed air connection	Nominal input value	Actual output value	serial control
	Output	Min./max.	Min./max.	
R414011386	G 1/2	0 ... 10 V	0 ... 10 V	-
R414011387	G 1/2	4 ... 20 mA	4 ... 20 mA	-
R414011389	G 1/2	-	-	IO-Link
R414011398	G 3/8	0 ... 10 V	0 ... 10 V	-
R414011399	G 3/8	4 ... 20 mA	0 ... 20 mA	-
R414011401	G 3/8	-	-	IO-Link

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).

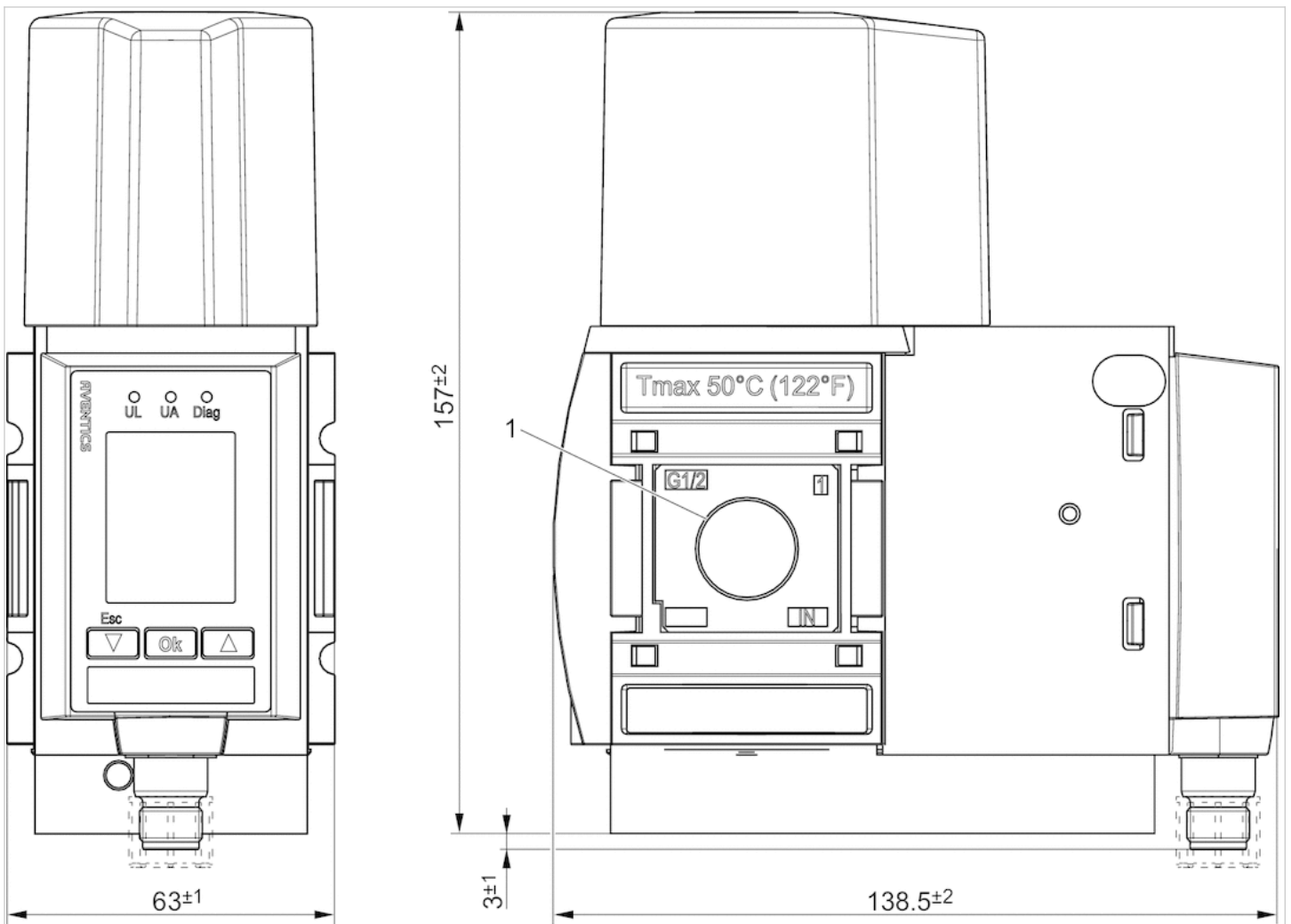
Power outage: maintain pressure

Technical information

Material	
Housing	Polyamide
Base plate	Aluminum
Seals	Nitrile butadiene rubber

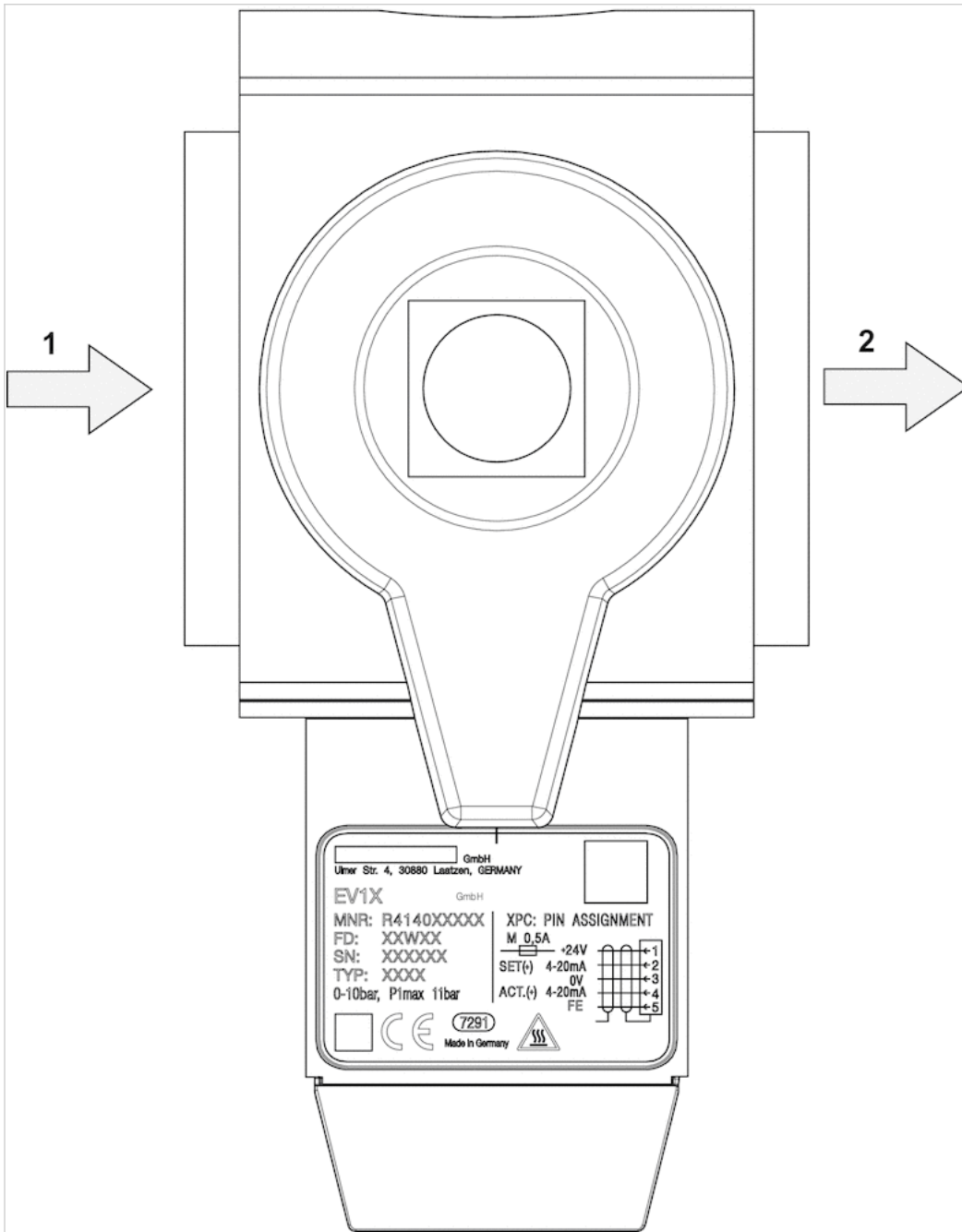
Dimensions

Dimensions



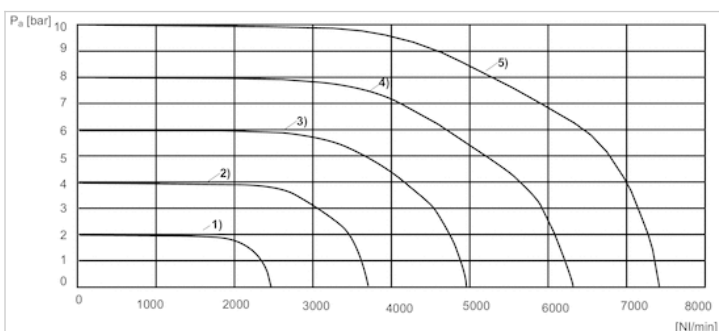
1) Connection thread

Pressure supply, left



Diagrams

Flow characteristic curve

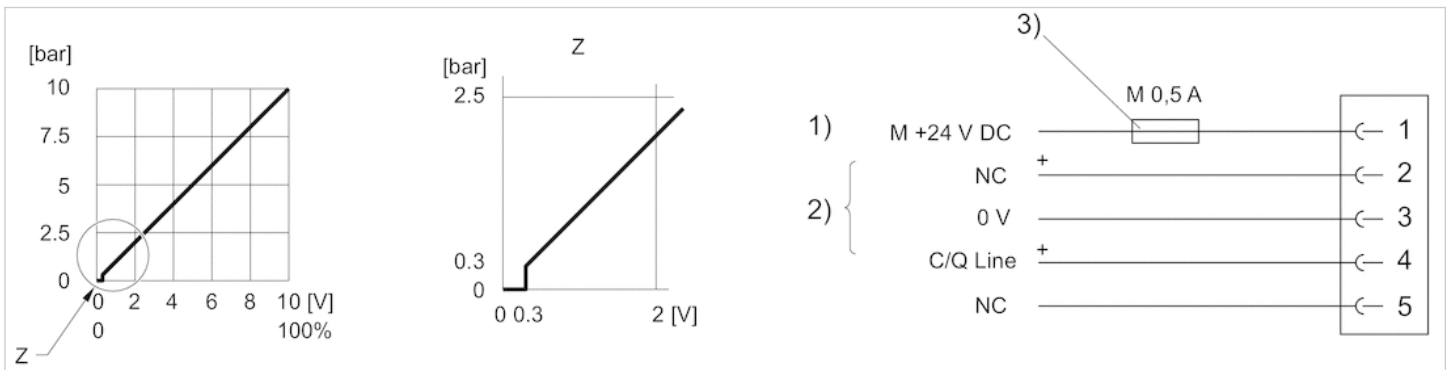


1) $P_v = 3$ bar

- 2) $P_v = 5 \text{ bar}$
- 3) $P_v = 7 \text{ bar}$
- 4) $P_v = 9 \text{ bar}$
- 5) $P_v = 11 \text{ bar}$
- $P_v = \text{Supply pressure}$
- $P_a = \text{Working pressure}$
- $P_v = P_a + 1$

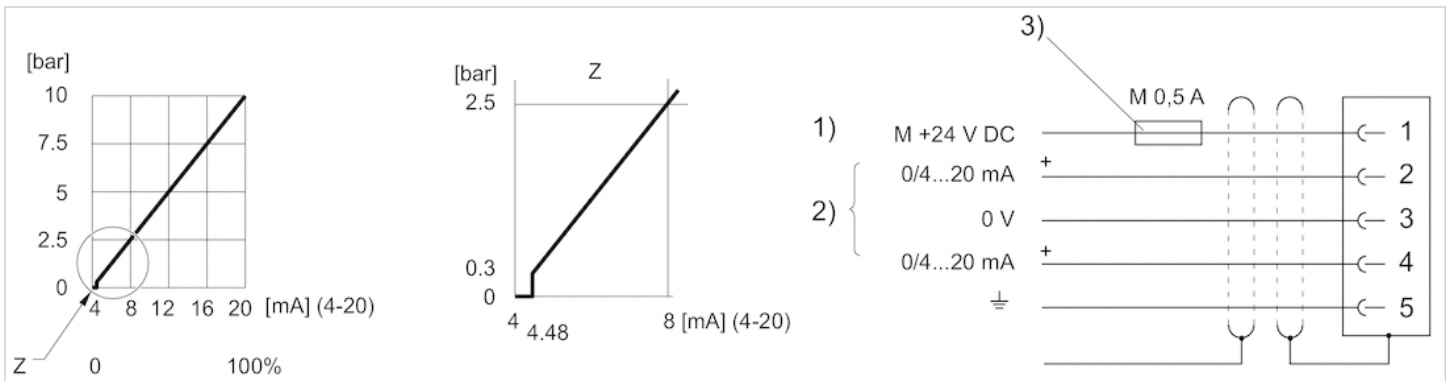
Circuit diagram

Characteristic curve and plug assignment for IO-Link version



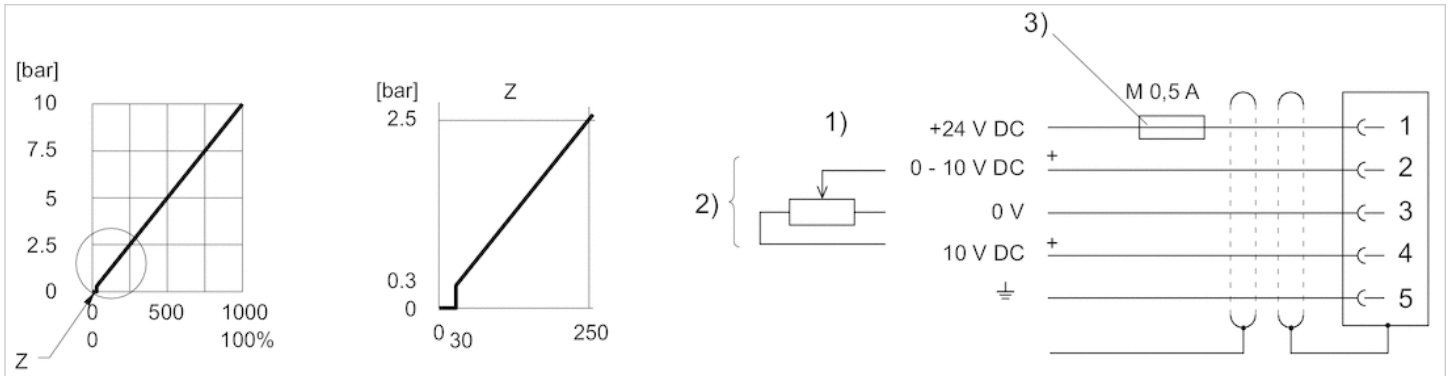
- 1) power supply
 - 2) C/Q Line (pin 4) Not connected (NC) (pin 2) are related to 0 V (pin 3).
 - 3) The power supply must be protected by an external M 0.5 A fuse.
- Connect the plug via a shielded cable to ensure EMC.

Characteristic and pin assignment for current control with actual output value



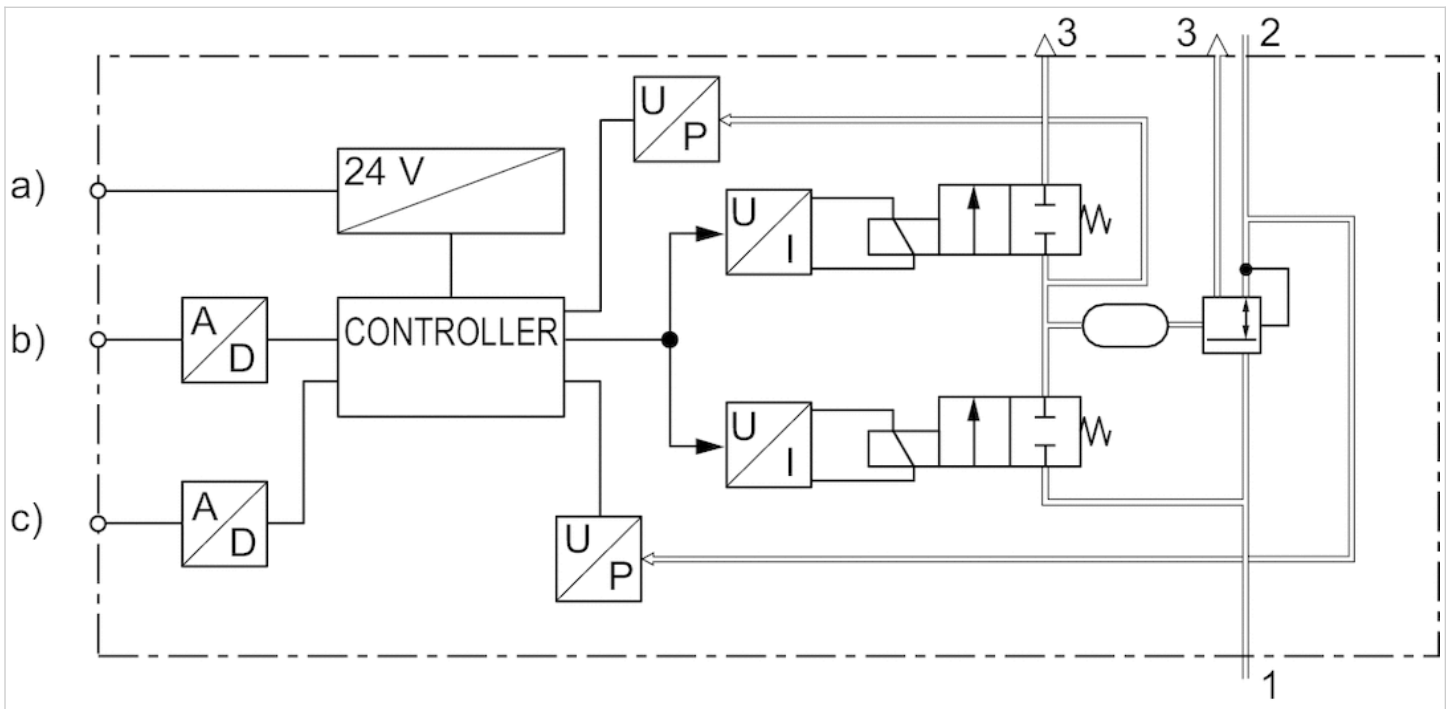
- 1) power supply
 - 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (pin 3).
Nominal input value (ohmic load 100 Ω), actual output value: external ohmic load 300 Ω . If the power supply is switched off, the nominal input value is high-ohmic.
 - 3) The power supply must be protected by an external M 0.5 A fuse.
- Connect the plug via a shielded cable to ensure EMC.

Characteristic and pin assignment for voltage control with actual output value



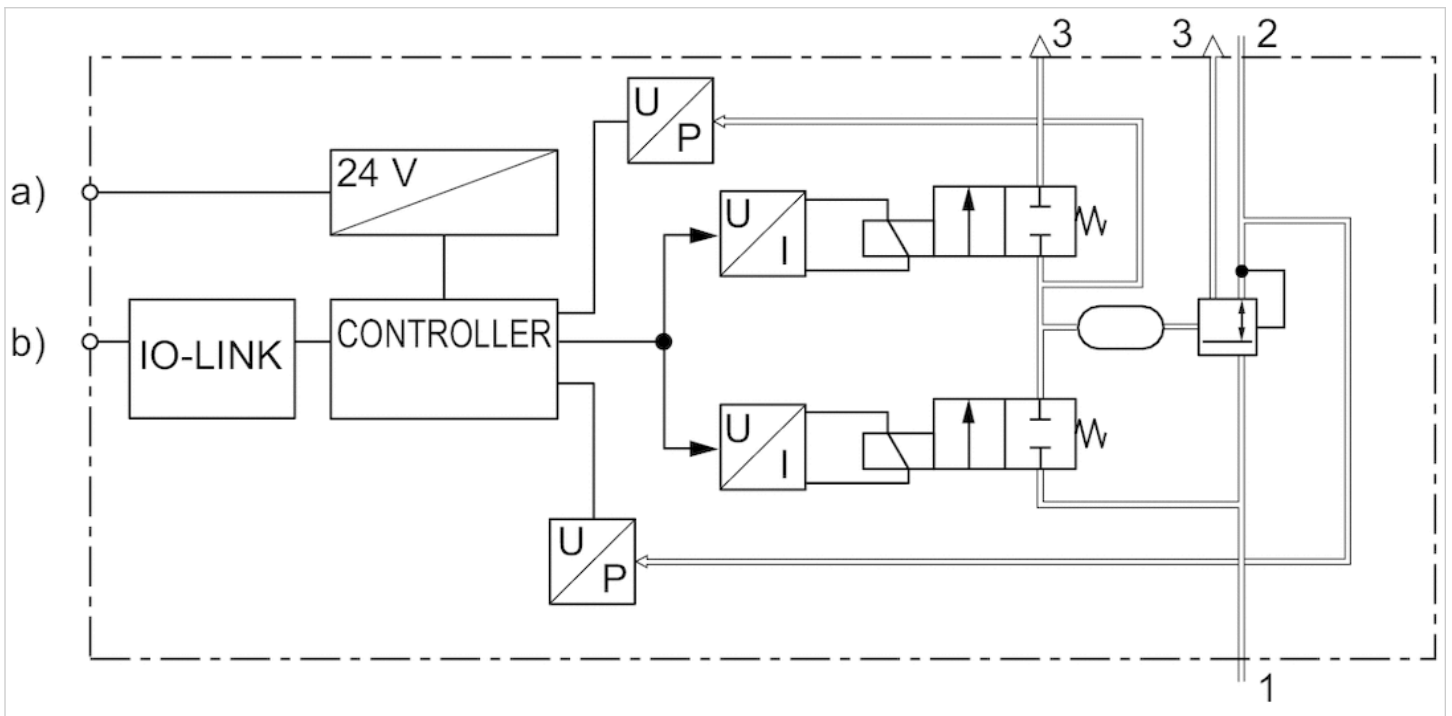
- 1) power supply
- 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (pin 3). Nominal input value ($R = 1\text{ M}\Omega$), actual output value: min. load resistance $> 10\text{ K}\Omega$. If the power supply is switched off, the nominal input value is high-ohmic.
- 3) The power supply must be protected by an external M 0.5 A fuse. Connect the plug via a shielded cable to ensure EMC.

Functional diagram



- a) Voltage supply
- b) Nominal value
- c) Actual output value

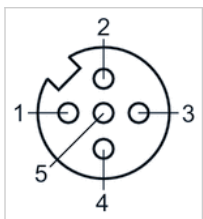
Functional diagram, IO-Link



- a) Supply Voltage
- b) C/Q Line

Pin assignments

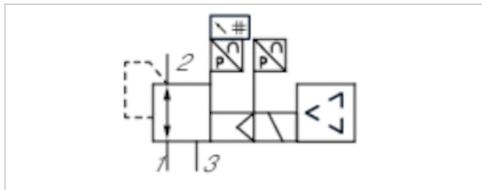
Plug assignment



- 1) 24 V DC
- 2) Nominal input value
- 3) GND
- 4) Actual output value
- 5) Ground

E/P pressure regulator, Series EV12

- Pressure supply, right, Display: display
- Qn = 6500 l/min
- Compressed air connection output G 1/2 G 3/8
- Electr. connection M12, 5-pin
- serial control IO-Link
- Pilot valves



Version	Poppet valve
Working pressure max	11 bar
Ambient temperature min./max.	0 ... 50 °C
Medium temperature min./max.	0 ... 50 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Nominal flow Qn	6500 l/min
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Hysteresis	0.12 bar
Permissible ripple	5%
Max. power consumption	220 mA
Weight	1.4 kg

Technical data

Part No.	Compressed air connection		Nominal input value Min./max.
	Input	Output	
R414011384	G 1/2	G 1/2	0 ... 10 V
R414011385	G 1/2	G 1/2	4 ... 20 mA
R414011388	G 1/2	G 1/2	-
R414011396	G 3/8	G 3/8	0 ... 10 V
R414011397	G 3/8	G 3/8	4 ... 20 mA
R414011400	G 3/8	G 3/8	-

Part No.	Actual output value Min./max.		serial control
	R414011384	0 ... 10 V	
R414011385	4 ... 20 mA	-	
R414011388	-	IO-Link	
R414011396	0 ... 10 V	-	
R414011397	4 ... 20 mA	-	
R414011400	-	IO-Link	

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).

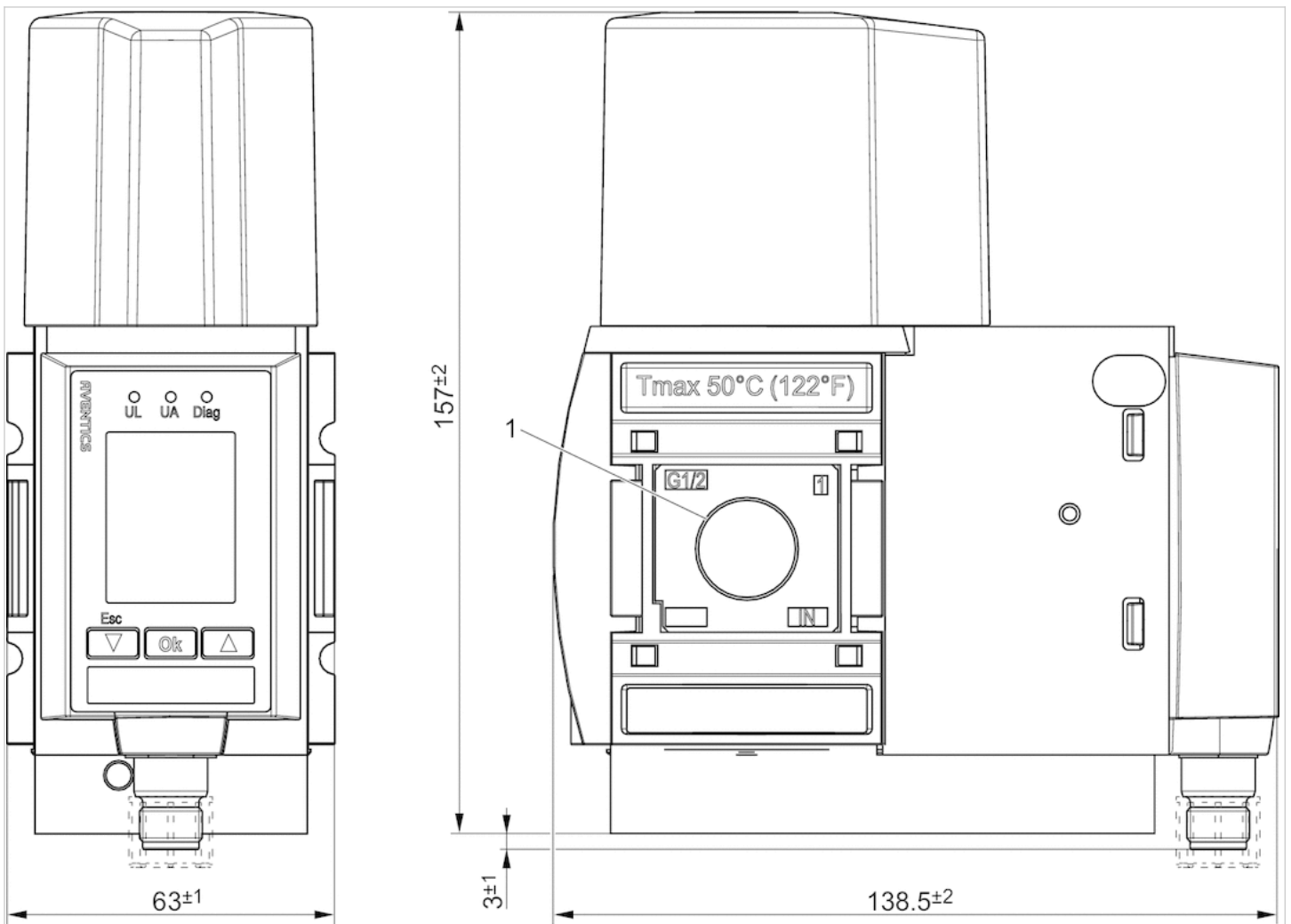
Power outage: maintain pressure

Technical information

Material	
Housing	Polyamide
Base plate	Aluminum
Seals	Nitrile butadiene rubber

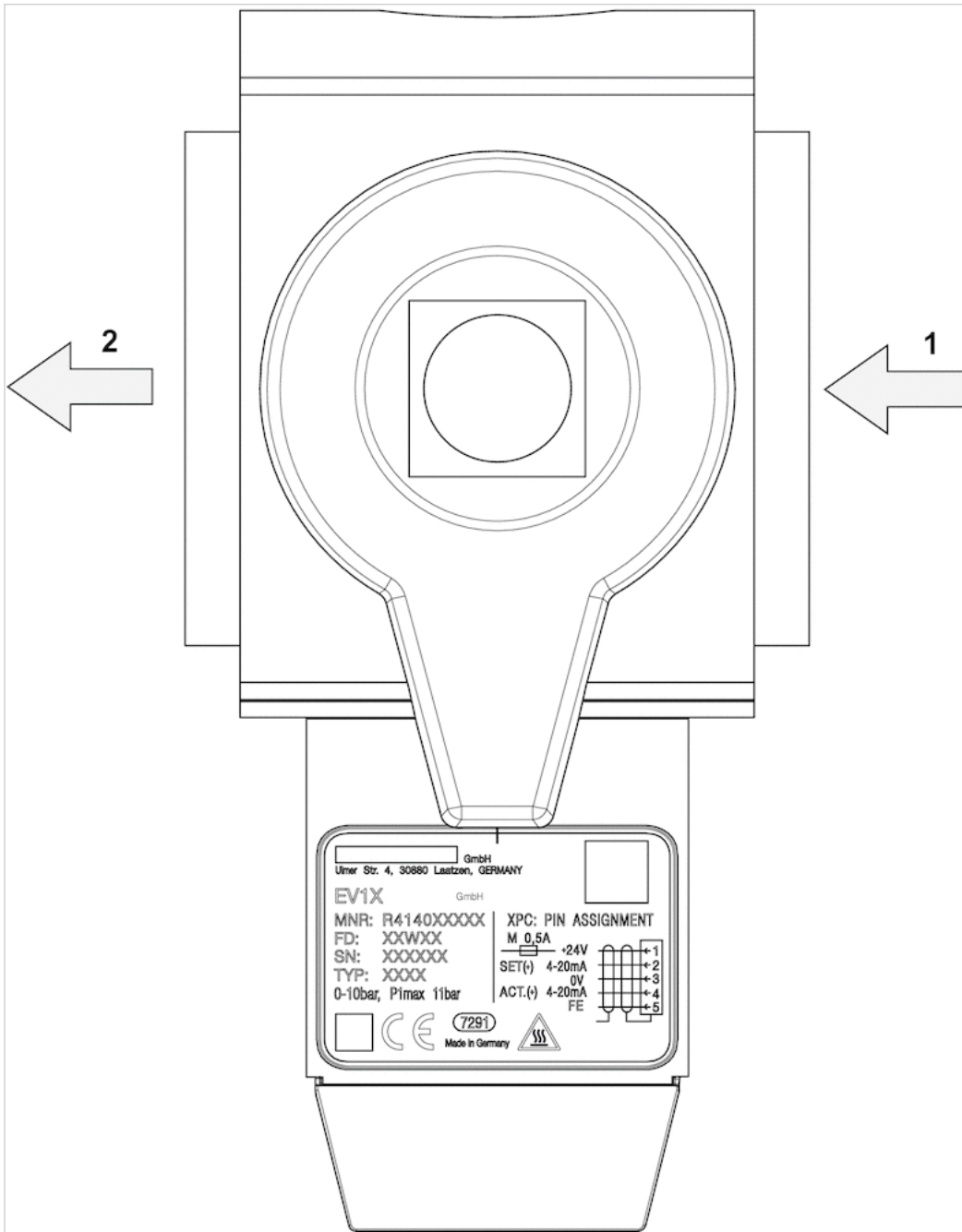
Dimensions

Dimensions



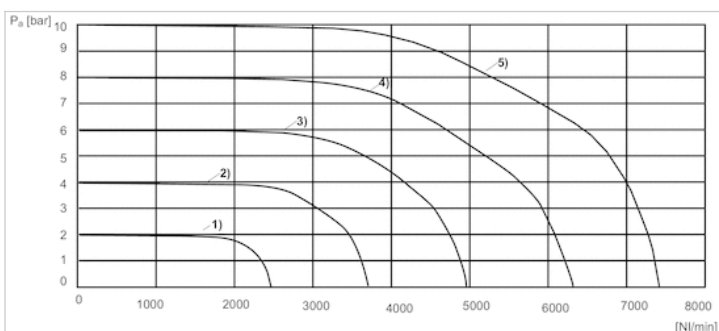
1) Connection thread

Pressure supply, right



Diagrams

Flow characteristic curve

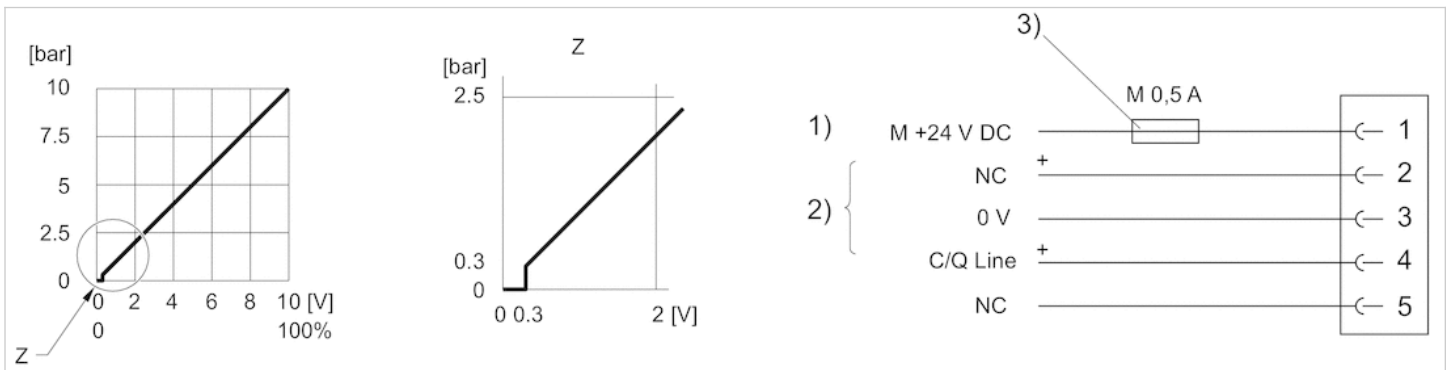


1) $P_v = 3$ bar

- 2) $P_v = 5 \text{ bar}$
- 3) $P_v = 7 \text{ bar}$
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- 5) $P_v = 11 \text{ bar}$
- $P_v = \text{Supply pressure}$
- $P_a = \text{Working pressure}$
- $P_v = P_a + 1$

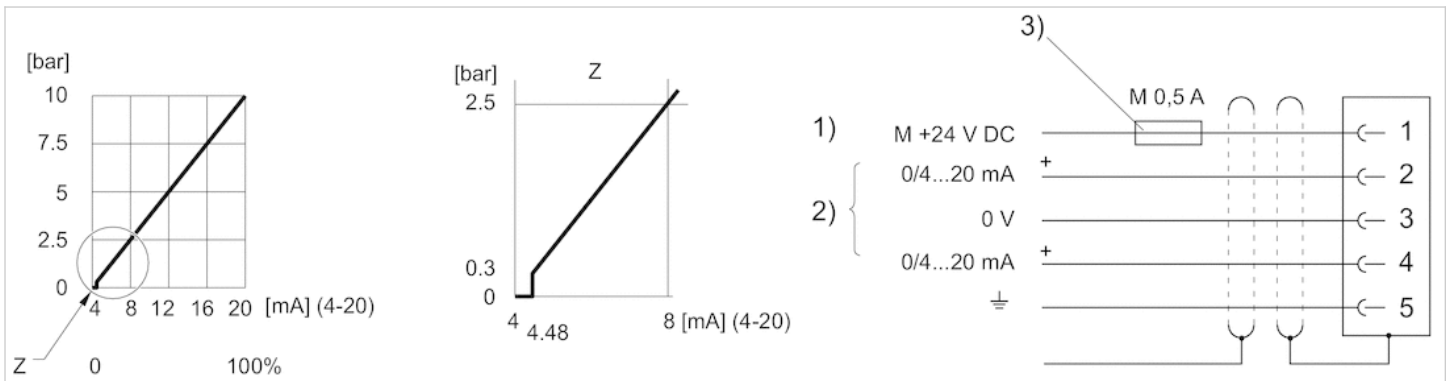
Circuit diagram

Characteristic curve and plug assignment for IO-Link version



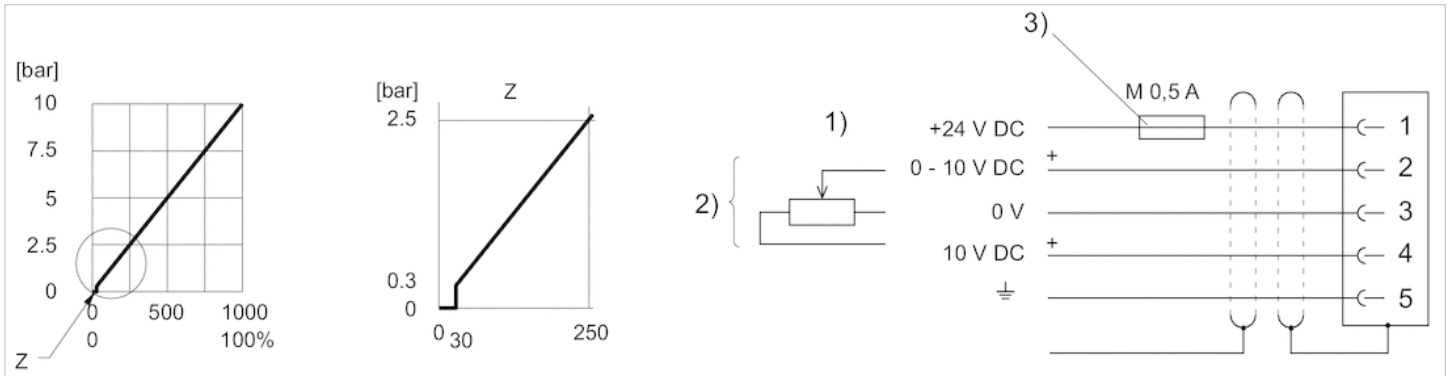
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 - 2) C/Q Line (pin 4) Not connected (NC) (pin 2) are related to 0 V (pin 3).
 - 3) The power supply must be protected by an external M 0.5 A fuse.
- Connect the plug via a shielded cable to ensure EMC.

Characteristic and pin assignment for current control with actual output value



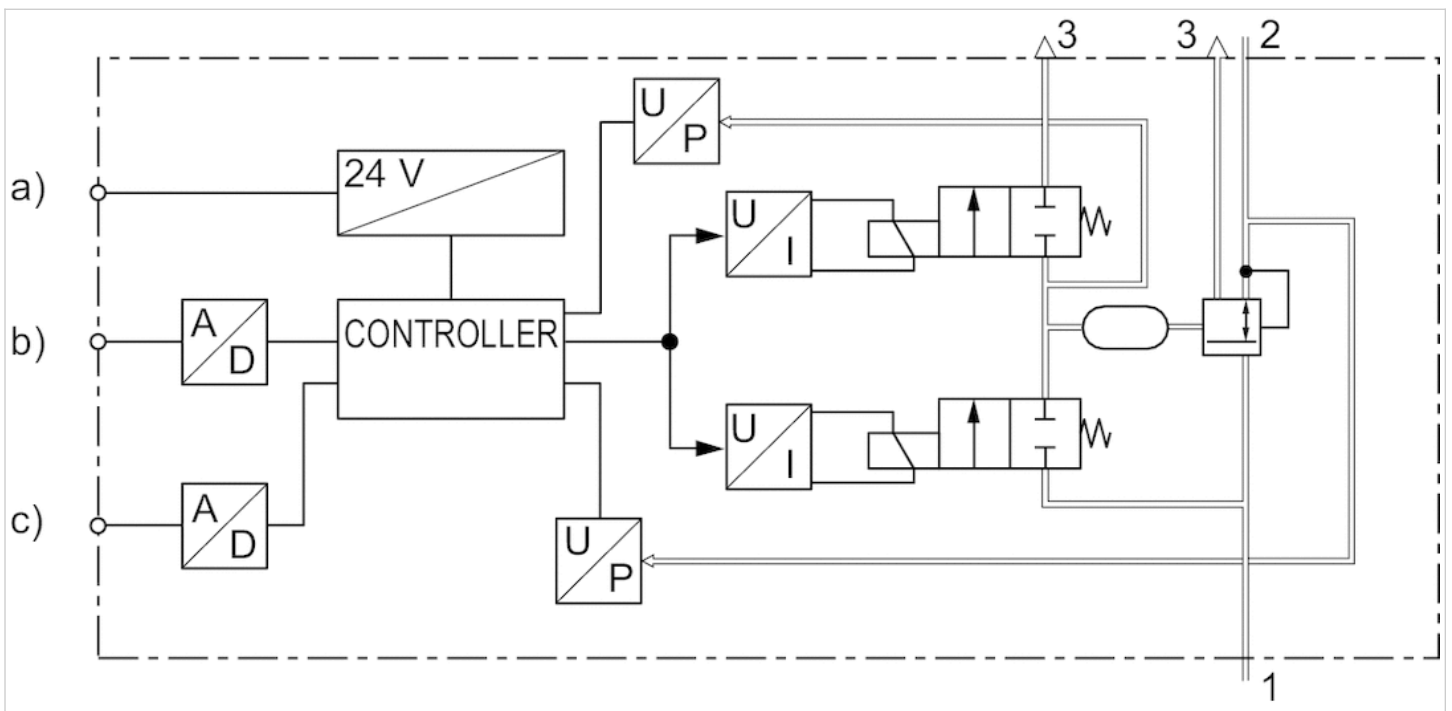
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 - 3) The power supply must be protected by an external M 0.5 A fuse.
- Connect the plug via a shielded cable to ensure EMC.

Characteristic and pin assignment for voltage control with actual output value



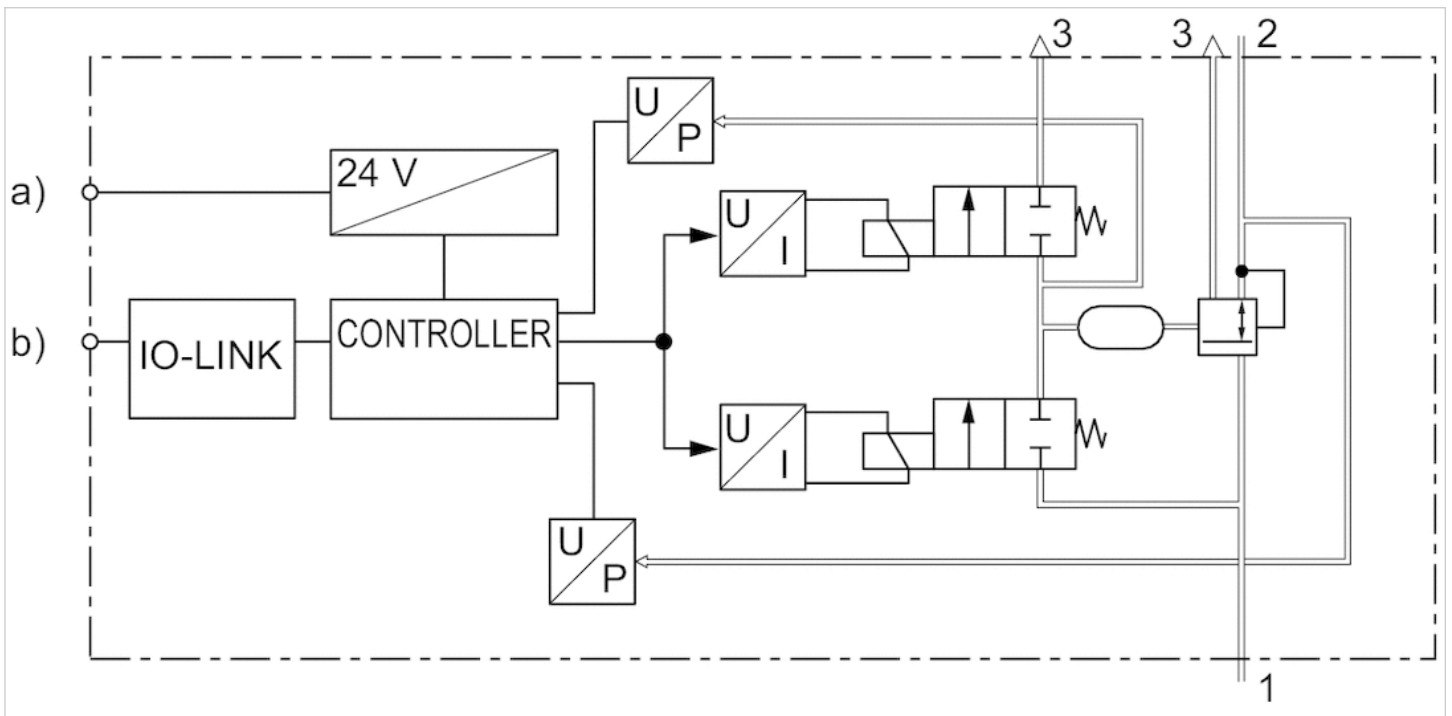
- 1) power supply
- 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (pin 3). Nominal input value ($R = 1 \text{ M}\Omega$), actual output value: min. load resistance $> 10 \text{ K}\Omega$. If the power supply is switched off, the nominal input value is high-ohmic.
- 3) The power supply must be protected by an external M 0.5 A fuse. Connect the plug via a shielded cable to ensure EMC.

Functional diagram



- a) Voltage supply
- b) Nominal value
- c) Actual output value

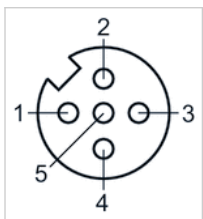
Functional diagram, IO-Link



- a) Supply Voltage
- b) C/Q Line

Pin assignments

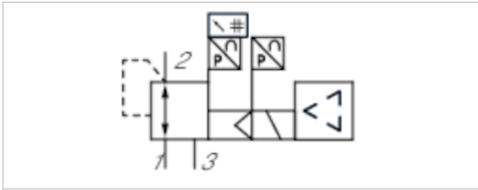
Plug assignment



- 1) 24 V DC
- 2) Nominal input value
- 3) GND
- 4) Actual output value
- 5) Ground

E/P pressure regulator, Series EV12

- Continuous pressure supply, Display: display
- $Q_n = 6500$ l/min
- Compressed air connection output G 1/2 G 3/8
- Electr. connection M12, 5-pin, A-coded
- serial control IO-Link
- Pilot valves



Version	Poppet valve
Working pressure max	11 bar
Ambient temperature min./max.	0 ... 50 °C
Medium temperature min./max.	0 ... 50 °C
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Nominal flow Q_n	6500 l/min
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Hysteresis	0.12 bar 0.12 bar
Permissible ripple	5%
Max. power consumption	220 mA
Weight	1.4 kg

Technical data

Part No.	Compressed air connection		Nominal input value Min./max.
	Input	Output	
R414011390	G 1/2	G 1/2	0 ... 10 V
R414011391	G 1/2	G 1/2	0 ... 20 mA
R414011394	G 1/2	G 1/2	-
R414011402	G 3/8	G 3/8	0 ... 10 V
R414011403	G 3/8	G 3/8	4 ... 20 mA
R414011406	G 3/8	G 3/8	-

Part No.	Actual output value Min./max.		serial control
	R414011390	0 ... 10 V	
R414011391	4 ... 20 mA	-	
R414011394	-	IO-Link	
R414011402	0 ... 10 V	-	
R414011403	4 ... 20 mA	-	
R414011406	-	IO-Link	

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 .
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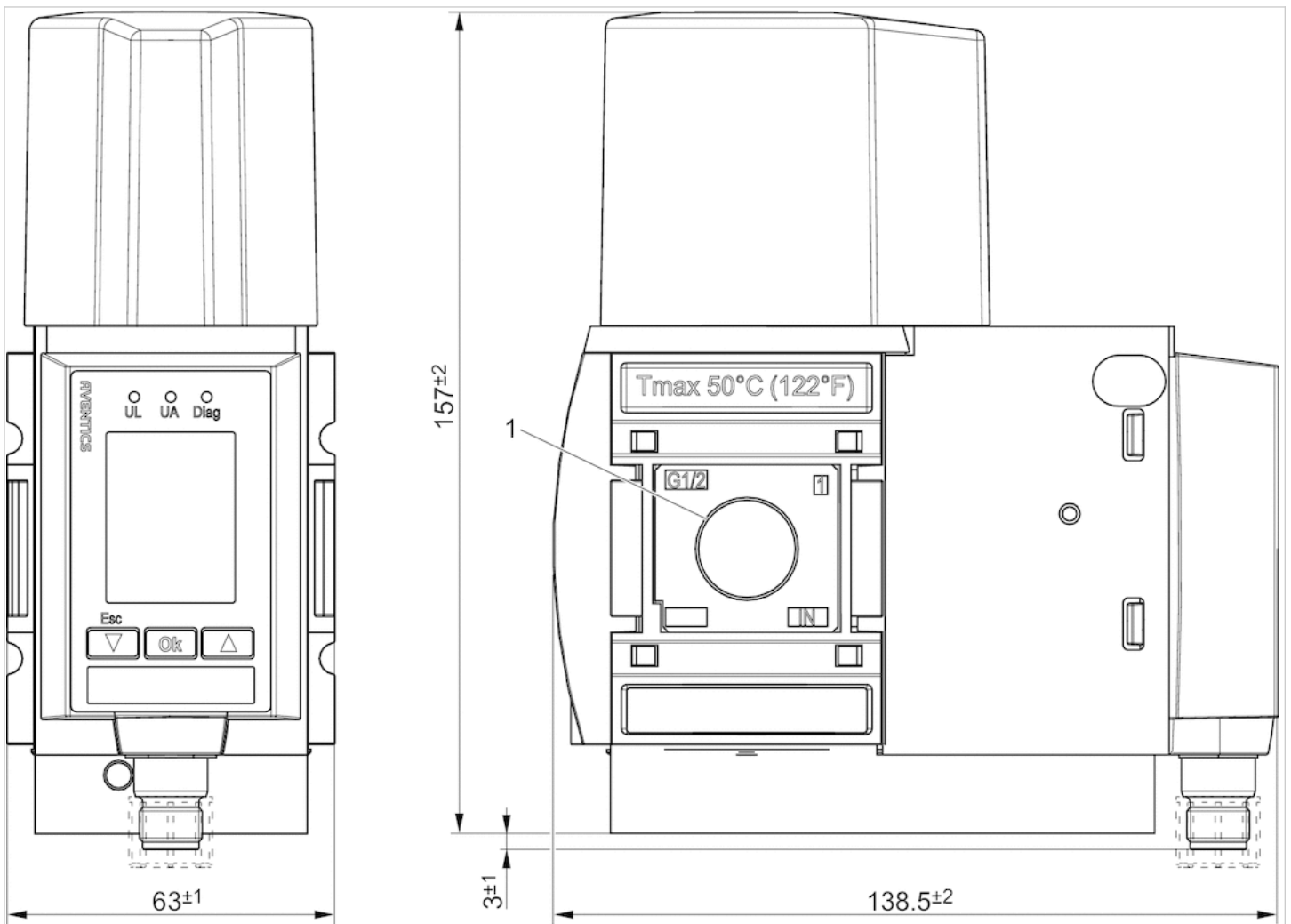
Power outage: maintain pressure

Technical information

Material	
Housing	Polyamide
Base plate	Aluminum
Seals	Nitrile butadiene rubber

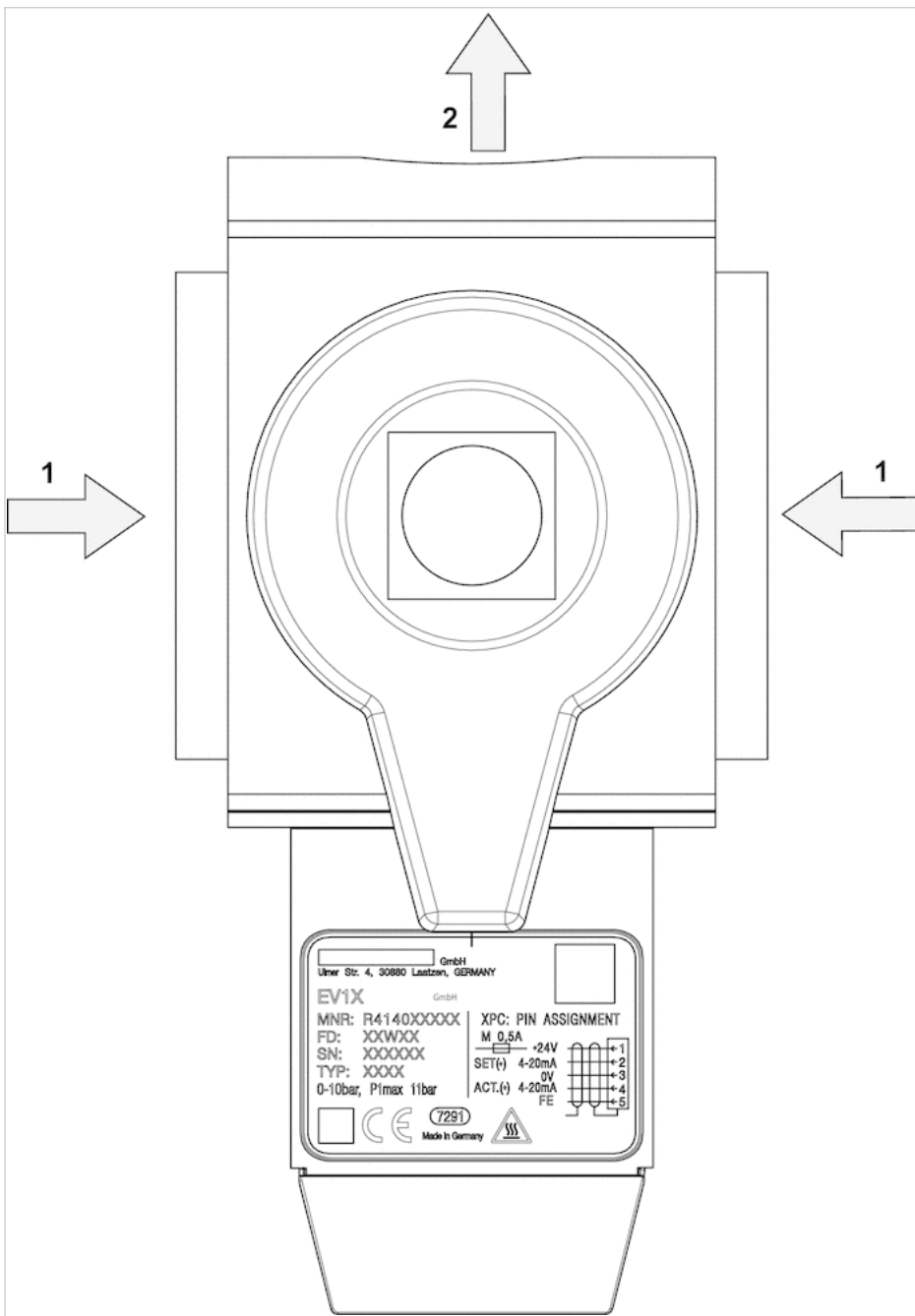
Dimensions

Dimensions



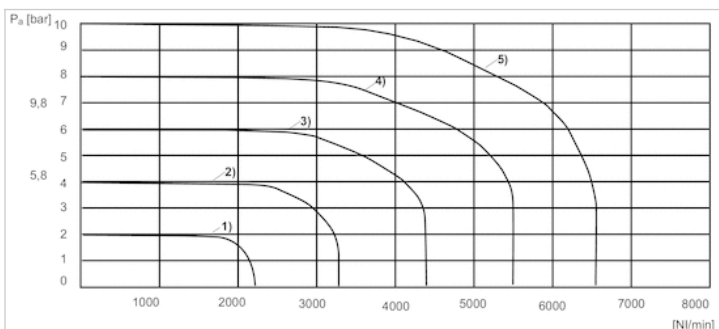
1) Connection thread

Continuous pressure supply



Diagrams

Flow characteristic curve

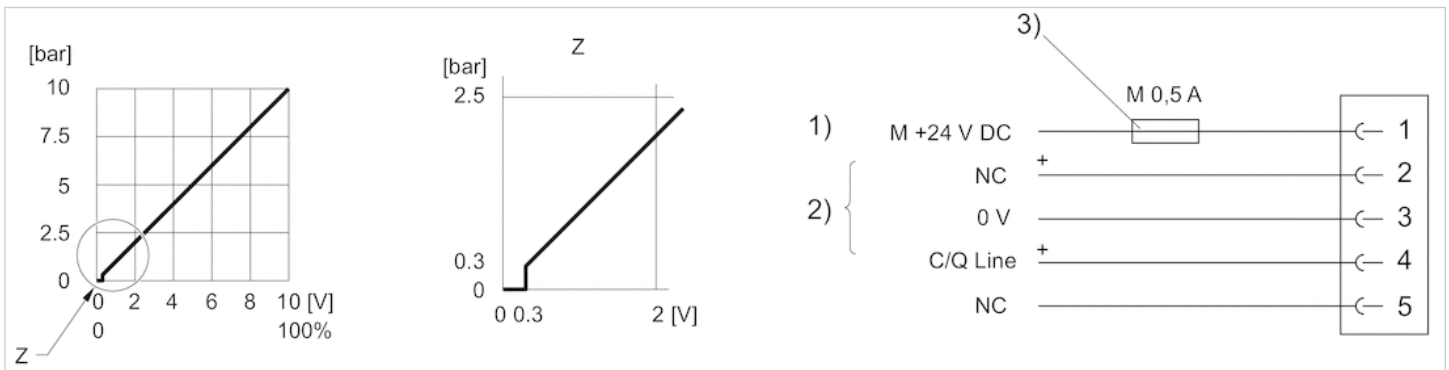


1) P_v = 3 bar

- 2) $P_v = 5 \text{ bar}$
- 3) $P_v = 7 \text{ bar}$
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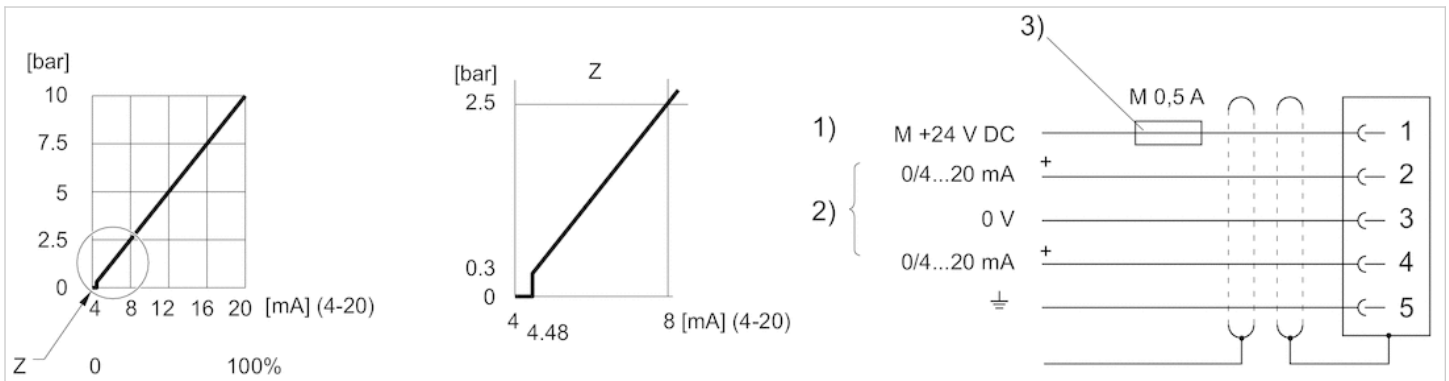
Circuit diagram

Characteristic curve and plug assignment for IO-Link version



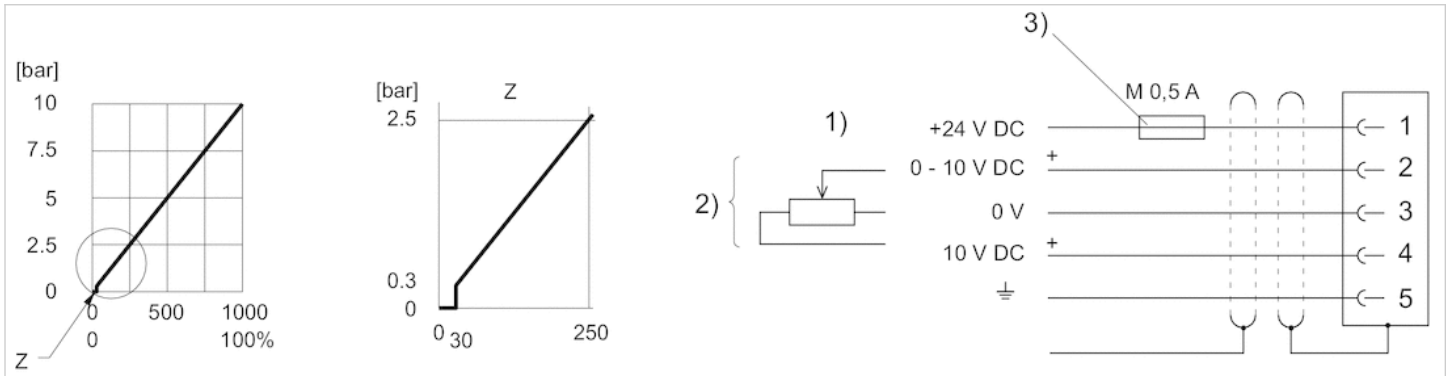
- 1) power supply
 - 2) C/Q Line (pin 4) Not connected (NC) (pin 2) are related to 0 V (pin 3).
 - 3) The power supply must be protected by an external M 0.5 A fuse.
- Connect the plug via a shielded cable to ensure EMC.

Characteristic and pin assignment for current control with actual output value



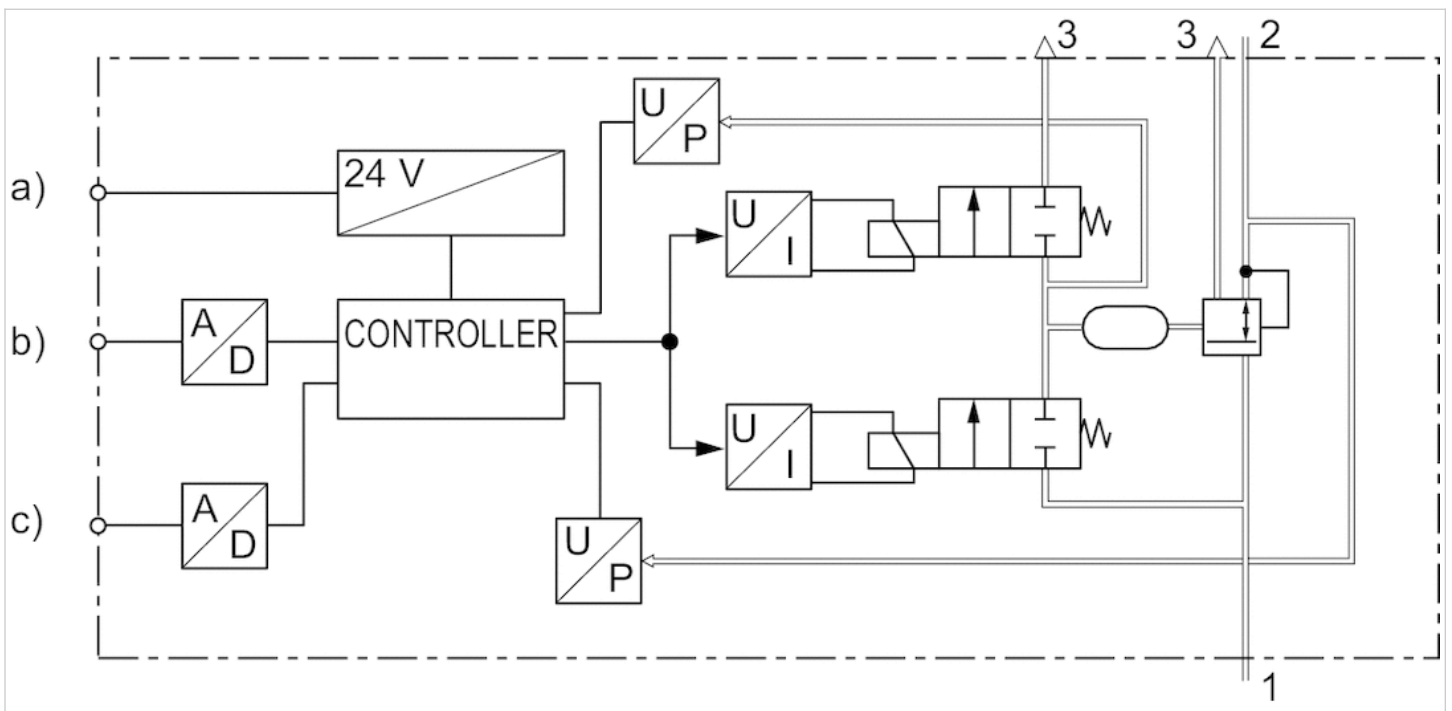
- 1) power supply
 - 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (pin 3).
Nominal input value (ohmic load 100 Ω), actual output value: external ohmic load 300 Ω. If the power supply is switched off, the nominal input value is high-ohmic.
 - 3) The power supply must be protected by an external M 0.5 A fuse.
- Connect the plug via a shielded cable to ensure EMC.

Characteristic and pin assignment for voltage control with actual output value



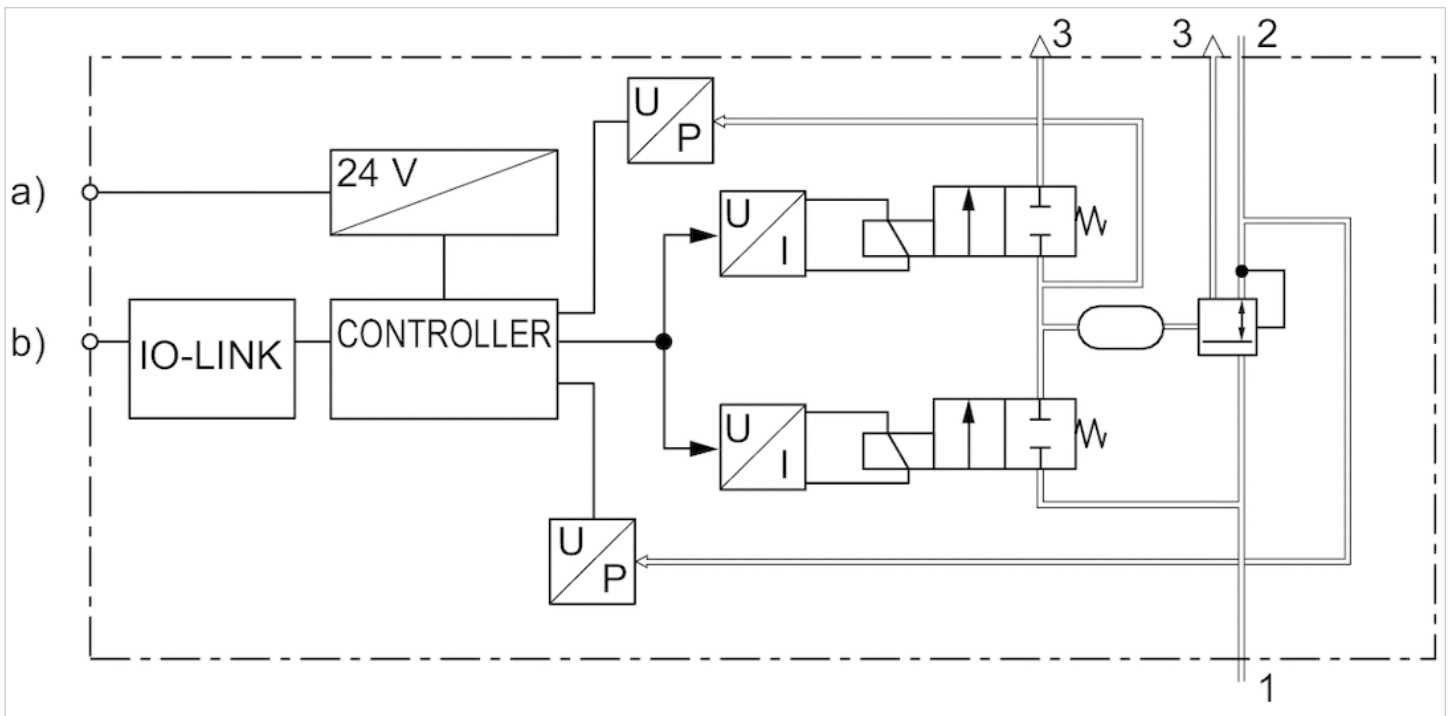
- 1) power supply
- 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (pin 3).
Nominal input value ($R = 1\text{ M}\Omega$), actual output value: min. load resistance $> 10\text{ K}\Omega$. If the power supply is switched off, the nominal input value is high-ohmic.
- 3) The power supply must be protected by an external M 0.5 A fuse.
Connect the plug via a shielded cable to ensure EMC.

Functional diagram



- a) Voltage supply
- b) Nominal value
- c) Actual output value

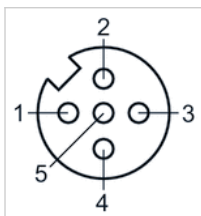
Functional diagram, IO-Link



- a) Supply Voltage
- b) C/Q Line

Pin assignments

Plug assignment



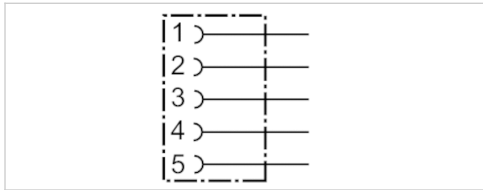
- 1) 24 V DC
- 2) Nominal input value
- 3) GND
- 4) Actual output value
- 5) Ground

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

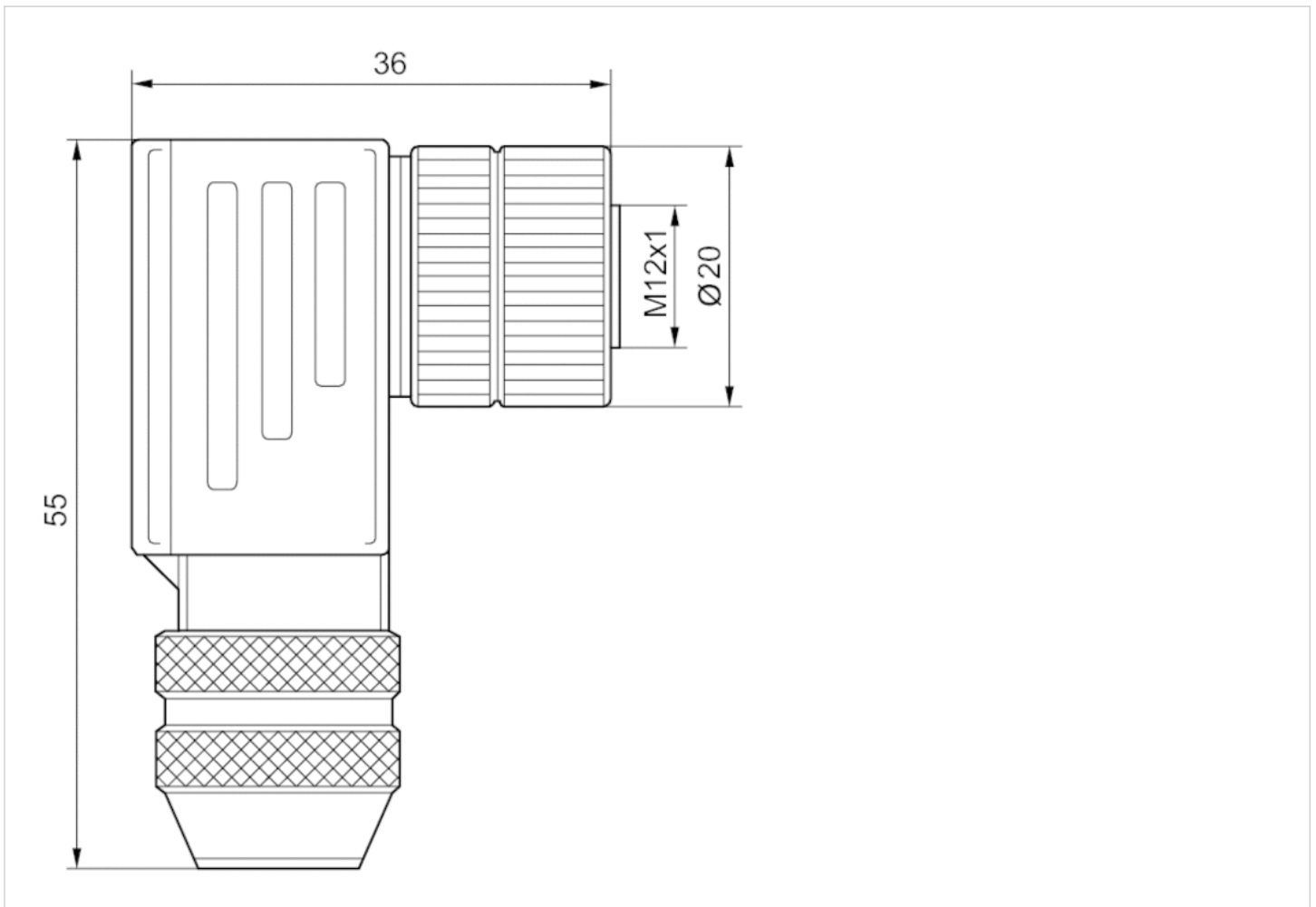
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Die cast zinc

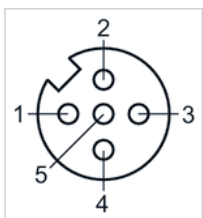
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

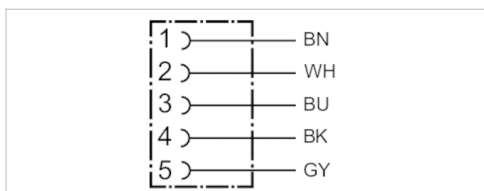


Round plug connector, Series CON-RD

- 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 mm ²
Weight	See table below



Technical data

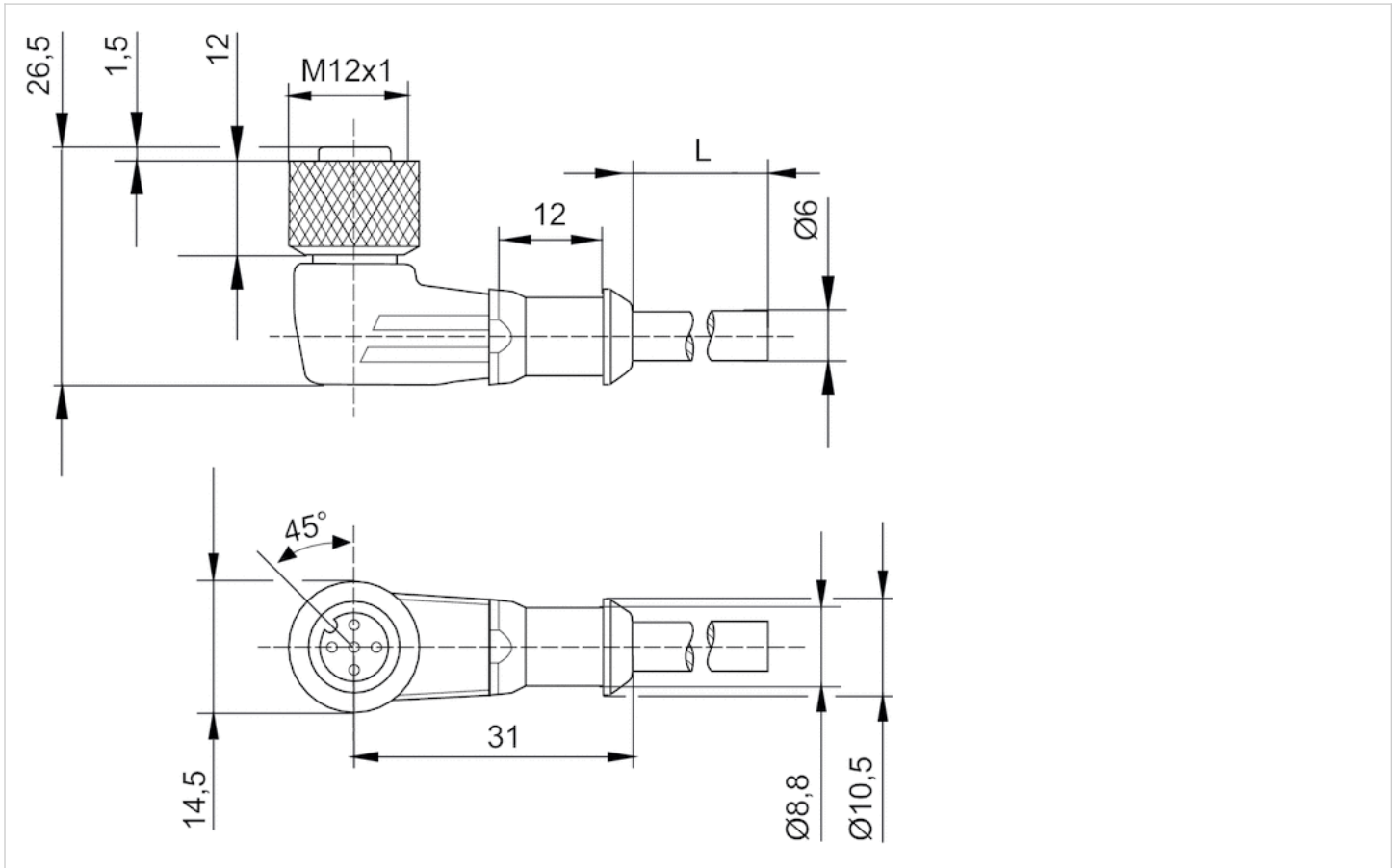
Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
R419800109	4 A	5	6 mm	2.5 m	0.145 kg
R419800110	4 A	5	6 mm	5 m	0.27 kg
R419800546	4 A	5	6 mm	10 m	0.514 kg

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyurethane

Dimensions

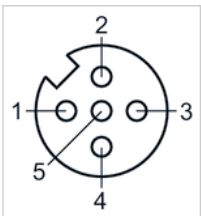
Dimensions



L = length

Pin assignments

Pin assignment, socket



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

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