

E/P pressure regulator, Series EV18

R414011420

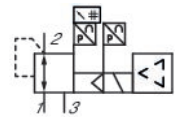
Series
EV18

2025-05-09

- Piloted pressure regulator up to 10 bar
- Low power consumption
- IO-Link (function)
- Flow [[16500] l/min] (at Pmax)
- Pressure range [[0]bar] -[[10]bar]
- Display
- Configurable via display: pressure range, regulator behavior, actual value output, or switch output, control
- Pressure control in case of voltage drop

Series EV12

The AVENTICS EV18 high flow proportional pressure valves with digital control are highly efficient and ideal for pressure regulation requirements. It offers a small footprint and easy-to-use modular design. These high flow pressure regulators can be directly integrated on the Series AS air preparation unit, increasing efficiency with one compact and complete IIoT solution from one supplier, or they can be used as a standalone proportional pressure regulator with high flow capabilities.



Technical data

Type

Pressure supply, right

Display: display

Archive product: Do not use in new constructions!

Control

Externally piloted

Function

Pressure-holding, output 10V constant to supply a set point potentiometer.

Operational voltage DC

24 V

Max. current consumption

220 mA

Air supply

right

Min. regulation range

0 bar

Max. regulation range

10 bar

Min. working pressure

0 bar

Max. working pressure

10 bar

Hysteresis

0,12 bar

Nominal flow Qn

16500 l/min

Min. ambient temperature

0 °C

Max. ambient temperature

50 °C

Min. medium temperature

0 °C

Max. medium temperature

50 °C

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Permissible ripple	5%
Max. particle size	50 µm
Min. oil content of compressed air	0 mg/m ³
Max. oil content of compressed air	5 mg/m ³
Frame size	AS5
Type	Poppet valve
Compressed air connection input	G 3/4
Compressed air connection output	G 3/4
Electrical connection size	M12
Electrical connection number of poles	5-pin
Electrical connection coding	A-coded
Industry	Industrial
Weight	2.15 kg

Material

Housing material	Polyamide
Seal material	Nitrile butadiene rubber
Material base plate	Aluminum
Part No.	R414011420

Technical information

Power outage: maintain pressure

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 less than 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 <https://www.emerson.com/en-us/support>).

Dimensions

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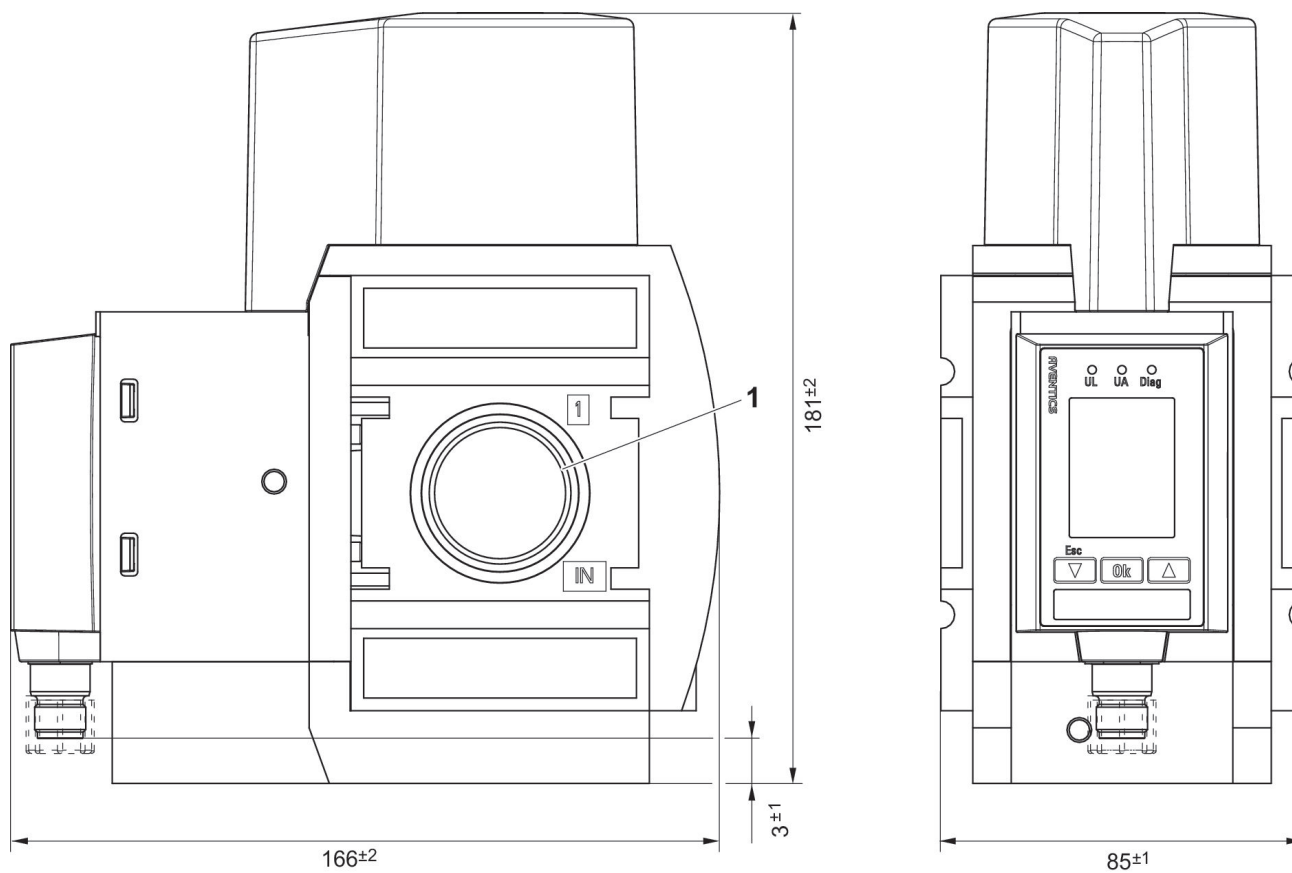
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Pressure supply, right



1) Connection thread

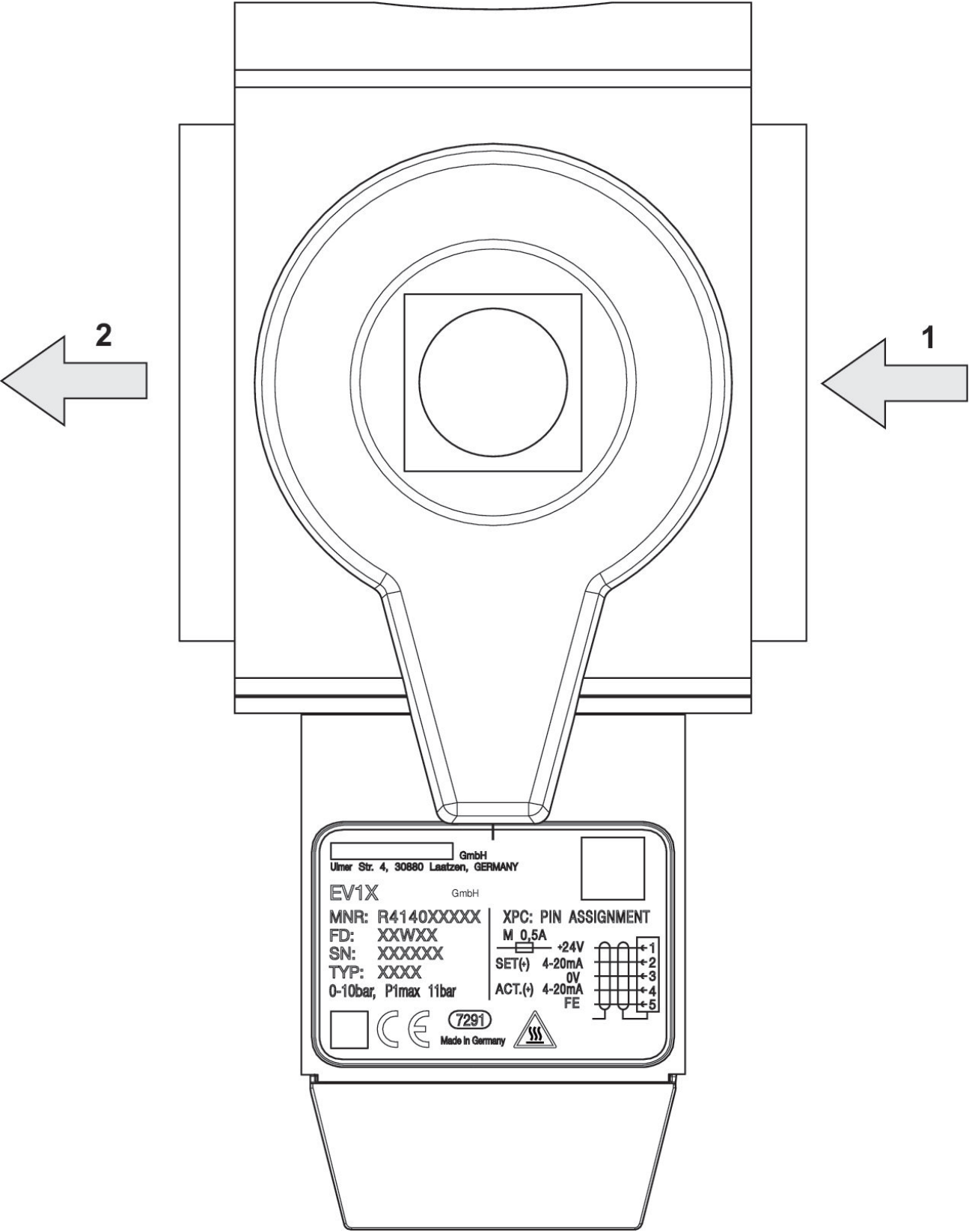
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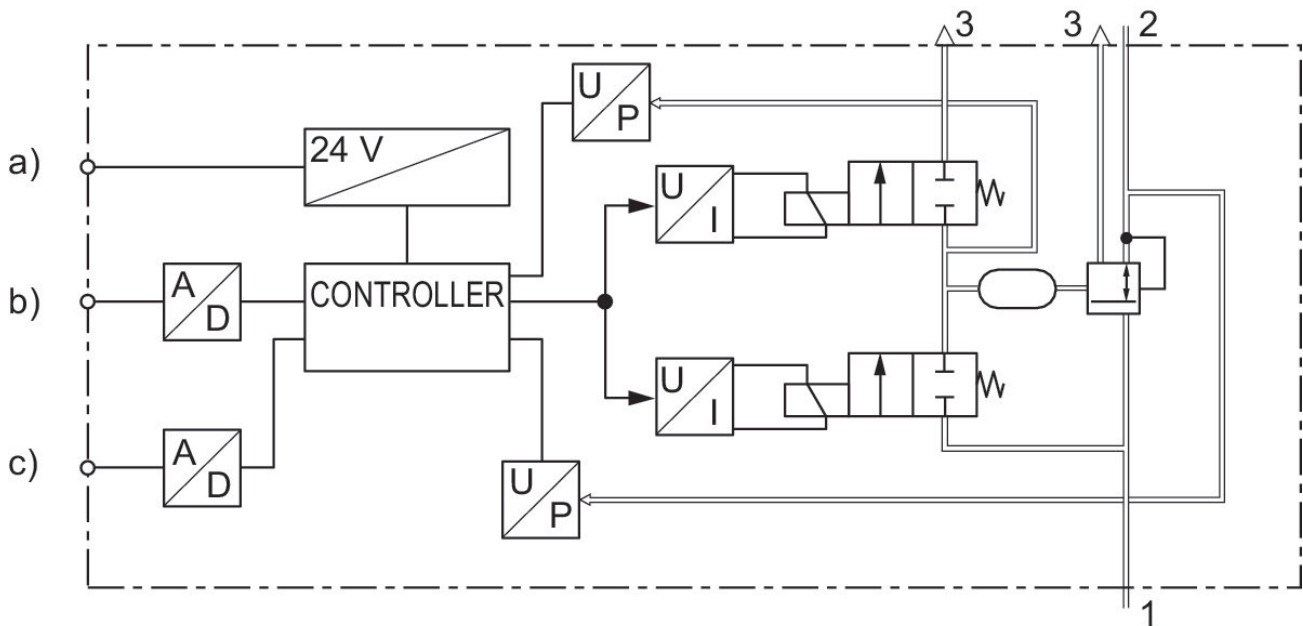
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Pressure supply, right

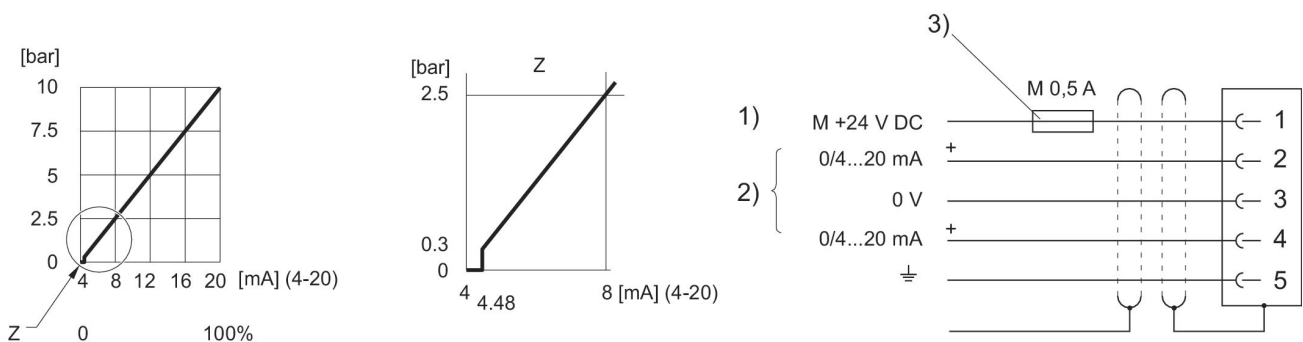


Functional diagram



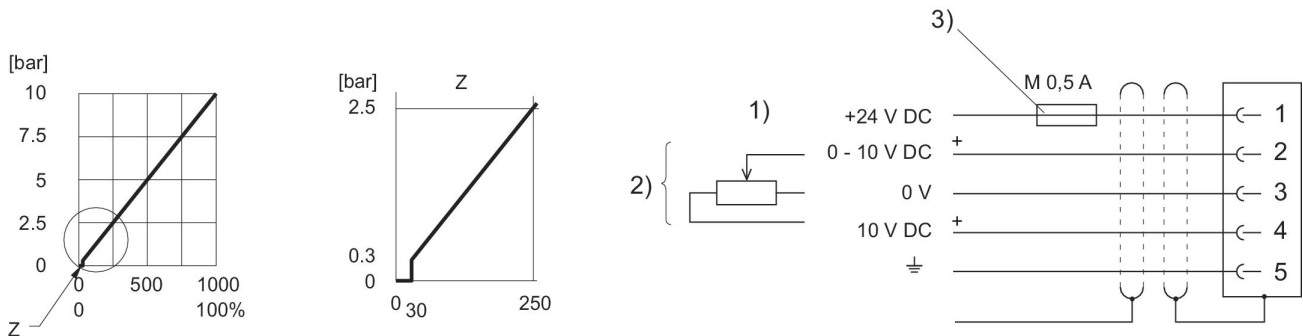
a) Voltage supply b) Nominal value
c) Actual output value

Characteristic and pin assignment for current control with actual output value



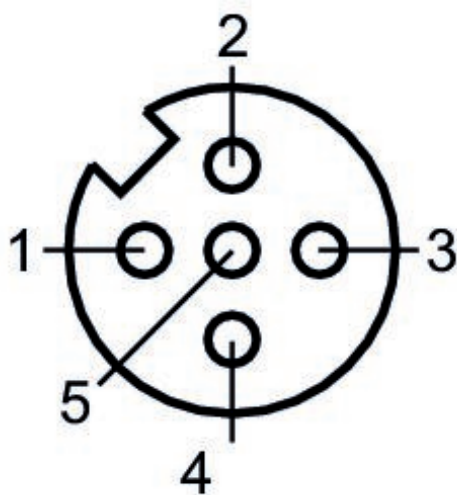
- 1) power supply
- 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (pin 3). Nominal input value (ohmic load 100 Ω), actual output value: external ohmic load < 300 Ω . If the power supply is switched off, the nominal input value is high-ohmic.
- 3) The power supply must be protected 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



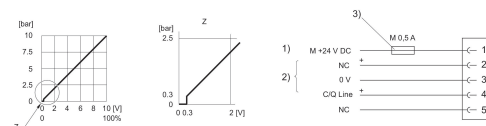
- 1) power supply
- 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (pin 3). Nominal input value ($R = 1 \text{ M}\Omega$), actual output value: min. load resistance $> 10 \text{ K}\Omega$. If the power supply is switched off, the nominal input value is high-ohmic.
- 3) The power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

Plug assignment



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

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.

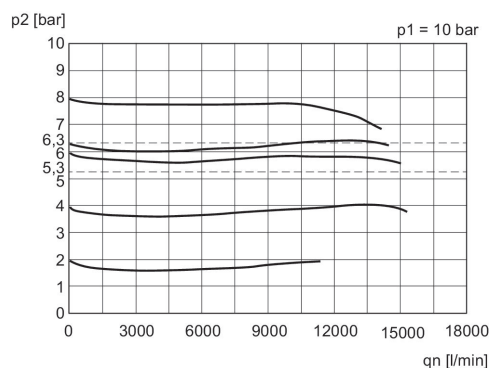
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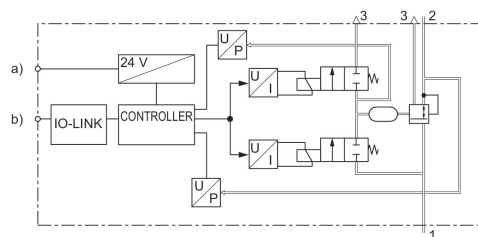
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Flow characteristic curve



p_1 = Working pressure p_2 = Secondary pressure q_n = Nominal flow

Functional diagram IO-Link



a) Supply Voltage
b) C/Q Line