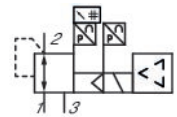


R414011411

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
Control	Externally piloted
Function	Pressure-holding, output 10V constant to supply a set point potentiometer.
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
Operational voltage DC	24 V
Max. current consumption	220 mA
Permissible ripple	5%
Max. particle size	50 µm

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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 1
Compressed air connection output	G 1
Electrical connection size	M12
Electrical connection number of poles	5-pin
Electrical connection coding	A-coded
Actual output value	0 ... 10 V
Nominal input value	0 ... 10 V
Industry	Industrial
Weight	2.15 kg

Material

Housing material	Polyamide
Seal material	Nitrile butadiene rubber
Material base plate	Aluminum
Part No.	R414011411

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>).

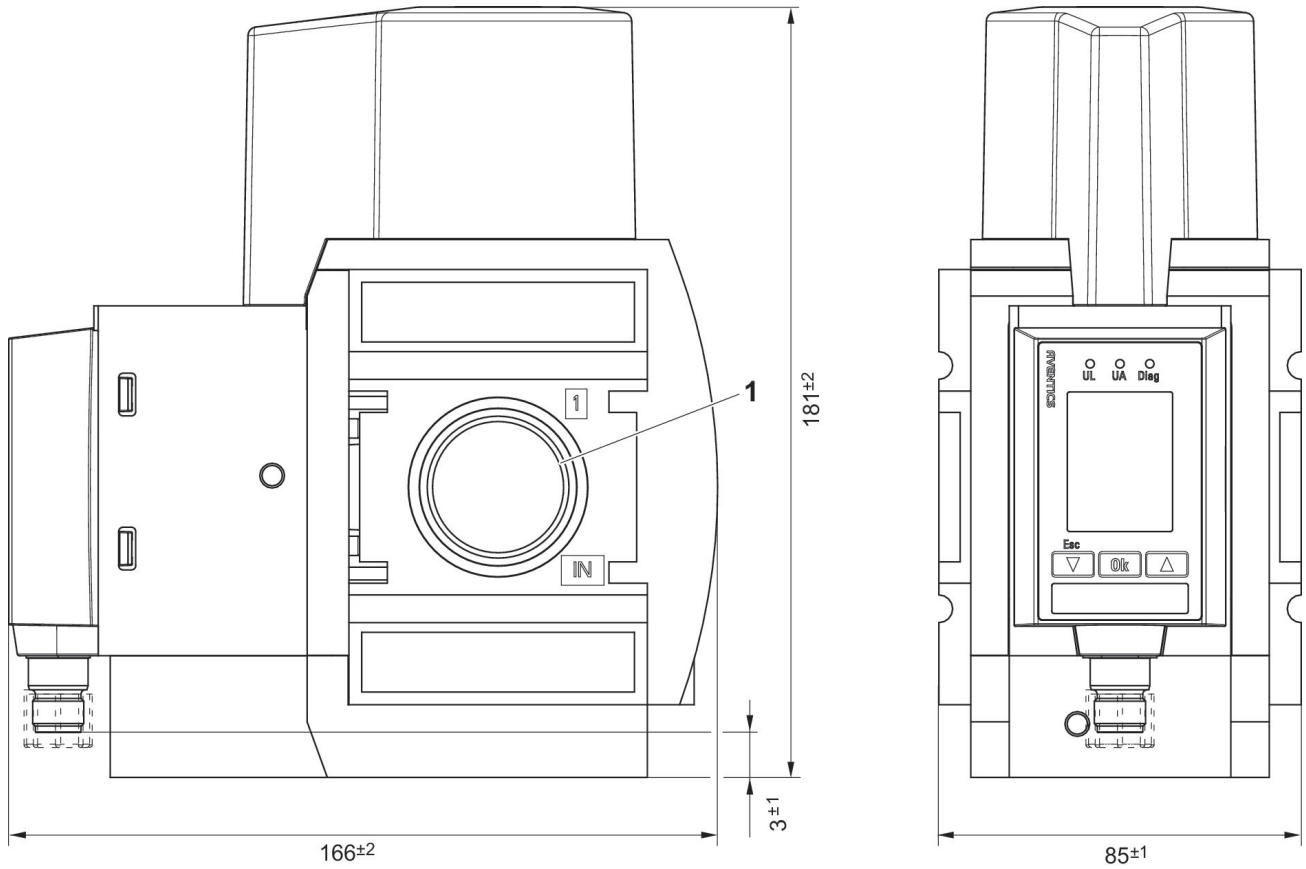
Dimensions

E/P pressure regulator, Series EV18

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Pressure supply, right



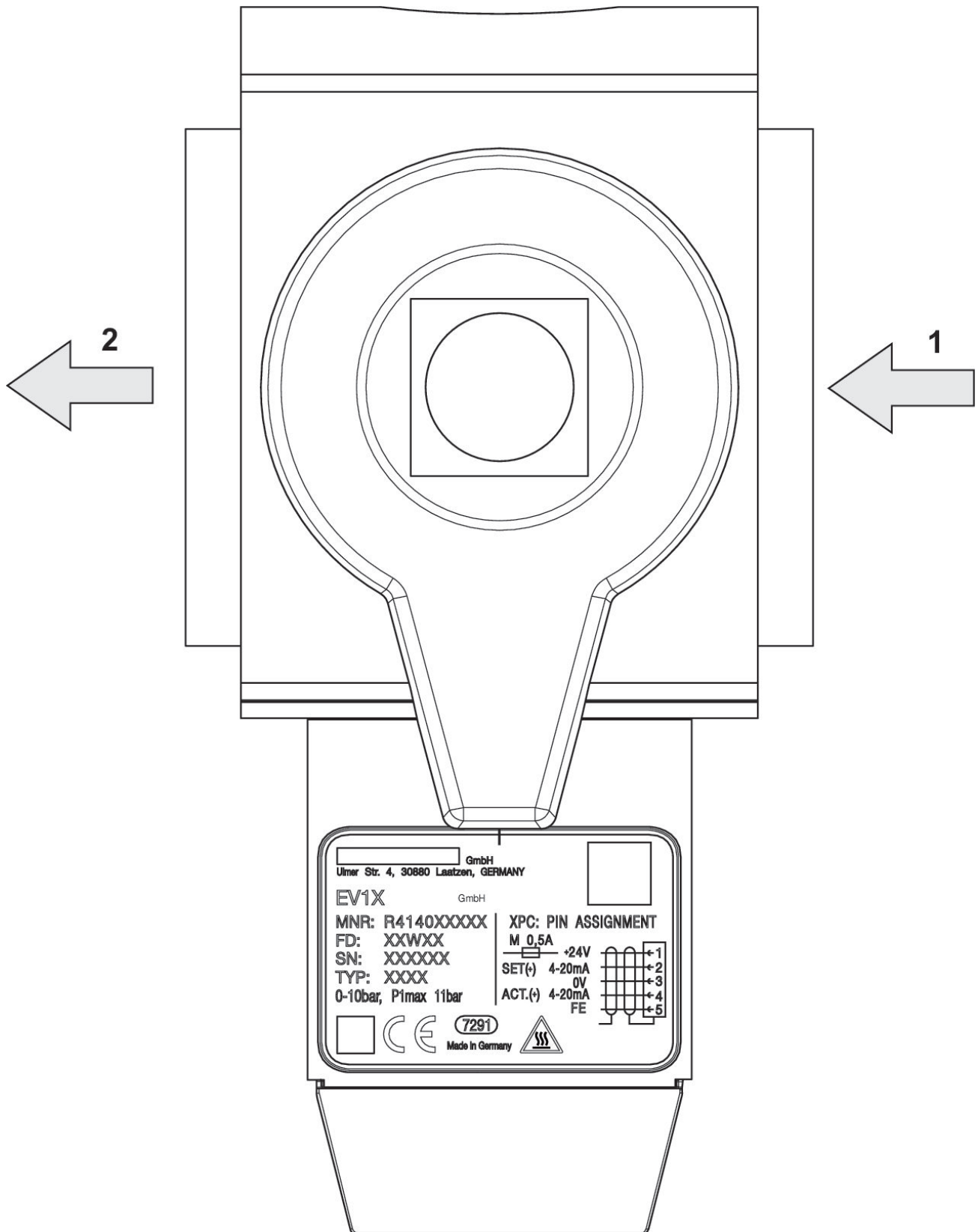
1) Connection thread

E/P pressure regulator, Series EV18

2024-02-20

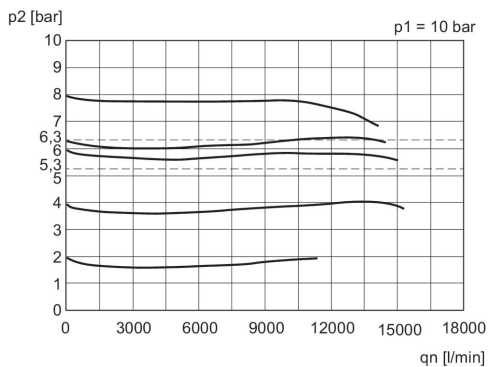
R414011411

Pressure supply, right



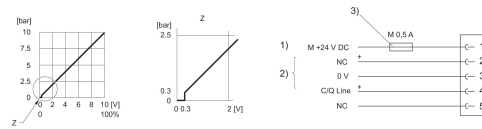
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Flow characteristic curve



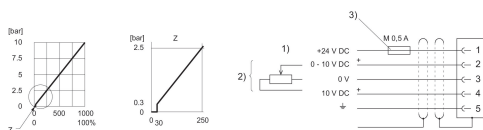
p1 = Working pressure p2 = Secondary pressure qn = Nominal flow

Characteristic curve and plug assignment for IO-Link version



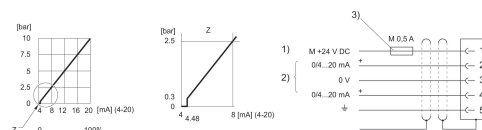
- 1) power supply
- 2) C/Q Line (pin 4) Not connected (NC) (pin 2) are related to 0 V (pin 3).
- 3) The power supply must be protected by an external M 0.5 A fuse. Connect the plug via a shielded cable to ensure EMC.

Characteristic and pin assignment for voltage control with actual output value



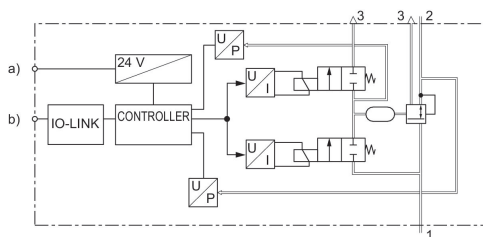
- 1) power supply
- 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (pin 3). Nominal input value ($R = 1 \text{ M}\Omega$), actual output value: min. load resistance $> 10 \text{ K}\Omega$. If the power supply is switched off, the nominal input value is high-ohmic.
- 3) The power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

Characteristic and pin assignment for current control with actual output value



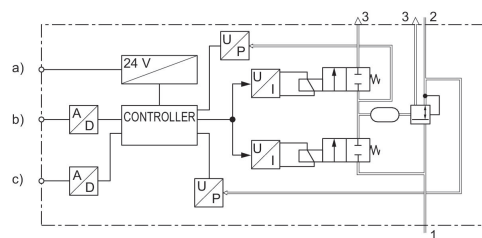
- 1) power supply
- 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (pin 3). Nominal input value (ohmic load 100Ω), actual output value: external ohmic load $< 300 \Omega$. If the power supply is switched off, the nominal input value is high-ohmic.
- 3) The power supply must be protected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

Functional diagram IO-Link



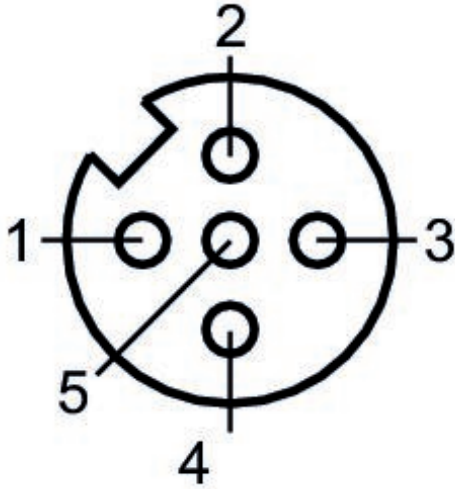
- a) Supply Voltage
- b) C/Q Line

Functional diagram



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

Plug assignment



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