

E/P pressure regulator, Series ED05

R414002005

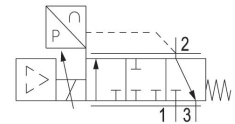
Series
ED05

2025-05-09

- Tailored, on-demand pressure control
- Robust poppet valve technology guarantees a long service life
- High flow for a wide range of tasks
- Highly dynamic direct acting technology
- No wearable pilot valves or diaphragm
- Various electrical connection options

Series ED05

The AVENTICS ED05 direct-acting pressure regulator ensures sensitive pressure control by combining digital control electronics with innovative proportional technology. The robust poppet valve technology, a large opening cross-section and the use of a soft-sealing valve seat make the valve highly resistant to contamination.



Technical data

Type

Voltage control with actual output value

Control

Directly controlled

Control

Analog

Function

Air exhaust

Output signal

Analog

Operational voltage DC

24 V

Actual output value

0 ... 10 V

Nominal input value

0 ... 10 V

Min. regulation range

0 bar

Max. regulation range

6 bar

Min. working pressure

0 bar

Max. working pressure

11 bar

Hysteresis

< 0,06 bar

Medium

Compressed air

Nominal flow Qn

1000 l/min

Min. ambient temperature

0 °C

Max. ambient temperature

70 °C

Min. medium temperature

0 °C

Max. medium temperature

70 °C

Protection class	IP65
Permissible ripple	5%
Max. particle size	50 µm
Min. oil content of compressed air	0 mg/m ³
Max. oil content of compressed air	1 mg/m ³
Type	Poppet valve
Mounting orientation	$\alpha = 0-90^\circ$ $\beta = 0-90^\circ$
Certificates	CE declaration of conformity
Compressed air connection input	G 1/4
Compressed air connection output	G 1/4
Compressed air connection, exhaust	G 1/4
Electrical connection size	via signal connection
Signal connection	input and output
Signal connection	Plug
Signal connection	M12
Signal connection	5-pin
Industry	Industrial
Weight	0.95 kg

Material

Housing material	Die-cast aluminum Steel, chrome-plated
Seal material	Hydrogenated acrylonitrile butadiene rubber
Part No.	R414002005

Technical information

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.

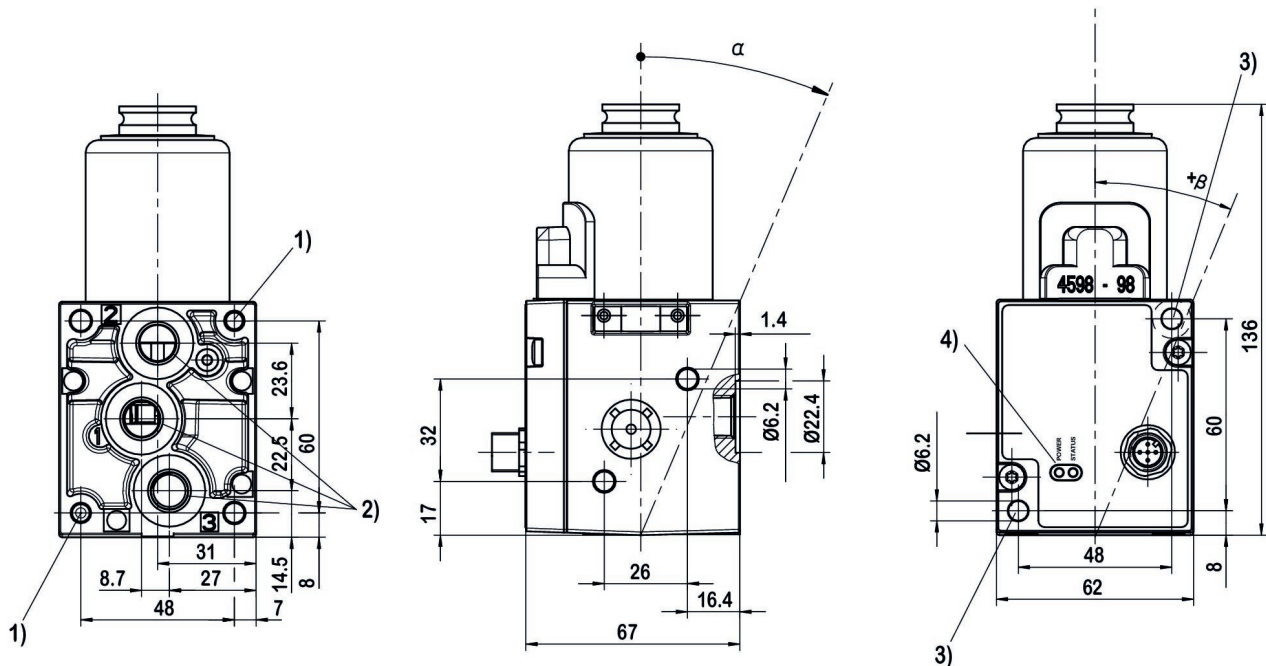
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

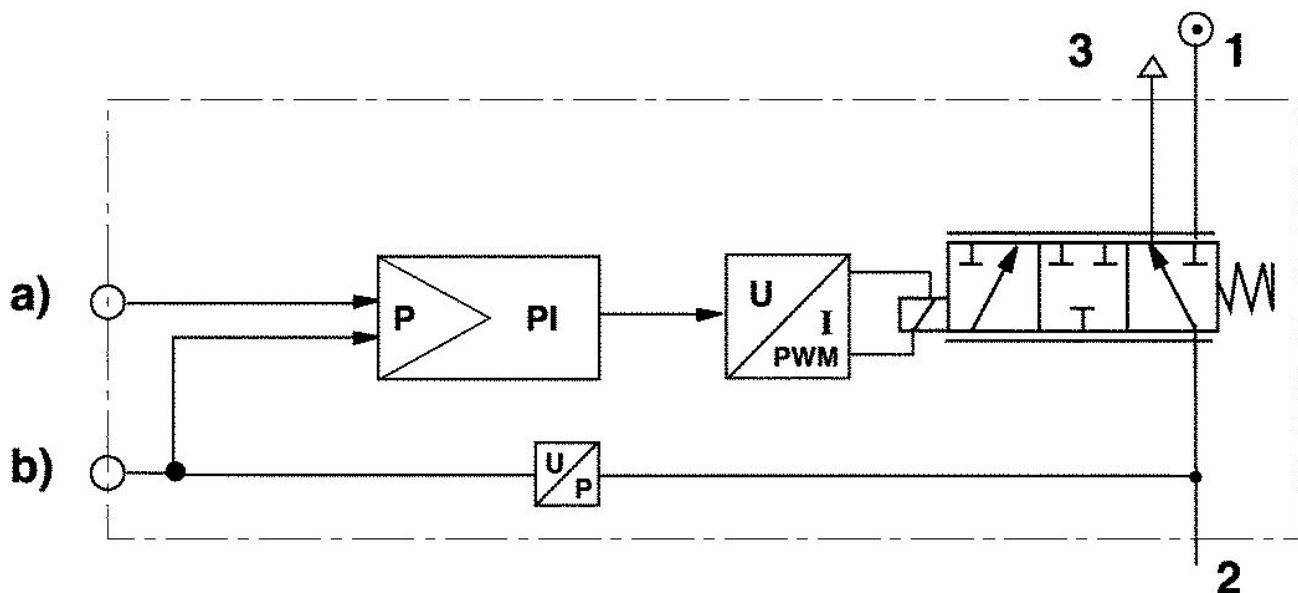
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

Dimensions



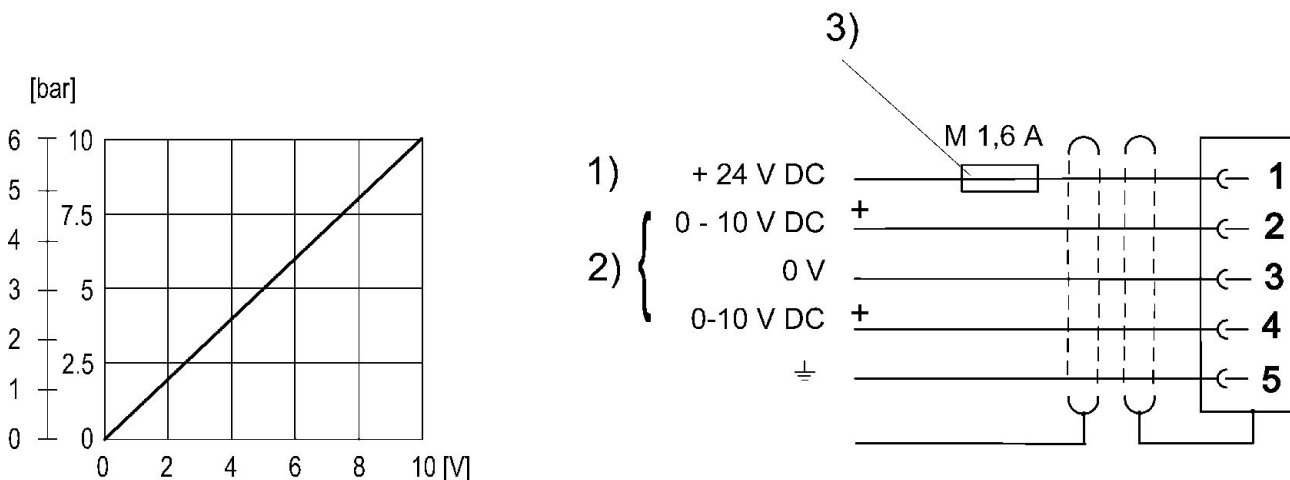
- 1) Core hole 15 mm deep for self-tapping screws M6
- 2) Universal threaded connection, suitable for G1/4 according to ISO 228/1:2000 and 1/4-27 NPTF
- 3) Through hole

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

Characteristic and pin assignment for voltage control with actual output value

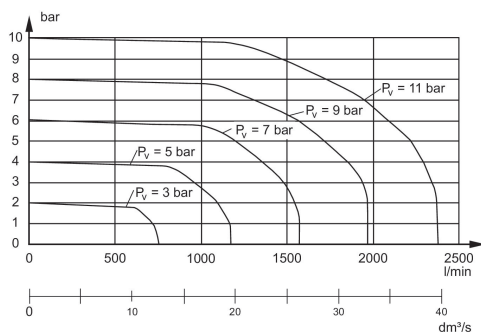


1) Operational voltage

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.

Durchflussdiagramm für Druckbereich bis 10 bar



P_v = Supply pressure

Connect the plug via a shielded cable to ensure EMC