

Pressure regulators → Proportional Valves

E/P pressure regulator, Series ED05

► Qn= 1000 l/min ► compressed air connection output: G 1/4 ► Electr. connection: via signal connection ► Signal connection: input and output, Plug, M12, 5-pin



00125383

Version	Poppet valve
Control	Analog
Certificates	CE declaration of conformity
Ambient temperature min./max.	+0 °C / +70 °C
Medium temperature min./max.	+0 °C / +70 °C
Medium	Compressed air
Max. particle size	50 µm
Max. oil content of compressed air	1 mg/m ³
Qn	1000 l/min
Mounting orientation	$\alpha = 0-90^\circ \beta = 0-90^\circ$
Hysteresis	< 0,06 bar
DC operating voltage	24 V
Voltage tolerance DC	-20% / +20%
Permissible ripple	5%
Max. power consumption	1.3 A
Protection class with electrical connector/ plug	IP 65
Compressed air connection input	G 1/4
Compressed air connection output	G 1/4
Compressed air connection, exhaust	G 1/4
Weight	0.95 kg
Materials:	
Housing	Die-cast aluminum; Steel
Seal	Hydrogenated acrylonitrile butadiene rubber

Nominal flow Qn with working pressure 7 bar, with secondary pressure 6 bar and $\Delta p = 0.2$ bar

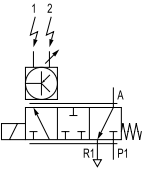
Technical Remarks

- 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 air pressure must remain constant during the life cycle.
- Use only the approved oils from Bosch Rexroth, see chapter „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.

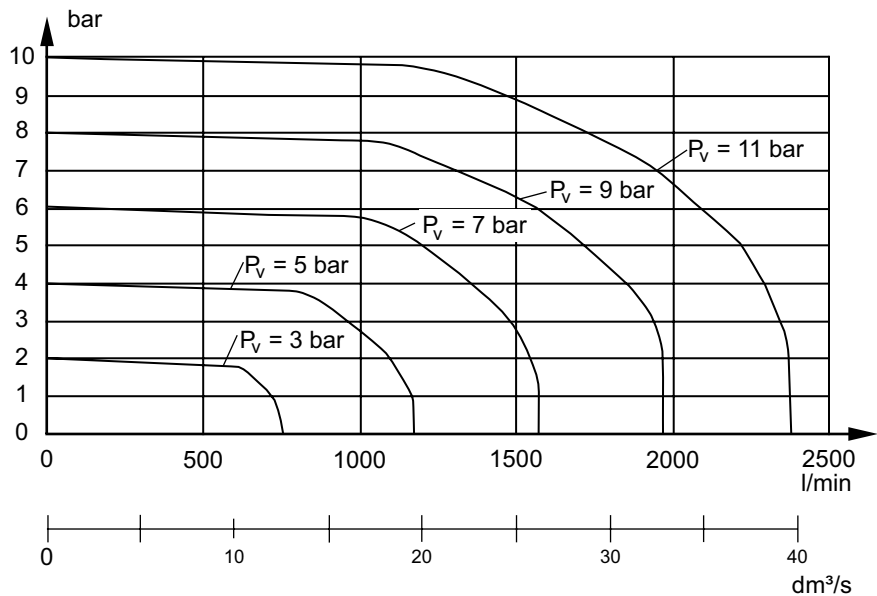
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	Operating pressure	Pressure setting range	Nominal input value		Actual output value		Fig.	Note	Part No.
	Max.	min./max.							
	[bar]	[bar]							
	11	0 / 6	0 - 20	mA	0 - 20	mA	Fig. 1	-	R414002003
		0 / 6	4 - 20	mA	4 - 20	mA	Fig. 1	-	R414002004
		0 / 6	0 - 10	V	0 - 10	V	Fig. 2	-	R414002005
		0 / 6	0 - 20	mA	-	-	Fig. 3	1)	R414002006
		0 / 6	4 - 20	mA	-	-	Fig. 3	1)	R414002294
		0 / 6	0 - 10	V	-	-	Fig. 3	1)	R414002295
		0 / 10	0 - 20	mA	0 - 20	mA	Fig. 1	-	R414002007
		0 / 10	4 - 20	mA	4 - 20	mA	Fig. 1	-	R414002008
		0 / 10	0 - 10	V	0 - 10	V	Fig. 2	-	R414002009
		0 / 10	0 - 20	mA	-	-	Fig. 3	1)	R414002010
		0 / 10	4 - 20	mA	-	-	Fig. 3	1)	R414002296
		0 / 10	0 - 10	V	-	-	Fig. 3	1)	R414002297

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

Flow diagram

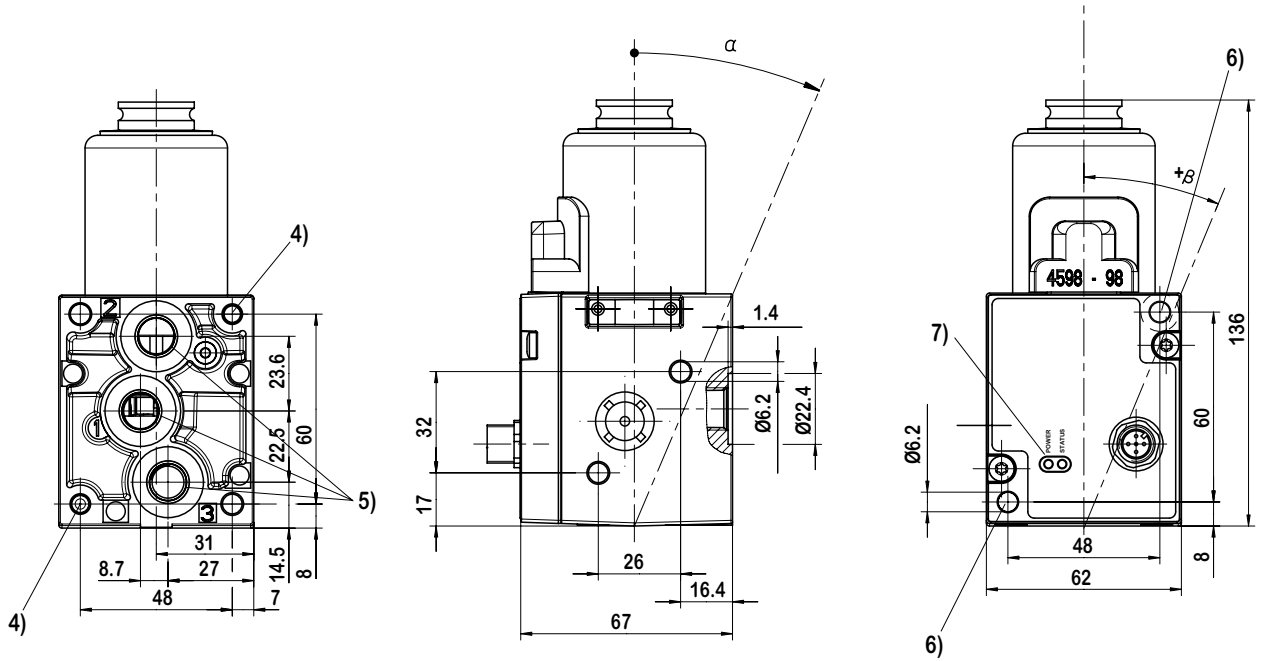
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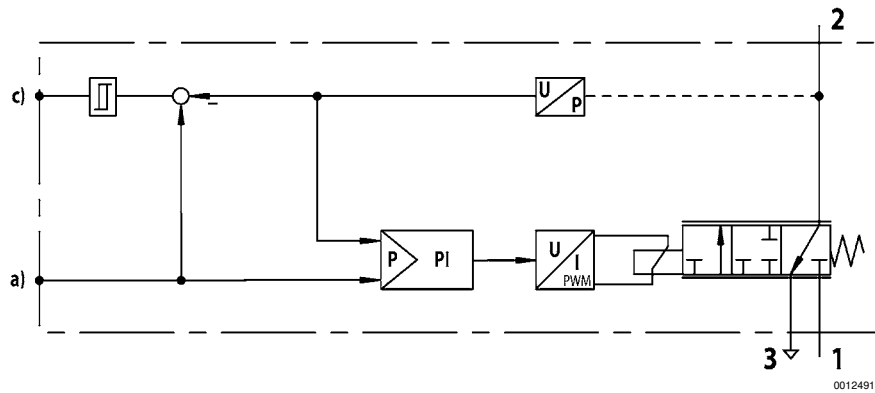
Dimensions



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- 4) Core hole 15 mm deep for self-tapping screws M6
- 5) Universal threaded connection, suitable for G1/4 according to ISO 228/1:2000 and 1/4-27 NPTF
- 6) Through hole
- 7) Green LED display; power = pressure control in operation; status = output pressure corresponds to the set point +/- 200 mbar.

Functional diagram



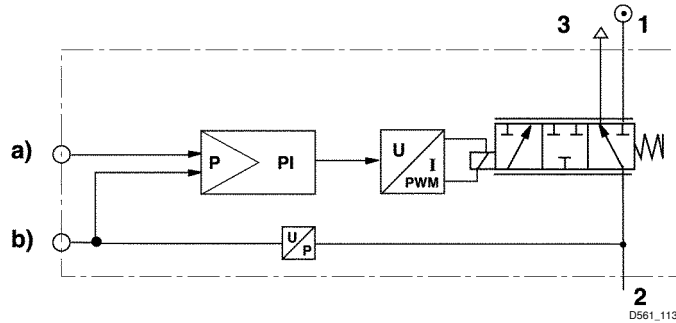
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- a) Nominal input value
 - c) Switch output (acknowledge signal)
- The E/P pressure control valve modulates the pressure corresponding to an analog electrical nominal input value.
- 1) Operating pressure
 - 2) Working pressure
 - 3) Exhaust

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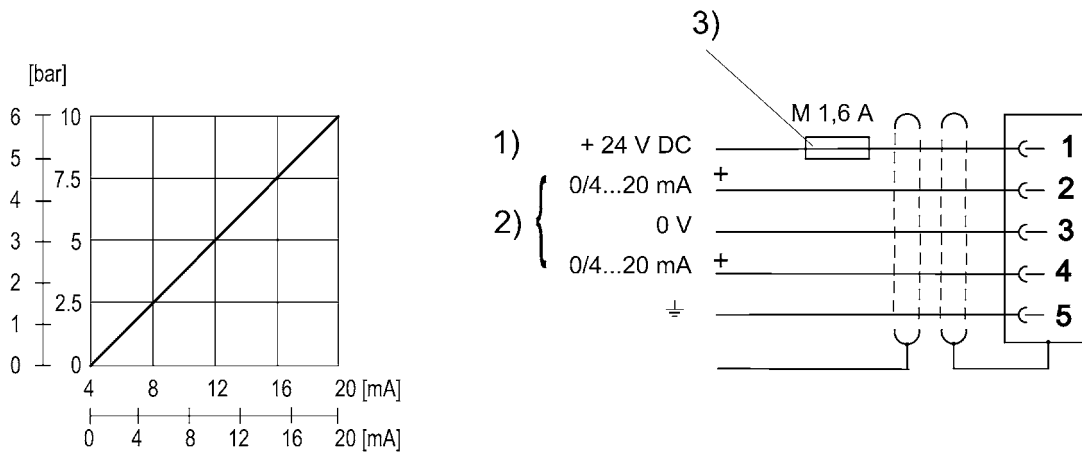


a) Nominal input value b) Actual output value

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

Fig. 1, Characteristic and pin assignment for current control with actual output value



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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 100Ω). 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.

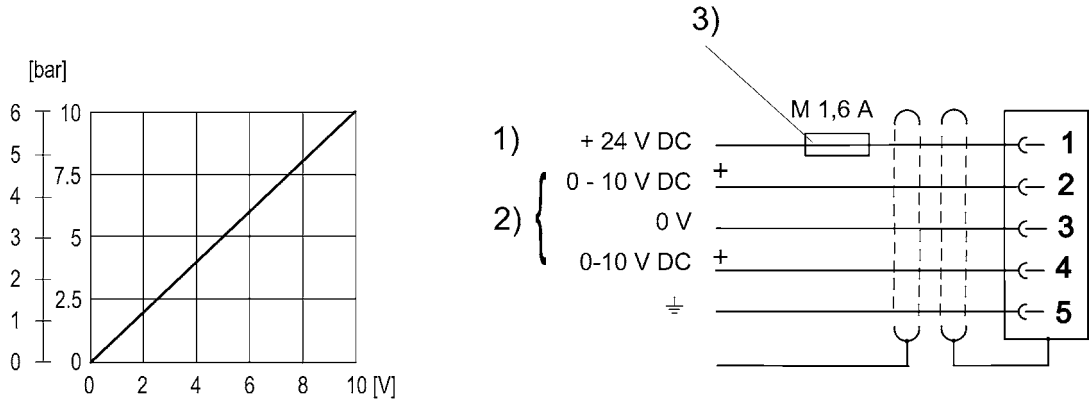
Connect plug 2 via a shielded cable to ensure EMC.

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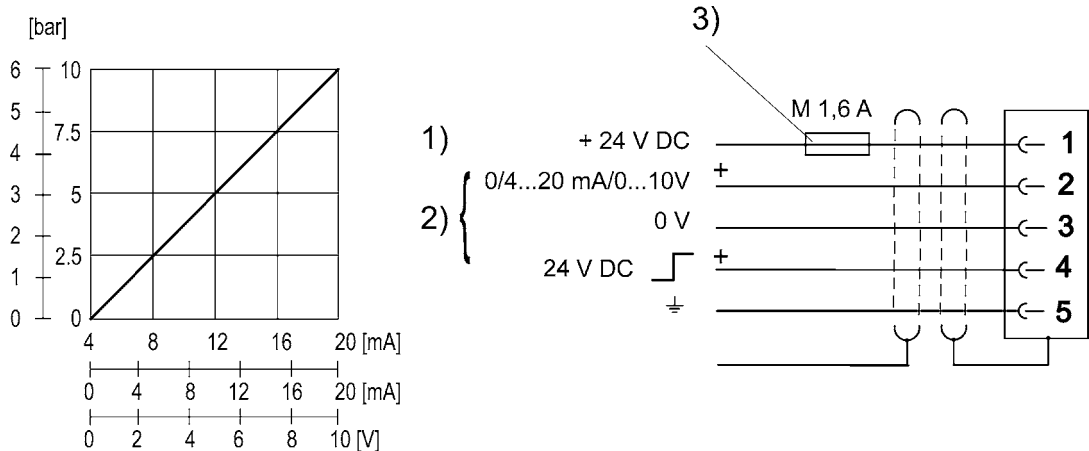
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Fig. 2, Characteristic and pin assignment for voltage control with actual output value



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

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.