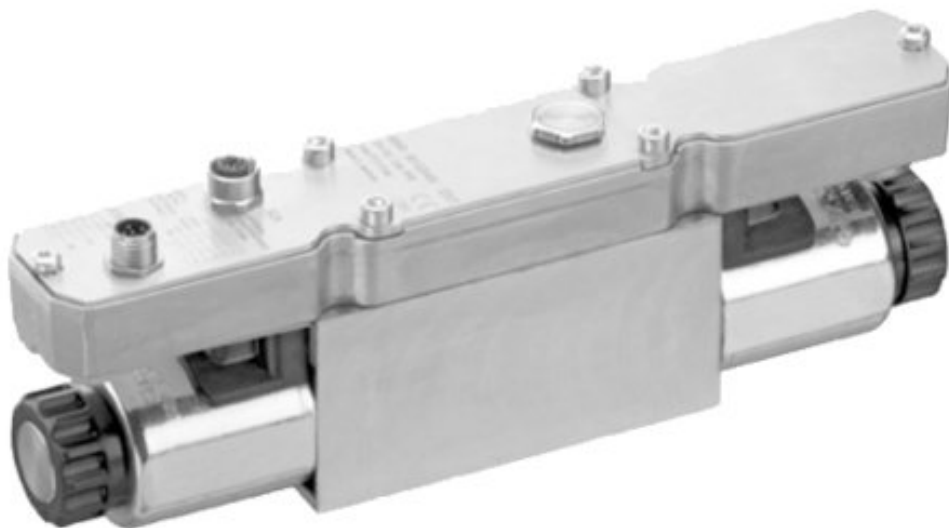


Series ED07

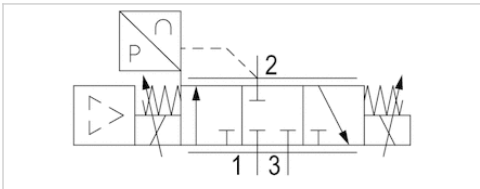


AVENTICS™ Series ED07



E/P pressure regulator, Series ED07

- Qn = 1300 l/min
- Electr. connection via signal connection
- Signal connection input and output, Plug, M12, 5-pin



Version	Poppet valve
Mounting orientation	$\alpha = 0 \dots 90^\circ \pm \beta = 0 \dots 90^\circ$
Certificates	CE declaration of conformity
Working pressure max	See table below
Ambient temperature min./max.	5 ... 50 °C
Medium temperature min./max.	5 ... 50 °C
Medium	Compressed air
Max. particle size	50 μm
Oil content of compressed air	0 ... 1 mg/m ³
Nominal flow Qn	1300 l/min
Control	Analog
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Permissible ripple	5%
Max. power consumption	1400 mA
Protection class	IP65
Weight	2.05 kg
	Nominal flow Qn with working pressure 7 bar , with secondary pressure 6 bar and $\Delta p = 0.2$ bar

Technical data

Part No.	Working pressure max	Pressure setting range min./max.	Nominal input value
			Min./max.
R414000686	3 bar	-1 ... 1 bar	0 ... 20 mA
R414009623	3 bar	-1 ... 1 bar	4 ... 20 mA
R414009624	3 bar	-1 ... 1 bar	0 ... 10 V
R414009630	3 bar	0 ... 1 bar	0 ... 20 mA
R414009631	3 bar	0 ... 1 bar	4 ... 20 mA
R414009633	3 bar	0 ... 1 bar	0 ... 10 V
R414009634	3 bar	0 ... 2 bar	0 ... 20 mA
R414009635	3 bar	0 ... 2 bar	4 ... 20 mA
R414009637	3 bar	0 ... 2 bar	0 ... 10 V
R414000690	8 bar	0 ... 6 bar	0 ... 20 mA
R414000691	8 bar	0 ... 6 bar	4 ... 20 mA
R414000693	8 bar	0 ... 6 bar	0 ... 10 V
R414000700	12 bar	0 ... 10 bar	0 ... 20 mA
R414000701	12 bar	0 ... 10 bar	4 ... 20 mA
R414000703	12 bar	0 ... 10 bar	0 ... 10 V
R414000770	18 bar	0 ... 16 bar	0 ... 20 mA
R414000771	18 bar	0 ... 16 bar	4 ... 20 mA
R414000773	18 bar	0 ... 16 bar	0 ... 10 V
R414000785	21 bar	0 ... 20 bar	0 ... 20 mA
R414000786	21 bar	0 ... 20 bar	4 ... 20 mA

Part No.	Working pressure max	Pressure setting range min./max.	Nominal input value
			Min./max.
R414000788	21 bar	0 ... 20 bar	0 ... 10 V

Part No.	Actual output value	Control	Hysteresis	Fig.
	Min./max.			
R414000686	0 ... 20 mA	Analog	0.015 bar	Fig. 1
R414009623	4 ... 20 mA	Analog	0.015 bar	Fig. 1
R414009624	0 ... 10 V	Analog	0.015 bar	Fig. 2
R414009630	0 ... 20 mA	Analog	0.015 bar	Fig. 1
R414009631	4 ... 20 mA	Analog	0.015 bar	Fig. 1
R414009633	0 ... 10 V	Analog	0.015 bar	Fig. 2
R414009634	0 ... 20 mA	Analog	0.015 bar	Fig. 1
R414009635	4 ... 20 mA	Analog	0.015 bar	Fig. 1
R414009637	0 ... 10 V	Analog	0.015 bar	Fig. 2
R414000690	0 ... 20 mA	Analog	0.03 bar	Fig. 1
R414000691	4 ... 20 mA	Analog	0.03 bar	Fig. 1
R414000693	0 ... 10 V	Analog	0.03 bar	Fig. 2
R414000700	0 ... 20 mA	Analog	0.03 bar	Fig. 1
R414000701	4 ... 20 mA	Analog	0.03 bar	Fig. 1
R414000703	0 ... 10 V	Analog	0.03 bar	Fig. 2
R414000770	0 ... 20 mA	Analog	0.04 bar	Fig. 1
R414000771	4 ... 20 mA	Analog	0.04 bar	Fig. 1
R414000773	0 ... 10 V	Analog	0.04 bar	Fig. 2
R414000785	0 ... 20 mA	Analog	0.09 bar	Fig. 1
R414000786	4 ... 20 mA	Analog	0.09 bar	Fig. 1
R414000788	0 ... 10 V	Analog	0.09 bar	Fig. 2

Minimum working pressure = 0.5 bar + max. required secondary pressure, Additional pressure setting ranges available on request

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).

With oil-free, dry air, other installation positions are possible on request.

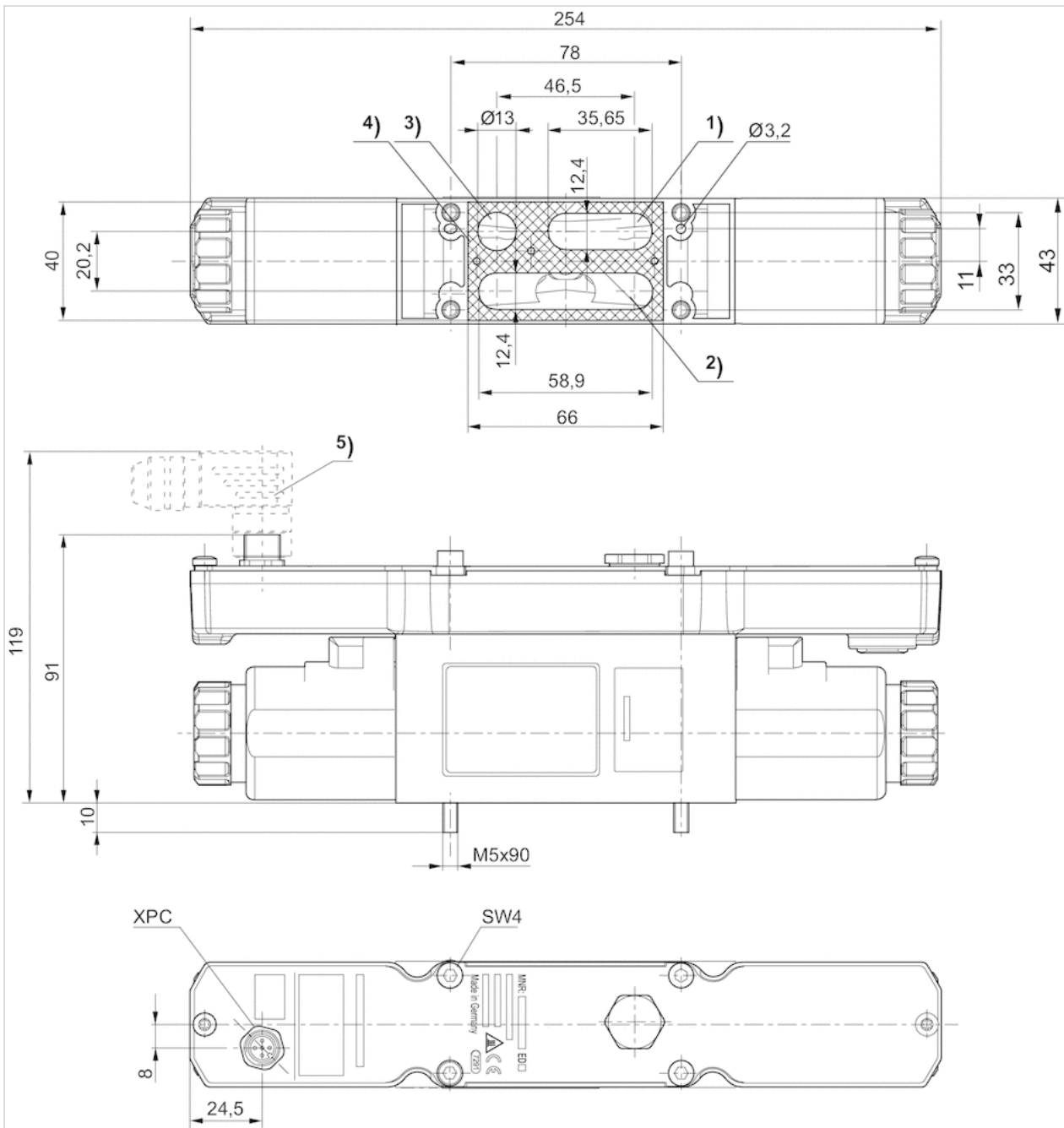
The protection class is only ensured when the plug is mounted properly. For detailed information, see operating instructions.

Technical information

Material	
Housing	Die-cast aluminum Steel
Seals	Hydrogenated acrylonitrile butadiene rubber

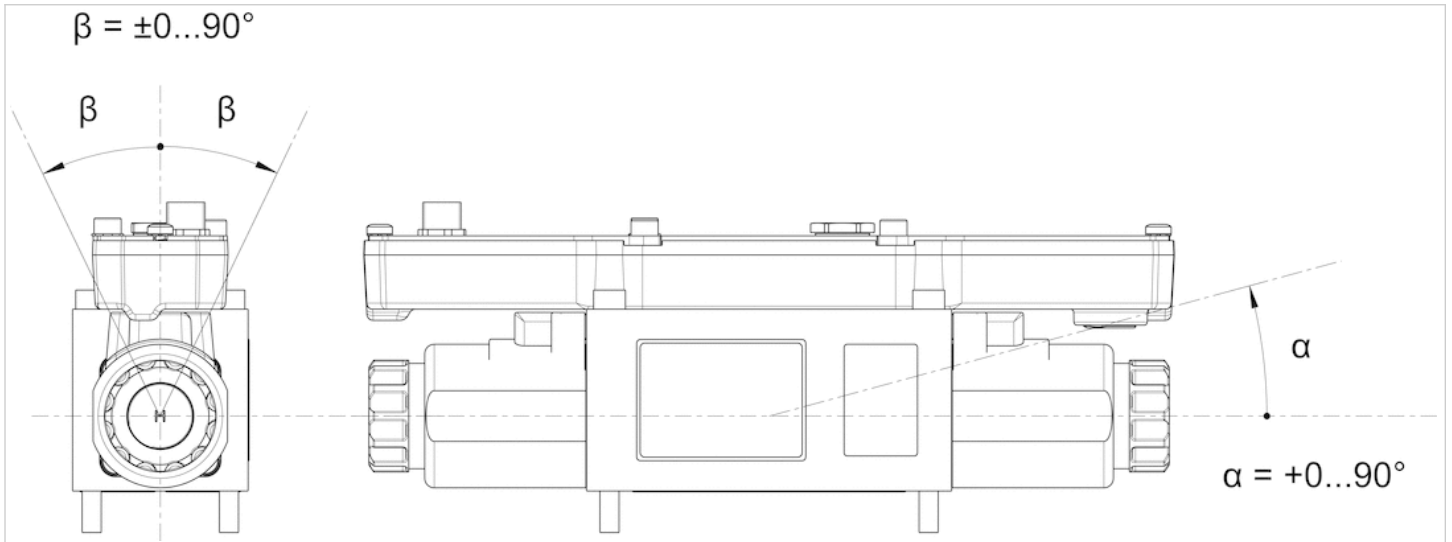
Dimensions

Dimensions



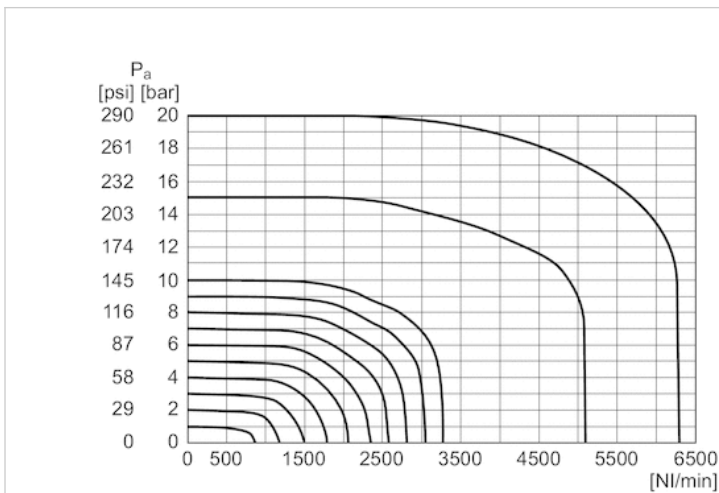
- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust
- 4) Flat gasket
- 5) Accessories not supplied

Mounting orientation



Diagrams

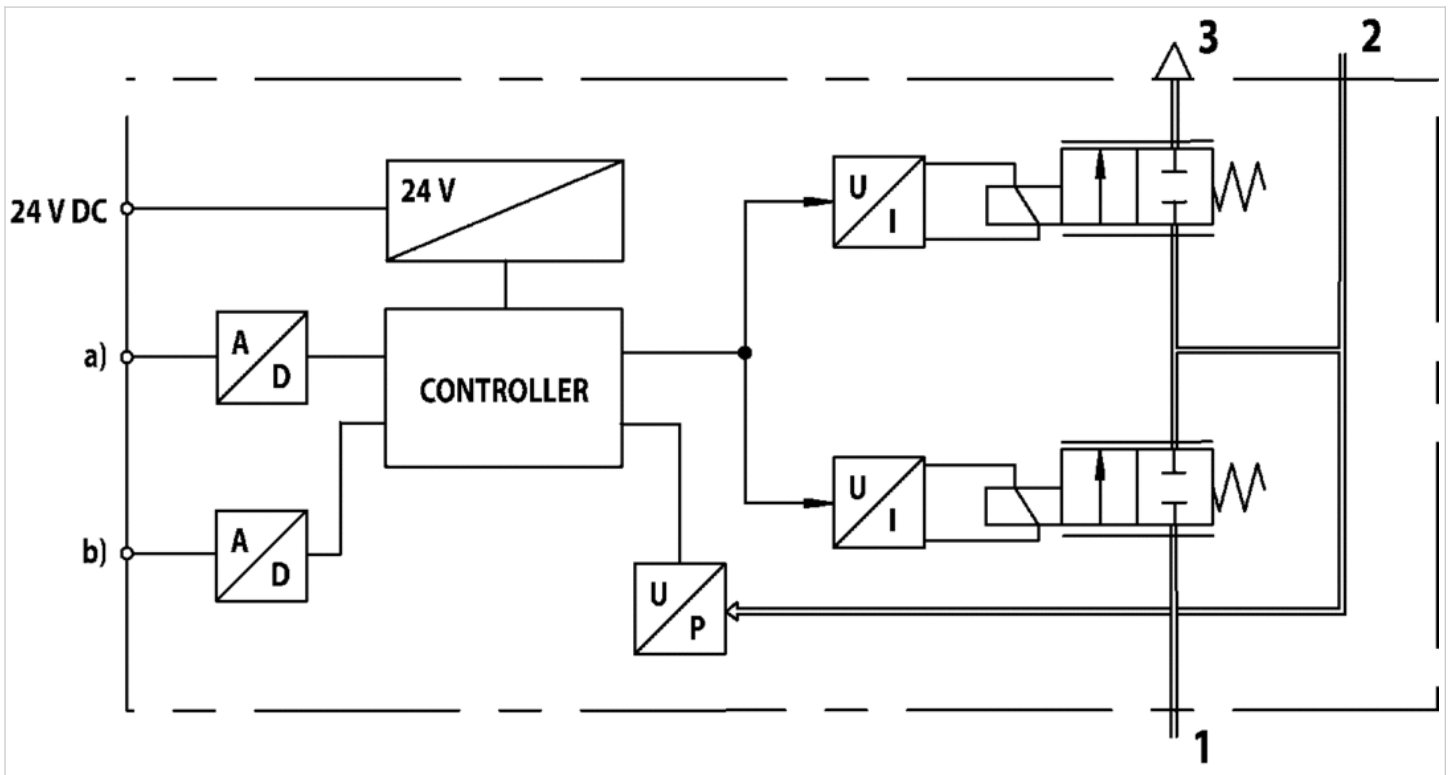
Flow diagram



P_a = Working pressure

Circuit diagram

Functional diagram

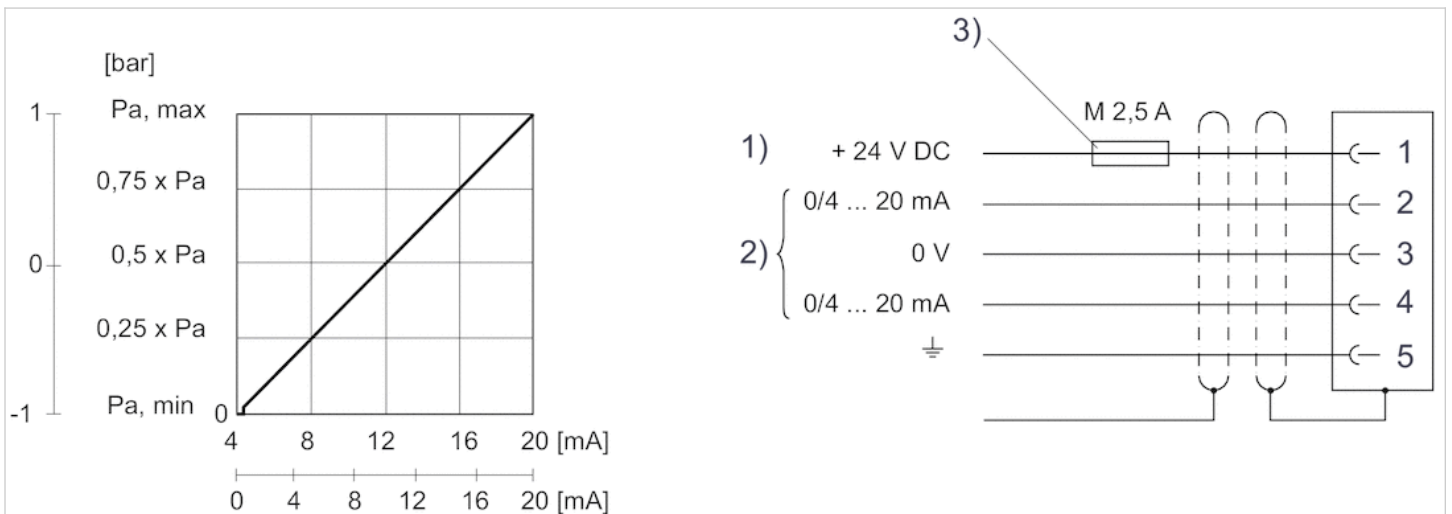


a) Nominal input value b) Actual output value

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

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



1) Supply Voltage

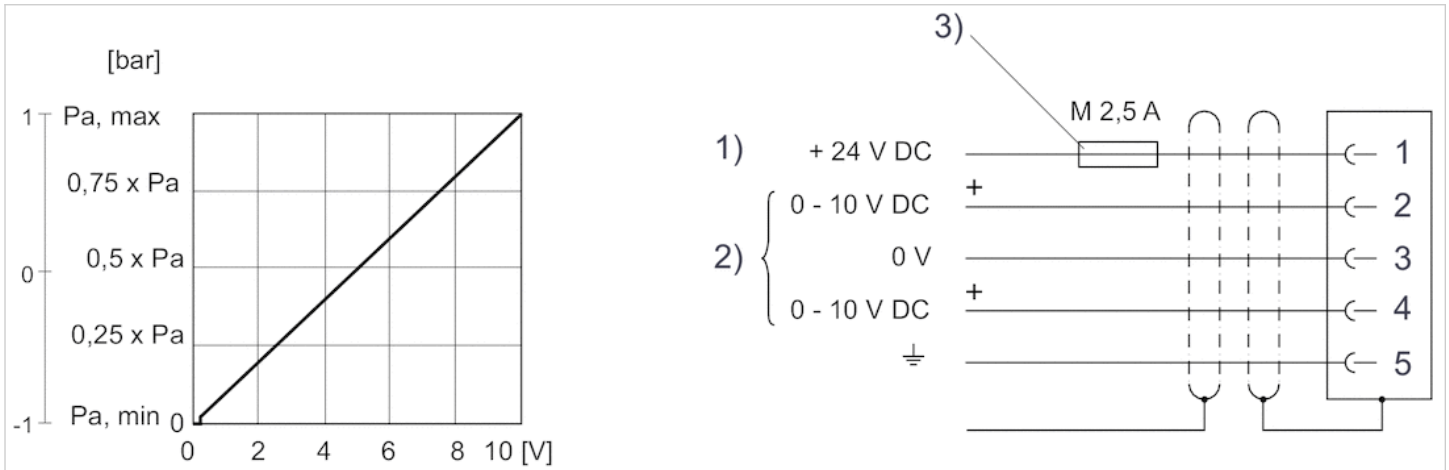
2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V (control voltage).

Nominal input value current (ohmic load 100 Ω). Actual output value (max. total resistance of downstream devices 300 Ω).

3) The operating voltage must be protected by an external M 2.5 A fuse.

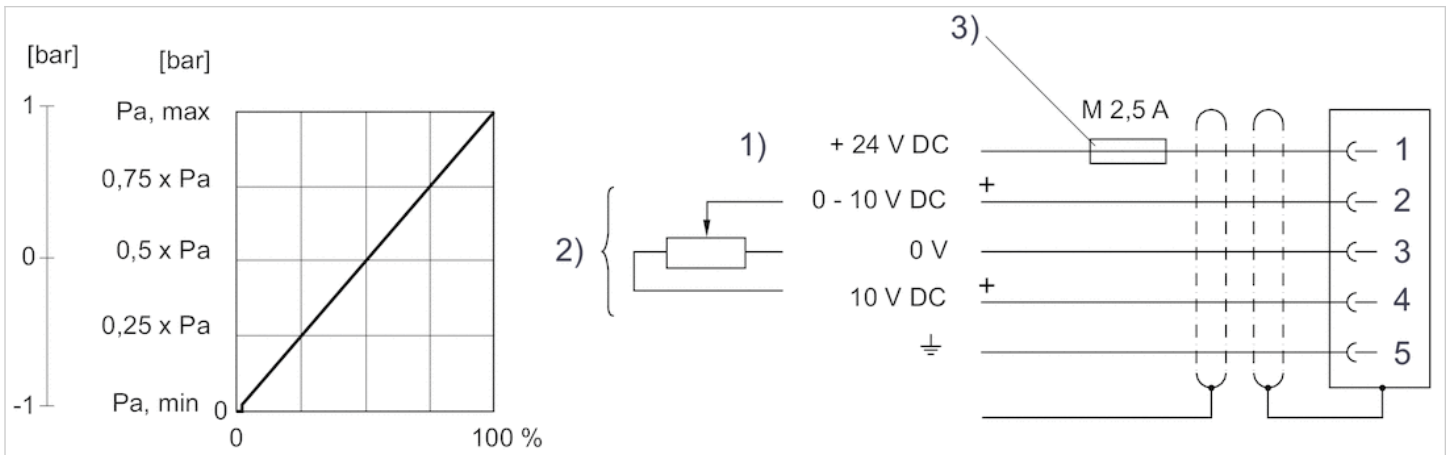
Connect the plug via a shielded cable to ensure EMC.

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



- 1) Supply Voltage
- 2) Actual value (pin 4) and target value (pin 2) are related to 0 V.
If the supply voltage is switched off, the voltage input value is high-ohmic.
Input resistance under supply voltage: 1 MΩ
Voltage output (actual value): external working resistance 10 kΩ
- 3) The operating voltage must be protected by an external M 2.5 A fuse.
Connect the plug via a shielded cable to ensure EMC.

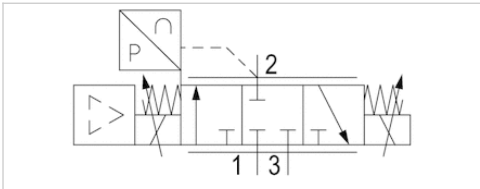
Fig. 3, Characteristic and pin assignment for potentiometer control without actual output value



- 1) Supply Voltage
- 2) Actual value (pin 2) is related to 0 V.
If the supply voltage is switched off, the voltage input value is high-ohmic.
Input resistance under supply voltage: 1 MΩ
- 3) The operating voltage must be protected by an external M 2.5 A fuse.
Connect the plug via a shielded cable to ensure EMC.

E/P pressure regulator, Series ED07

- Qn = 1300 l/min
- Electr. connection Plug, M12, 5-pin
- Signal connection input and output, Socket, M12, 5-pin



Version	Poppet valve
Mounting orientation	$\alpha = 0 \dots 90^\circ \pm \beta = 0 \dots 90^\circ$
Certificates	CE declaration of conformity
Working pressure max	See table below
Ambient temperature min./max.	5 ... 50 °C
Medium temperature min./max.	5 ... 50 °C
Medium	Compressed air
Max. particle size	50 μm
Oil content of compressed air	1 mg/m ³
Nominal flow Qn	1300 l/min
Control	Analog
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Permissible ripple	5%
Max. power consumption	1400 mA
Protection class	IP65
Weight	2.05 kg
	Nominal flow Qn with working pressure 7 bar , with secondary pressure 6 bar and $\Delta p = 0.2$ bar

Technical data

Part No.	Working pressure max	Pressure setting range min./max.	Nominal input value
			Min./max.
R414009638	0.12 bar	0 ... 0.05 bar	0 ... 20 mA
R414009639	0.12 bar	0 ... 0.05 bar	4 ... 20 mA
R414009640	0.12 bar	0 ... 0.05 bar	0 ... 10 V
R414009641	0.7 bar	0 ... 0.2 bar	0 ... 20 mA
R414009642	0.7 bar	0 ... 0.2 bar	4 ... 20 mA
R414009643	0.7 bar	0 ... 0.2 bar	0 ... 10 V
R414009644	0.7 bar	0 ... 0.2 bar	0 ... 10 V
R414000687	3 bar	-1 ... 1 bar	0 ... 20 mA
R414009645	3 bar	-1 ... 1 bar	4 ... 20 mA
R414009646	3 bar	-1 ... 1 bar	0 ... 10 V
R414009647	3 bar	-1 ... 1 bar	0 ... 10 V
R414009648	3 bar	0 ... 1 bar	0 ... 20 mA
R414009649	3 bar	0 ... 1 bar	4 ... 20 mA
R414009650	3 bar	0 ... 1 bar	0 ... 10 V
R414009651	3 bar	0 ... 1 bar	0 ... 10 V
R414009652	3 bar	0 ... 2 bar	0 ... 20 mA
R414009653	3 bar	0 ... 2 bar	4 ... 20 mA
R414009654	3 bar	0 ... 2 bar	0 ... 10 V
R414009655	3 bar	0 ... 2 bar	0 ... 10 V
5610264800	8 bar	0 ... 6 bar	0 ... 20 mA

Part No.	Working pressure max	Pressure setting range min./max.	Nominal input value
			Min./max.
5610264810	8 bar	0 ... 6 bar	4 ... 20 mA
5610264820	8 bar	0 ... 6 bar	0 ... 10 V
5610264830	8 bar	0 ... 6 bar	0 ... 10 V
5610264500	12 bar	0 ... 10 bar	0 ... 20 mA
5610264510	12 bar	0 ... 10 bar	4 ... 20 mA
5610264520	12 bar	0 ... 10 bar	0 ... 10 V
5610264530	12 bar	0 ... 10 bar	0 ... 10 V
R414000775	18 bar	0 ... 16 bar	0 ... 20 mA
R414000776	18 bar	0 ... 16 bar	4 ... 20 mA
R414000777	18 bar	0 ... 16 bar	0 ... 10 V
R414000778	18 bar	0 ... 16 bar	0 ... 10 V
5610264200	21 bar	0 ... 20 bar	0 ... 20 mA
5610264210	21 bar	0 ... 20 bar	4 ... 20 mA
5610264220	21 bar	0 ... 20 bar	0 ... 10 V
5610264230	21 bar	0 ... 20 bar	0 ... 10 V

Part No.	Actual output value	Control	Hysteresis	Fig.	
	Min./max.				
R414009638	0 ... 20 mA	Analog	0.001 bar	Fig. 1	-
R414009639	4 ... 20 mA	Analog	0.001 bar	Fig. 1	-
R414009640	0 ... 10 V	Analog	0.001 bar	Fig. 2	-
R414009641	0 ... 20 mA	Analog	0.003 bar	Fig. 1	-
R414009642	4 ... 20 mA	Analog	0.003 bar	Fig. 1	-
R414009643	-	Analog	0.003 bar	Fig. 3	1)
R414009644	0 ... 10 V	Analog	0.003 bar	Fig. 2	-
R414000687	0 ... 20 mA	Analog	0.015 bar	Fig. 1	-
R414009645	4 ... 20 mA	Analog	0.015 bar	Fig. 1	-
R414009646	-	Analog	0.015 bar	Fig. 3	1)
R414009647	0 ... 10 V	Analog	0.015 bar	Fig. 2	-
R414009648	0 ... 20 mA	Analog	0.015 bar	Fig. 1	-
R414009649	4 ... 20 mA	Analog	0.015 bar	Fig. 1	-
R414009650	-	Analog	0.015 bar	Fig. 3	1)
R414009651	0 ... 10 V	Analog	0.015 bar	Fig. 2	-
R414009652	0 ... 20 mA	Analog	0.015 bar	Fig. 1	-
R414009653	4 ... 20 mA	Analog	0.015 bar	Fig. 1	-
R414009654	-	Analog	0.015 bar	Fig. 3	1)
R414009655	0 ... 10 V	Analog	0.015 bar	Fig. 2	-
5610264800	0 ... 20 mA	Analog	0.03 bar	Fig. 1	-
5610264810	4 ... 20 mA	Analog	0.03 bar	Fig. 1	-
5610264820	-	Analog	0.03 bar	Fig. 3	1)
5610264830	0 ... 10 V	Analog	0.03 bar	Fig. 2	-
5610264500	0 ... 20 mA	Analog	0.03 bar	Fig. 1	-
5610264510	4 ... 20 mA	Analog	0.03 bar	Fig. 1	-
5610264520	-	Analog	0.03 bar	Fig. 3	1)
5610264530	0 ... 10 V	Analog	0.03 bar	Fig. 2	-
R414000775	0 ... 20 mA	Analog	0.04 bar	Fig. 1	-
R414000776	4 ... 20 mA	Analog	0.04 bar	Fig. 1	-
R414000777	-	Analog	0.04 bar	Fig. 3	1)

Part No.	Actual output value	Control	Hysteresis	Fig.	
	Min./max.				
R414000778	0 ... 10 V	Analog	0.04 bar	Fig. 2	-
5610264200	0 ... 20 mA	Analog	0.09 bar	Fig. 1	-
5610264210	4 ... 20 mA	Analog	0.09 bar	Fig. 1	-
5610264220	-	Analog	0.09 bar	Fig. 3	1)
5610264230	0 ... 10 V	Analog	0.09 bar	Fig. 2	-

1) Output 10V constant to supply a set point potentiometer.

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).

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.

Minimum working pressure = 0.5 bar + max. required secondary pressure

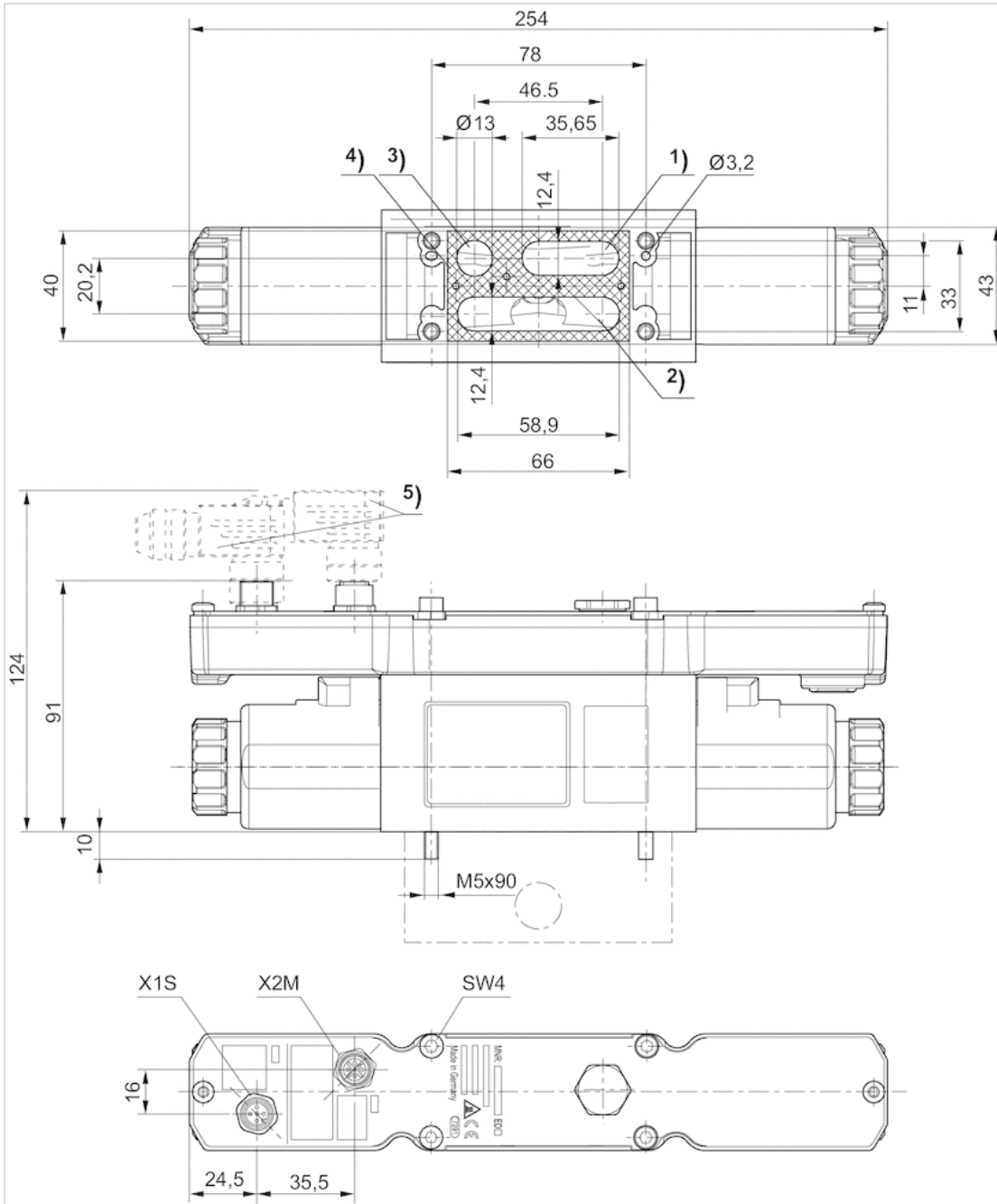
Additional pressure setting ranges available on request

Technical information

Material	
Housing	Die-cast aluminum Steel
Seals	Hydrogenated acrylonitrile butadiene rubber

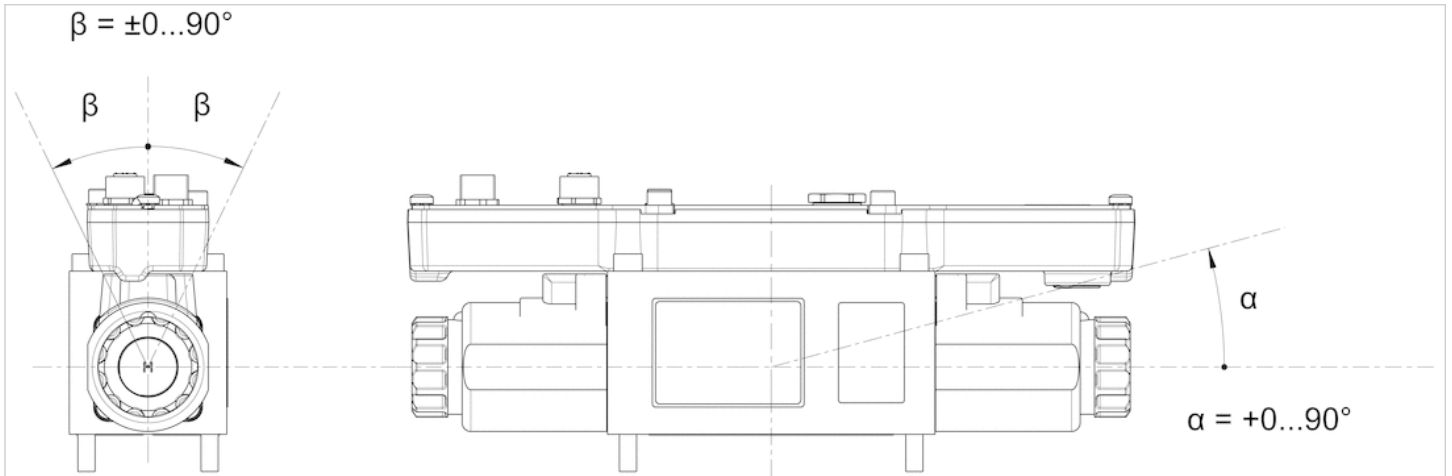
Dimensions

Dimensions



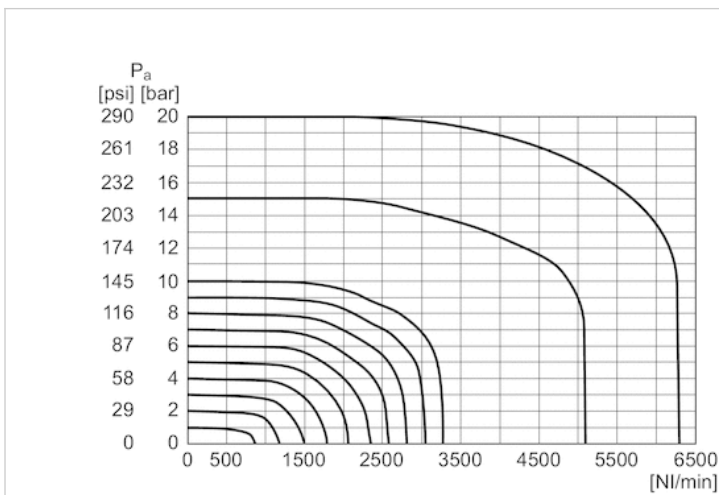
- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust
- 4) Flat gasket
- 5) Accessories not supplied

Mounting orientation



Diagrams

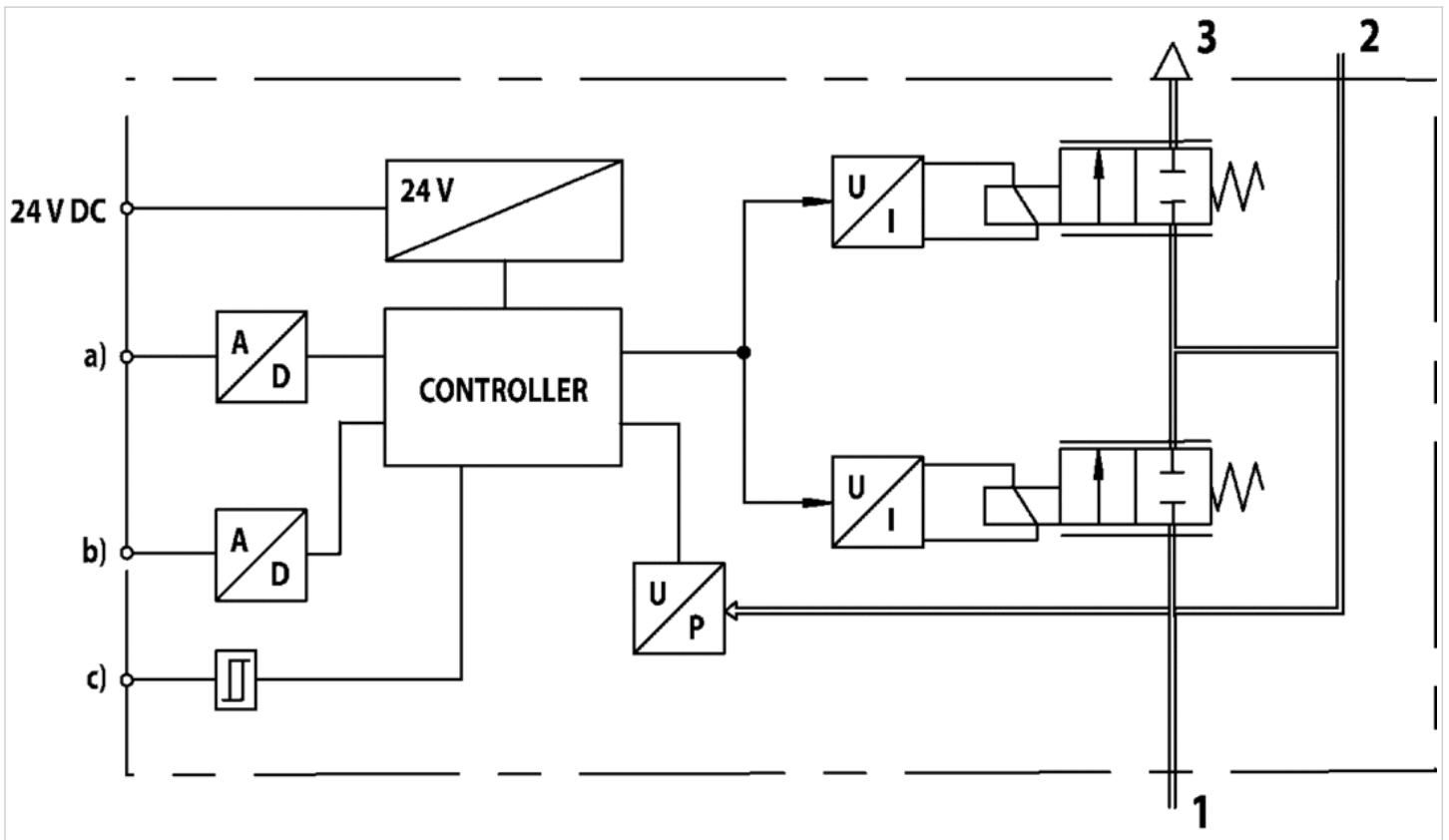
Flow diagram



P_a = Working pressure

Circuit diagram

Functional diagram

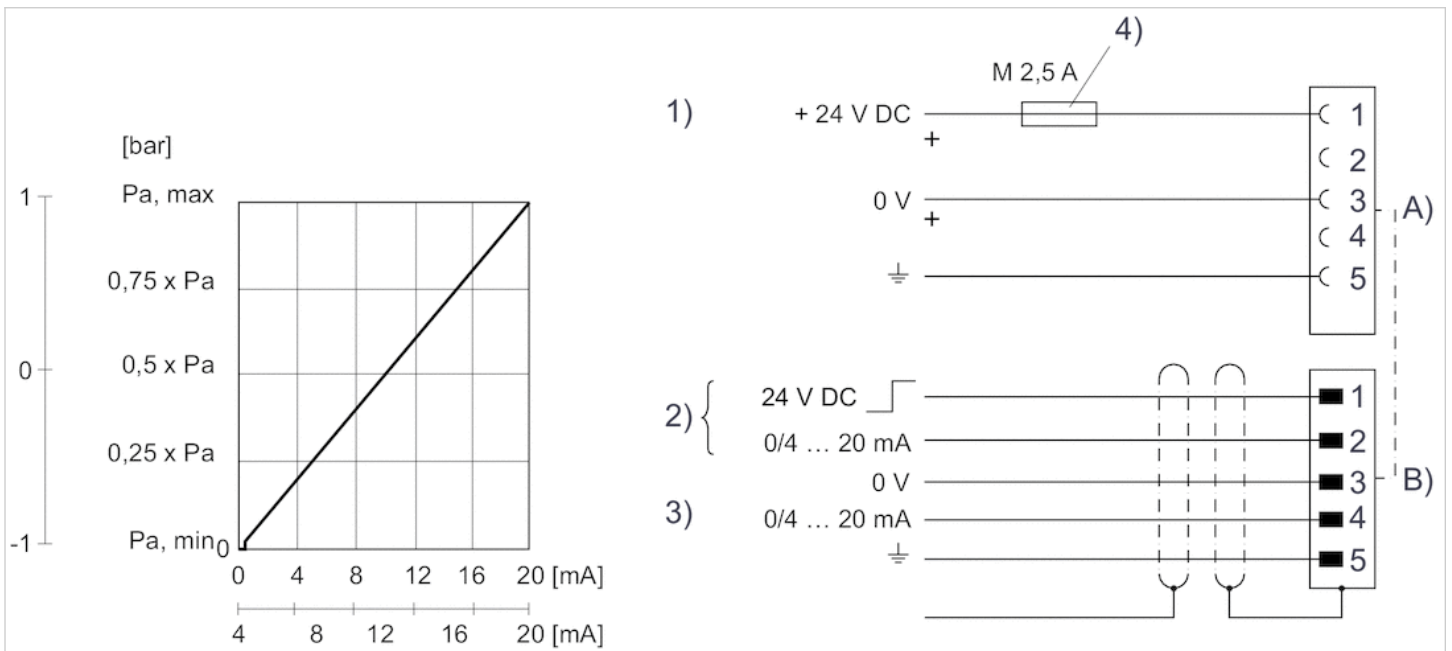


- a) Nominal input value
- b) Actual output value
- c) Switch output (acknowledge signal)

The E/P pressure control valve modulates the pressure corresponding to an analog electrical nominal input value.

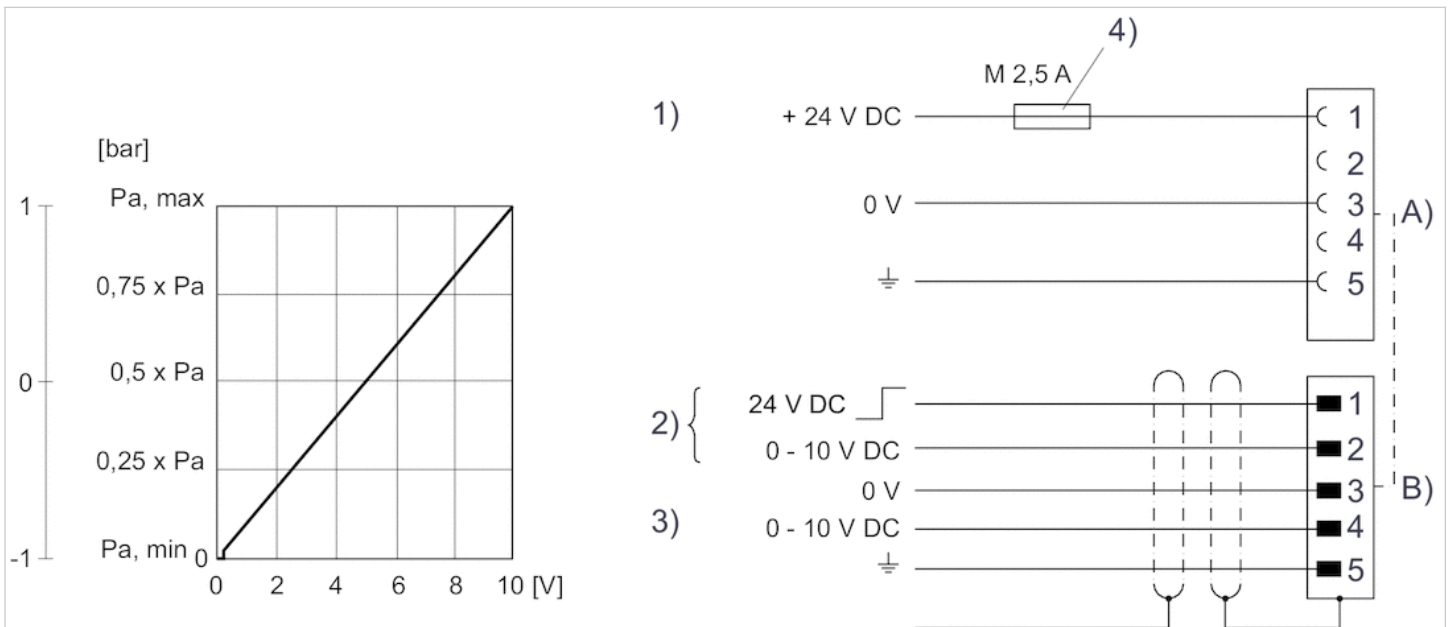
- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust

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



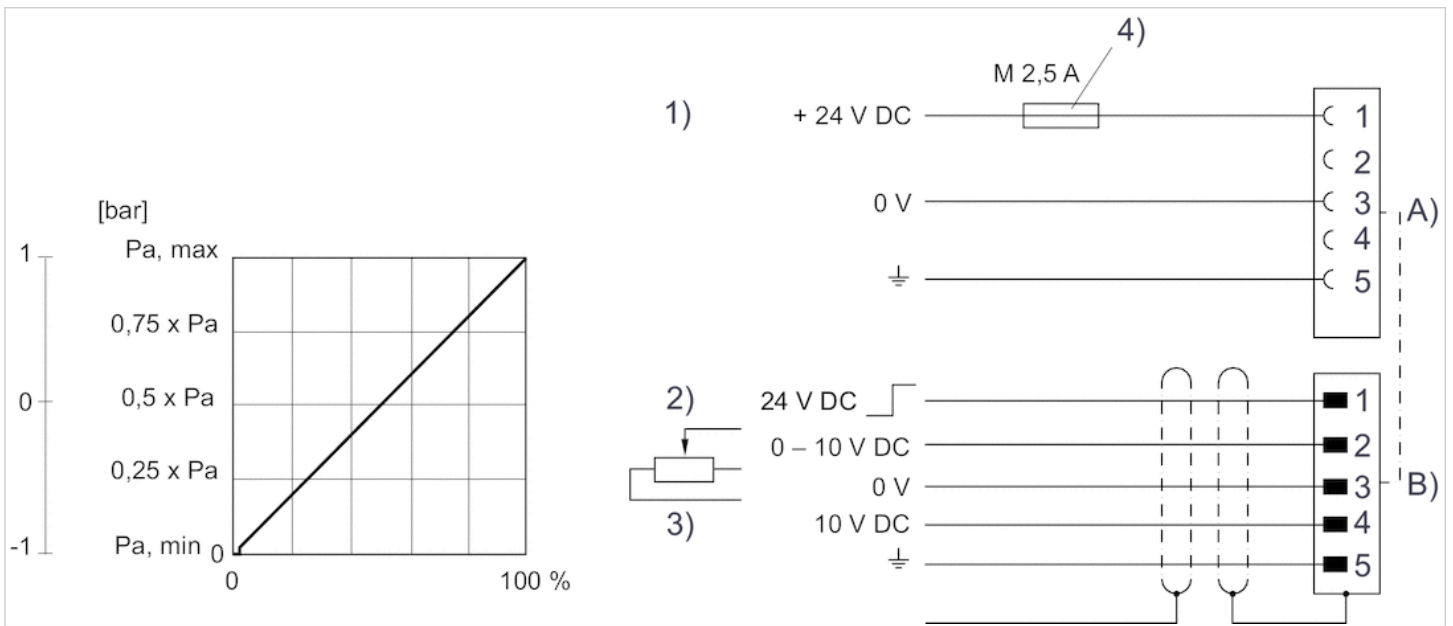
- 1) Supply Voltage
 - 2) Switch output (pin 1) and nominal value (pin 2) are related to 0 V. Input current nominal value (ohmic load 100 Ω).
 - 3) Actual value (pin 4) is related to 0 V (max. total resistance of downstream devices 300 Ω).
 - 4) The operating voltage must be protected by an external M 2.5 A fuse.
- Connect plug X2M via a shielded cable to ensure EMC.
 A) Plug X1S B) Plug X2M

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



- 1) Supply Voltage
 - 2) Switch output (pin 1) and nominal value (pin 2) are related to 0 V.
 - 3) Actual value (pin 4) is related to 0 V (min. load resistance 1 kΩ).
 - 4) The operating voltage must be protected by an external M 2.5 A fuse.
- Connect plug X2M via a shielded cable to ensure EMC.
 A) Plug X1S B) Plug X2M

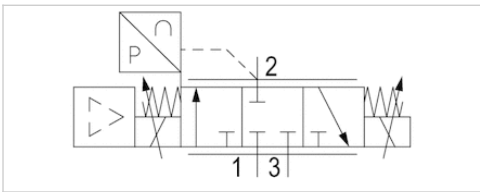
Fig. 3, Characteristic and pin assignment for potentiometer control without actual output value



- 1) Supply Voltage
 - 2) Switch output (pin 1) and nominal value (pin 2) are related to 0 V.
 - 3) Potentiometer control (min. 0-2 kΩ, max. 0-10 kΩ)
 - 4) The operating voltage must be protected by an external M 2.5 A fuse.
- Connect plug X2M via a shielded cable to ensure EMC.
- A) Plug X1S B) Plug X2M

E/P pressure regulator, Series ED07

- External sensor input (pressure, flow or force sensor)
- $Q_n = 1300 \text{ l/min}$
- Electr. connection Plug, M12, 5-pin
- Signal connection input and output, Plug, M12, 5-pin



Version	Poppet valve
Mounting orientation	$\alpha = 0 \dots 90^\circ \pm \beta = 0 \dots 90^\circ$
Certificates	CE declaration of conformity
Ambient temperature min./max.	5 ... 50 °C
Medium temperature min./max.	5 ... 50 °C
Medium	Compressed air
Max. particle size	50 μm
Oil content of compressed air	1 mg/m ³
Nominal flow Q_n	1300 l/min
Control	Analog
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Hysteresis	0.03 bar 0.03 bar
Permissible ripple	5%
Max. power consumption	1400 mA
Protection class	IP65
Weight	2.05 kg
	Nominal flow Q_n with working pressure 7 bar , with secondary pressure 6 bar and $\Delta p = 0.2 \text{ bar}$

Technical data

Part No.	Pressure setting range min./max.	Nominal input value	Actual output value	Control
		Min./max.	Min./max.	
R414009800	0 ... 10 bar	4 ... 20 mA	4 ... 20 mA	Analog

Minimum working pressure = 0.5 bar + max. required secondary pressure, Additional pressure setting ranges available on request

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).

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.

If the external sensor fails, the pressure regulator can open fully and the maximum permissible pressure in your system may be exceeded.

The short-circuit-resistant switch output (X2M pin 1) switches to +Ub when the regulated pressure is within the tolerance range of $\pm 200 \text{ mbar}$ for at least 100 ms (applies to external sensor 0 – 10 bar).

The supply pressure is controlled when the set point is applied but the external sensor's signal is missing (e.g. wire break).

Set up appropriate measures to ensure fail-safe behavior even in case of failure of the external sensor.

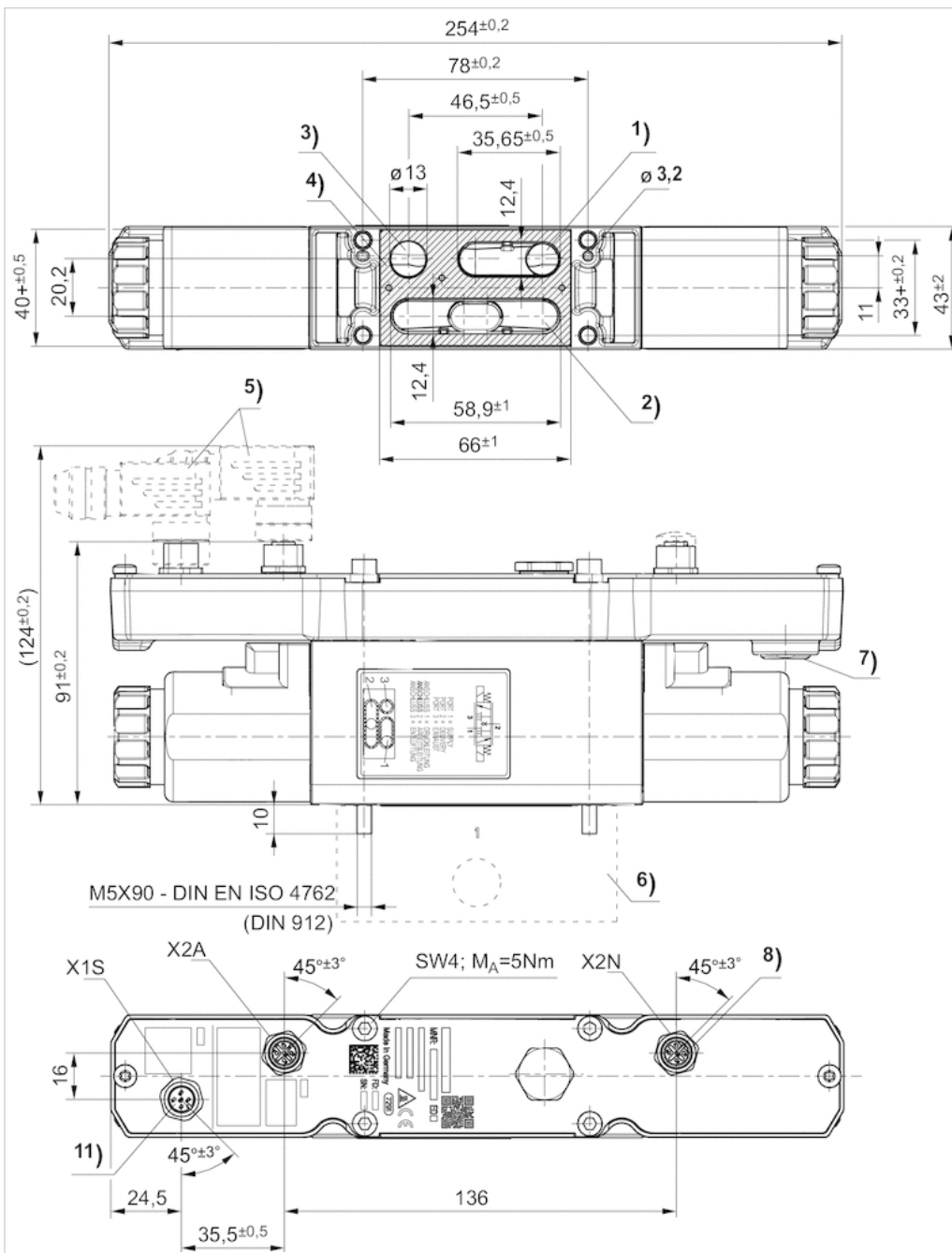
Technical information

Material

Housing	Die-cast aluminum Steel
Seals	Hydrogenated acrylonitrile butadiene rubber

Dimensions

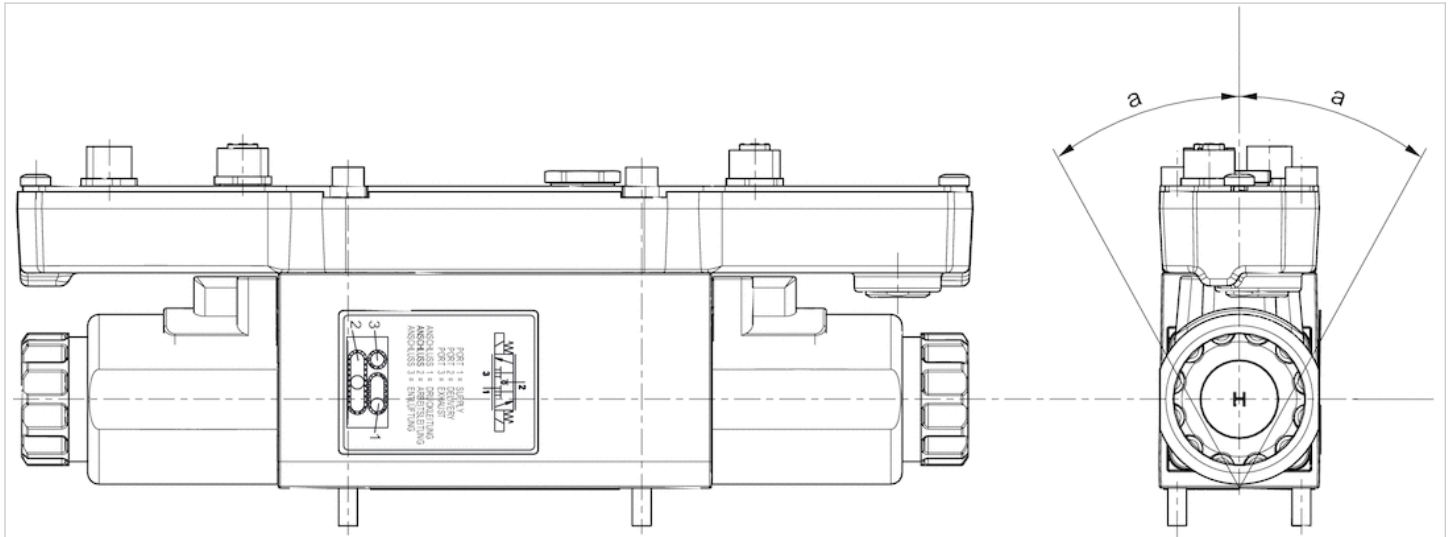
Dimensions



- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust
- 4) Flat gasket
- 5) Accessories not supplied

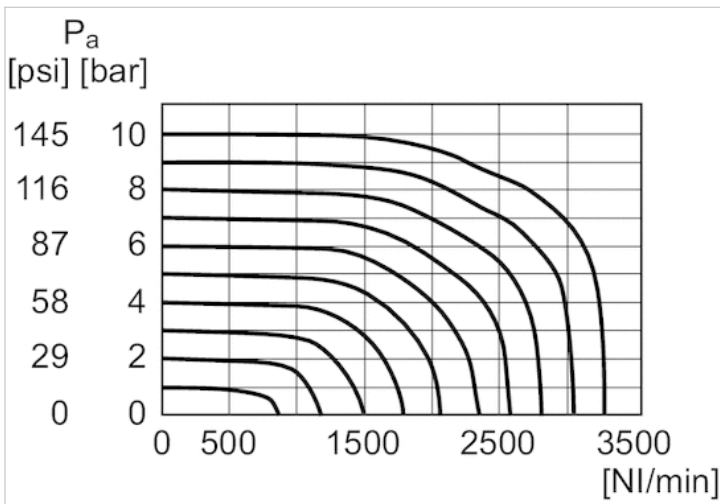
- 6) Base plate not included in the scope of delivery
- 7) Gore membrane
- 8) Plug

Mounting orientation



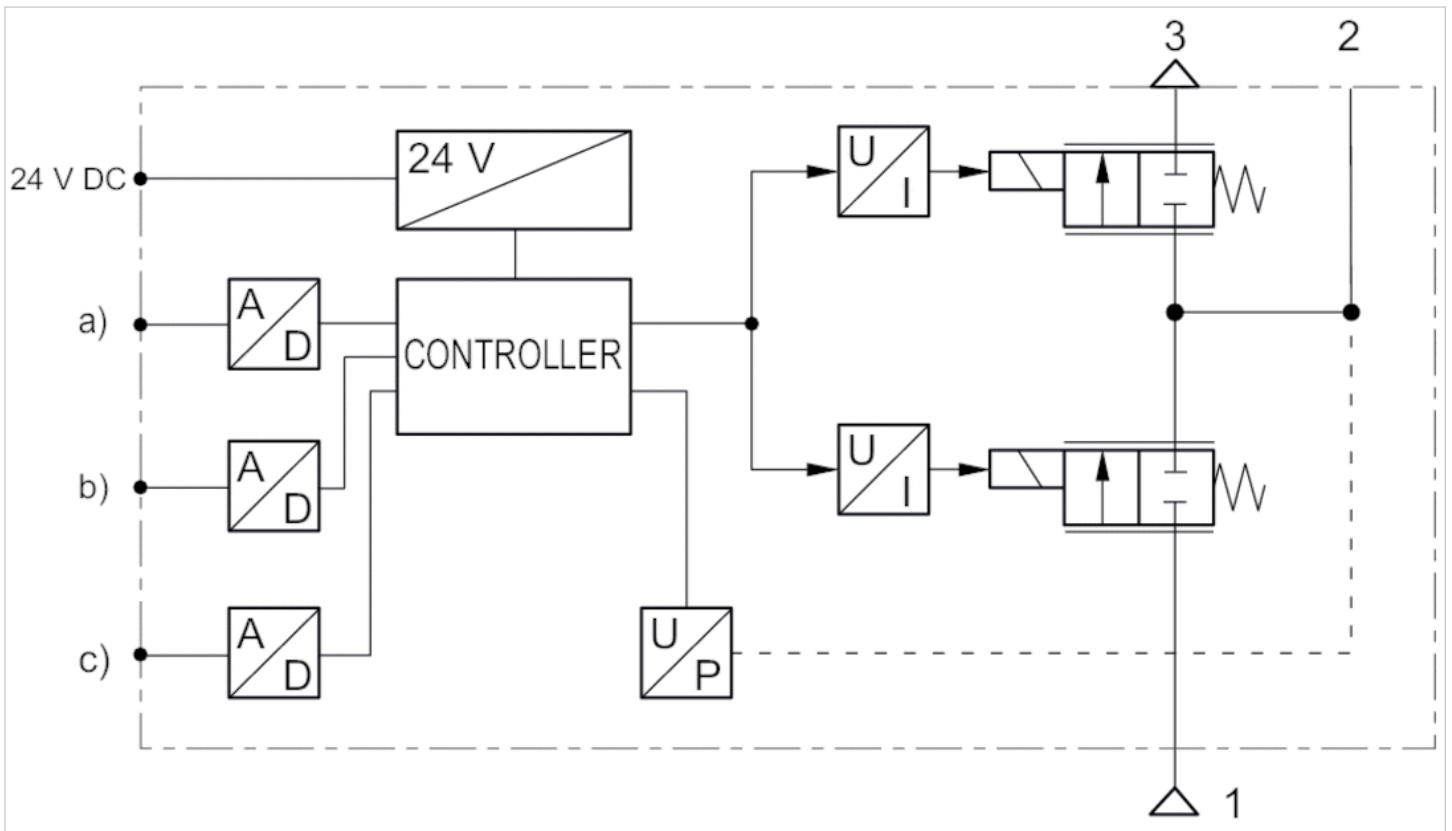
Diagrams

Flow diagram



Circuit diagram

Functional diagram



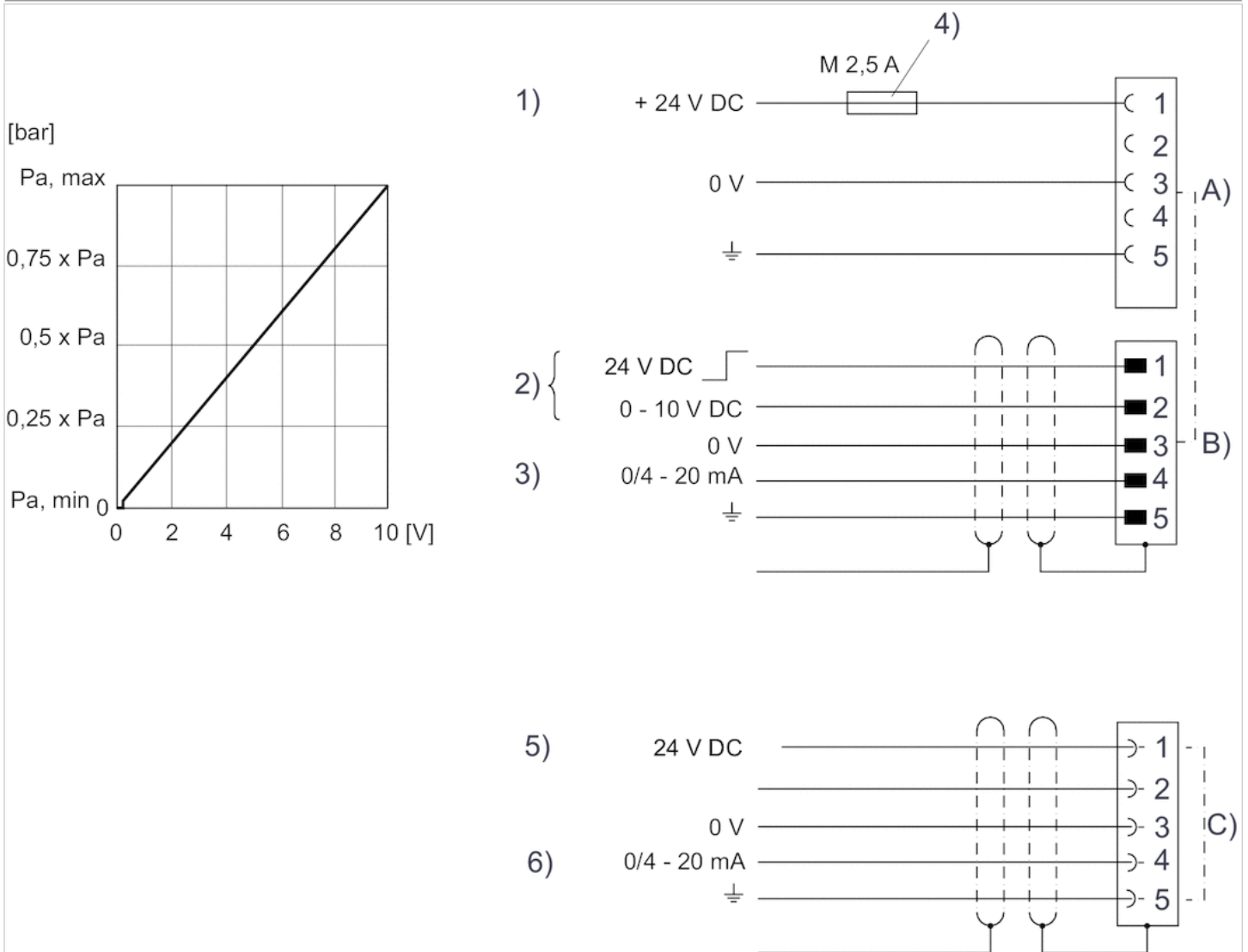
- a) Nominal input value (w)
- b) Actual output value (x)
- c) External sensor input (ext)

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

Connect plugs X2A and X2N via a shielded cable to ensure EMC.

Characteristic and pin assignment for current control with actual output value and external sensor input



1) Supply voltage 2) Switch output (pin 1) and set point (pin 2) are related to 0 V. 3) Actual value (pin 4) is related to 0 V (external resistance min. 10 kilohms) 4) The supply voltage must be protected by an external fuse M 2.5 A. Connect plugs X2A and 2XN via a shielded cable to ensure EMC. If a supply voltage of 1 megaohm is applied, the voltage input value is high-ohmic.

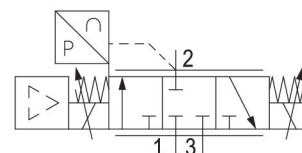
5) Supply voltage for external sensor 6) External sensor input is related to 0 V. If the supply voltage is switched off, the voltage input value is high-ohmic. If the supply voltage is switched on, the voltage input value is 1 megaohm.

ED07 series proportional pressure regulator, EtherCAT

R414014311

General series information Series ED07

- The AVENTICS Series ED07 offers proportional pressurization and the exhaust valves are controlled separately to deliver dynamic control for the most demanding applications.
- Highly dynamic proportional pressure regulator
- Stackable with base plate
- Nominal width 7
- Flow 1300 l/min
- Pressure range -1 ... 20 bar
- EtherCAT, AES fieldbus connection



Technical data

Control
EtherCAT

Regulation range min.
0 bar

Regulation range max.
10 bar

Working pressure min.
0.5 bar

Working pressure max.
12 bar

Hysteresis
< [[0,03] bar]

Medium
Compressed air

Nominal flow Q_n
1300 l/min

Min. ambient temperature
5 °C

Max. ambient temperature
50 °C

Min. medium temperature
5 °C

Max. medium temperature
50 °C

DC operating voltage
24 V

Permissible ripple
5%

Max. power consumption
1400 mA

Protection class
IP65

Max. particle size 50 µm	Signal connection input and output
Oil content of compressed air min. 0 mg/m ³	Signal connection Plug
Oil content of compressed air max. 1 mg/m ³	Signal connection M12
Type Poppet valve	Signal connection 5-pin
Mounting orientation $\alpha = 0 \dots 90^\circ \pm \beta = 0 \dots 90^\circ$	Industry Industrial
Certificates CE declaration of conformity	Weight 2.05 kg

Material

Housing material Die-cast aluminum	Material base plate Aluminum
Seal material Hydrogenated acrylonitrile butadiene rubber	Part No. R414014311

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.

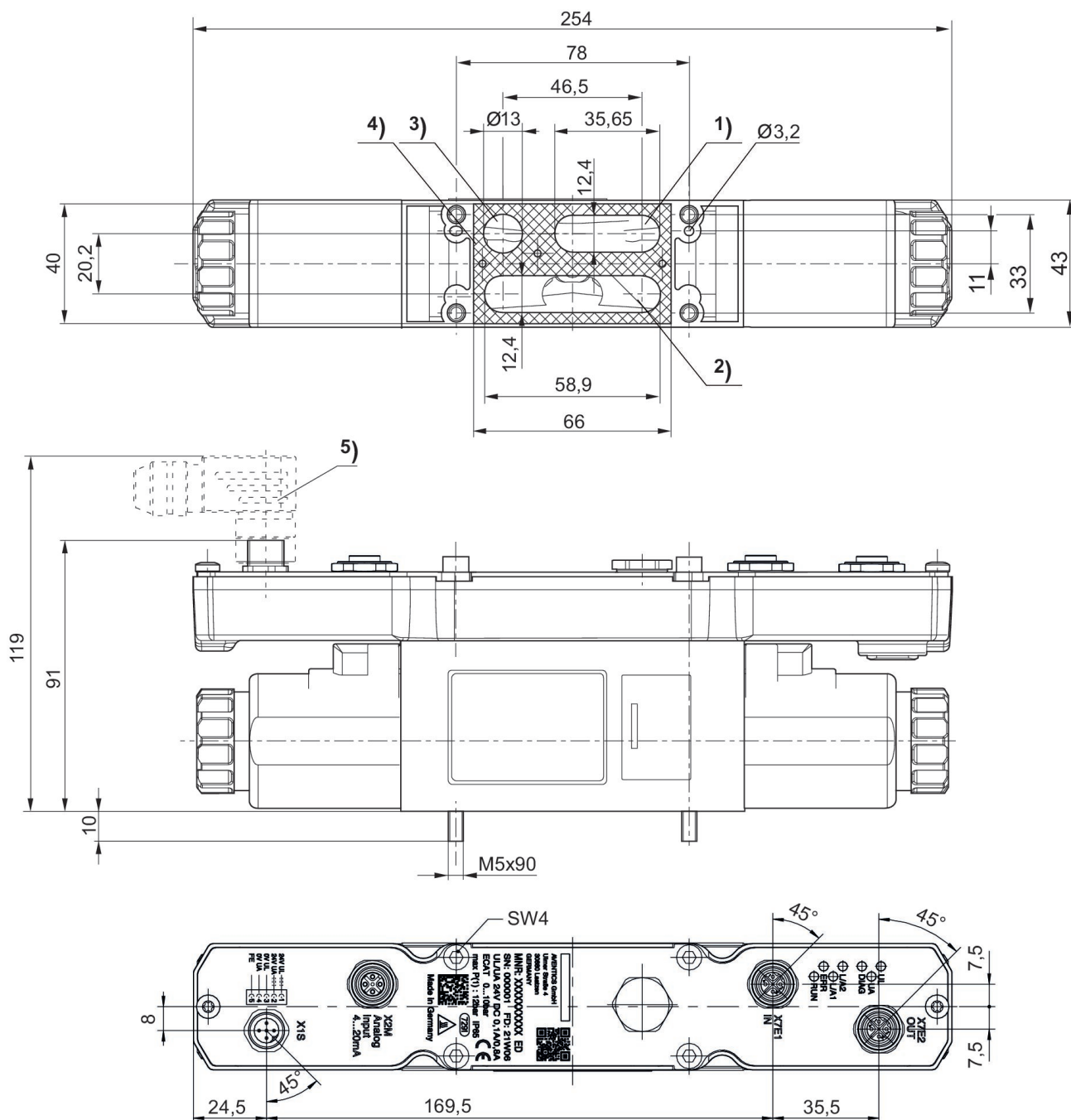
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

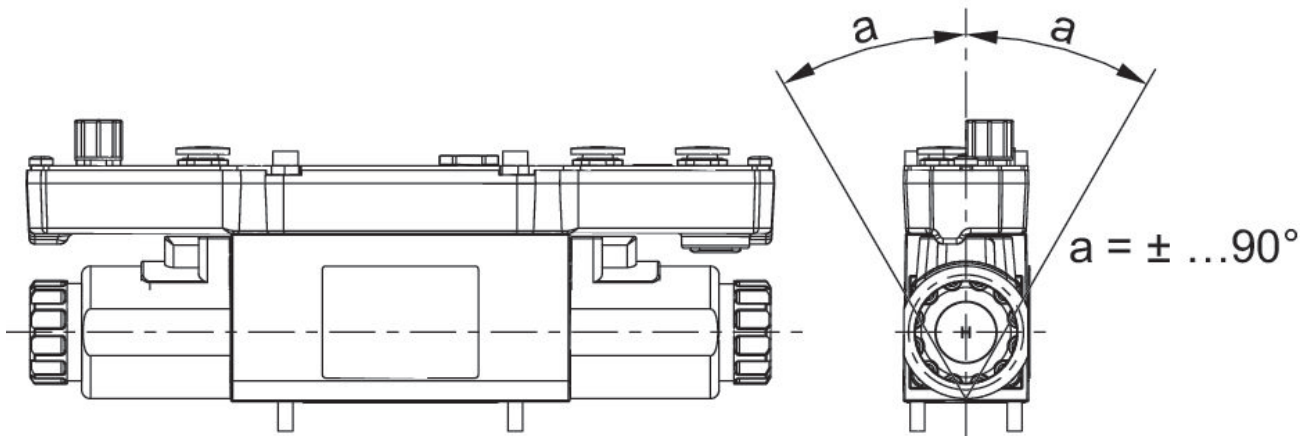
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions

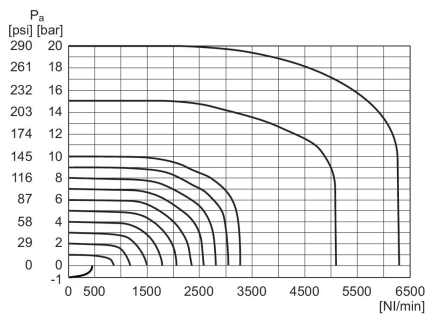


- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust
- 4) Flat gasket
- 5) Accessories not supplied

Mounting orientation

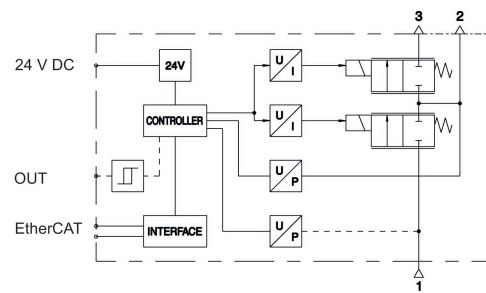


Flow diagram



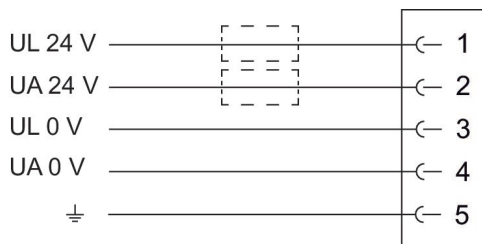
Pa = Working pressure

Functional diagram



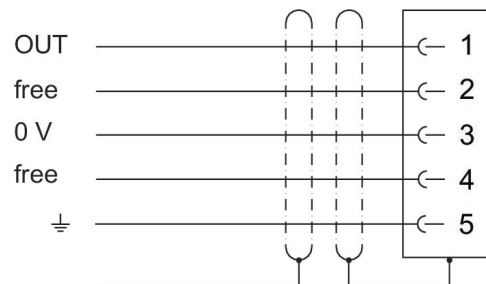
- 1) Input
- 2) Output
- 3) Exhaust

Plug X1S



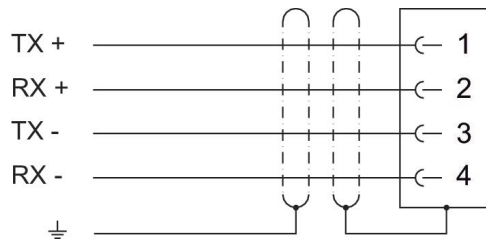
Sensor round plug M12x1, 5-pin, integrated plug, A-coded
Only use a power pack with safe isolation for power supply (electronics and actuator power).

Plug X20



Sensor round plug M12x1, 5-pin, integrated socket, A-coded
The ground for plug X20 PIN 5 and the shielding for plugs X7E1 / X7E2 and X20 are directly connected to the housing. The device must be mounted on a grounded mounting plate.

Plug X7E1, X7E2



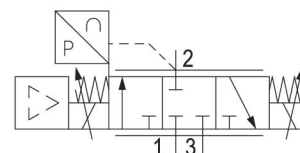
Ethernet plug M12x1, 4-pin, socket, D-coded
The Ethernet cables must be shielded.

ED07 series proportional pressure regulator, EtherCAT

R414014312

General series information Series ED07

- The AVENTICS Series ED07 offers proportional pressurization and the exhaust valves are controlled separately to deliver dynamic control for the most demanding applications.
- Highly dynamic proportional pressure regulator
- Stackable with base plate
- Nominal width 7
- Flow 1300 l/min
- Pressure range -1 ... 20 bar
- EtherCAT, AES fieldbus connection



Technical data

Control
EtherCAT

Regulation range min.
0 bar

Regulation range max.
10 bar

Working pressure min.
0.5 bar

Working pressure max.
12 bar

Hysteresis
< [[0,03] bar]

Medium
Compressed air

Nominal flow Q_n
1300 l/min

Min. ambient temperature
5 °C

Max. ambient temperature
50 °C

Min. medium temperature
5 °C

Max. medium temperature
50 °C

DC operating voltage
24 V

Permissible ripple
5%

Max. power consumption
1400 mA

Protection class
IP65

Max. particle size 50 µm	Signal connection input and output
Oil content of compressed air min. 0 mg/m ³	Signal connection Plug
Oil content of compressed air max. 1 mg/m ³	Signal connection M12
Type Poppet valve	Signal connection 5-pin
Mounting orientation $\alpha = 0 \dots 90^\circ \pm \beta = 0 \dots 90^\circ$	Industry Industrial
Certificates CE declaration of conformity	Weight 2.05 kg

Material

Housing material Die-cast aluminum	Material base plate Aluminum
Seal material Hydrogenated acrylonitrile butadiene rubber	Part No. R414014312

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.

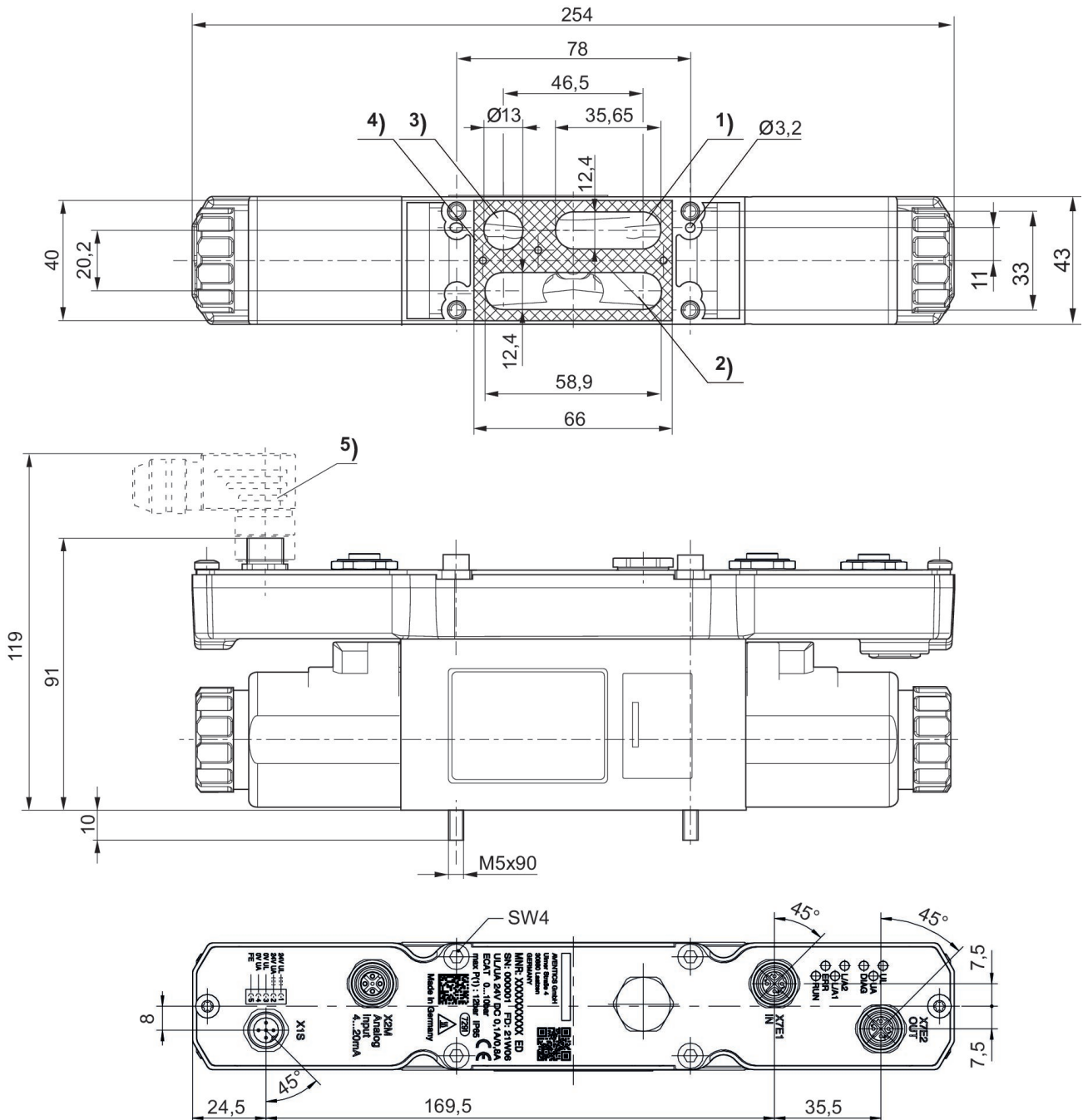
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

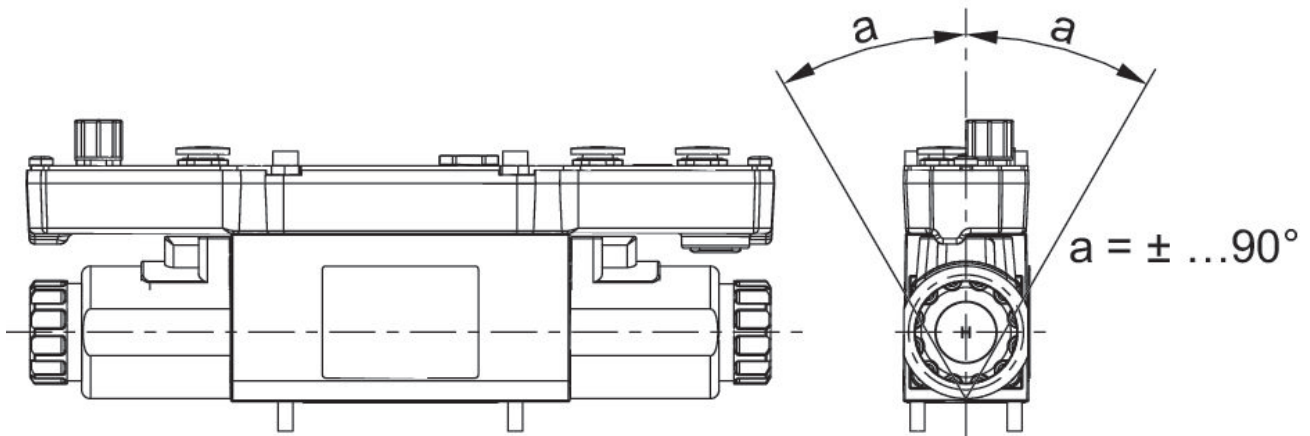
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions

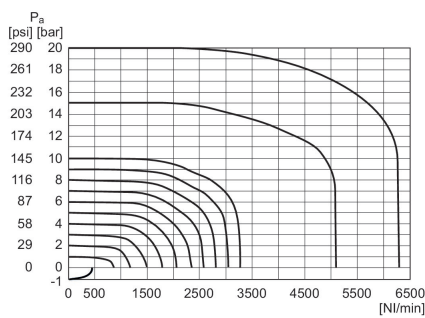


- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust
- 4) Flat gasket
- 5) Accessories not supplied

Mounting orientation

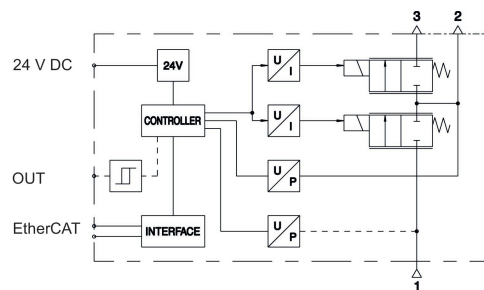


Flow diagram



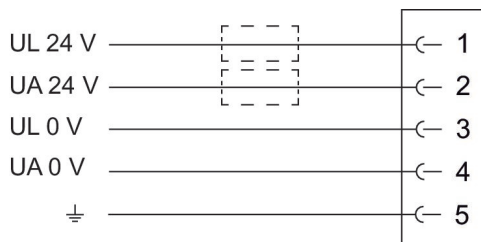
Pa = Working pressure

Functional diagram



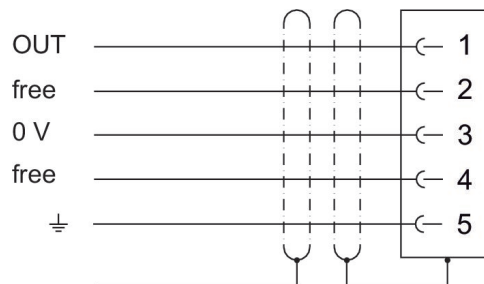
- 1) Input
- 2) Output
- 3) Exhaust

Plug X1S



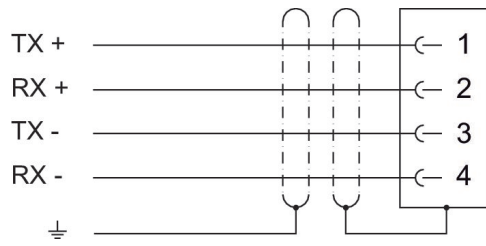
Sensor round plug M12x1, 5-pin, integrated plug, A-coded
Only use a power pack with safe isolation for power supply (electronics and actuator power).

Plug X20



Sensor round plug M12x1, 5-pin, integrated socket, A-coded
The ground for plug X20 PIN 5 and the shielding for plugs X7E1 / X7E2 and X20 are directly connected to the housing. The device must be mounted on a grounded mounting plate.

Plug X7E1, X7E2



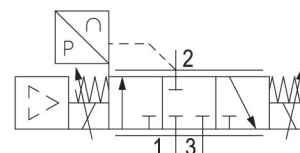
Ethernet plug M12x1, 4-pin, socket, D-coded
The Ethernet cables must be shielded.

ED07 series proportional pressure regulator, EtherCAT

R414014313

General series information Series ED07

- The AVENTICS Series ED07 offers proportional pressurization and the exhaust valves are controlled separately to deliver dynamic control for the most demanding applications.
- Highly dynamic proportional pressure regulator
- Stackable with base plate
- Nominal width 7
- Flow 1300 l/min
- Pressure range -1 ... 20 bar
- EtherCAT, AES fieldbus connection



Technical data

Control
EtherCAT

Regulation range min.
0 bar

Regulation range max.
10 bar

Working pressure min.
0.5 bar

Working pressure max.
12 bar

Hysteresis
< [[0,03] bar]

Medium
Compressed air

Nominal flow Q_n
1300 l/min

Min. ambient temperature
5 °C

Max. ambient temperature
50 °C

Min. medium temperature
5 °C

Max. medium temperature
50 °C

DC operating voltage
24 V

Permissible ripple
5%

Max. power consumption
1400 mA

Protection class
IP65

Max. particle size 50 µm	Signal connection input and output
Oil content of compressed air min. 0 mg/m ³	Signal connection Plug
Oil content of compressed air max. 1 mg/m ³	Signal connection M12
Type Poppet valve	Signal connection 5-pin
Mounting orientation $\alpha = 0 \dots 90^\circ \pm \beta = 0 \dots 90^\circ$	Industry Industrial
Certificates CE declaration of conformity	Weight 2.05 kg

Material

Housing material Die-cast aluminum	Material base plate Aluminum
Seal material Hydrogenated acrylonitrile butadiene rubber	Part No. R414014313

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.

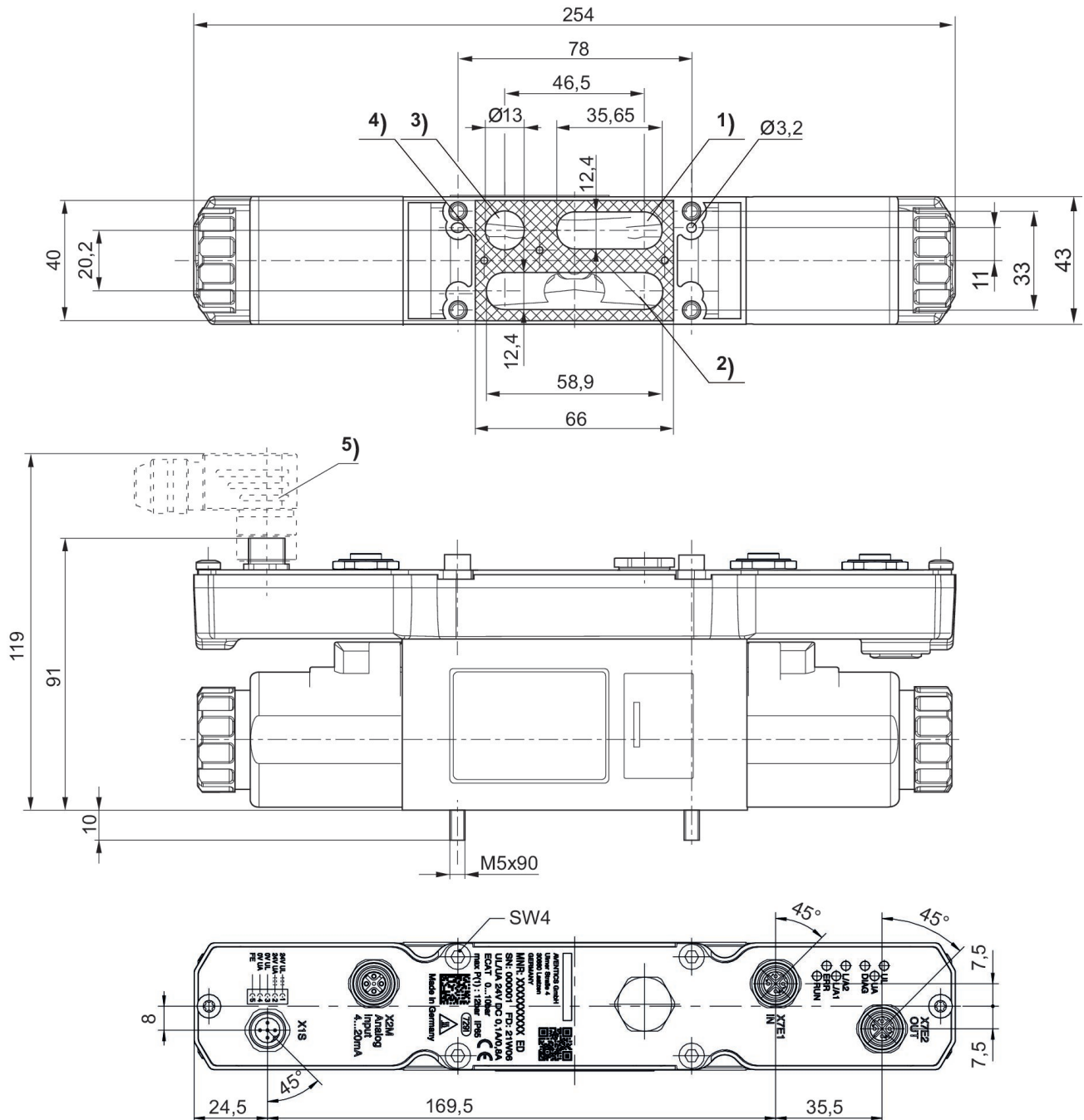
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

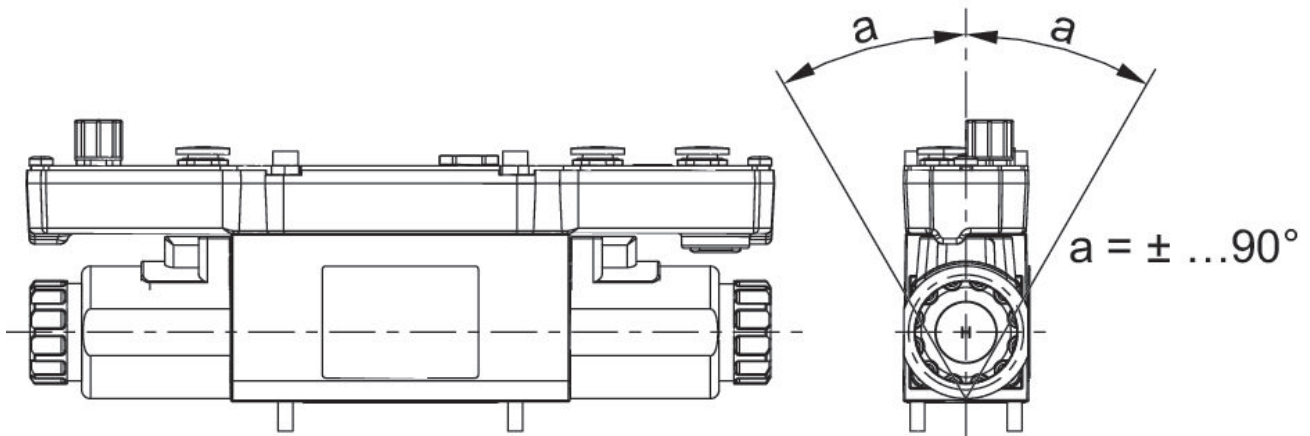
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions

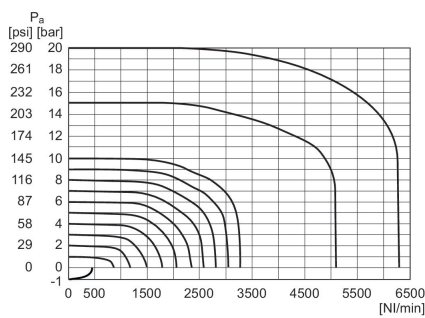


- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust
- 4) Flat gasket
- 5) Accessories not supplied

Mounting orientation

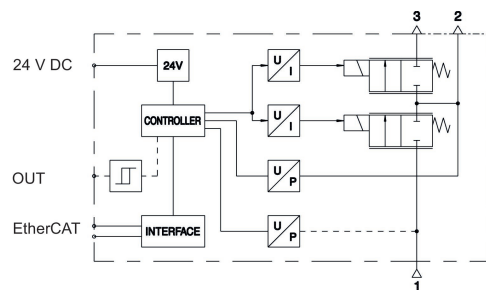


Flow diagram



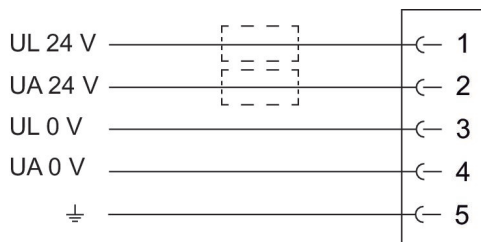
Pa = Working pressure

Functional diagram



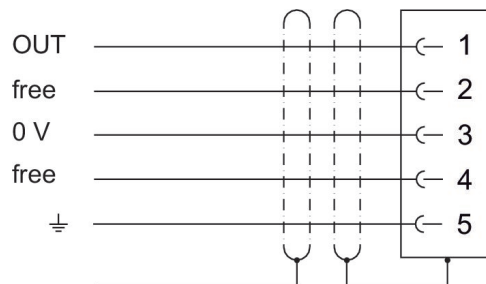
- 1) Input
- 2) Output
- 3) Exhaust

Plug X1S



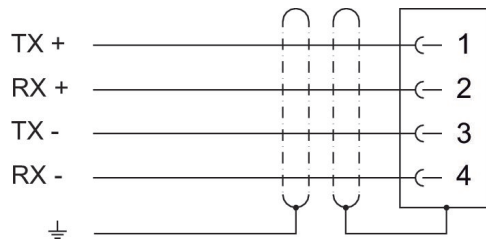
Sensor round plug M12x1, 5-pin, integrated plug, A-coded
Only use a power pack with safe isolation for power supply (electronics and actuator power).

Plug X20



Sensor round plug M12x1, 5-pin, integrated socket, A-coded
The ground for plug X20 PIN 5 and the shielding for plugs X7E1 / X7E2 and X20 are directly connected to the housing. The device must be mounted on a grounded mounting plate.

Plug X7E1, X7E2



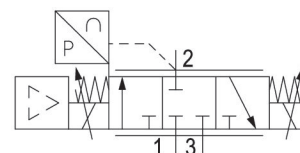
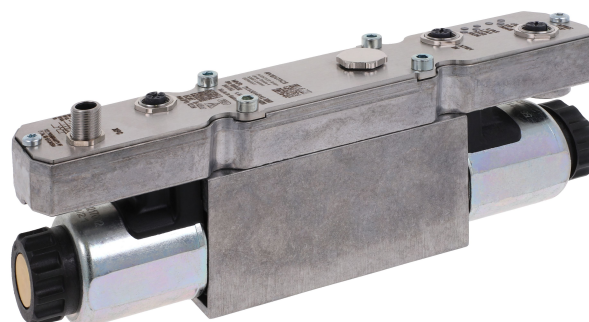
Ethernet plug M12x1, 4-pin, socket, D-coded
The Ethernet cables must be shielded.

ED07 series proportional pressure regulator, EtherCAT

R414014314

General series information Series ED07

- The AVENTICS Series ED07 offers proportional pressurization and the exhaust valves are controlled separately to deliver dynamic control for the most demanding applications.
- Highly dynamic proportional pressure regulator
- Stackable with base plate
- Nominal width 7
- Flow 1300 l/min
- Pressure range -1 ... 20 bar
- EtherCAT, AES fieldbus connection



Technical data

Control
EtherCAT

Regulation range min.
0 bar

Regulation range max.
10 bar

Working pressure min.
0.5 bar

Working pressure max.
12 bar

Hysteresis
< [[0,03] bar]

Medium
Compressed air

Nominal flow Q_n
1300 l/min

Min. ambient temperature
5 °C

Max. ambient temperature
50 °C

Min. medium temperature
5 °C

Max. medium temperature
50 °C

DC operating voltage
24 V

Permissible ripple
5%

Max. power consumption
1400 mA

Protection class
IP65

Max. particle size 50 µm	Signal connection input and output
Oil content of compressed air min. 0 mg/m ³	Signal connection Plug
Oil content of compressed air max. 1 mg/m ³	Signal connection M12
Type Poppet valve	Signal connection 5-pin
Mounting orientation $\alpha = 0 \dots 90^\circ \pm \beta = 0 \dots 90^\circ$	Industry Industrial
Certificates CE declaration of conformity	Weight 2.05 kg

Material

Housing material Die-cast aluminum	Material base plate Aluminum
Seal material Hydrogenated acrylonitrile butadiene rubber	Part No. R414014314

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.

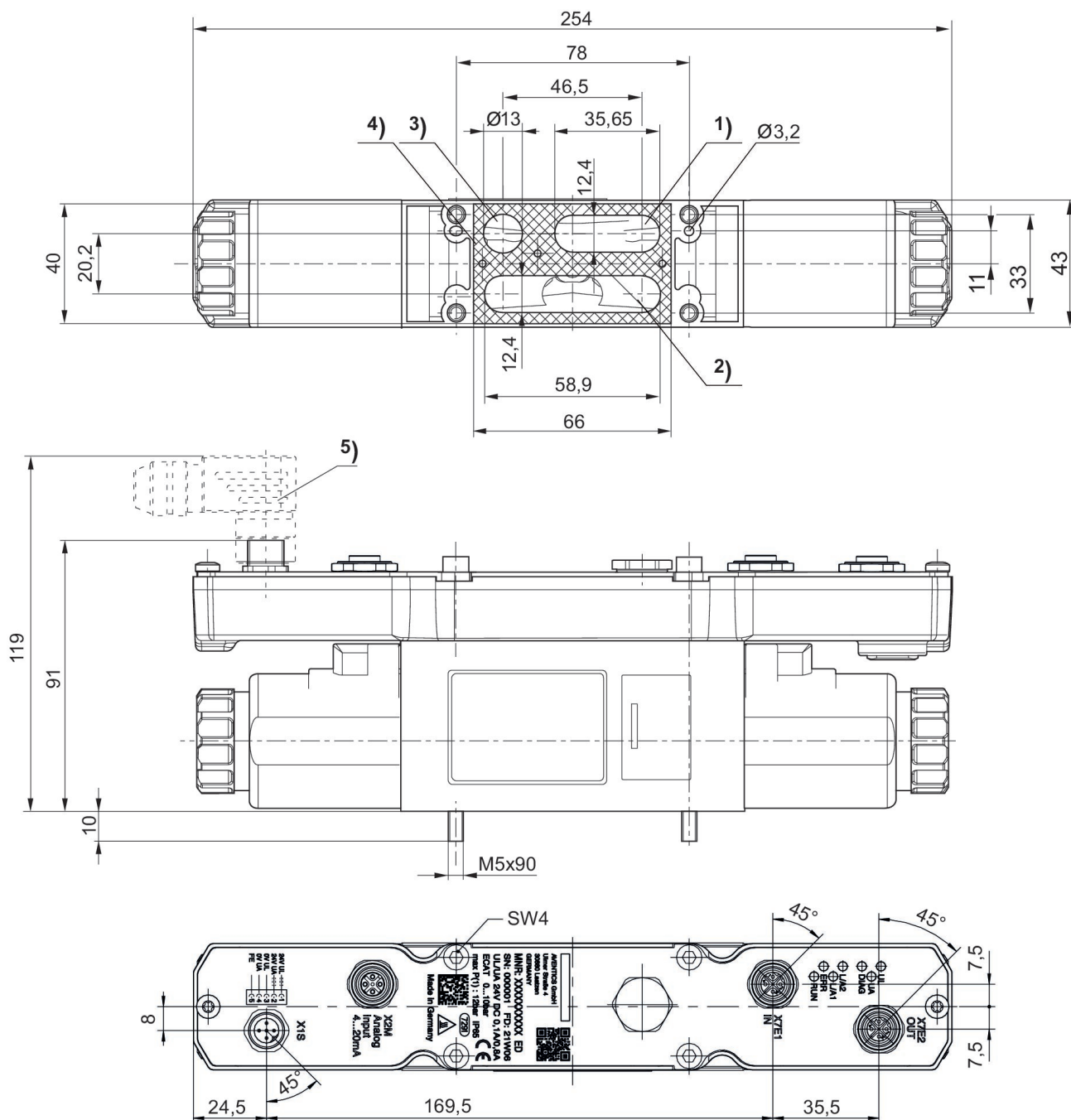
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

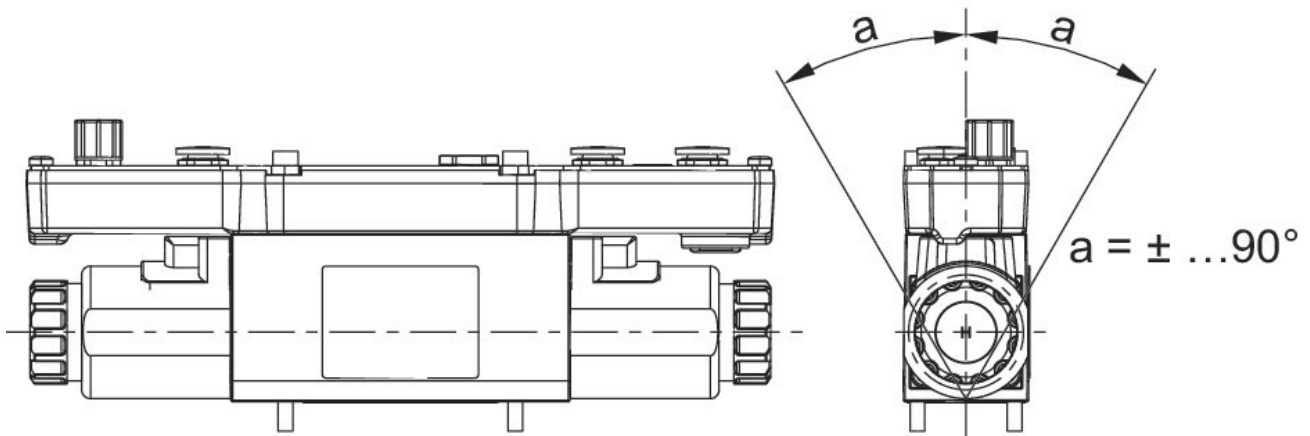
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions

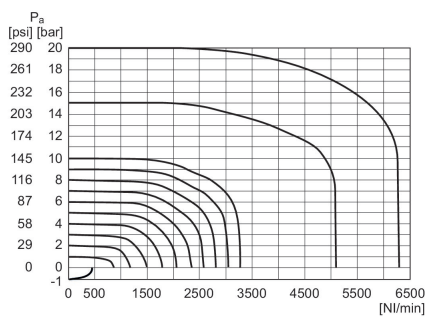


- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust
- 4) Flat gasket
- 5) Accessories not supplied

Mounting orientation

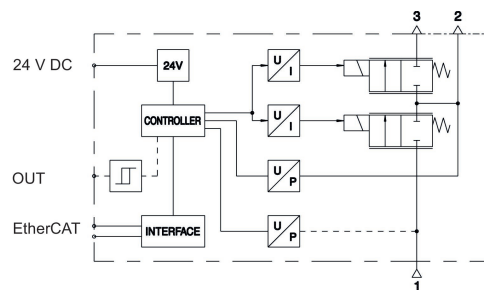


Flow diagram



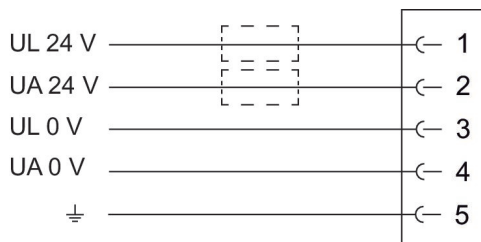
Pa = Working pressure

Functional diagram



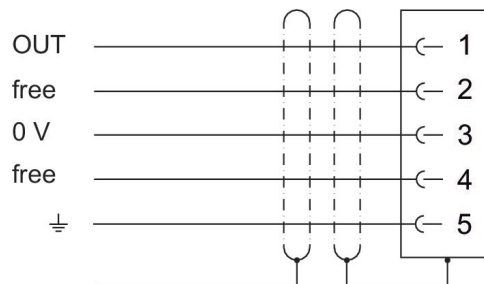
- 1) Input
- 2) Output
- 3) Exhaust

Plug X1S



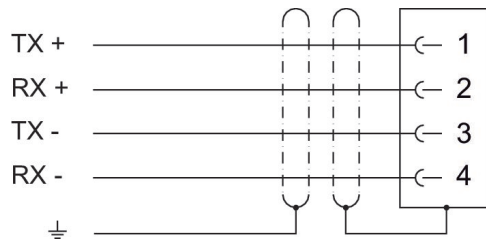
Sensor round plug M12x1, 5-pin, integrated plug, A-coded
Only use a power pack with safe isolation for power supply (electronics and actuator power).

Plug X20



Sensor round plug M12x1, 5-pin, integrated socket, A-coded
The ground for plug X20 PIN 5 and the shielding for plugs X7E1 / X7E2 and X20 are directly connected to the housing. The device must be mounted on a grounded mounting plate.

Plug X7E1, X7E2



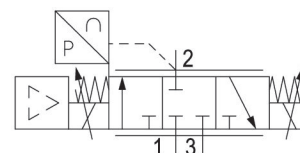
Ethernet plug M12x1, 4-pin, socket, D-coded
The Ethernet cables must be shielded.

ED07 series proportional pressure regulator, EtherCAT

R414014315

General series information Series ED07

- The AVENTICS Series ED07 offers proportional pressurization and the exhaust valves are controlled separately to deliver dynamic control for the most demanding applications.
- Highly dynamic proportional pressure regulator
- Stackable with base plate
- Nominal width 7
- Flow 1300 l/min
- Pressure range -1 ... 20 bar
- EtherCAT, AES fieldbus connection



Technical data

Control
EtherCAT

Regulation range min.
0 bar

Regulation range max.
10 bar

Working pressure min.
0.5 bar

Working pressure max.
12 bar

Hysteresis
< [[0,03] bar]

Medium
Compressed air

Nominal flow Q_n
1300 l/min

Min. ambient temperature
5 °C

Max. ambient temperature
50 °C

Min. medium temperature
5 °C

Max. medium temperature
50 °C

DC operating voltage
24 V

Permissible ripple
5%

Max. power consumption
1400 mA

Protection class
IP65

Max. particle size 50 µm	Signal connection input and output
Oil content of compressed air min. 0 mg/m ³	Signal connection Plug
Oil content of compressed air max. 1 mg/m ³	Signal connection M12
Type Poppet valve	Signal connection 5-pin
Mounting orientation $\alpha = 0 \dots 90^\circ \pm \beta = 0 \dots 90^\circ$	Industry Industrial
Certificates CE declaration of conformity	Weight 2.05 kg

Material

Housing material Die-cast aluminum	Material base plate Aluminum
Seal material Hydrogenated acrylonitrile butadiene rubber	Part No. R414014315

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.

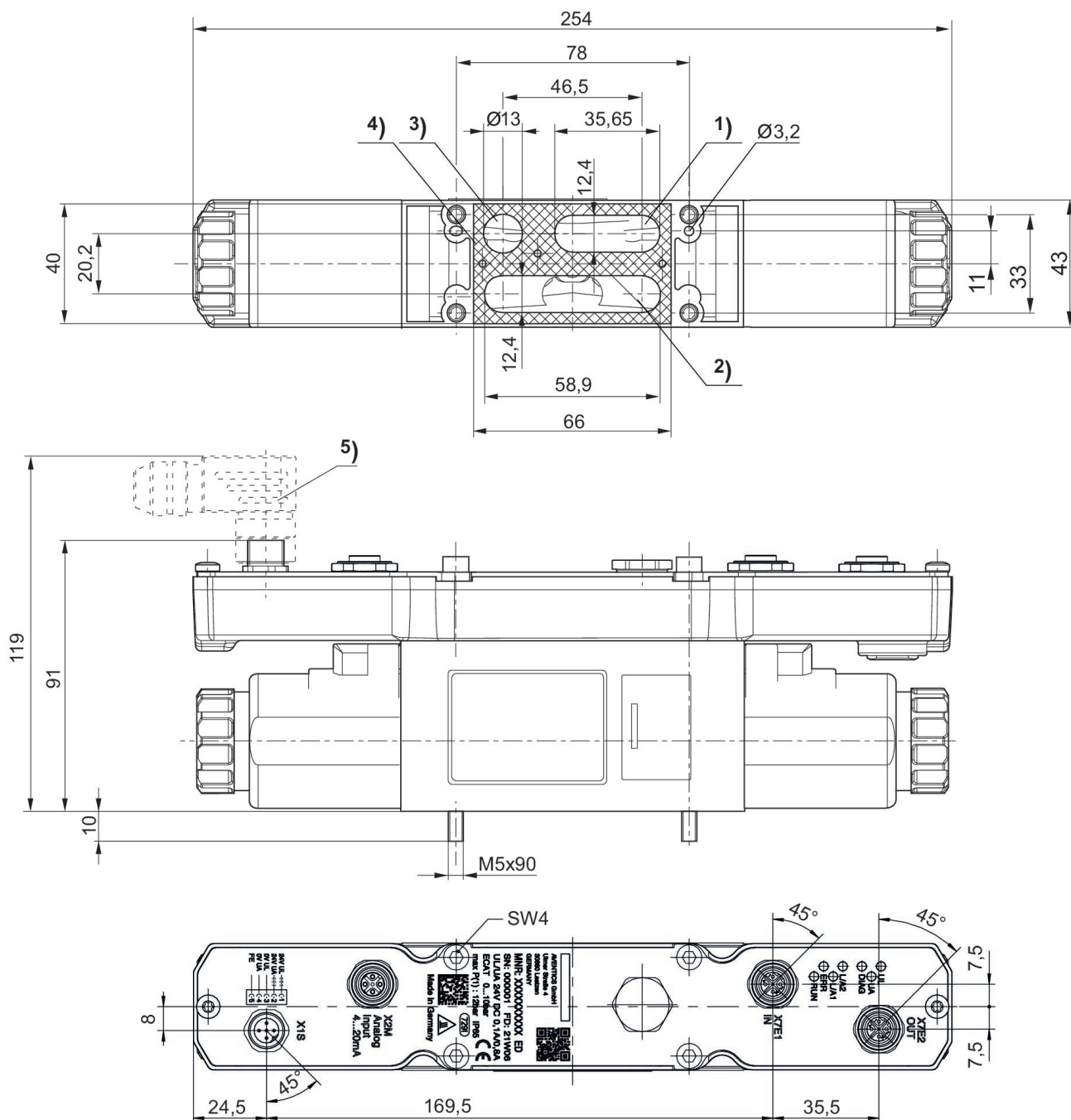
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

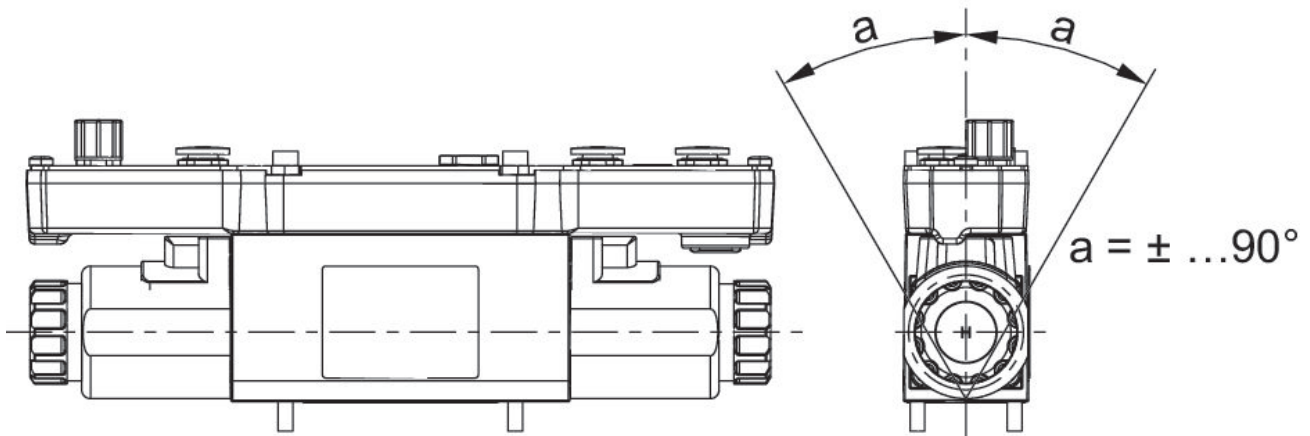
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions

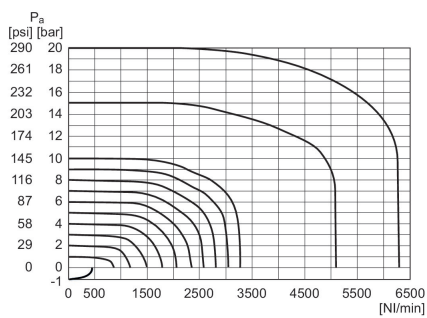


- 1) Operating pressure
- 2) Working pressure
- 3) Exhaust
- 4) Flat gasket
- 5) Accessories not supplied

Mounting orientation

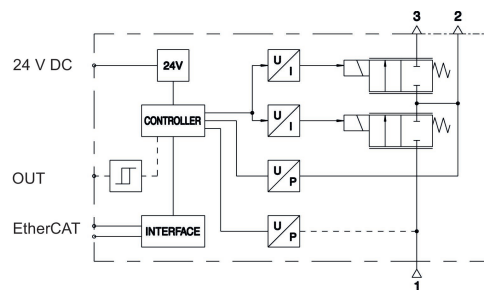


Flow diagram



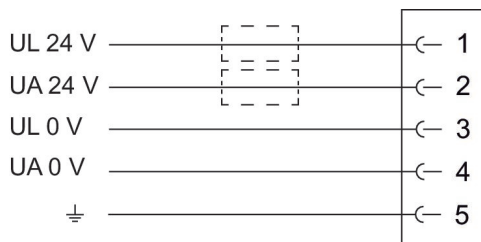
Pa = Working pressure

Functional diagram



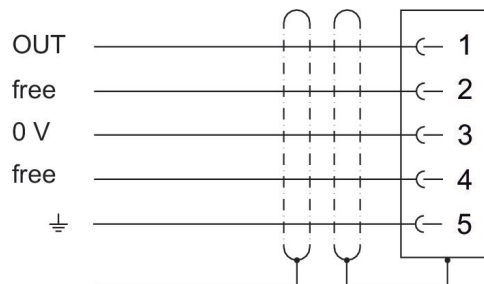
- 1) Input
- 2) Output
- 3) Exhaust

Plug X1S



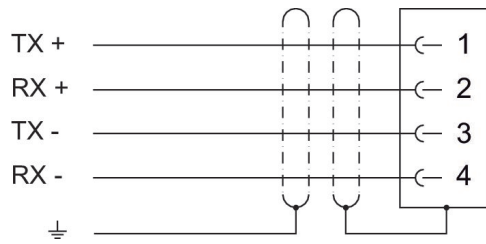
Sensor round plug M12x1, 5-pin, integrated plug, A-coded
Only use a power pack with safe isolation for power supply (electronics and actuator power).

Plug X20



Sensor round plug M12x1, 5-pin, integrated socket, A-coded
The ground for plug X20 PIN 5 and the shielding for plugs X7E1 / X7E2 and X20 are directly connected to the housing. The device must be mounted on a grounded mounting plate.

Plug X7E1, X7E2



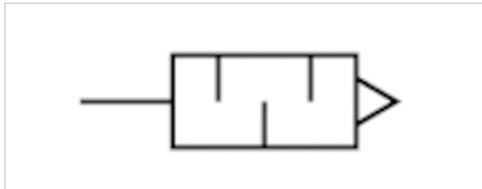
Ethernet plug M12x1, 4-pin, socket, D-coded
The Ethernet cables must be shielded.

Silencers, series SI1

- G 3/8
- Sintered bronze



Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Sound pressure level	84 dB
Weight	0.05 kg
Comment	Flow characteristic curves can be found under "Diagrams".



Technical data

Part No.	Compressed air connection	Flow	Delivery unit
		Qn	
1827000002	G 3/8	6554 l/min	5 piece

Weight per piece

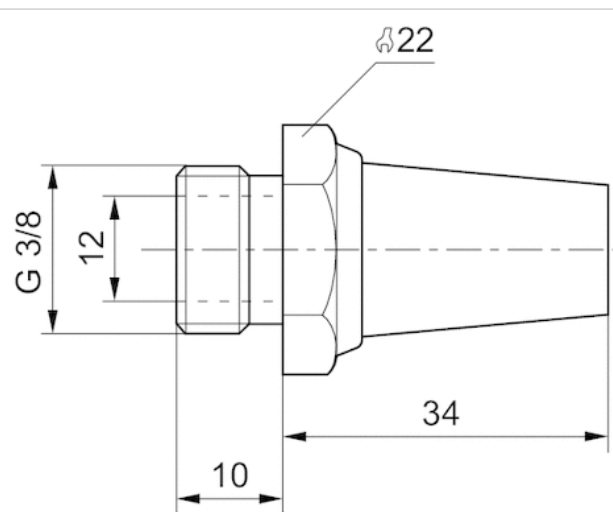
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

Material	
Silencer	Sintered bronze
Thread	Brass

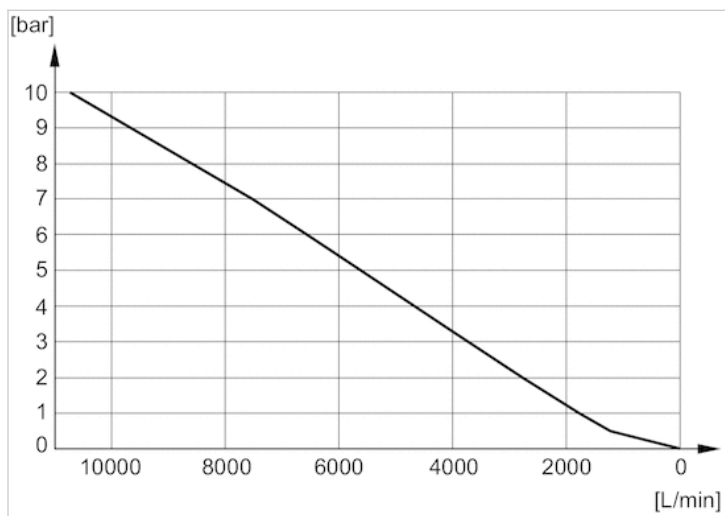
Dimensions

Dimensions in mm



Diagrams

Flow diagram, 1827000002



Single subbase, Series ED07

- standard ISO 15407-1



Standards

Medium

Weight

ISO 15407-1

Compressed air

0.562 kg

Technical data

Part No.

5610211052

Technical information

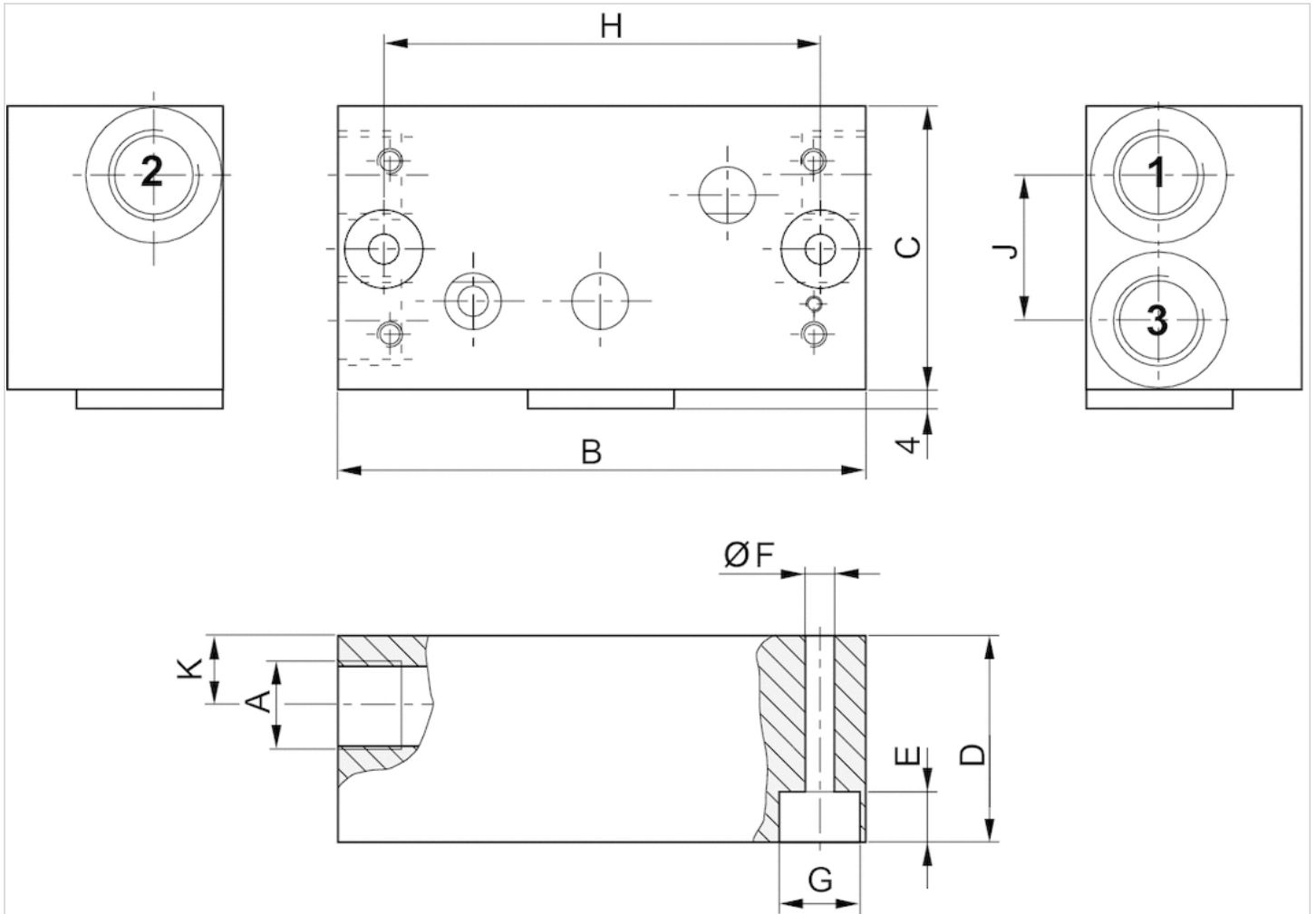
Material

Base plate

Aluminum

Dimensions

Dimensions



Dimensions

Part No.	A	B	C	D	E	F	G	H	J	K
5610211052	G 3/8	97	54	40	10	6.5	15	80	28	13.5

Subbase, Series ED07



Working pressure min./max.	0 ... 12 bar
Medium	Compressed air
Weight	0.714 kg

Technical data

Part No.	Type
5610231002	ED07 subbase with push-in fitting Ø 12 and silencer

Technical information

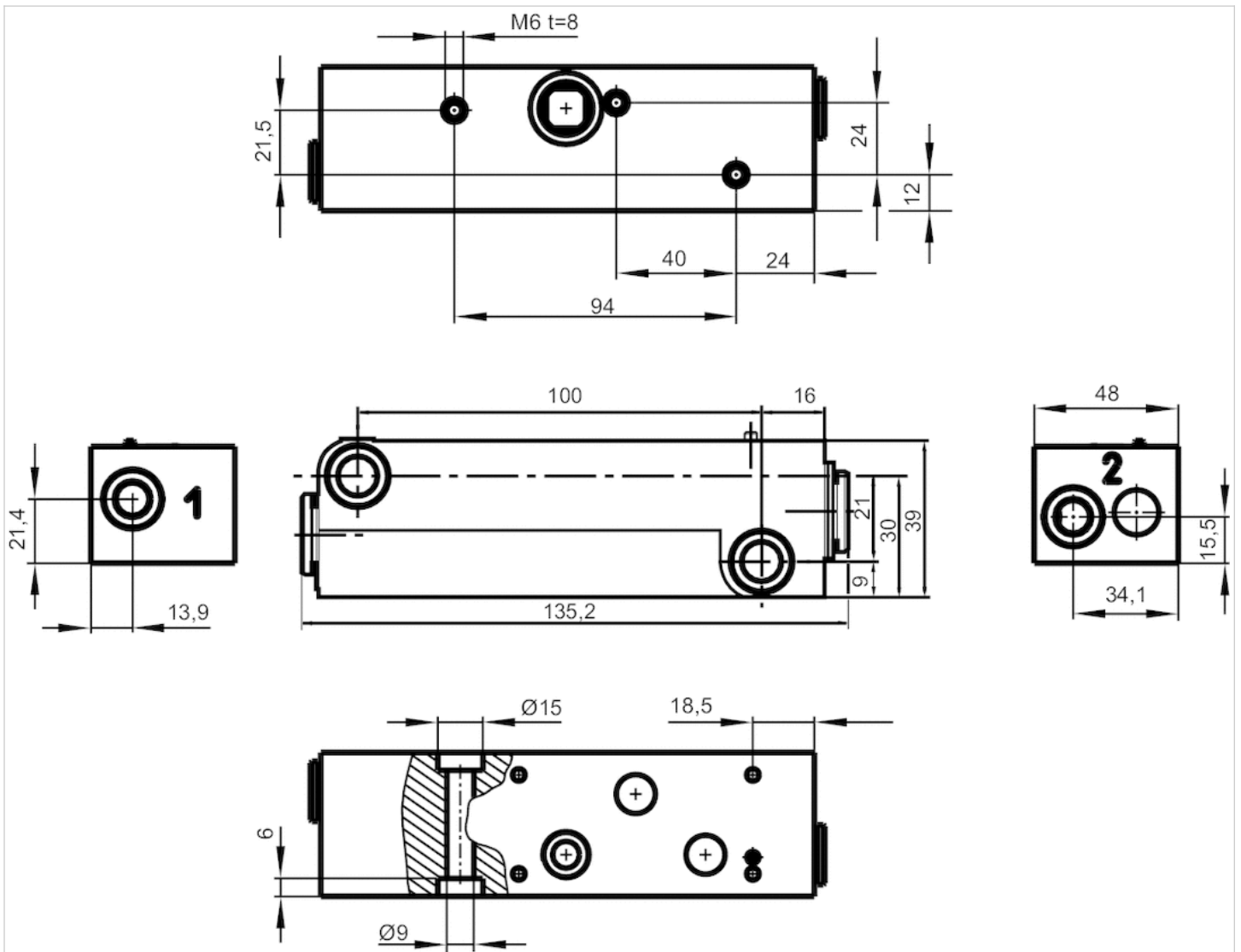
For ED07 pressure regulators with pressure range 16 bar / 20 bar , only subbase ED07 (material no.: 5610211052) may be used.

Technical information

Material	
Base plate	Aluminum

Dimensions

Dimensions



Base plate, Series ED07



Medium
Weight

Compressed air
0.453 kg

Technical data

Part No.	Type
8985049932	ISO 5599-1, size 1

Delivery contents: includes screws and seals for linking.

Technical information

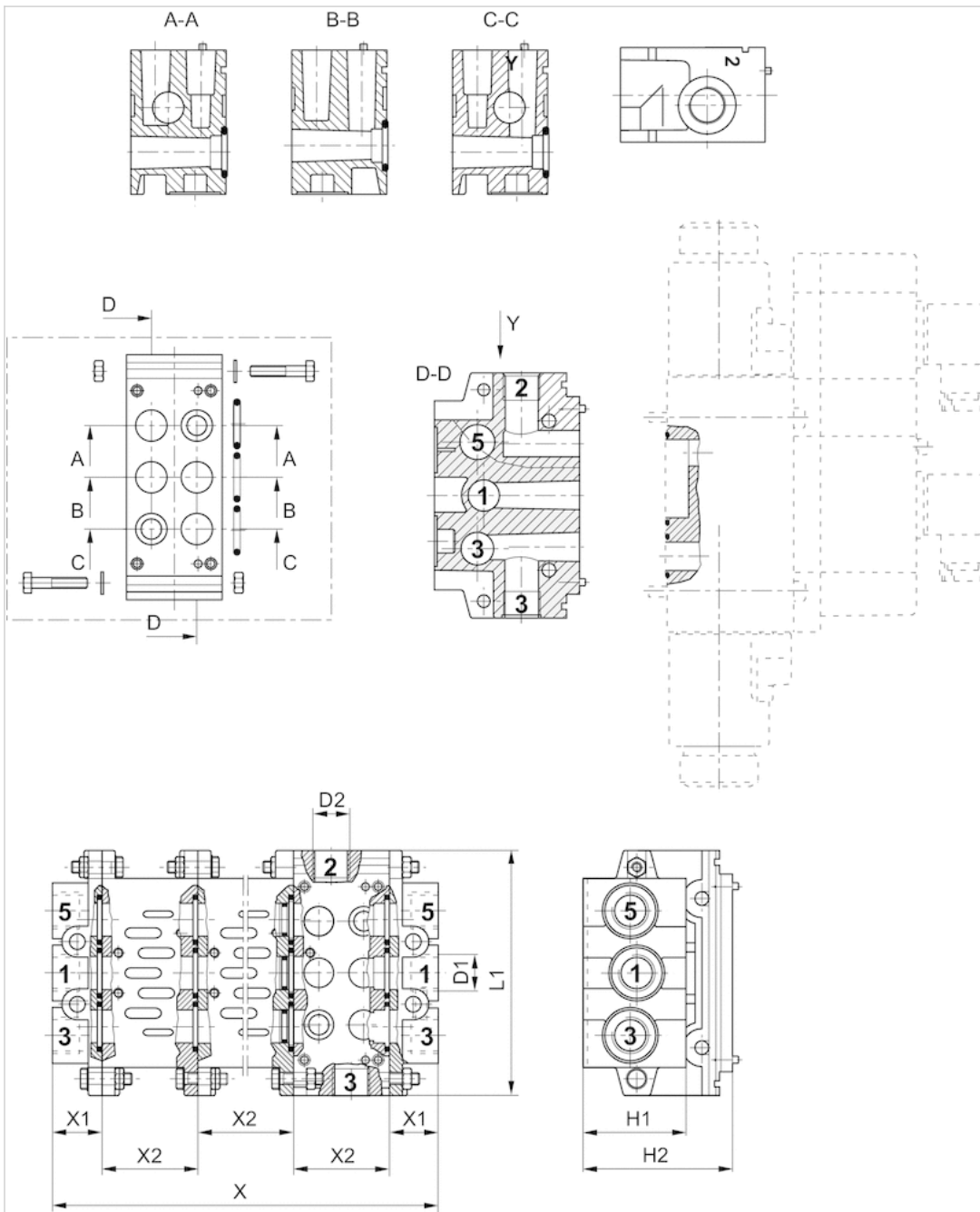
The sandwich plate can be combined with size 1 sandwich plates according to DIN ISO 5599.

Technical information

Material	
Base plate	Aluminum

Dimensions

Dimensions



Dimensions

Part No.	D1	D2	L1	H1	H2	X1	X2
8985049932	G 3/8	G 3/8	110	46	67	22	43

End plate left, End plate right

- standard ISO 5599-1
- Frame size ISO 1 ISO 2 ISO 3 ISO 4
- type F
- Can be assembled into blocks
- Base plate principle, multiple
- Reversed pressure supply permissible



Standards	ISO 5599-1
Compressed air connection	according to ISO 5599-1
Working pressure min./max.	-0.95 ... 16 bar
Ambient temperature min./max.	See table below
Medium temperature min./max.	-25 ... 70 °C
Medium	Compressed air
Direction of pneumatic port (1)	On the side
Direction of pneumatic port (3,5)	On the side
Exhaust (3,5)	With directional exhaust (3/5)
Exhaust type	Ports separated
Weight	See table below

Technical data

Part No.	Frame size	Compressed air connection Input [1]	Compressed air connection Exhaust [3 / 5]	Weight
1825503145	ISO 1	G 3/8	G 3/8	0.208 kg
1825503148	ISO 2	G 1/2	G 1/2	0.351 kg
1825503151	ISO 3	G 1	G 1	0.678 kg
8985041442	ISO 4	G 1	G 1	1.32 kg

Scope of delivery: 2 end plates including seal and mounting screws

Technical information

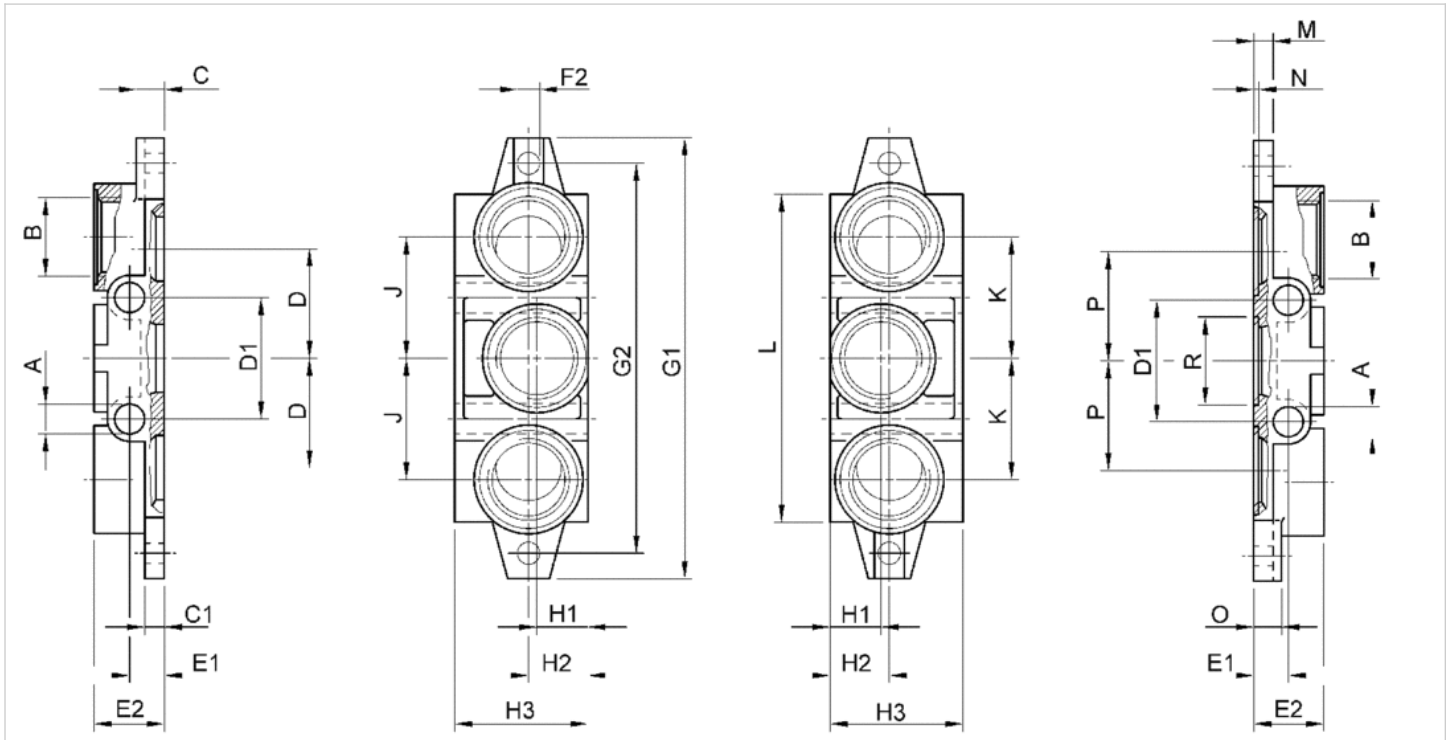
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The oil content of compressed air must remain constant during the life cycle.
 Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Base plate	Die-cast aluminum
Seal	Acrylonitrile butadiene rubber

Dimensions

Dimensions



Dimensions

Part No.	A	B	C	C1	D	D1	E1	E2	F2	G1	G2	H1	H2	H3	J	K	L	M	N	O	P
1825503145	7	G 3/8	8	6	24	28	11	22	Ø 5,5	110	95	22	22	46	28	28	85	6	2	8	24
1825503148	9	G 1/2	11	8	31,5	35	13	26	Ø 6,6	135	115	23	24	47	34	34	100	8	2	11	31,5
1825503151	12	G 1	12	8	47	52	15	32	Ø 9	190	168	22	25	56	52	52	140	8	2,7	12	47
8985041442	12	G 1	19	12	54	56	15	30	Ø 11	215	148	30	30	58	54	54	-	12	2,7	19	54

R

Ø 22,1

Ø 28,7

Ø 38

Ø 44,1

End plates left and right

- standard ISO 5599-1
- for ED07



Standards
Medium

ISO 5599-1
Compressed air

Technical data

Part No.

5619021072

Delivery contents: includes screws and seals for linking.

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).

Technical information

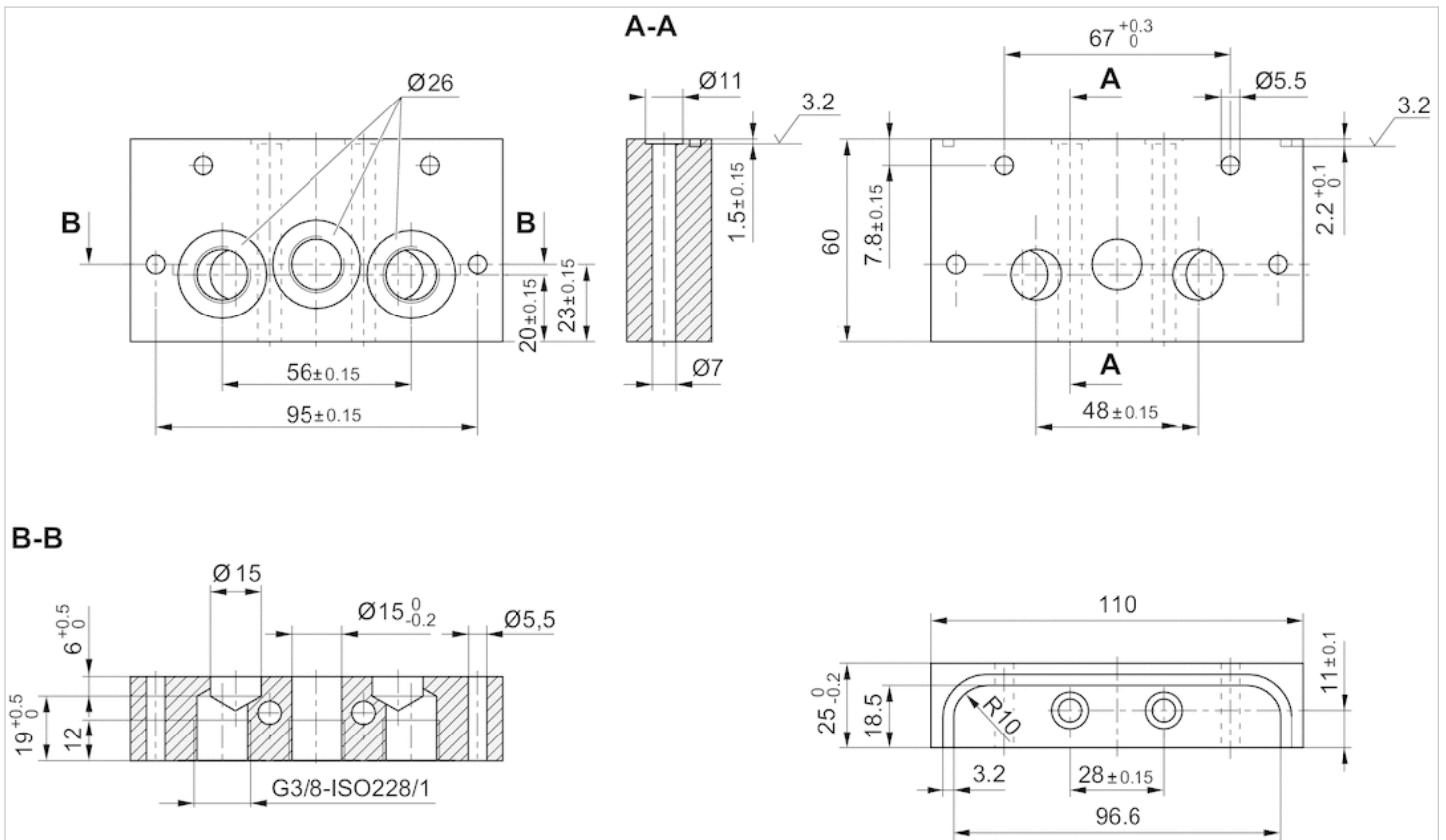
Material

Housing

Aluminum

Dimensions

Dimensions

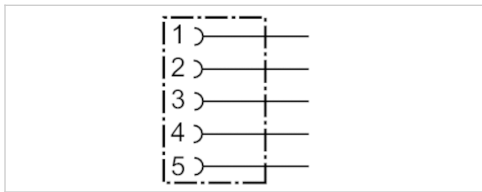


Round plug connector, Series CON-RD

- 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

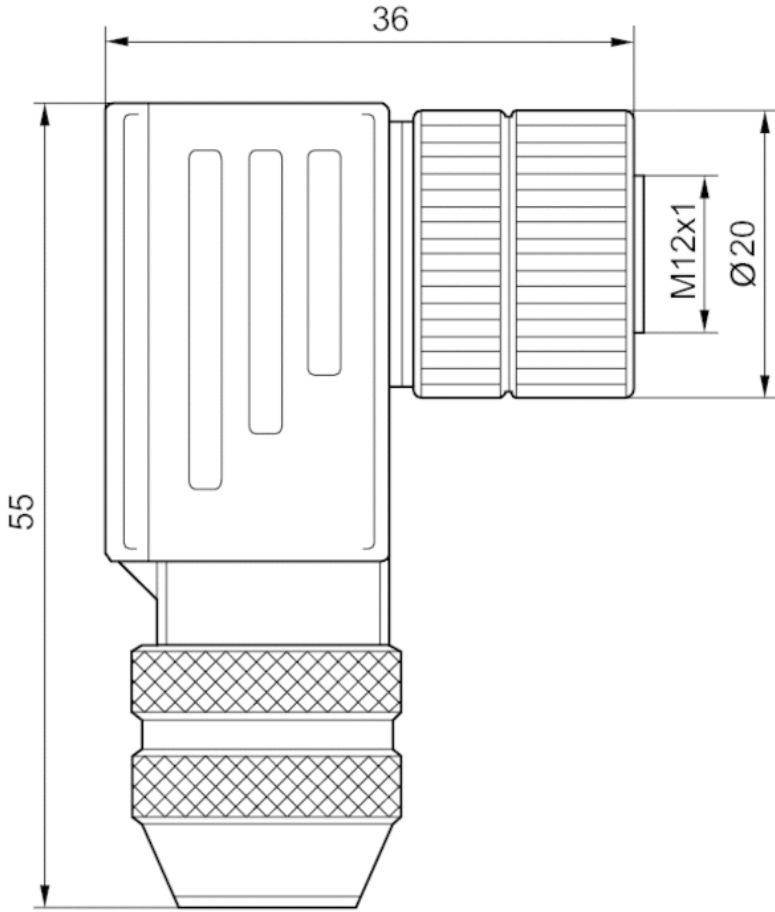
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Die cast zinc

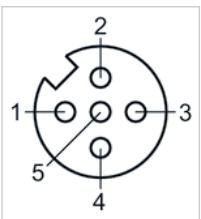
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

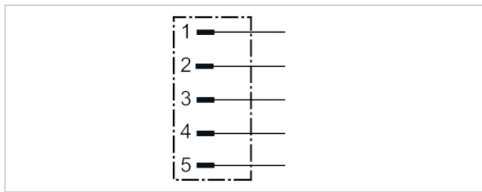


Round plug connector, Series CON-RD

- Plug, 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	0.068 kg



Technical data

Part No.	Max. current	suitable cable-Ø min./max
1824484028	4 A	6 / 8 mm

Technical information

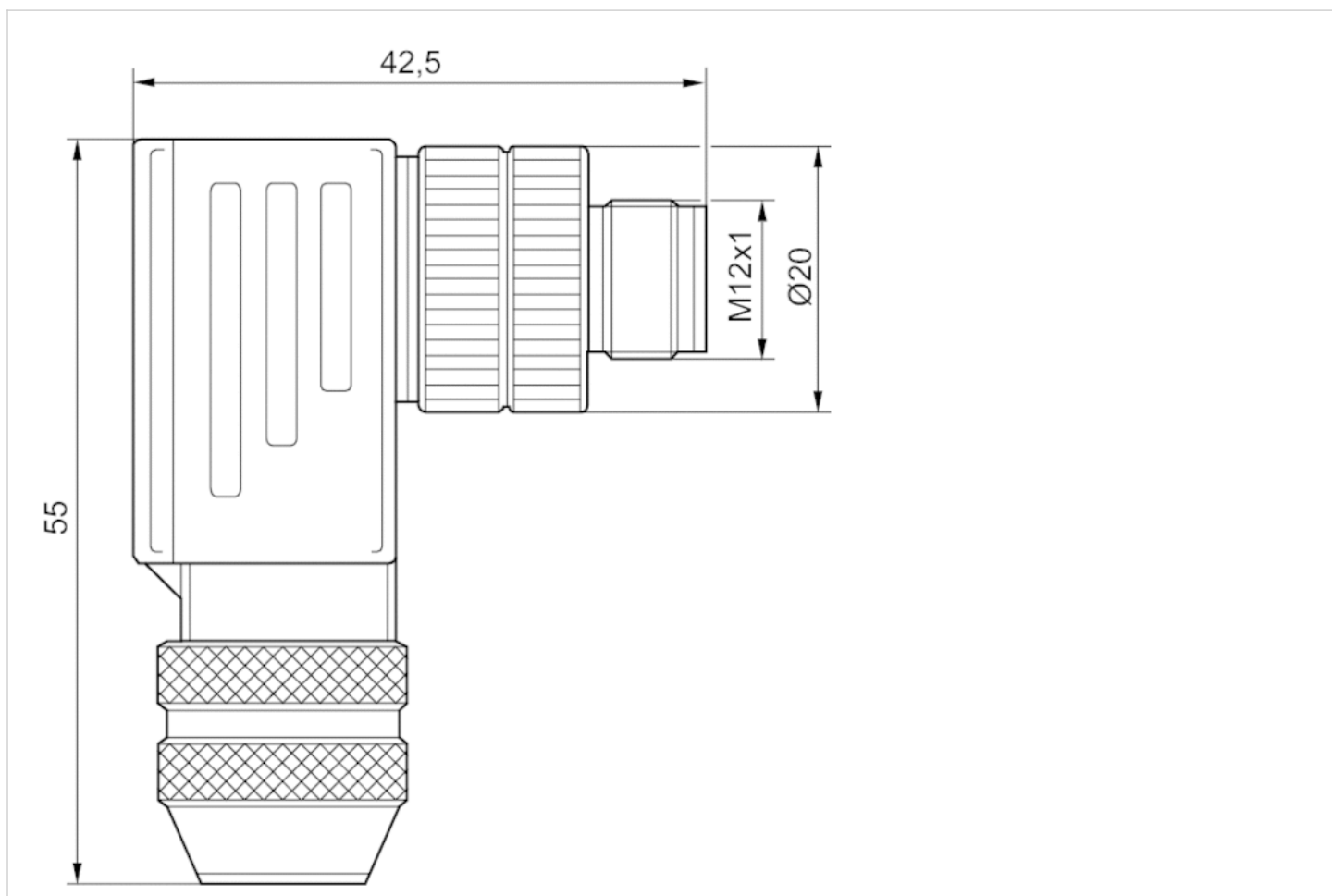
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

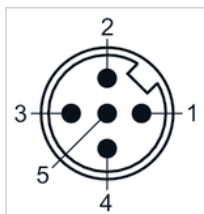
Dimensions

Dimensions



Pin assignments

Plug pin assignment

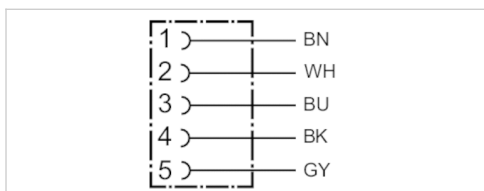


Round plug connector, Series CON-RD

- 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

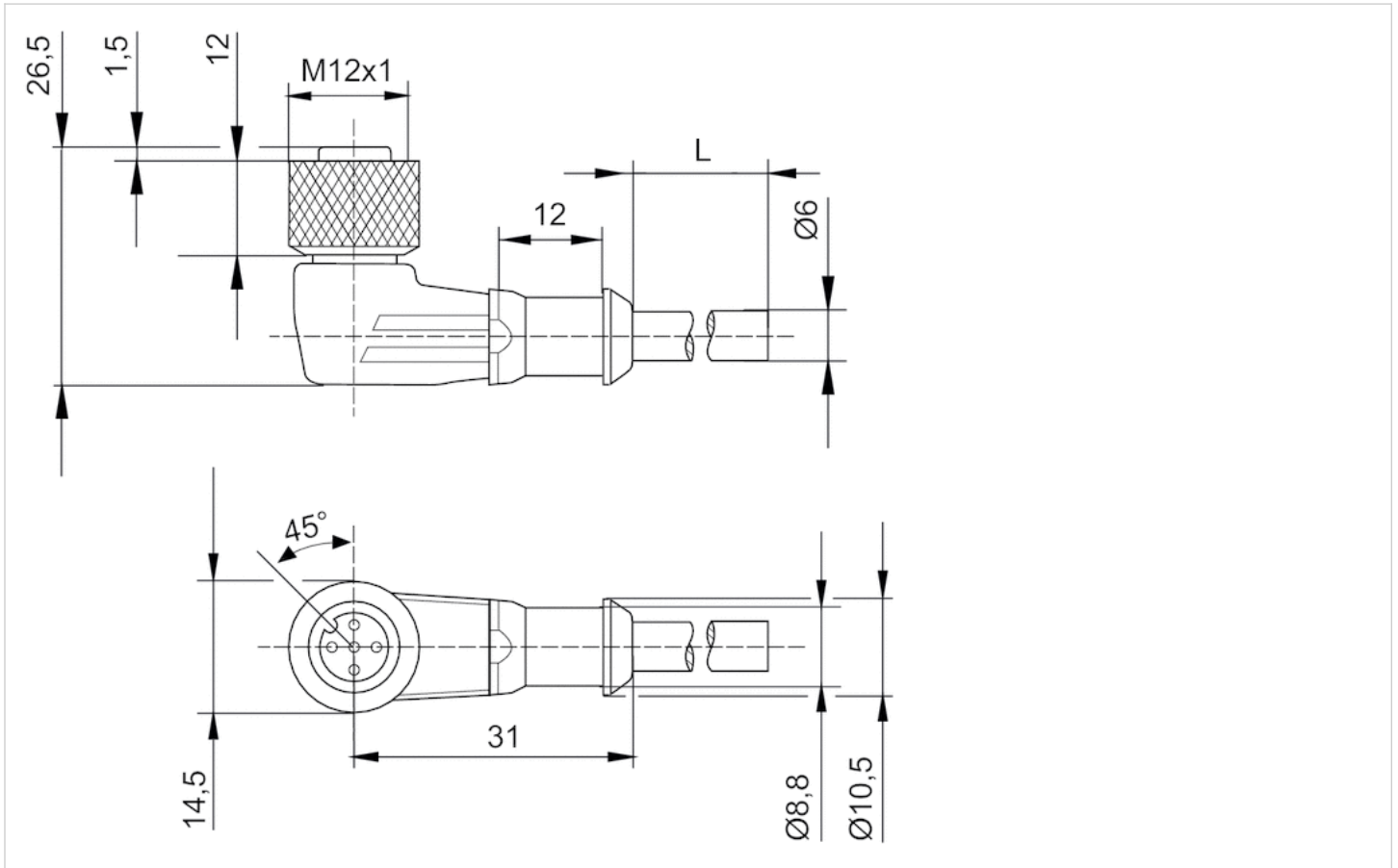
Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
R419800109	4 A	5	6 mm	2.5 m	0.145 kg
R419800110	4 A	5	6 mm	5 m	0.27 kg
R419800546	4 A	5	6 mm	10 m	0.514 kg

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyurethane

Dimensions

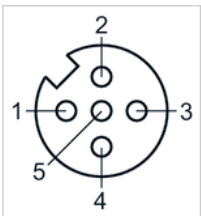
Dimensions



L = length

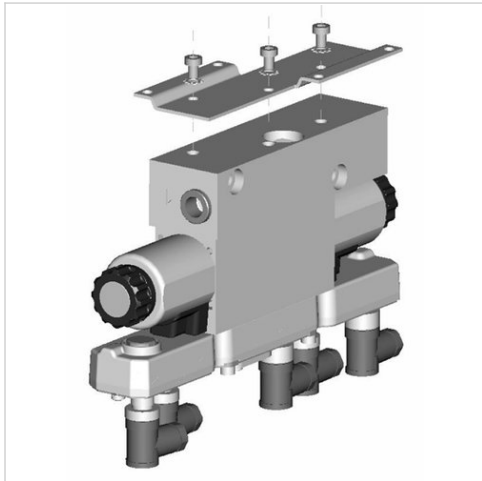
Pin assignments

Pin assignment, socket



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

Coupling kit, Series ED07



Weight

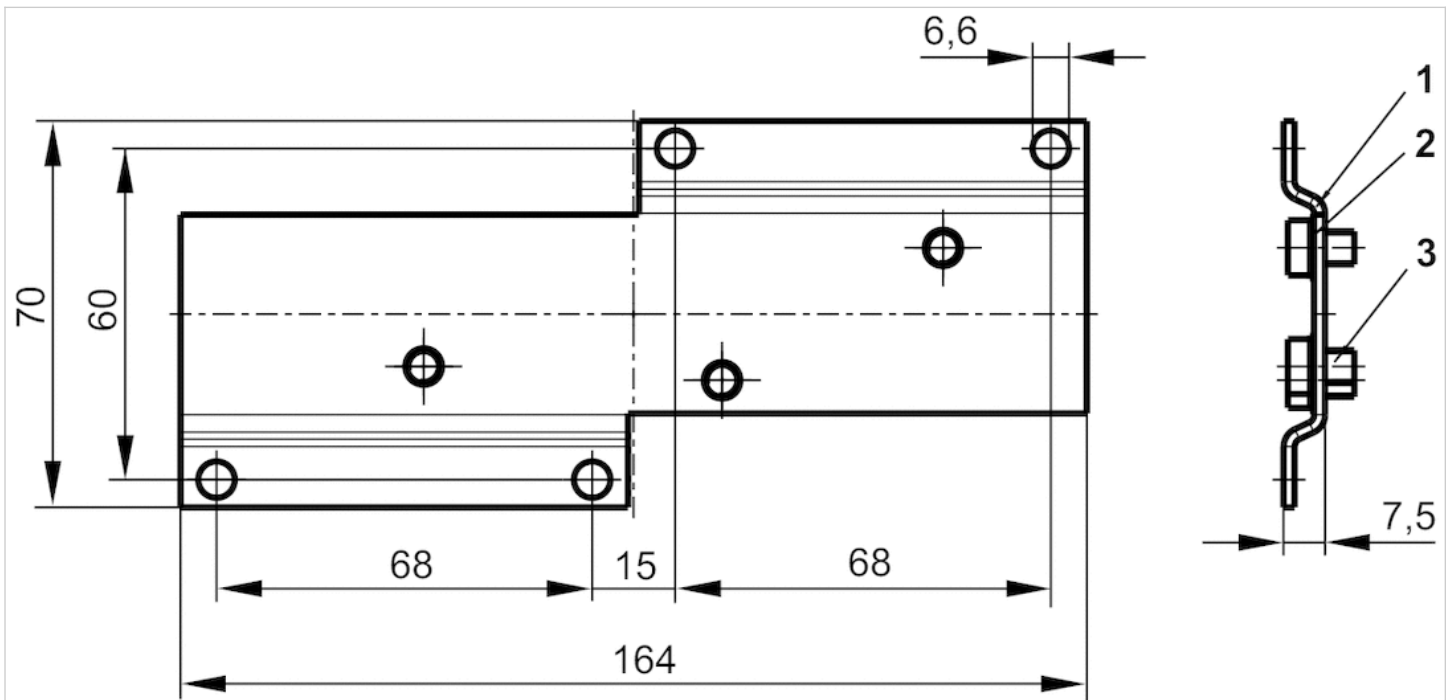
0.142 kg

Technical data

Part No.	Type
5530010522	Sheet metal for mounting of ED07 flat subbase

Dimensions

Dimensions



1) mounting plate 2) screw DIN 6912 3) tooth lock washer DIN 6797-A

Gasket, Series ED07



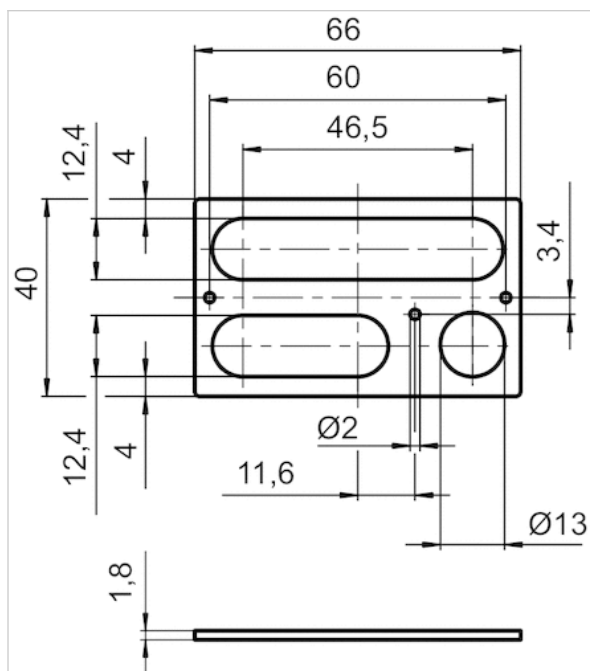
Weight

0.063 kg

Technical data

Part No.	Type
R414001681	1 gasket and 4 screws DIN 912 - M5x90

Dimensions



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