

Series AV03



AVENTICS™ Series AV03



AV03 series valve system

- Configurable valve systems, Multipole, Fieldbus, IO-Link, AV03/AV05, AV03/AV05/HF02-LG, AV03-BP, ATEX optional





Mounting orientation	Any
Working pressure min./max.	-0.95 ... 10 bar
Control pressure min./max.	3 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³
Nominal flow Qn	300 l/min
Number of valve positions max.	64
Protection class with connection	IP65
DC operating voltage	24 V
Voltage tolerance DC	-10% / +10%

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Overview of variants

	Version	You have the following options:	Max.
	Multipole	D-Sub plug, 25-pin, top D-Sub plug, 44-pin, top	24 valves (24 coils) 36 valves (40 coils)
	Multipole	D-Sub plug, 25-pin, on the side D-Sub plug, 44-pin, on the side	24 valves (24 coils) 36 valves (40 coils)
	IO-Link	type A type B	24 valves (24 coils)
	Fieldbus connection with I/O functionality (AES)	PROFINET IO EtherCAT EtherNET/IP POWERLINK PROFIBUS DP CANopen DeviceNet	64 valves (128 coils)
	AV03/AV05 in combination	D-Sub plug, 25-pin D-Sub plug, 44-pin IO-Link PROFINET IO EtherCAT EtherNET/IP POWERLINK PROFIBUS DP CANopen DeviceNet	24 valves (24 coils) 36 valves (40 coils) 24 valves (24 coils) 64 valves (128 coils)
	AV03 / AV05 / HF02-LG in combination	D-Sub plug, 25-pin D-Sub plug, 44-pin IO-Link PROFINET IO EtherCAT EtherNET/IP POWERLINK PROFIBUS DP CANopen DeviceNet	24 valves (24 coils) 36 valves (40 coils) 24 valves (24 coils) 64 valves (128 coils)

	Version	You have the following options:	Max.
	AV03-BP	D-Sub plug, 25-pin, on the side D-Sub plug, 44-pin, top PROFINET IO EtherCAT EtherNET/IP POWERLINK PROFIBUS DP CANopen DeviceNet	24 valves (24 coils) 32 valves (40 coils) 32 valves (64 coils)
	ATEX	D-Sub plug, 25-pin, top D-Sub plug, 44-pin, top D-Sub plug, 25-pin, on the side D-Sub plug, 44-pin, on the side PROFINET IO EtherCAT POWERLINK PROFIBUS DP CANopen DeviceNet	24 valves (24 coils) 36 valves (36 coils) 24 valves (24 coils) 36 valves (36 coils) 22 valves (22 coils)

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).
 UL certification

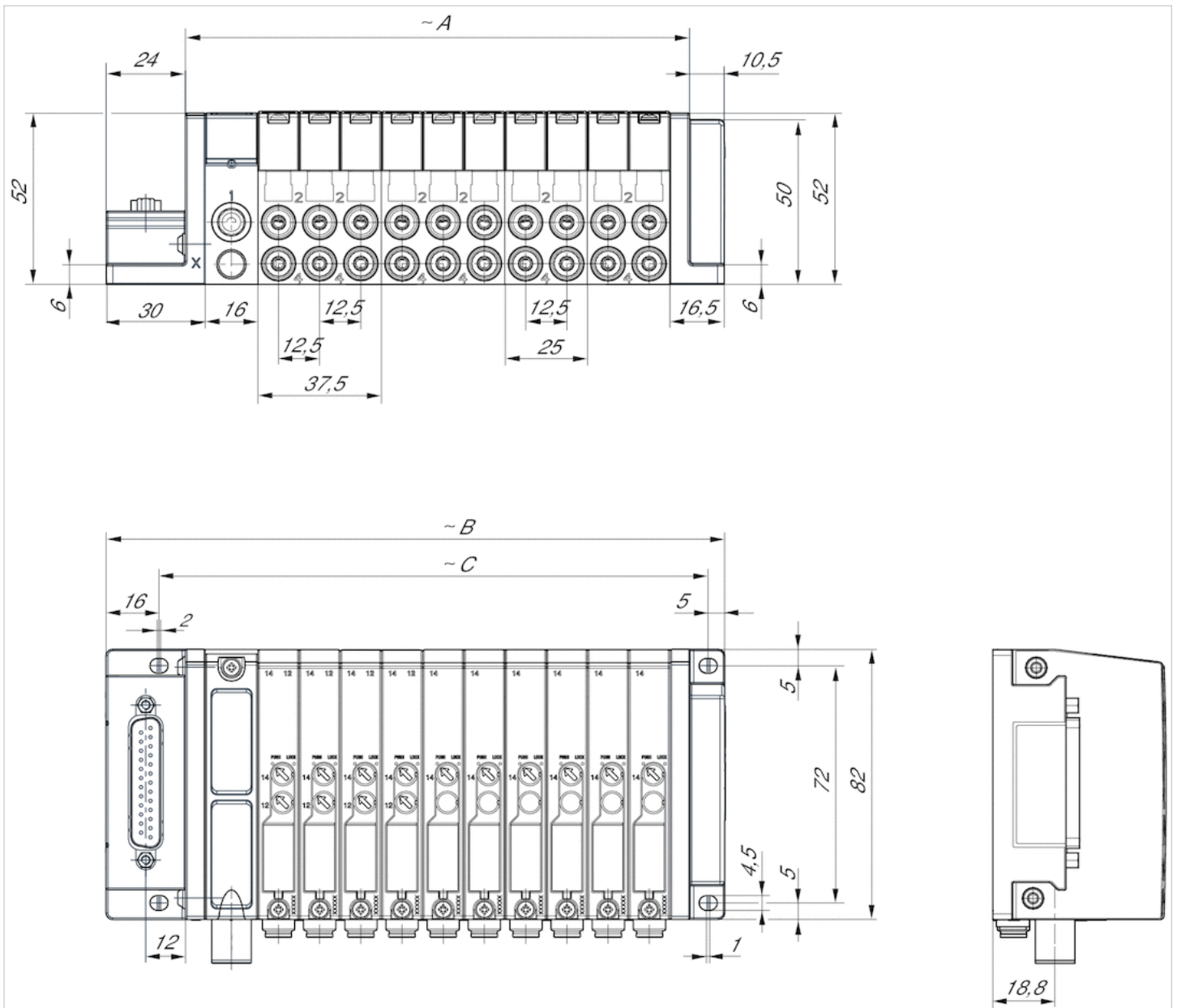
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 The combination of double and triple base plates allows a configuration in increments of 1.
 See the following pages on the series for technical data on individual components.
 See the Media Centre for information on pin assignment (version A and version B) of the D-Sub connector.
 AV03-BP: Only 2x base plates
 For assembly in a control cabinet with direct sealing or when using transition plates, a supply plate must be configured after 8 valves
 ATEX:
 AV valve systems are certified components in accordance with directive 2014/34/EU
 The maximum input power must not exceed 20 W.
 The valve system must be installed in an ATEX-certified control cabinet with at least IP 54.
 The maximum expansion stage is set in the configurator.
 Min./max. ambient temperature -10 ... 45 °C
 Min./max. medium temperature -10 ... 45 °C
 ATEX-certified valve systems with identification II 3G Ex nA IIC Gc can be generated in the Internet configurator.

Technical information

Material	
End plate	Aluminum, Polyamide
Base plate	Polyamide
Supply plate	Aluminum

Dimensions

Dimensions, D-Sub plug, 25-pin, top



A = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 12 mm

B = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 46.5 mm

C = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 25.5 mm

The supply plate in front of the first valve must be taken into consideration in the dimensions.

1 = push-in fitting Ø 4 mm, Ø 6 mm, and Ø 8 mm. Connection angle 1: straight and 90° (exchangeable)

2 and 4 = push-in fitting Ø3 mm. Connection angle: 90°

2 and 4 = push-in fitting Ø 4 mm and Ø 6 mm. Connection angle: straight and 90° (exchangeable)

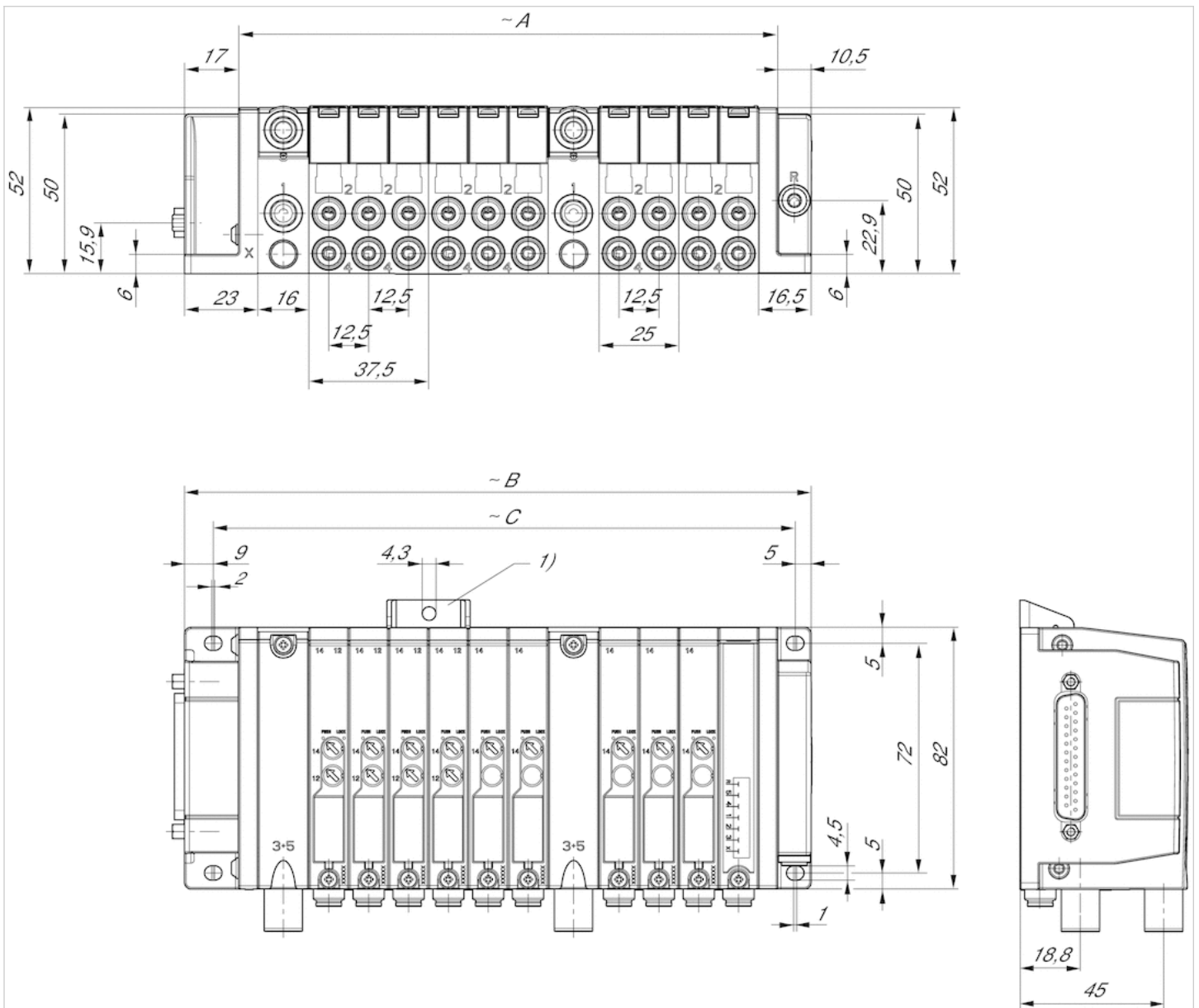
3 and 5 = push-in fitting Ø8 mm. Connection angle: straight

R = collected exhaust air, push-in fitting Ø 4 mm. Connection angle: straight

X = external pilot, push-in fitting Ø 4 mm. Connection angle: straight

An example configuration is shown. You can calculate the dimensions for your configuration using the formula or read them directly in the configurator.

Dimensions, D-Sub plug, 25-pin, on the side



1) Retaining bracket (optional)

A = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 12 mm

B = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 39.5 mm

C = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 25.5 mm

The supply plate in front of the first valve must be taken into consideration in the dimensions.

1 = push-in fitting Ø 4 mm, Ø 6 mm, and Ø 8 mm. Connection angle 1: straight and 90° (exchangeable)

2 and 4 = push-in fitting Ø3 mm. Connection angle: 90°

2 and 4 = push-in fitting Ø 4 mm and Ø 6 mm. Connection angle: straight and 90° (exchangeable)

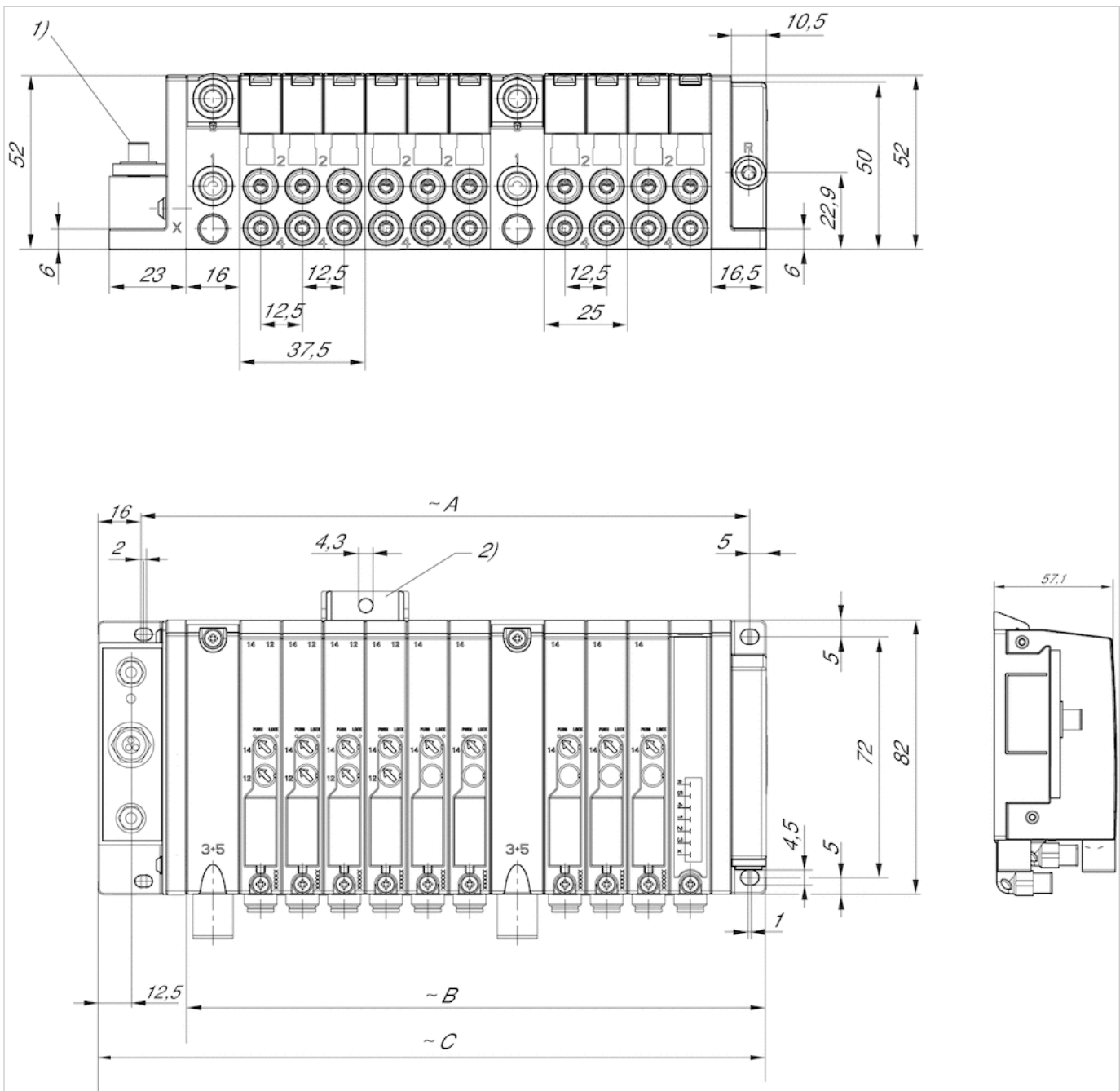
3 and 5 = push-in fitting Ø8 mm. Connection angle: straight

R = collected exhaust air, push-in fitting Ø 4 mm. Connection angle: straight

X = external pilot, push-in fitting Ø 4 mm. Connection angle: straight

An example configuration is shown. You can calculate the dimensions for your configuration using the formula or read them directly in the configurator.

Dimensions, IO-Link



1) IO-Link

2) Retaining bracket (optional)

A = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 12 mm

B = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 39.5 mm

C = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 25.5 mm

The supply plate in front of the first valve must be taken into consideration in the dimensions.

1 = push-in fitting Ø 4 mm, Ø 6 mm, and Ø 8 mm. Connection angle 1: straight and 90° (exchangeable)

2 and 4 = push-in fitting Ø3 mm. Connection angle: 90°

2 and 4 = push-in fitting Ø 4 mm and Ø 6 mm. Connection angle: straight and 90° (exchangeable)

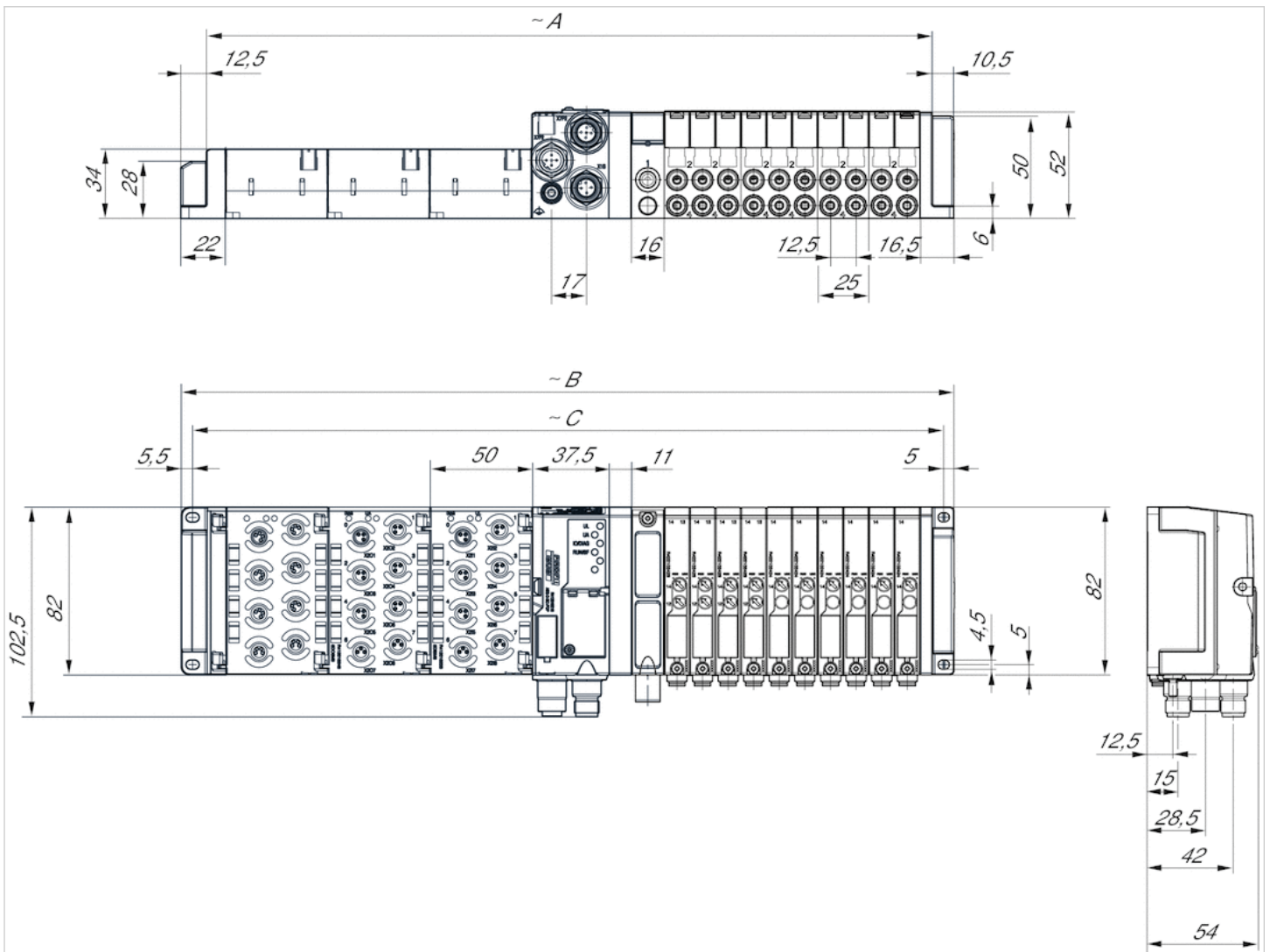
3 and 5 = push-in fitting Ø8 mm. Connection angle: straight

R = collected exhaust air, push-in fitting Ø 4 mm. Connection angle: straight

X = external pilot, push-in fitting Ø 4 mm. Connection angle: straight

An example configuration is shown. You can calculate the dimensions for your configuration using the formula or read them directly in the configurator.

Dimensions, Fieldbus connection with I/O functionality (AES)



$A = \text{number of valve positions} \times 12.5 \text{ mm} + \text{number of supply plates} \times 16 \text{ mm} + \text{number of I/O} \times 50 \text{ mm} + 64 \text{ mm}$

$B = \text{number of valve positions} \times 12.5 \text{ mm} + \text{number of supply plates} \times 16 \text{ mm} + \text{number of I/O} \times 50 \text{ mm} + 87 \text{ mm}$

$C = \text{number of valve positions} \times 12.5 \text{ mm} + \text{number of supply plates} \times 16 \text{ mm} + \text{number of I/O} \times 50 \text{ mm} + 76.5 \text{ mm}$

The supply plate in front of the first valve must be taken into consideration in the dimensions.

1 = push-in fitting $\varnothing 4 \text{ mm}$, $\varnothing 6 \text{ mm}$, and $\varnothing 8 \text{ mm}$. Connection angle 1: straight and 90° (exchangeable)

2 and 4 = push-in fitting $\varnothing 3 \text{ mm}$. Connection angle: 90°

2 and 4 = push-in fitting $\varnothing 4 \text{ mm}$ and $\varnothing 6 \text{ mm}$. Connection angle: straight and 90° (exchangeable)

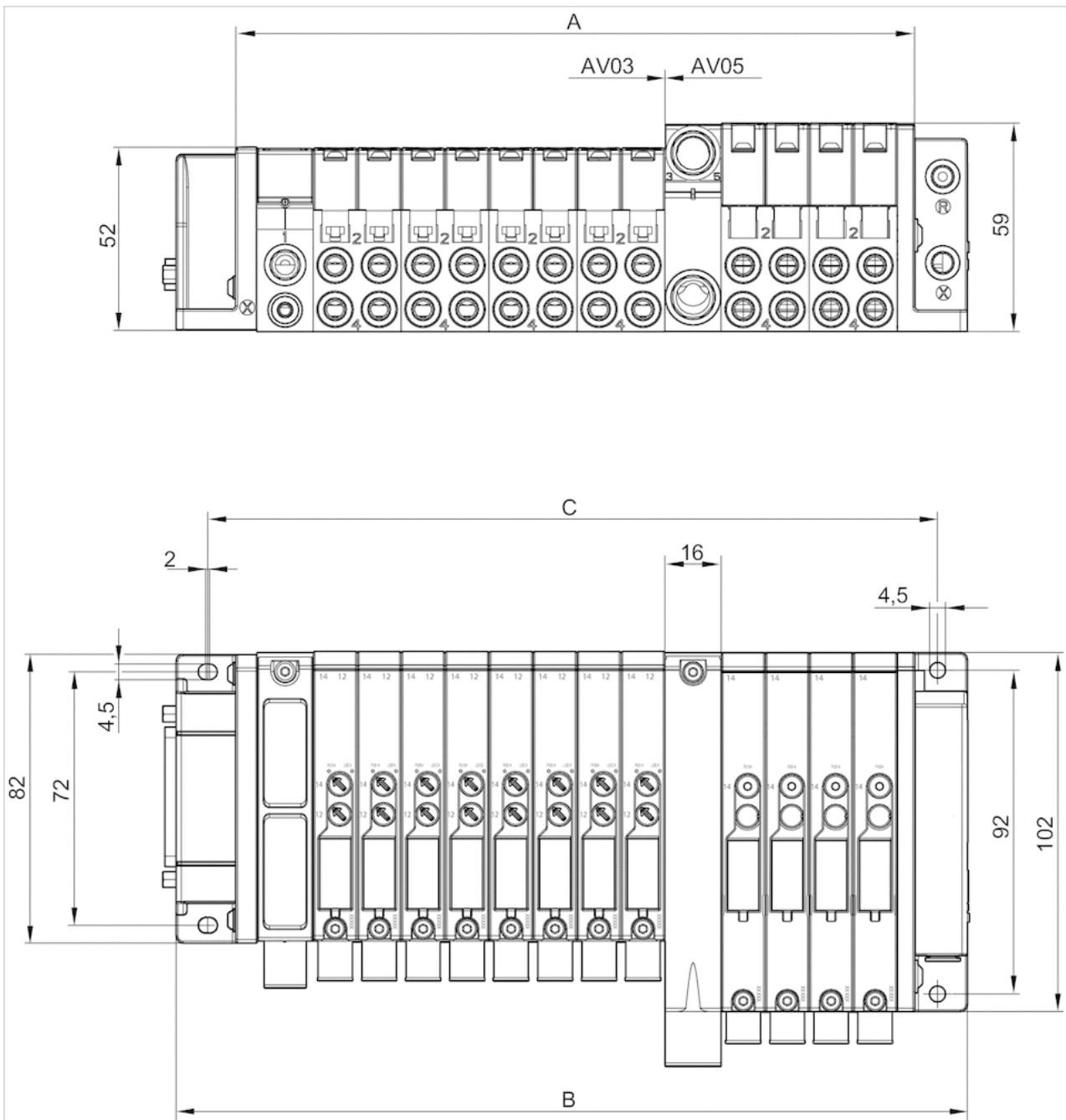
3 and 5 = push-in fitting $\varnothing 8 \text{ mm}$. Connection angle: straight

R = collected exhaust air, push-in fitting $\varnothing 4 \text{ mm}$. Connection angle: straight

X = external pilot, push-in fitting $\varnothing 4 \text{ mm}$. Connection angle: straight

An example configuration is shown. You can calculate the dimensions for your configuration using the formula or read them directly in the configurator.

Dimensions, AV03/AV05 in combination



D-Sub plug, top or side

A = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 11 mm

B = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 43 mm

C = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 25.5 mm

Bus coupler

A = number of valve positions x 12.5 mm + number of supply plates x 16 mm + number of I/O x 50 mm + 63 mm

B = number of valve positions x 12.5 mm + number of supply plates x 16 mm + number of I/O x 50 mm + 90.5 mm

C = number of valve positions x 12.5 mm + number of supply plates x 16 mm + number of I/O x 50 mm + 76.5 mm

The supply plate in front of the first valve must be taken into consideration in the dimensions.

1 = push-in fitting Ø12 mm. Connection angle 1: straight (exchangeable fittings)

2 and 4 = push-in fitting Ø6 mm and Ø8 mm. Connection angle: straight and 90° (exchangeable fittings)

3 und 5 = push-in fitting Ø12 mm. Connection angle: straight

R = collected pilot exhaust air, push-in fitting Ø6 mm. Connection angle: straight

X = external pilot, push-in fitting Ø6 mm. Connection angle: straight





2x2/2-directional valve, Series AV03

- 2x2/2
- $Q_n = 280$ l/min
- NC/NC
- Plate connection
- Manual override : with detent
- double solenoid
- With spring return
- Pilot : External



Version	Spool valve, positive overlapping
Activation	Electrically
Pilot	External
Sealing principle	Soft sealing
Blocking principle	Base plate principle, multiple
Working pressure min./max.	-0.9 ... 10 bar
Control pressure min./max.	3 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 μ m
Oil content of compressed air	0 ... 5 mg/m ³
Nominal flow Q_n	280 l/min
Pilot control exhaust	with directional pilot air exhaust
Protection class with connection	IP65
Protective circuit	Z-diode
Reverse polarity protection	Protected against polarity reversal
LED status display	Yellow
Duty cycle	100 %
Typ. switch-on time	16 ms
Typ. switch-off time	20 ms
mounting screws	Hexalobular socket (TORX) ISO 10664-8
Mounting screw tightening torque	0.52 Nm
Weight	0.052 kg

Technical data

Part No.		MO		Operational voltage	
				DC	Voltage tolerance
R422102436			NC/NC	24 V	-10% / +10%
R422102437			NC/NC	24 V	-10% / +10%

Part No.	Power consumption		Flow conductance	
	DC		b	C-value
R422102436	0.55 W		0.4	1.17 l/(s*bar)
R422102437	0.55 W		0.4	1.17 l/(s*bar)

Nominal flow Q_n at 6 bar and $\Delta p = 1$ bar, MO = Manual override

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.

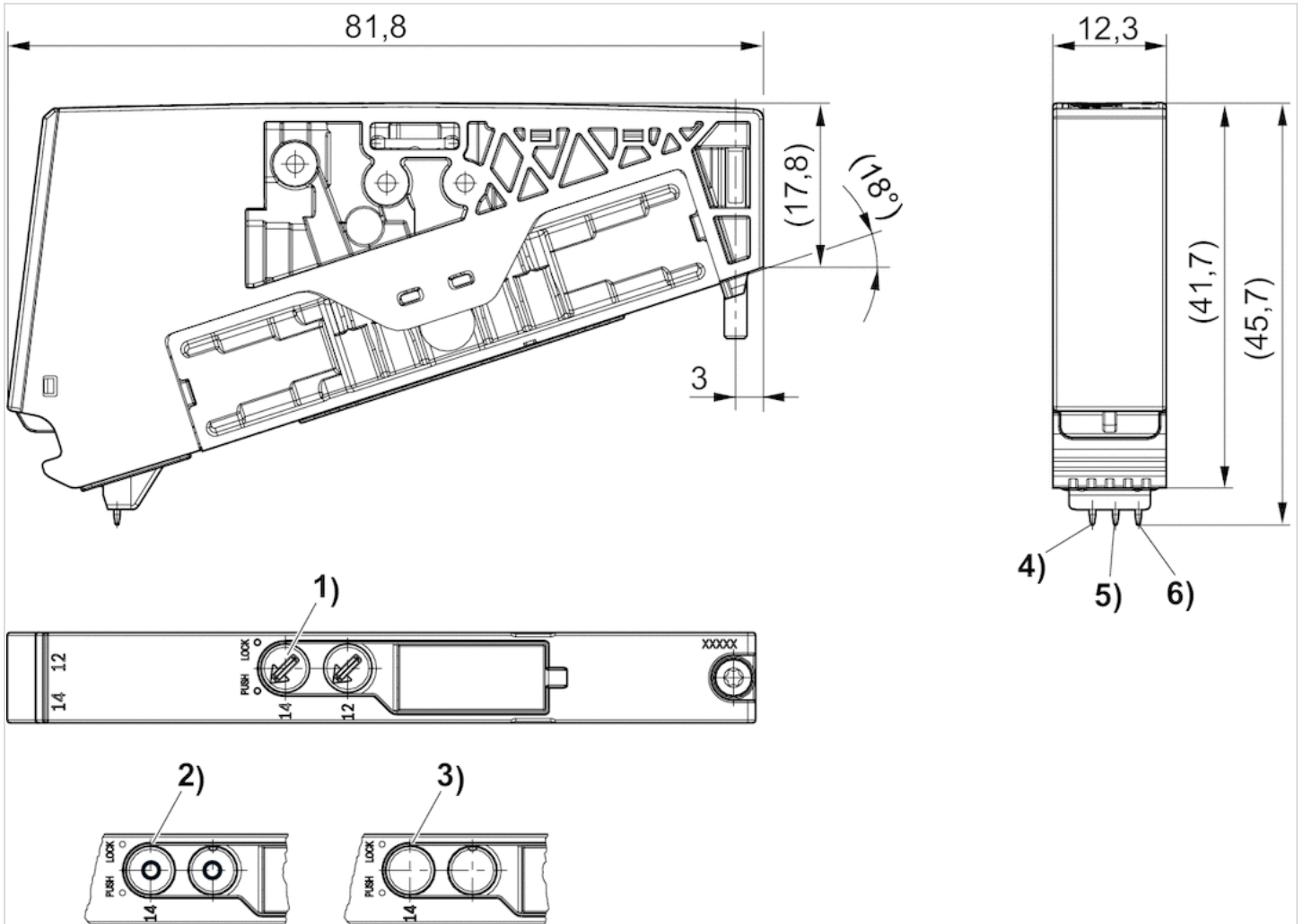
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber Hydrogenated acrylonitrile butadiene rubber
Front plate	Polyamide fiber-glass reinforced
End plate	Polyamide

Dimensions

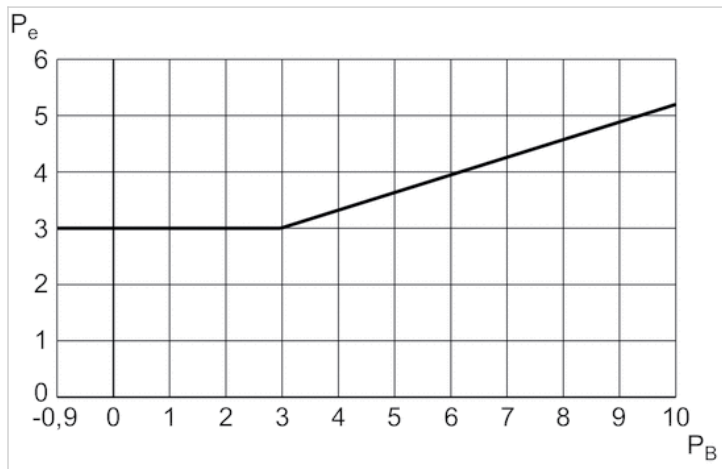
Dimensions



- 1) Manual override: with detent
- 2) manual override: without detent
- 3) Manual override: without detent
- 4) Coil 12
- 5) Coil 14
- 6) Ground

Diagrams

Control pressure: see diagram for min., max. 8 bar



PB= Working pressure

Pe = external control pressure, min.













2x3/2-directional valve, Series AV03

- 2x3/2
- $Q_n = 250-300$ l/min
- NC/NC NO/NO NC/NO
- Plate connection
- Manual override : with detent without detent
- double solenoid
- With spring return
- Pilot : External



Version	Spool valve, positive overlapping
Activation	Electrically
Pilot	External
Sealing principle	Soft sealing
Blocking principle	Base plate principle, multiple
Working pressure min./max.	-0.9 ... 10 bar
Control pressure min./max.	3 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³
Nominal flow Q_n	See table below
Pilot control exhaust	with directional pilot air exhaust
Protection class with connection	IP65
Protective circuit	Z-diode
Reverse polarity protection	Protected against polarity reversal
LED status display	Yellow
Duty cycle	100 %
Typ. switch-on time	16 ms
Typ. switch-off time	20 ms
mounting screws	Hexalobular socket (TORX) ISO 10664-8
Mounting screw tightening torque	0.5 Nm
Weight	See table below

Technical data

Part No.		MO		Operational voltage	
				DC	DC
R422102430			NC/NC	24 V	-10% / +10%
R422102432			NO/NO	24 V	-10% / +10%
R422102434			NC/NO	24 V	-10% / +10%
R422102431			NC/NC	24 V	-10% / +10%
R422102433			NO/NO	24 V	-10% / +10%
R422102435			NC/NO	24 V	-10% / +10%

Part No.	Power consumption	Flow conductance	Flow conductance	Nominal flow Q_n	Weight
	DC	b	C-value		
R422102430	0.55 W	0.29	1.17 l/(s*bar)	300 l/min	0.05 kg

Part No.	Power consumption	Flow conductance	Flow conductance	Nominal flow Qn	Weight
	DC	b	C-value		
R422102432	0.55 W	0.38	0.92 l/(s*bar)	250 l/min	0.049 kg
R422102434	0.55 W	0.38	0.92 l/(s*bar)	250 l/min	0.05 kg
R422102431	0.55 W	0.29	1.17 l/(s*bar)	300 l/min	0.05 kg
R422102433	0.55 W	0.38	0.92 l/(s*bar)	250 l/min	0.049 kg
R422102435	0.55 W	0.38	0.92 l/(s*bar)	250 l/min	0.05 kg

Nominal flow Qn at 6 bar and $\Delta p = 1$ bar, MO = Manual override

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.

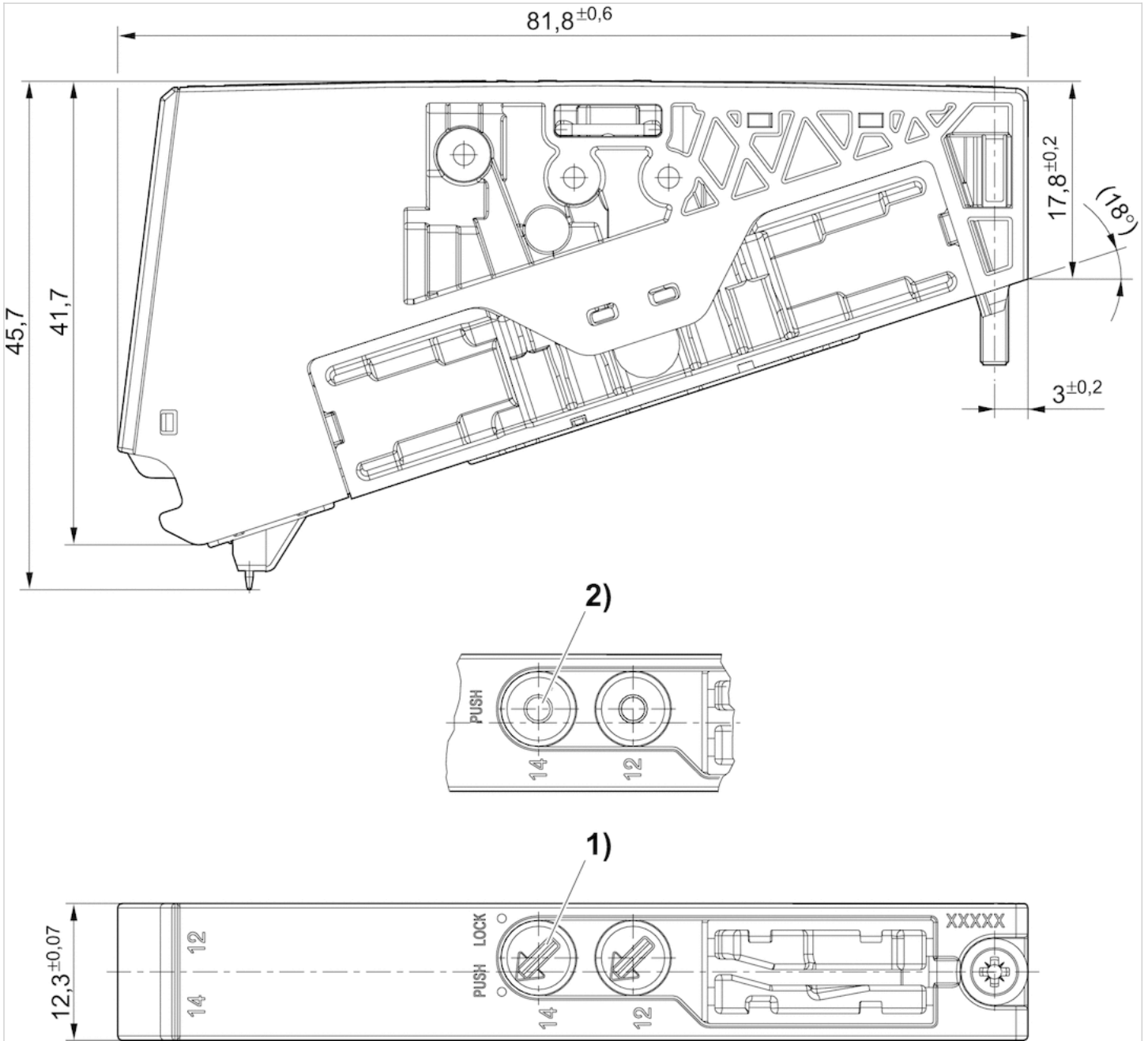
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber Hydrogenated acrylonitrile butadiene rubber
Front plate	Polyamide fiber-glass reinforced
End plate	Polyamide

Dimensions

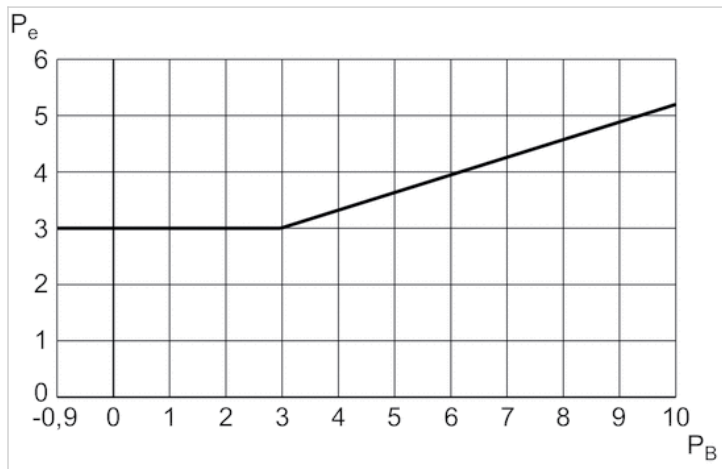
Dimensions



- 1) with detent
- 2) without detent

Diagrams

Control pressure: see diagram for min., max. 8 bar

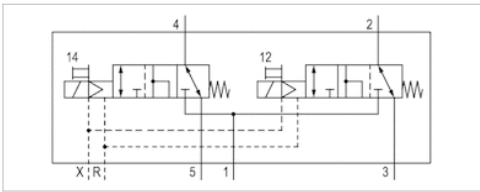


P_B = Working pressure

P_e = external control pressure, min.

2x3/2-directional valve, Series AV03

- 2x3/2
- $Q_n = 300$ l/min
- Plate connection
- Manual override : without detent
- double solenoid
- With spring return
- Pilot : External



Version	Spool valve, negative overlapping
Activation	Electrically
Pilot	External
Sealing principle	Soft sealing
Blocking principle	Base plate principle, multiple
Working pressure min./max.	-0.9 ... 10 bar
Control pressure min./max.	3 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³
Nominal flow Q_n	300 l/min
Nominal flow 1 ► 2	300 l/min
Pilot control exhaust	with directional pilot air exhaust
Protection class with connection	IP65
Protective circuit	Z-diode
Reverse polarity protection	Protected against polarity reversal
LED status display	Yellow
Duty cycle	100 %
Typ. switch-on time	16 ms
Typ. switch-off time	20 ms
mounting screws	Hexalobular socket (TORX) ISO 10664-8
Mounting screw tightening torque	0.5 Nm

Technical data

Part No.	Operational voltage	Voltage tolerance		Power consumption	
		DC		DC	
R422102856	24 V	-10% / +10%		0.55 W	

Nominal flow Q_n at 6 bar and $\Delta p = 1$ bar, MO = Manual override

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.

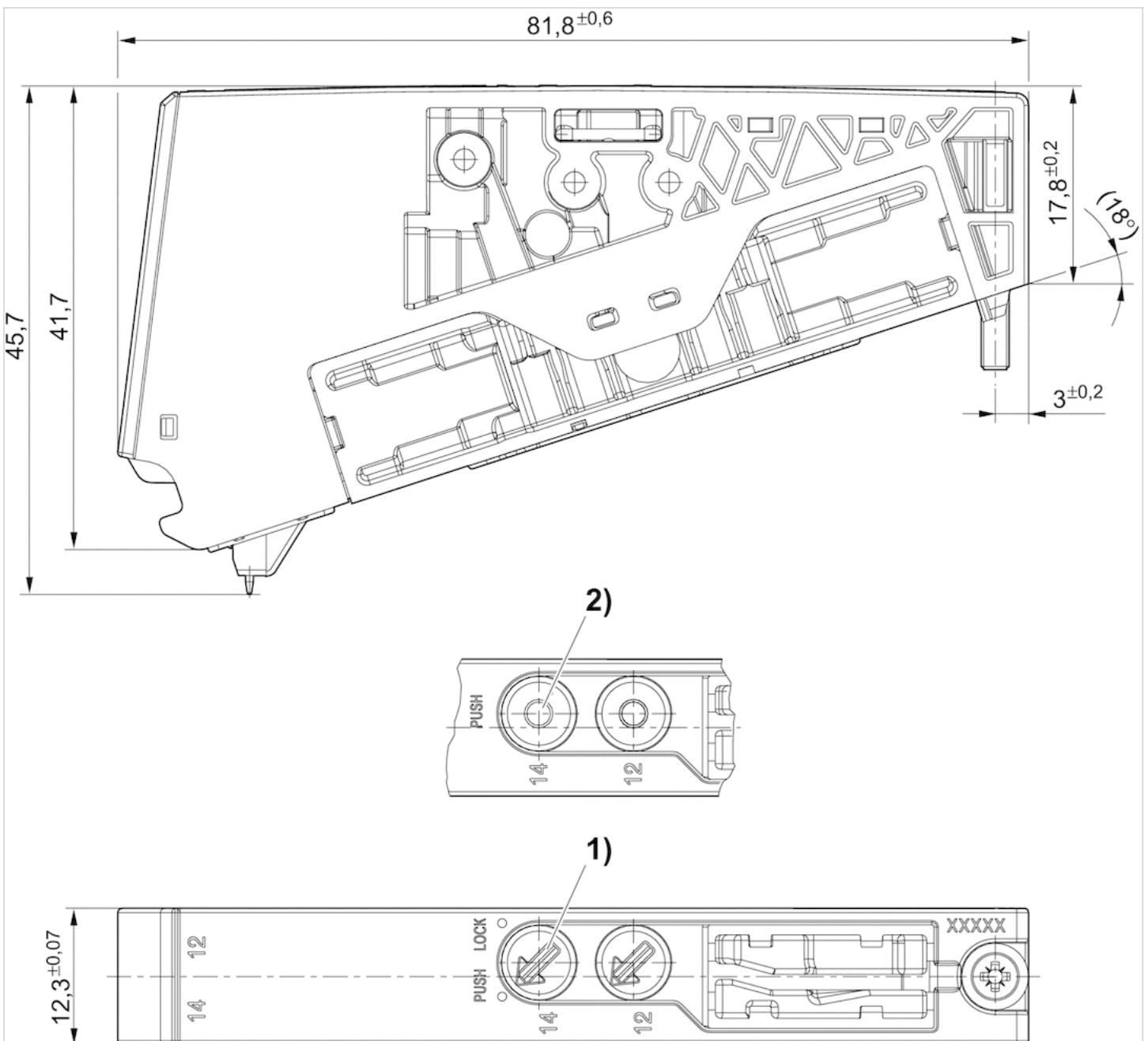
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber Hydrogenated acrylonitrile butadiene rubber
Front plate	Polyamide fiber-glass reinforced
End plate	Polyamide

Dimensions

Dimensions

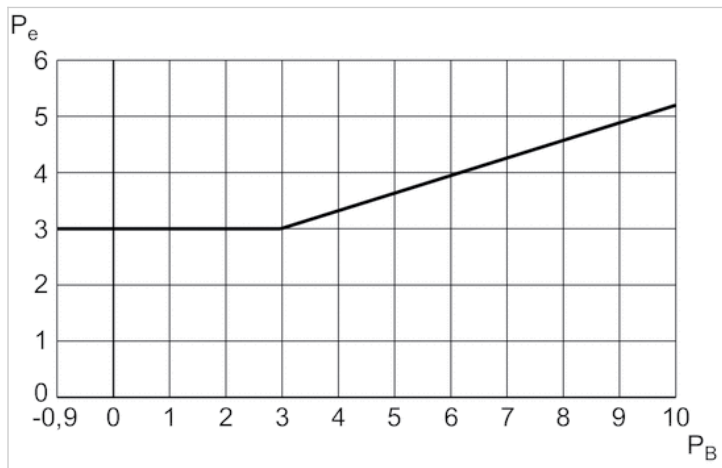


1) with detent

2) without detent

Diagrams

Control pressure: see diagram for min., max. 8 bar



P_B = Working pressure

P_e = external control pressure, min.

5/2-directional valve, Series AV03

- 5/2
- Qn = 300 l/min
- Plate connection
- Manual override : with detent without detent
- single solenoid double solenoid
- Pilot : External



Version	Spool valve, positive overlapping
Activation	Electrically
Pilot	External
Sealing principle	Soft sealing
Blocking principle	Base plate principle, multiple
Working pressure min./max.	-0.9 ... 10 bar
Control pressure min./max.	3 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m³
Nominal flow Qn	300 l/min
Pilot control exhaust	with directional pilot air exhaust
Protection class with connection	IP65
Protective circuit	Z-diode
Reverse polarity protection	Protected against polarity reversal
LED status display	Yellow
Duty cycle	100 %
mounting screws	Hexalobular socket (TORX) ISO 10664-8
Mounting screw tightening torque	0.5 Nm
Weight	See table below

Technical data

Part No.	MO	Operational voltage	Voltage tolerance
			DC
R422102503		24 V	-10% / +10%
R422102504		24 V	-10% / +10%
R422102426		24 V	-10% / +10%
R422102424		24 V	-10% / +10%
R422102427		24 V	-10% / +10%
R422102425		24 V	-10% / +10%

Part No.	Power consumption	Flow conductance	Flow conductance	Typ. switch-on time
	DC	b	C-value	
R422102503	0.55 W	0.29	1.17 l/(s*bar)	10 ms
R422102504	0.55 W	0.29	1.17 l/(s*bar)	10 ms
R422102426	0.55 W	0.29	1.17 l/(s*bar)	8 ms
R422102424	0.55 W	0.29	1.17 l/(s*bar)	12 ms
R422102427	0.55 W	0.29	1.17 l/(s*bar)	8 ms

Part No.	Power consumption	Flow conductance	Flow conductance	Typ. switch-on time
	DC	b	C-value	
R422102425	0.55 W	0.29	1.17 l/(s*bar)	12 ms

Part No.	Typ. switch-off time	Weight
R422102503	17 ms	0.045 kg
R422102504	17 ms	0.045 kg
R422102426	8 ms	0.048 kg
R422102424	17 ms	0.043 kg
R422102427	8 ms	0.048 kg
R422102425	17 ms	0.043 kg

Nominal flow Q_n at 6 bar and $\Delta p = 1$ bar, MO = Manual override

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).

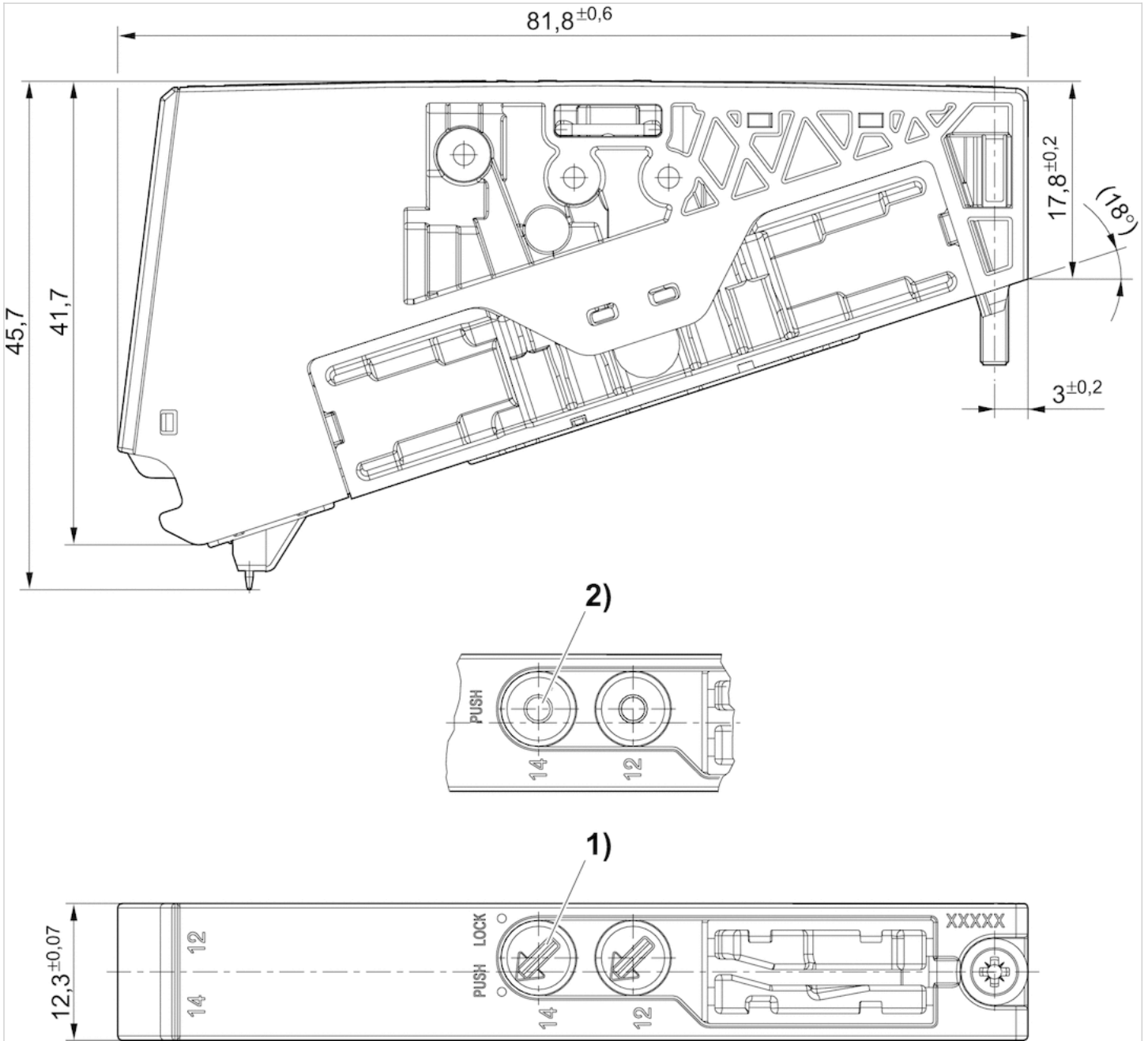
The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber Hydrogenated acrylonitrile butadiene rubber
Front plate	Polyamide fiber-glass reinforced
End plate	Polyamide

Dimensions

Dimensions



- 1) with detent
- 2) without detent

5/3-directional valve, Series AV03

- 5/3
- Qn = 240 l/min
- closed center
- Plate connection
- Manual override : with detent without detent
- double solenoid
- With spring return
- Pilot : External



Version	Spool valve, positive overlapping
Activation	Electrically
Pilot	External
Sealing principle	Soft sealing
Blocking principle	Base plate principle, multiple
Working pressure min./max.	-0.9 ... 10 bar
Control pressure min./max.	3 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³
Nominal flow Qn	240 l/min
Pilot control exhaust	with directional pilot air exhaust
Protection class with connection	IP65
Protective circuit	Z-diode
Reverse polarity protection	Protected against polarity reversal
LED status display	Yellow
Duty cycle	100 %
Typ. switch-on time	12 ms
Typ. switch-off time	12 ms
mounting screws	Hexalobular socket (TORX) ISO 10664-8
Mounting screw tightening torque	0.5 Nm
Weight	0.046 kg

Technical data

Part No.		MO	closed center	Operational voltage	
				DC	Voltage tolerance
R422102428			closed center	24 V	-10% / +10%
R422102429			closed center	24 V	-10% / +10%

Part No.	Power consumption	Flow conductance	Flow conductance
	DC	b	C-value
R422102428	0.55 W	0.32	0.92 l/(s*bar)
R422102429	0.55 W	0.32	0.92 l/(s*bar)

Part No.	basic valve with electrical connector
R422102428	Basic valve with pilot valve
R422102429	Basic valve without pilot valve

Nominal flow Qn at 6 bar and $\Delta p = 1$ bar, MO = Manual override

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).

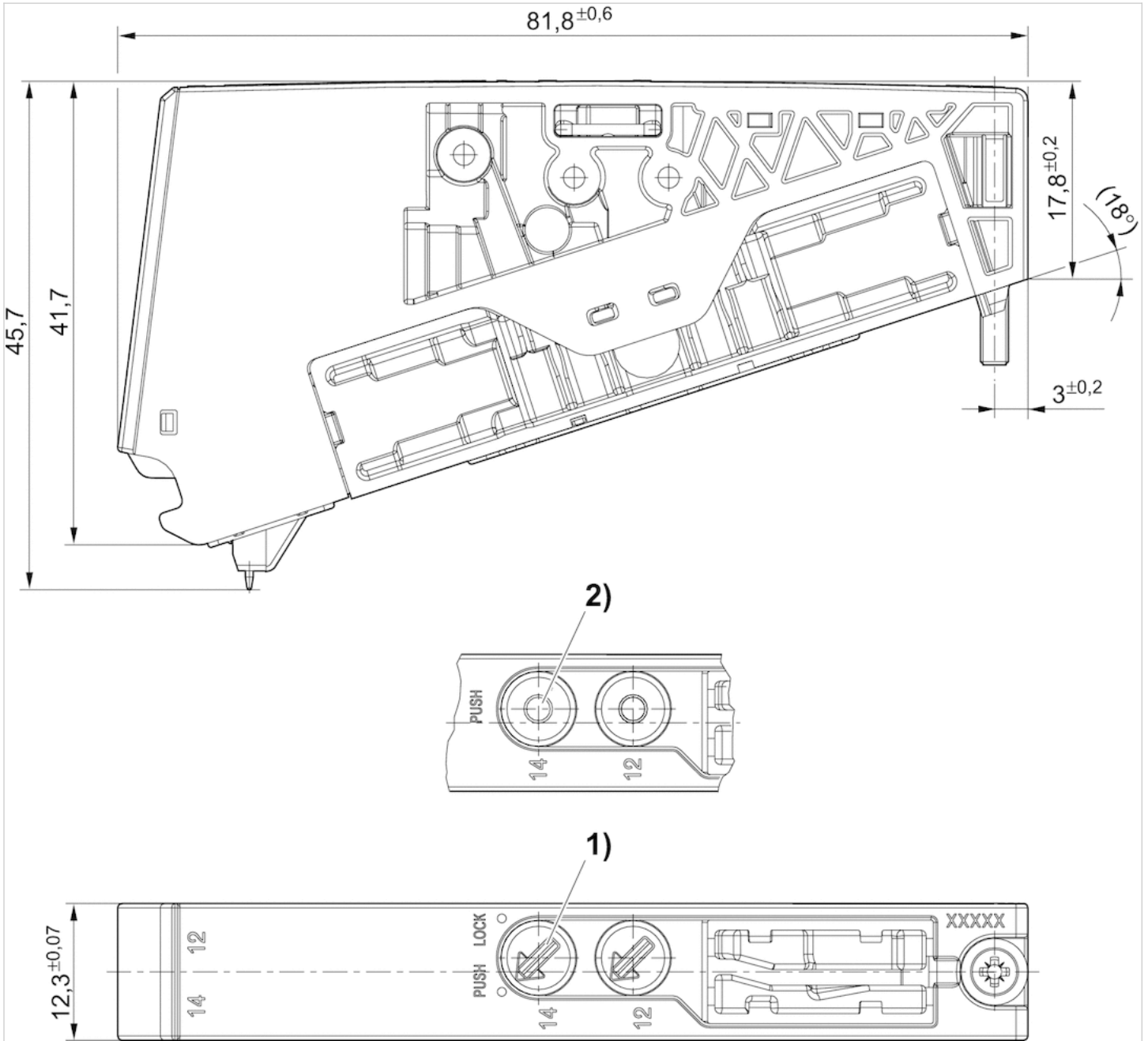
The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Seals	Acrylonitrile butadiene rubber Hydrogenated acrylonitrile butadiene rubber
Front plate	Polyamide fiber-glass reinforced
End plate	Polyamide

Dimensions

Dimensions



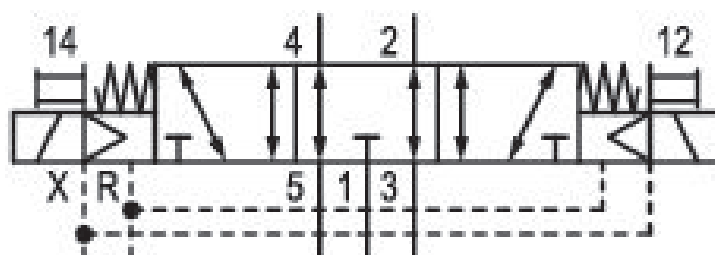
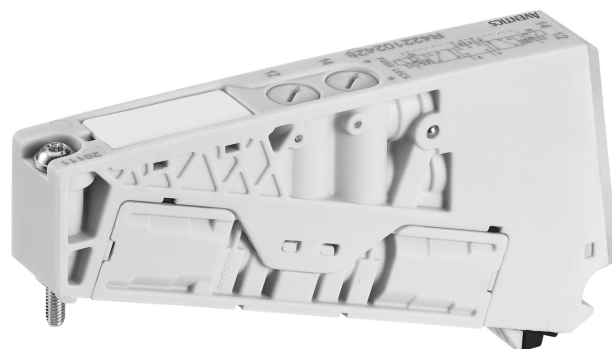
- 1) with detent
- 2) without detent

5/3-directional valve, Series AV03

R422102875

General series information Series AV03

- The AVENTICS Series AV03/AV05 provide a reliable basis for both compact handling systems and complex automation solutions. Within machine safety the Series AV03/AV05 offers intelligent solutions that significantly reduce your effort in creating a safe design. With the integration of the fieldbus and I/O-modules of the Series AES, also all requirements for distributed control are available. The Series AV03/AV05 is easy to configure, easy to use and easy to extend as well as IIoT futureproof thanks to the integration of OPC UA and the Digital Twin



Technical data

Industry	Industrial
Activation	electrically
Nominal flow Q_n	240 l/min
Switching principle	5/3, exhausted center
Function	Exhausted Center
Working pressure min.	-0.9 bar
Working pressure max	10 bar
Operational voltage	24 V DC
DC operating voltage	24 V
Voltage tolerance DC	-10% / +10%
Manual override	without detent

Valve type	Spool valve, positive overlapping
Actuating control	Double Solenoid
Sealing principle	soft seal
Pilot	External
Connection type	Plate connection
Blocking principle	Base plate principle, multiple
Control pressure min.	3 bar
Control pressure max.	8 bar
Min. ambient temperature	-10 °C
Max. ambient temperature	60 °C
Min. medium temperature	-10 °C
Max. medium temperature	60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air min.	0 mg/m ³
Oil content of compressed air max.	5 mg/m ³
Pilot control exhaust	with directional pilot air exhaust
Flow conductance b	0.32
Flow conductance C	0.92 l/(s*bar)
Power consumption DC	0.55 W
LED status display	Yellow
Duty cycle	100 %
Typ. switch-on time	12 ms
Typ. switch-off time	12 ms
Protection class with connection	IP65
Protective circuit	Z-diode
Reverse polarity protection	Protected against polarity reversal
mounting screws	Hexalobular socket (TORX) ISO 10664-8
Mounting screw tightening torque	0.5 Nm
Weight	0.046 kg

Material

Housing material	Polyamide fiber-glass reinforced
Seal material	Acrylonitrile butadiene rubber Hydrogenated acrylonitrile butadiene rubber
Material front plate	Polyamide fiber-glass reinforced
Material end plate	Polyamide

Part No.

R422102875

Technical information

The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.

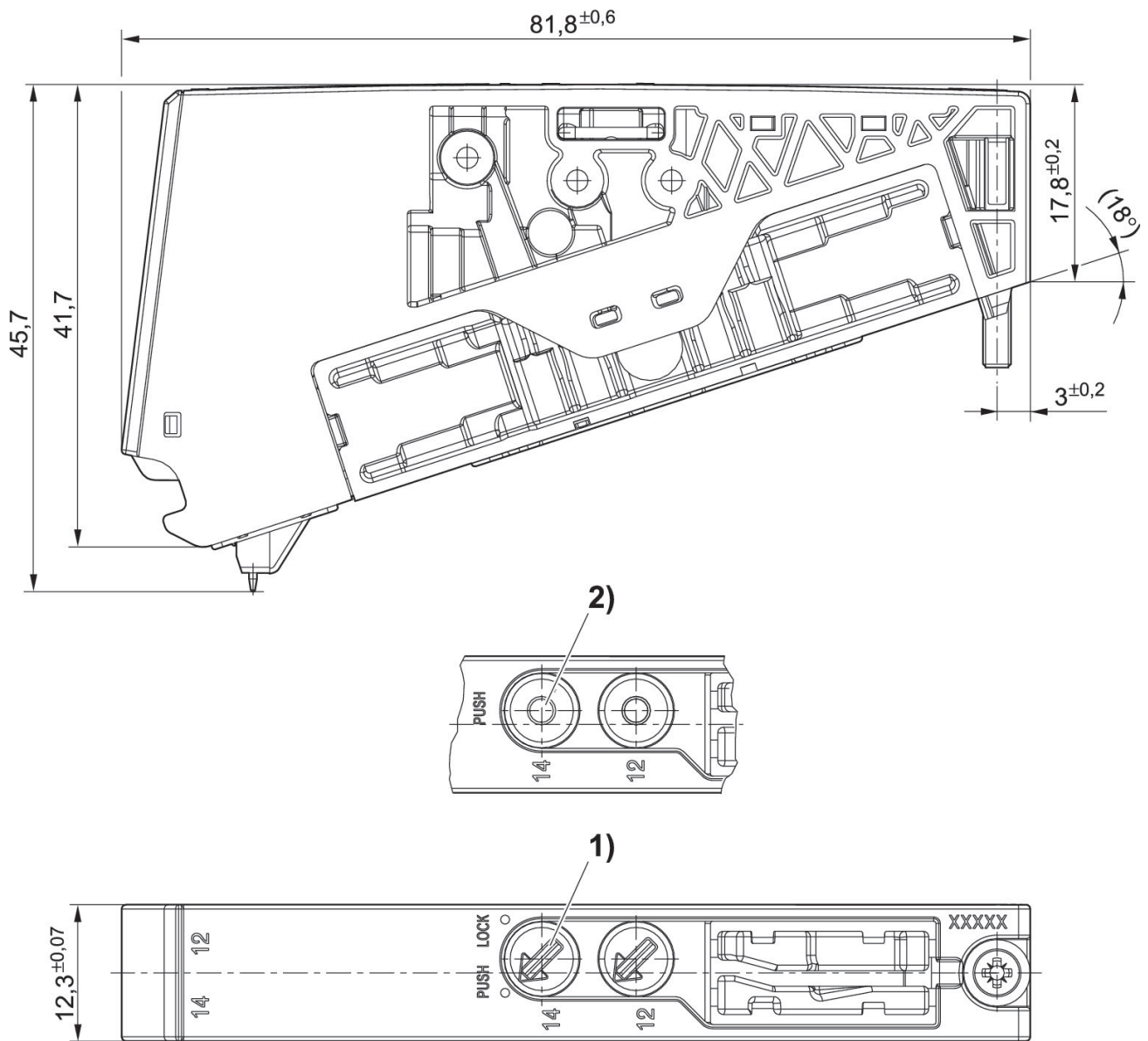
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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



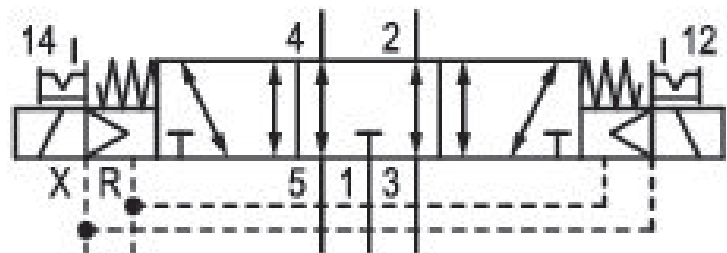
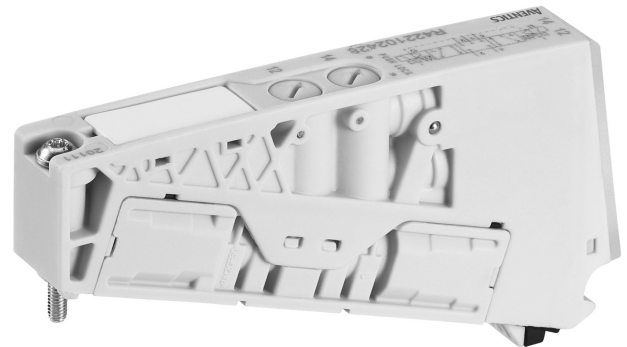
- 1) with detent
- 2) without detent

5/3-directional valve, Series AV03

R422102876

General series information Series AV03

- The AVENTICS Series AV03/AV05 provide a reliable basis for both compact handling systems and complex automation solutions. Within machine safety the Series AV03/AV05 offers intelligent solutions that significantly reduce your effort in creating a safe design. With the integration of the fieldbus and I/O-modules of the Series AES, also all requirements for distributed control are available. The Series AV03/AV05 is easy to configure, easy to use and easy to extend as well as IIoT futureproof thanks to the integration of OPC UA and the Digital Twin



Technical data

Industry	Industrial
Activation	electrically
Nominal flow Q_n	240 l/min
Switching principle	5/3, exhausted center
Function	Exhausted Center
Working pressure min.	-0.9 bar
Working pressure max	10 bar
Operational voltage	24 V DC
DC operating voltage	24 V
Voltage tolerance DC	-10% / +10%
Manual override	with detent

Valve type	Spool valve, positive overlapping
Actuating control	Double Solenoid
Sealing principle	soft seal
Pilot	External
Connection type	Plate connection
Blocking principle	Base plate principle, multiple
Control pressure min.	3 bar
Control pressure max.	8 bar
Min. ambient temperature	-10 °C
Max. ambient temperature	60 °C
Min. medium temperature	-10 °C
Max. medium temperature	60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air min.	0 mg/m ³
Oil content of compressed air max.	5 mg/m ³
Pilot control exhaust	with directional pilot air exhaust
Flow conductance b	0.32
Flow conductance C	0.92 l/(s*bar)
Power consumption DC	0.55 W
LED status display	Yellow
Duty cycle	100 %
Typ. switch-on time	12 ms
Typ. switch-off time	12 ms
Protection class with connection	IP65
Protective circuit	Z-diode
Reverse polarity protection	Protected against polarity reversal
mounting screws	Hexalobular socket (TORX) ISO 10664-8
Mounting screw tightening torque	0.5 Nm
Weight	0.046 kg

Material

Housing material	Polyamide fiber-glass reinforced
Seal material	Acrylonitrile butadiene rubber Hydrogenated acrylonitrile butadiene rubber
Material front plate	Polyamide fiber-glass reinforced
Material end plate	Polyamide

Part No.

R422102876

Technical information

The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.

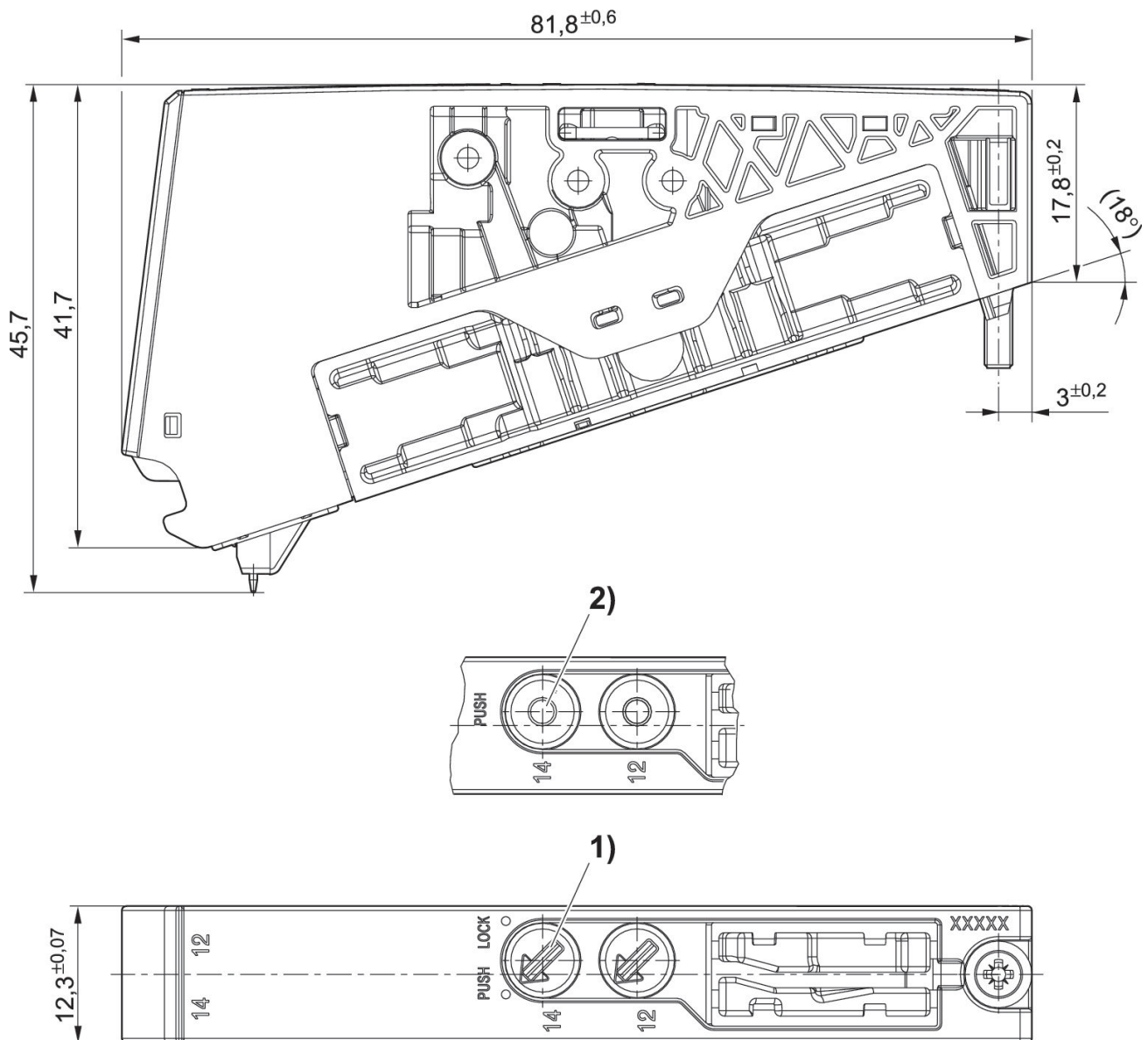
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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) with detent
- 2) without detent










E/P pressure regulator, Series AV03-EP

- For multipole control, Display: display
- Electr. connection M12, 5-pin, A-coded
- With collective pilot air exhaust



Version	Piloted pressure regulator
Mounting orientation	Any
Working pressure max	11 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Protection class	IP65
Weight	0.22 kg

Technical data

Part No.		Pressure setting range min./max.	Nominal input value	Actual output value
			Min./max.	Min./max.
R414007364		0.5 ... 6 bar	0 ... 10 V	0 ... 10 V
R414007369		0.5 ... 6 bar	4 ... 20 mA	4 ... 20 mA
R414007375		0.5 ... 10 bar	0 ... 10 V	0 ... 10 V
R414007380		0.5 ... 10 bar	4 ... 20 mA	4 ... 20 mA
R414007365		0.5 ... 6 bar	0 ... 10 V	0 ... 10 V
R414007370		0.5 ... 6 bar	4 ... 20 mA	4 ... 20 mA
R414007376		0.5 ... 10 bar	0 ... 10 V	0 ... 10 V
R414007381		0.5 ... 10 bar	4 ... 20 mA	4 ... 20 mA
R414007354		0.5 ... 10 bar	0 ... 10 V	0 ... 10 V
R414007358		0.5 ... 10 bar	4 ... 20 mA	4 ... 20 mA

Part No.	Max. power consumption	Repetitive precision	Hysteresis	
	mA			
R414007364	220 mA	0.04 bar	0.05 bar	1)
R414007369	220 mA	0.04 bar	0.05 bar	1)
R414007375	220 mA	0.04 bar	0.05 bar	1)
R414007380	220 mA	0.04 bar	0.05 bar	1)
R414007365	160 mA	0.04 bar	0.05 bar	2)
R414007370	160 mA	0.04 bar	0.05 bar	2)
R414007376	160 mA	0.04 bar	0.05 bar	2)
R414007381	160 mA	0.04 bar	0.05 bar	2)
R414007354	160 mA	0.18 bar	0.2 bar	2)
R414007358	160 mA	0.18 bar	0.2 bar	2)

1) Power outage: operating line exhaust, See diagrams for flow characteristic curve

2) Power outage: maintain pressure, See diagrams for flow characteristic curve

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.

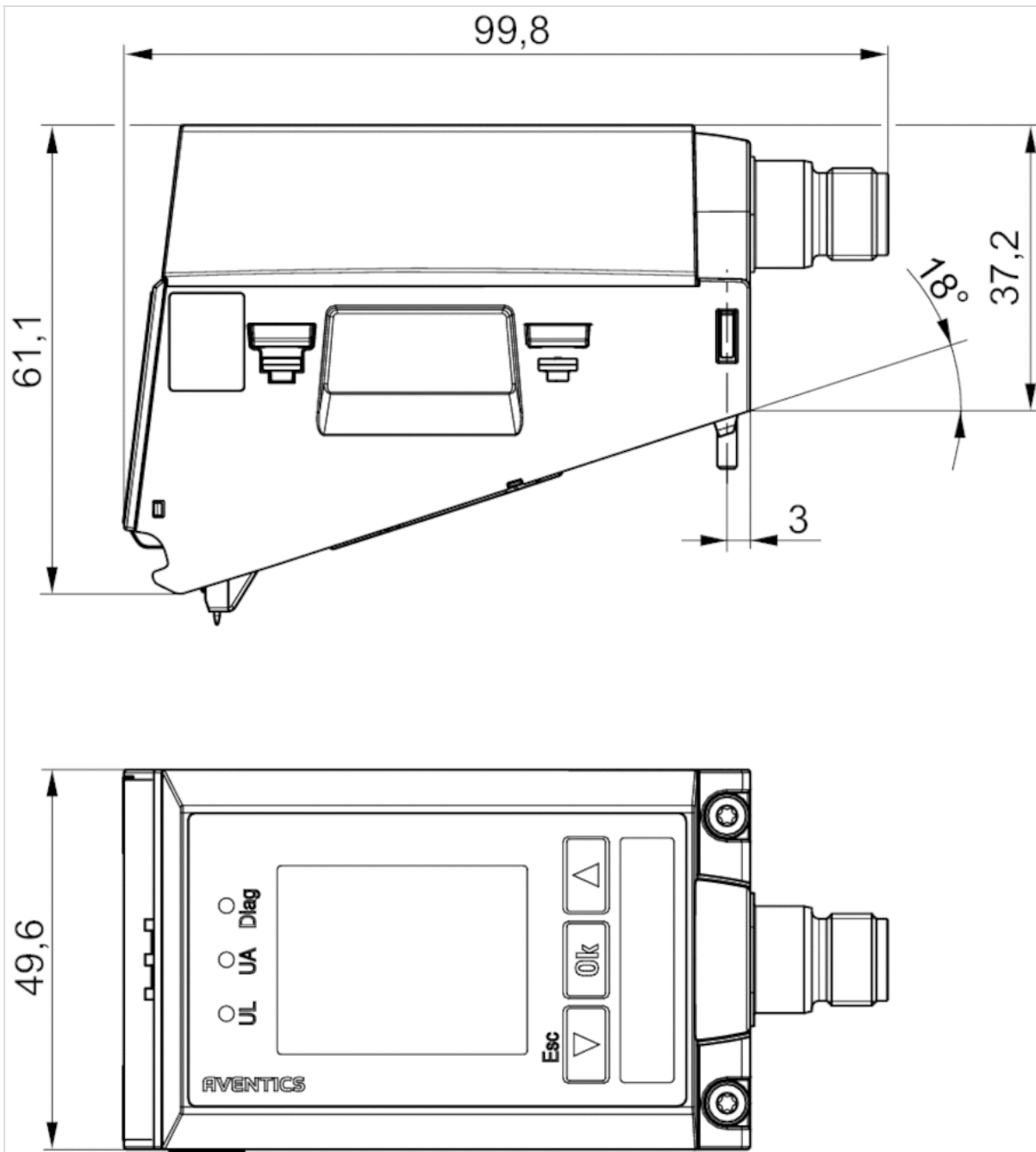
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in the MediaCentre).

Technical information

Material	
Housing	Polyarylamide
Seals	Nitrile butadiene rubber

Dimensions

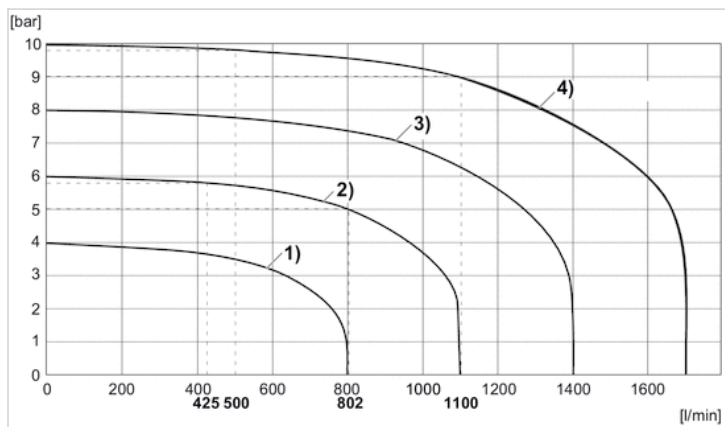
Dimensions



Port for plug M12x1

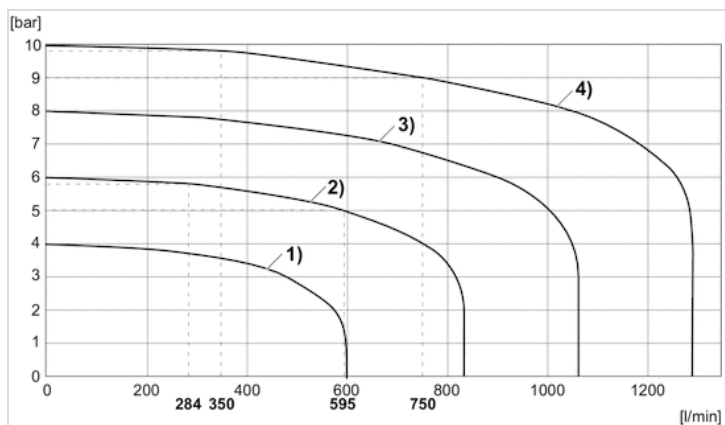
Diagrams

Flow characteristic curve, Pressure zone control



- 1) $P_v = 5 \text{ bar}$, controlled: 4 bar
- 2) $P_v = 7 \text{ bar}$, controlled: 6 bar
- 3) $P_v = 9 \text{ bar}$, controlled: 8 bar
- 4) $P_v = 11 \text{ bar}$, controlled: 10 bar

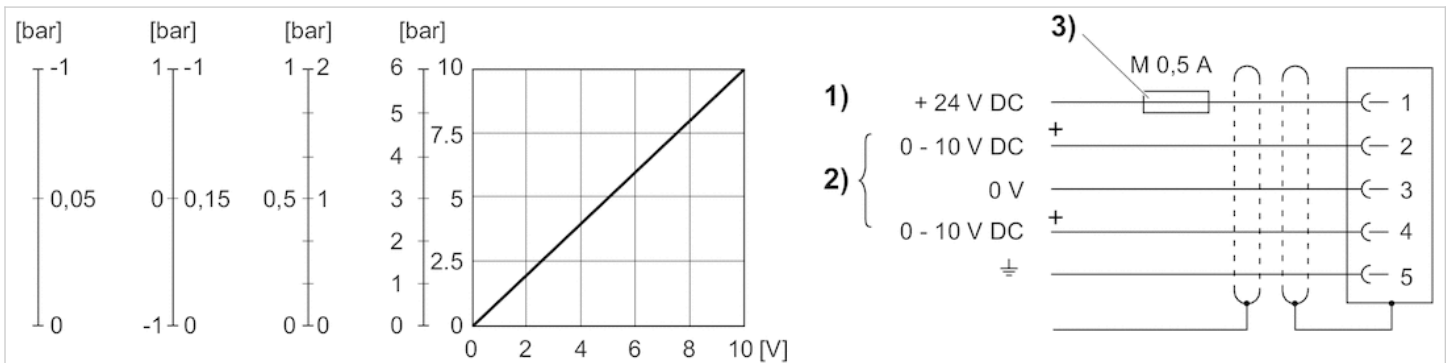
Flow characteristic curve, Single pressure control



- 1) $P_v = 5 \text{ bar}$, controlled: 4 bar
- 2) $P_v = 7 \text{ bar}$, controlled: 6 bar
- 3) $P_v = 9 \text{ bar}$, controlled: 8 bar
- 4) $P_v = 11 \text{ bar}$, controlled: 10 bar

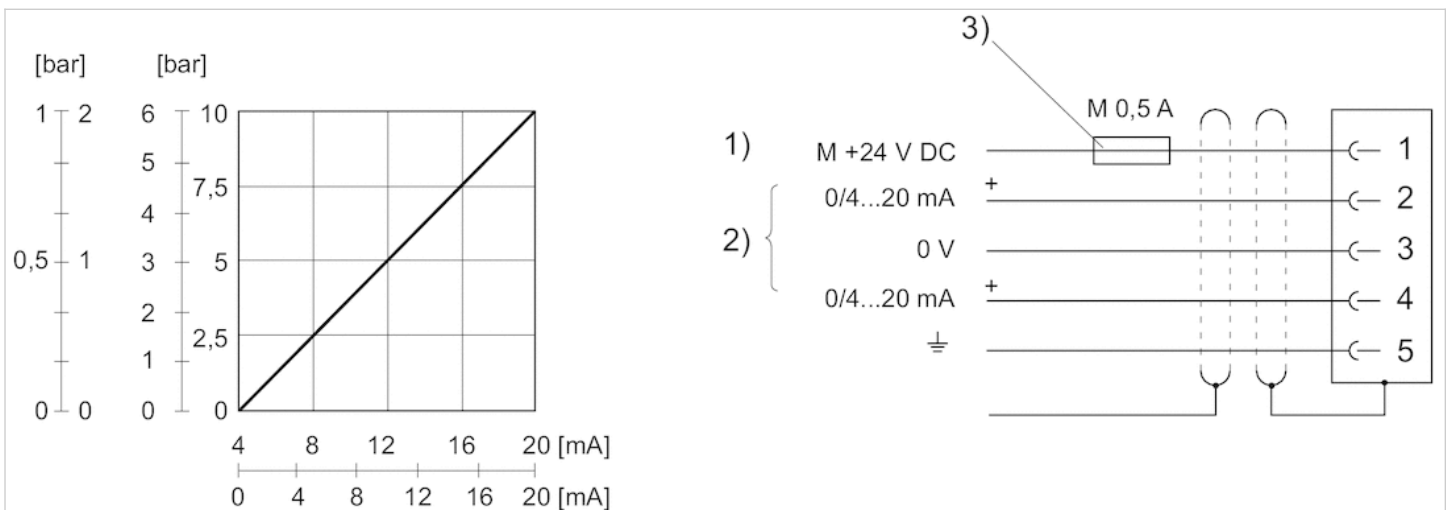
Circuit diagram

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



- 1) Supply voltage 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V.
Min. load resistance of nominal value output = 1 k Ω .
- 3) The operating voltage 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 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.









E/P pressure regulator, Series AV03-EP

- For multipole control, Display: LED
- Electr. connection M12, 5-pin, A-coded
- With collective pilot air exhaust



Version	Piloted pressure regulator
Mounting orientation	Any
Working pressure max	11 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Protection class	IP65
Weight	0.21 kg

Technical data

Part No.		Pressure setting range min./max.	Nominal input value	Actual output value
			Min./max.	Min./max.
R414007361		0.5 ... 6 bar	0 ... 10 V	0 ... 10 V
R414007366		0.5 ... 6 bar	4 ... 20 mA	4 ... 20 mA
R414007372		0.5 ... 10 bar	0 ... 10 V	0 ... 10 V
R414007377		0.5 ... 10 bar	4 ... 20 mA	4 ... 20 mA
R414007362		0.5 ... 6 bar	0 ... 10 V	0 ... 10 V
R414007367		0.5 ... 6 bar	4 ... 20 mA	4 ... 20 mA
R414007373		0.5 ... 10 bar	0 ... 10 V	0 ... 10 V
R414007378		0.5 ... 10 bar	4 ... 20 mA	4 ... 20 mA
R414007352		0.5 ... 10 bar	0 ... 10 V	0 ... 10 V
R414007356		0.5 ... 10 bar	4 ... 20 mA	4 ... 20 mA

Part No.	Max. power consumption	Repetitive precision	Hysteresis	
	mA			
R414007361	180 mA	0.04 bar	0.05 bar	1)
R414007366	180 mA	0.04 bar	0.05 bar	1)
R414007372	180 mA	0.04 bar	0.05 bar	1)
R414007377	180 mA	0.04 bar	0.05 bar	1)
R414007362	120 mA	0.04 bar	0.05 bar	2)
R414007367	120 mA	0.04 bar	0.05 bar	2)
R414007373	120 mA	0.04 bar	0.05 bar	2)
R414007378	120 mA	0.04 bar	0.05 bar	2)
R414007352	120 mA	0.18 bar	0.2 bar	2)
R414007356	120 mA	0.18 bar	0.2 bar	2)

1) Power outage: operating line exhaust, See diagrams for flow characteristic curve

2) Power outage: maintain pressure, See diagrams for flow characteristic curve

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.

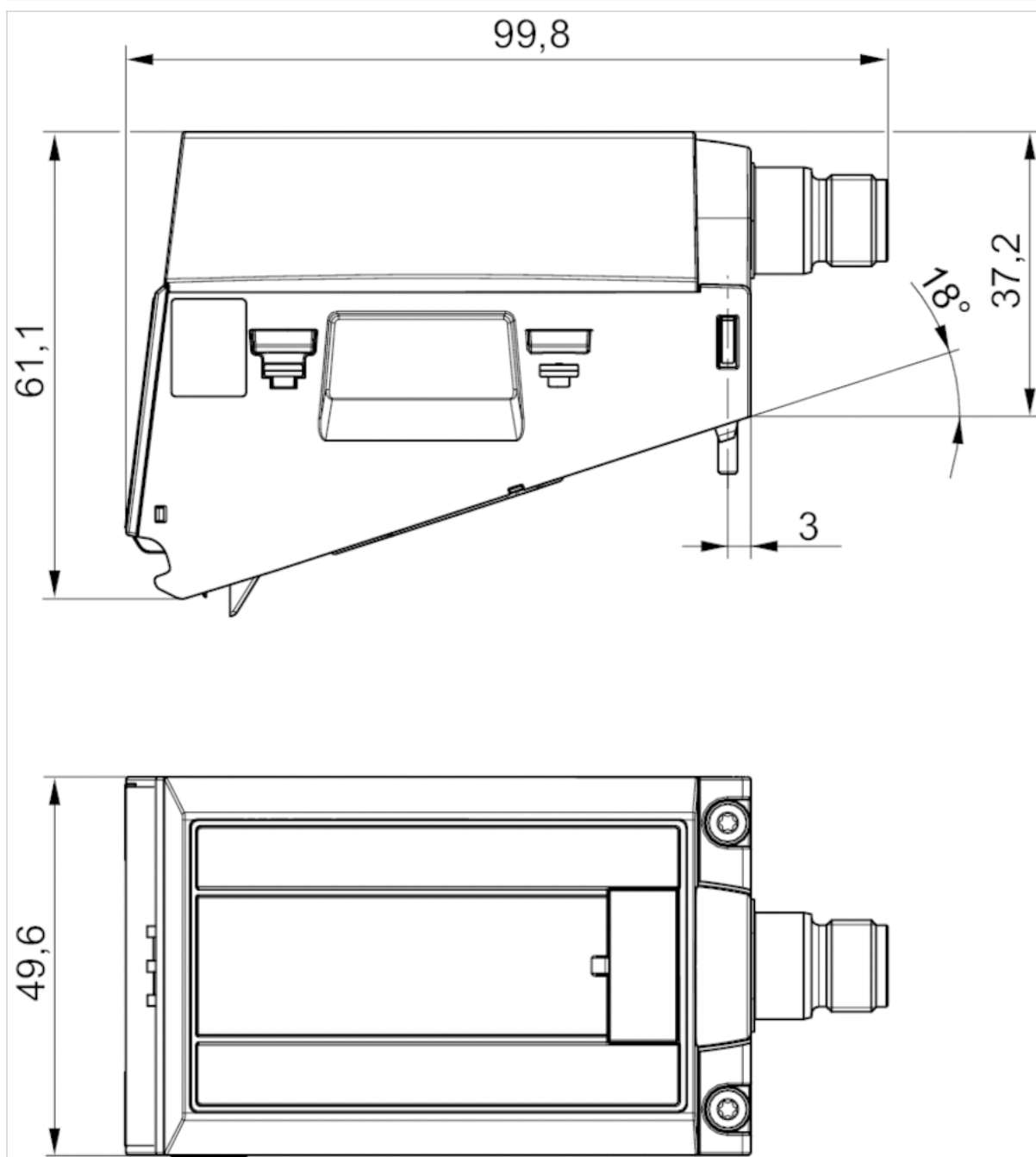
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Polyarylamide
Seals	Nitrile butadiene rubber

Dimensions

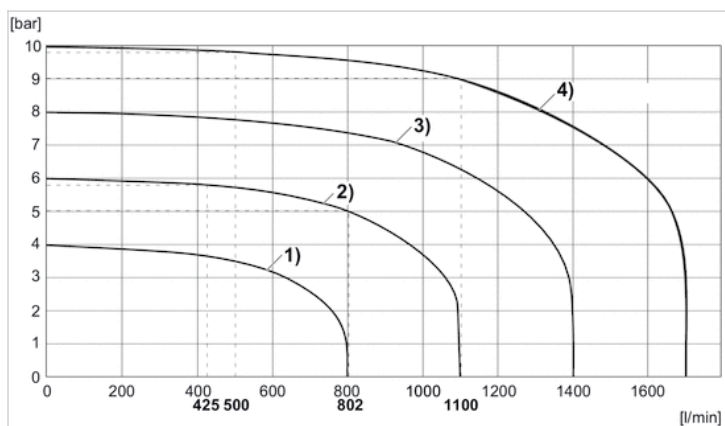
Dimensions



Port for plug M12x1

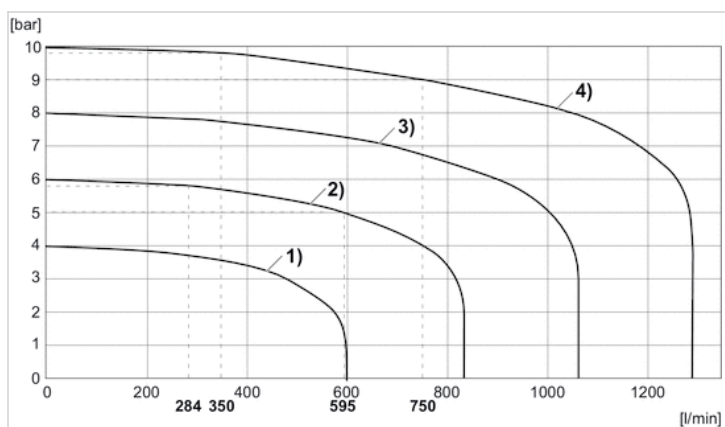
Diagrams

Flow characteristic curve, Pressure zone control



- 1) $P_v = 5 \text{ bar}$, controlled: 4 bar
- 2) $P_v = 7 \text{ bar}$, controlled: 6 bar
- 3) $P_v = 9 \text{ bar}$, controlled: 8 bar
- 4) $P_v = 11 \text{ bar}$, controlled: 10 bar

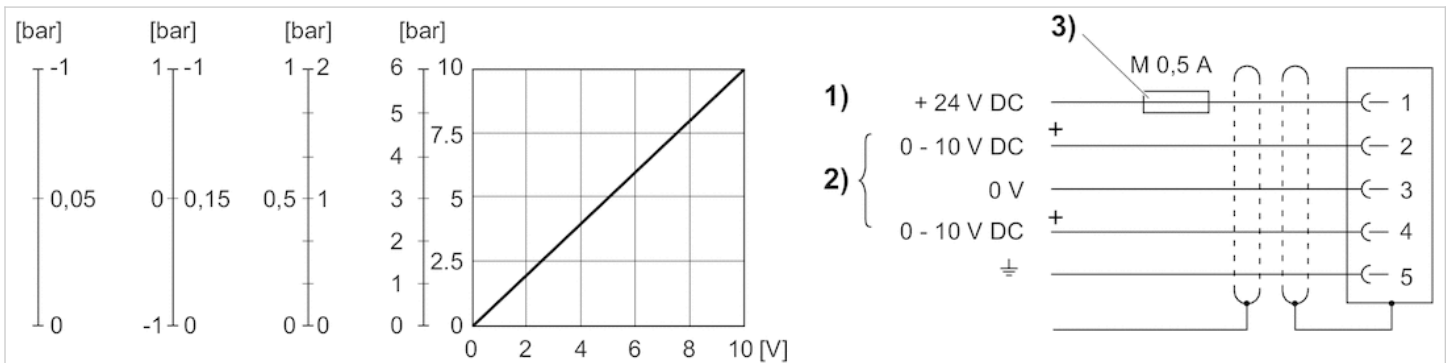
Flow characteristic curve, Single pressure control



- 1) $P_v = 5 \text{ bar}$, controlled: 4 bar
- 2) $P_v = 7 \text{ bar}$, controlled: 6 bar
- 3) $P_v = 9 \text{ bar}$, controlled: 8 bar
- 4) $P_v = 11 \text{ bar}$, controlled: 10 bar

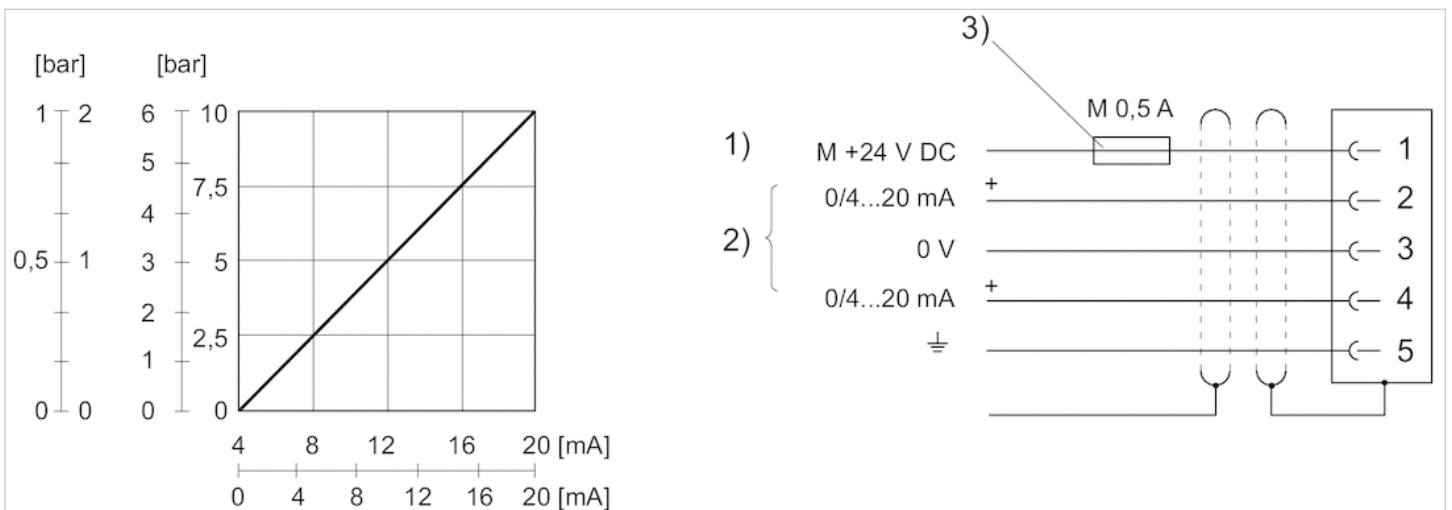
Circuit diagram

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



- 1) Supply voltage 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V.
Min. load resistance of nominal value output = 1 k Ω .
- 3) The operating voltage 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 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.




E/P pressure regulator, Series AV03-EP

- For fieldbus connection, Display: display
- with directional pilot air exhaust



Version	Piloted pressure regulator
Mounting orientation	Any
Working pressure max	11 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Protection class	IP65
Weight	0.21 kg

Technical data

Part No.		Pressure setting range min./max.	Max. power consumption	Repetitive precision
			mA	
R414007915		0.5 ... 10 bar	220 mA	0.04 bar
R414007916		0.5 ... 10 bar	160 mA	0.04 bar
R414007360		0.5 ... 10 bar	160 mA	0.18 bar

Part No.	Hysteresis	
R414007915	0.05 bar	1)
R414007916	0.05 bar	2)
R414007360	0.2 bar	2)

1) Power outage: operating line exhaust, See diagrams for flow characteristic curve

2) Power outage: maintain pressure, See diagrams for flow characteristic curve

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.

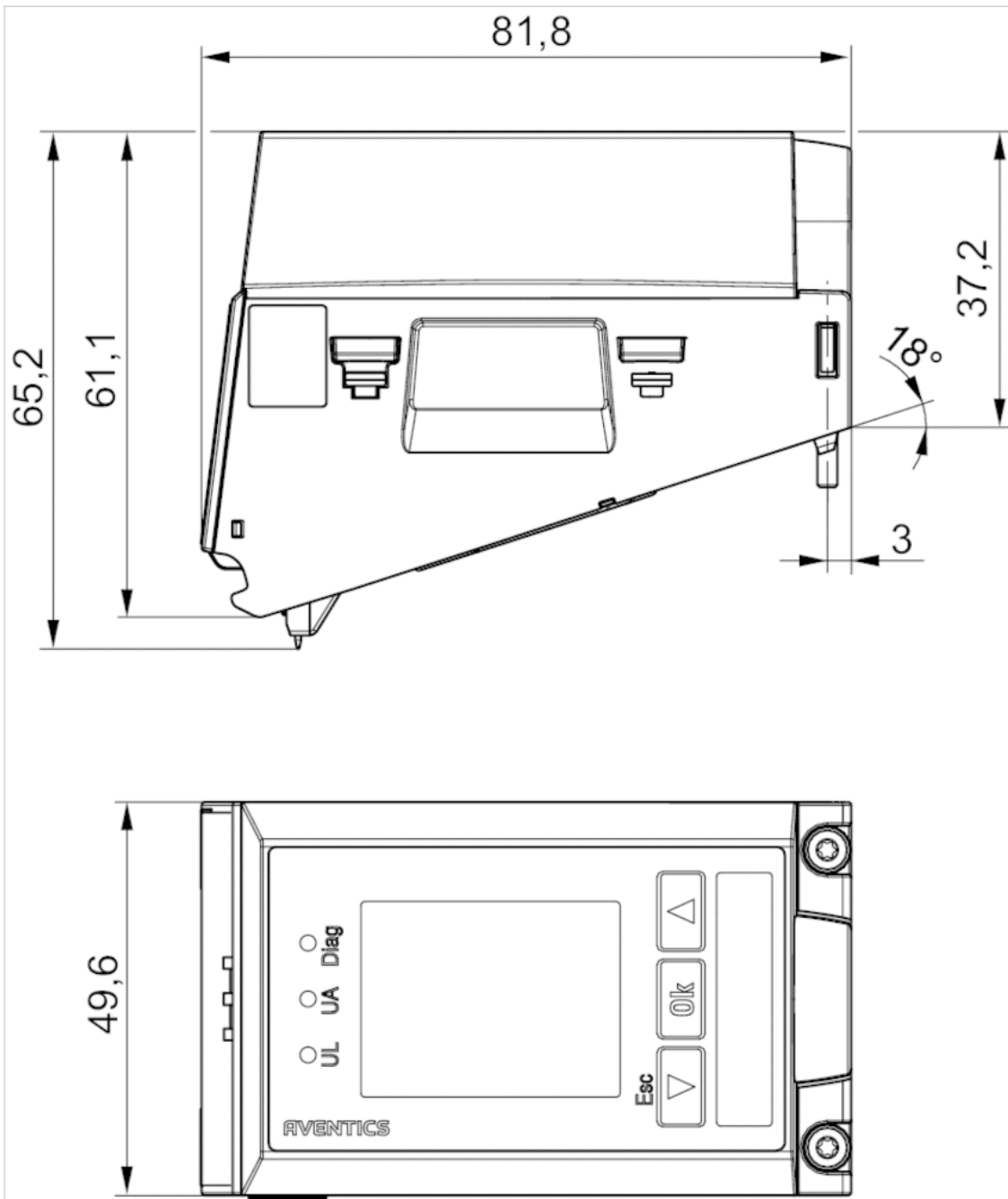
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Polyarylamide
Seals	Nitrile butadiene rubber

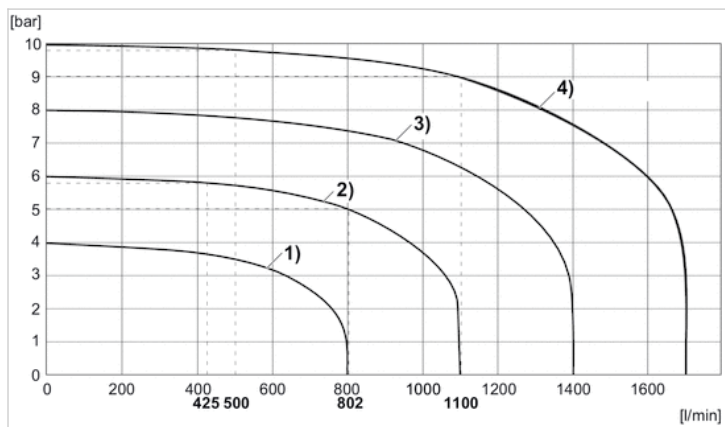
Dimensions

Dimensions



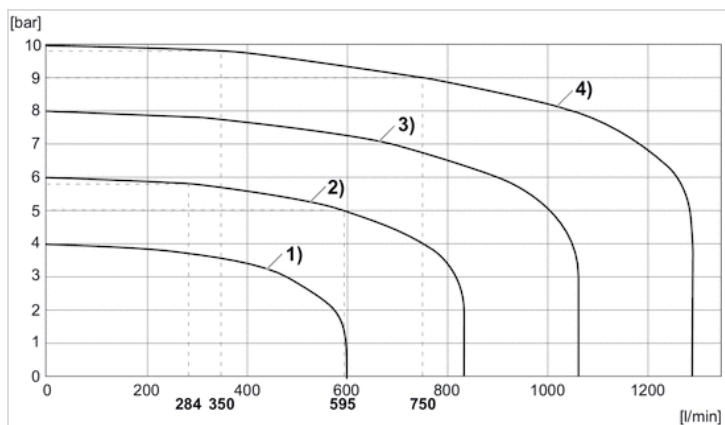
Diagrams

Flow characteristic curve, Pressure zone control



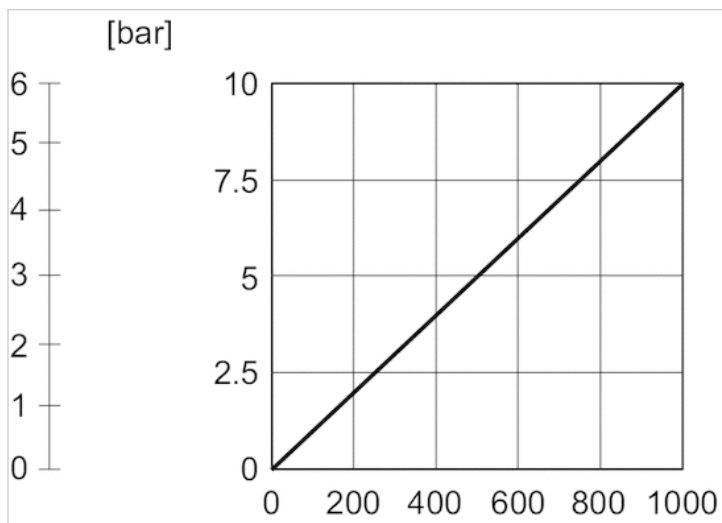
- 1) $P_v = 5$ bar , controlled: 4 bar
- 2) $P_v = 7$ bar , controlled: 6 bar
- 3) $P_v = 9$ bar , controlled: 8 bar
- 4) $P_v = 11$ bar , controlled: 10 bar

Flow characteristic curve, Single pressure control



- 1) $P_v = 5$ bar , controlled: 4 bar
- 2) $P_v = 7$ bar , controlled: 6 bar
- 3) $P_v = 9$ bar , controlled: 8 bar
- 4) $P_v = 11$ bar , controlled: 10 bar

Characteristics, Further information can be found in the operating instructions.



The regulator features a resolution of 10 bits (bit 0 to 9) for the serial nominal value and serial actual value: The nominal value and actual value range for the 10 bar version lies in the range of 0 to 1000 at a resolution of 10 mbar.




E/P pressure regulator, Series AV03-EP

- For fieldbus connection, Display: LED
- with directional pilot air exhaust



Version	Piloted pressure regulator
Mounting orientation	Any
Working pressure max	11 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³
DC operating voltage	24 V
Voltage tolerance DC	-20% / +30%
Protection class	IP65
Weight	0.16 kg

Technical data

Part No.		Pressure setting range min./max.	Max. power consumption	Repetitive precision
			mA	
R414007914		0.5 ... 10 bar	180 mA	0.04 bar
R414007383		0.5 ... 10 bar	120 mA	0.04 bar
R414007359		0.5 ... 10 bar	120 mA	0.18 bar

Part No.	Hysteresis	
R414007914	0.05 bar	1)
R414007383	0.05 bar	2)
R414007359	0.2 bar	2)

1) Power outage: operating line exhaust, See diagrams for flow characteristic curve

2) Power outage: maintain pressure, See diagrams for flow characteristic curve

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.

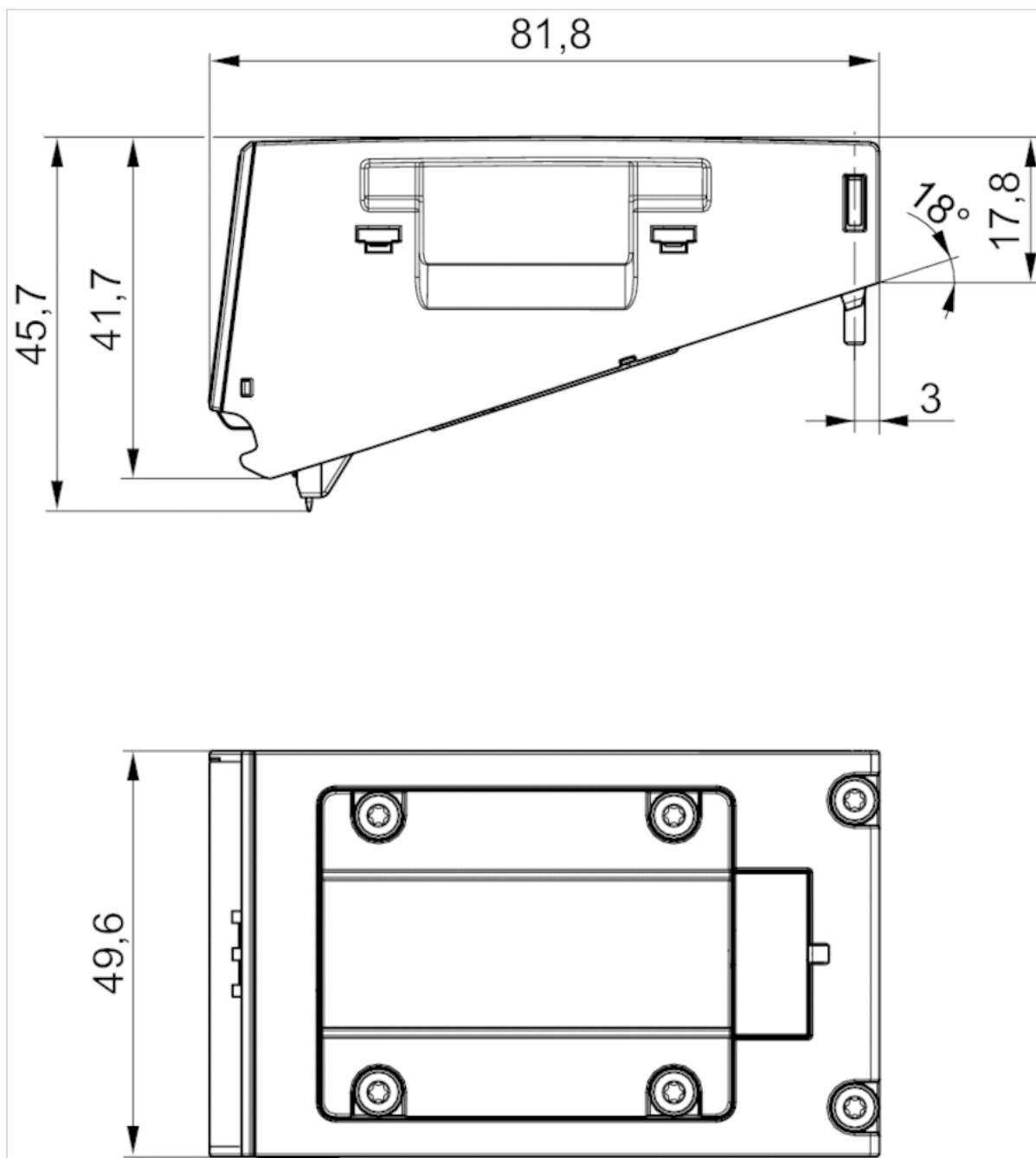
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Polyarylamide
Seals	Nitrile butadiene rubber

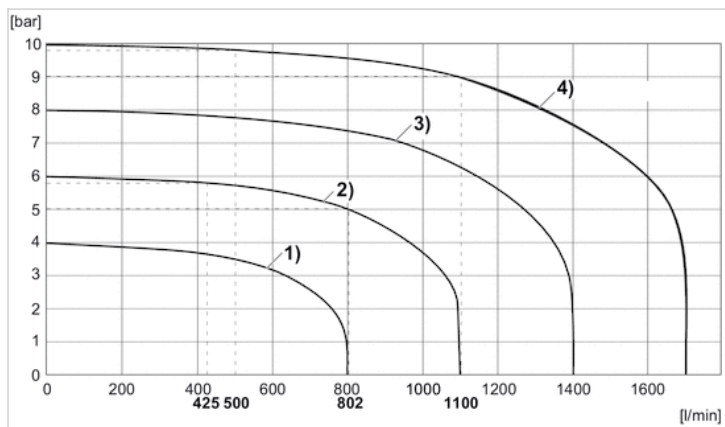
Dimensions

Dimensions



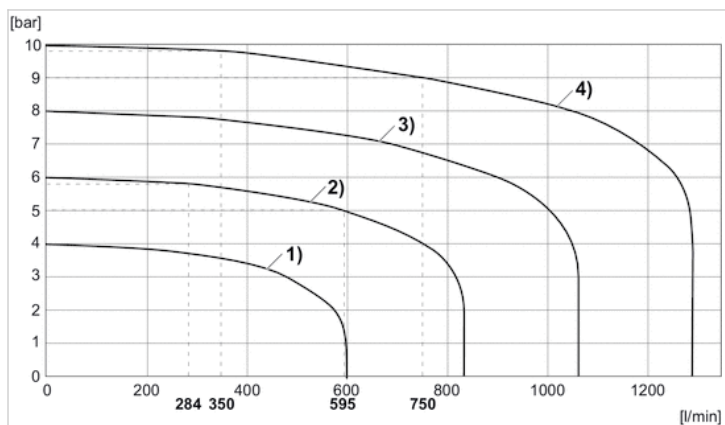
Diagrams

Flow characteristic curve, Pressure zone control



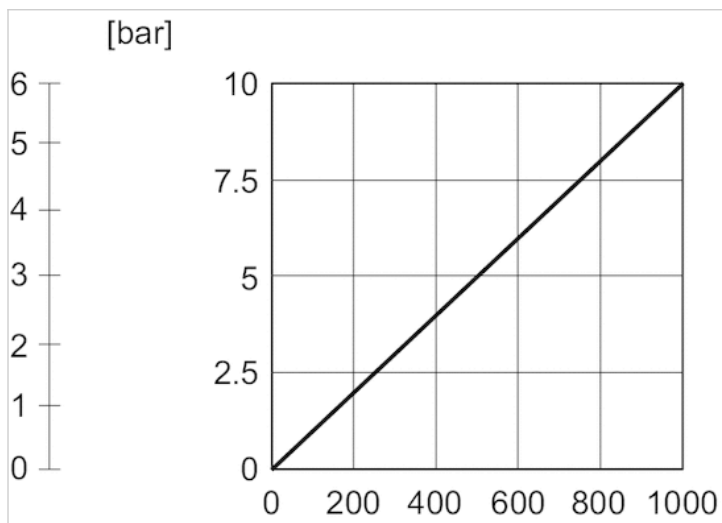
- 1) $P_v = 5 \text{ bar}$, controlled: 4 bar
- 2) $P_v = 7 \text{ bar}$, controlled: 6 bar
- 3) $P_v = 9 \text{ bar}$, controlled: 8 bar
- 4) $P_v = 11 \text{ bar}$, controlled: 10 bar

Flow characteristic curve, Single pressure control



- 1) $P_v = 5 \text{ bar}$, controlled: 4 bar
- 2) $P_v = 7 \text{ bar}$, controlled: 6 bar
- 3) $P_v = 9 \text{ bar}$, controlled: 8 bar
- 4) $P_v = 11 \text{ bar}$, controlled: 10 bar

Characteristics, Further information can be found in the operating instructions.



The regulator features a resolution of 10 bits (bit 0 to 9) for the serial nominal value and serial actual value: The nominal value and actual value range for the 10 bar version lies in the range of 0 to 1000 at a resolution of 10 mbar.

Bus coupler, series AES

R412018218

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Fieldbus protocol
PROFIBUS DP

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis	Communication port, Number of poles
Short circuit	5-pin
Undervoltage	Communication port, Coding
I/O module extension max.	B-coded
10	Communication port 2
Generic emission standard in accordance with norm	Socket
EN 61000-6-4	Communication port 2
Generic immunity standard in accordance with norm	M12x1
EN 61000-6-2	Communication port 2
Communication port Type	5-pin
Plug	Communication port 2
Communication port, Thread size	B-coded
M12x1	Weight
	0.16 kg

Material

Housing material	Part No.
Polyamide fiber-glass reinforced	R412018218

Technical information

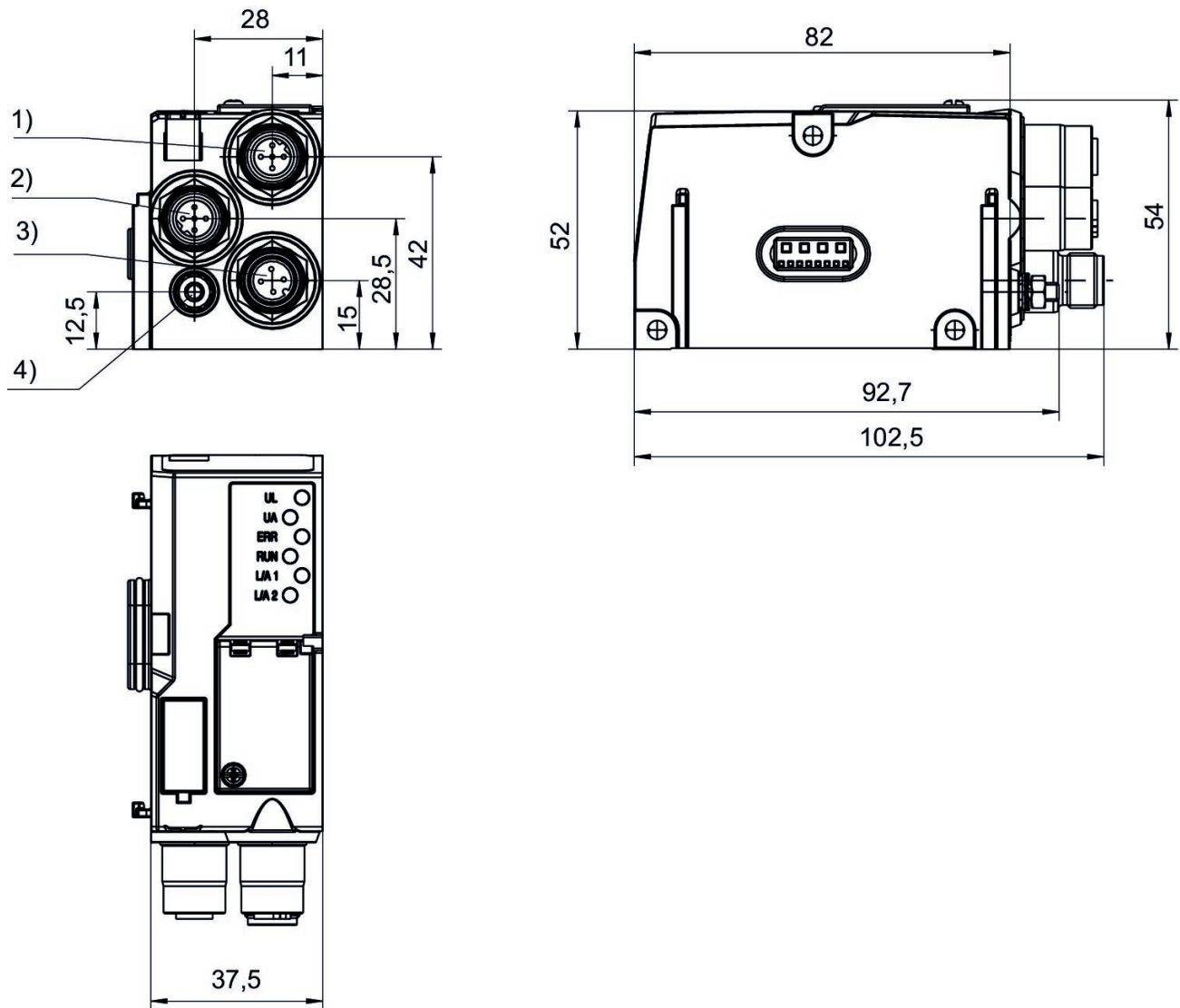
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412018220

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Fieldbus protocol
CANopen

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis	Communication port, Number of poles
Short circuit	5-pin
Undervoltage	Communication port, Coding
I/O module extension max.	A-coded
10	Communication port 2
Generic emission standard in accordance with norm	Socket
EN 61000-6-4	Communication port 2
Generic immunity standard in accordance with norm	M12x1
EN 61000-6-2	Communication port 2
Communication port Type	5-pin
Plug	Communication port 2
Communication port, Thread size	A-coded
M12x1	Weight
	0.16 kg

Material

Housing material	Part No.
Polyamide fiber-glass reinforced	R412018220

Technical information

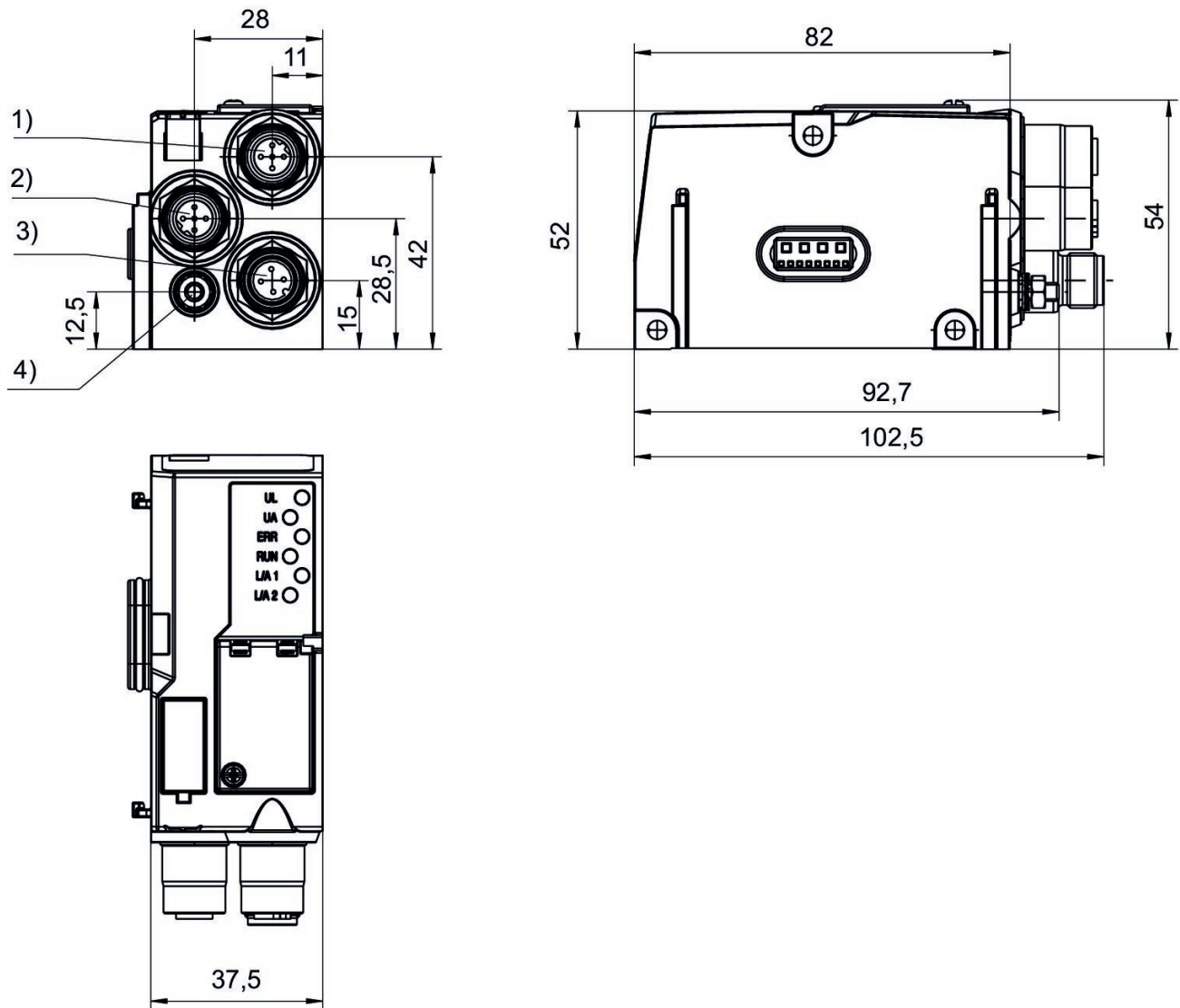
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412018221

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Fieldbus protocol
DeviceNet

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis	Communication port, Number of poles
Short circuit	5-pin
Undervoltage	Communication port, Coding
I/O module extension max.	A-coded
10	Communication port 2
Generic emission standard in accordance with norm	Socket
EN 61000-6-4	Communication port 2
Generic immunity standard in accordance with norm	M12x1
EN 61000-6-2	Communication port 2
Communication port Type	5-pin
Plug	Communication port 2
Communication port, Thread size	A-coded
M12x1	Weight
	0.16 kg

Material

Housing material	Part No.
Polyamide fiber-glass reinforced	R412018221

Technical information

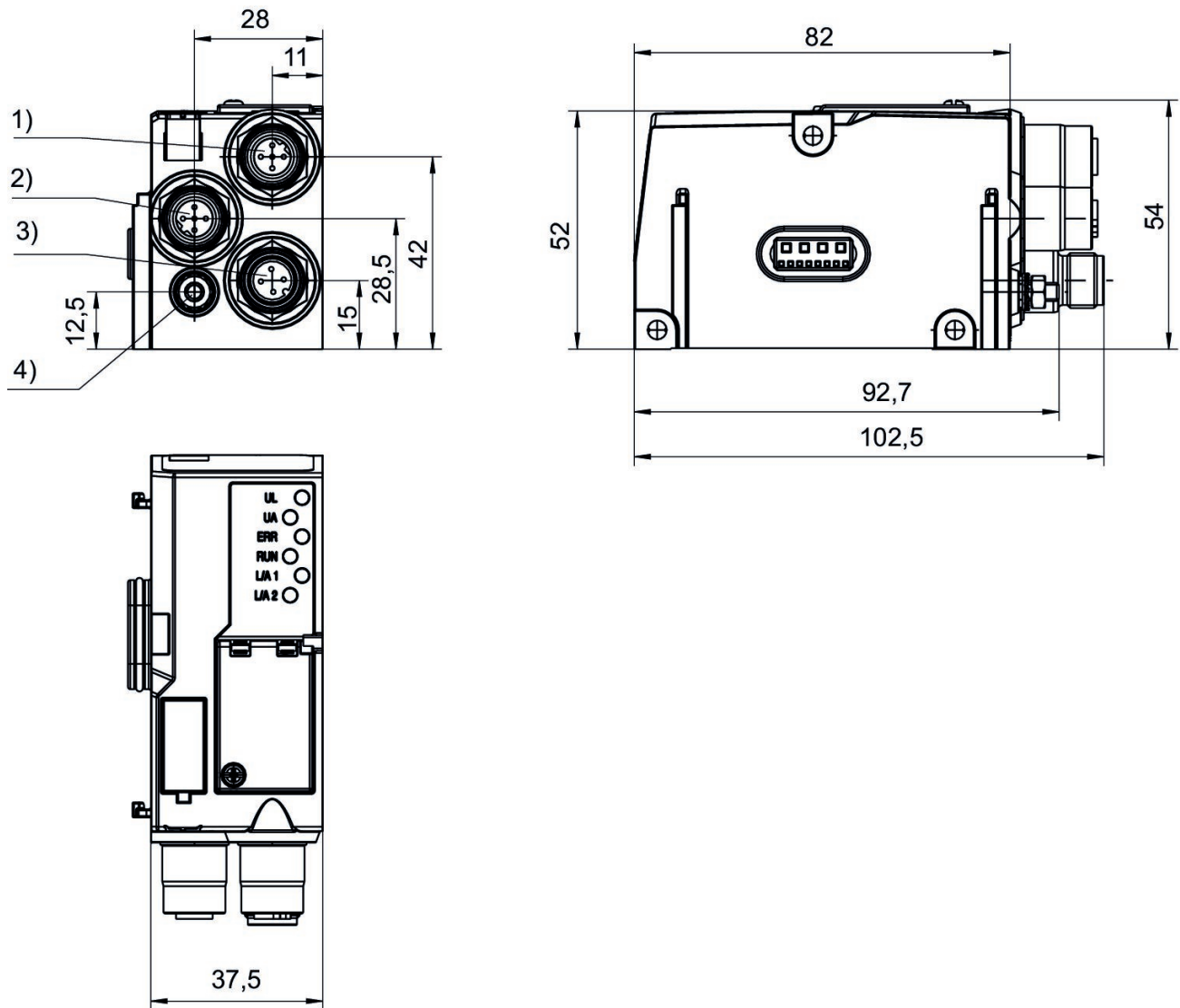
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412088222

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Type
Generation 2
Note: supports DLR

Fieldbus protocol
EtherNet/IP

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412088222

Technical information

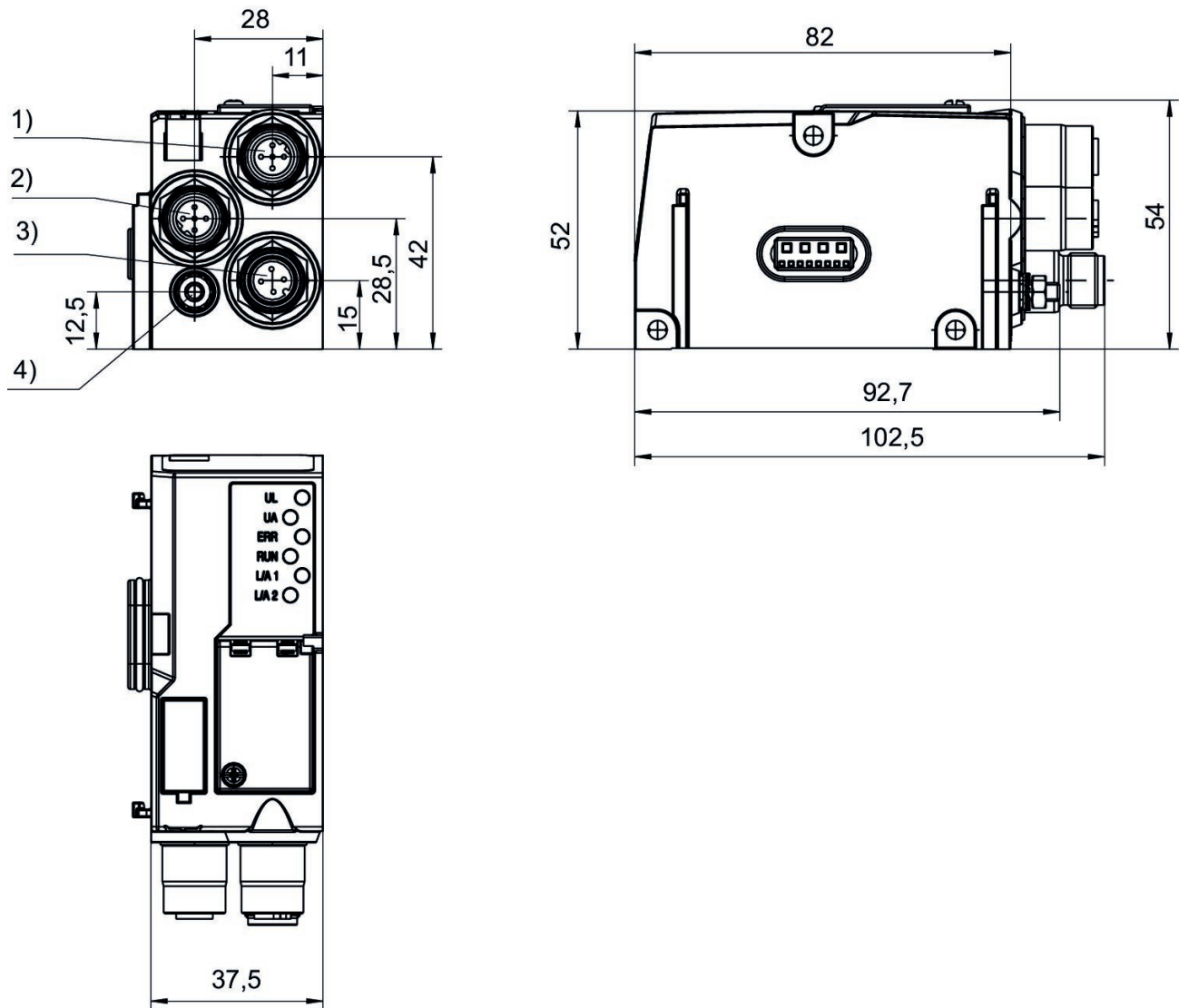
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412018222

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Note
Do not use in new constructions!

Fieldbus protocol
EtherNet/IP

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018222

Technical information

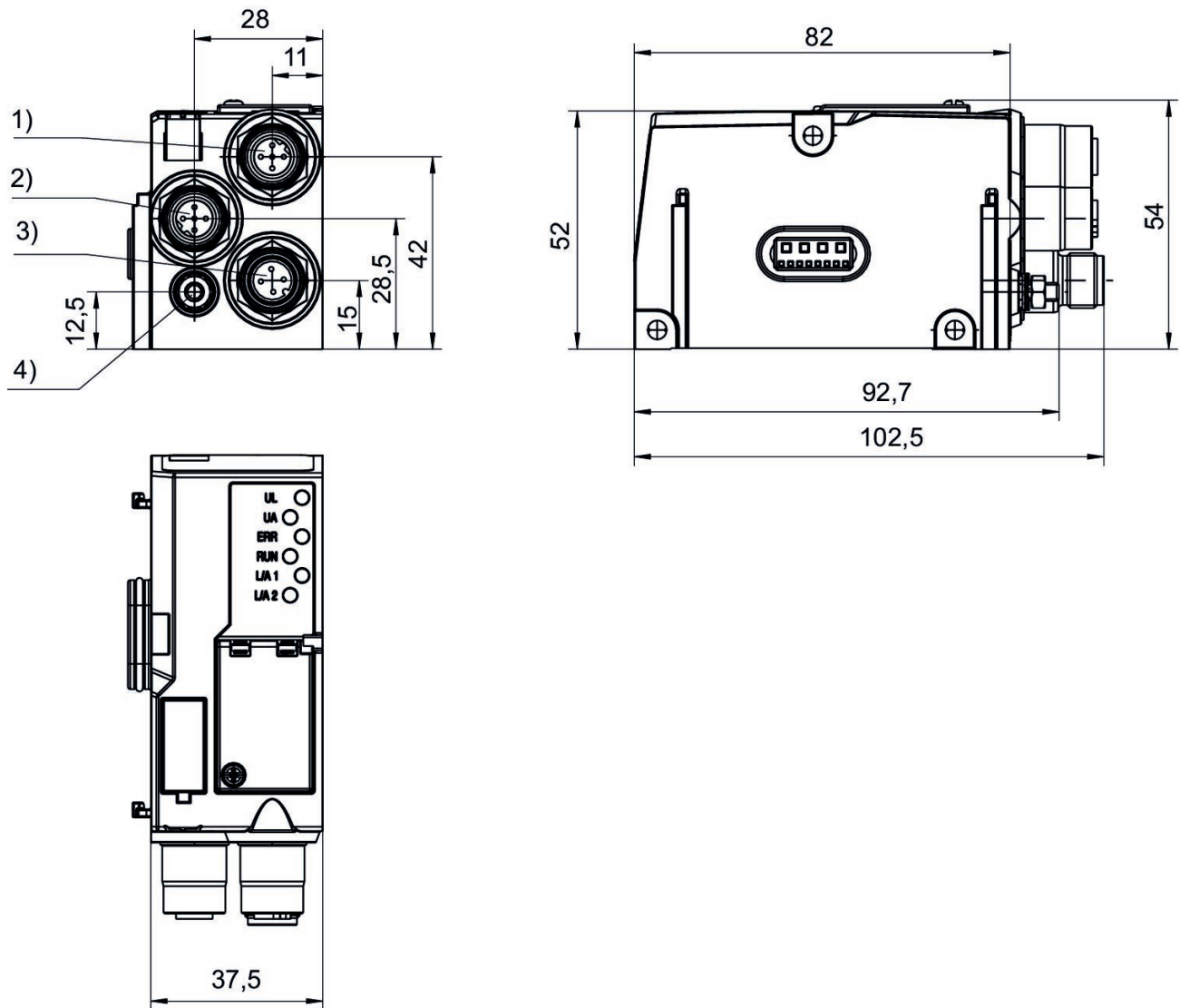
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412088223

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Type
Generation 2
Note: supports MRP and IRT (RT_CLASS 3)

Fieldbus protocol
PROFINET IO

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412088223

Technical information

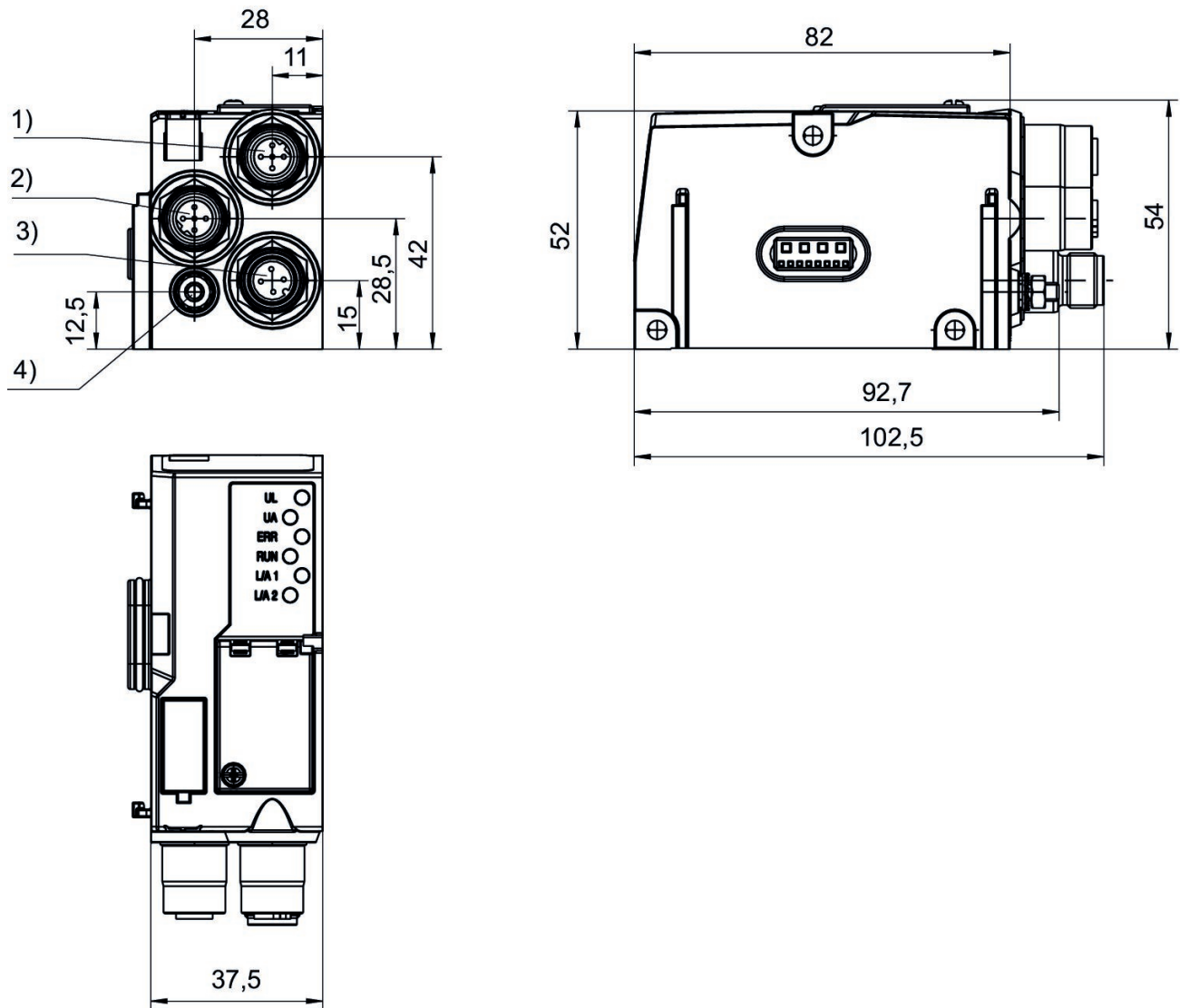
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412018223

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Note
Do not use in new constructions!

Fieldbus protocol
PROFINET IO

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018223

Technical information

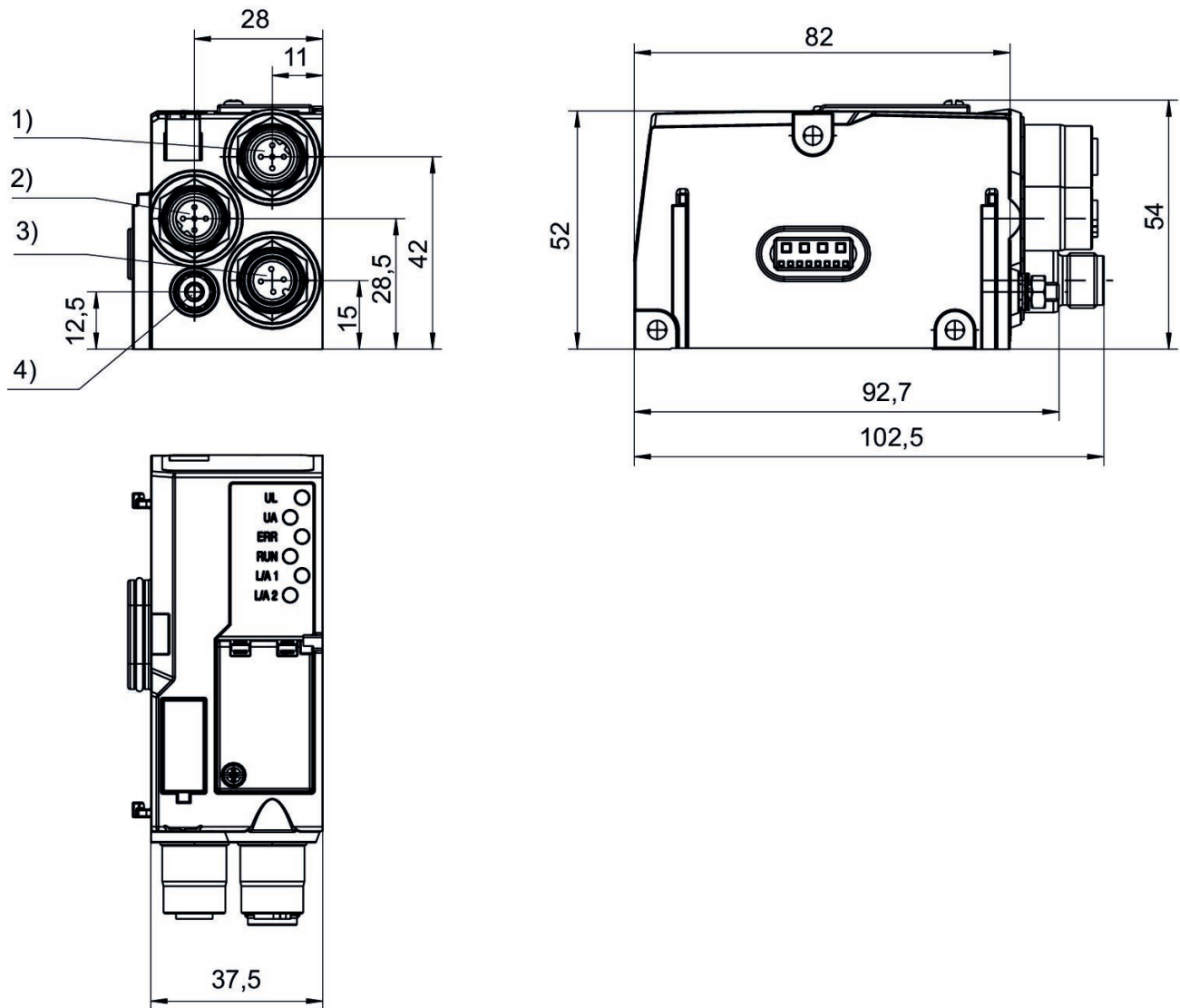
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412088225

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Type
Generation 2

Fieldbus protocol
EtherCAT

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412088225

Technical information

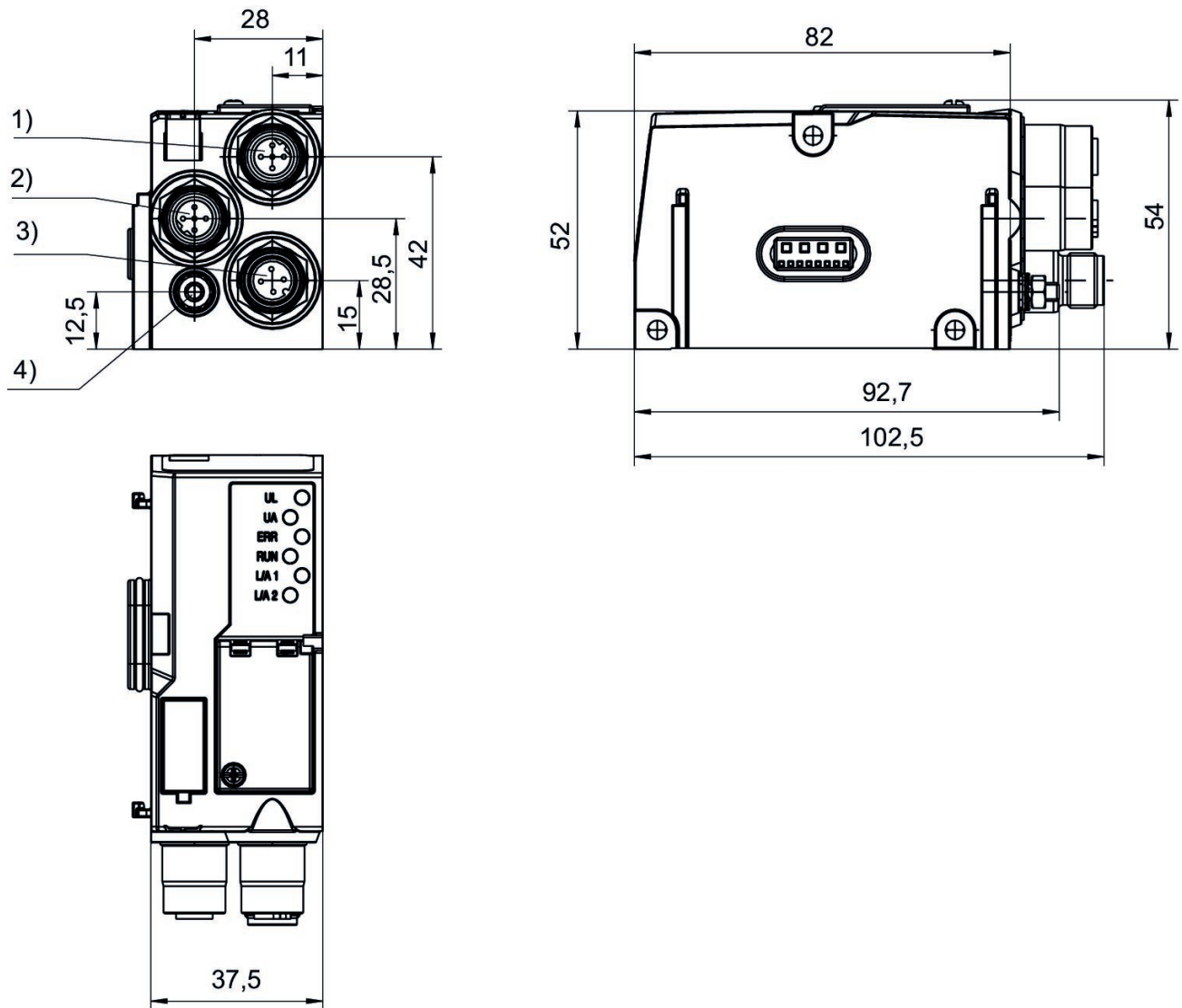
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412018225

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Note
Do not use in new constructions!

Fieldbus protocol
EtherCAT

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018225

Technical information

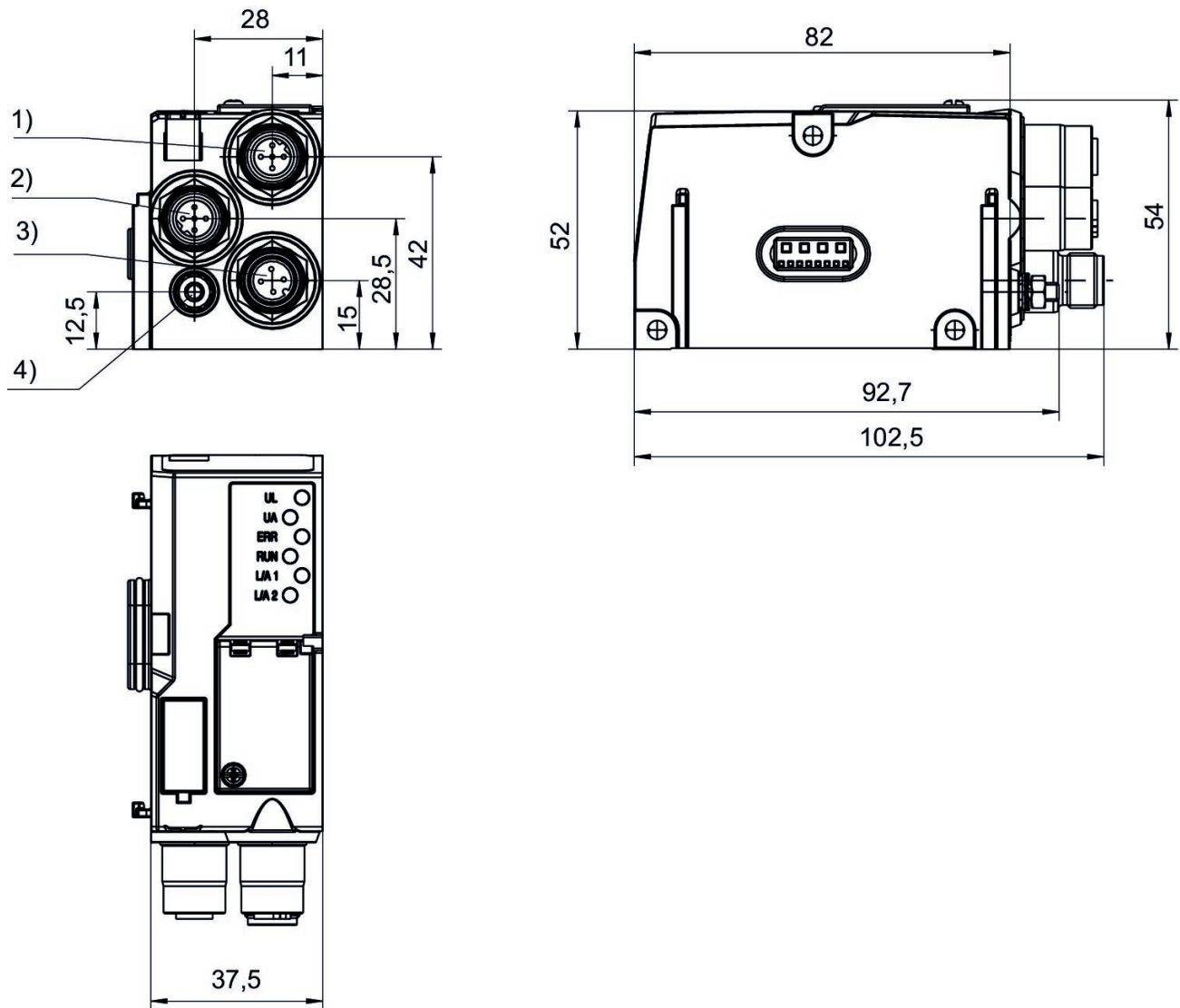
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412088226

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Type
Generation 2

Fieldbus protocol
POWERLINK

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412088226

Technical information

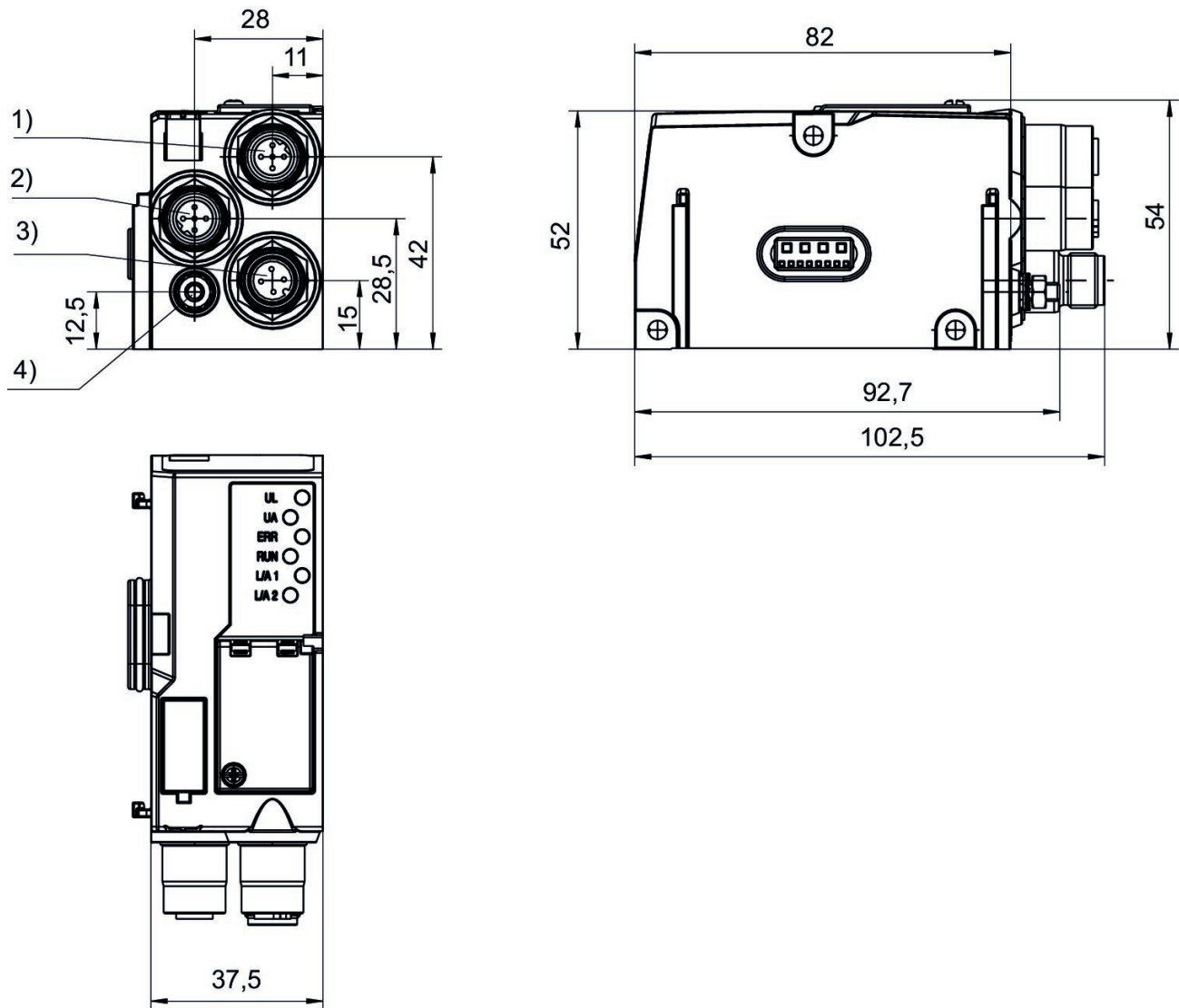
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412018226

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Note
Do not use in new constructions!

Fieldbus protocol
POWERLINK

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018226

Technical information

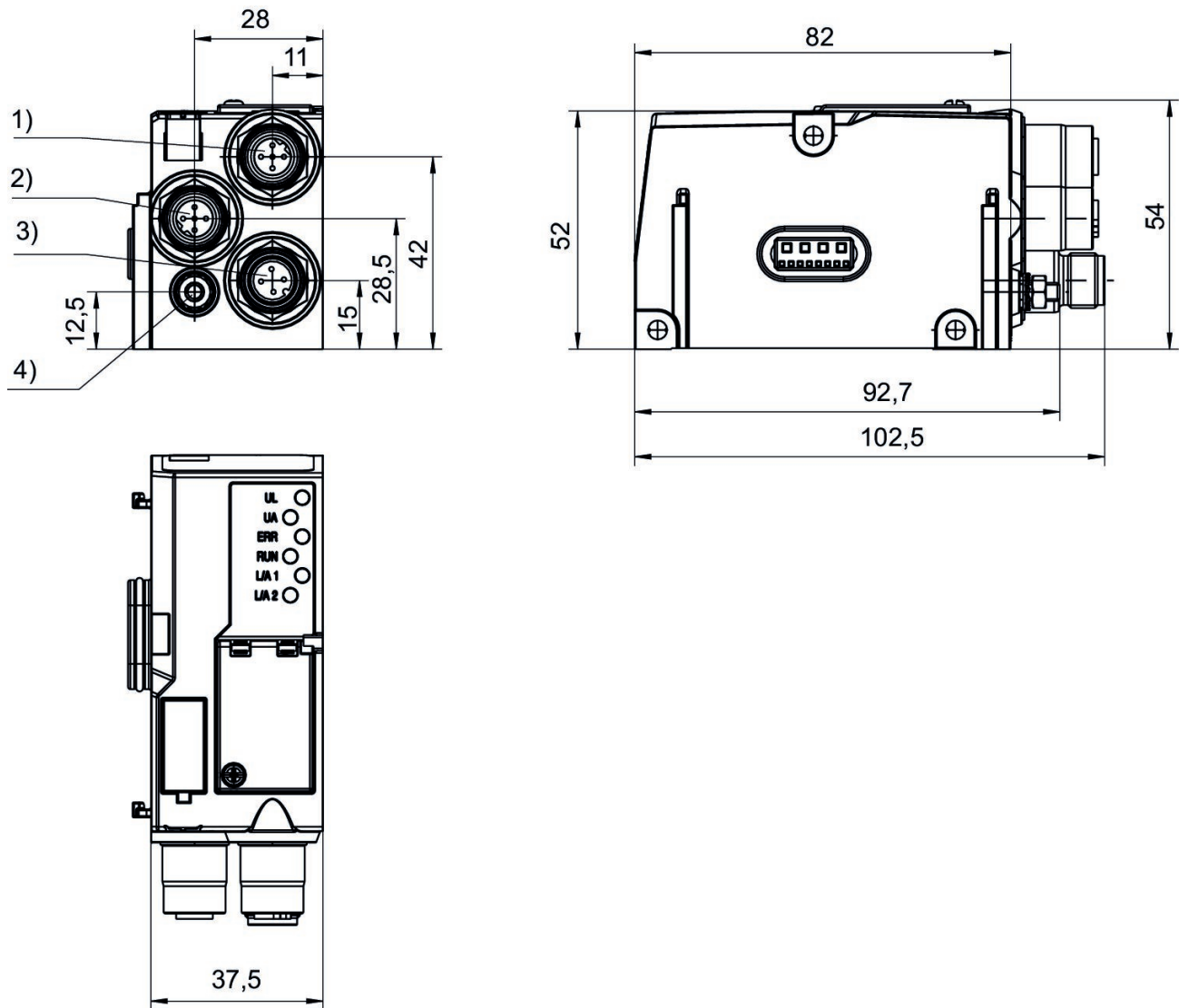
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Scope of delivery: Incl. mounting screws 3x

Dimensions



1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Bus coupler, series AES

R412088227

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Bus coupler

Type
Generation 2

Fieldbus protocol
MODBUS TCP

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412088227

Technical information

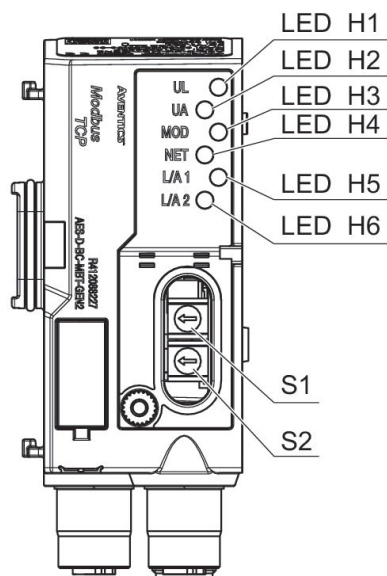
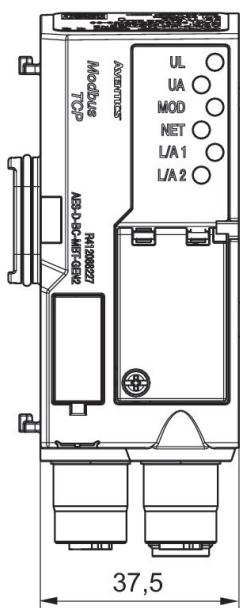
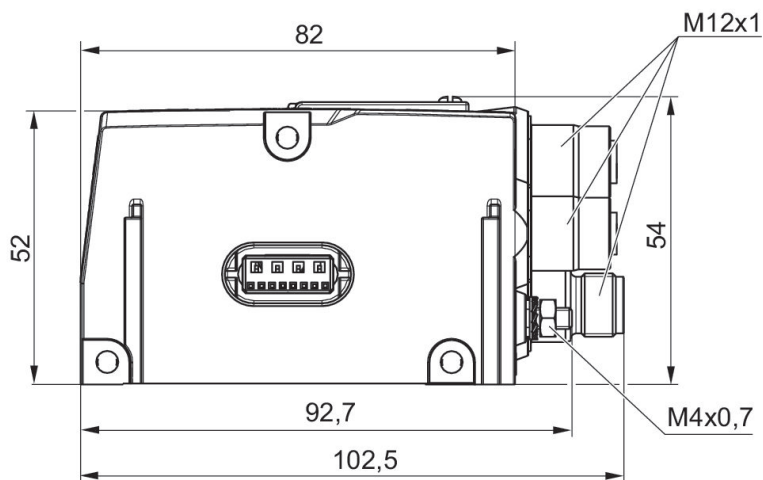
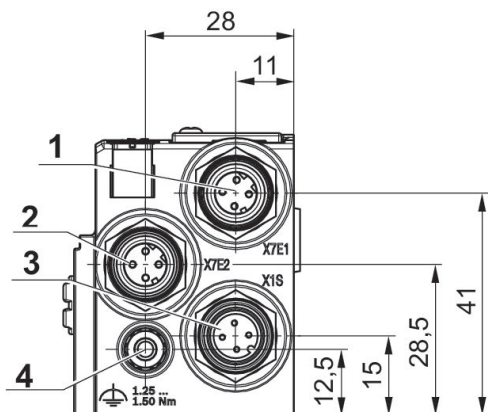
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

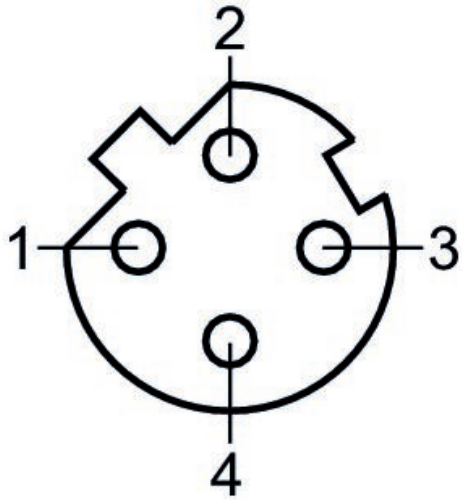
Scope of delivery: Incl. mounting screws 3x

Dimensions

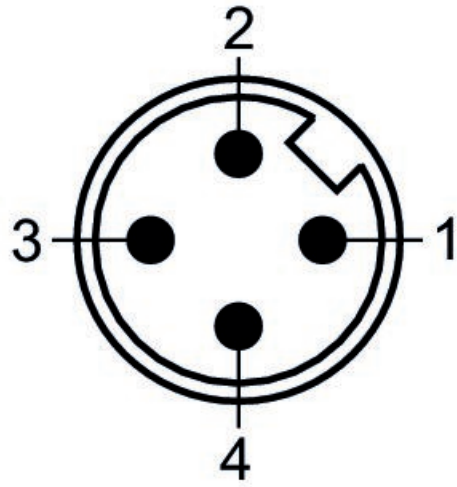


1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Pin assignment, socket



Plug pin assignment



I/O modules, series AES

R412018269

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
8DIDO8M8

Note
Combination module

E/A capable
connection with I/O

I/O module version
digital inputs/outputs

Number of I/O connections
8 inputs / 8 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M8x1

Signal connection E/A number of poles
3-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
1 A

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

Number of inputs 8	Generic immunity standard in accordance with norm EN 61000-6-2
Number of outputs 8	Weight 0.11 kg
Generic emission standard in accordance with norm EN 61000-6-4	

Material

Housing material Polyamide fiber-glass reinforced	Part No. R412018269
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Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

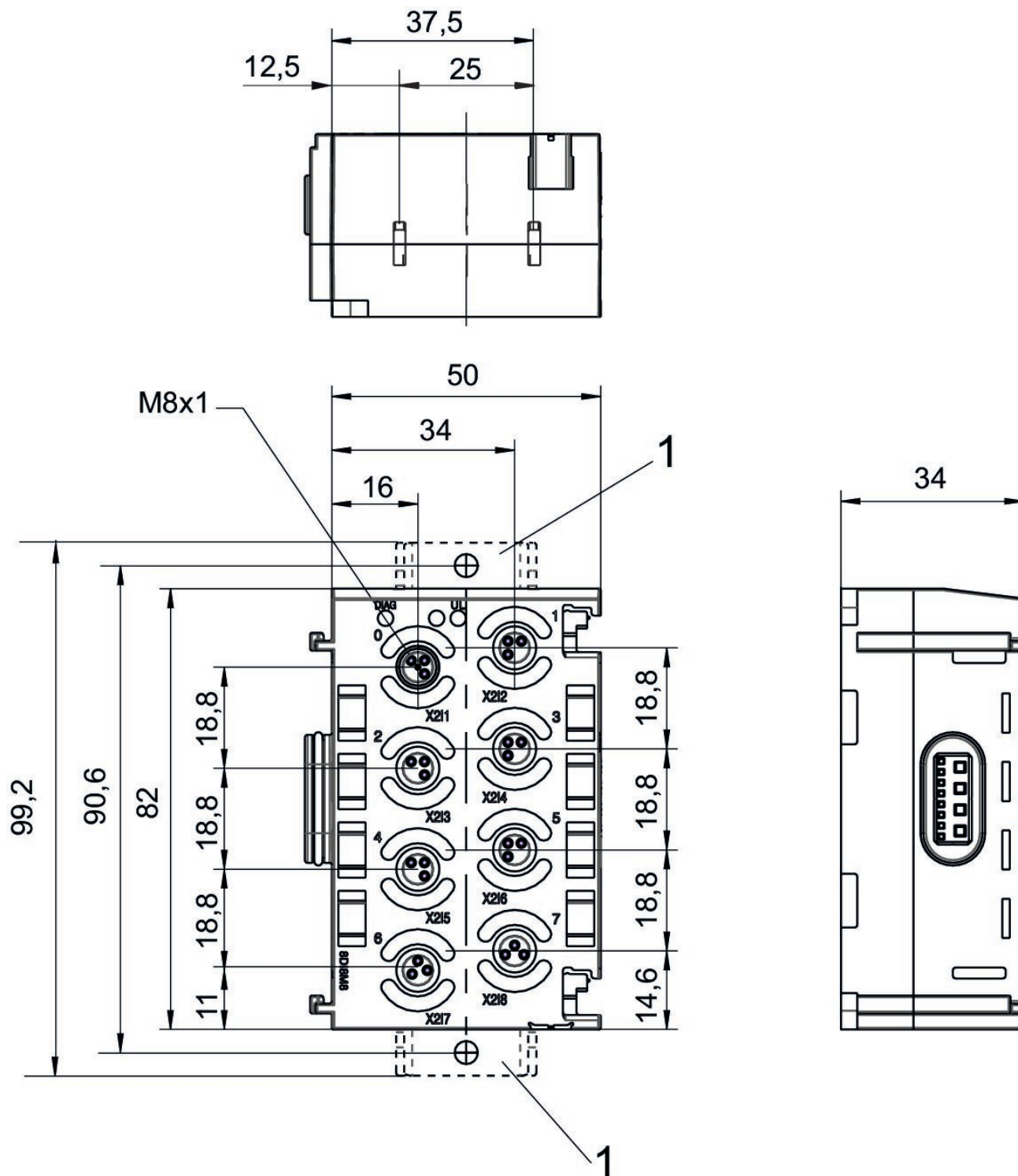
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Function specification for fieldbus configuration.

Dimensions

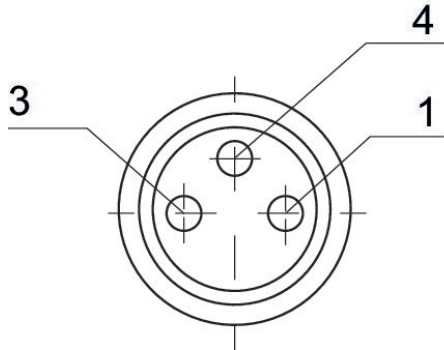


1) Retaining bracket (optional)
Pin assignment M8x1 (3-pin)

Pin assignments

PNP

3-pin



Pin	Input module	Output module
1	24 V DC	-
3	0 V DC	0 V DC
4	Input signal	Output signal

I/O modules, series AES

R412018233

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
8DI8M8

E/A capable
connection with I/O

I/O module version
digital inputs

Number of I/O connections
8 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M8x1

Signal connection E/A number of poles
3-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Protection class
IP65

Total current of sensors max.
1 A

Diagnosis
Short circuit
Undervoltage

Number of inputs
8

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018233

Technical information

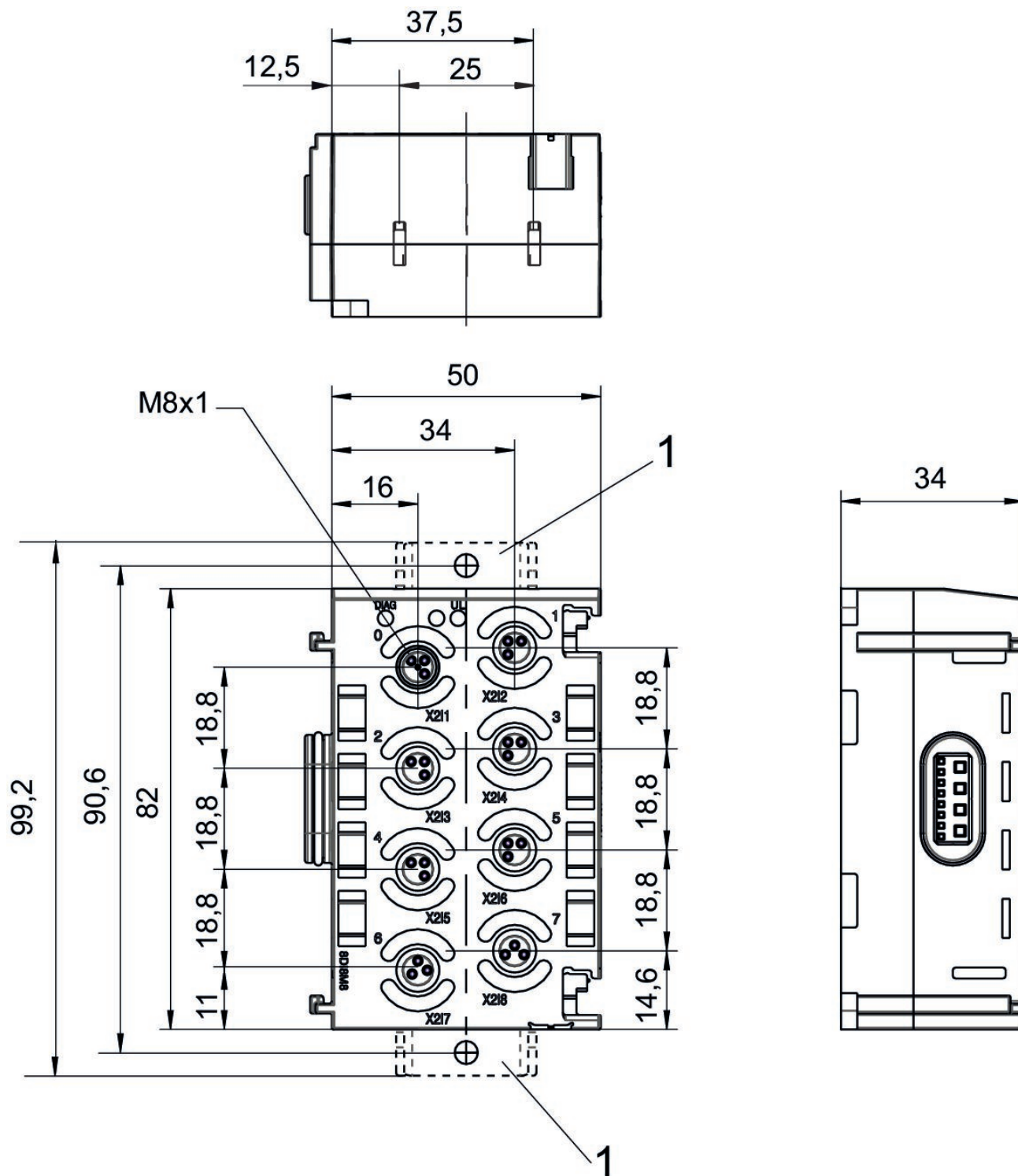
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Dimensions

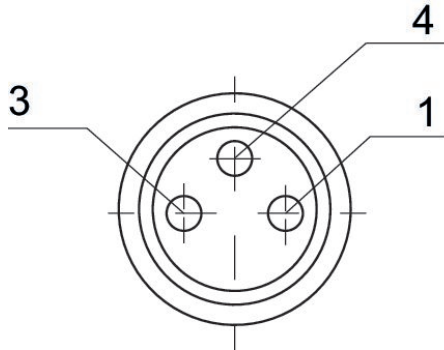


1) Retaining bracket (optional)
Pin assignment M8x1 (3-pin)

Pin assignments

PNP

3-pin



Pin	Input module	Output module
1	24 V DC	-
3	0 V DC	0 V DC
4	Input signal	Output signal

I/O modules, series AES

R412018248

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
8DO8M8

E/A capable
connection with I/O

I/O module version
digital outputs

Number of I/O connections
8 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M8x1

Signal connection E/A number of poles
3-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
1 A

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

Number of outputs
8

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2
Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018248

Technical information

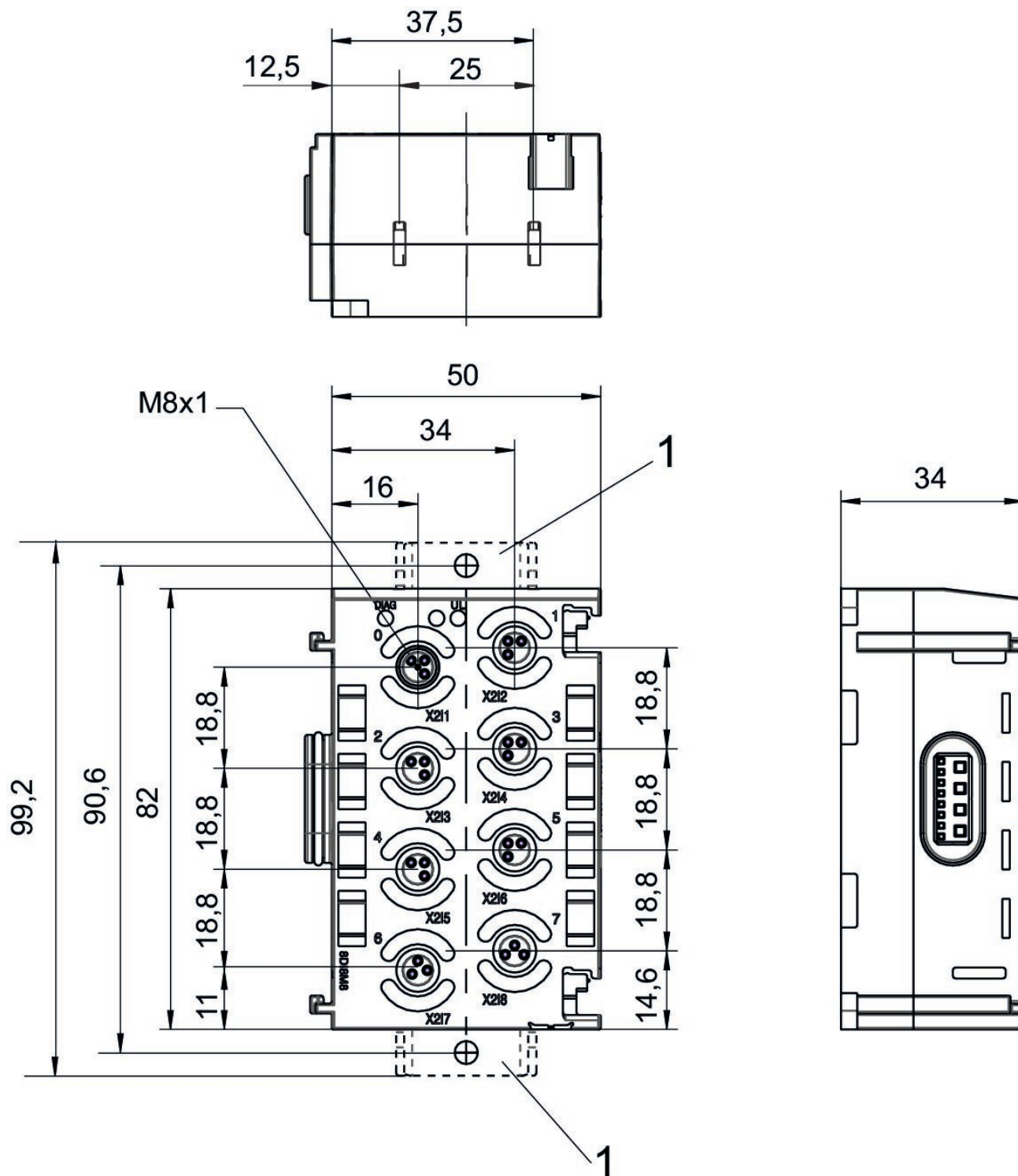
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Dimensions

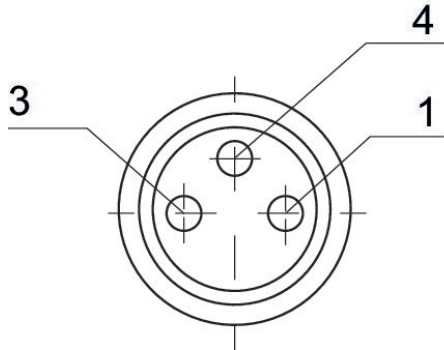


1) Retaining bracket (optional)
Pin assignment M8x1 (3-pin)

Pin assignments

PNP

3-pin



Pin	Input module	Output module
1	24 V DC	-
3	0 V DC	0 V DC
4	Input signal	Output signal

I/O modules, Series AES

R412018234

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
16DI8M8

E/A capable
connection with I/O

I/O module version
digital inputs

Number of I/O connections
16 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M8x1

Signal connection E/A number of poles
4-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Protection class
IP65

Total current of sensors max.
1 A

Diagnosis
Short circuit
Undervoltage

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018234

Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

The total current of all outputs (including valves) must not exceed 4 A in the overall system.

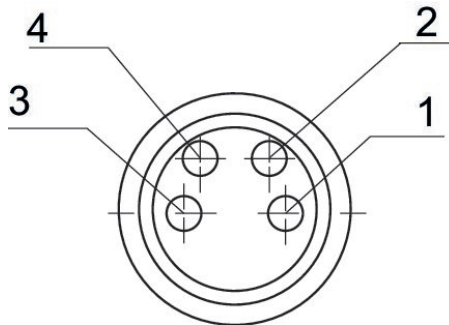
Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Pin assignments

X211-X218

4-pin



PNP

Pin	Input module
1	24 V DC sensor voltage
2	Input signal (most significant bit)
3	0 V DC sensor voltage
4	Input signal (lower order bit)

I/O modules, series AES

R412018235

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
8DI4M12

E/A capable
connection with I/O

I/O module version
digital inputs

Number of I/O connections
8 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Power supply for actuators
8x0,5 A

Protection class
IP65

Total current of sensors max.
1 A

Diagnosis
Short circuit

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018235

Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

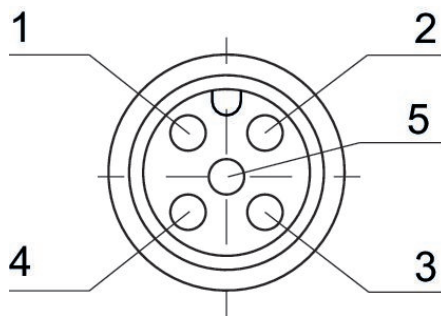
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Pin assignments

PNP



Pin	Input module	Output module
1	24 V DC	-
2	Input signal [X+1]	Output signal [X+1]
3	0 V DC	0 V DC
4	Input signal [X]	Output signal [X]
5	-	-

X = bit value

I/O modules, series AES

R412018250

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
8DO4M12

E/A capable
connection with I/O

I/O module version
digital outputs

Number of I/O connections
8 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Power supply for actuators
8x0,5 A

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
1 A

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2
Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018250

Technical information

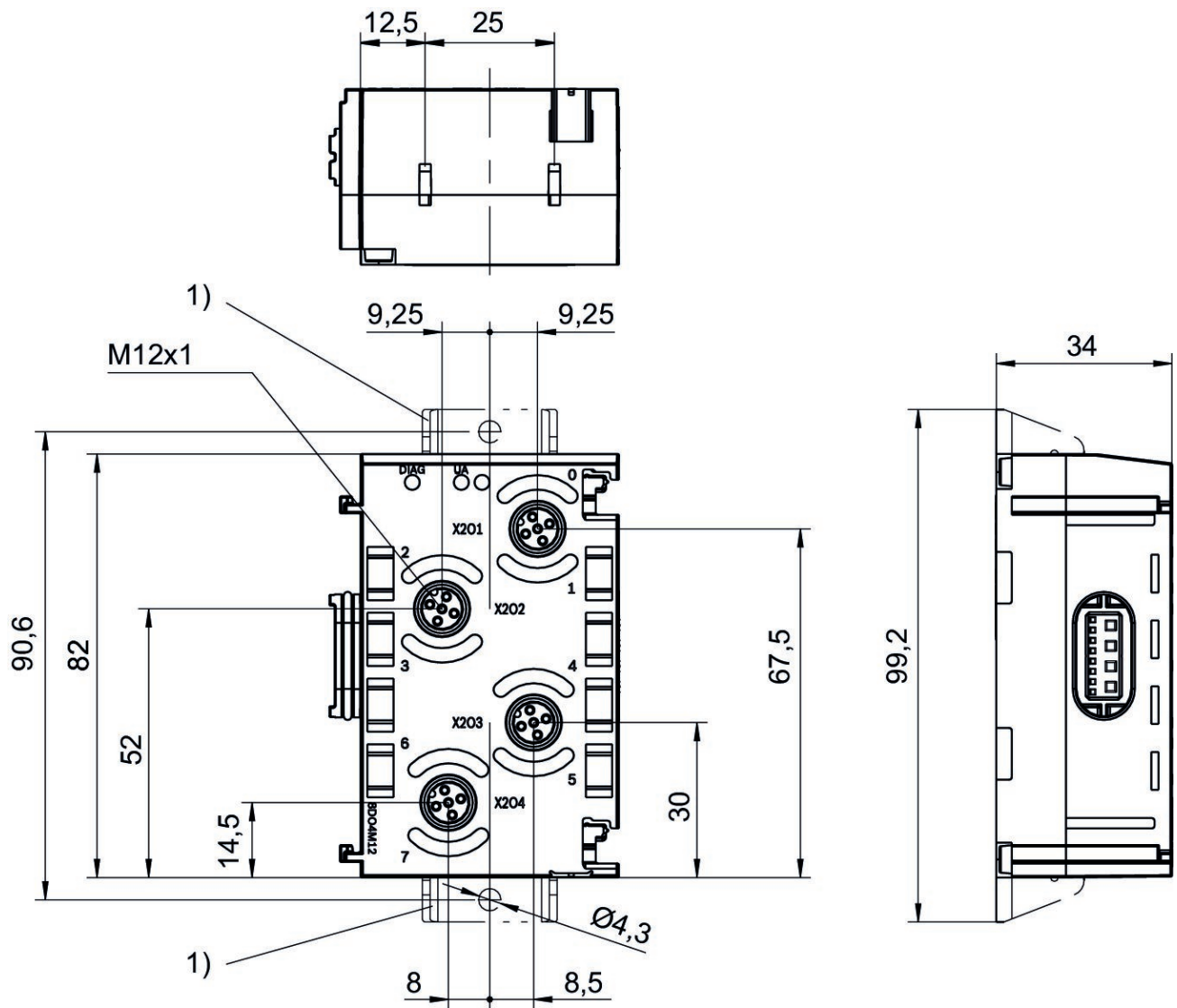
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

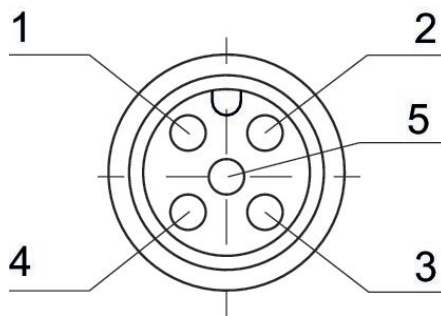
Dimensions



1) Retaining bracket (optional)

Pin assignments

PNP



Pin	Input module	Output module
1	24 V DC	-
2	Input signal [X+1]	Output signal [X+1]
3	0 V DC	0 V DC
4	Input signal [X]	Output signal [X]
5	-	-

X = bit value

I/O modules, series AES

R412018270

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
8DIDO4M12

Note
Combination module

E/A capable
connection with I/O

I/O module version
digital inputs/outputs

Number of I/O connections
8 inputs / 8 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Power supply for actuators
8x0,5 A

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
1 A

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2
Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018270

Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

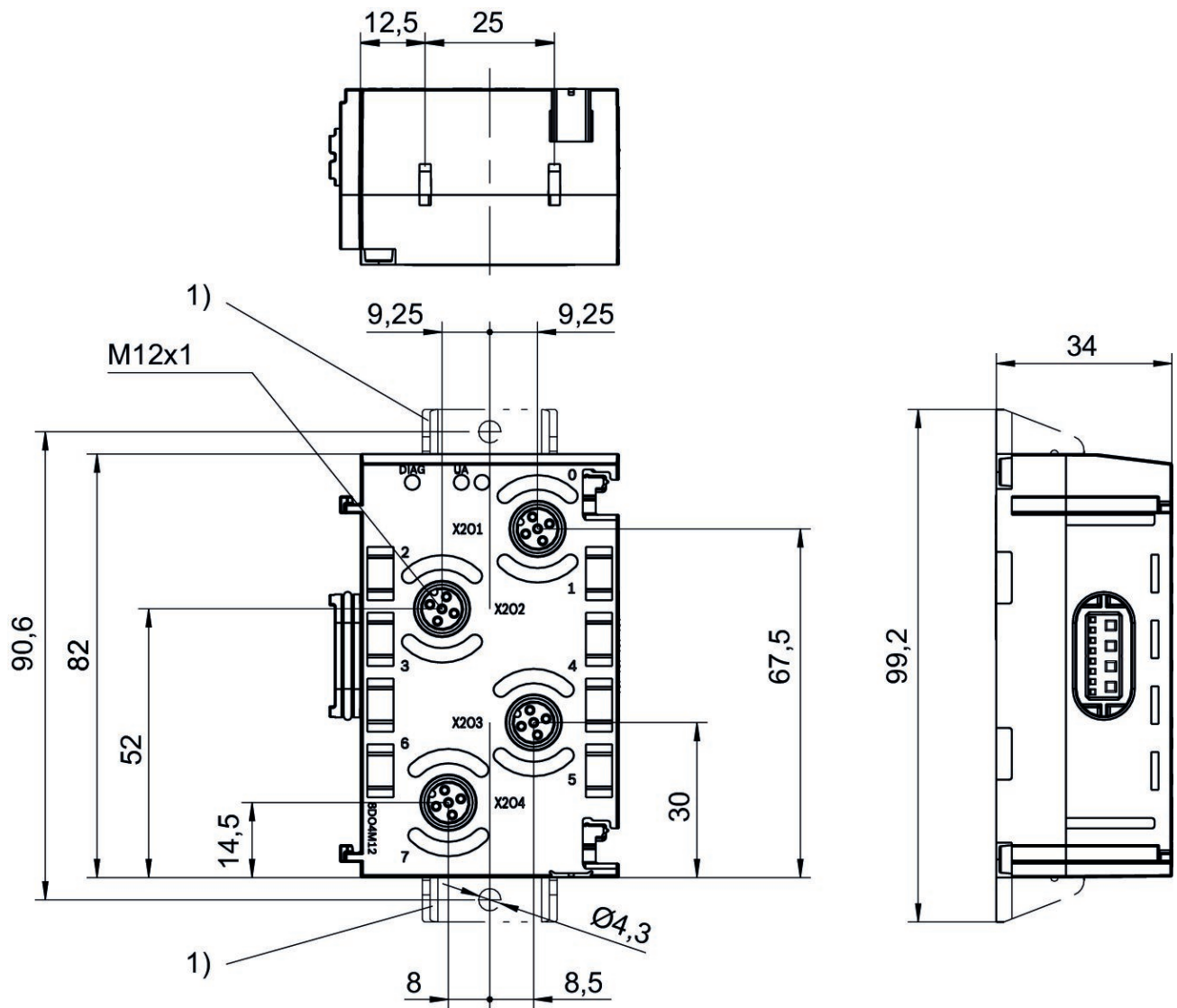
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Function specification for fieldbus configuration.

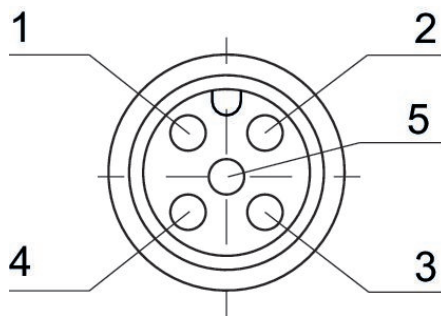
Dimensions



1) Retaining bracket (optional)

Pin assignments

PNP



Pin	Input module	Output module
1	24 V DC	-
2	Input signal [X+1]	Output signal [X+1]
3	0 V DC	0 V DC
4	Input signal [X]	Output signal [X]
5	-	-

X = bit value

I/O modules, series AES

R412018243

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
16DI4M12

E/A capable
connection with I/O

I/O module version
digital inputs

Number of I/O connections
16 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
8-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-10% / +10%

Max. current per channel
0.5 A

Protection class
IP65

Total current of sensors max.
1 A

Diagnosis
Short circuit

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018243

Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

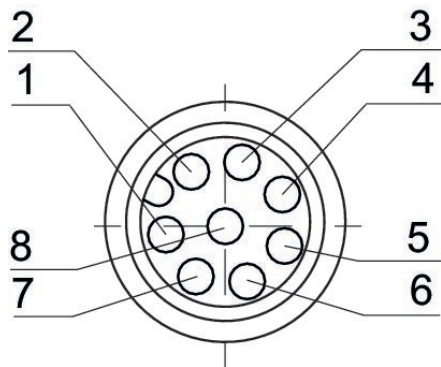
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Pin assignments

PNP



Pin	Input module	Output module
1	Input signal [X]	Output signal 24 V DC [X]
2	Input signal [X+1]	Output signal 24 V DC [X+1]
3	Input signal [X+2]	Output signal 24 V DC [X+2]
4	Input signal [X+3]	Output signal 24 V DC [X+3]
5	24 V DC	-
6	-	-
7	0 V DC	0 V DC
8	-	-
X = bit value		

X = bit value

I/O modules, series AES

R412018263

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
16DO4M12

E/A capable
connection with I/O

I/O module version
digital outputs

Number of I/O connections
16 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
8-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-10% / +10%

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
1 A

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2
Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018263

Technical information

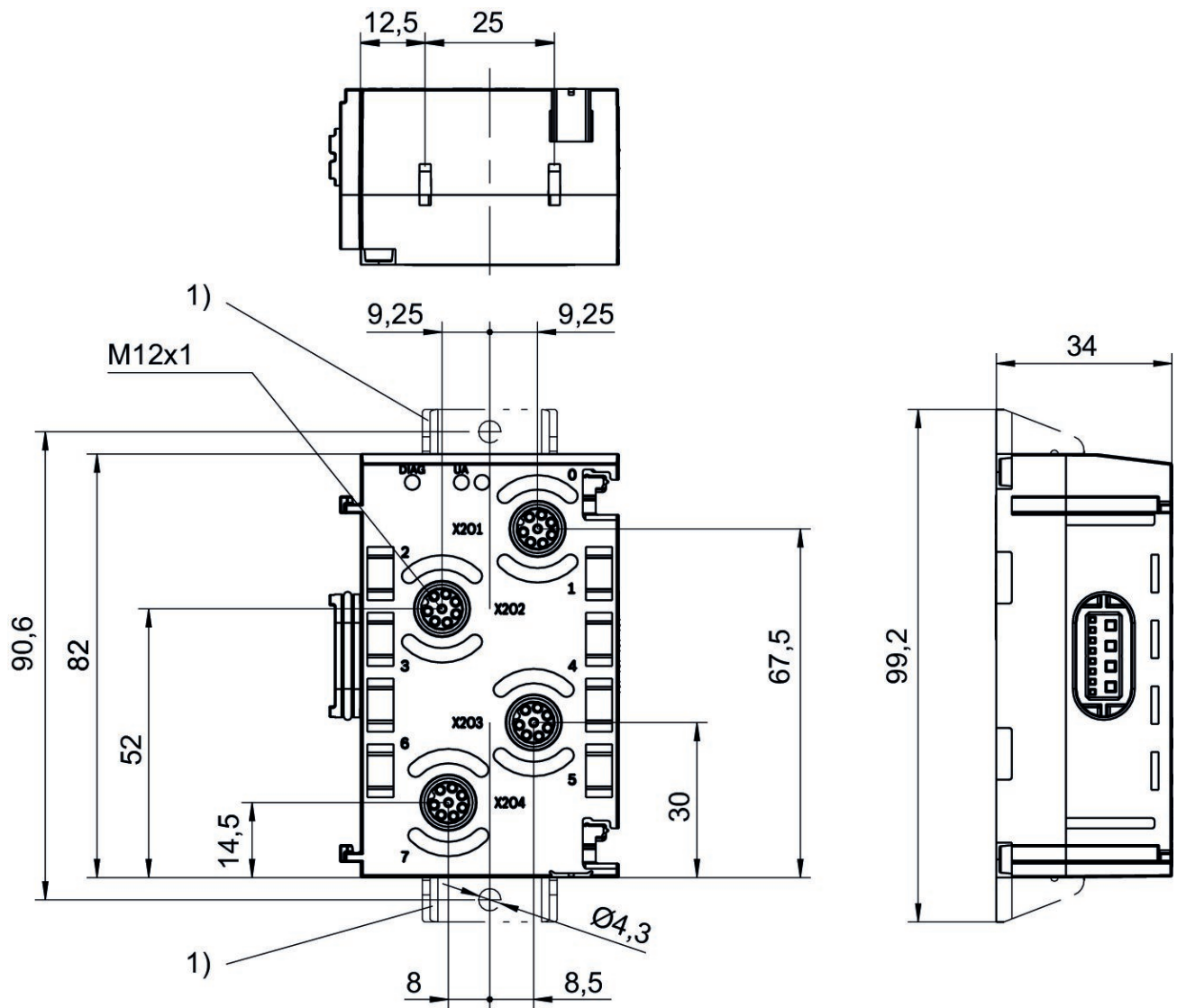
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

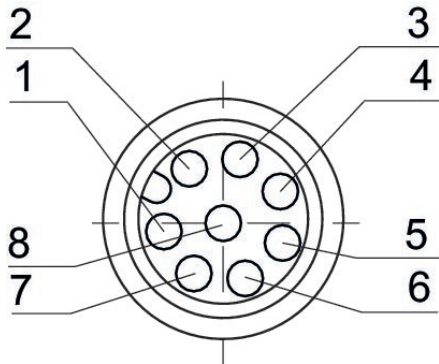
Dimensions



1) Retaining bracket (optional)

Pin assignments

PNP



Pin	Input module	Output module
1	Input signal [X]	Output signal 24 V DC [X]
2	Input signal [X+1]	Output signal 24 V DC [X+1]
3	Input signal [X+2]	Output signal 24 V DC [X+2]
4	Input signal [X+3]	Output signal 24 V DC [X+3]
5	24 V DC	-
6	-	-
7	0 V DC	0 V DC
8	-	-
X = bit value		

X = bit value

I/O modules, series AES

R412018254

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
24DO1DSUB25

E/A capable
connection with I/O

I/O module version
digital outputs

Number of I/O connections
24 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
D-Sub

Signal connection E/A number of poles
25-pin

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP65

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.115 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018254

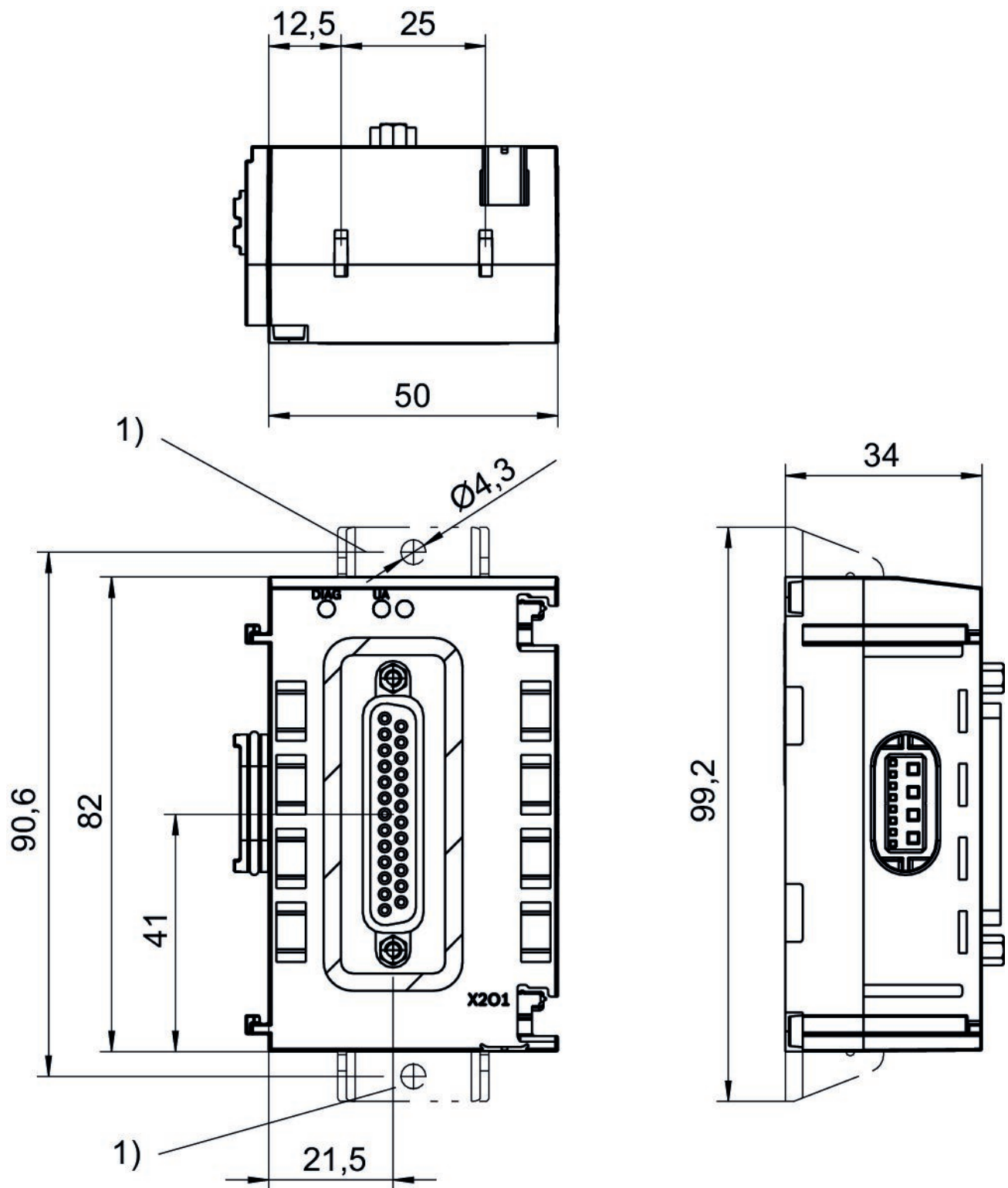
Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

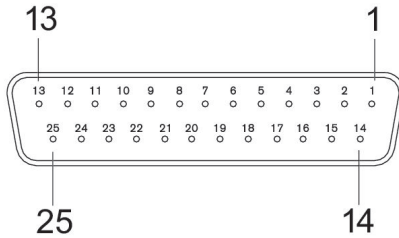
Delivery contents: incl. 2 spring clamp elements and seal

Dimensions



1) Retaining bracket (optional)

PIN assignment and cable colors cable identification as per DIN 47100



Socket

Pin	Output module
1	[X]
2	[X+0.1]
3	[X+0.2]
4	[X+0.3]
5	[X+0.4]
6	[X+0.5]
7	[X+0.6]
8	[X+0.7]
9	[X+1]
10	[X+1.1]
11	[X+1.2]
12	[X+1.3]
13	[X+1.4]
14	[X+1.5]
15	[X+1.6]
16	[X+1.7]
17	[X+2.0]
18	[X+2.1]
19	[X+2.2]
20	[X+2.3]
21	[X+2.4]
22	[X+2.5]
23	[X+2.6]
24	[X+2.7]
25	0 V DC

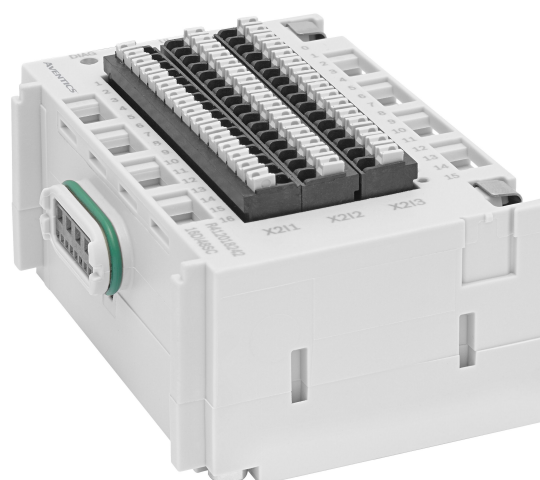
X = bit value

I/O modules, series AES

R412018242

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
16DI48SC

E/A capable
connection with I/O

I/O module version
digital inputs

Number of I/O connections
16 inputs

Power plug IN type
Internal

Signal connection E/A type
Spring clamp connections

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Protection class
IP20

Total current of sensors max.
1 A

Diagnosis
Short circuit

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.115 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018242

Technical information

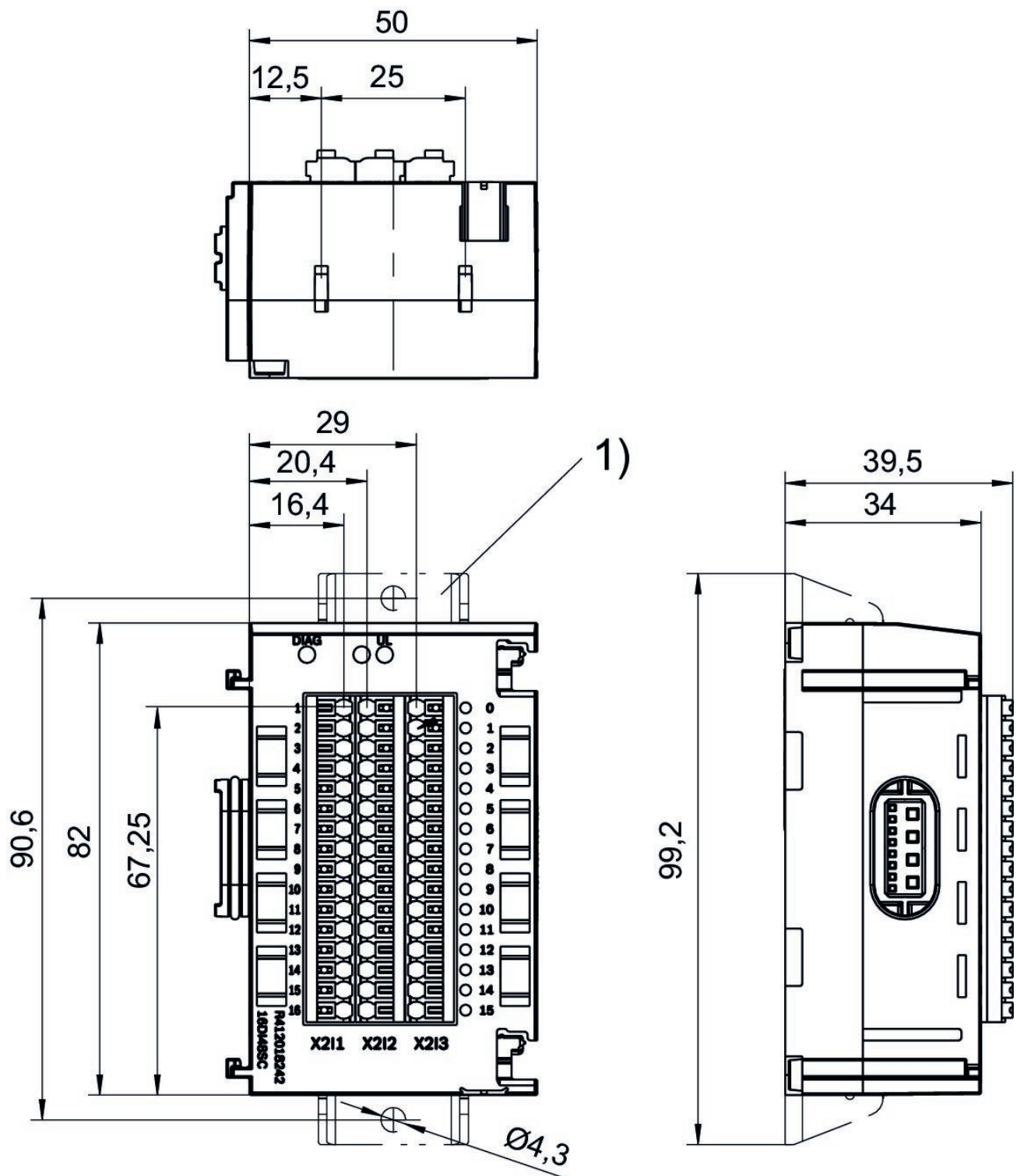
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

The clamp area for stranded wires is between 0.2 and 1.5 mm².

Delivery contents: incl. 2 spring clamp elements and seal

Dimensions



1) Retaining bracket (optional)

Port	Contact	Function Input signal
X2I1	1	24 V DC bit 0.0
	2	24 V DC bit 0.1
	3	24 V DC bit 0.2
	4	24 V DC bit 0.3
	5	24 V DC bit 0.4
	6	24 V DC bit 0.5
	7	24 V DC bit 0.6
	8	24 V DC bit 0.7
	9	24 V DC bit 1.0
	10	24 V DC bit 1.1
	11	24 V DC bit 1.2
	12	24 V DC bit 1.3
	13	24 V DC bit 1.4
	14	24 V DC bit 1.5
	15	24 V DC bit 1.6
	16	24 V DC bit 1.7
X2I2	1-16	24 V DC
X2I3	1-16	0 V DC

Power module Series AES

R412018267

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Power module

E/A capable
connection with I/O

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug OUT type
Socket

Power plug OUT size
M12x1

Power plug OUT number of pole
4-pin

Power supply direction UA
left

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-20% / +20%

Operating voltage, actuators
24 V DC

Actuator voltage tolerance
-10% / +10%

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
4 A

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.15 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018267

Technical information

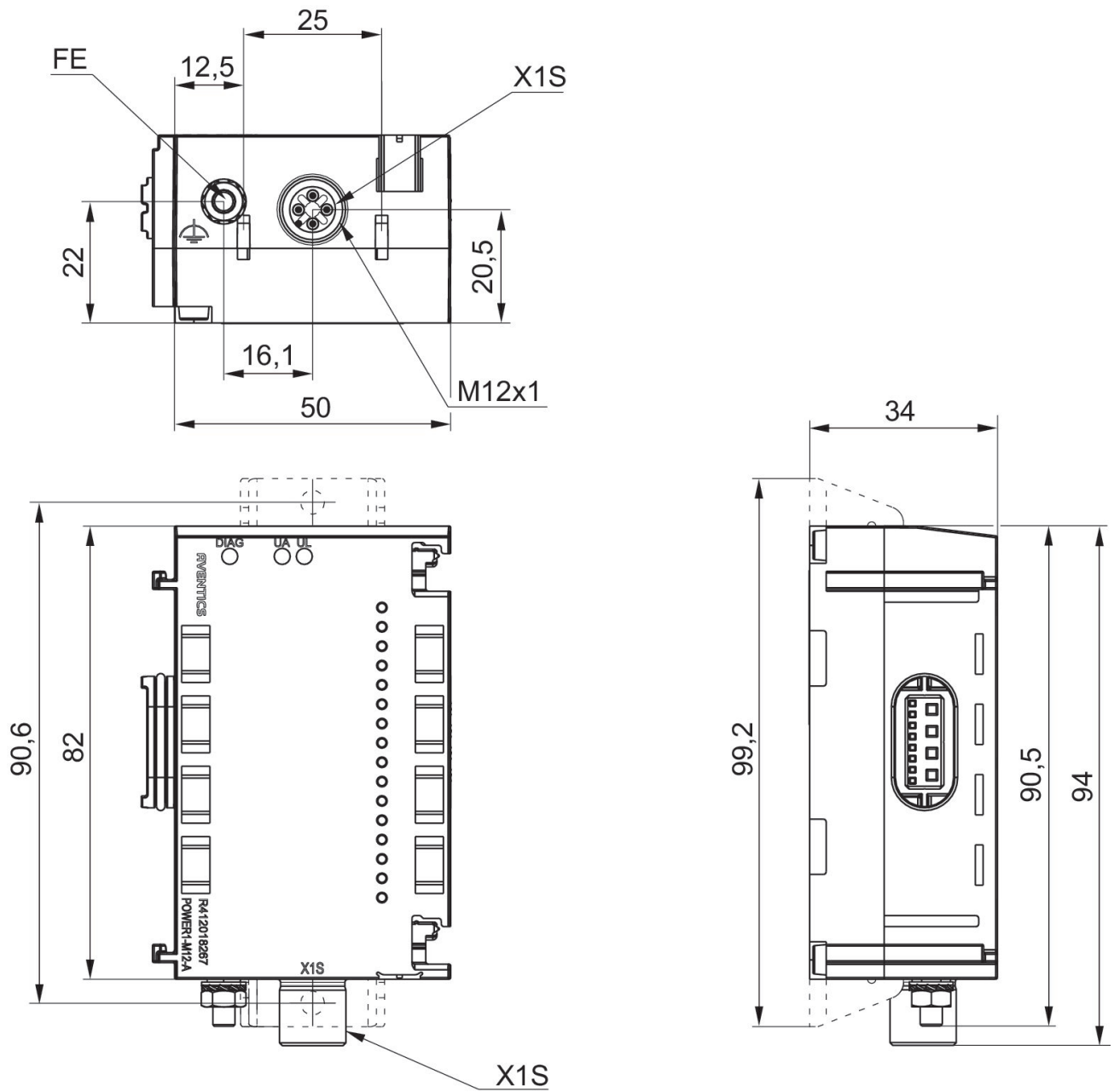
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

UL: Logic voltage (power supply for electronic components and sensors)

UA: Actuator voltage (power supply for valves and outputs)

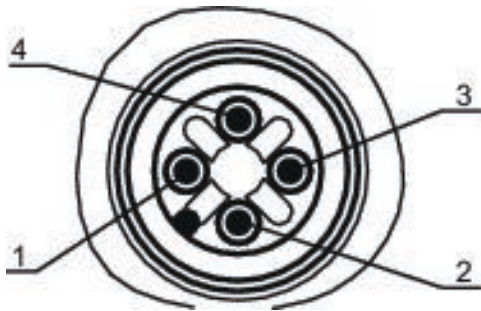
The supply voltage is galvanically isolated from the right-hand module.

Dimensions



Port 1, X1S

Pin assignments PNP



Pin	R412018267 (UA)	R412018267 (UL)
1	-	24 V DC power supply (UL) input
2	24 V DC power supply (UA) input	-
3	-	0 V DC (UL)
4	0 V DC (UA)	-

Power module Series AES

R412018268

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Power module

E/A capable
connection with I/O

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug OUT type
Socket

Power plug OUT size
M12x1

Power plug OUT number of pole
4-pin

Power supply direction UL
left

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-20% / +20%

Operating voltage, actuators
24 V DC

Actuator voltage tolerance
-10% / +10%

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
4 A

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.15 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018268

Technical information

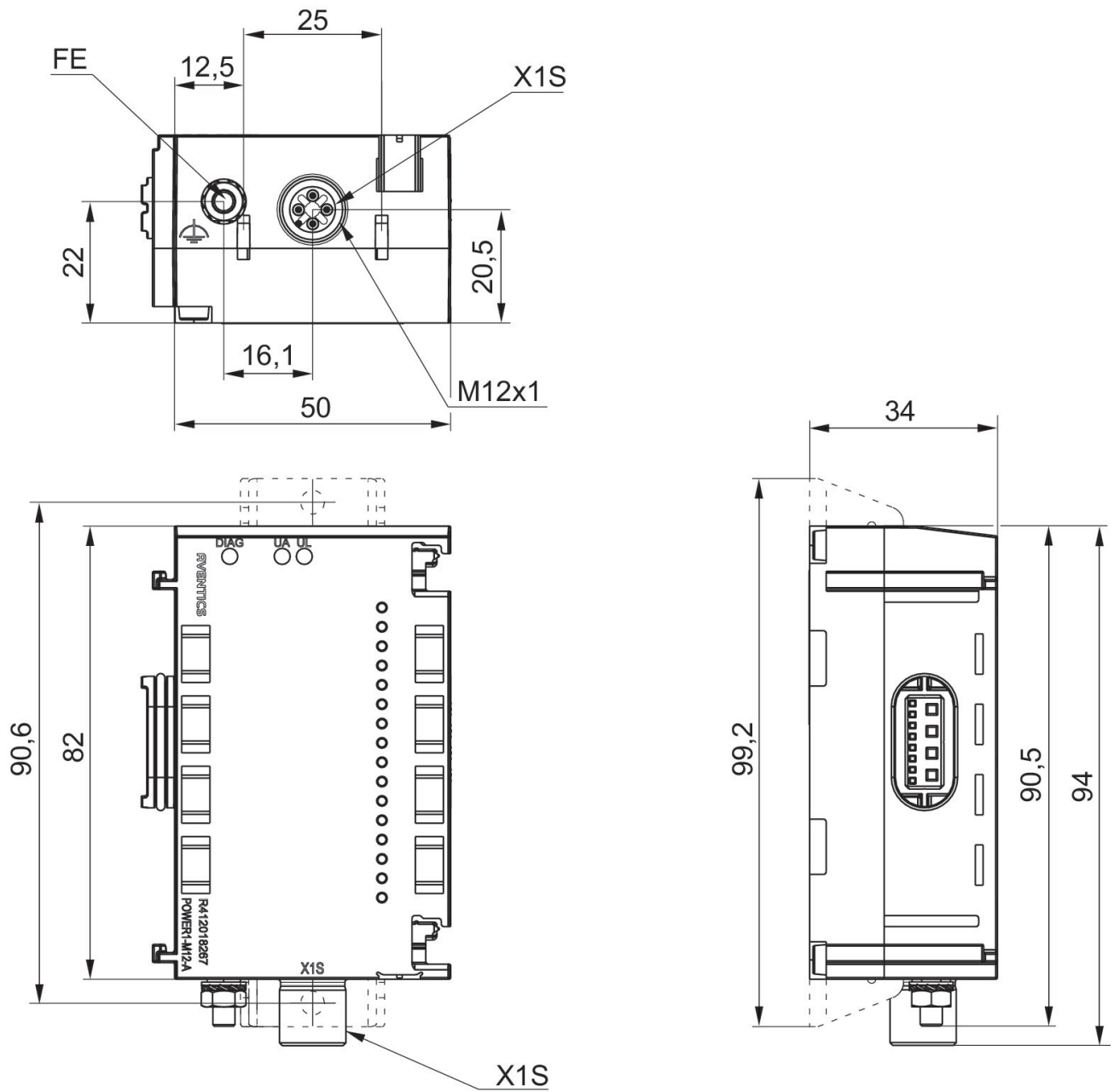
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

UL: Logic voltage (power supply for electronic components and sensors)

UA: Actuator voltage (power supply for valves and outputs)

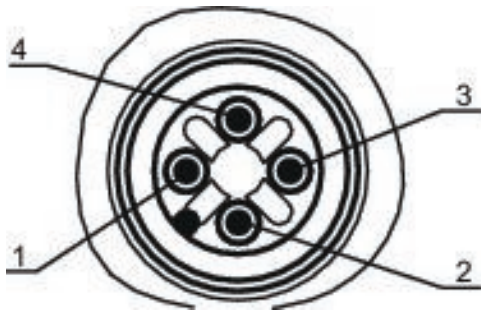
The supply voltage is galvanically isolated from the right-hand module.

Dimensions



Port 1, X1S

Pin assignments PNP



Pin	R412018267 (UA)	R412018267 (UL)
1	-	24 V DC power supply (UL) input
2	24 V DC power supply (UA) input	-
3	-	0 V DC (UL)
4	0 V DC (UA)	-

I/O modules, series AES

R412018277

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
2AI2M12-E

E/A capable
connection with I/O

I/O module version
analog inputs/outputs

Number of I/O connections
2 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Signal connection E/A coding
A-coded

Analog inputs

0 - 10 V / ± 10 V
2 - 10 V / ± 10 V
0 - 20 mA / ± 20 mA
4 - 20 mA / ± 20 mA

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Max. current per channel
0.5 A

Protection class
IP65

Diagnosis
Short circuit
Undervoltage

Number of inputs
2

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018277

Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

The total current of all outputs (including valves) must not exceed 4 A in the overall system.

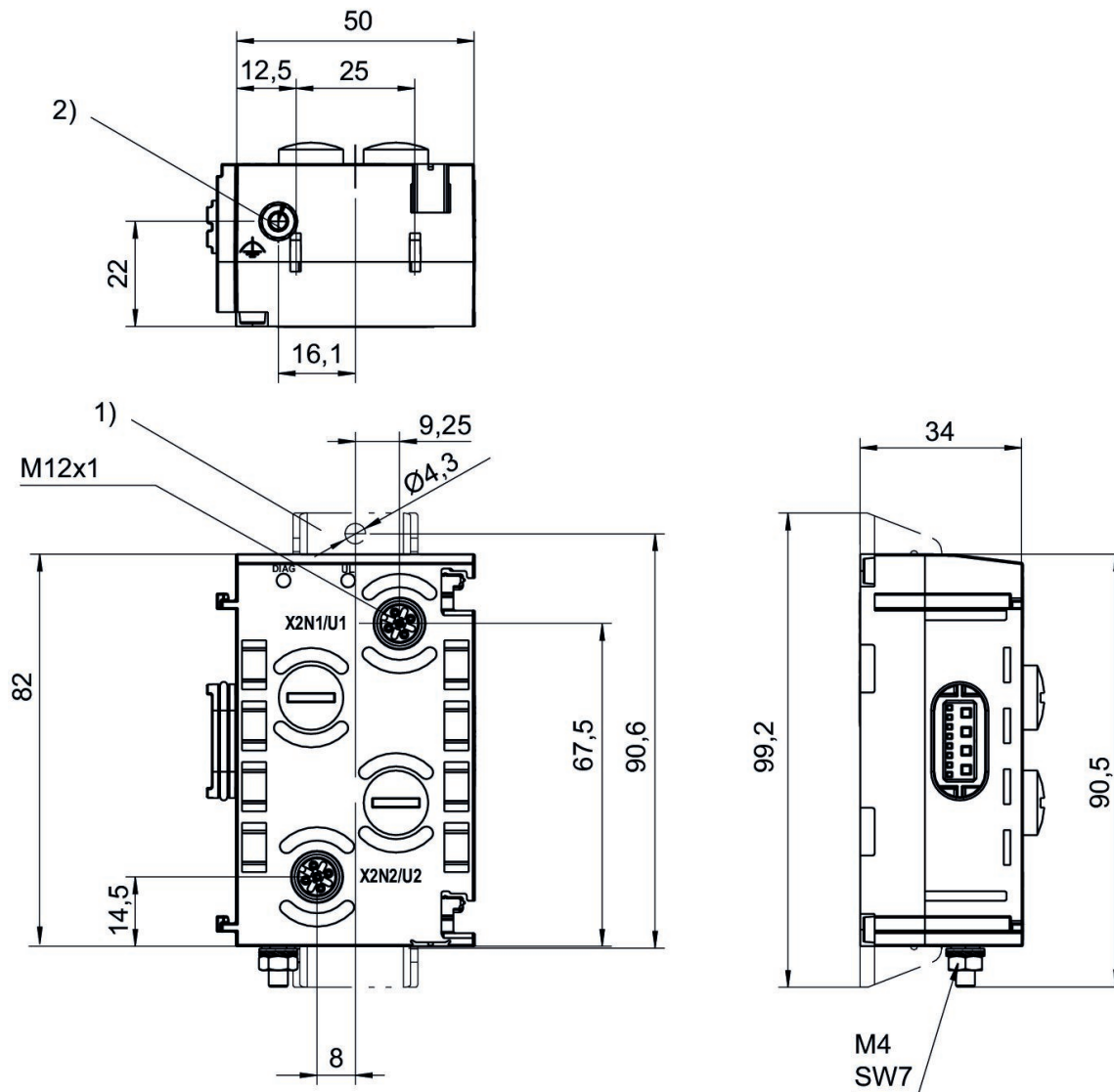
Voltage and short-circuit monitoring per LED.

The input channels have an input resistance of 120 ohms in the current range and 100 kilohms in the voltage range.

The output channels can drive a maximum ohmic load of 450 ohms in the current range. The minimum resistance in the voltage range is 1 kilohm.

Delivery contents: incl. 2 spring clamp elements and seal
freely selectable signals, configurable

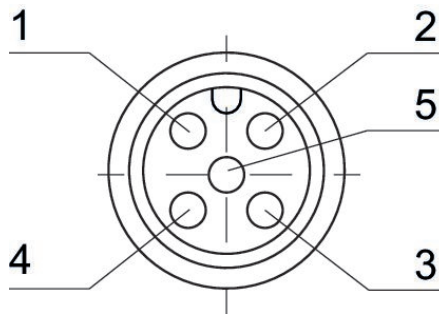
Dimensions



- 1) Retaining bracket (optional)
2) Ground

Pin assignments

Socket (female)



Pin	Socket (female) X2N1 - X2N2 2AI2M12-E	Socket (female) X2U1 - X2U4 4AI4M12-E	Socket (female) X2U1 - X2U2 2AO2M12-E
1	24 V DC	24 V DC	not assigned
2	Input signal (differential input, positive signal)	Input signal (differential input, positive signal)	Output signal
3	0 V DC	0 V DC	0 V DC
4	Input signal (differential input, negative signal, or connected externally to 0 V (pin 3))	Input signal (0 V, connected to pin 3 internally)	not assigned
5	Shield, connected internally with ground screw 2)	Shield, connected internally with ground screw 2)	Shield, connected internally with ground screw 2)

I/O modules, series AES

R412018278

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry

Industrial

Version

I/O modules

Type

4AI4M12-E

E/A capable

connection with I/O

I/O module version

analog inputs/outputs

Number of I/O connections

4 inputs

Power plug IN type

Internal

Signal connection E/A type

Socket

Signal connection E/A thread size

M12x1

Signal connection E/A number of poles

5-pin

Signal connection E/A coding

A-coded

Analog inputs

0 ... 10 V

2 - 10 V

0 ... 20 mA

4 ... 20 mA

Min. ambient temperature

-10 °C

Max. ambient temperature

60 °C

Operational voltage electronics

24 V DC

Max. current per channel

0.5 A

Protection class

IP65

Diagnosis

Short circuit

Undervoltage

Number of inputs

4

Generic emission standard in accordance with norm

EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018278

Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

The total current of all outputs (including valves) must not exceed 4 A in the overall system.

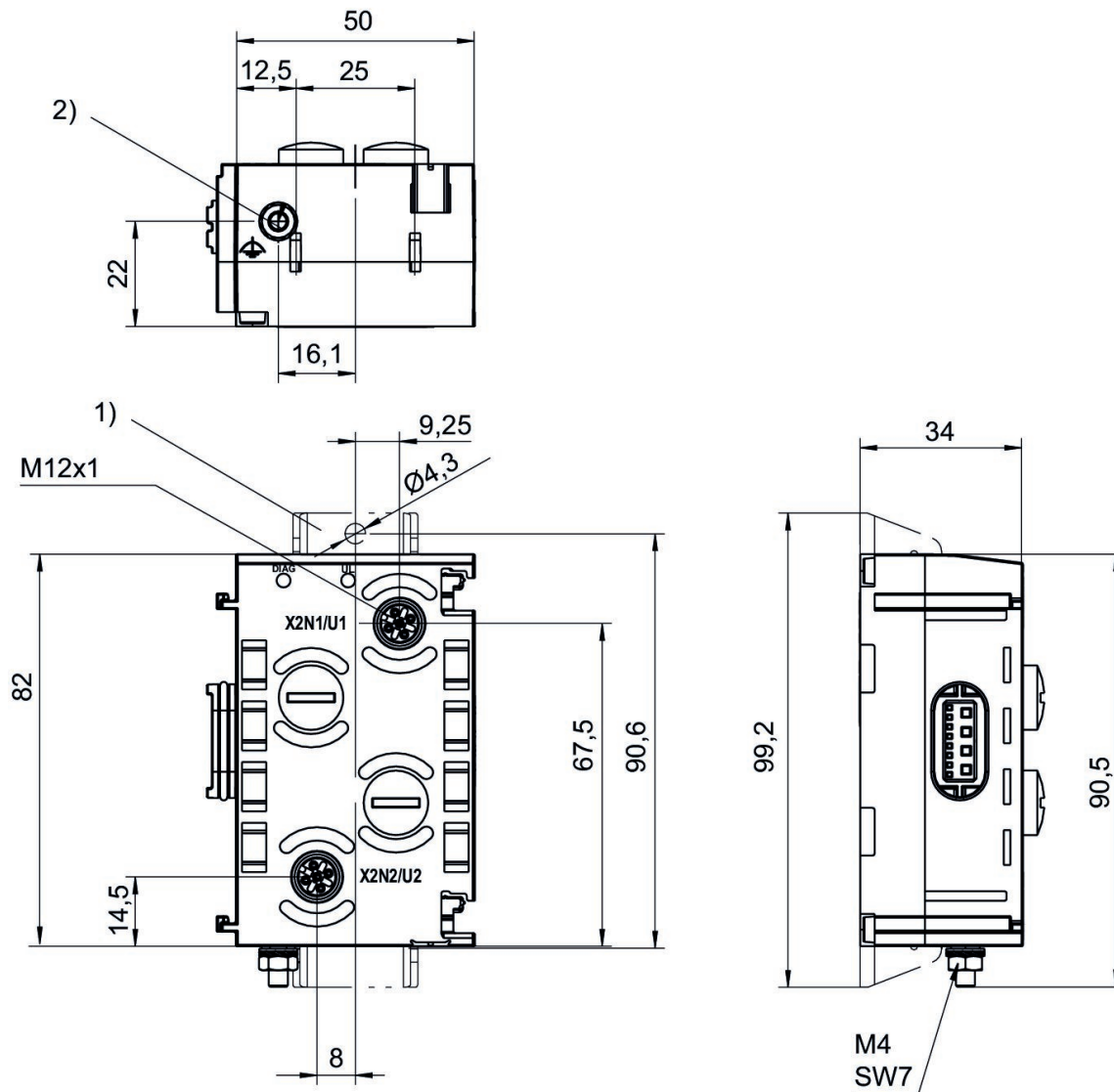
Voltage and short-circuit monitoring per LED.

The input channels have an input resistance of 120 ohms in the current range and 100 kilohms in the voltage range.

The output channels can drive a maximum ohmic load of 450 ohms in the current range. The minimum resistance in the voltage range is 1 kilohm.

The input circuit uses an 8-bit conversion.

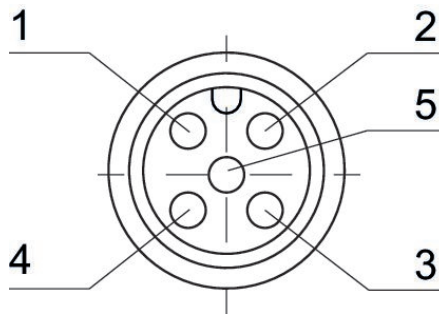
Dimensions



- 1) Retaining bracket (optional)
- 2) Ground

Pin assignments

Socket (female)



Pin	Socket (female) X2N1 - X2N2 2AI2M12-E	Socket (female) X2U1 - X2U4 4AI4M12-E	Socket (female) X2U1 - X2U2 2AO2M12-E
1	24 V DC	24 V DC	not assigned
2	Input signal (differential input, positive signal)	Input signal (differential input, positive signal)	Output signal
3	0 V DC	0 V DC	0 V DC
4	Input signal (differential input, negative signal, or connected externally to 0 V (pin 3))	Input signal (0 V, connected to pin 3 internally)	not assigned
5	Shield, connected internally with ground screw 2)	Shield, connected internally with ground screw 2)	Shield, connected internally with ground screw 2)

I/O modules, series AES

R412018281

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
2AO2M12-E

E/A capable
connection with I/O

I/O module version
analog inputs/outputs

Number of I/O connections
2 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Signal connection E/A coding
A-coded

Analog outputs

0 - 10 V / ± 10 V

0 ... 20 mA

4 ... 20 mA

Min. ambient temperature

-10 °C

Max. ambient temperature

60 °C

Operational voltage electronics

24 V DC

Max. current per channel

0.5 A

Total current for actuators

4 A

Protection class

IP65

Logic/actuator voltage

Galvanically isolated

Diagnosis

Short circuit

Undervoltage

Number of outputs

2

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2
Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018281

Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

The total current of all outputs (including valves) must not exceed 4 A in the overall system.

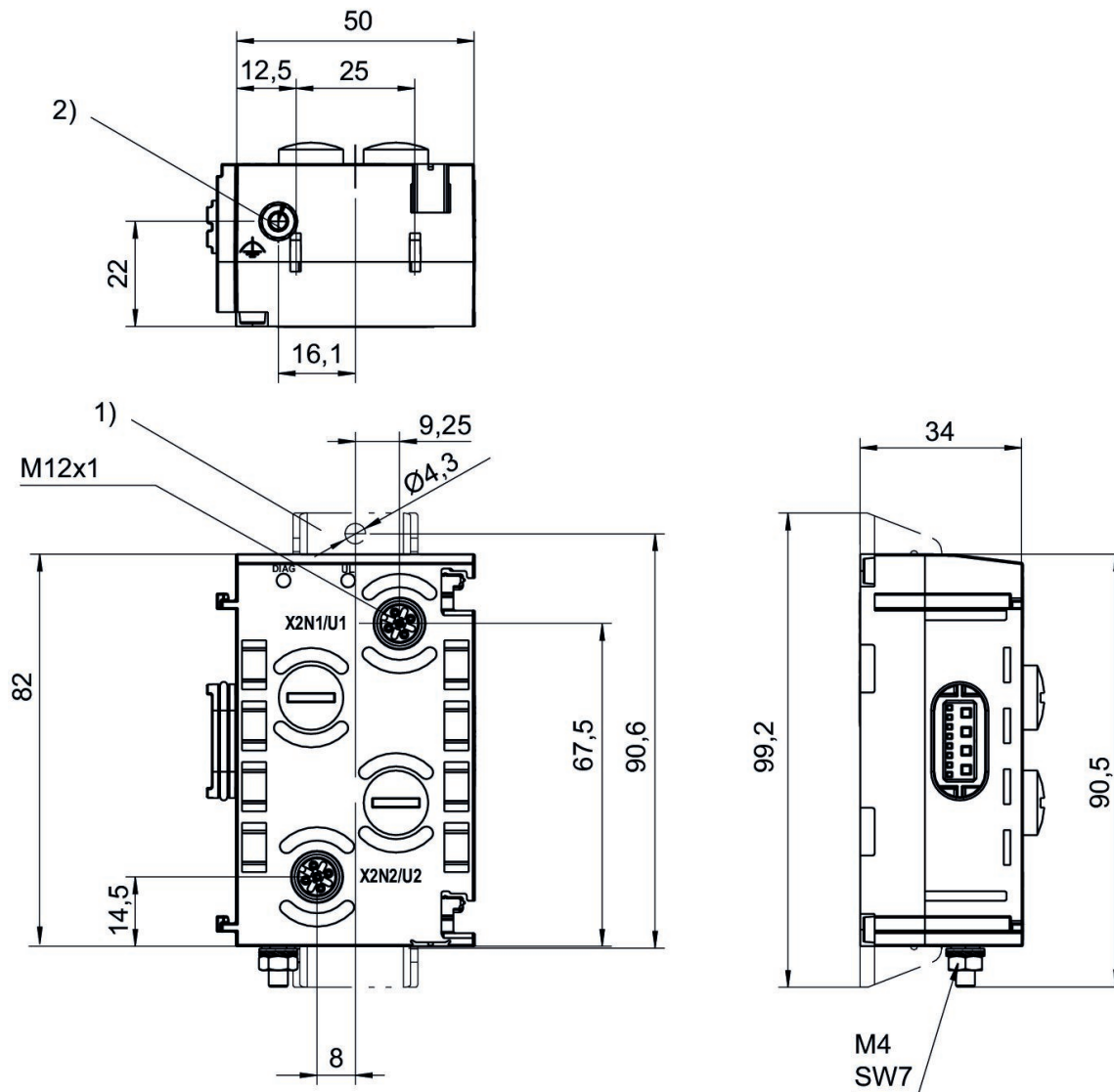
Voltage and short-circuit monitoring per LED.

The input channels have an input resistance of 120 ohms in the current range and 100 kilohms in the voltage range.

The output channels can drive a maximum ohmic load of 450 ohms in the current range. The minimum resistance in the voltage range is 1 kilohm.

Delivery contents: incl. 2 spring clamp elements and seal
freely selectable signals, configurable

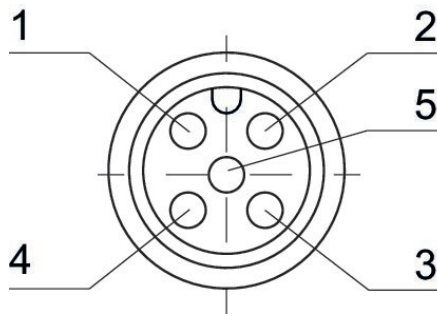
Dimensions



- 1) Retaining bracket (optional)
- 2) Ground

Pin assignments

Socket (female)



Pin	Socket (female) X2N1 - X2N2 2AI2M12-E	Socket (female) X2U1 - X2U4 4AI4M12-E	Socket (female) X2U1 - X2U2 2AO2M12-E
1	24 V DC	24 V DC	not assigned
2	Input signal (differential input, positive signal)	Input signal (differential input, positive signal)	Output signal
3	0 V DC	0 V DC	0 V DC
4	Input signal (differential input, negative signal, or connected externally to 0 V (pin 3))	Input signal (0 V, connected to pin 3 internally)	not assigned
5	Shield, connected internally with ground screw 2)	Shield, connected internally with ground screw 2)	Shield, connected internally with ground screw 2)

I/O modules, series AES

R412018287

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
2AI2AO2M12-AE

E/A capable
connection with I/O

I/O module version
analog inputs/outputs

Number of I/O connections
2 inputs / 2 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Signal connection E/A coding
A-coded

Number of inputs
2

Number of outputs
2

Analog inputs
0 - 10 V / ± 10 V
2 - 10 V / ± 10 V
0 - 20 mA / ± 20 mA
4 - 20 mA / ± 20 mA

Analog outputs
0 - 10 V / ± 10 V
0 ... 20 mA
4 ... 20 mA

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Max. current per channel 1.2 A	Generic emission standard in accordance with norm EN 61000-6-4
Protection class IP65	Generic immunity standard in accordance with norm EN 61000-6-2
Logic/actuator voltage Galvanically isolated	Weight 0.11 kg
Diagnosis Short circuit Undervoltage	

Material

Housing material Polyamide fiber-glass reinforced	Part No. R412018287
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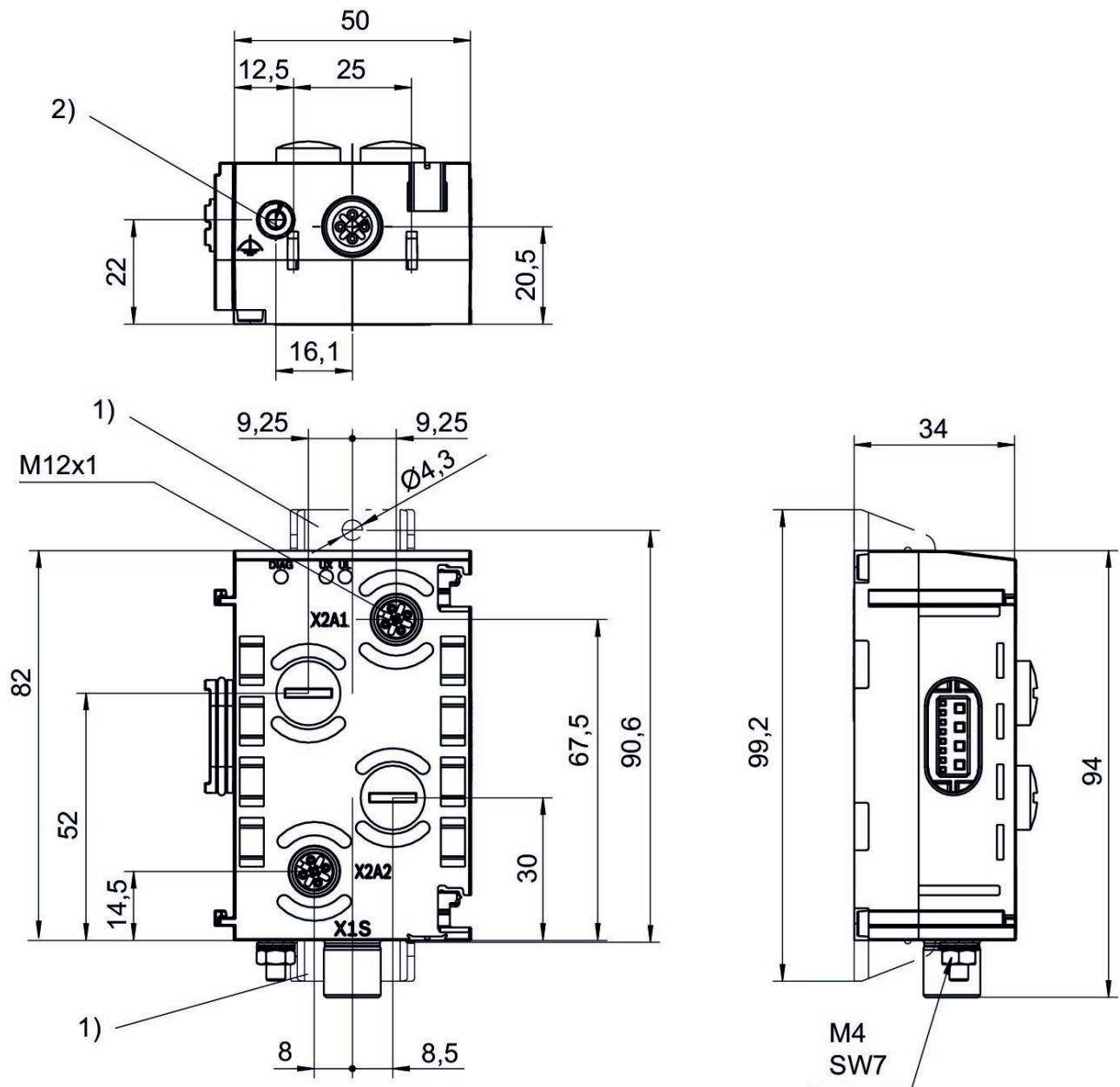
Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

The total current of all outputs (including valves) must not exceed 4 A in the overall system.
Suitable for direct connection of an electropneumatic pressure regulator from the ED series.

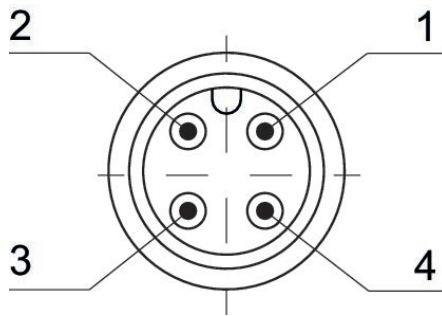
Delivery contents: incl. 2 spring clamp elements and seal
freely selectable signals, configurable

Dimensions



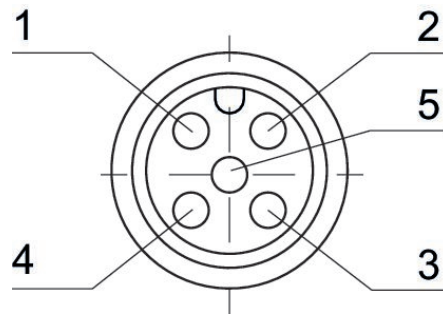
- 1) Retaining bracket (optional)
- 2) Ground

Plug (male)



Pin assignments

Socket (female)



Pin	Socket (female) X2A1 - X2A2	Plug (male) X1S
1	24 V DC	-
2	Output signal	24 V DC
3	0 V DC	-
4	Input signal	0 V DC
5	Shield, connected internally with ground screw 2)	-

I/O modules, series AES

R412018293

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
2AI2AO2M12-C

Note
control module M12x1, 5-pin / with external power supply / control of E/P pressure regulators / position control / superordinate control

E/A capable
connection with I/O

I/O module version
analog inputs/outputs

Number of I/O connections
2 inputs / 2 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Signal connection E/A coding
A-coded

Analog inputs
0 - 10 V / ± 10 V
2 - 10 V / ± 10 V
0 - 20 mA / ± 20 mA
4 - 20 mA / ± 20 mA

Analog outputs
0 - 10 V / ± 10 V
0 ... 20 mA
4 ... 20 mA

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Total current for actuators
4 A

Protection class
IP65

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

Generic emission standard in accordance with
norm

EN 61000-6-4

Generic immunity standard in accordance with
norm

EN 61000-6-2

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018293

Technical information

Information on the assignment scheme and control parameters can be found in the operating instructions. Or, contact your nearest AVENTICS sales office.

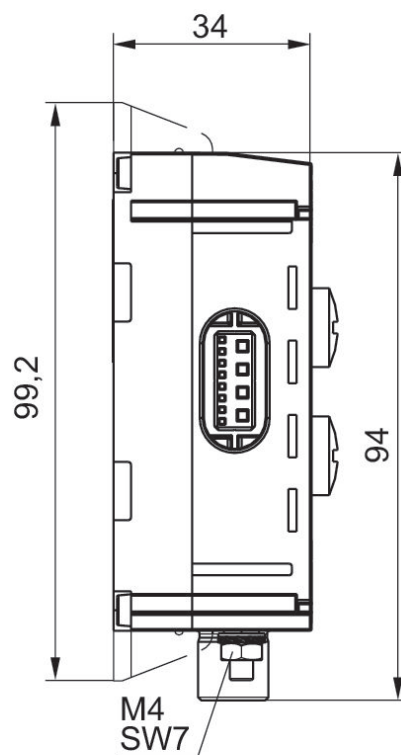
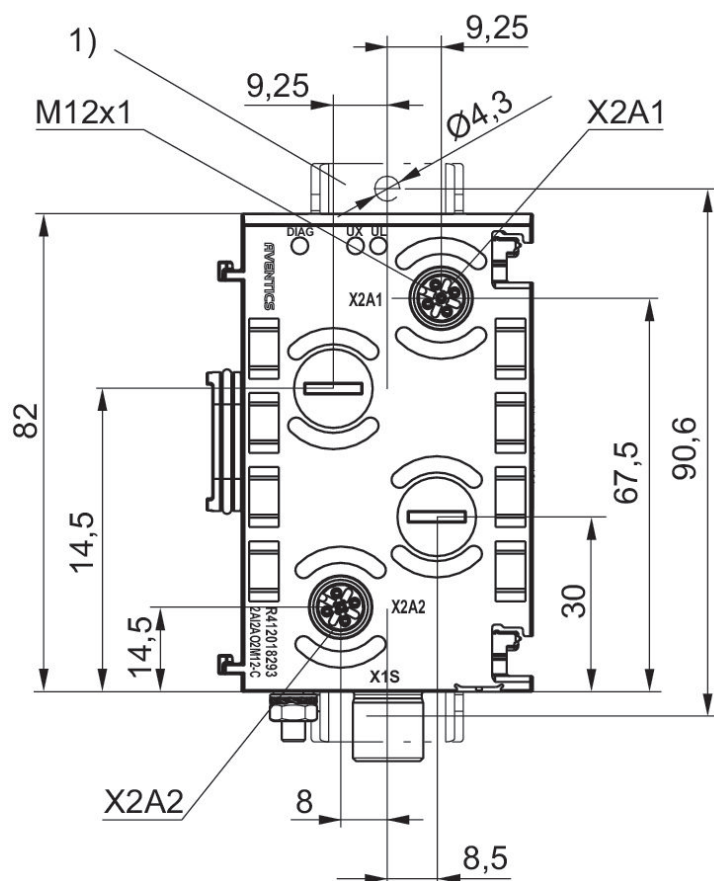
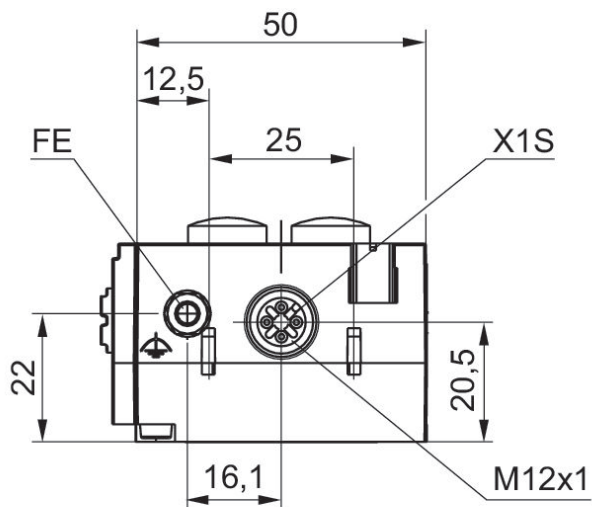
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

After direct connection to an electropneumatic pressure regulator suitable for controlling positions or superior control circuits.

Suitable for direct connection of an electropneumatic pressure regulator from the ED series.

Delivery contents: incl. 2 spring clamp elements and seal
freely selectable signals, configurable

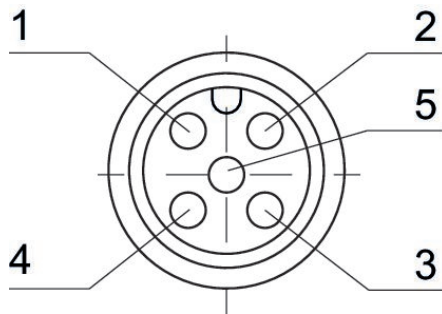
Dimensions



1) Retaining bracket (optional)

Pin assignments

Socket (female)



Pin	Socket (female) X2A1 - X2A2	Plug (male) X1S
1	24 V DC	-
2	Output signal	24 V DC
3	0 V DC	-
4	Input signal	0 V DC
5	Shield, connected internally with ground screw 2)	-

I/O modules, series AES

R412018252

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
I/O modules

Type
16DO32SC

E/A capable
connection with I/O

I/O module version
digital outputs

Number of I/O connections
16 outputs

Power plug IN type
Internal

Signal connection E/A type
Spring clamp connections

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP20

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit

Generic emission standard in accordance with
norm

EN 61000-6-4

Generic immunity standard in accordance with
norm

EN 61000-6-2

Weight
0.115 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018252

Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

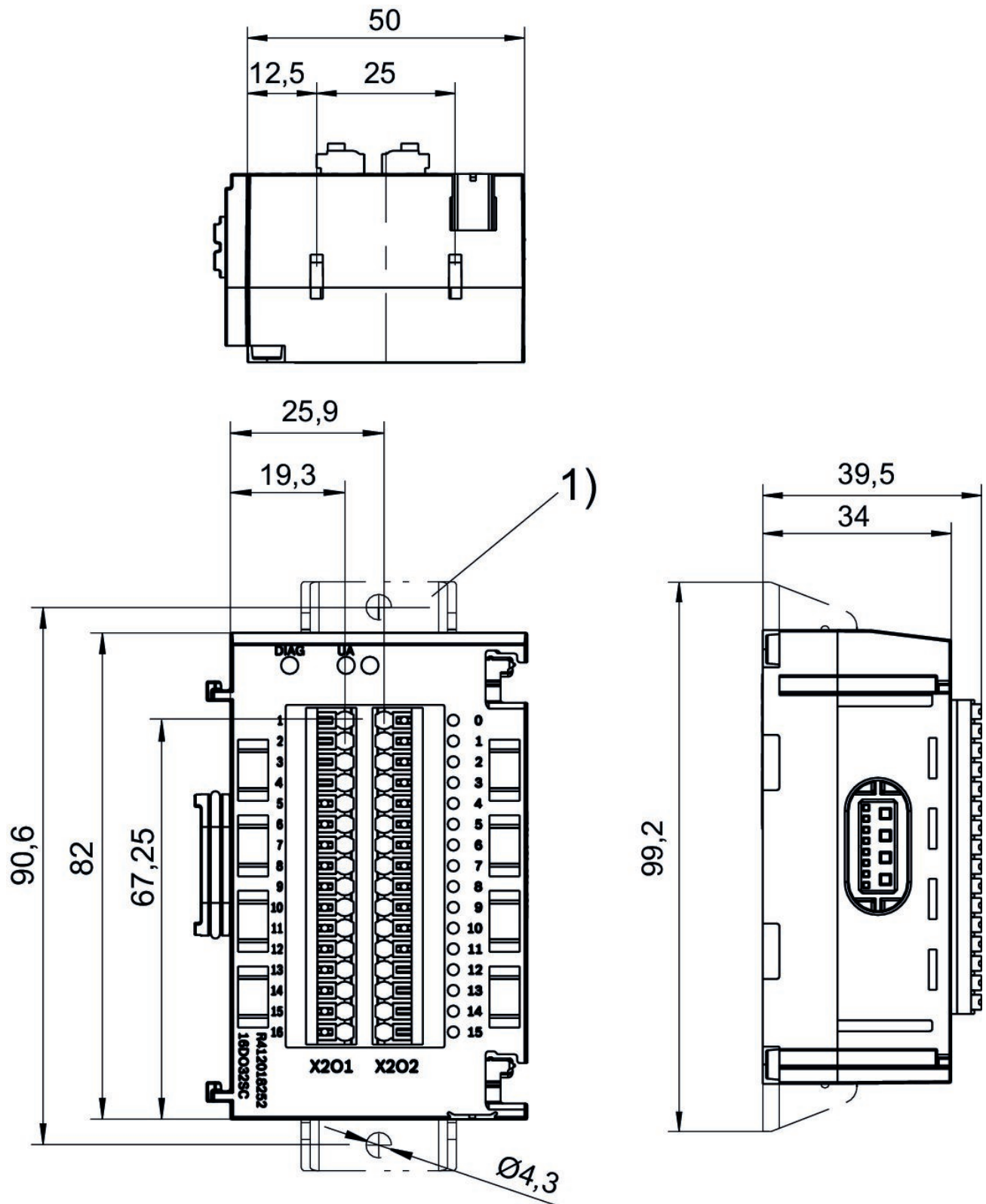
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

The clamp area for stranded wires is between 0.2 and 1.5 mm².

Delivery contents: incl. 2 spring clamp elements and seal

Dimensions



1) Retaining bracket (optional)

Port	Contact	Function
X201	1	Output signal 24 V DC bit 0.0
2	Output signal 24 V DC bit 0.1	
3	Output signal 24 V DC bit 0.2	
4	Output signal 24 V DC bit 0.3	
5	Output signal 24 V DC bit 0.4	
6	Output signal 24 V DC bit 0.5	
7	Output signal 24 V DC bit 0.6	
8	Output signal 24 V DC bit 0.7	
9	Output signal 24 V DC bit 1.0	
10	Output signal 24 V DC bit 1.1	
11	Output signal 24 V DC bit 1.2	
12	Output signal 24 V DC bit 1.3	
13	Output signal 24 V DC bit 1.4	
14	Output signal 24 V DC bit 1.5	
15	Output signal 24 V DC bit 1.6	
16	Output signal 24 V DC bit 1.7	

I/O modules, series AES

R412018291

General series information



Technical data

Industry
Industrial

Version
I/O modules

Type
4P4D4

port pneumatic
D4

Note
Pressure measurement module with 4 compressed air connection

E/A capable
connection with I/O

I/O module version
analog inputs

Number of I/O connections
4 inputs

Power plug IN type
Internal

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Working pressure max
10 bar

Measurement min.
0 bar

Measurement max.
10 bar

Protection class
IP65

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.115 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018291

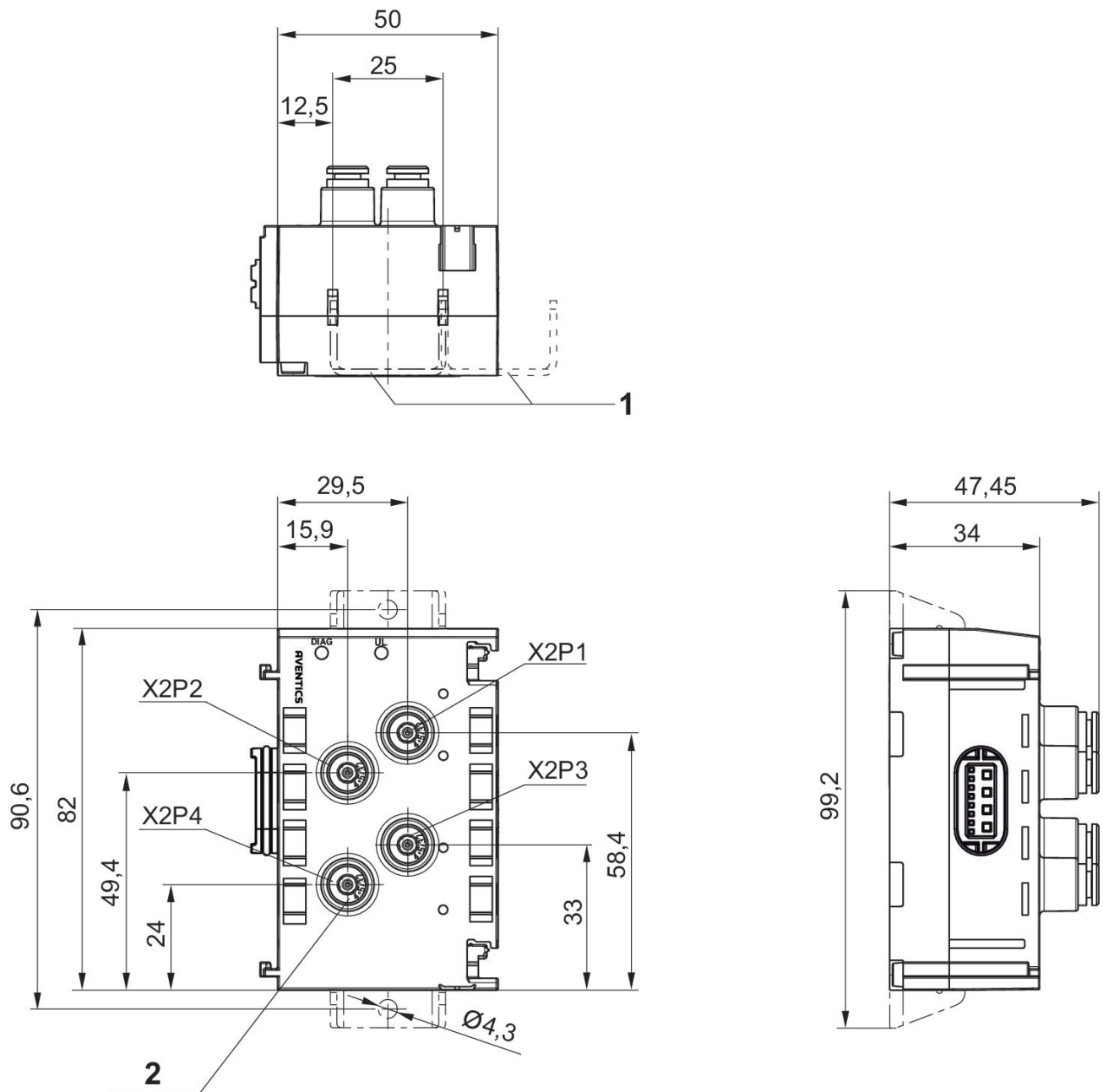
Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

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

Dimensions



- 1) Retaining bracket (optional)
- 2) Blanking plug included in scope of delivery

I/O modules, series AES

R412018292

General series information



Technical data

Industry
Industrial

Version
I/O modules

Type
4VP4D4

port pneumatic
D4

Note
Pressure measurement module with 4 compressed air connection

E/A capable
connection with I/O

I/O module version
analog inputs

Number of I/O connections
4 inputs

Power plug IN type
Internal

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Working pressure max
1 bar

Measurement min.
-1 bar

Measurement max.
1 bar

Protection class
IP65

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.115 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018292

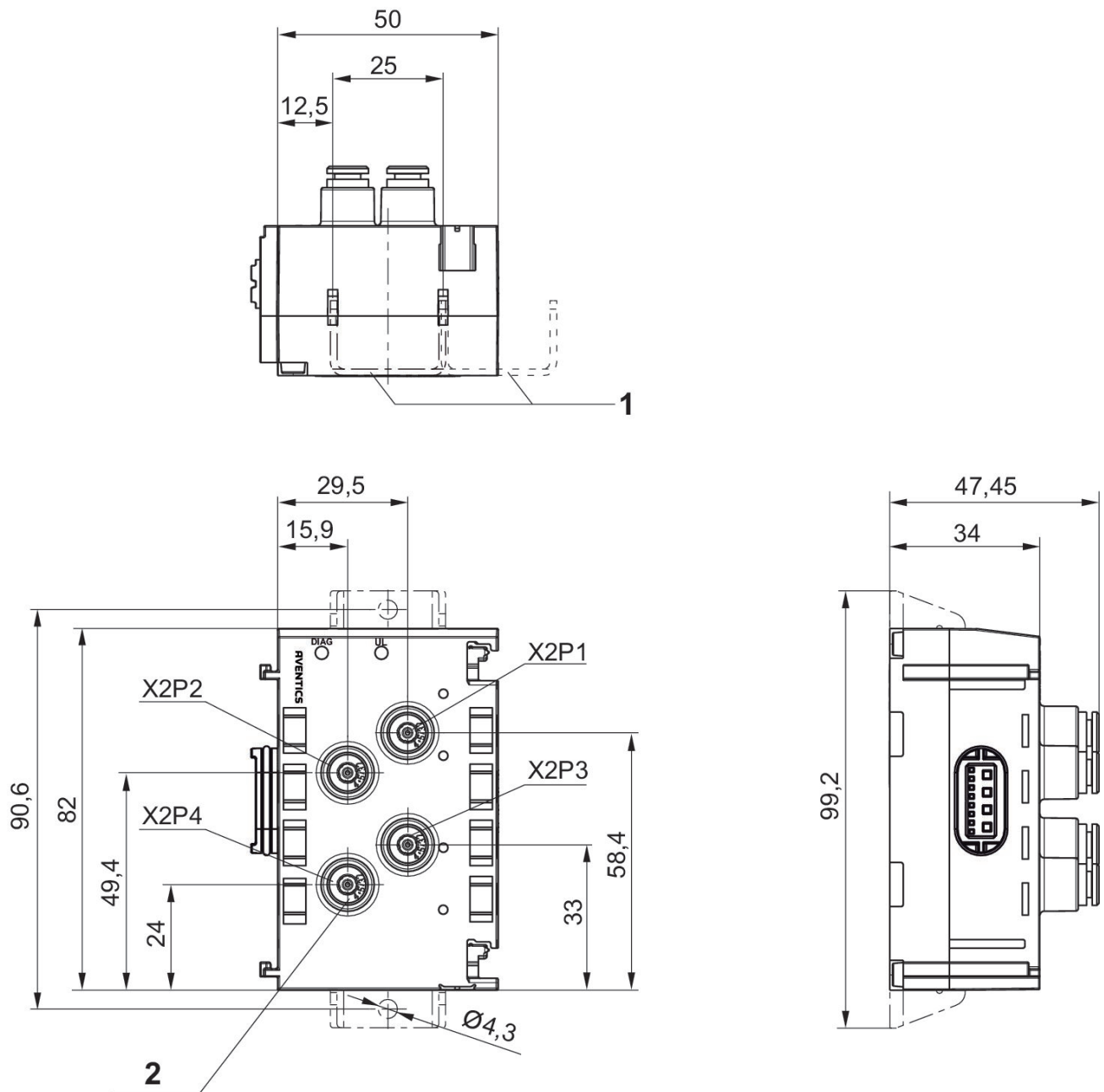
Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

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

Dimensions



- 1) Retaining bracket (optional)
- 2) Blanking plug included in scope of delivery

Power module Series AES

R412018272

General series information Series AES

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

Industry
Industrial

Version
Power module

E/A capable
connection with I/O

Power plug IN type
Plug

Power plug IN size
7/8"-16UNF

Power plug IN number of pole
5-pin

Power plug OUT type
Socket

Power plug OUT size
7/8"-16UNF

Power plug OUT number of pole
5-pin

Power supply direction UA/UL
left, right

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-20% / +20%

Operating voltage, actuators
24 V DC

Actuator voltage tolerance
-10% / +10%

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
4 A

Generic emission standard in accordance with
norm
EN 61000-6-4

Generic immunity standard in accordance with
norm
EN 61000-6-2

Weight
0.15 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018272

Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

The supply voltage from X1S1 is available at X1S2 (without modification)

The total internal current (UA or UL) and consumption at X1S2 must not exceed 8A at X1S1.

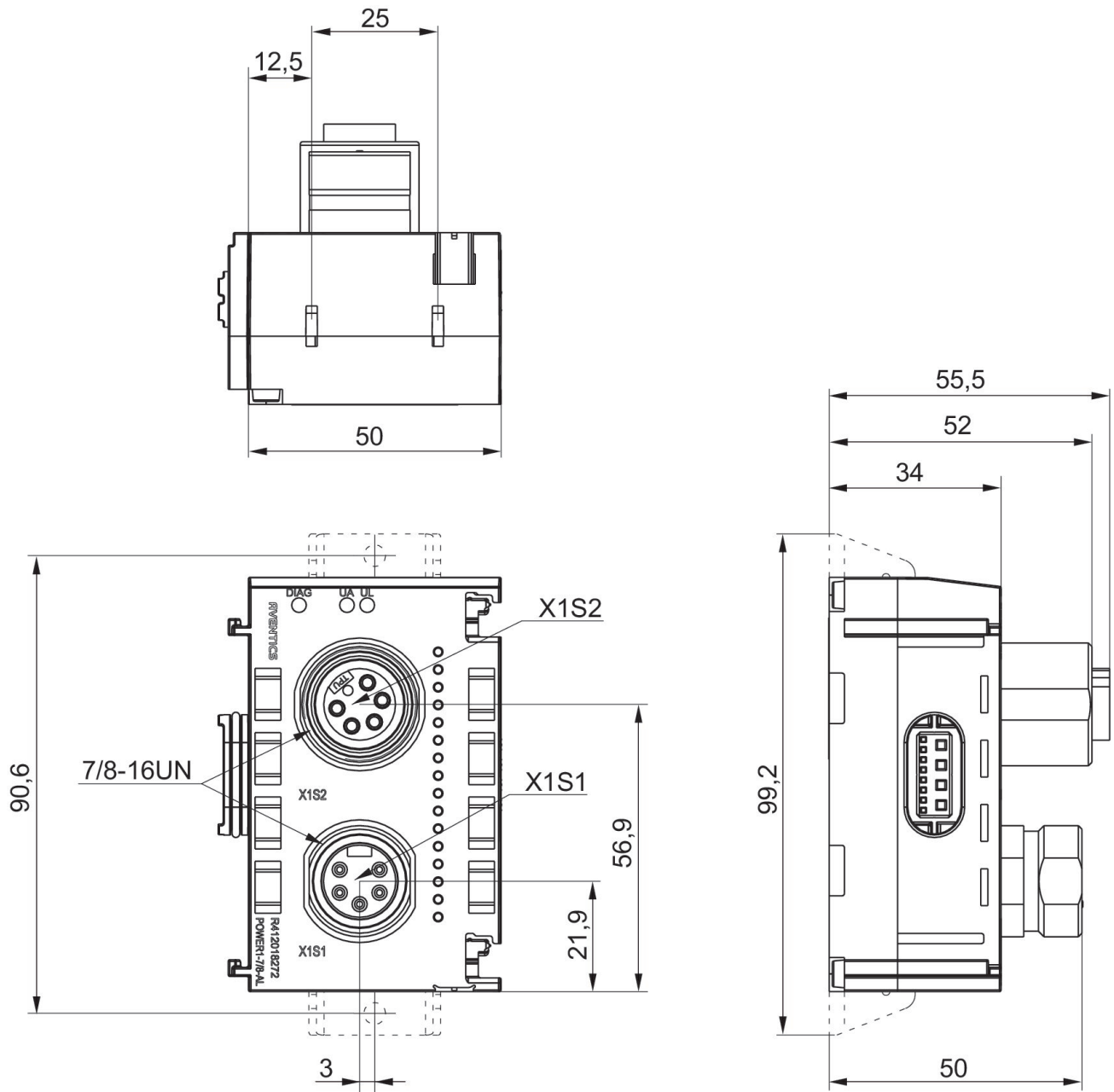
UL: Logic voltage (power supply for electronic components and sensors)

UA: Actuator voltage (power supply for valves and outputs)

If connection 2 is not used for forwarding, it must be closed with sealing cap R412024838.

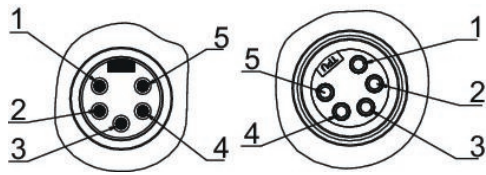
Power plug X1S on the bus coupler must be closed with sealing cap R412024837.

Dimensions



Port 1, X1S1
Port 2, X1S2

Pin assignments PNP



Pin	Plug X1S1	Socket X1S2
1	0 V DC (UA)	0 V DC (UA)
2	0 V DC (UL)	0 V DC (UL)
3	FE	FE
4	24 V DC power supply (UL) input	24 V DC power supply (UL) output
5	24 V DC power supply (UA) input	24 V DC power supply (UA) output

Blanking plate

- Base plate principle, multiple
- Reversed pressure supply permissible
- With collective pilot air exhaust
- for AV03



Working pressure min./max.	-0.9 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³
Protection class	IP65
Mounting screw	Hexalobular socket (TORX) ISO 10664-8
Tightening torque for mounting screws	0.7 Nm
Weight	0.028 kg

Technical data

Part No.	Type	Delivery unit
R422102462	Blanking plate	1 piece

Delivery includes sealing kit and 1x mounting screw

Technical information

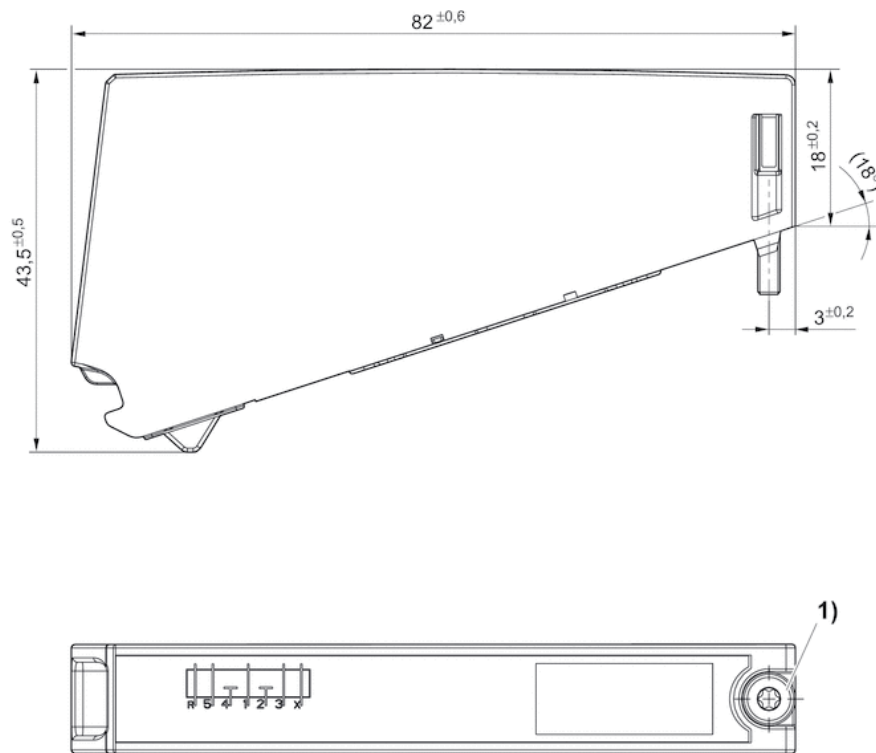
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The oil content of compressed air must remain constant during the life cycle.
 Use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

Technical information

Material	
Housing	Polyarylamide, fiber-glass reinforced
Screws	Steel, galvanized

Dimensions

Dimensions



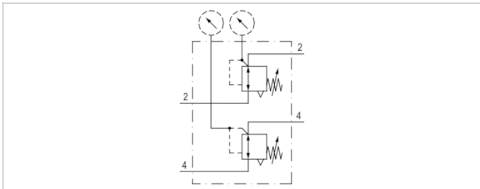
1) Mounting screw

Pressure regulator, Series AV

- push-in fitting
- Controlled port 2, 4



Adjustment range min./max.	0.5 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Weight	0.02 kg



Technical data

Part No.	Compressed air connection type Input	Compressed air connection Output	Repetitive precision	Controlled port
R422103084	push-in fitting	Ø 6	± 10 %	2, 4
R422103085	push-in fitting	Ø 8	± 10 %	2, 4
R422103086	push-in fitting	Ø 1/4"	± 10 %	2, 4

Order pressure gauge separately

Technical information

Kit for stacking assembly of up to 6 regulators: R422103090

Mounting bracket (2x) for mounting to the mounting plate: R422103091

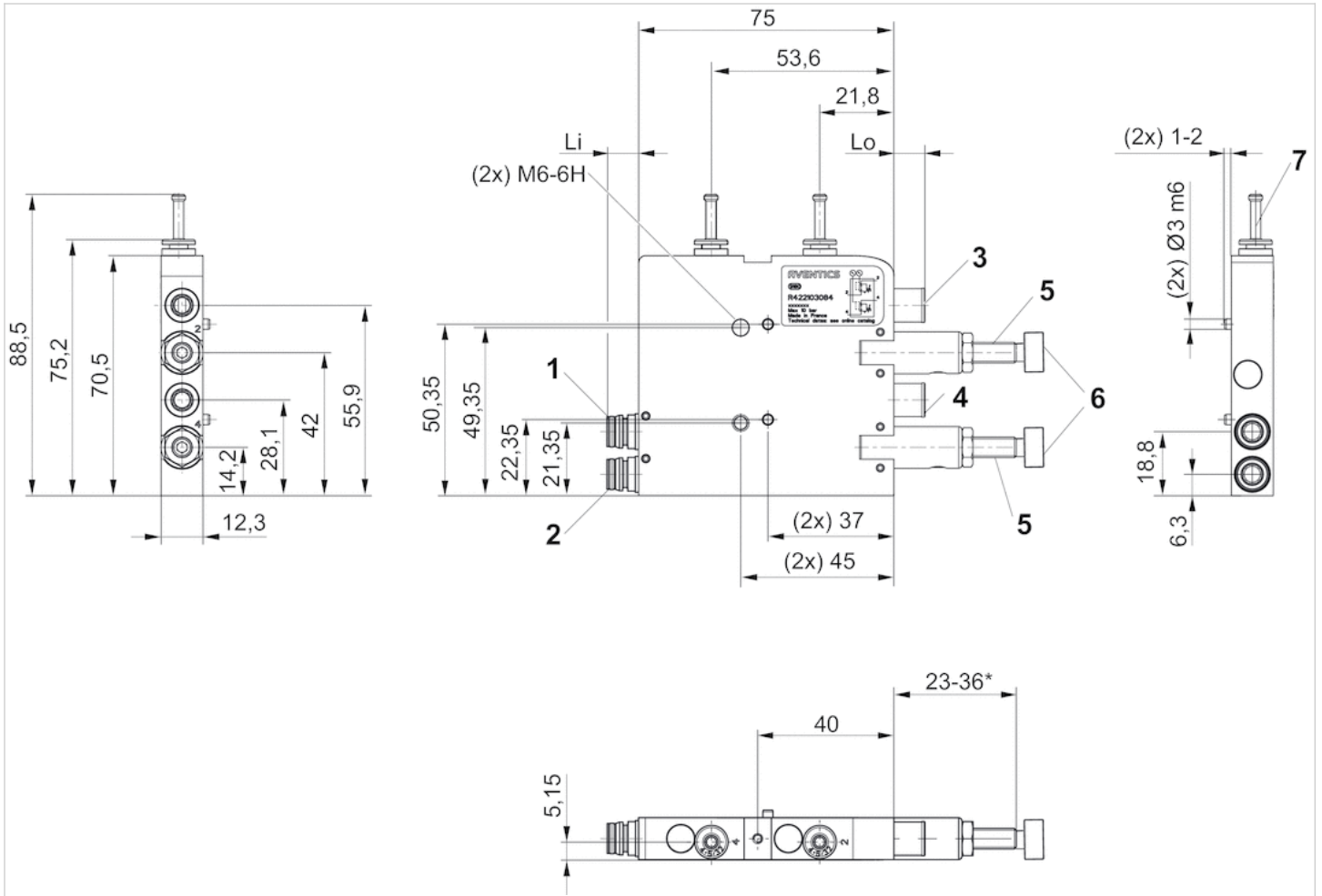
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

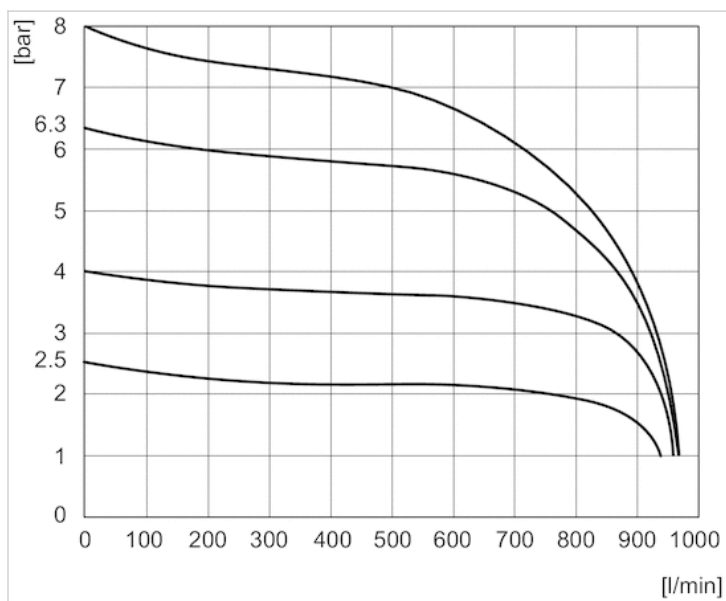
Dimensions



- 1) Connection 2, valve side
- 2) Connection 4, valve side
- 3) Operating line 2
- 4) Operating line 4
- 5) adjustment screw, Port 2
- 6) Adjustment screw, connection 4
- 7) blanking plug*) Stroke

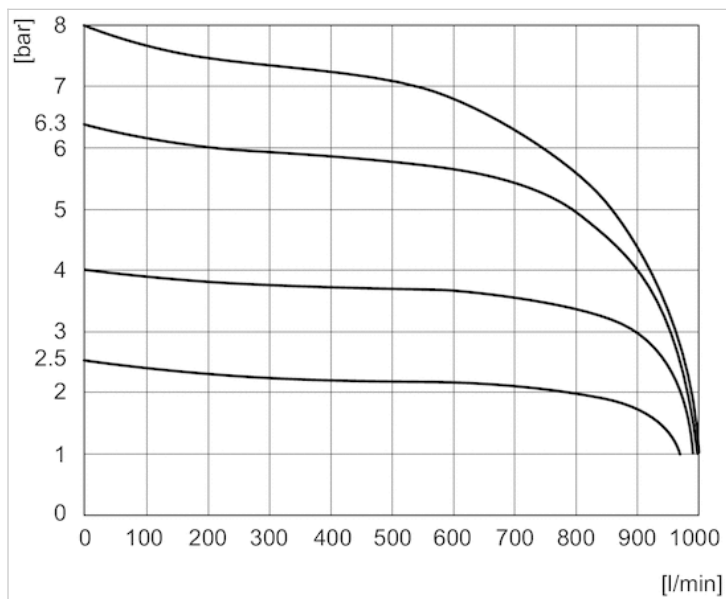
Diagrams

Flow diagram, Port 2



Pv = 9 bar

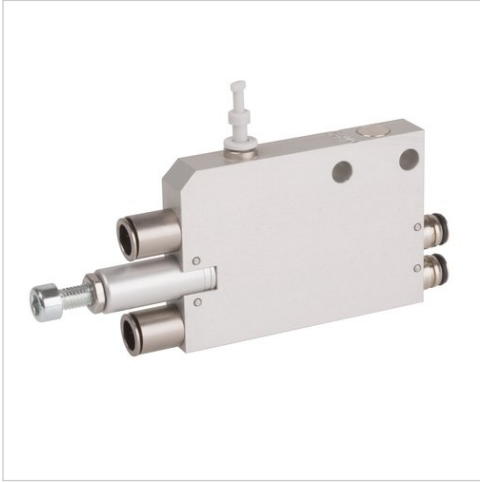
Flow diagram, Port 4



Pv = 9 bar





Pressure regulator, Series AV

- push-in fitting
- Controlled port 2 4



Adjustment range min./max.	0.5 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Weight	0.2 kg

Technical data

Part No.		Compressed air connection type Input	Compressed air connection Output	Repetitive precision
R422003560		push-in fitting	Ø 8	± 10 %
R422003561		push-in fitting	Ø 6	± 10 %
R422003568		push-in fitting	Ø 8	± 10 %
R422003569		push-in fitting	Ø 6	± 10 %

Part No.	Controlled port
R422003560	2
R422003561	2
R422003568	4
R422003569	4

Order pressure gauge separately

Technical information

Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

Mounting bracket (2x) for mounting to the mounting plate: R422103091

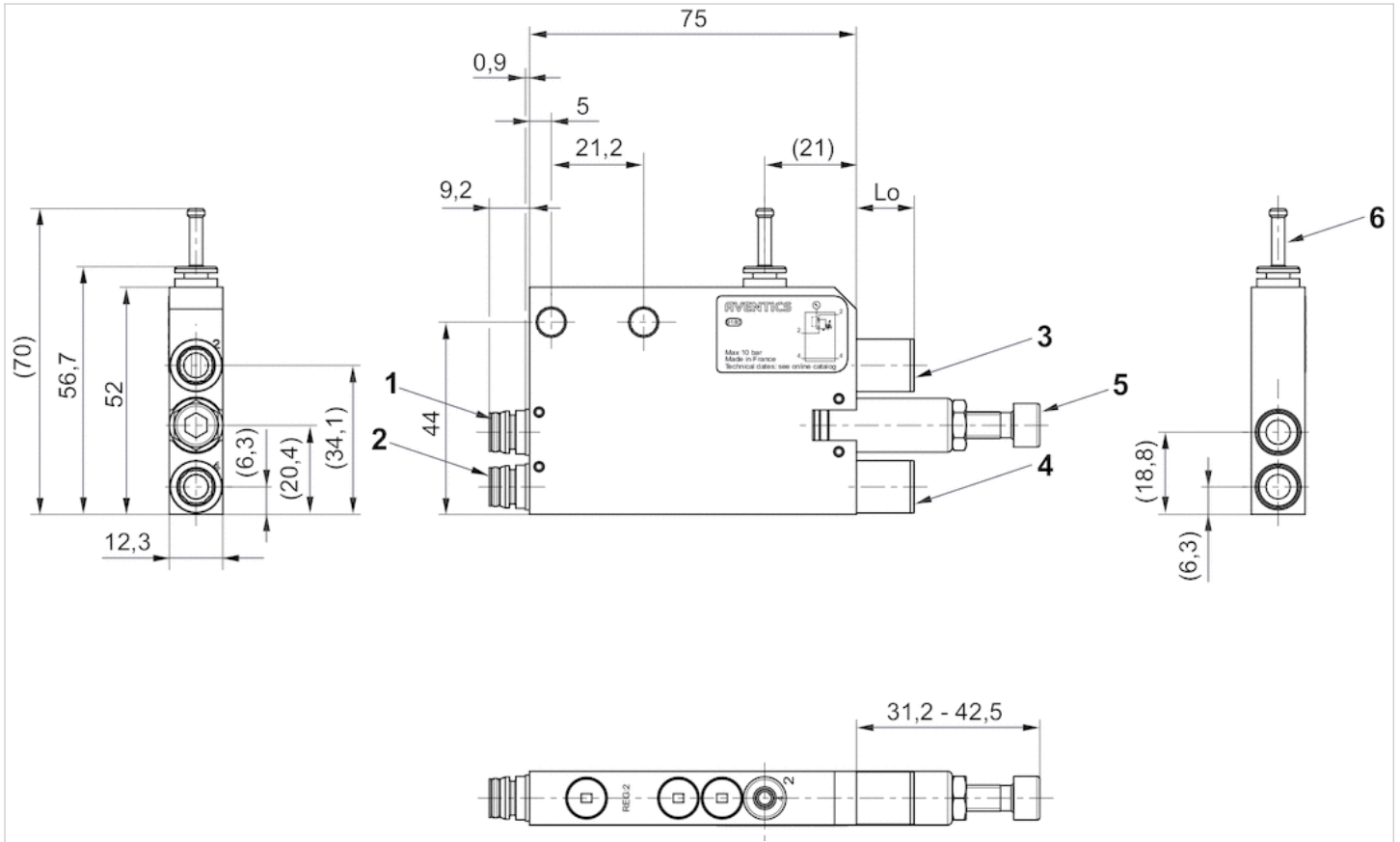
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

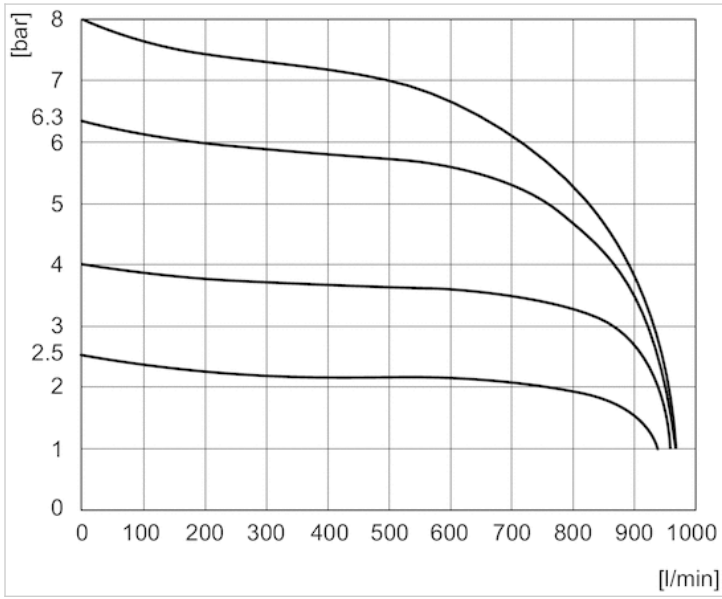
Dimensions



- 1) Connection 2, valve side
- 2) Connection 4, valve side
- 3) Operating line 2
- 4) Operating line 4
- 5) adjustment screw, Port 2, 4
- 6) plugs

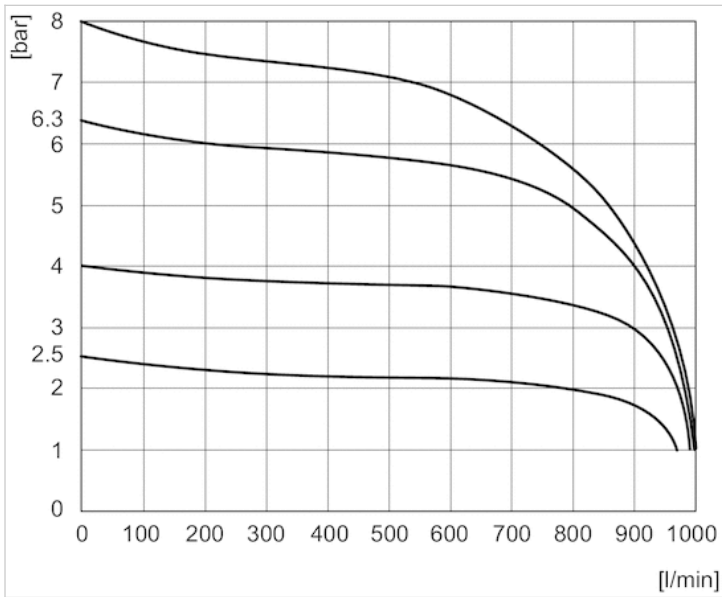
Diagrams

Flow diagram, Port 2



Pv = 9 bar

Flow diagram, Port 4



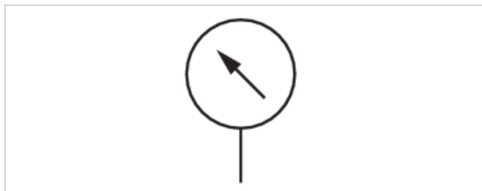
Pv = 9 bar

Pressure gauge, Series PG1-ROB

- Back port
- Background color Black
- Scale color White
- Viewing window Polystyrene
- Units MPa



Version	Bourdon tube pressure gauge
Medium	Compressed air Compressed air
Main scale unit (outside)	MPa
Main scale color (outside)	White
Background color	Black
Pointer color	Red
Weight	0.01 kg



Technical data

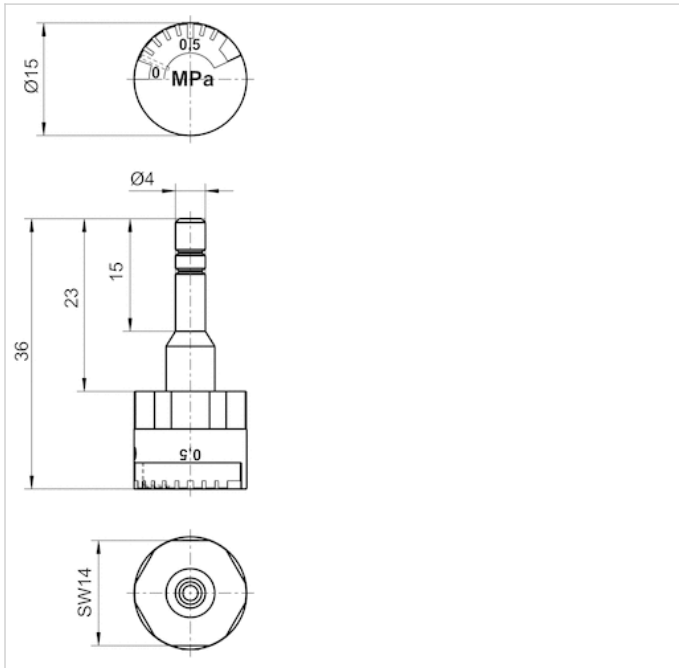
Part No.	Compressed air connection	Nominal diameter	Range of application	Display range
R412009413	Ø 4	15 mm	0 ... 10 bar	0 ... 10 bar

Technical information

Material	
Housing	Acrylonitrile butadiene styrene
Thread	Brass
Viewing window	Polystyrene
Seal	Polytetrafluorethylene

Dimensions

Dimensions in mm



Series QR1-S-RVW Mini

- Angled plug-in connector
- pin bushing
- Ø 4
- push-in fitting
- Ø 4
- QR1-S-RVW



Working pressure min./max.	-0.95 ... 10 bar
Ambient temperature min./max.	0 ... 60 °C
Weight per piece	0.002 kg

Technical data

Part No.	Port G	Port D	Delivery unit
R412005046	Ø 4	Ø 4	10 piece

Technical information

The series QR1 (plastic) and QR2 (metal) can not be combined

For use with 2 or more AV pressure regulators assembled into blocks with pressure gauges.

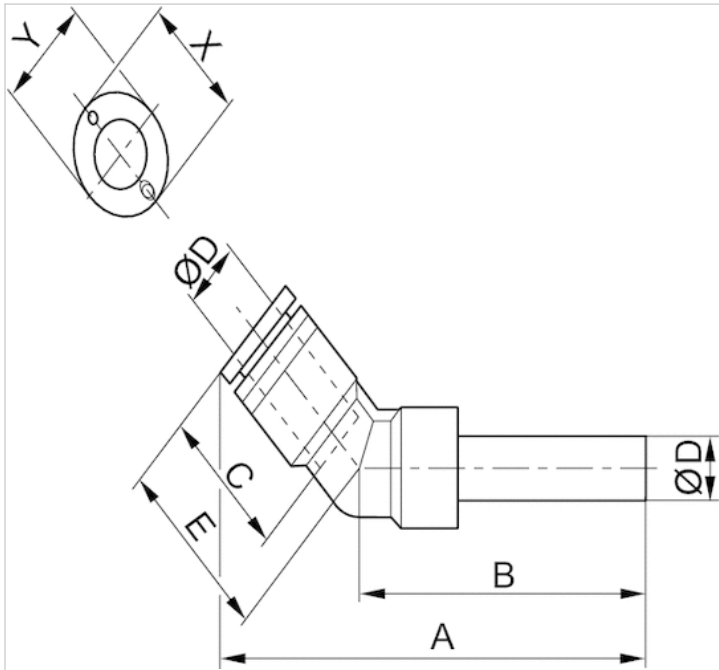
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

For further information about assembling and tolerances of adaptable tubing can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Material	nickel-plated
Housing	Polybutyleneterephthalate
Seal	Acrylonitrile butadiene rubber
Tooth lock washer	Stainless steel
Release ring	Polyoxymethylene
Release ring holder	Die cast zinc Brass, nickel-plated

Dimensions



Dimensions

Part No.	Port D	Port G	A	B	C	E	X	Y
R412005046	$\varnothing 4$	$\varnothing 4$	56,36	43,6	16	18.1	12	10

Throttle module

- push-in fitting







- direction of throttle 2 ▶ 1 direction of throttle 2 ▶ 1

direction of throttle 1 ▶ 2



Working pressure min./max.	10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Weight	0.115 kg

Technical data

Part No.		Version
R422003311		direction of throttle 2 ▶ 1
R422003267		direction of throttle 2 ▶ 1
R422003666		direction of throttle 2 ▶ 1
R422003577		direction of throttle 2 ▶ 1
R422003578		direction of throttle 2 ▶ 1
		direction of throttle 1 ▶ 2
R422003667		direction of throttle 2 ▶ 1
		direction of throttle 1 ▶ 2

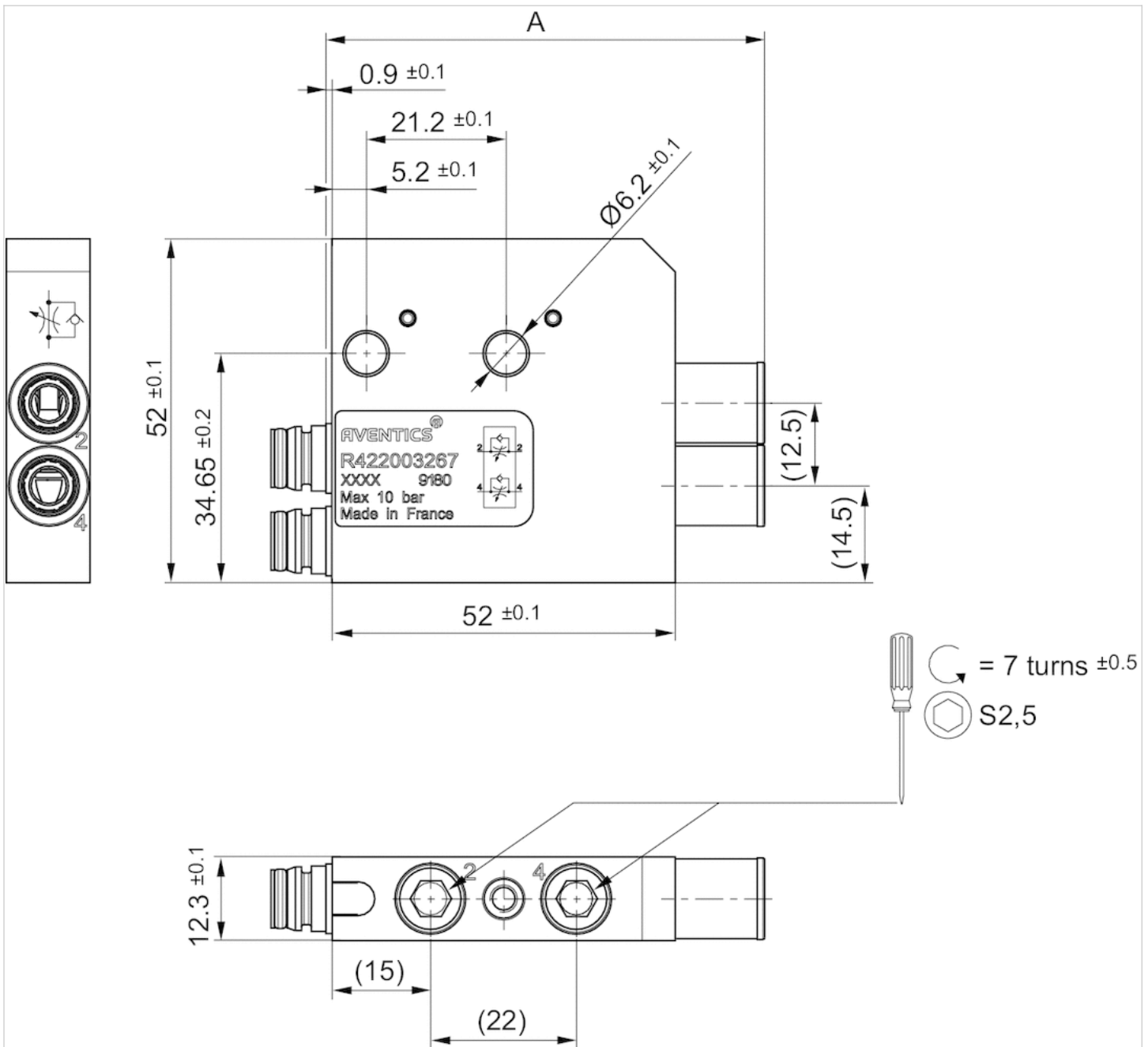
Part No.	Compressed air connection type Input	Compressed air connection Output	Fig.
R422003311	push-in fitting	Ø 6	Fig. 1
R422003267	push-in fitting	Ø 8	Fig. 1
R422003666	push-in fitting	Ø 1/4"	Fig. 1
R422003577	push-in fitting	Ø 6	Fig. 2
R422003578	push-in fitting	Ø 8	Fig. 2
R422003667	push-in fitting	Ø 1/4"	Fig. 2

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

Dimensions

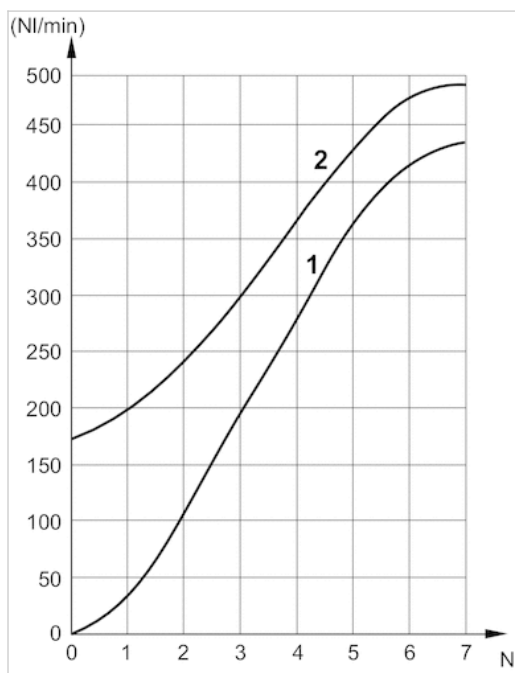


Dimensions

Part No.	R422003311	R422003267	R422003666	R422003577	R422003578	R422003667
Installation length	A	62.2±0.5	66.2±0.5	65.2±0.5	62.2±0.5	66.2±0.5

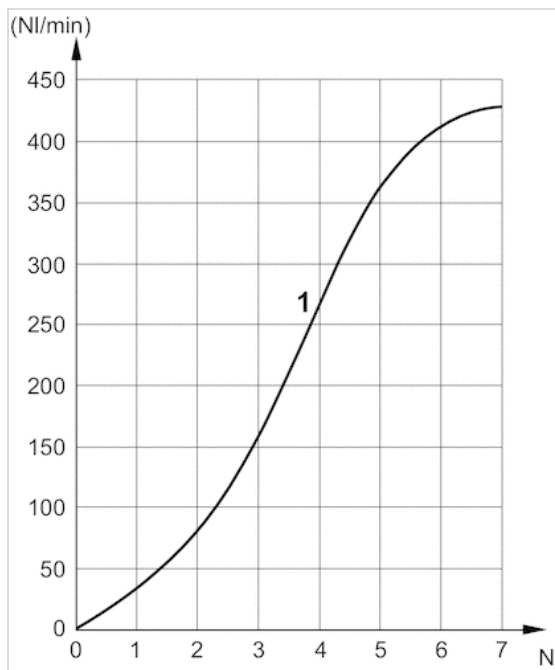
Diagrams

Fig. 1, single solenoid



- 1) Controlled flow
- 2) Uncontrolled flow

Fig. 2, double solenoid



- 1) Controlled flow

Accessories, Throttle module Series AV

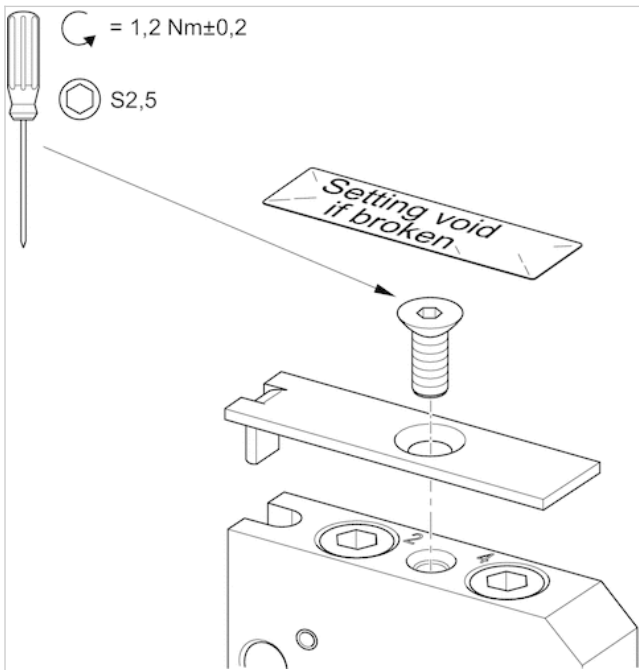


Working pressure min./max. -10 ... 60 bar
 Ambient temperature min./max. -10 ... 60 °C

Technical data

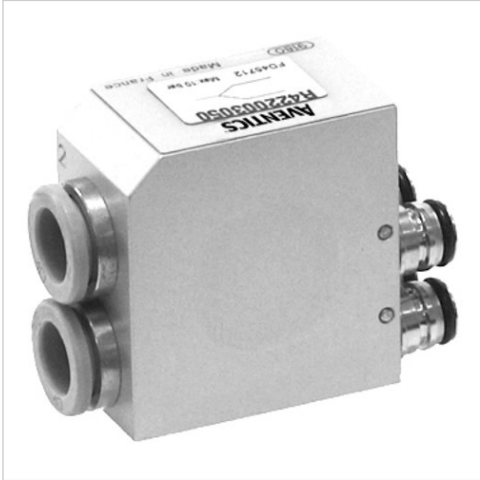
Part No.	Type	Scope of delivery
R422003595	Tamper-proof plate kit	1 plate, 1 screw, 4 stickers
R422003596	Tamper-proof sticker kit	4 stickers

Dimensions



Flow rate coupler Series AV

- For port channels 2, 4
- push-in fitting



Working pressure min./max.	-0.95 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Weight	0.115 kg

Technical data

Part No.	Type	Fig.
R422003050	2 x Ø 10	Fig. 1
R422003060	1 x Ø 10	Fig. 2

Technical information

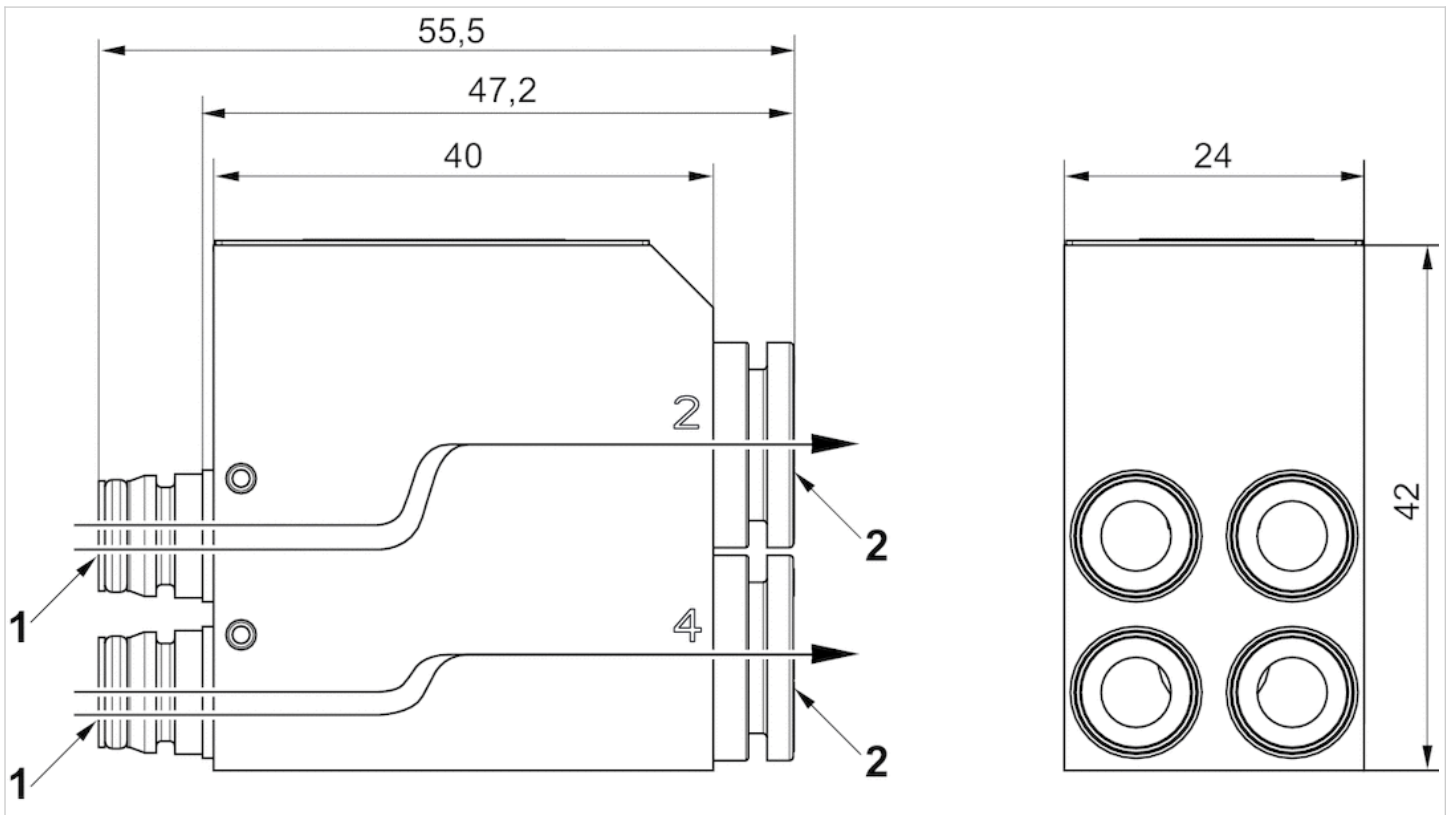
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
 Doubling of flow rate performance by connecting the working connections of two valves.
 Both valves must be identical models and controlled electrically at the same time.

Technical information

Material	
Housing	Aluminum
Seals	Nitrile rubber

Dimensions

Fig. 1



1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

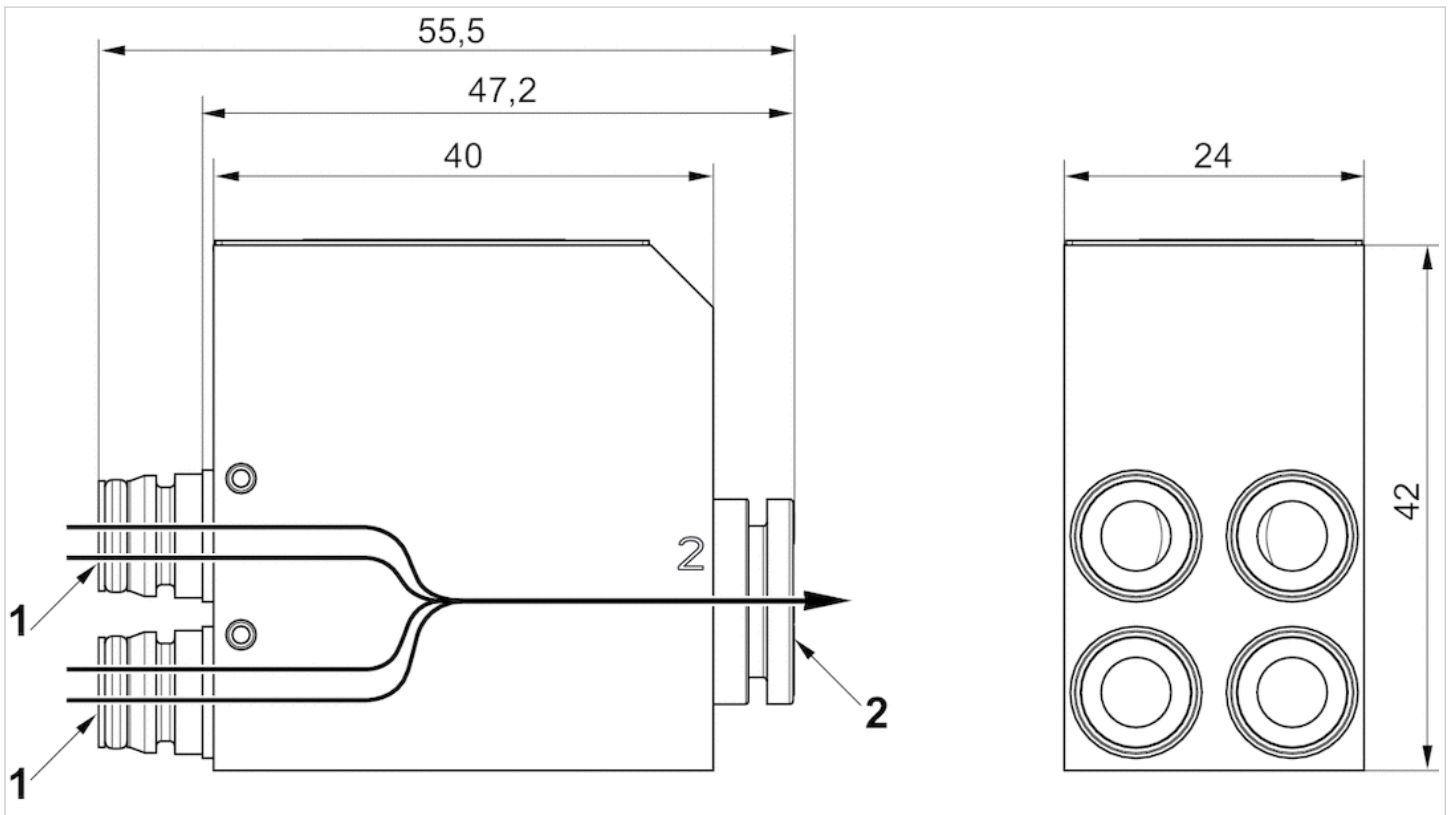
2) 2 x Ø 10

Dimensions

Number of valves	2	2	2	2	2	2
Valve function	5/2	5/3	2x3/2	5/2	5/3	2x3/2
Series	AV03	AV03	AV03	AV05	AV05	AV05
Flow [l/min]	670	670	670	1100	1100	1100

Dimensions

Fig. 2



1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

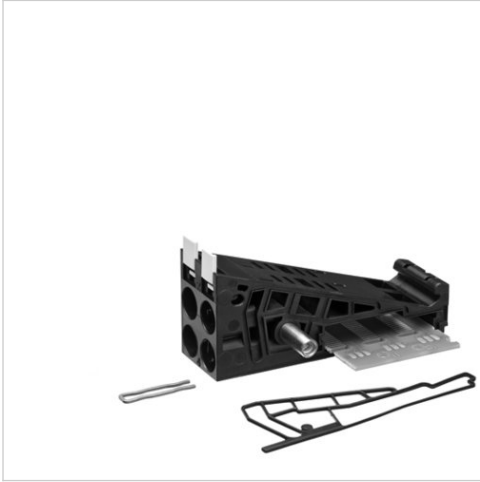
2) 1 x Ø 10

Dimensions

Number of valves	2	2
Valve function	2x3/2	2x3/2
Series	AV03	AV05
Flow [l/min]	830	1400

Extension kit for base plate 2x

- for series AV03



Working pressure min./max.	-0.95 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air

Technical data

Part No.	Type
R412015422	Base plate 2x for single solenoid valves for multipole plug
R412015423	Base plate 2x for double solenoid valves for multipole plug
R412018088	Base plate 2x for bus coupler

Part No.	Scope of delivery
R412015422	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 valve driver board, 2x (7)
R412015423	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 valve driver board, 2x (7)
R412018088	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 valve driver board, 2x (7)

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

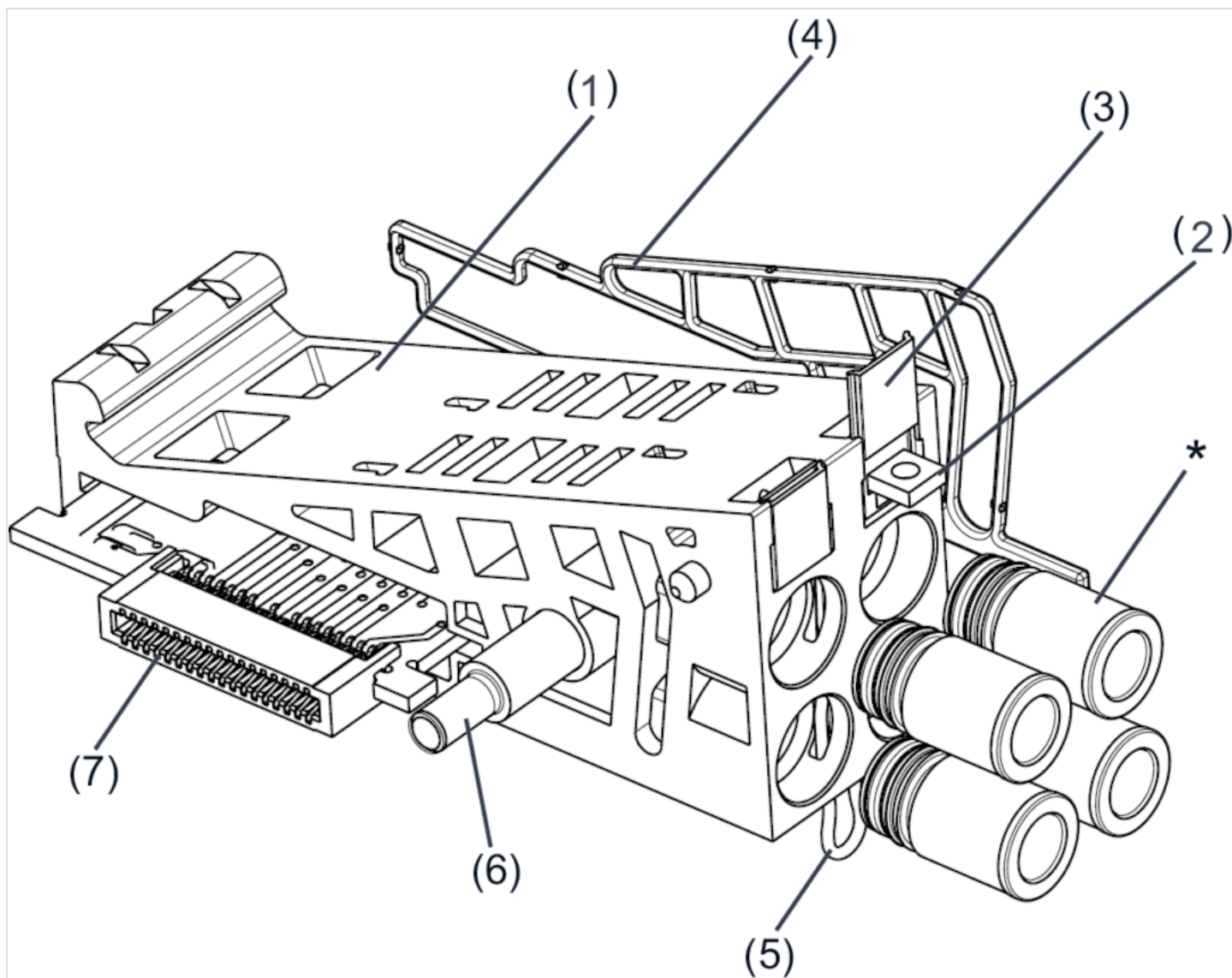
After two AV-EP or one AV-EP and 4 vales, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface.

Technical information

Material	
Housing	Polyamide
Seals	Nitrile rubber

Dimensions

Overview drawing

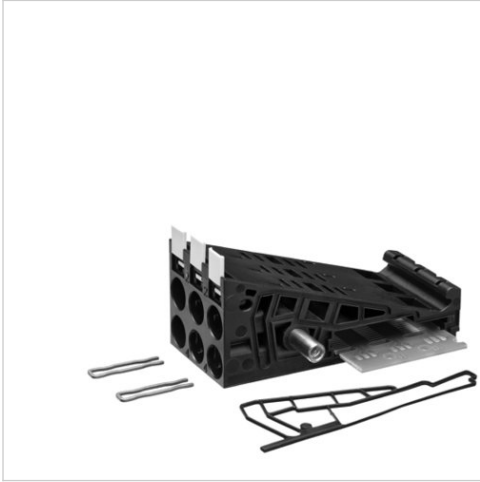


* Push-in fittings not included in the scope of delivery.

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Extension kit for base plate 3x

- for series AV03



Working pressure min./max. -0.95 ... 10 bar
 Ambient temperature min./max. -10 ... 60 °C
 Medium Compressed air

Technical data

Part No.	Type
R412018378	Base plate 3x for single solenoid valves for multipole plug
R412018379	Base plate 3x for double solenoid valves for multipole plug
R412018380	Base plate 3x for bus coupler

Part No.	Scope of delivery
R412018378	Base plate (1), incl. 3 nuts (2), 3 labels (3), 1 seal (4), 2 retaining clips (5), 1 tie rod extensions (6), and 1 extension circuit board (7)
R412018379	Base plate (1), incl. 3 nuts (2), 3 labels (3), 1 seal (4), 2 retaining clips (5), 1 tie rod extensions (6), and 1 extension circuit board (7)
R412018380	Base plate (1), incl. 3 nuts (2), 3 labels (3), 1 seal (4), 2 retaining clips (5), 1 tie rod extensions (6), and 1 extension circuit board (7)

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

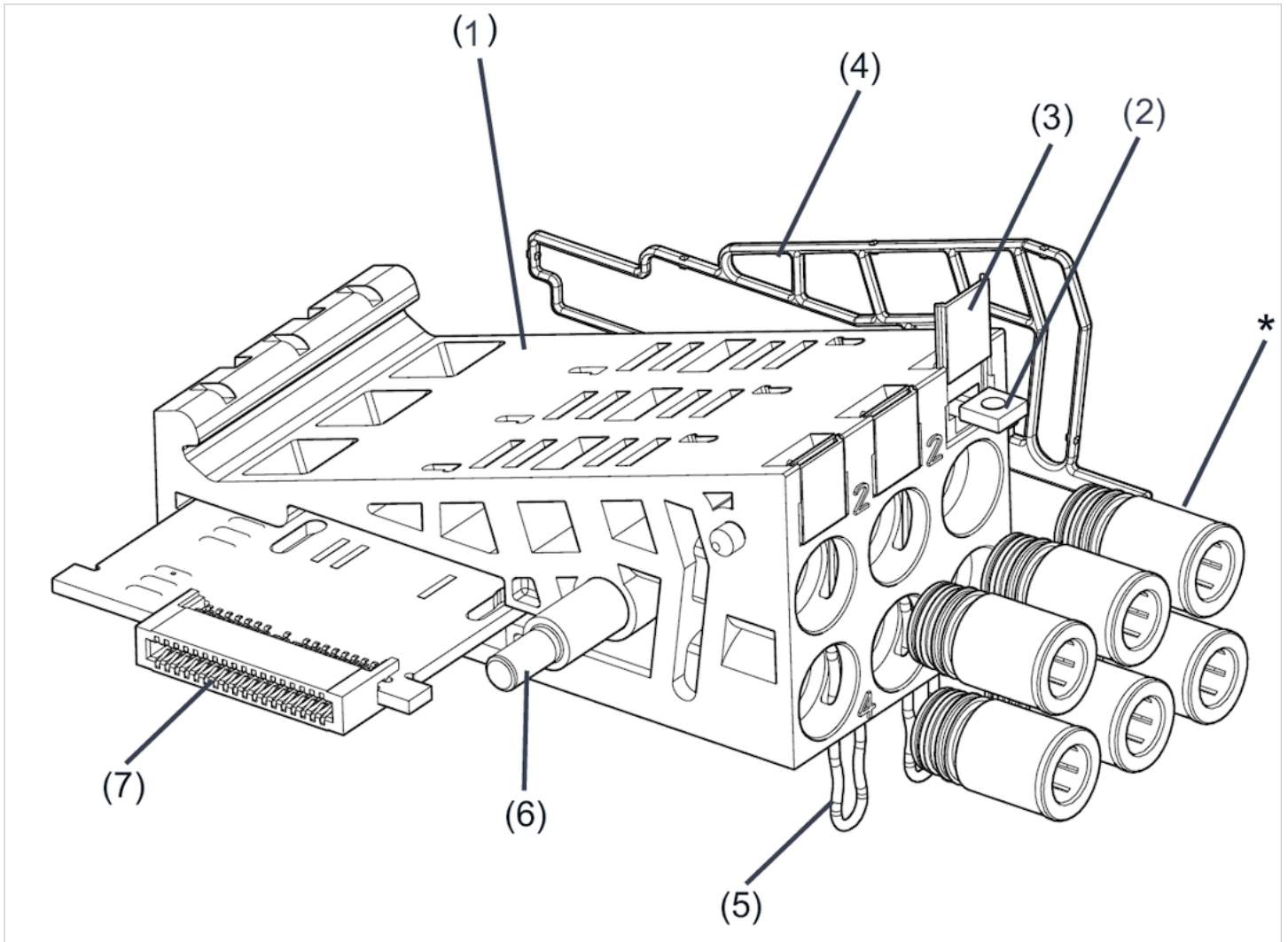
After three I/O modules or 8 valves, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface.

Technical information

Material	
Housing	Polyamide
Seals	Nitrile rubber

Dimensions

Overview drawing



* Push-in fittings not included in the scope of delivery.

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Extension kit for base plate 4x

- for series AV03



Working pressure min./max. -0.95 ... 10 bar
 Ambient temperature min./max. -10 ... 60 °C
 Medium Compressed air

Technical data

Part No.	Type
R412018205	Base plate 4x for bus coupler

Part No.	Scope of delivery
R412018205	2 base plates (1), incl. 4 nuts (2), 4 labels (3), 2 seals (4), 2 retaining clips (5), 1 tie rod extension (6), and 1 extension circuit board (7)

Technical information

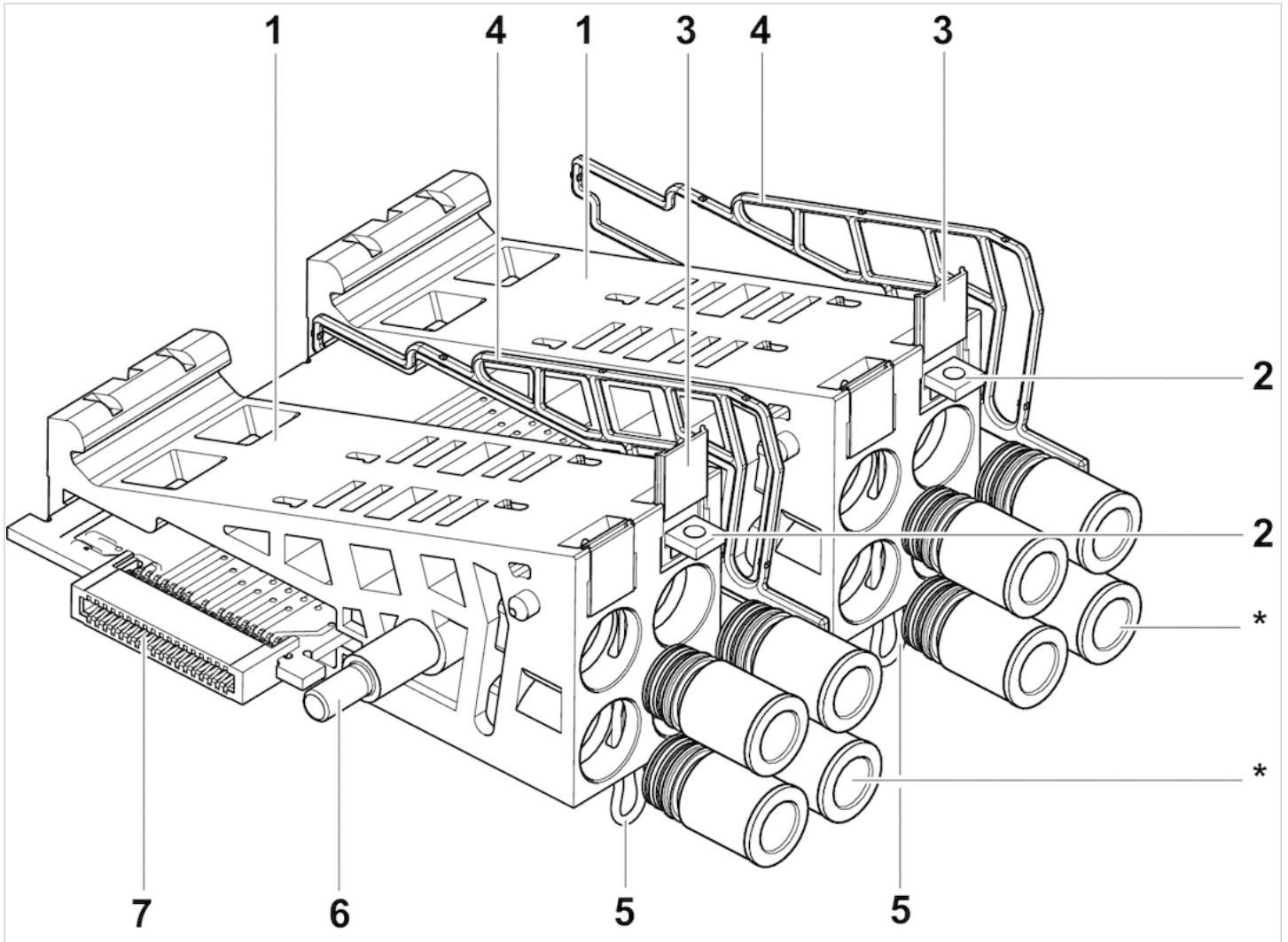
After three I/O modules or 8 valves, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Seals	Nitrile rubber

Dimensions

Overview drawing



Push-in fittings not included in the scope of delivery.

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Extension kit for base plate

- for series AV03-BP



Working pressure min./max. -10 ... 60 bar
Ambient temperature min./max. -10 ... 60 °C

Technical data

Part No.	Type
R412026452	Base plate 2x for double solenoid valves for fieldbus
R412026453	Base plate 4x for double solenoid valves for fieldbus
R412026454	Base plate 2x for double solenoid valves for multipole plug
R412026455	Base plate 2x for single solenoid valves for multipole plug

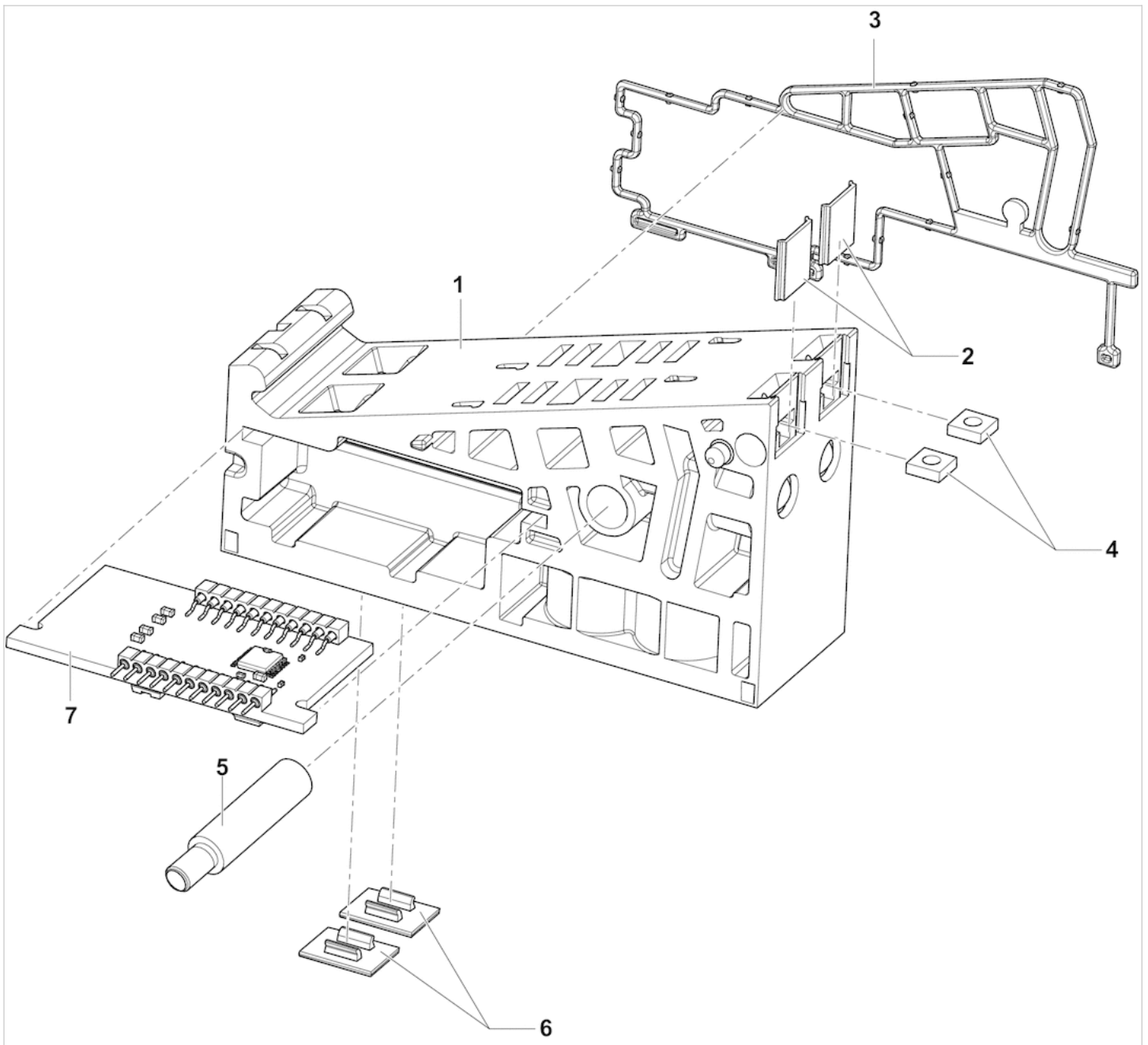
Part No.	Scope of delivery	Fig.
R412026452	1 base plate (1) incl. 2 labels (2), 1 seal (3), 2 nuts (4), 2 tie rod extensions (5), 2 labels (6), and 1 extension circuit board (7)	Fig. 1
R412026453	2 base plates (1) incl. 4 labels (2), 2 seals (3), 4 nuts (4), 4 tie rod extensions (5), 4 labels (6), and 1 extension circuit board (7)	Fig. 2
R412026454	1 base plate (1) incl. 2 labels (2), 1 seal (3), 2 nuts (4), 2 tie rod extensions (5), 2 labels (6), and 1 extension circuit board (7)	Fig. 1
R412026455	1 base plates (1) incl. 2 labels (2), 1 seals (3), 2 nuts (4), 2 tie rod extensions (5), 2 labels (6), and 1 extension circuit board (7)	Fig. 1

Technical information

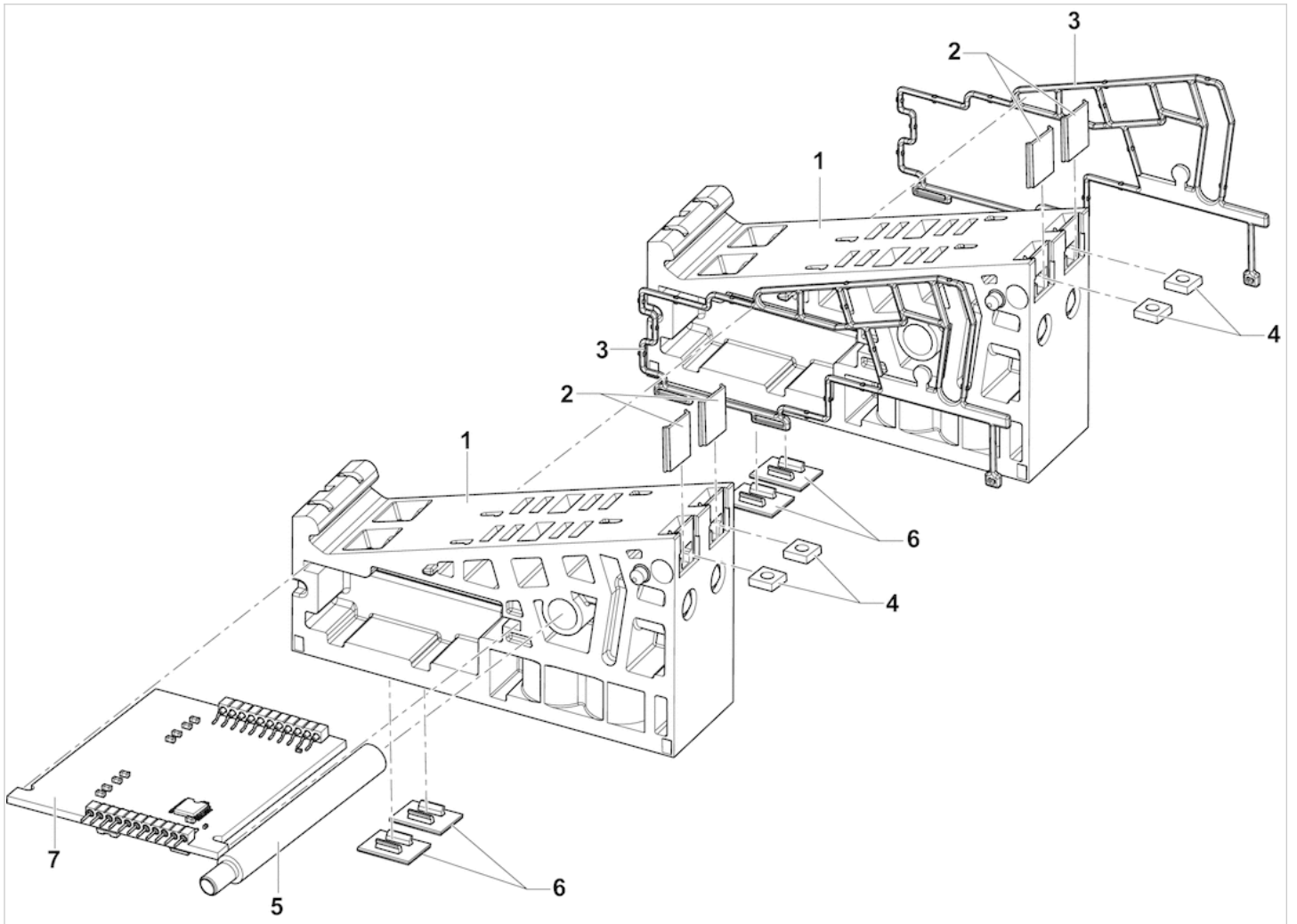
Material	
Housing	Polyamide fiber-glass reinforced
Seals	Nitrile butadiene rubber

Dimensions

Dimensions, Fig. 1



Dimensions, Fig. 2



Extension kit for base plate

- for series AV03-EP



Working pressure min./max.	0 ... 11 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air

Technical data

Part No.	Type
R414007343	Base plate for single pressure control for multipole connection
R414007344	Base plate for pressure zone control for multipole connection
R414007533	Base plate for single pressure control for fieldbus connection
R414007534	Base plate for pressure zone control for fieldbus connection

Part No.	Scope of delivery
R414007343	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 extension circuit board (7)
R414007344	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 extension circuit board (7)
R414007533	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 extension circuit board (7)
R414007534	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 extension circuit board (7)

Technical information

Depending on the selected base plate, you can either use the pressure regulator as a pressure zone control or single pressure control.

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

After three I/O modules or 8 valves, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface.

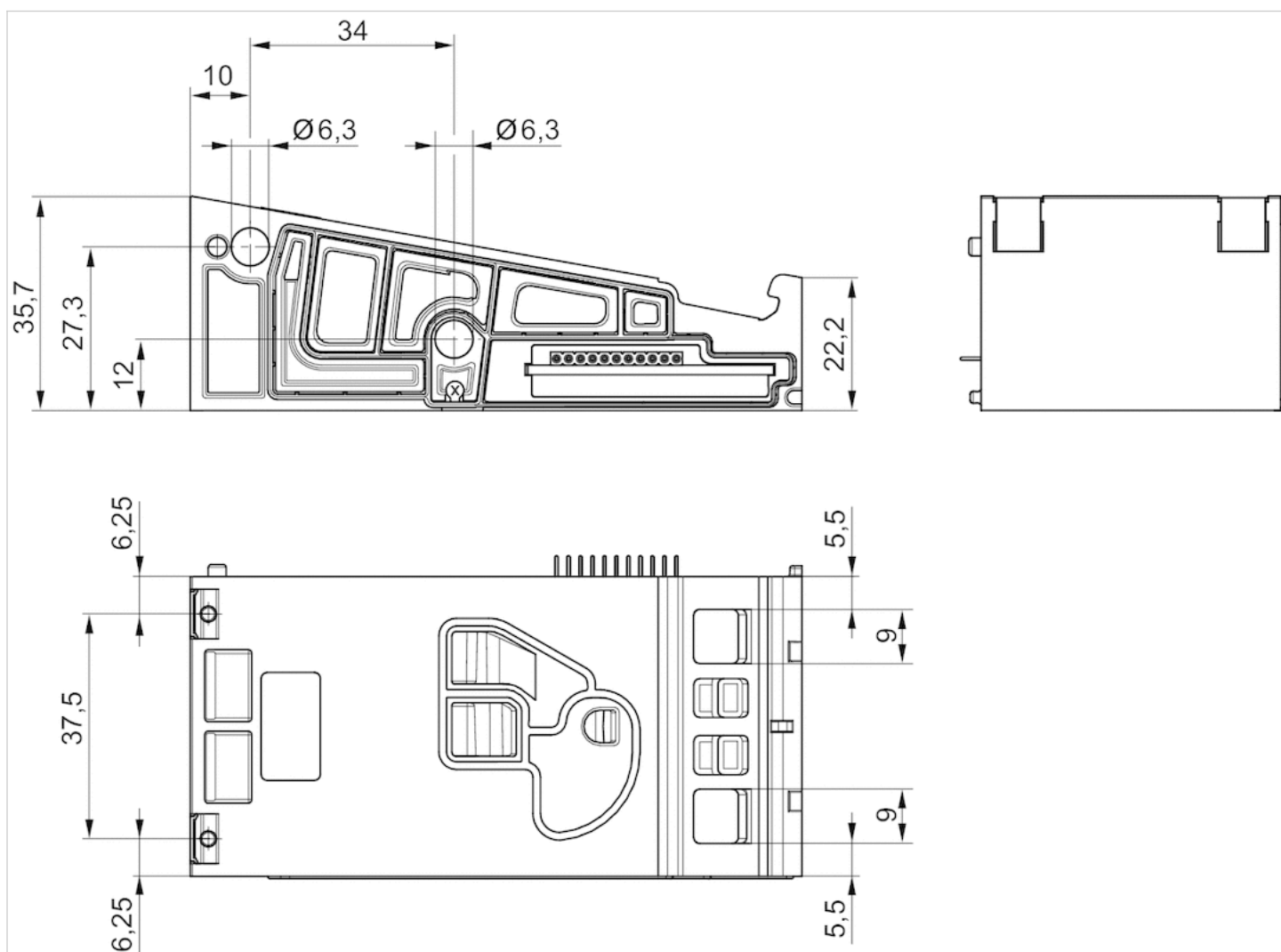
Technical information

Material

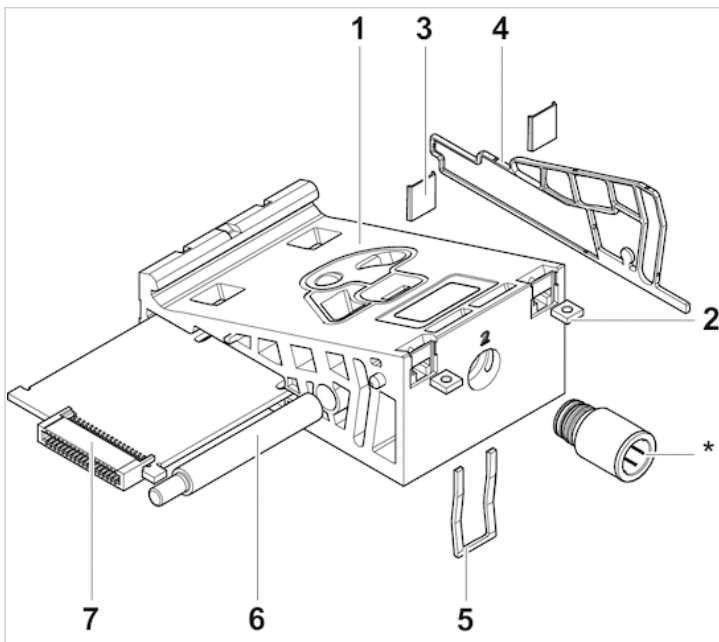
Housing	Polyamide
Seals	Nitrile butadiene rubber

Dimensions

Dimensions



Overview drawing

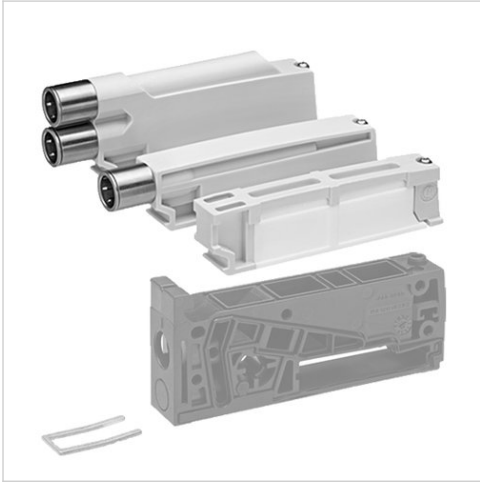


* Push-in fittings not included in the scope of delivery.

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Extension kit, exhaust module for supply plate

- for series AV03



Working pressure min./max.	-0.95 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³

Technical data

Part No.	Type
R412018331	Exhaust module 3, 5, and R with flat silencer
R412018332	Exhaust module with combined collected exhaust 3 and 5
R412018333	Exhaust module with separate collected exhaust 3 and 5

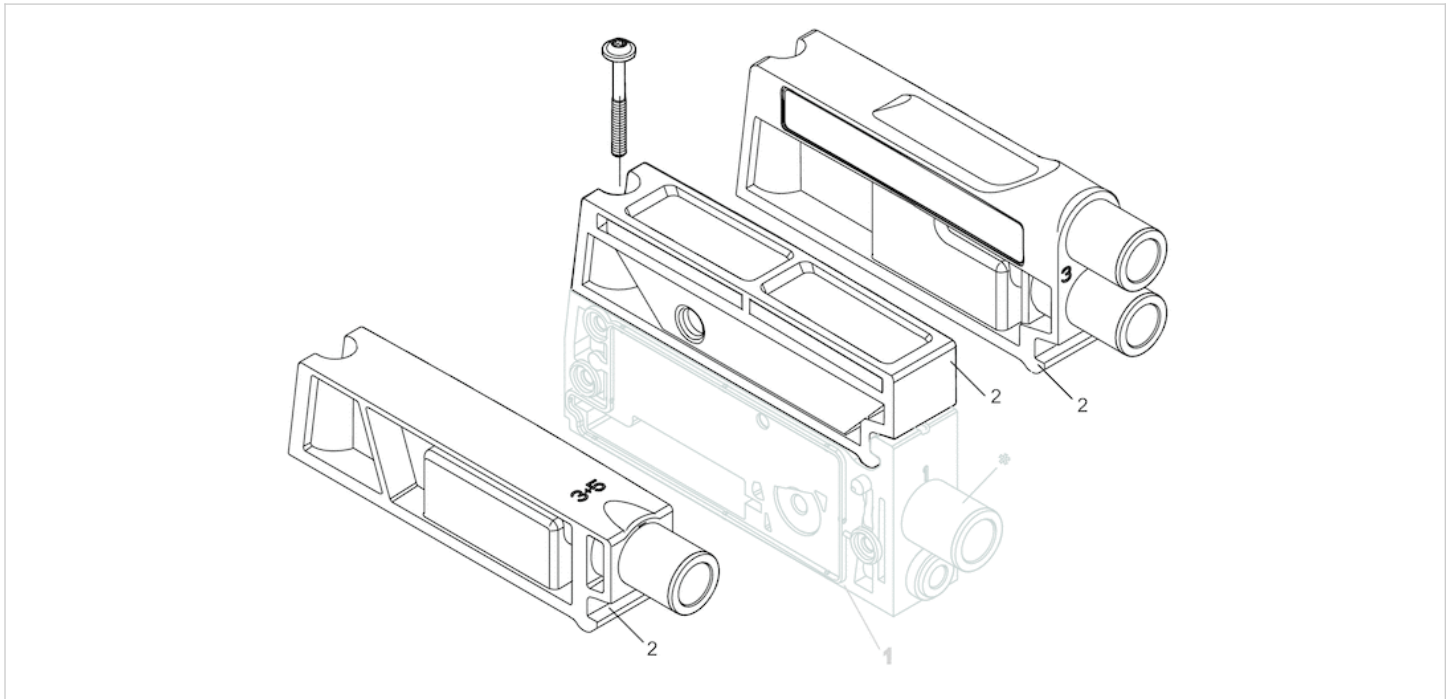
Part No.	Scope of delivery
R412018331	Exhaust module, including 1 seal, 1 mounting screw
R412018332	Exhaust module, incl. 1 mounting screw, push-in fitting Ø 8 mm
R412018333	Exhaust module, incl. 1 mounting screw, push-in fitting Ø 8 mm

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Dimensions

Overview drawing



2) Exhaust module







Extension kit, supply plate with switch-off voltage monitoring

- for series AV03



Working pressure min./max.	-0.95 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³

Technical data

Part No.		Valve system version	Position
R412025065		Fieldbus	1
R412025066		Fieldbus	1
R412025067		Fieldbus	1
R412025068		Fieldbus	1
R412025069		Fieldbus	1
R412025070		Fieldbus	1

Part No.	Type
R412025065	Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X
R412025066	Supply plate, connection 1, X, external pilot, separate pressure zones in channels 1/3/5/X
R412025067	Supply plate, connection 1, no pressure zones
R412025068	Supply plate, connection 1, separate pressure zones in channels 1/3/5
R412025069	Supply plate, connection 1, separate pressure zone in channel 1
R412025070	Supply plate, connection 1, separate pressure zones in channels 3/5

Part No.	Scope of delivery	Fig.
R412025065	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 2

Part No.	Scope of delivery	Fig.
R412025066	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 2
R412025067	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412025068	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412025069	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412025070	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1

You must order the exhaust modules separately.

Technical information

The supply plates with switch-off voltage monitoring are equipped with electronics that monitor if the voltage falls safely below the switch-off voltage threshold. The supply plate must be positioned to the left of the valves to be monitored.

The supply plates can only be used in conjunction with an AV valve system with fieldbus connection.

When using polyurethane tubing, we recommend using additional stiffener sleeves.

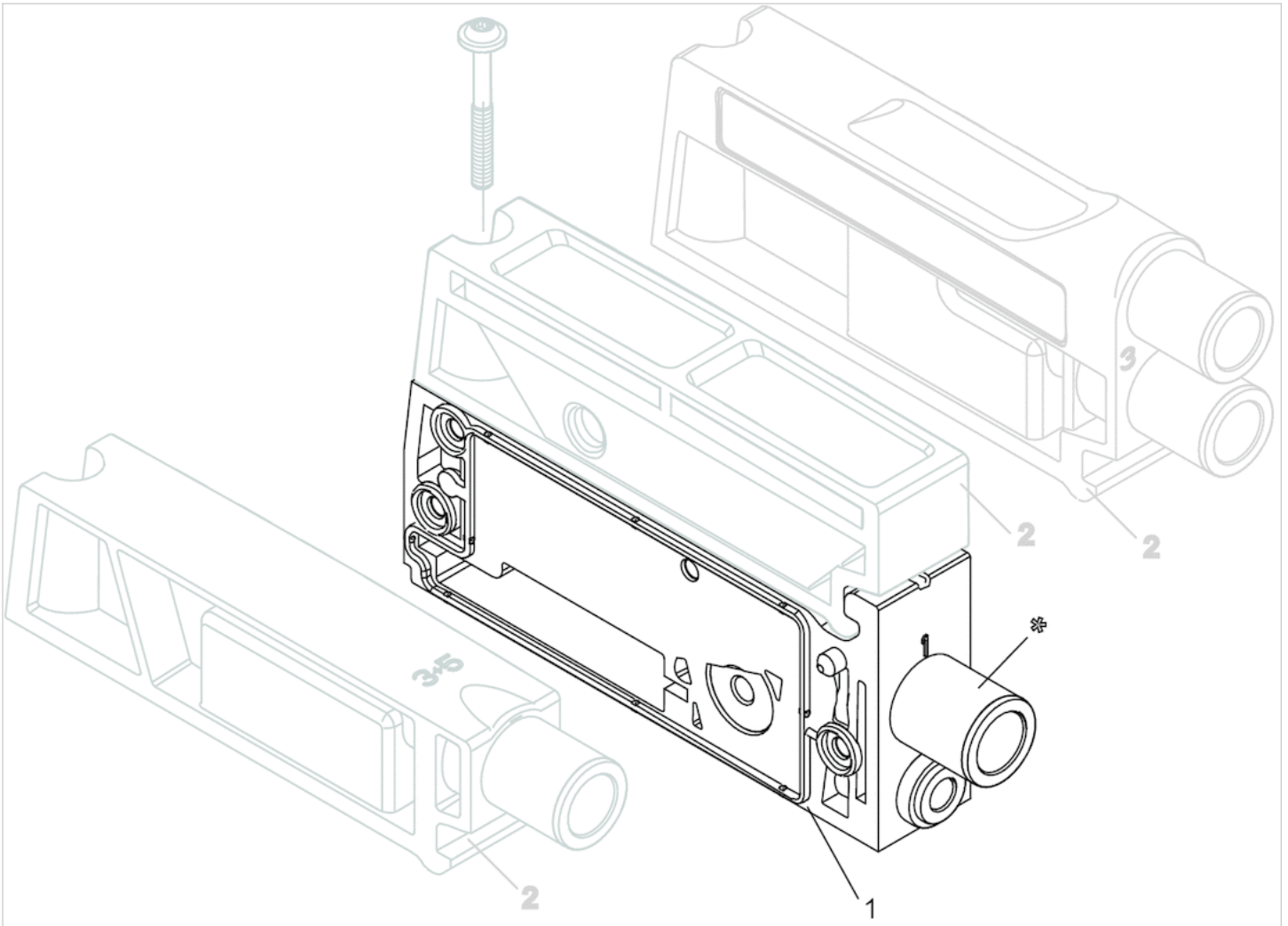
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

Material	
Housing	Polyamide
Seals	Nitrile rubber

Dimensions

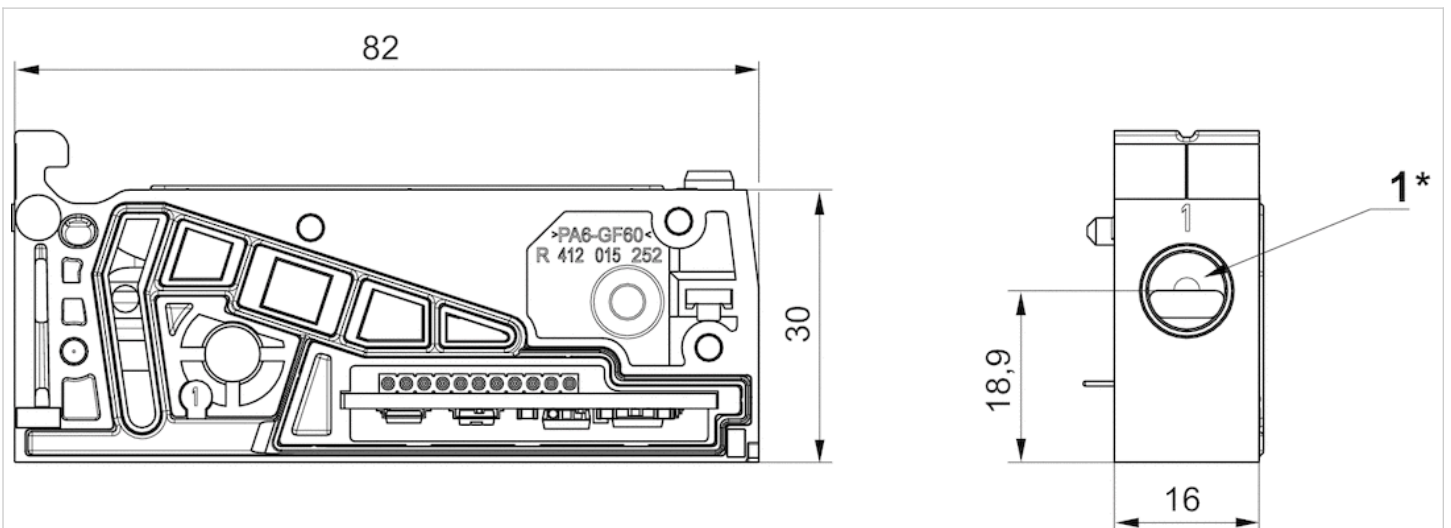
Overview drawing



* Position 1: Push-in fittings not included in the scope of delivery.

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

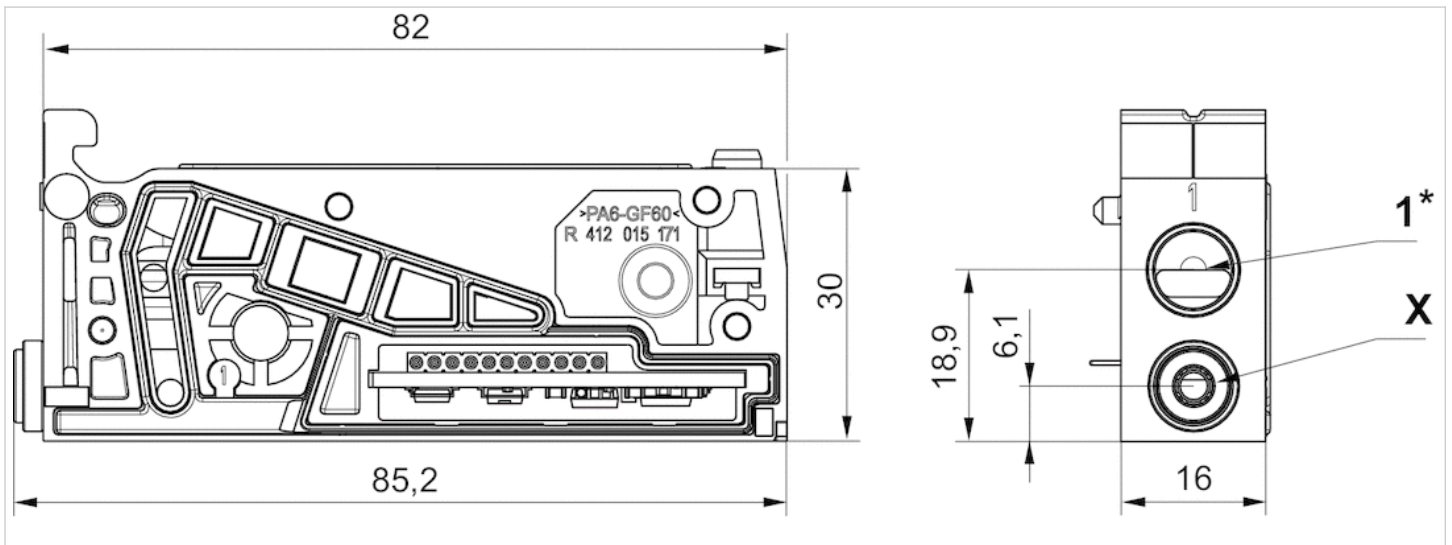
Fig. 1



1) Push-in fittings not included in the scope of delivery.

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Fig. 2



1) Push-in fittings not included in the scope of delivery.

X) Push-in connector Ø 4 mm, straight 5/32

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Extension kit, supply plate, left

- Only for the first air supply on the left side of the valve system!

- for series AV03



Working pressure min./max.

-0.95 ... 10 bar





Ambient temperature min./max.

-10 ... 60 °C

Medium

Compressed air

Technical data

Part No.		Valve system version	Position
R412018347		Fieldbus	1
R412022573		Multipole	1
R412018348		Fieldbus	1
R412022574		Multipole	1

Part No.	Type
R412018347	Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X/R
R412022573	Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X/R
R412018348	Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X/R
R412022574	Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X/R

Part No.	Scope of delivery	Fig.
R412018347	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, 1 tie rod nuts and 1 extension circuit board	Fig. 1
R412022573	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, 1 tie rod nuts and 1 extension circuit board	Fig. 1

Part No.	Scope of delivery	Fig.
R412018348	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, 1 tie rod nuts and 1 extension circuit board	Fig. 2
R412022574	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, 1 tie rod nuts and 1 extension circuit board	Fig. 2

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

The exhaust module (item 2) is not included in the scope of delivery for the supply plate (item 1). You must order the exhaust modules separately.

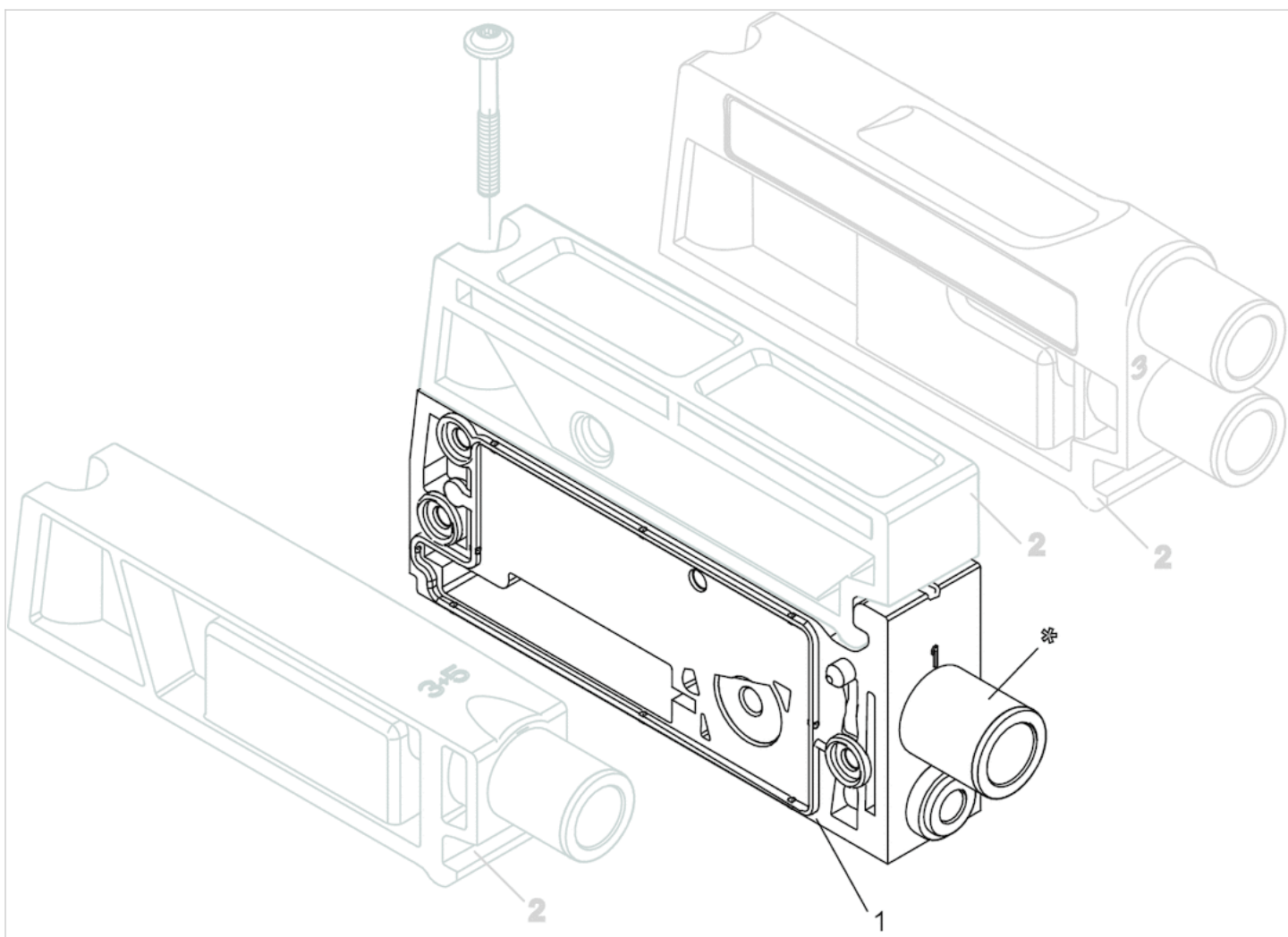
Position 1: Push-in fittings not included in the scope of delivery.

Technical information

Material	
Housing	Polyamide
Seals	Nitrile rubber

Dimensions

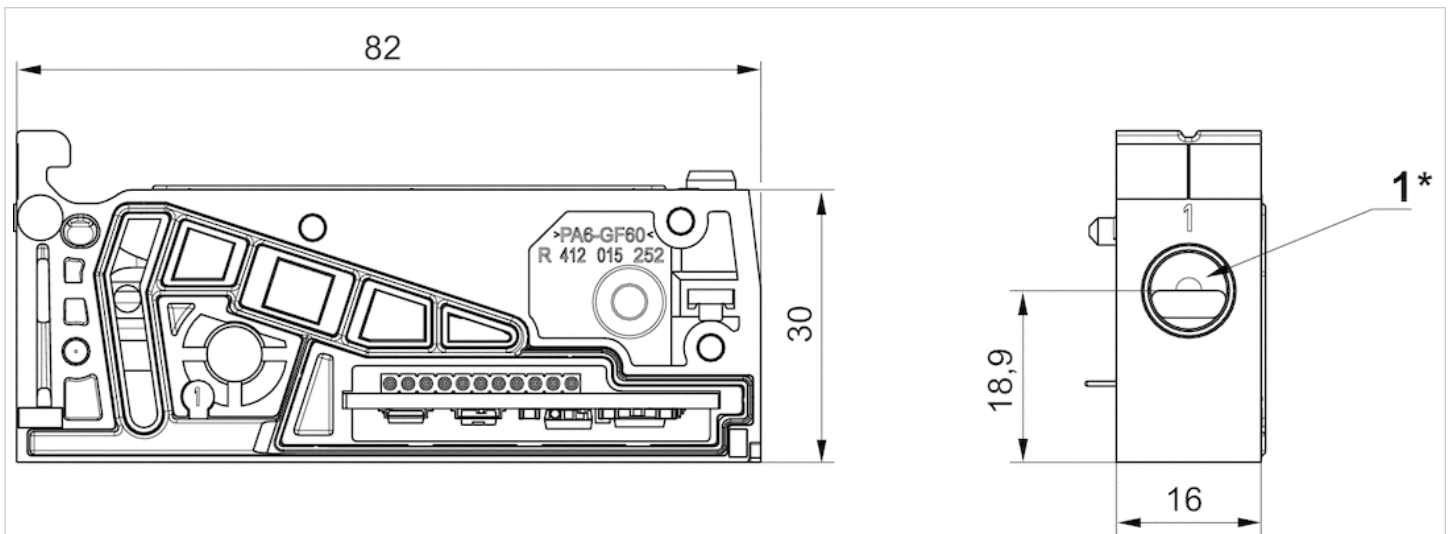
Overview drawing



* Position 1: Push-in fittings not included in the scope of delivery.

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

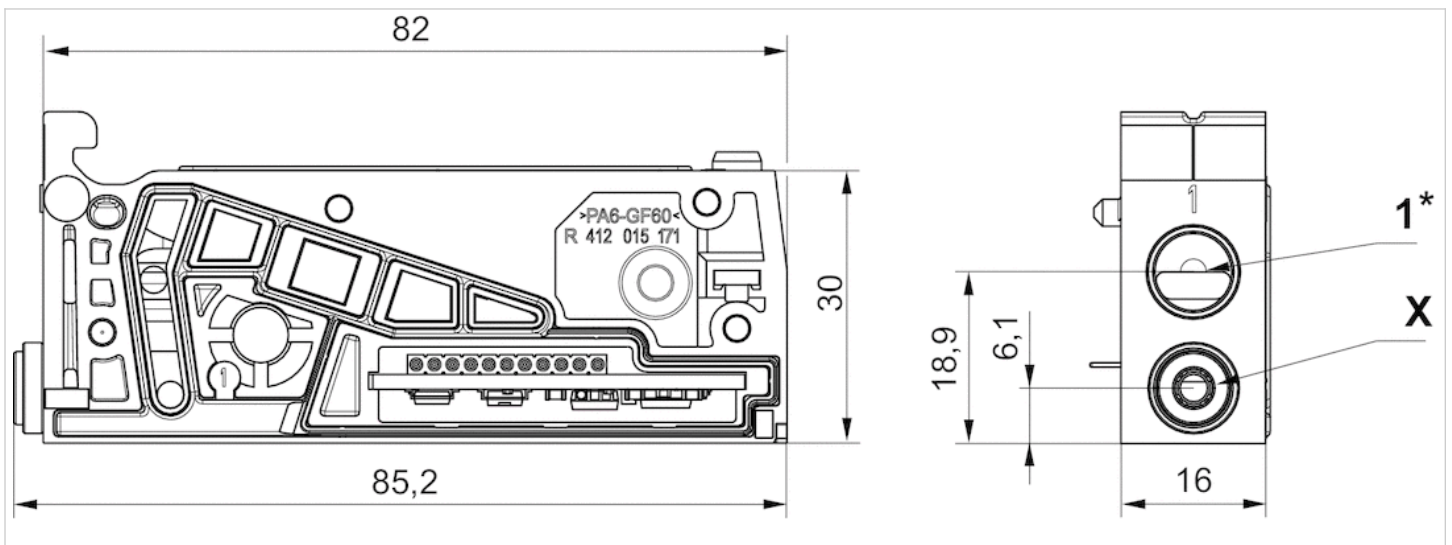
Fig. 1



1) Push-in fittings not included in the scope of delivery.

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Fig. 2



1) Push-in fittings not included in the scope of delivery.

X) Push-in connector Ø 4 mm, straight 5/32

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Extension kit, supply plate, center

- for series AV03



Working pressure min./max.

-0.95 ... 10 bar













Ambient temperature min./max.

-10 ... 60 °C

Medium

Compressed air

Technical data

Part No.		Valve system version	Position
R412026822		Fieldbus	1
R412026824		Multipole	1
R412026821		Fieldbus	1
R412026823		Multipole	1
R412018337		Fieldbus	1
R412022575		Multipole	1
R412018613		Fieldbus	1
R412022576		Multipole	1
R412018614		Fieldbus	1
R412022577		Multipole	1
R412018615		Fieldbus	1
R412022578		Multipole	1

Part No.	Type
R412026822	Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X
R412026824	Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X
R412026821	Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X
R412026823	Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X
R412018337	Supply plate, connection 1, no pressure zones
R412022575	Supply plate, connection 1, no pressure zones
R412018613	Supply plate, connection 1, separate pressure zones in channels 1/3/5
R412022576	Supply plate, connection 1, separate pressure zones in channels 1/3/5
R412018614	Supply plate, connection 1, separate pressure zone in channel 1

Part No.	Type
R412022577	Supply plate, connection 1, separate pressure zone in channel 1
R412018615	Supply plate, connection 1, separate pressure zones in channels 3/5
R412022578	Supply plate, connection 1, separate pressure zones in channels 3/5

Part No.	Scope of delivery	Fig.
R412026822	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412026824	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412026821	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 2
R412026823	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 2
R412018337	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412022575	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412018613	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412022576	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1

Part No.	Scope of delivery	Fig.
R412018614	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412022577	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412018615	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1
R412022578	Base plate, incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fig. 1

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

The exhaust module (item 2) is not included in the scope of delivery for the supply plate (item 1). You must order the exhaust modules separately.

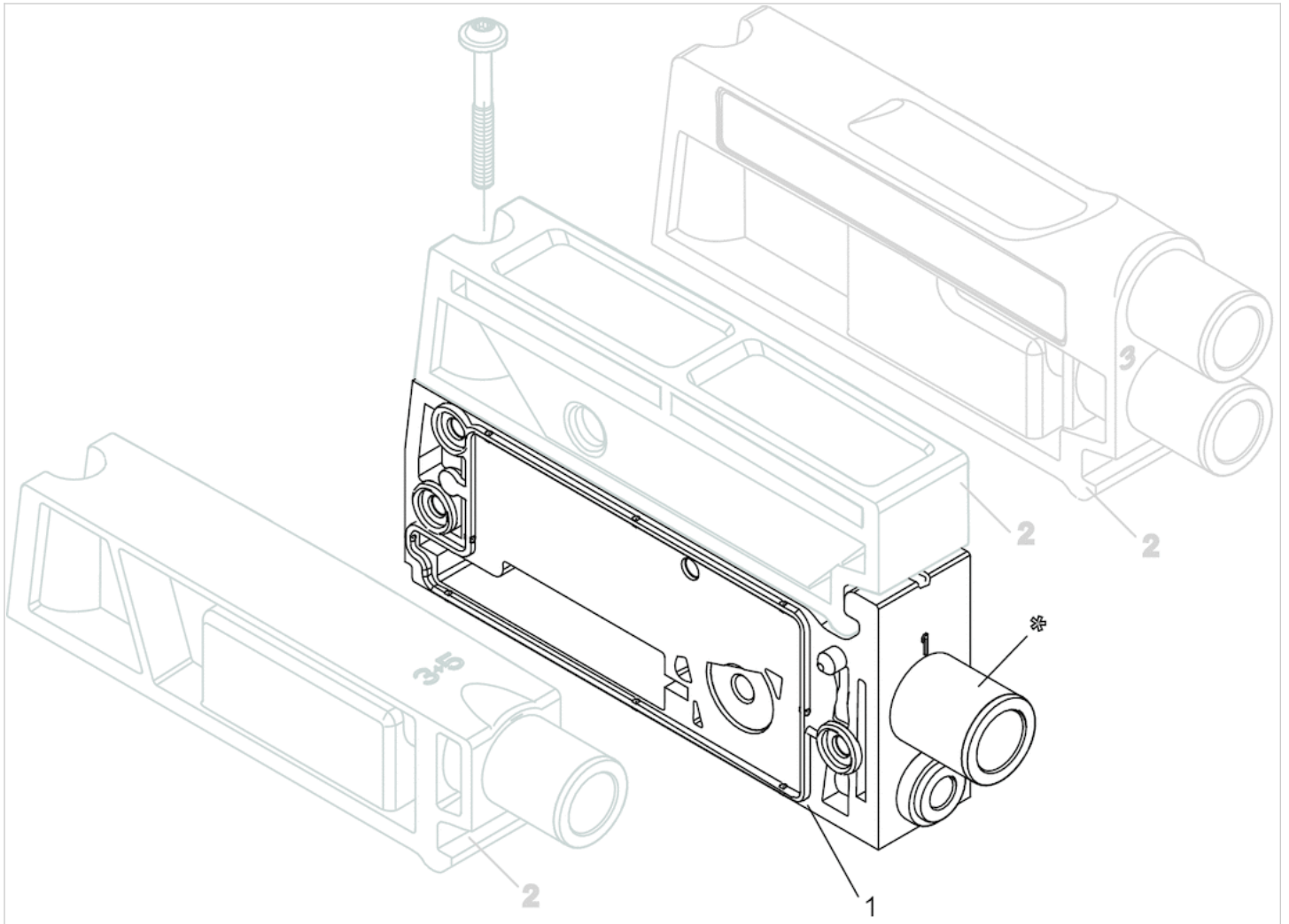
Position 1: Push-in fittings not included in the scope of delivery.

Technical information

Material	
Housing	Polyamide
Seals	Nitrile rubber

Dimensions

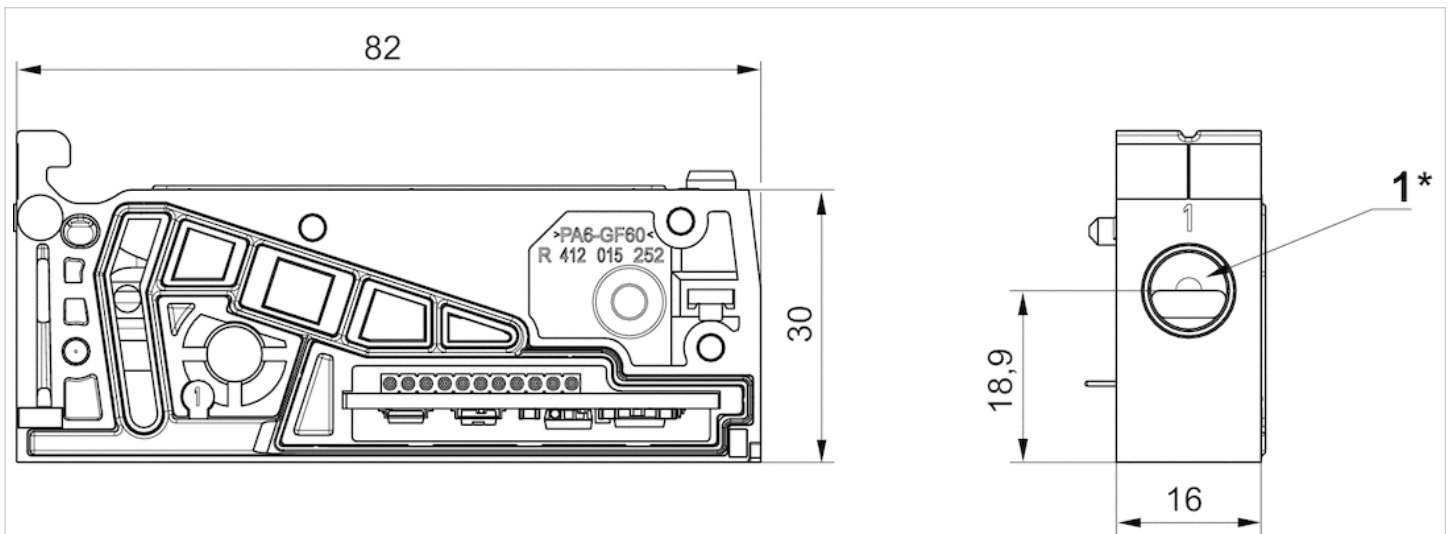
Overview drawing



* Position 1: Push-in fittings not included in the scope of delivery.

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

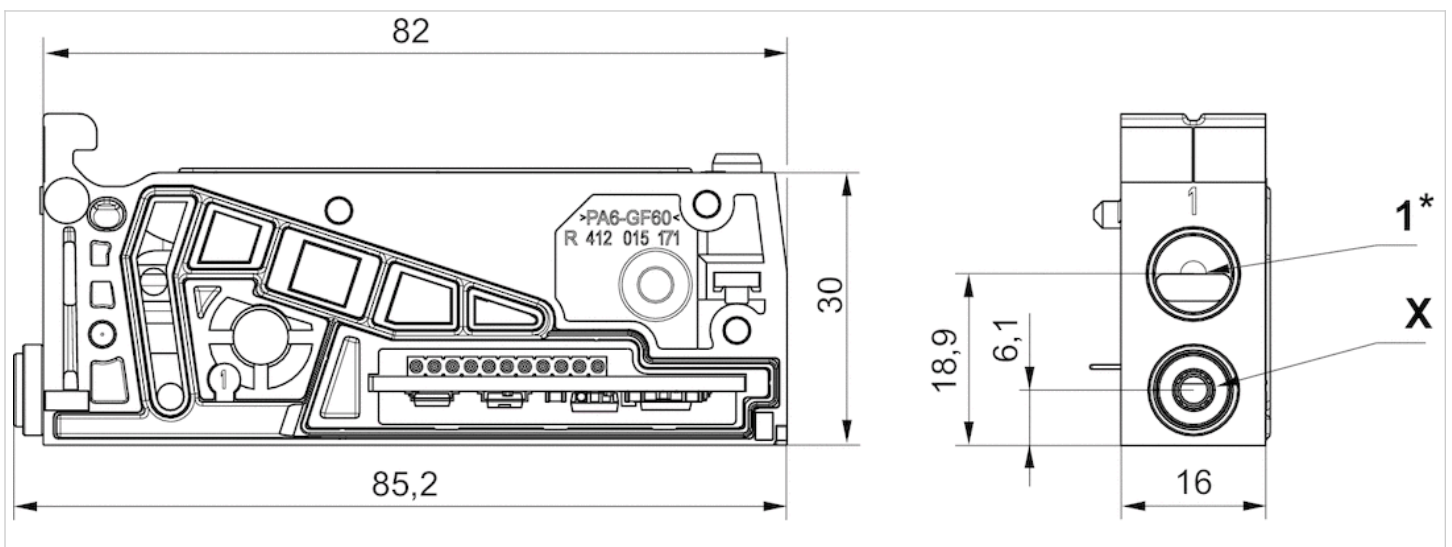
Fig. 1



1) Push-in fittings not included in the scope of delivery.

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Fig. 2



1) Push-in fittings not included in the scope of delivery.

X) Push-in connector \varnothing 4 mm, straight 5/32

* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Extension kit, supply plate

- for series AV03-BP



Working pressure min./max.

-0.95 ... 10 bar









Ambient temperature min./max.

-10 ... 60 °C

Medium

Compressed air

Technical data

Part No.		Valve system version
R412026434		Fieldbus
R412026438		Multipole
R412026435		Fieldbus
R412026439		Multipole
R412026436		Fieldbus
R412026440		Multipole
R412026437		Fieldbus
R412026441		Multipole

Part No.	Type
R412026434	Supply plate, connection 1, 3, 5, no pressure zones
R412026438	Supply plate, connection 1, 3, 5, no pressure zones
R412026435	Supply plate, connection 1, 3, 5 separate pressure zones in channels 1/3/5
R412026439	Supply plate, connection 1, 3, 5 separate pressure zones in channels 1/3/5
R412026436	Supply plate, connection 1, 3, 5 separate pressure zones in channels 1
R412026440	Supply plate, connection 1, 3, 5 separate pressure zones in channels 1
R412026437	Supply plate, connection 1, 3, 5 separate pressure zones in channels 3/5
R412026441	Supply plate, connection 1, 3, 5 separate pressure zones in channels 3/5

Part No.	Scope of delivery
R412026434	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)
R412026438	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)
R412026435	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)

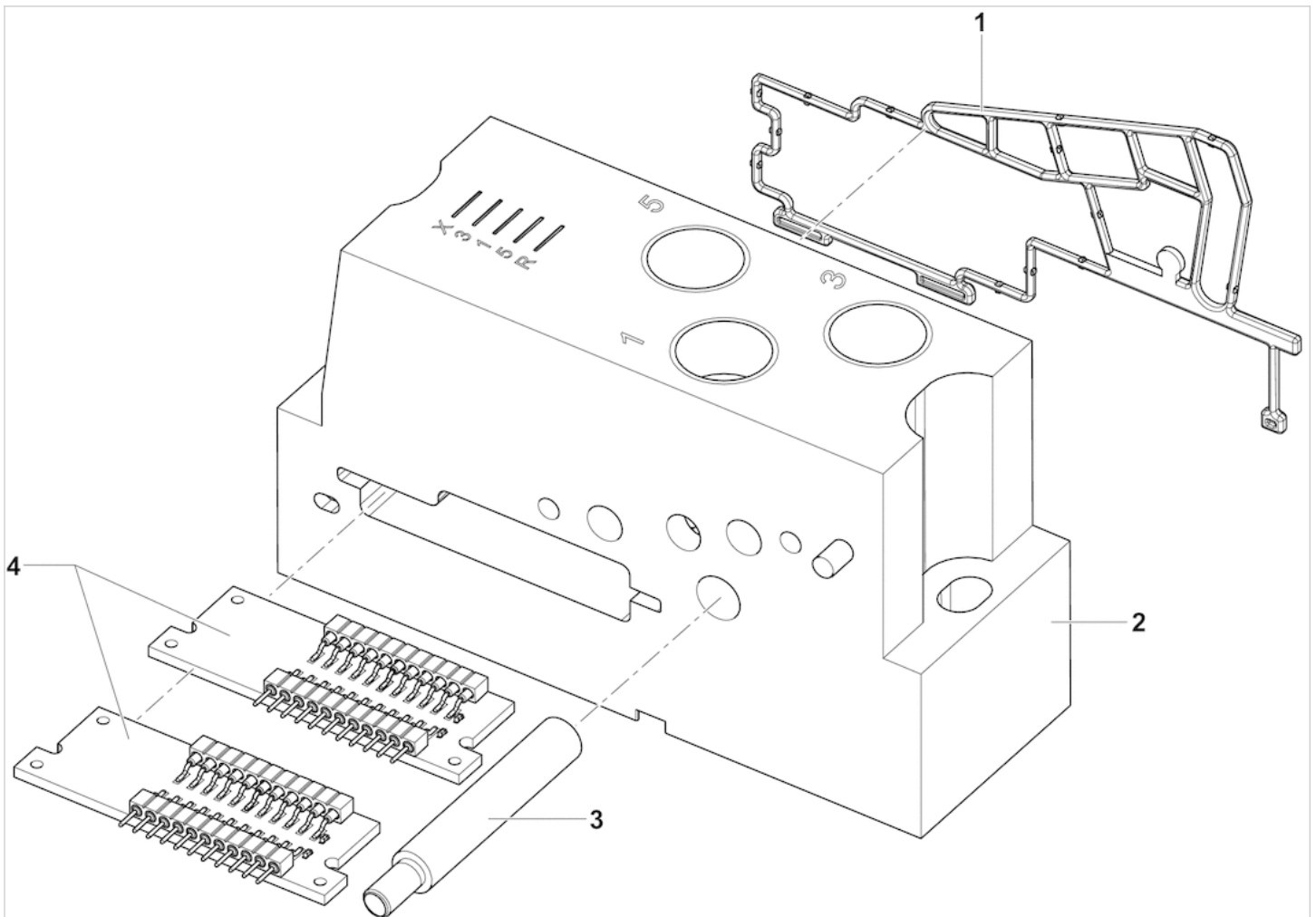
Part No.	Scope of delivery
R412026439	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)
R412026436	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)
R412026440	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)
R412026437	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)
R412026441	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

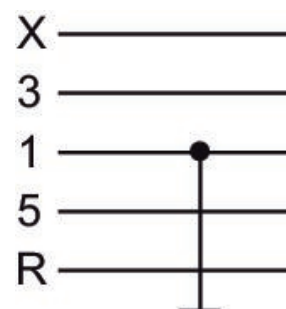
Dimensions



- 1) Seal
- 2) Housing
- 3) Tie rod extension, 1 piece
- 4) Extension circuit board

Extension kit, electrical supply plate

R412021748



Technical data

Industry

Industrial

Type

Assembly kit

For series

AV03

AES

DC operating voltage

24 V

Voltage tolerance DC

-10% / +10%

Scope of delivery

Supply plate, incl. 1 seal, 1 tie rod, and 1 screw for extension

Min. ambient temperature

-10 °C

Max. ambient temperature

60 °C

Min. medium temperature

-10 °C

Max. medium temperature	60 °C
Electrical connection	M12
Electrical connection	4-pin
Electrical connection	A-coded
Max. current consumption	2 A
Protection class	IP65
Weight	0.12 kg

Material

Housing material	Polyamide Aluminum
Seal material	Nitrile rubber
Part No.	R412021748

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Please note that the supply plate may only be used in conjunction with AES series fieldbus modules.

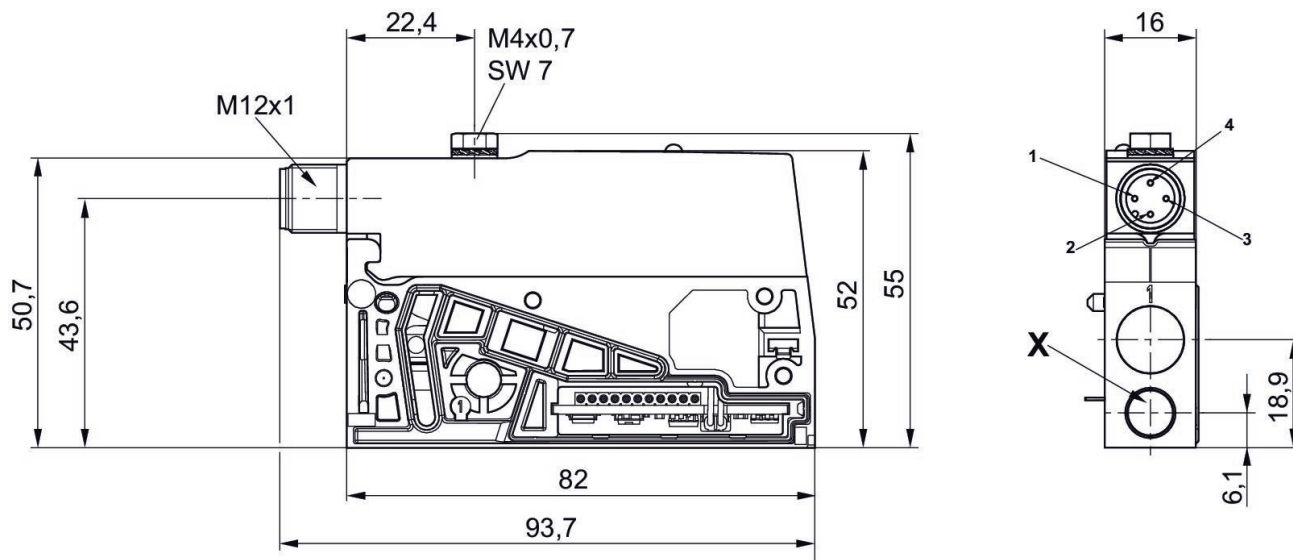
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

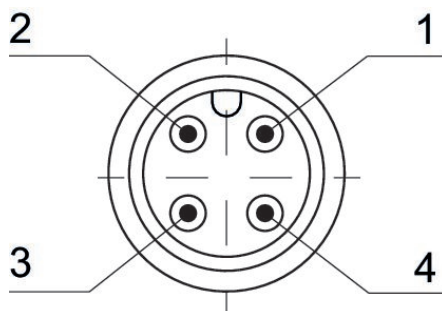
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Pin assignment: 1 = (-), 2 = (24 V DC), 3 = (-), 4 = (0 V DC)

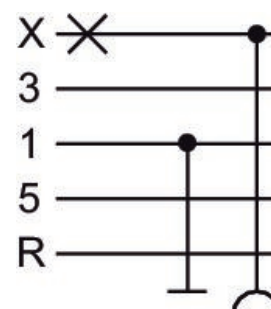
Plug (male)



Pin	Plug X1S
1	not assigned
2	24 V DC
3	not assigned
4	0 V DC (UA)

Extension kit, electrical supply plate

R412021752



Technical data

Industry

Industrial

Type

Assembly kit

For series

AV03

AES

DC operating voltage

24 V

Voltage tolerance DC

-10% / +10%

Scope of delivery

Supply plate, incl. 1 seal, 1 tie rod, and 1 screw for extension

Min. ambient temperature

-10 °C

Max. ambient temperature

60 °C

Min. medium temperature

-10 °C

Max. medium temperature	60 °C
Electrical connection	M12
Electrical connection	4-pin
Electrical connection	A-coded
Max. current consumption	2 A
Protection class	IP65
Weight	0.12 kg

Material

Housing material	Polyamide Aluminum
Seal material	Nitrile rubber
Part No.	R412021752

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Please note that the supply plate may only be used in conjunction with AES series fieldbus modules.

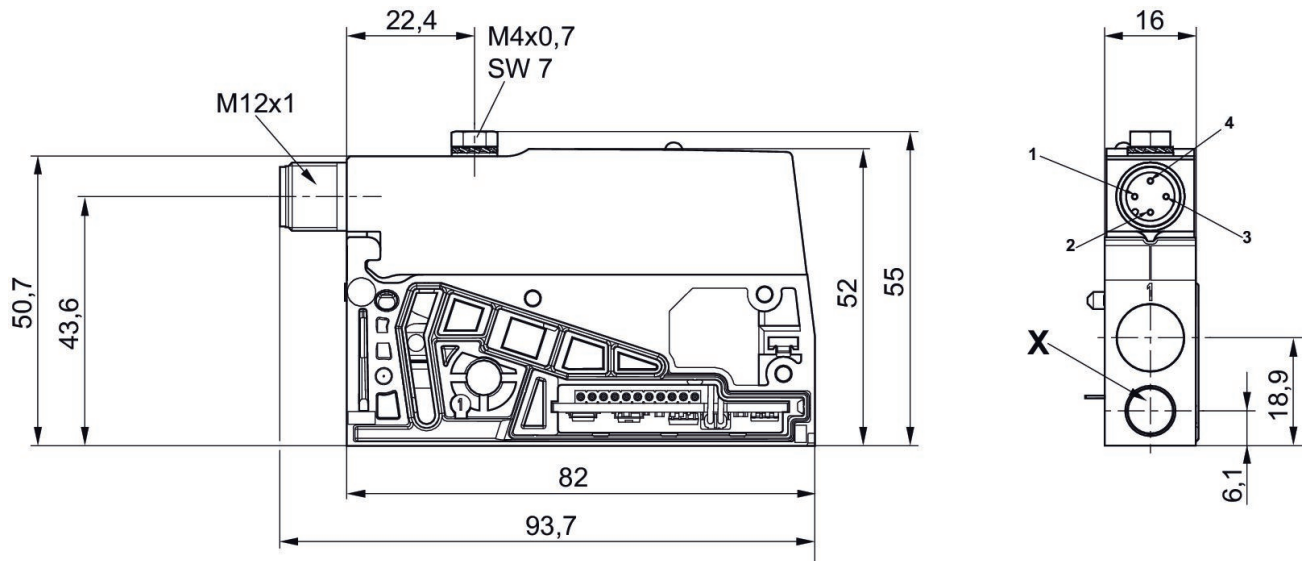
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

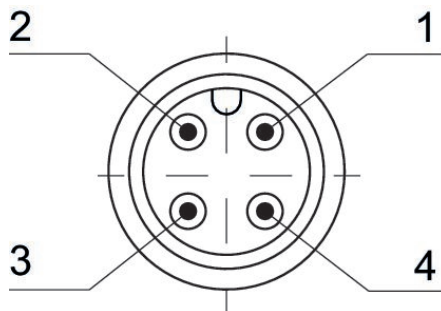
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Pin assignment: 1 = (-), 2 = (24 V DC), 3 = (-), 4 = (0 V DC)

Plug (male)



Pin	Plug X1S
1	not assigned
2	24 V DC
3	not assigned
4	0 V DC (UA)

Extension kit, Electrical valve control module

- for AV03



Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Max. power consumption	1 A
Protection class	IP65
Weight	0.125 kg

X
3
1
5
R

Technical data

Part No.	Scope of delivery	Pilot connection
R412022742	M12 control module (incl. base plate for 2 valve positions incl. 2 nuts, 2 labels), 1 tie rod extension 16 mm, 1 tie rod extension 25 mm, 1 screw, 1 retaining clip, and 1 seal	Ø 12

Part No.	DC operating voltage
R412022742	24 V

Push-in fittings are not included in the scope of delivery and must be ordered separately.

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).

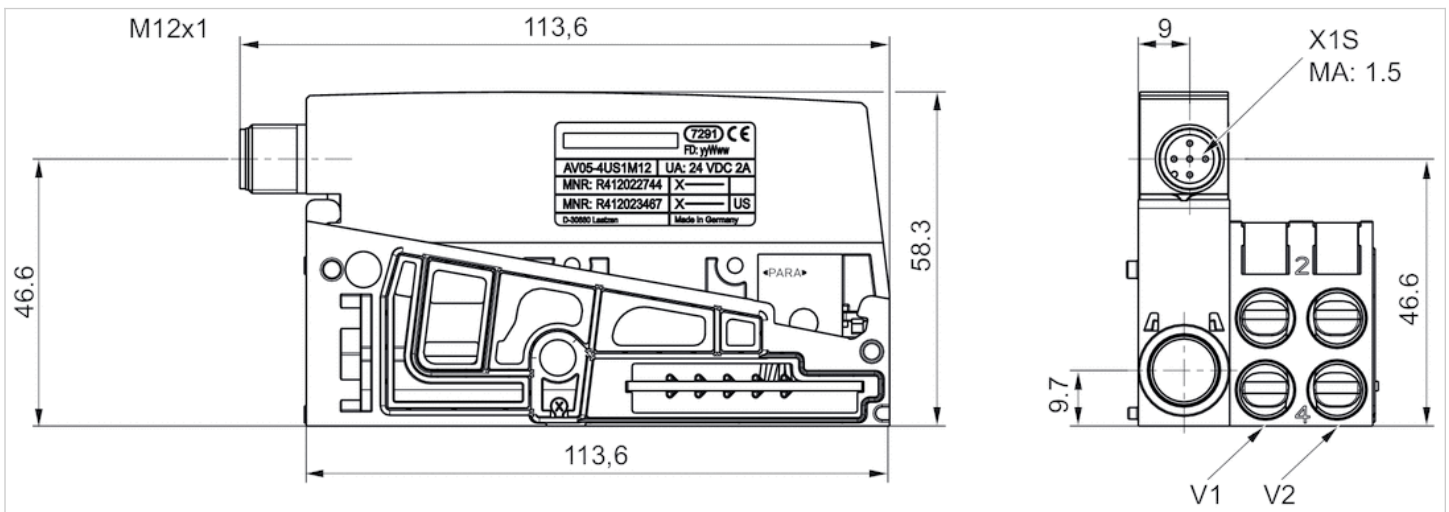
When using polyurethane tubing, we recommend using additional stiffener sleeves.
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

Material	
Housing	Polyamide Aluminum
Seal	Nitrile rubber

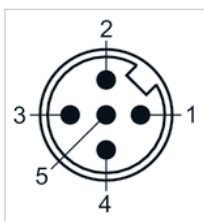
Dimensions

Dimensions



Pin assignments

Plug pin assignment

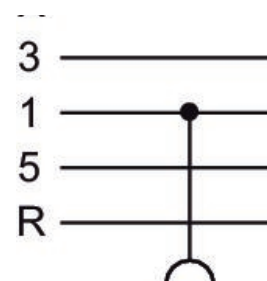
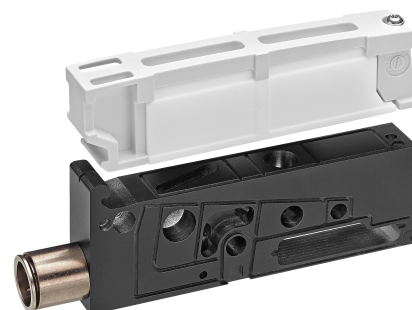


- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=grey

Pin	1	2	3	4	5
Valve	V1	V1	GND	V2	V2
Coil	14	12	GND	14	12

Extension kit, combination plate, Series AV

R412021780



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, no pressure zones

Valve system version
Fieldbus

Scope of delivery
Combination module, right end plate AV05, screws, and seal

Working pressure min.
-0.95 bar

Compressed air connection input
Ø 12
Pilot connection
Ø 12

Working pressure max
10 bar
Min. ambient temperature
-10 °C
Max. ambient temperature
60 °C
Medium
Compressed air

Material

Housing material
Aluminum

Seal material
Nitrile rubber

Part No.
R412021780

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

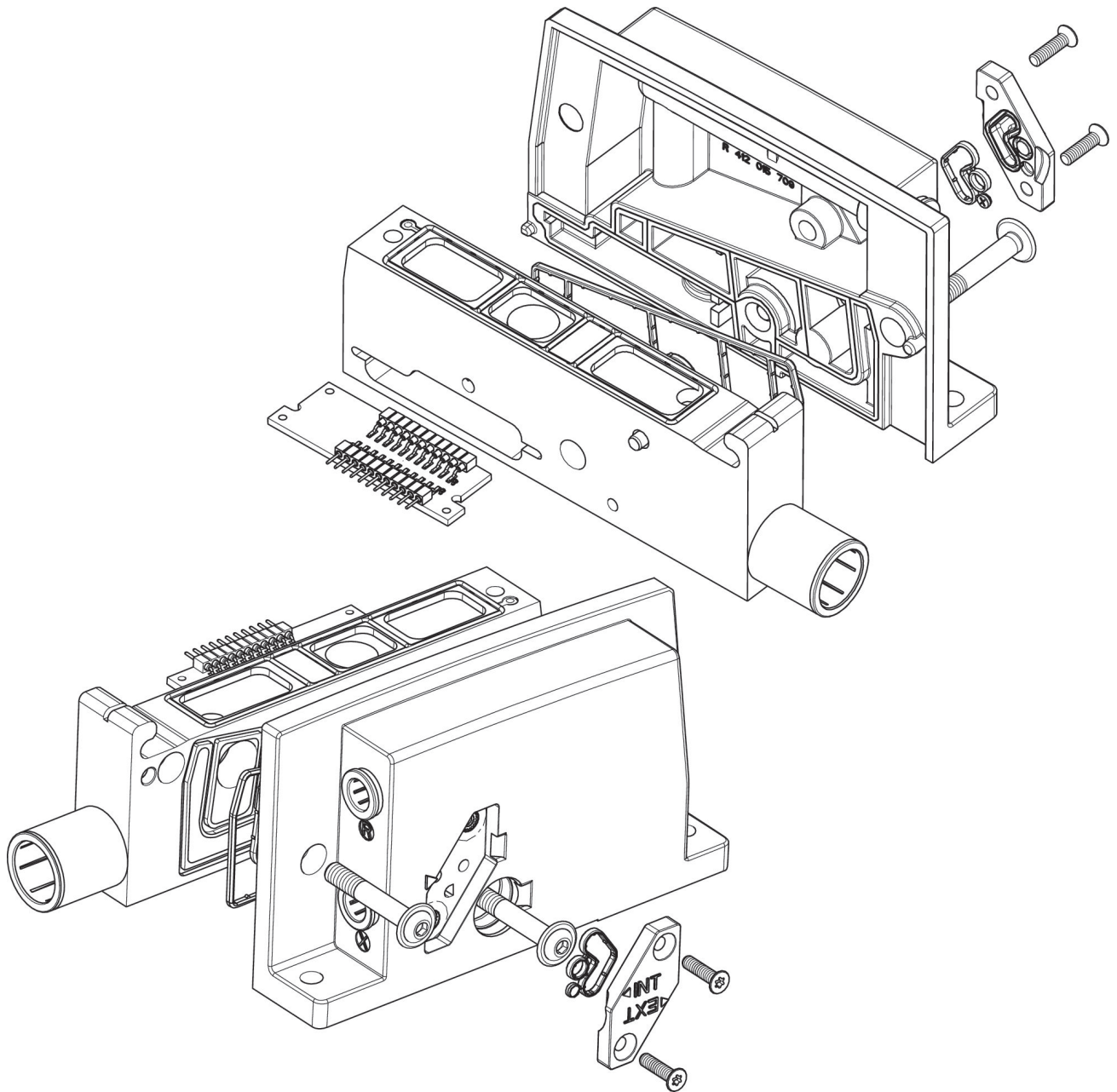
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

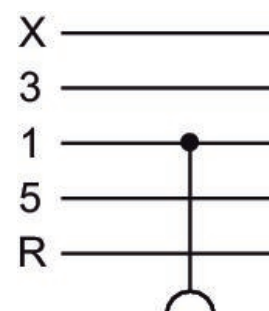
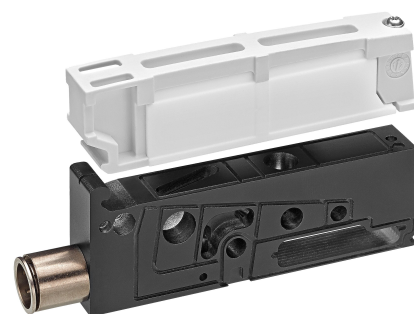
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Extension kit, combination plate, Series AV

R412022594



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, no pressure zones

Valve system version
Fieldbus

Scope of delivery
Combination module, right end plate AV05, screws, and seal

Working pressure min.
-0.95 bar

Compressed air connection input
Ø 3/8"

Pilot connection
Ø 3/8"

Working pressure max
10 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Medium
Compressed air

Material

Housing material
Aluminum

Seal material
Nitrile rubber

Part No.
R412022594

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

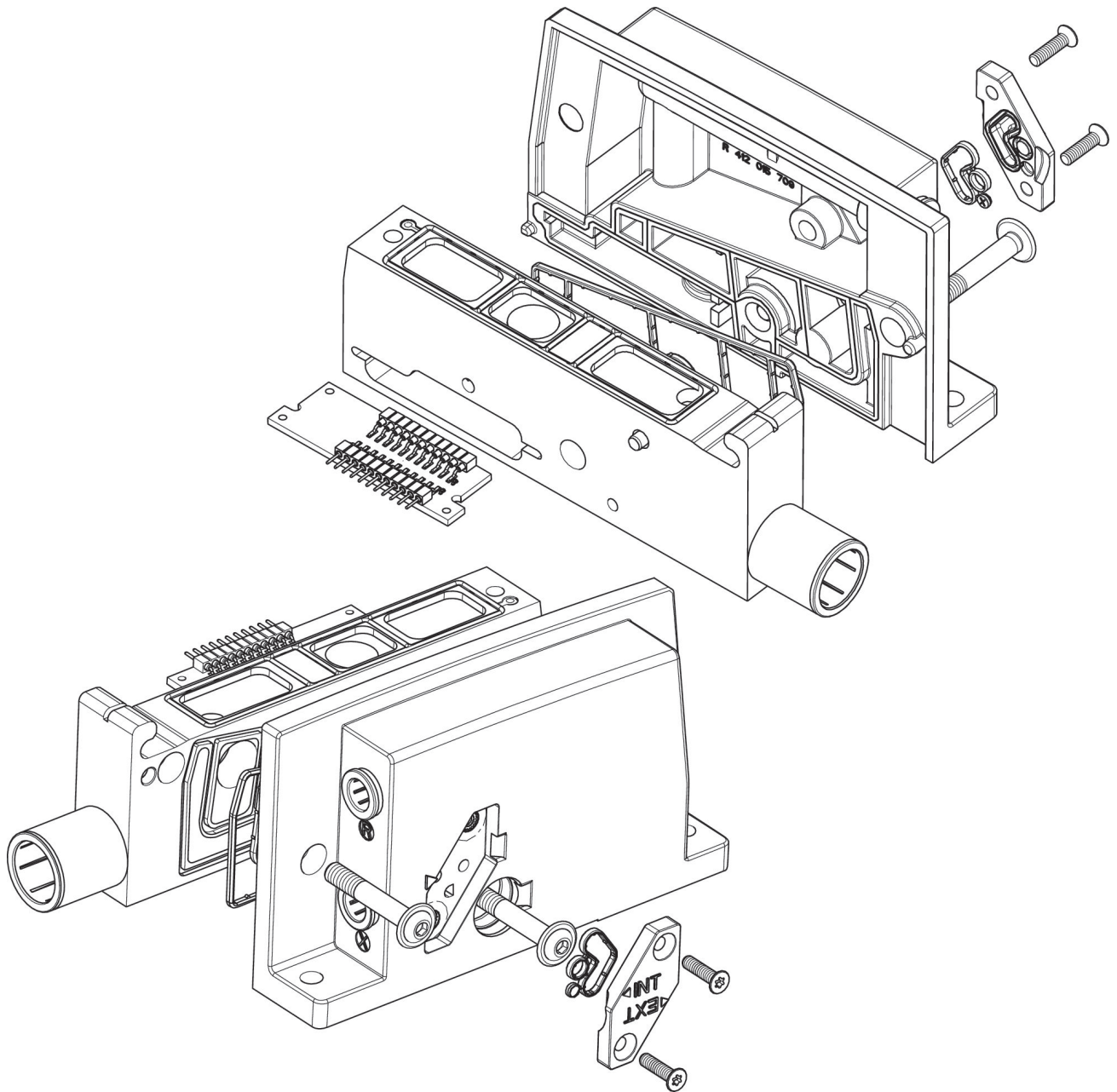
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

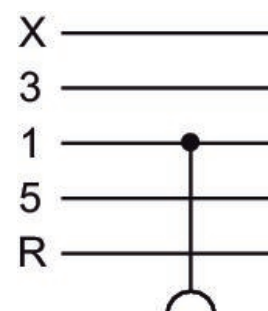
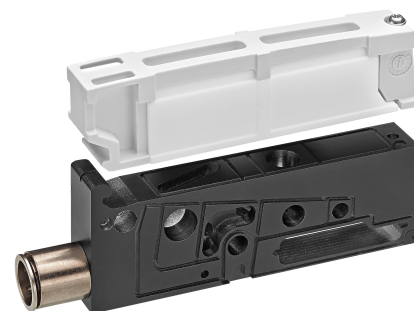
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Extension kit, combination plate, Series AV

R412021777



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, no pressure zones

Valve system version
Multipole

Scope of delivery
Combination module, right end plate AV05, screws, and seal

Working pressure min.
-0.95 bar

Compressed air connection input
Ø 12

Pilot connection
Ø 12

Working pressure max
10 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Medium
Compressed air

Material

Housing material
Aluminum

Seal material
Nitrile rubber

Part No.
R412021777

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

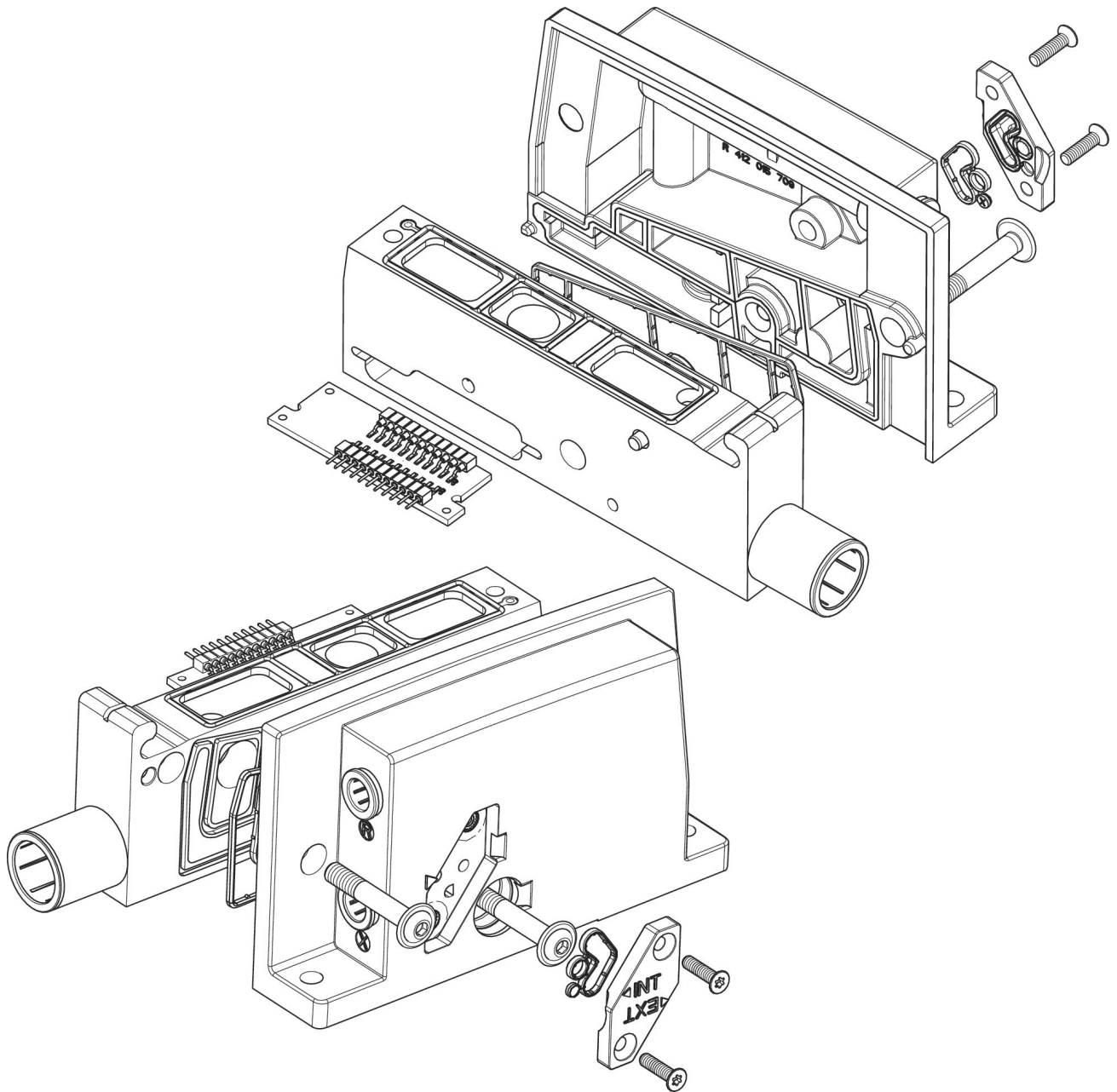
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

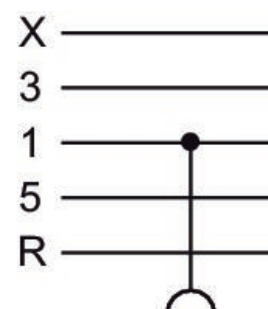
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Extension kit, combination plate, Series AV

R412022592



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, no pressure zones

Valve system version
Multipole

Scope of delivery
Combination module, right end plate AV05, screws, and seal

Working pressure min.
-0.95 bar

Compressed air connection input
Ø 3/8"

Pilot connection
Ø 3/8"

Working pressure max
10 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Medium
Compressed air

Material

Housing material
Aluminum

Seal material
Nitrile rubber

Part No.
R412022592

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

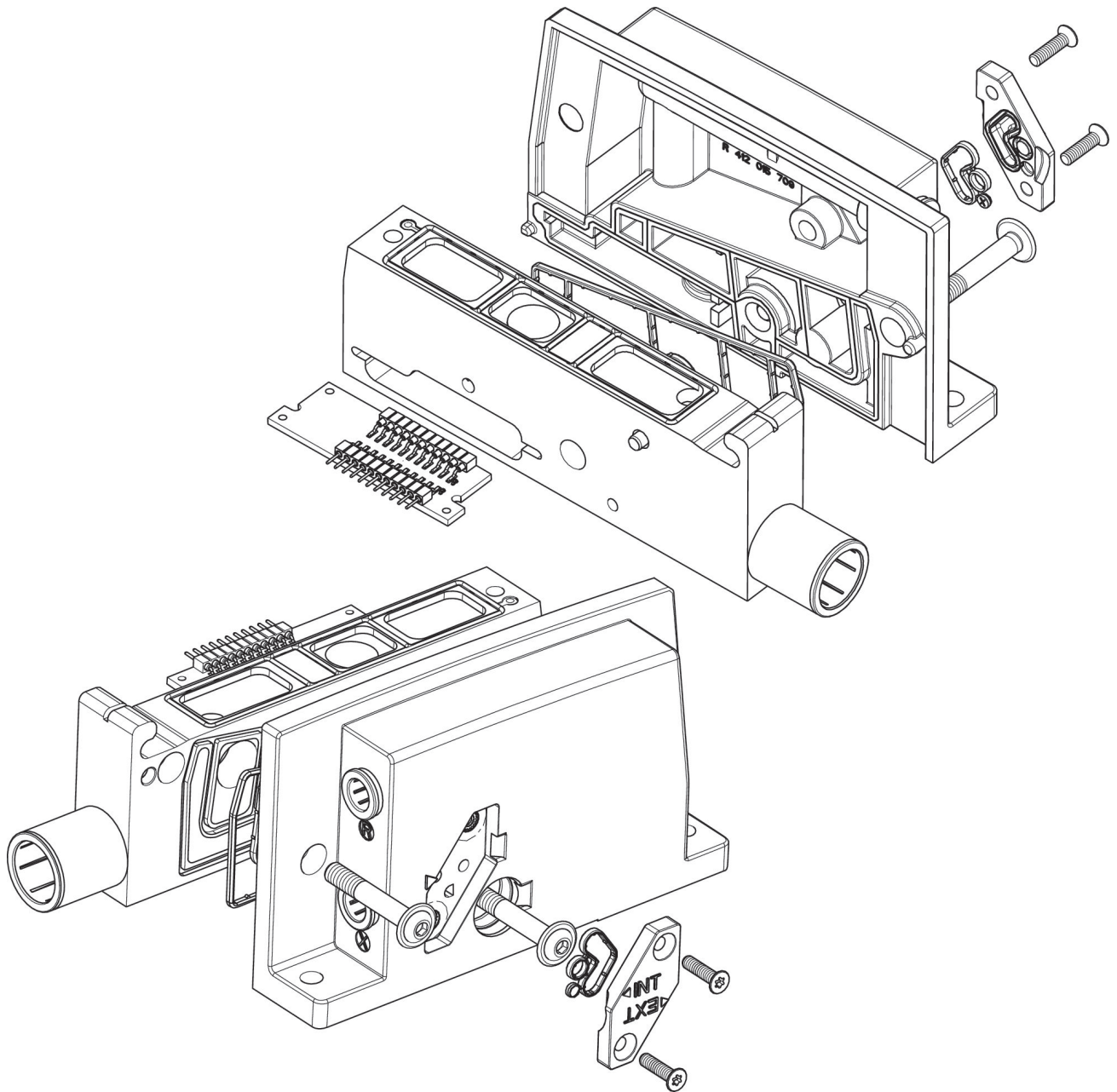
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

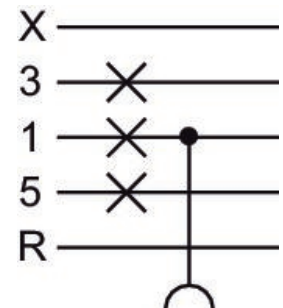
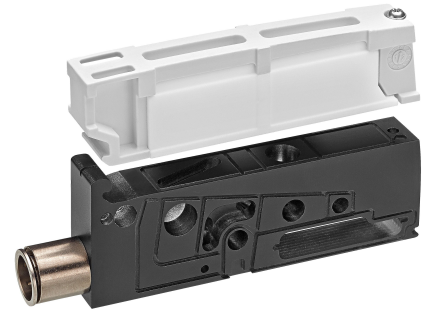
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Extension kit, combination plate, Series AV

R412021779



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, separate pressure zones in channels 1/3/5

Valve system version
Fieldbus

Scope of delivery
Combination module, right end plate AV05, screws, and seal

Working pressure min.
-0.95 bar

Compressed air connection input
Ø 12

Pilot connection
Ø 12

Working pressure max
10 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Medium
Compressed air

Material

Housing material
Aluminum

Seal material
Nitrile rubber

Part No.
R412021779

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

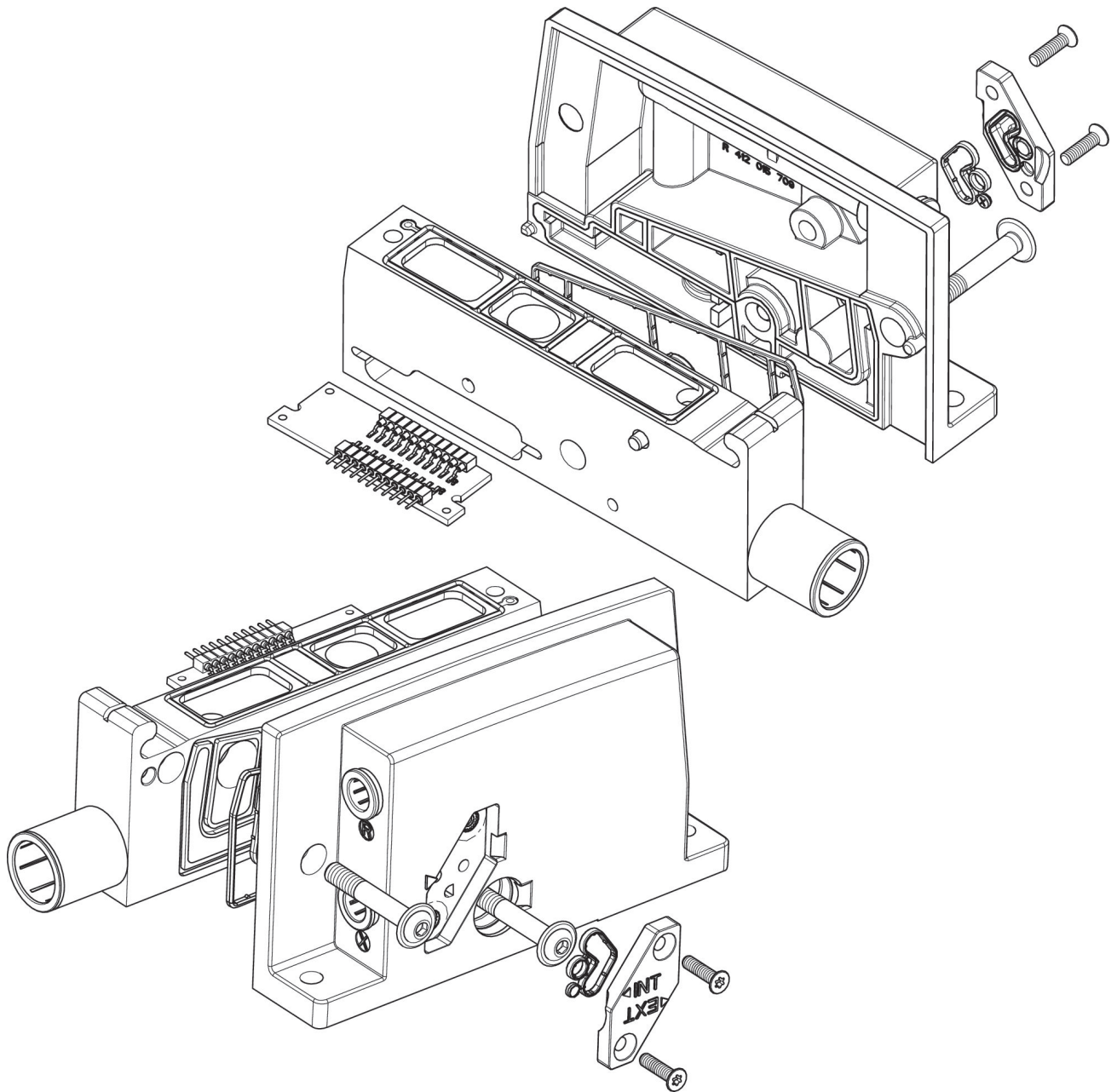
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

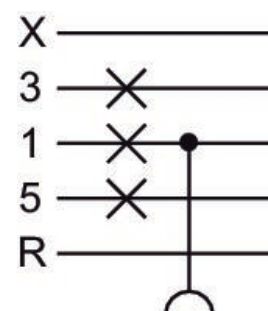
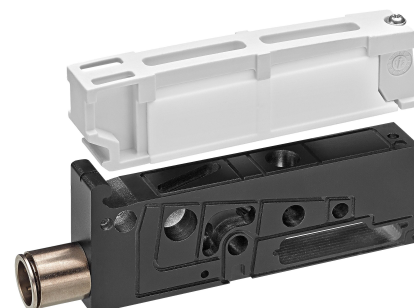
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Extension kit, combination plate, Series AV

R412022593



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, separate pressure zones in channels 1/3/5

Valve system version
Fieldbus

Scope of delivery
Combination module, right end plate AV05, screws, and seal

Working pressure min.
-0.95 bar

Compressed air connection input
Ø 3/8"

Pilot connection
Ø 3/8"

Working pressure max
10 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Medium
Compressed air

Material

Housing material
Aluminum

Seal material
Nitrile rubber

Part No.
R412022593

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

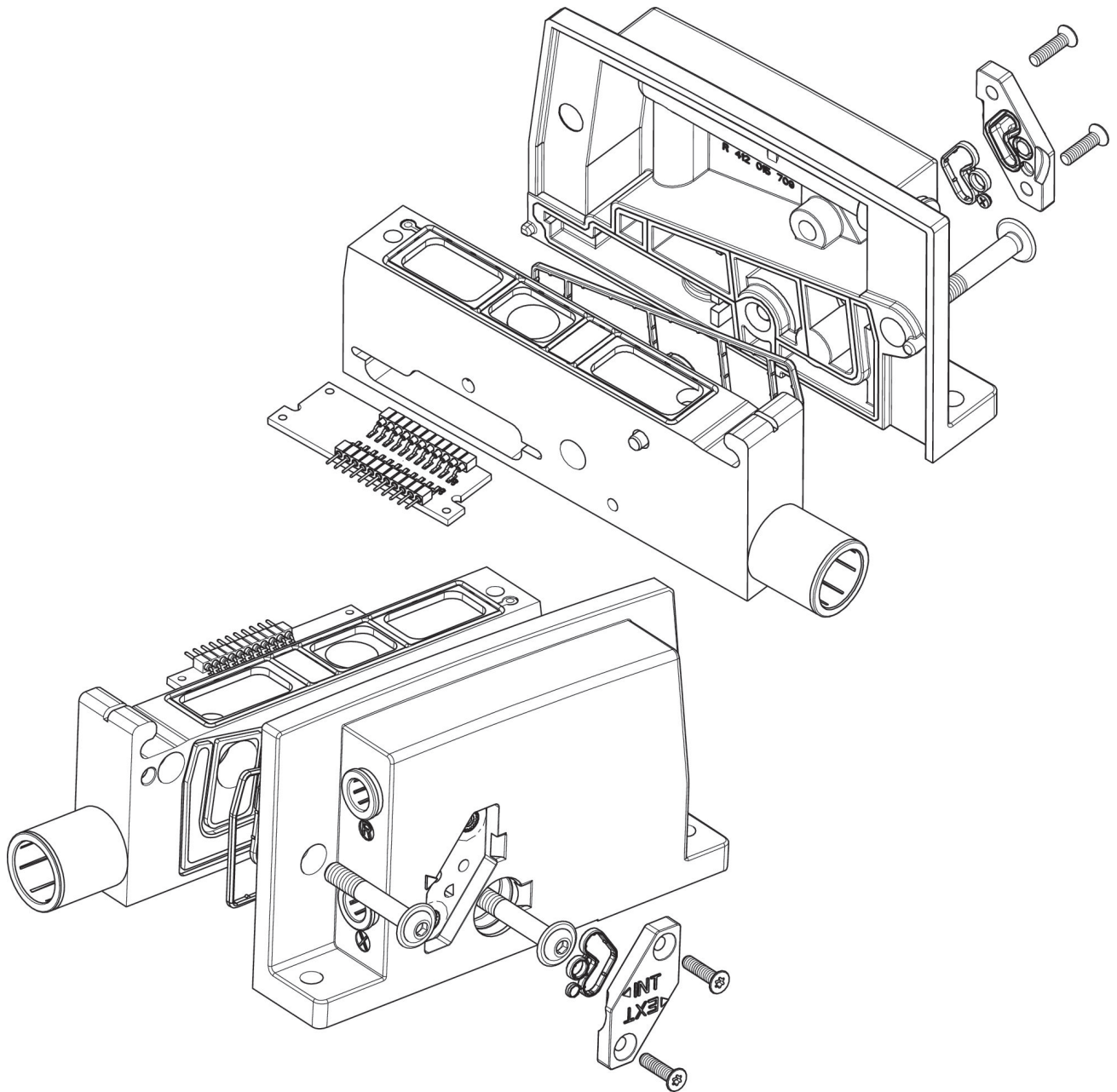
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

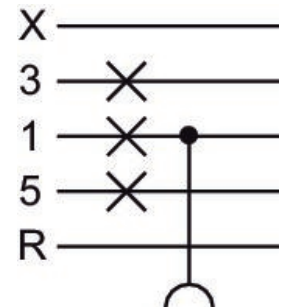
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Extension kit, combination plate, Series AV

R412021776



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, separate pressure zones in channels 1/3/5

Valve system version
Multipole

Scope of delivery
Combination module, right end plate AV05, screws, and seal

Working pressure min.
-0.95 bar

Compressed air connection input
Ø 12

Pilot connection
Ø 12

Working pressure max
10 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Medium
Compressed air

Material

Housing material
Aluminum

Seal material
Nitrile rubber

Part No.
R412021776

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

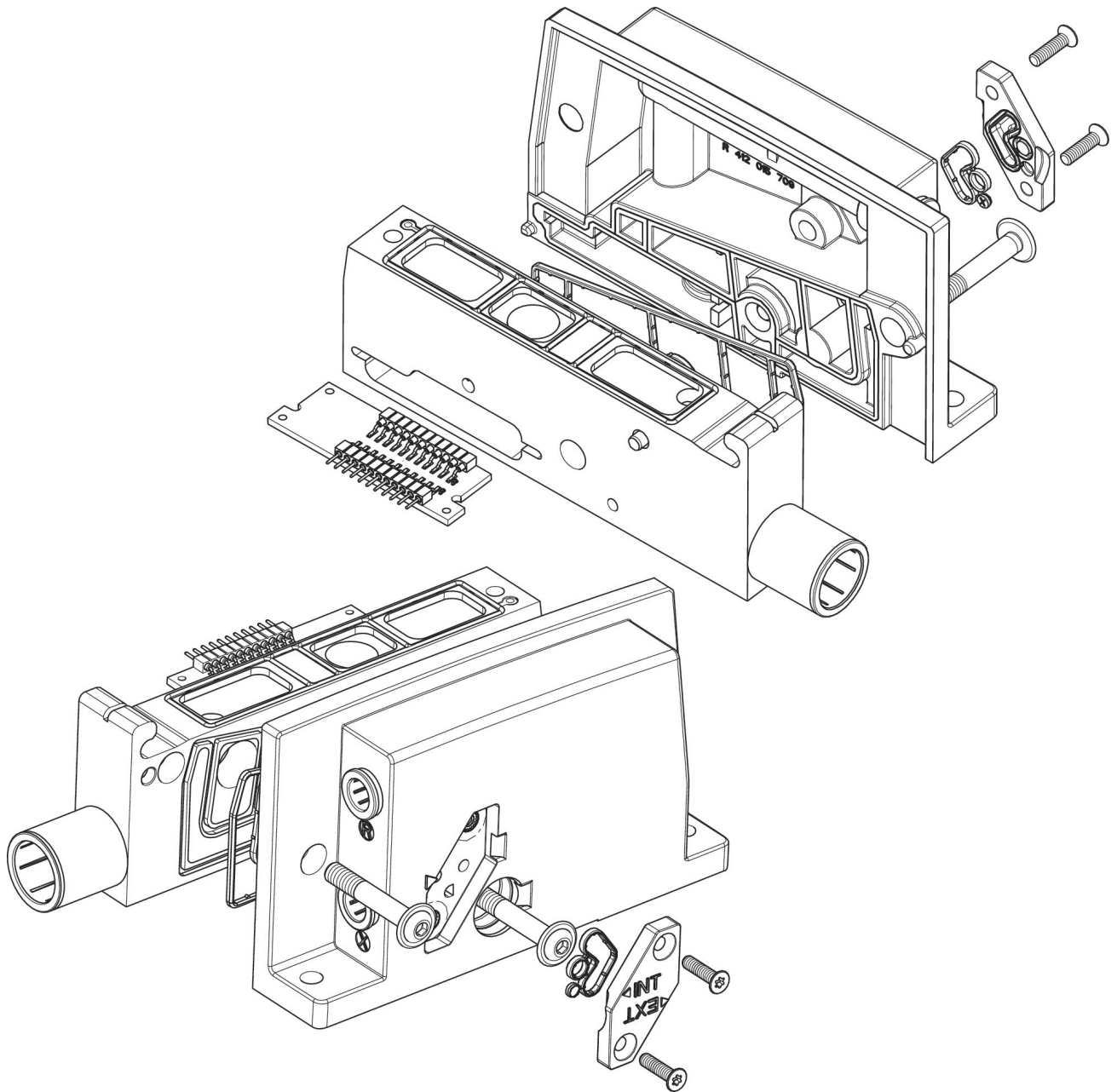
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

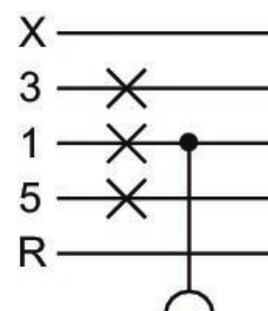
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Extension kit, combination plate, Series AV

R412022591



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, separate pressure zones in channels 1/3/5

Valve system version
Multipole

Scope of delivery
Combination module, right end plate AV05, screws, and seal

Working pressure min.
-0.95 bar

Compressed air connection input
Ø 3/8"

Pilot connection
Ø 3/8"

Working pressure max
10 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Medium
Compressed air

Material

Housing material
Aluminum

Seal material
Nitrile rubber

Part No.
R412022591

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

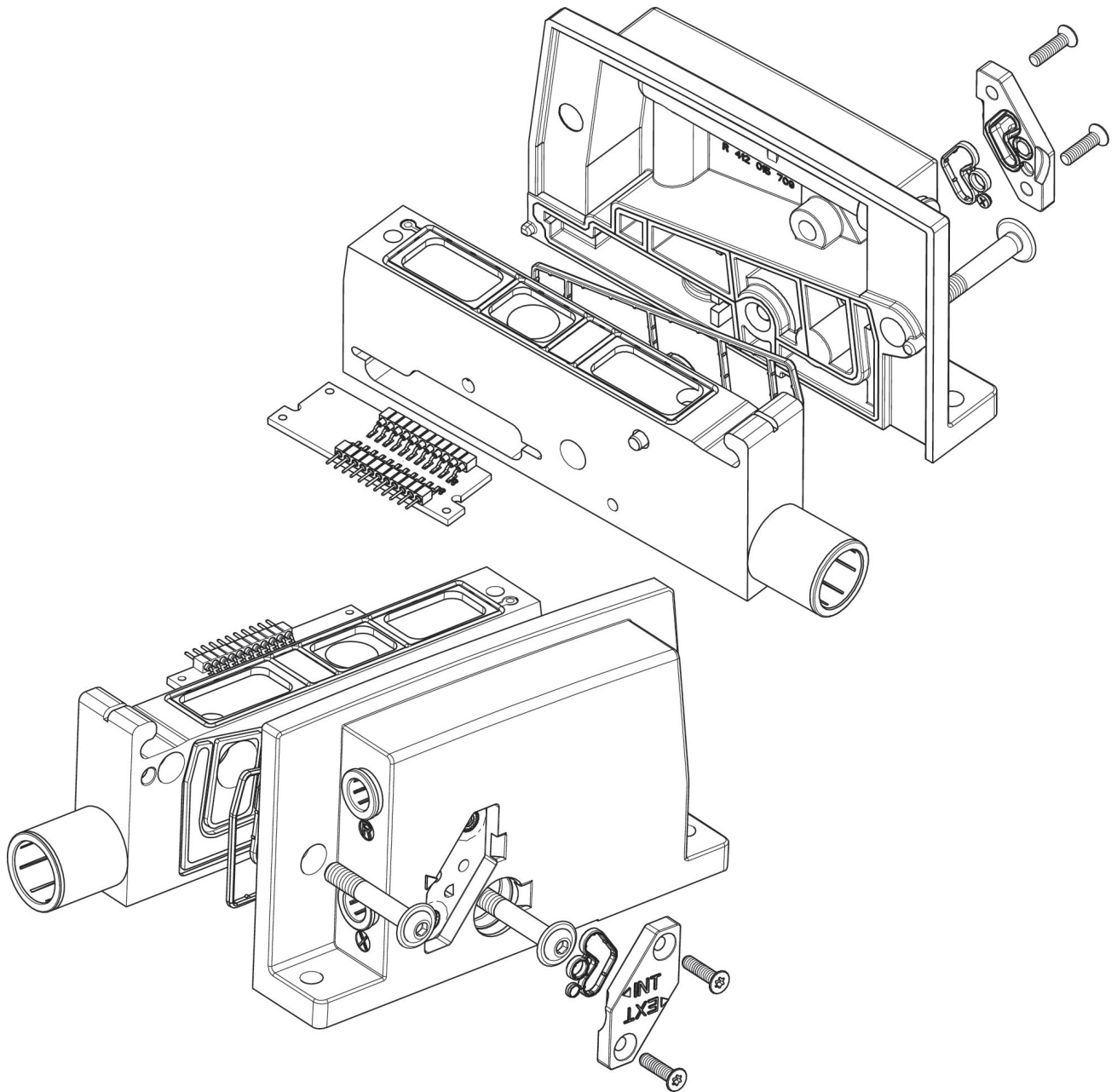
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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



Extension kit, combination plate

- for series AV03, AV05, HF02-LG



Ambient temperature min./max. -10 ... 60 °C
 Weight 0.21 kg

Technical data

Part No.	Valve system version	Type	Scope of delivery	Scope of delivery
R422004007	Fieldbus	32 outputs	Includes screws and seals.	1 piece
R422004056	Multipole	30 outputs	Includes screws and seals.	1 piece

Technical information

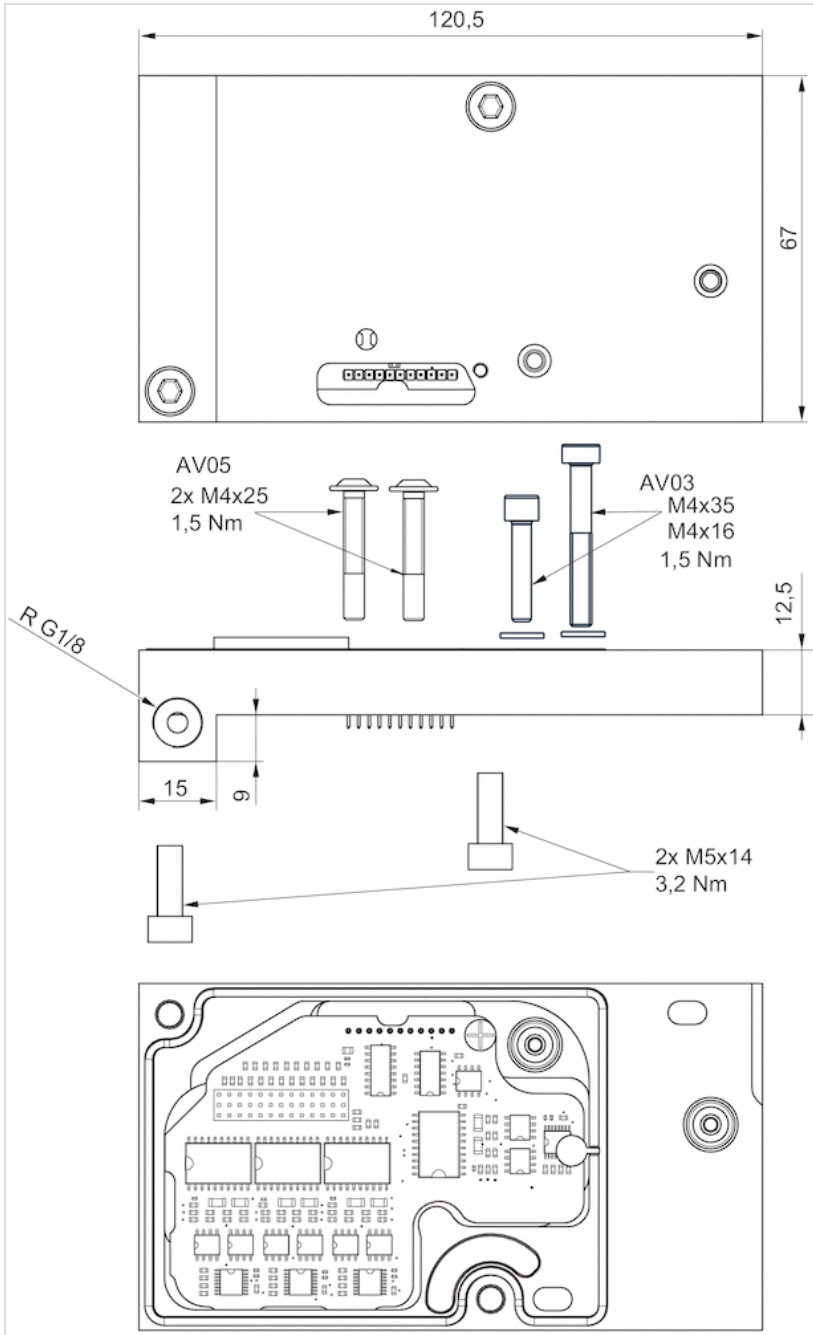
The multipole combination plate can transmit up to 30 signals and is suitable for use with AV variants with 25-pin D-Sub plug as well as 44-pin D-Sub plug.

Connection R must not be closed! Closing connection R leads to faulty switching of the AV valves. Further information can be found in the operating instructions (R412018150).

Technical information

Material	
Housing	Aluminum
Seals	Nitrile rubber

Dimensions



End plate right

- for AV03



Ambient temperature min./max.	-10 ... 50 °C
Medium temperature min./max.	-10 ... 50 °C
Weight	0.08 kg

Technical data

Part No.	Compressed air connection Pilot control exhaust [R]	Delivery unit	Fig.
R412018349	Ø 4	1 piece	Fig. 1
R412018350	-	1 piece	Fig. 2

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).

When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

Material	
Housing	Aluminum
Screws	Steel

Dimensions

Fig. 1

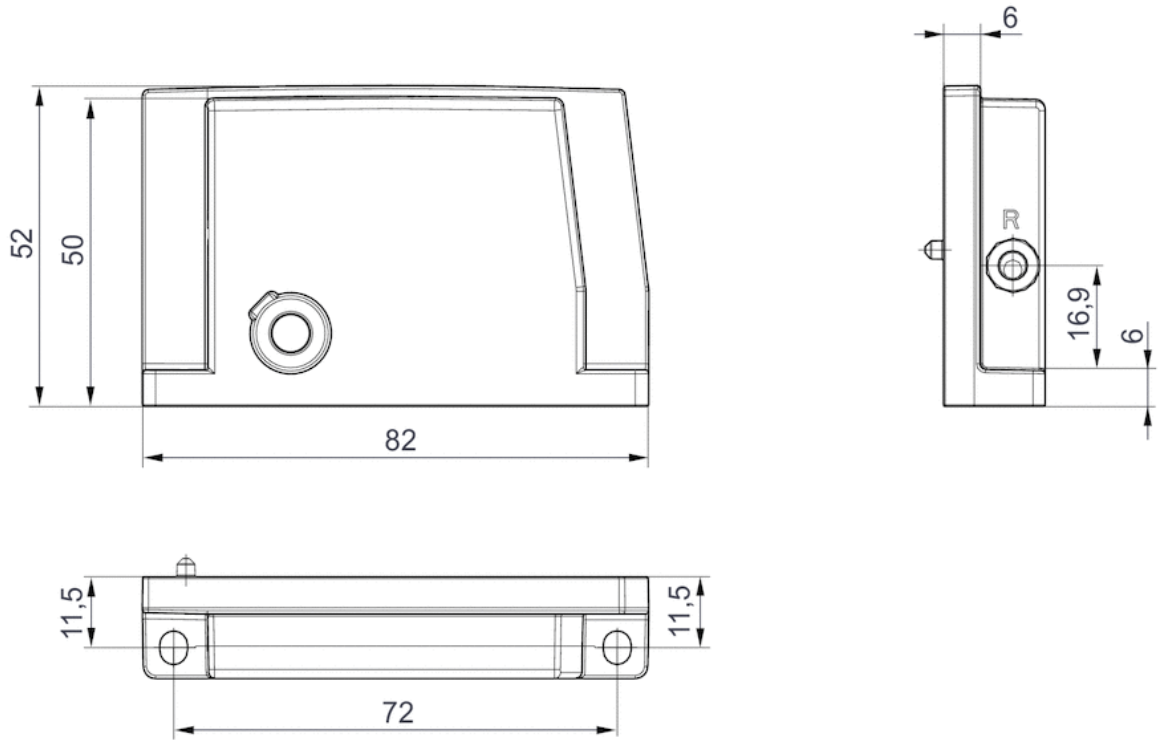
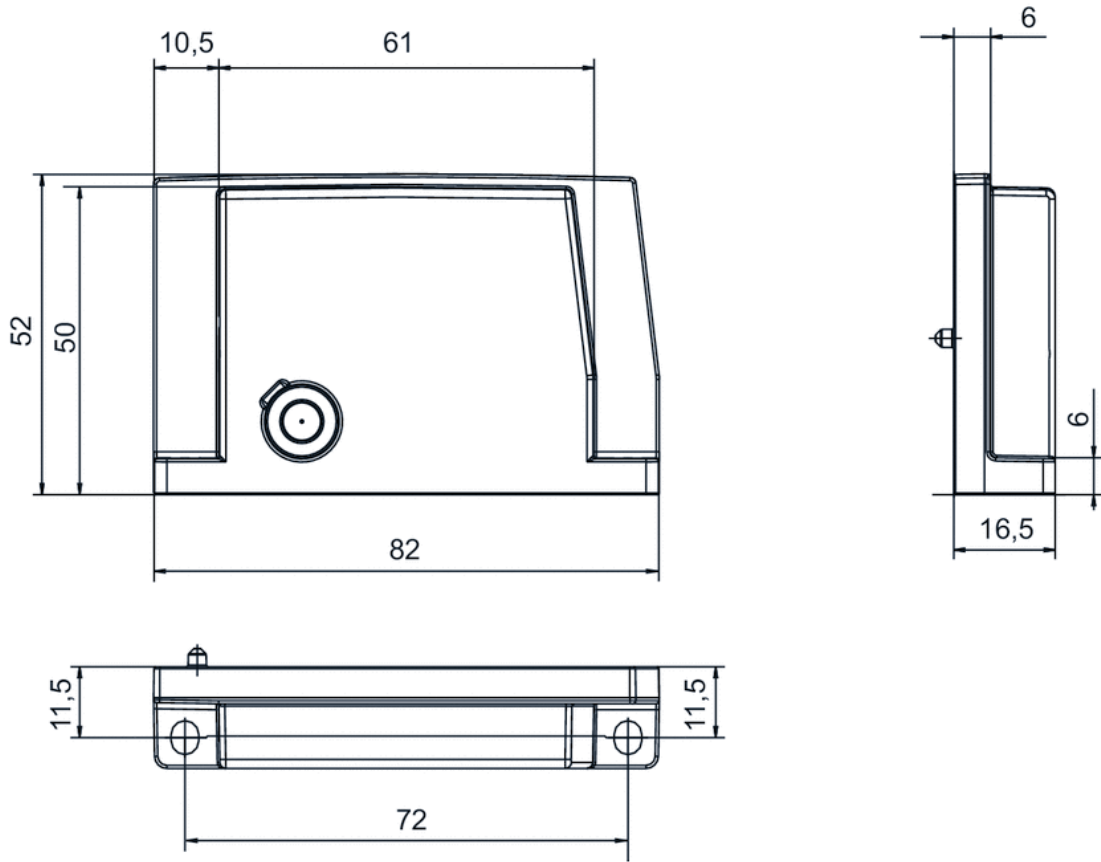


Fig. 2



Transition plate

- for control cabinet mounting
- Compressed air connection output M7
- for AV03-BP



Working pressure min./max.	-0.95 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air

Technical data

Part No.	Type	Scope of delivery
R412026469	Internal assembly	Transition plate, sealing kit, mounting screws, sealing tape
R412026470	Internal assembly	Transition plate, sealing kit, mounting screws, sealing tape
R412026471	Internal assembly	Transition plate, sealing kit, mounting screws, sealing tape
R412026472	Internal assembly	Transition plate, sealing kit, mounting screws, sealing tape
R412026473	External assembly	Transition plate, sealing kit, mounting screws, gasket
R412026474	External assembly	Transition plate, sealing kit, mounting screws, gasket
R412026475	External assembly	Transition plate, sealing kit, mounting screws, gasket
R412026476	External assembly	Transition plate, sealing kit, mounting screws, gasket

Part No.	Compressed air connection Input [1]	Compressed air connection Output [2 / 4]
R412026469	G 1/8	M7
R412026470	G 1/8	M7
R412026471	G 1/8	M7
R412026472	G 1/8	M7
R412026473	G 1/8	M7
R412026474	G 1/8	M7
R412026475	G 1/8	M7
R412026476	G 1/8	M7

Part No.	Compressed air connection Exhaust [3 / 5]	Compressed air connection Pilot connection [X]
R412026469	G 1/8	M5
R412026470	G 1/8	M5
R412026471	G 1/8	M5
R412026472	G 1/8	M5

Part No.	Compressed air connection Exhaust [3 / 5]	Compressed air connection Pilot connection [X]
R412026473	G 1/8	M5
R412026474	G 1/8	M5
R412026475	G 1/8	M5
R412026476	G 1/8	M5

Part No.	Compressed air connection Pilot control exhaust [R]	Number of valve positions	Material
R412026469	G 1/8	4	Aluminum anodized
R412026470	G 1/8	8	Aluminum anodized
R412026471	G 1/8	12	Aluminum anodized
R412026472	G 1/8	16	Aluminum anodized
R412026473	G 1/8	4	Stainless steel
R412026474	G 1/8	8	Stainless steel
R412026475	G 1/8	12	Stainless steel
R412026476	G 1/8	16	Stainless steel

Part No.	Fig.	
R412026469	Fig. 1	-
R412026470	Fig. 1	-
R412026471	Fig. 1	1)
R412026472	Fig. 1	1)
R412026473	Fig. 2	-
R412026474	Fig. 2	-
R412026475	Fig. 2	1)
R412026476	Fig. 2	1)

1) Supply module between 8th and 9th valve position

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).

The protection class depends on the stability of the mounting wall.

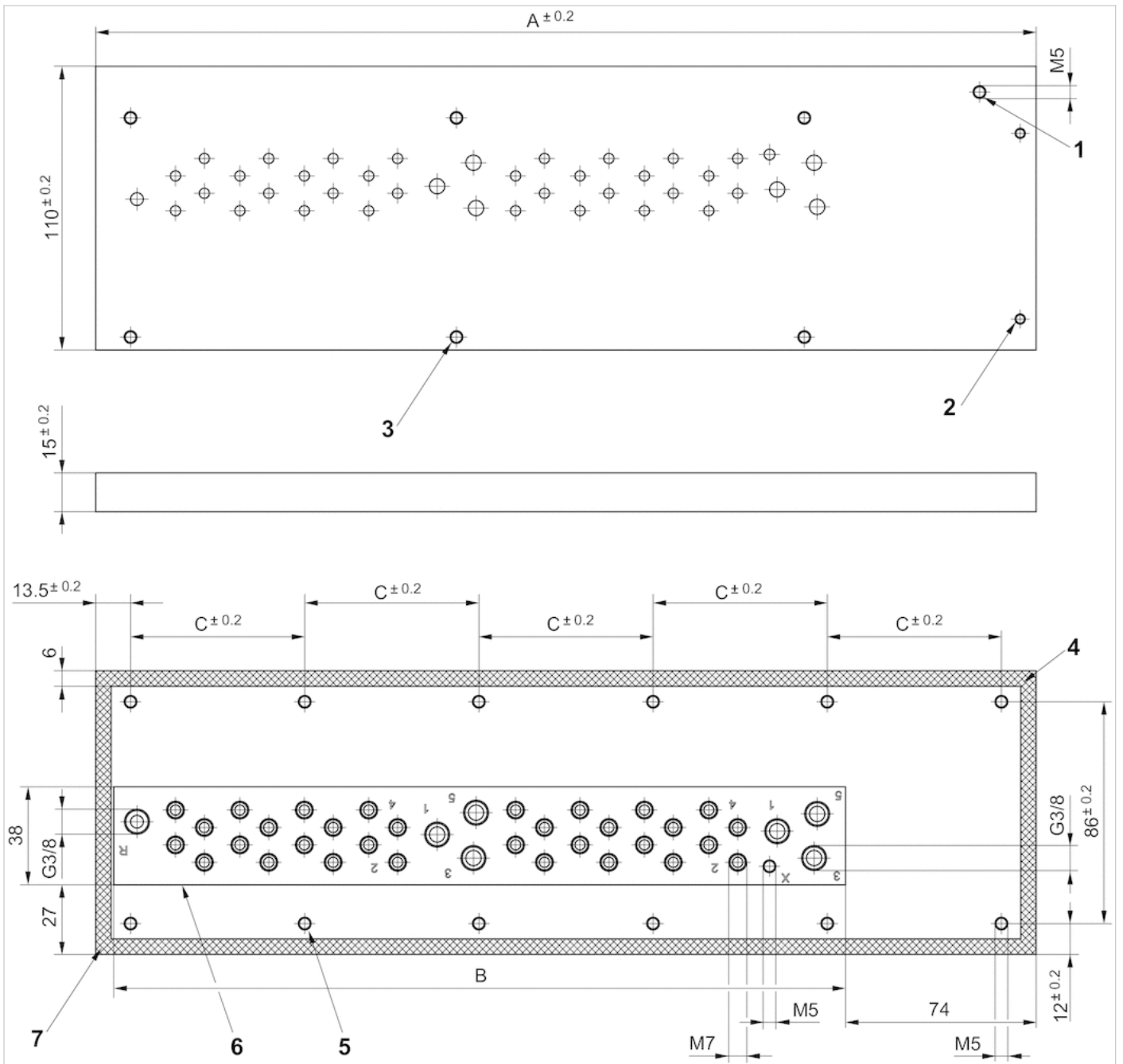
Technical information

Material

Housing	Aluminum, anodized Stainless steel
---------	---------------------------------------

Dimensions

Fig. 1



- 1) Ground screw
- 2) Torque for valve system assembly: M4: 2.5 Nm
- 3) Torque for valve system assembly: M5: 5 Nm
- 4) sealing surface
- 5) Torque for control cabinet assembly: M5: 5 Nm
- 6) Control cabinet cut-out
- 7) Assembly note for sealing strip: see Fig. 3

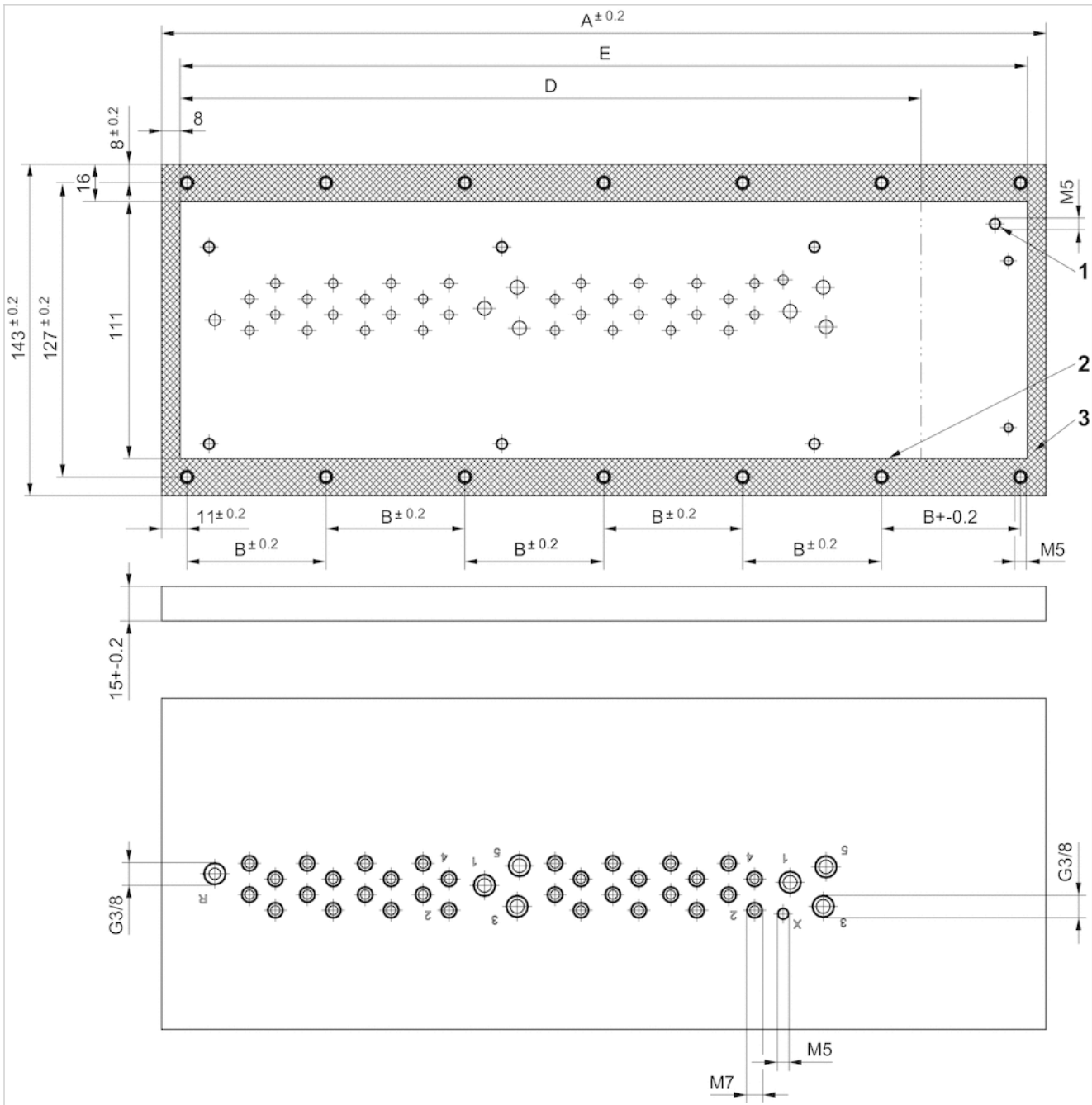
Dimensions

Part No.	A	B	C
R412026469	183	102	52

Part No.	A	B	C
R412026470	233	152	51.5
R412026471	315	234	57.6
R412026472	365	284	67.6

Dimensions

Fig. 2



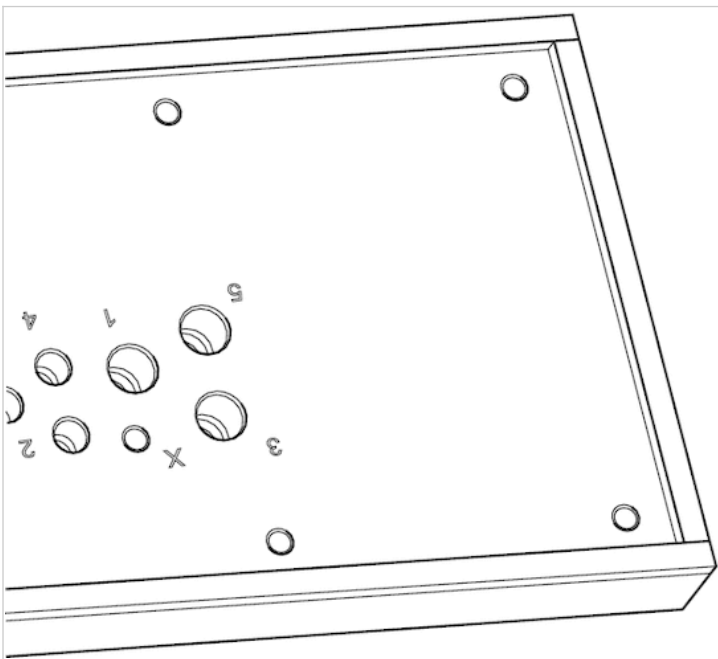
- 1) Thread for ground screw
- 2) Control cabinet cut-out
- 3) sealing surface

Dimensions

Part No.	A	B	D - Control cabinet cut-out Multipole	E - Control cabinet cut-out Fieldbus
R412026473	200	59.33	138	184
R412026474	250	57	188	234
R412026475	332	62	270	316
R412026476	382	60	320	366

Dimensions

Maximum outer dimensions for push-in fitting



Glue sealing strip at the joint

Dimensions

Connection type	2 , 4	1, 3 and 5 (on bottom)	X (on bottom)
Connection thread	M7	G 1/8	M5
Max. external diameter	13	15,5	10,9

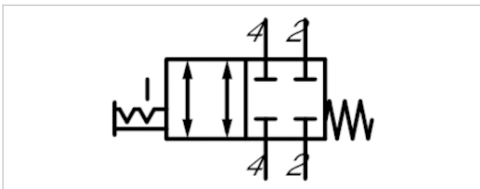
R (top, bottom)	
	G 1/8
	15,5

Shut-off module, Series AV

- For port channels 2, 4
- $Q_n = 250-750$ l/min
- Compressed air connection output $\varnothing 1/4'' \varnothing 8 \varnothing 6 \varnothing 4$



Activation	Mechanical
Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Weight	0.08 kg



Technical data

Part No.	Compressed air connection type	Compressed air connection Output	Flow rate value
			Q_n
R422102699	push-in fitting	$\varnothing 1/4''$	550 l/min
R422102704	push-in fitting	$\varnothing 8$	750 l/min
R422102705	push-in fitting	$\varnothing 6$	550 l/min
R422102706	push-in fitting	$\varnothing 4$	250 l/min

Technical information

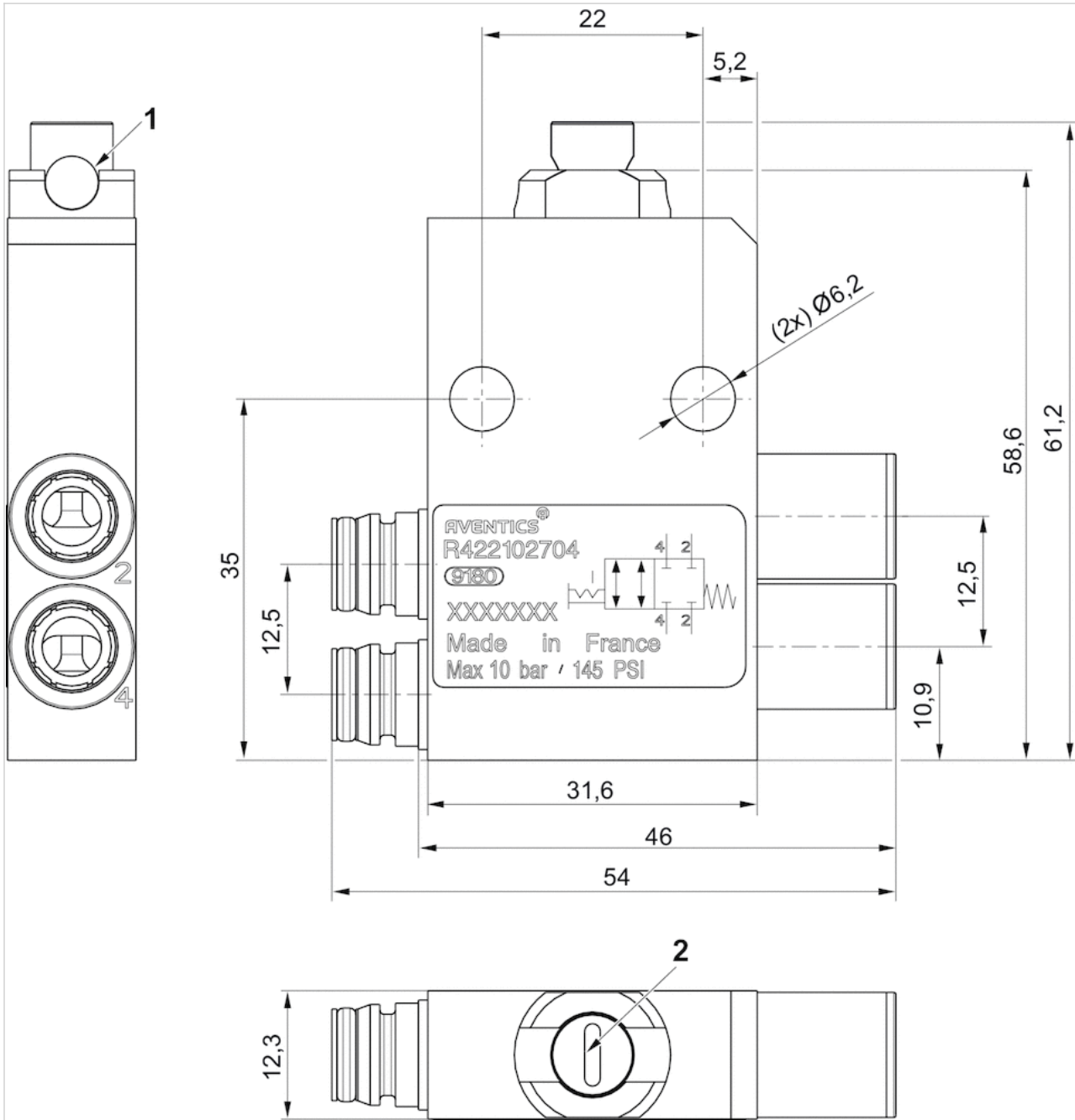
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

Material	
Housing	Aluminum
Seals	Nitrile butadiene rubber

Dimensions

Dimensions



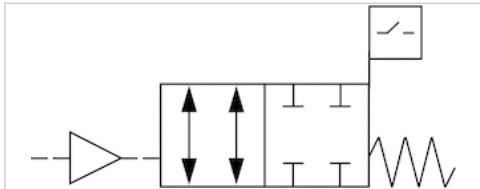
- 1) Through hole for cable lock
Order cable lock 7472D02758 separately
- 2) Manual override lock

Shut-off module, Series AV

- With position detection, for port channels 2, 4
- push-in fitting



Activation	pneumatically
Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	0 ... 60 °C
Medium temperature min./max.	0 ... 60 °C
Medium	Compressed air
Nominal flow Qn	400 l/min
Operating voltage DC, min.	10 V DC
Operating voltage DC, max.	30 V DC
Sensor Version	PNP
Max. power consumption	15 A
Voltage drop sensor U at I _{max}	≤ 2,5 V
Sensor Protection class	IP67
Weight	0.1 kg



Technical data

Part No.	Compressed air connection type Input	Compressed air connection Output
R422101511	push-in fitting	Ø 6
R422101510	push-in fitting	Ø 8
R422101509	push-in fitting	Ø 1/4"

Technical information

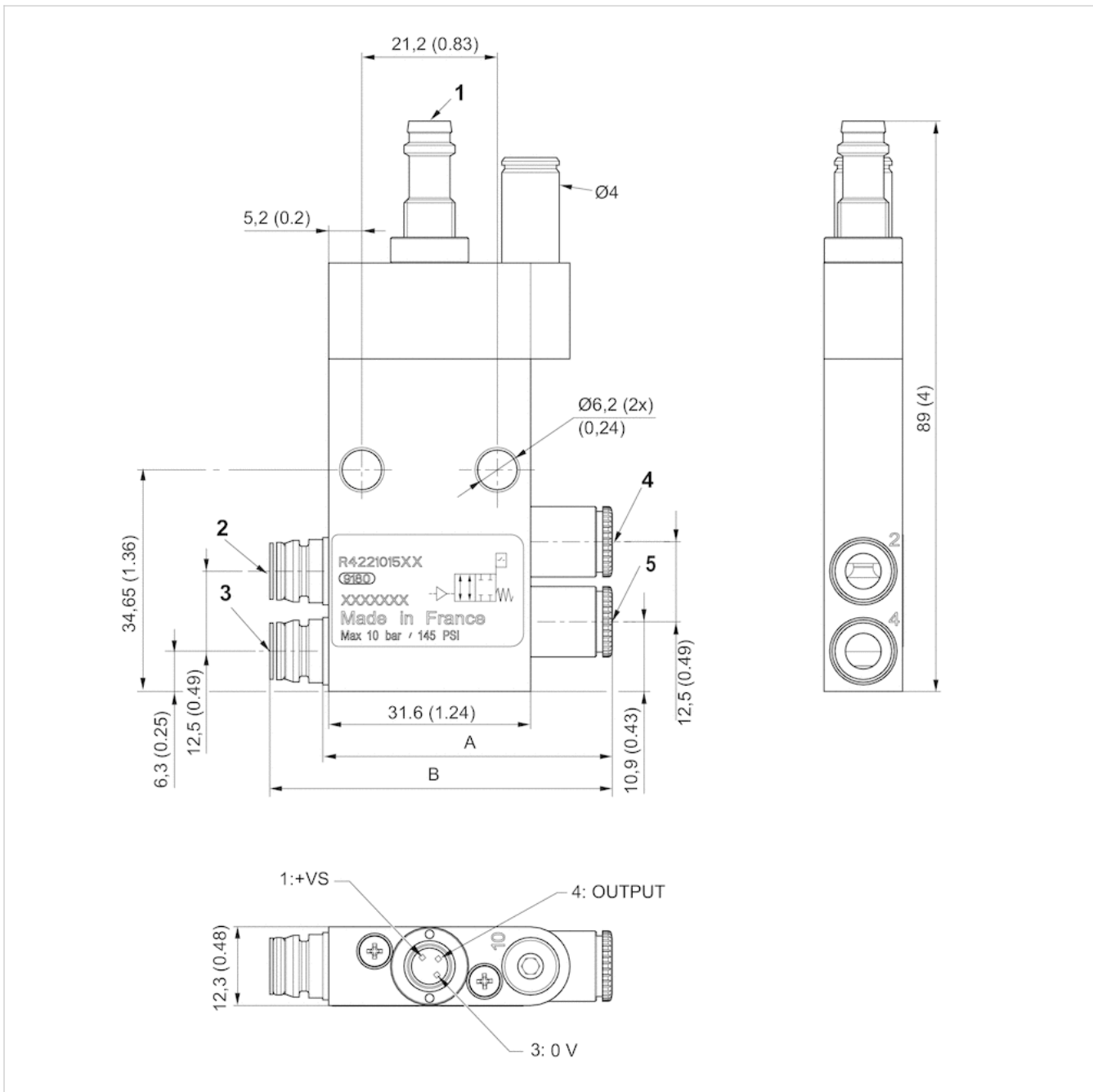
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
In the non-actuated state, the sensor signal is "high"

Technical information

Material	
Housing	Aluminum
Seals	Nitrile butadiene rubber

Dimensions

Dimensions



1) Sensor plug M8, 3-pin electronic PNP

The orientation of the pins depends on the angular position of the sensor, which is random.

- 2) Connection 2, valve side
- 3) Connection 4, valve side
- 4) Operating line 2
- 5) Operating line 4

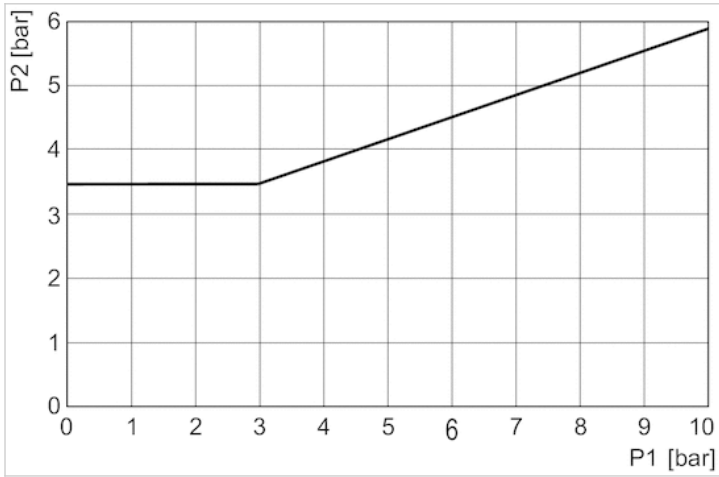
Dimensions

Part No.	A	B
R422101511	42±1	50±1

Part No.	A	B
R422101510	45±1	54±1
R422101509	45±1	53±1

Diagrams

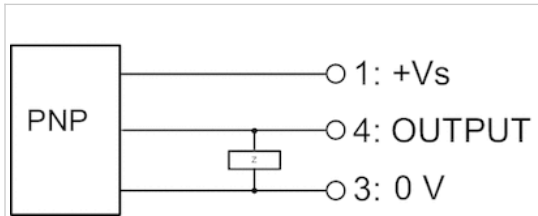
Minimum control pressure (depending on operating pressure)



p1 = pressure on connections 2 and 4, p2 = control pressure

Pin assignments

Sensor circuit diagram





Pressure regulator, Series AV

- Inch version
- push-in fitting
- Controlled port 2 4



Adjustment range min./max.	0.5 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Weight	0.2 kg

Technical data

Part No.		Compressed air connection type Input	Compressed air connection Output	Repetitive precision
R422003563		push-in fitting	Ø 1/4"	± 10 %
R422003571		push-in fitting	Ø 1/4"	± 10 %

Part No.	Controlled port
R422003563	2
R422003571	4

Order pressure gauge separately

Technical information

Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

Mounting bracket (2x) for mounting to the mounting plate: R422103091

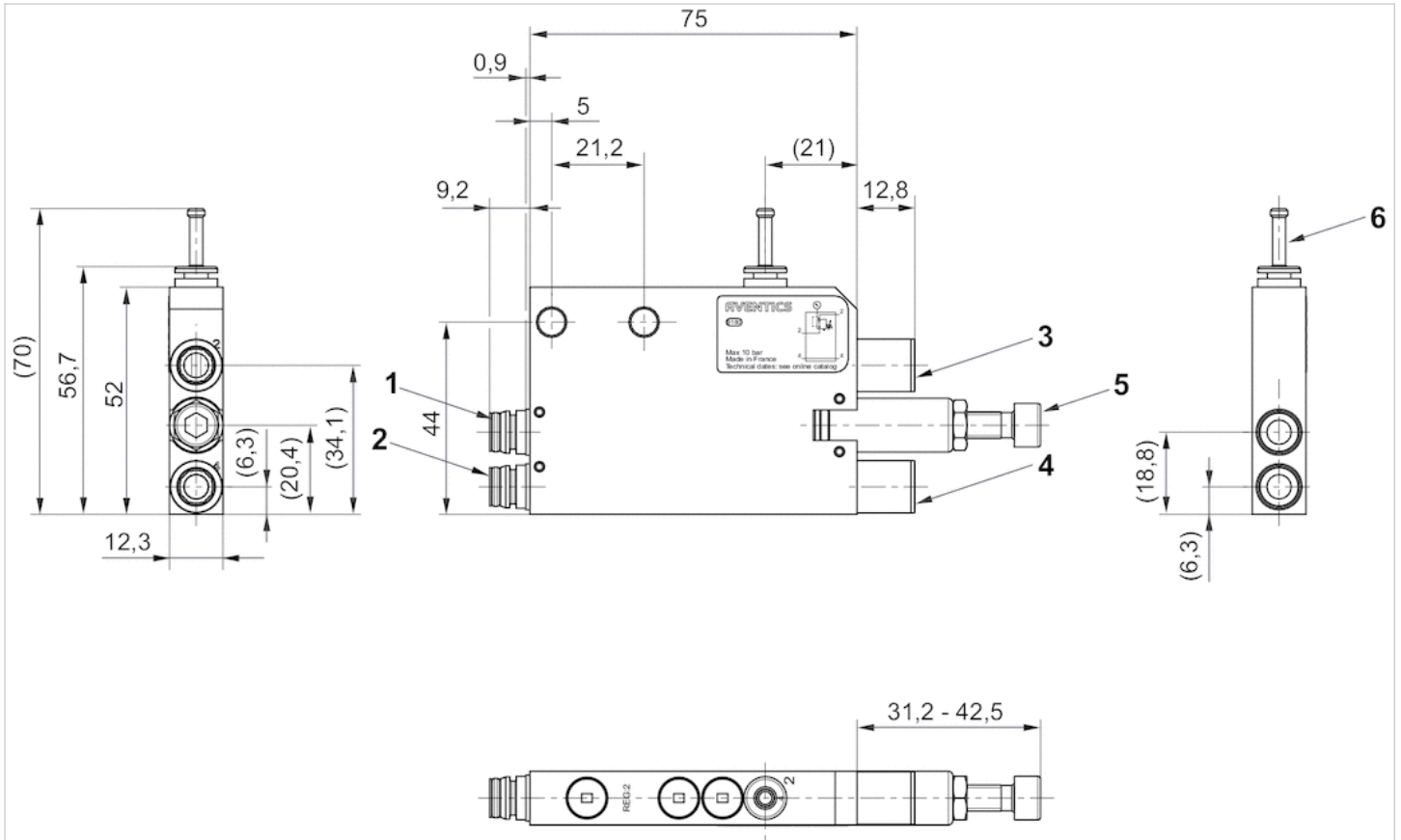
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

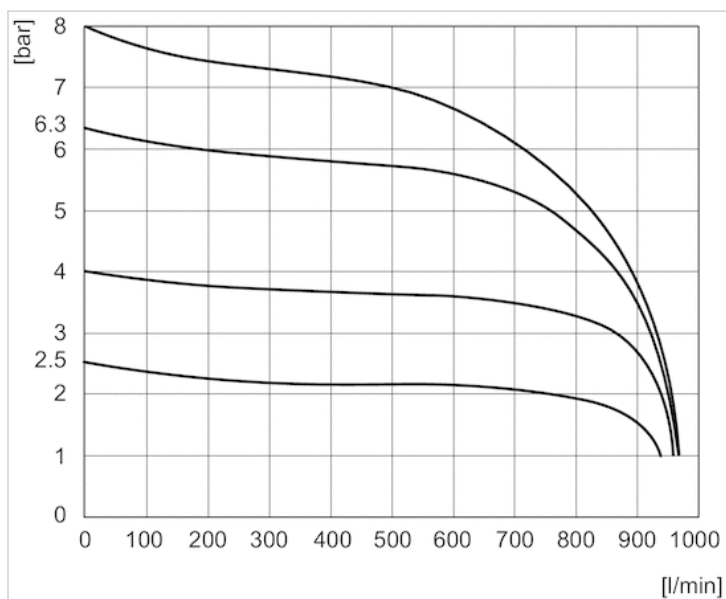
Dimensions



- 1) Connection 2, valve side
- 2) Connection 4, valve side
- 3) Operating line 2
- 4) Operating line 4
- 5) adjustment screw, Port 2, 4
- 6) plugs
- 7) Logic valves

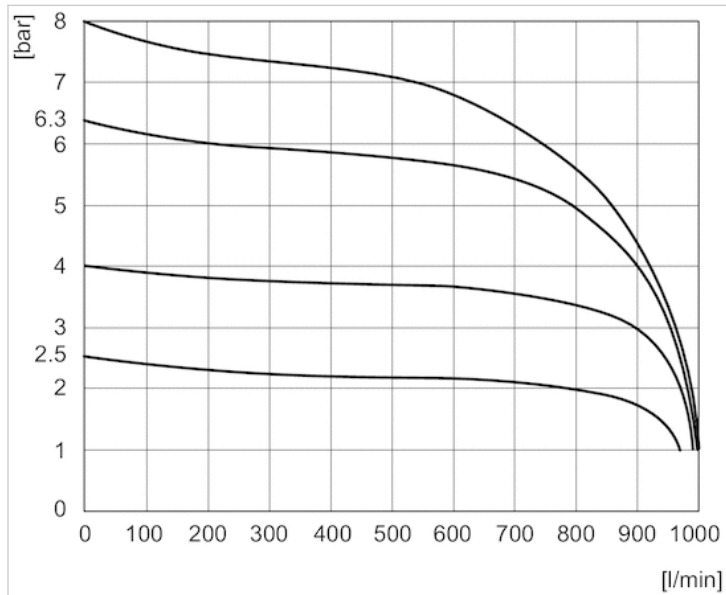
Diagrams

Flow diagram, Port 2



Pv = 9 bar

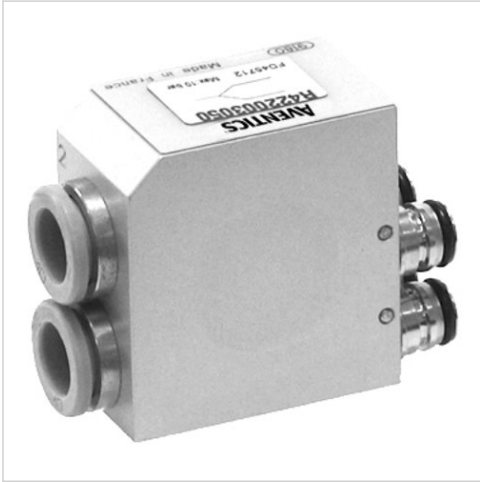
Flow diagram, Port 4



Pv = 9 bar

Flow rate coupler, Series AV Inch version

- For port channels 2, 4



Working pressure min./max.	-0.9 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Weight	0.12 kg

Technical data

Part No.	Type	Fig.
R422102791	2 x 3/8"	Fig. 1
R422102795	1 x 3/8"	Fig. 2

Technical information

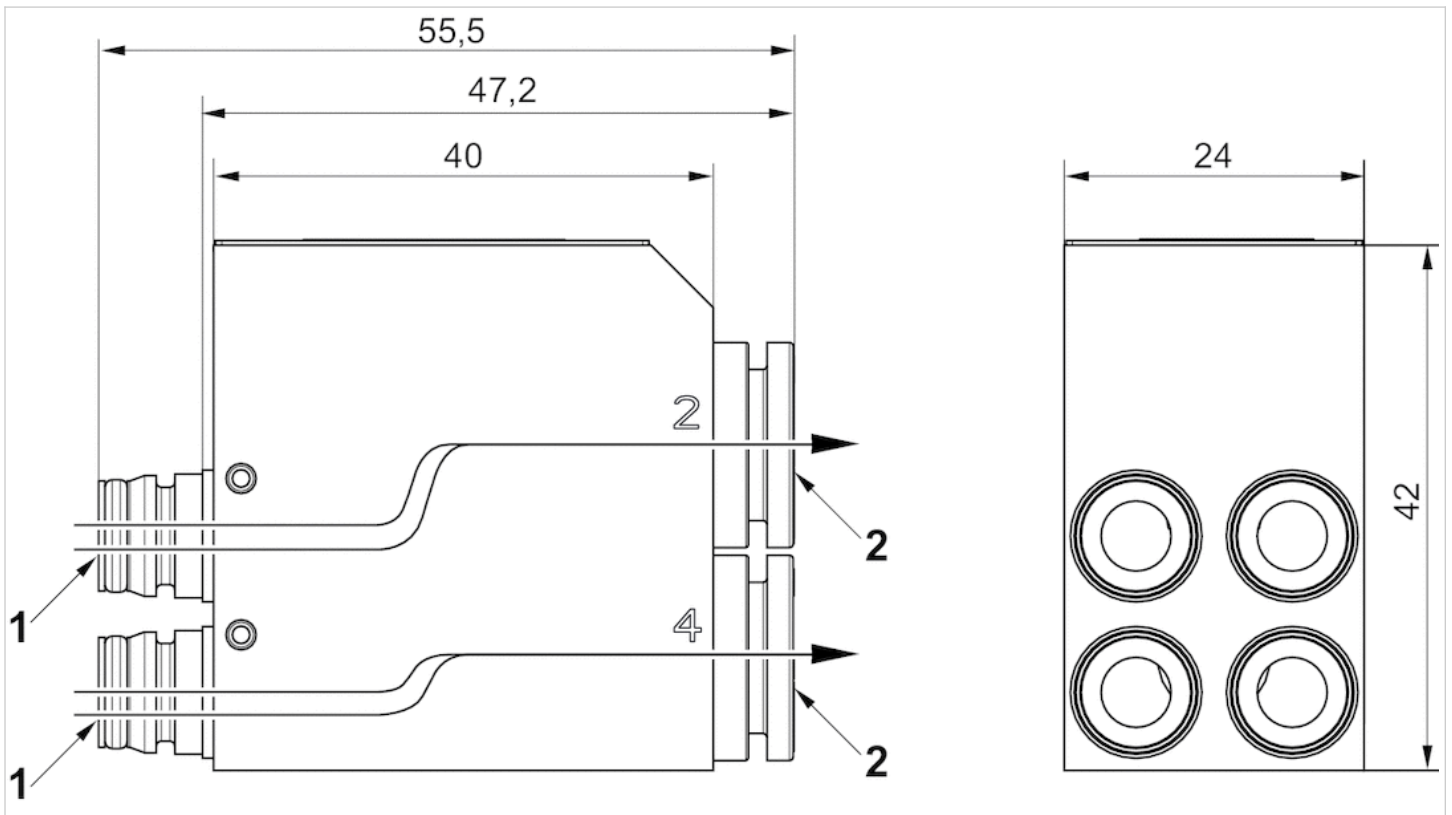
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
 Doubling of flow rate performance by connecting the working connections of two valves.
 Both valves must be identical models and controlled electrically at the same time.

Technical information

Material	
Housing	Aluminum
Seals	Nitrile rubber

Dimensions

Fig. 1



1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

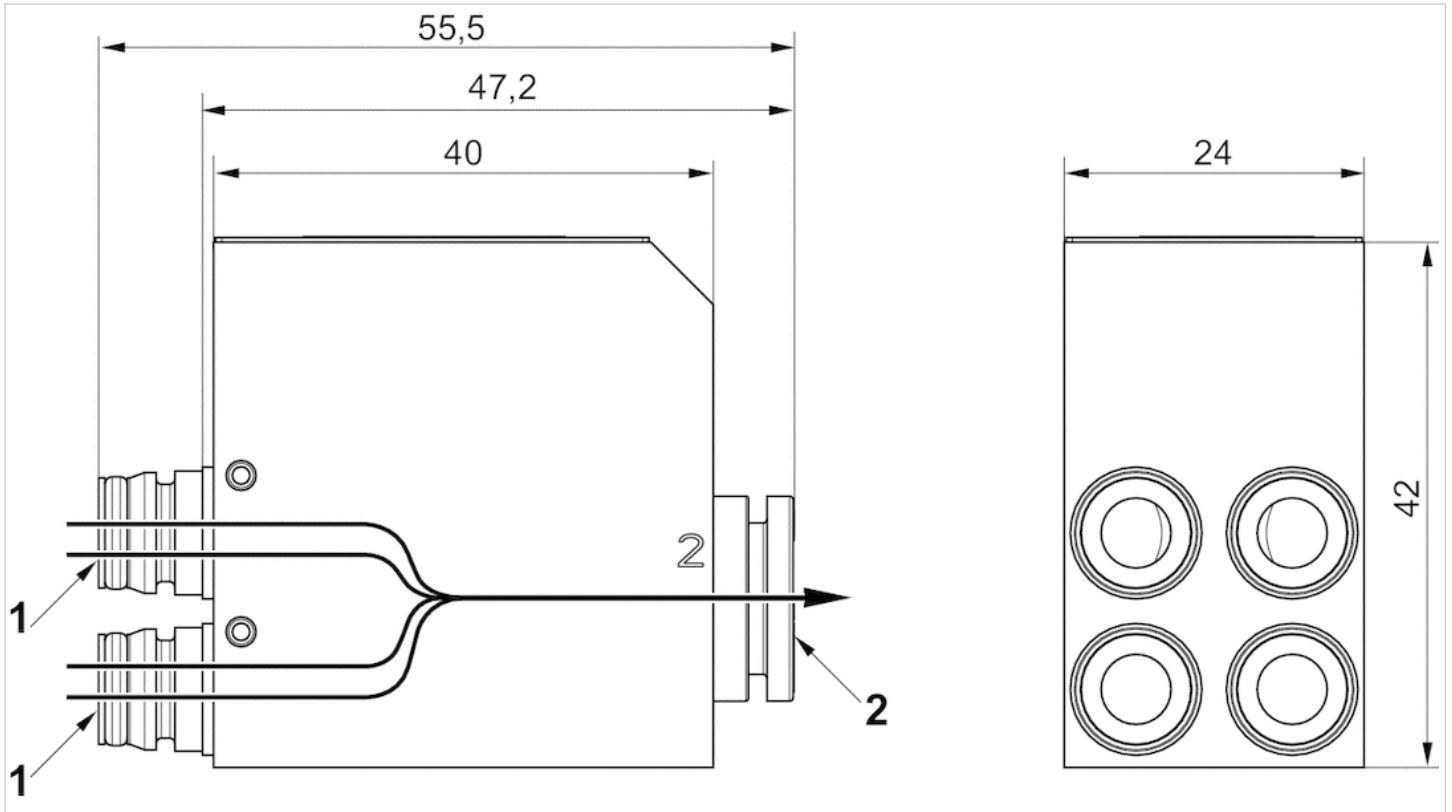
2) 2 x Ø 10

Dimensions

Number of valves	2	2	2	2	2	2
Valve function	5/2	5/3	2x3/2	5/2	5/3	2x3/2
Series	AV03	AV03	AV03	AV05	AV05	AV05
Flow [l/min]	670	670	670	1100	1100	1100

Dimensions

Fig. 2



1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

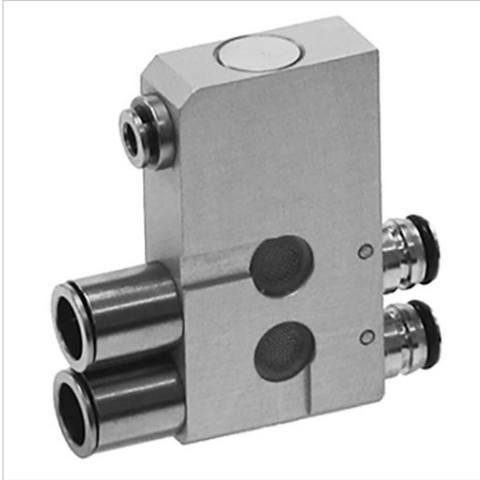
2) 1 x Ø 10

Dimensions

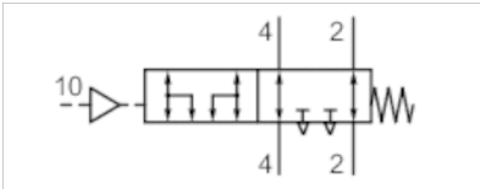
Number of valves	2	2
Valve function	2x3/2	2x3/2
Series	AV03	AV05
Flow [l/min]	830	1400

Exhaust module Series AV

- For port channels 2, 4
- push-in fitting



Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Weight	0.07 kg



Technical data

Part No.	Type Port 1	Compressed air connection Output	Compressed air connection pilot air	Flow Qn
R422003046	push-in fitting	Ø 8	Ø 4	1080 l/min
R422003185	push-in fitting	Ø 6	Ø 4	720 l/min
R422003187	push-in fitting	Ø 4	Ø 4	280 l/min

Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.

For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

Particularly suitable for 5/3 CC valves, since the remaining pressure in the actuator can be exhausted when the control pressure is applied.

The exhaust module and the air circuit should be tested monthly to ensure they function correctly.

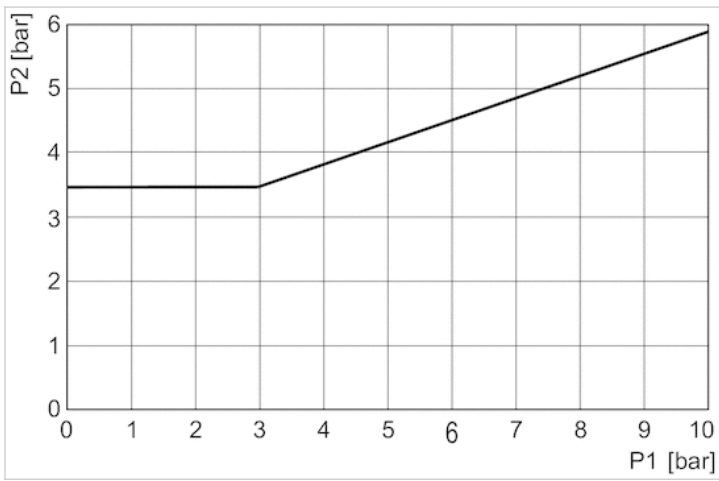
Applications with vertical actuators with exhaust or pressure throttles and a maximum load of 15 kg as well as up to a speed of Vmax 33 mm/s .

Technical information

Material	
Housing	Aluminum
Seals	Nitrile rubber

Diagrams

Minimum control pressure (depending on operating pressure)



p1 = pressure on connections 2 and 4, p2 = control pressure

Push-in fittings

- for AV



Working pressure min./max.

-0.95 ... 10 bar

Ambient temperature min./max.

-10 ... 60 °C

Medium

Compressed air

Technical data

Part No.	Type	Scope of delivery
R412018617	Push-in fitting Ø 4 mm - 5/32", straight	2 piece
R412018618	Push-in fitting Ø 6 mm, straight	2 piece
R412018619	Push-in fitting Ø 8 mm - 5/16", straight	2 piece
R412018621	Push-in fitting Ø 3 mm, angled, short, and push-in fitting Ø 3 mm, angled, long	1 piece
R412018622	Push-in fitting Ø 4 mm - 5/32", angled, short and push-in fitting Ø 4 mm - 5/32", angled, long	1 piece
R412018623	Push-in fitting Ø 6 mm, angled, short Push-in fitting Ø 6 mm, angled, long	1 piece
R422002561	Push-in fitting Ø 3 mm, angled, short	10 piece
R422002569	Plug connector Ø 3 mm, angled, long	10 piece
R422002554	Push-in fitting Ø 4 mm - 5/32", straight	10 piece
R422002562	Push-in fitting Ø 4 mm, 5/32", angled, short	10 piece
R422002570	Push-in fitting Ø 4 mm, 5/32", angled, long	10 piece
R422002555	Push-in fitting Ø 6 mm, straight	10 piece
R422002563	Push-in fitting Ø 6 mm, angled, short	10 piece
R422002571	Push-in fitting Ø 6 mm, angled, long	10 piece
R422002557	Push-in fitting Ø 8 mm, 5/16", straight	10 piece
R422002565	Push-in fitting Ø 8 mm, 5/16", angled, short	10 piece
R422002573	Push-in fitting Ø 8 mm, 5/16", angled, long	10 piece
R422002944	Push-in fitting Ø 8 mm, angled, short Push-in fitting Ø 8 mm, angled, long	1 piece
R412021785	Push-in fitting 1/8", straight	2 piece
R412018620	Push-in fitting 1/4", straight	2 piece
R422002560	Push-in fitting 3/8", straight	10 piece
R422102508	Push-in fitting Ø 12 mm, straight	2 piece
R422002559	Push-in fitting Ø 12 mm, straight	10 piece
R422002556	Push-in fitting 1/4", straight	10 piece
R412021786	Push-in fitting 1/8", straight	10 piece

Part No.	Housing material	
R412018617	Brass, nickel-plated	-
R412018618	Brass, nickel-plated	-
R412018619	Brass, nickel-plated	-
R412018621	Brass, nickel-plated	1)
R412018622	Brass, nickel-plated	-
R412018623	Brass, nickel-plated	-
R422002561	Brass, nickel-plated	-
R422002569	Brass, nickel-plated	-
R422002554	Brass, nickel-plated	-
R422002562	Brass, nickel-plated	-
R422002570	Brass, nickel-plated	-
R422002555	Brass, nickel-plated	-
R422002563	Brass, nickel-plated	-
R422002571	Brass, nickel-plated	-
R422002557	Brass, nickel-plated	-
R422002565	Polyamide, fiber-glass reinforced, black	-
R422002573	Polyarylamide, fiber-glass reinforced	-
R422002944	Polyamide, fiber-glass reinforced, black	-
R412021785	Brass, nickel-plated	-
R412018620	Brass, nickel-plated	-
R422002560	Brass, nickel-plated	-
R422102508	Brass, nickel-plated	1)
R422002559	Brass, nickel-plated	1)
R422002556	Brass, nickel-plated	-
R412021786	Brass, nickel-plated	-

1) Only for AV05 air connection, connection 1

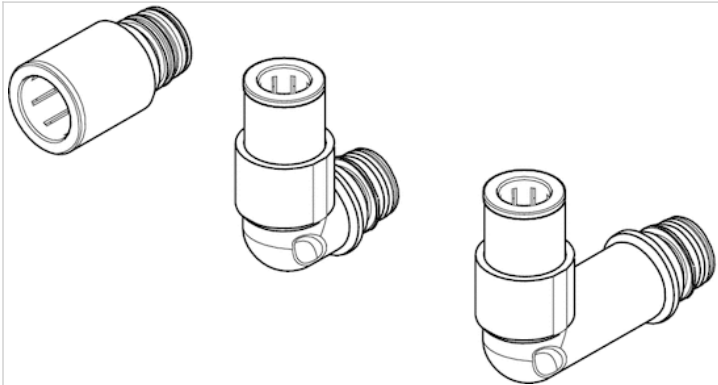
Technical information

When using polyurethane tubing, we recommend using additional stiffener sleeves.
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

Material	
Housing	Brass, nickel-plated Polyamide, fiber-glass reinforced, black Polyarylamide, fiber-glass reinforced
Seal	Nitrile rubber

Dimensions



End plate left

R412018334



Technical data

Industry
Industrial

Type
End plate

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

electr. connection
D-Sub plug, 25-pin, top

Material

Housing material
Polyamide

Screws material
Steel

For series
AV03

Type
Top connection

Min. medium temperature
-10 °C

Max. medium temperature
60 °C

Weight
0.045 kg

Part No.
R412018334

Technical information

Scope of delivery: incl. 1 seal and 2 mounting screws

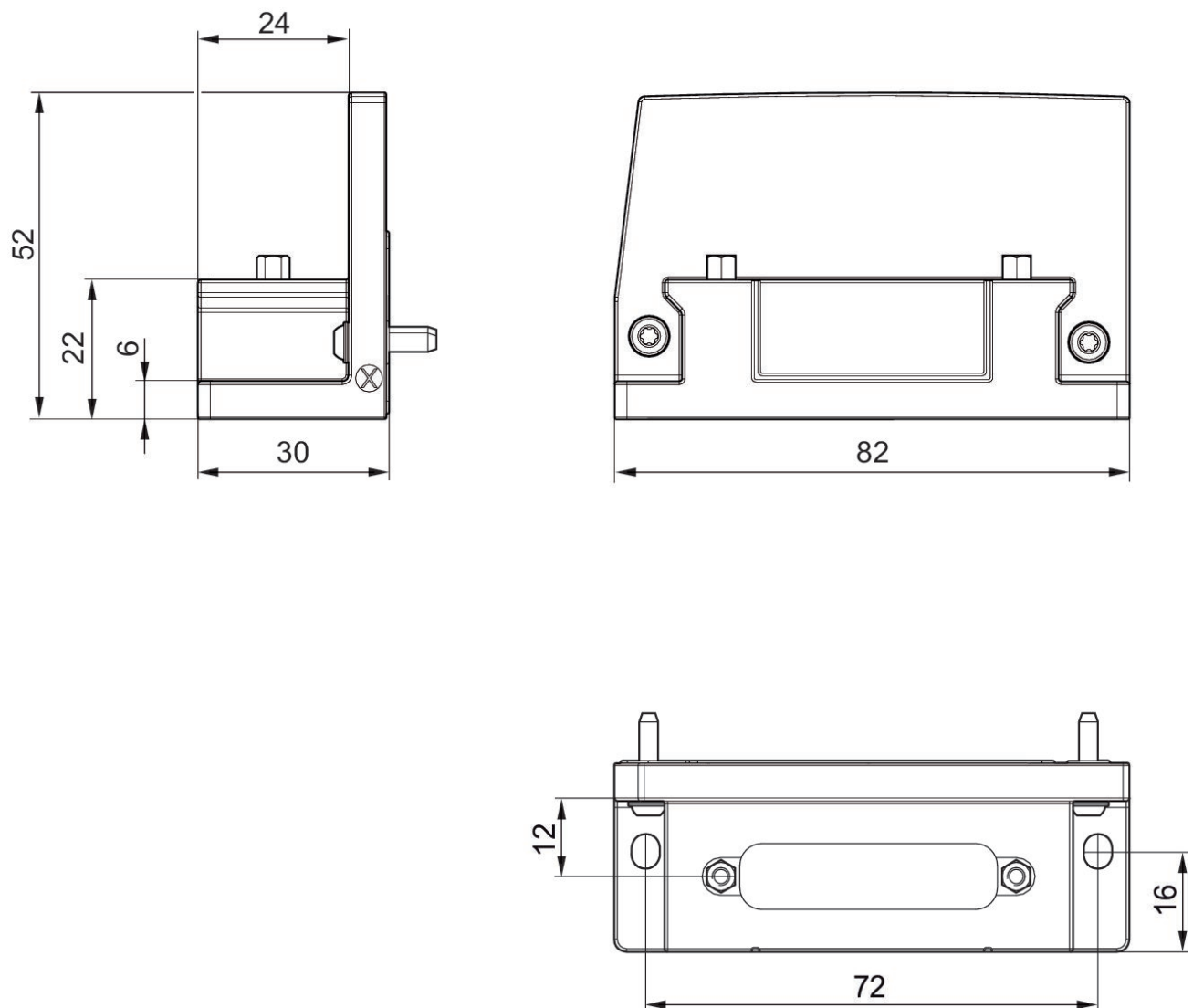
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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 in mm



End plate left

R412018335



Technical data

Industry
Industrial

Type
End plate

For series

AV03

Type

Side connection

Min. ambient temperature

-10 °C

Max. ambient temperature

60 °C

Min. medium temperature

-10 °C

Max. medium temperature

60 °C

electr. connection

D-Sub plug, 25-pin, on the side

Weight

0.05 kg

Material

Housing material

Polyamide

Screws material

Steel

Part No.

R412018335

Technical information

Scope of delivery: incl. 1 seal and 2 mounting screws

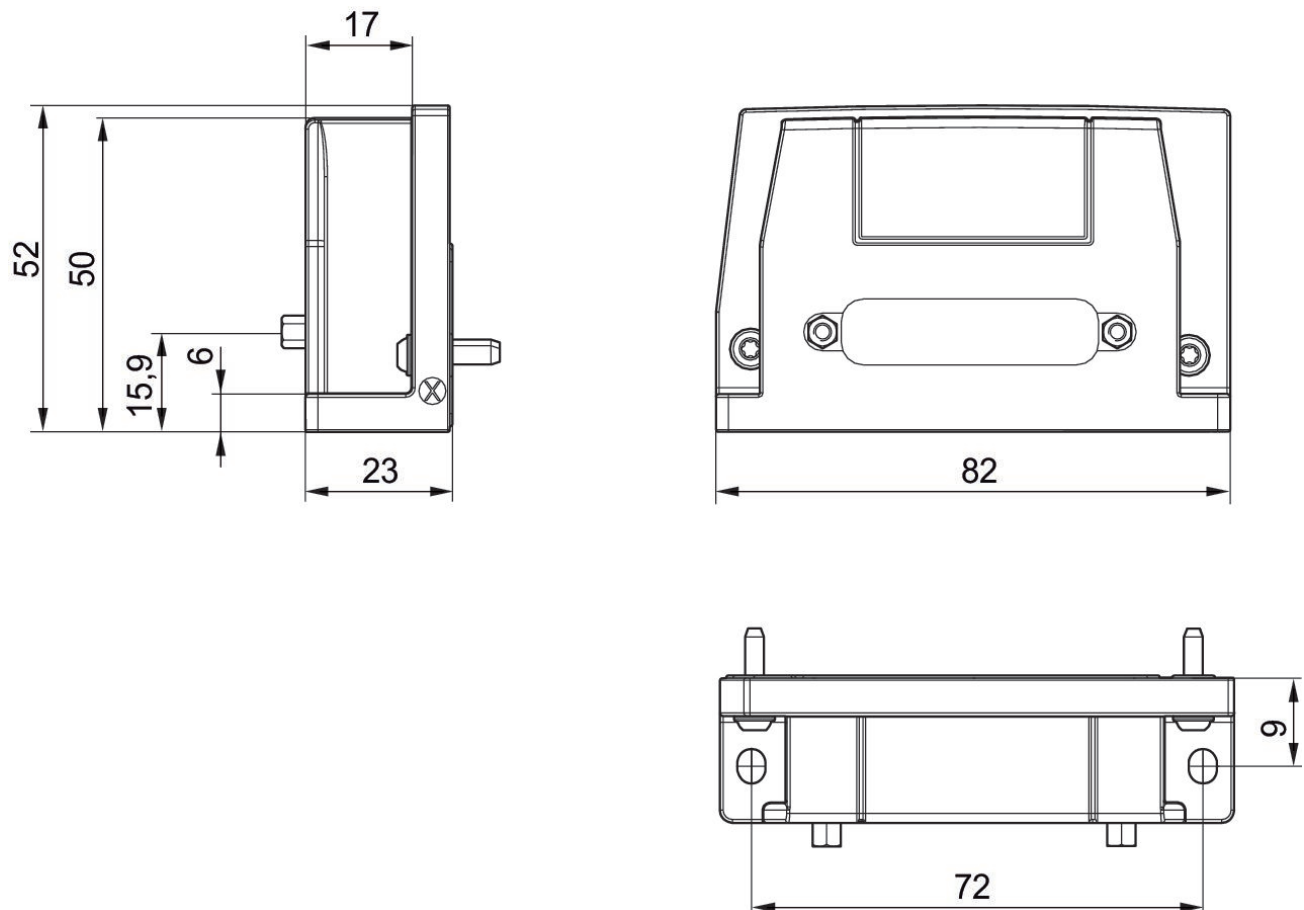
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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 in mm



End plate left

R412027731



Technical data

Industry
Industrial

Type
End plate

For series
AV03-SW

Type
Single wiring

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Min. medium temperature
-10 °C

Max. medium temperature
60 °C

Weight
0.05 kg

Material

Housing material
Polyamide

Screws material
Steel

Part No.
R412027731

Technical information

Scope of delivery: incl. 1 seal and 2 mounting screws

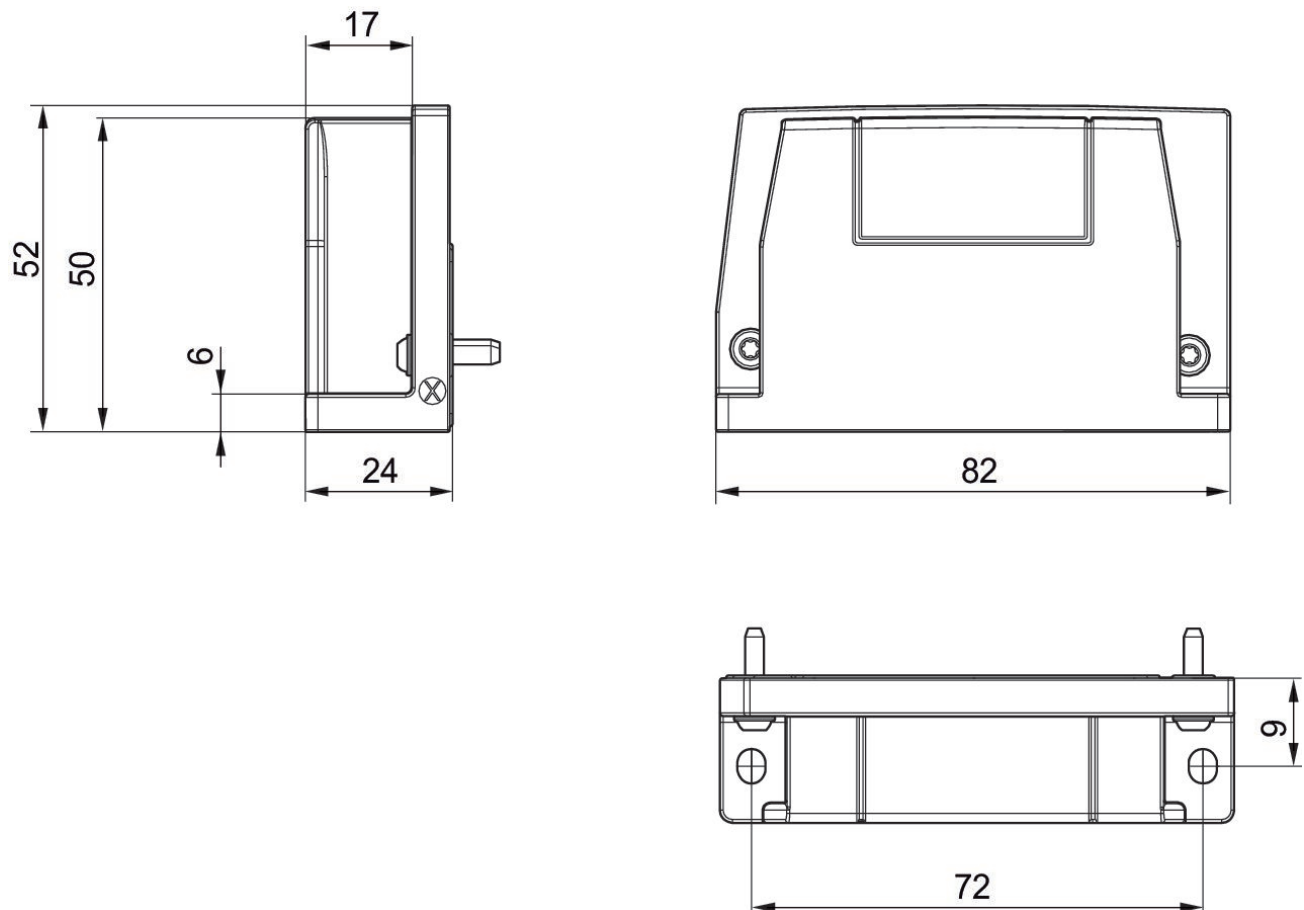
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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 in mm



Extension kit transition plate AES - AV03

R412015587



Technical data

Industry
Industrial

Working pressure min.
-0.95 bar

Working pressure max
10 bar

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Scope of delivery

Adapter plate incl. 2x sealings, 4x Screws, 1x Tie rod nut,
1x circuit board, 1x Extension circuit board

Housing material

Polyamide fiber-glass reinforced

Seal material

Natural rubber

Part No.

R412015587

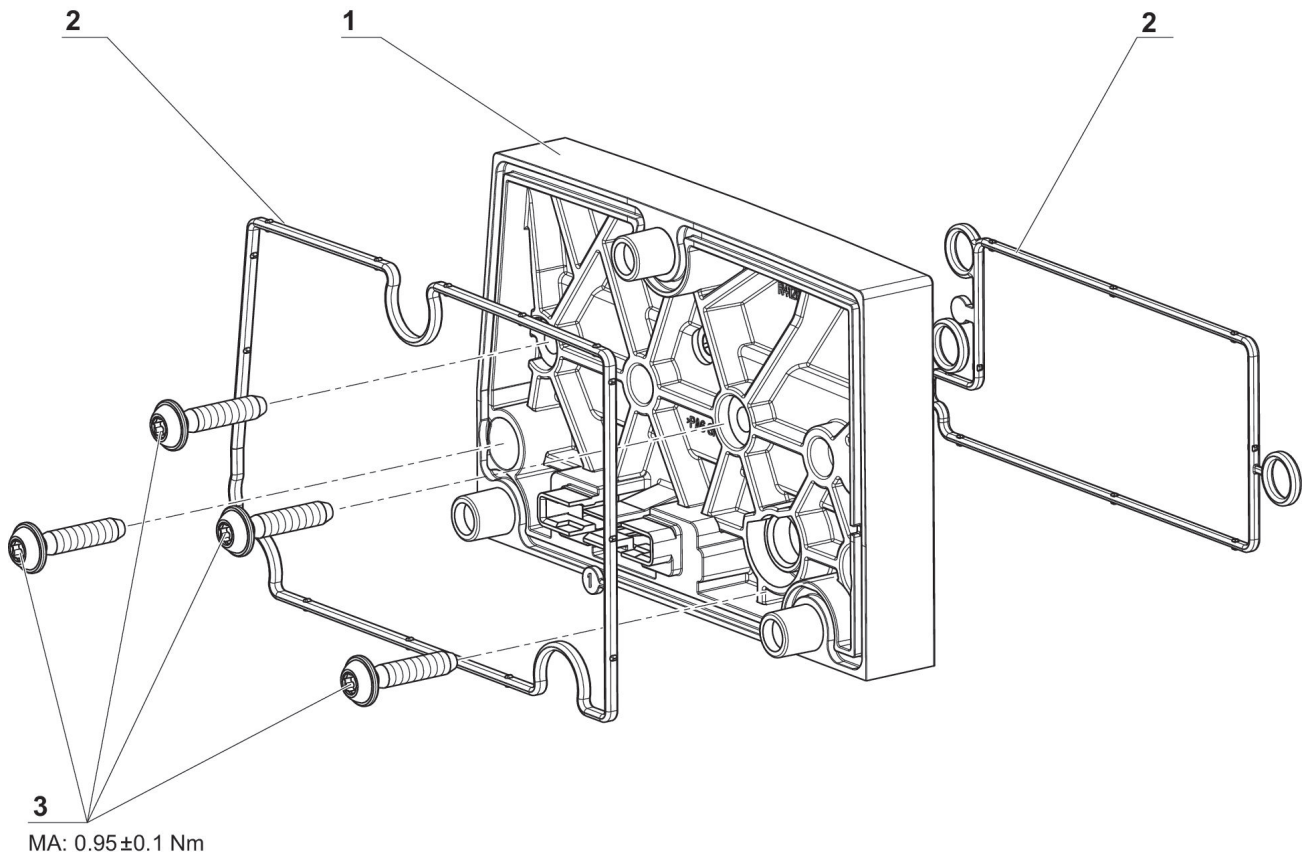
Technical information

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.

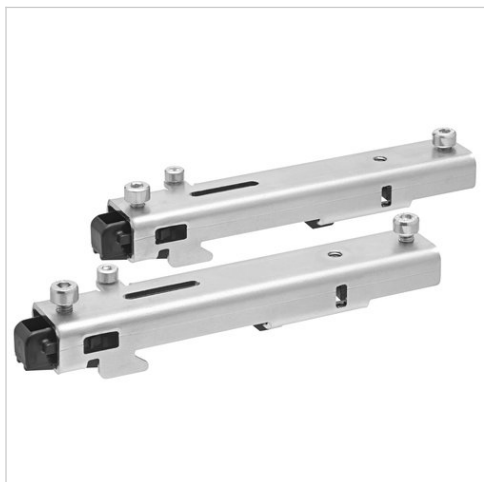
Dimensions



- 1) Transition plate
- 2) Seal
- 3) Screws

Mounting kit for DIN rail

- for AV03, AV05, AES, ES05



Technical data

Part No.
R412019468

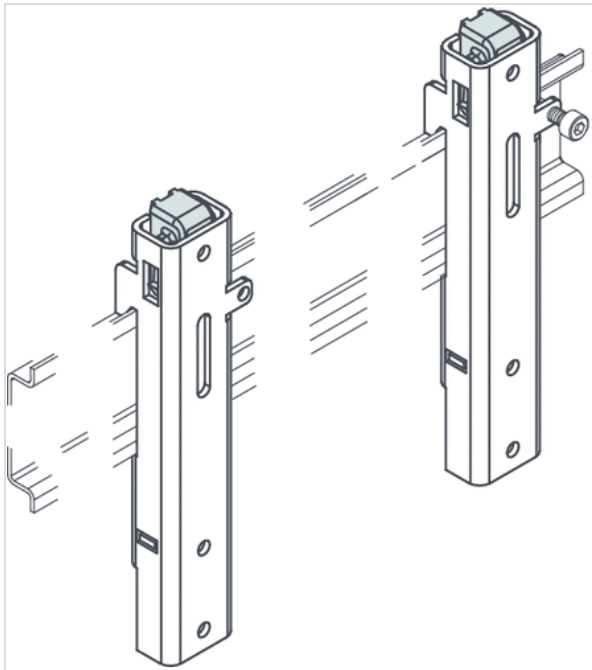
Scope of delivery: 2 clamps, 4 screws M4x8 DIN 912, 1 screw M3x14 DIN 912, Note: The valve system should not be equipped with more than the maximum number of components. After maximum equipment of the valve system, we recommend no longer assembling the valve system on a DIN rail.

Technical information

Material	
Housing	Steel, chrome-plated

Dimensions

Dimensions



Assembly kit

- for AV



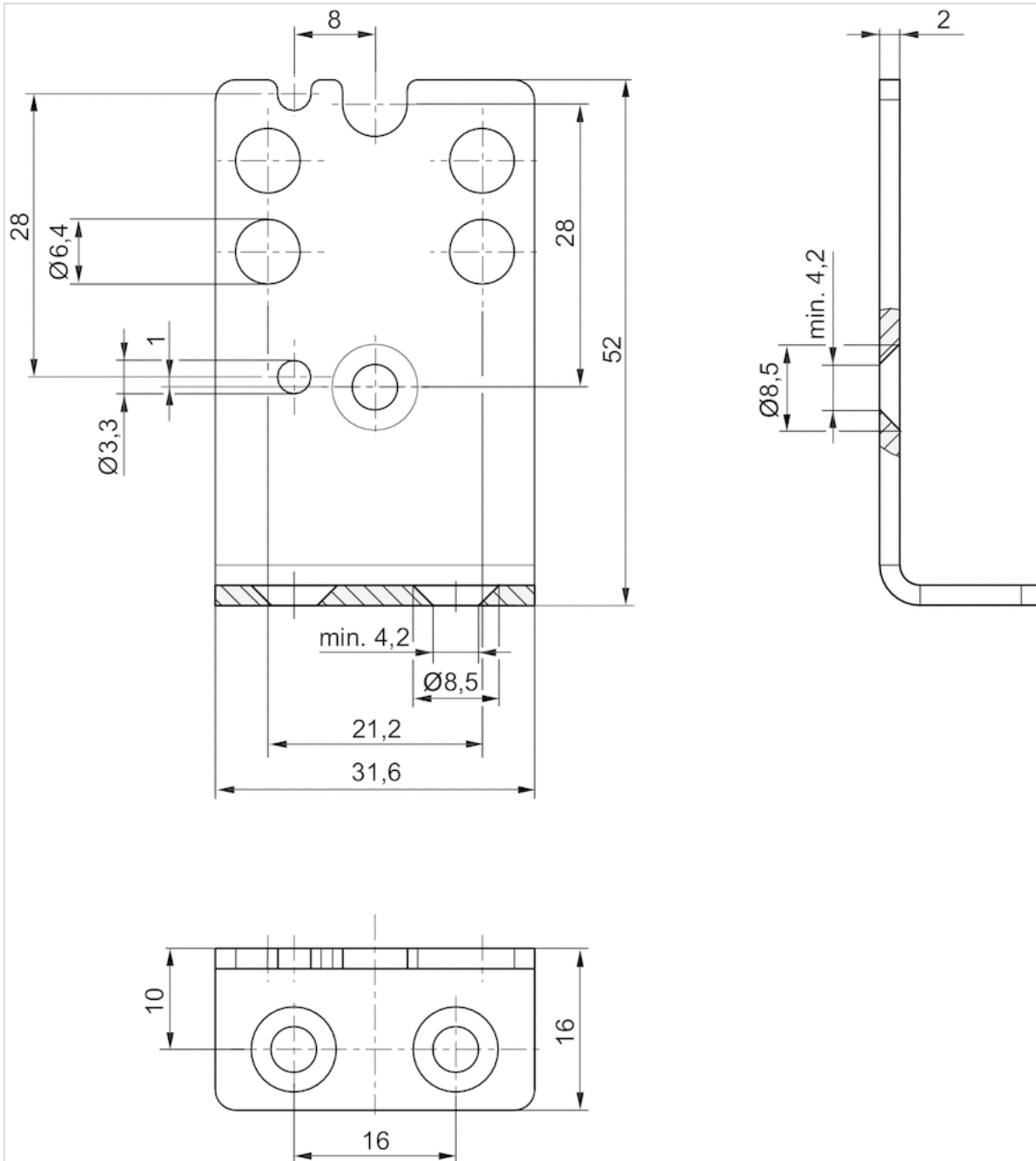
Technical data

Part No.	Type	Delivery unit
R422103091	Mounting bracket for mounting to the mounting plate	2 piece

Technical information

Material	
Housing	Stainless steel

Dimensions



2 countersunk screws DIN 7991 A4 M4x8 for mounting on AV series pressure regulators are included in the scope of delivery. Countersunk screws for mounting on a mounting plate are not included in the scope of delivery.

Retaining bracket for intermediate mounting

- for AES, AV03, AV05



Technical data

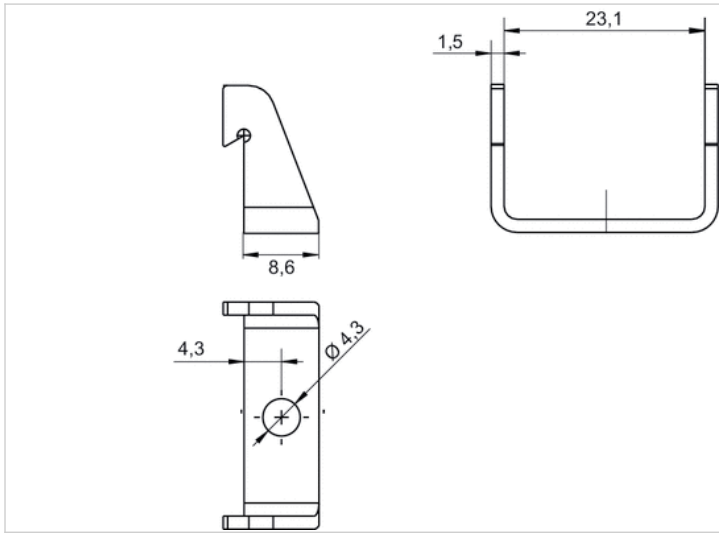
Part No.	Type	Delivery unit
R412018339	Retaining brackets	10 piece

After three I/O modules or 8 valves, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface. , Screws not included in scope of delivery, The max. permissible space between the retaining brackets is 150 mm .

Technical information

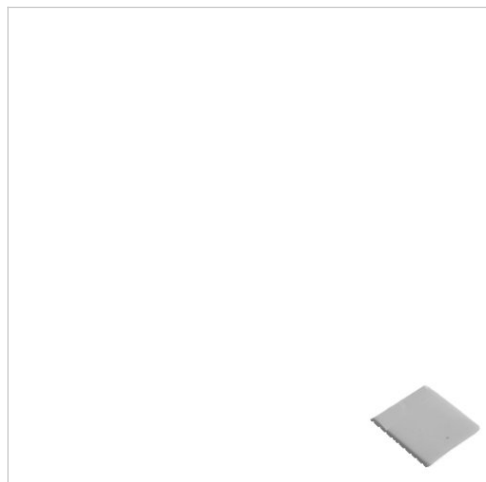
Material	
Housing	Stainless steel

Dimensions



Name plates, AV-valves front

- for AV03, AV05, AES



Weight

0.014 kg

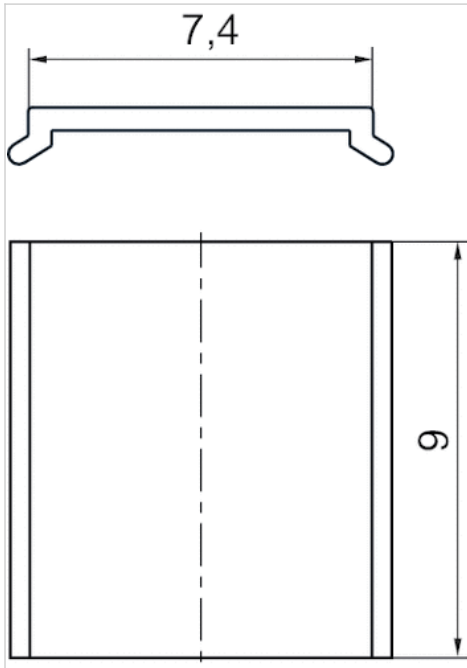
Technical data

Part No.	Type	Delivery unit
R412019552	Name plates	150 piece

Technical information

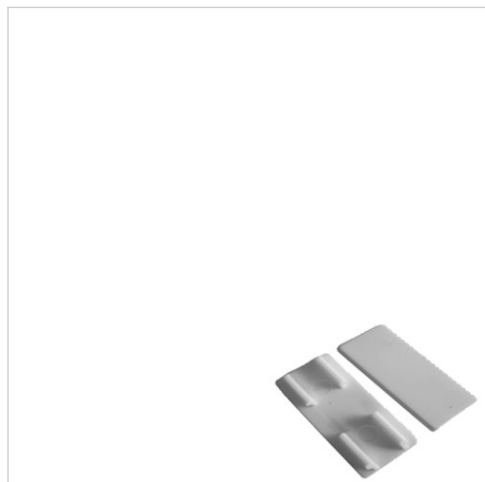
Material	
Housing	Polyamide

Dimensions



Name plates, AV-valves, AES bus coupler top

- for AV03, AV05, AES



Weight

0.014 kg

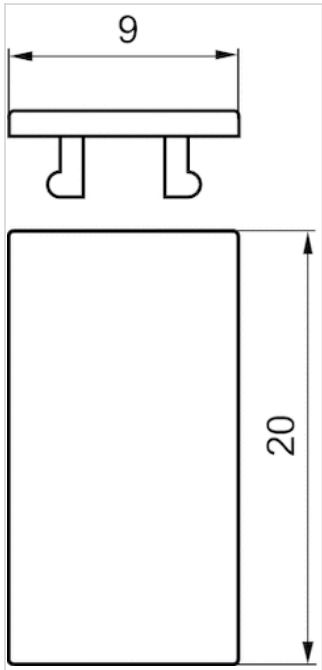
Technical data

Part No.	Type	Delivery unit
R422100889	Name plates	24 piece

Technical information

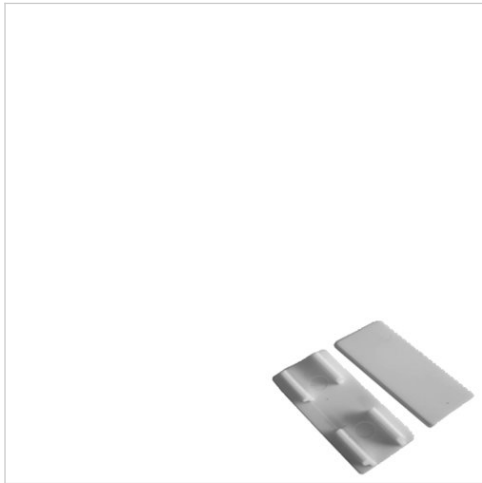
Material	
Housing	Polycarbonat

Dimensions



Name plates, AV-BP base plates bottom

- for AV03-BP, AV05-BP



Weight

0.014 kg

Technical data

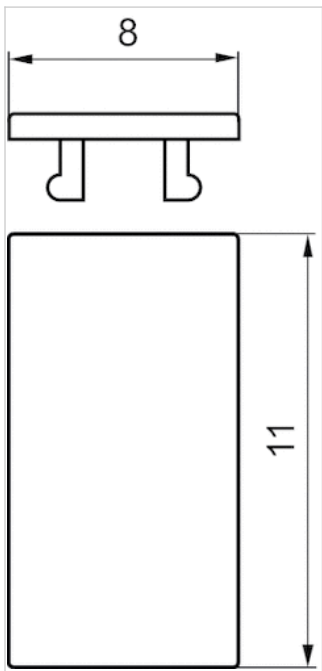
Part No.	Type	Scope of delivery
R412026461	Name plates	20 Piece

Technical information

Material	
Housing	Polyamide

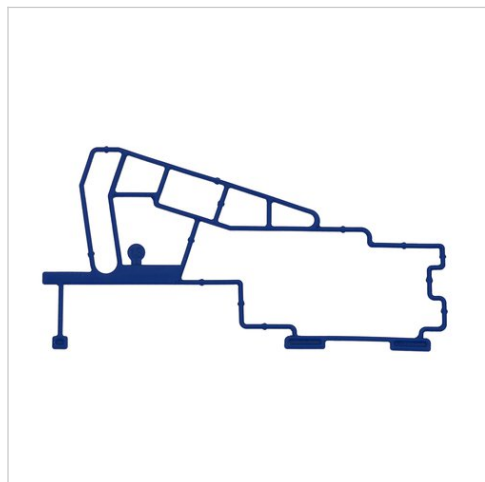
Dimensions

Dimensions



Sealing kit

- for AV03-BP



Ambient temperature min./max.

-10 ... 60 °C

Technical data

Part No.	Type
R412026462	sealing kit: Connections "2" and "4"
R412026464	5x Sealing kit: Connections "1" , "3" , "5" , "X" and "R"
R412026467	Sealing kit for base plate

Part No.	Sealing material	Scope of delivery
R412026462	Acrylonitrile butadiene rubber	20 Piece
R412026464	Acrylonitrile butadiene rubber	5 Piece
R412026467	Nitrile butadiene rubber	10 Piece

Spare parts

- for AV03-BP



Ambient temperature min./max.

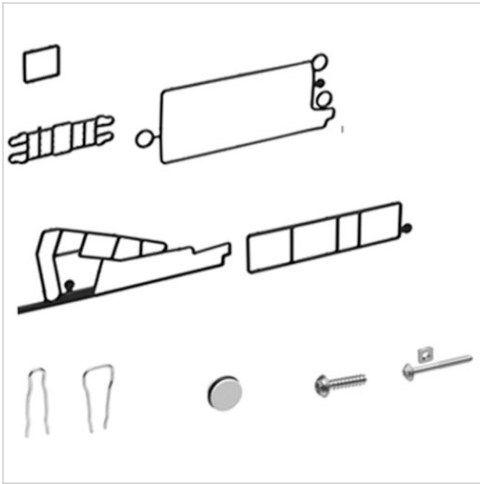
-10 ... 60 °C

Technical data

Part No.

R412026460

Accessories



Ambient temperature min./max.
Medium

-10 ... 60 °C
Compressed air

Technical data

Part No.	Position	Type	Scope of delivery	
R412018338	1	Valve seals	10 piece	1)
R412020084	1	Valve seals	10 piece	2)
R412018344	2	Seals for left end plate	10 piece	1)
R412020080	2	Seals for left end plate	10 piece	2)
R412018345	3	Seals for base plate	10 piece	1)
R412020082	3	Seals for base plate	10 piece	2)
R412018346	4	Seals for function modules	10 piece	1)
R412020081	4	Seals for function modules	10 piece	2)
R412018746	5	Retaining clips for supply plate	10 piece	1)
R412020075	5	Retaining clips for supply plate	10 piece	2)
R412018747	6	Retaining clips for base plate	10 piece	3)
R412018351	7	Sealing cap for right end plate	5 piece	3)
R412015467	8	Screws for left end plate	10 piece	3)
R412018336	9	Mounting screw for valve	10 piece	3)

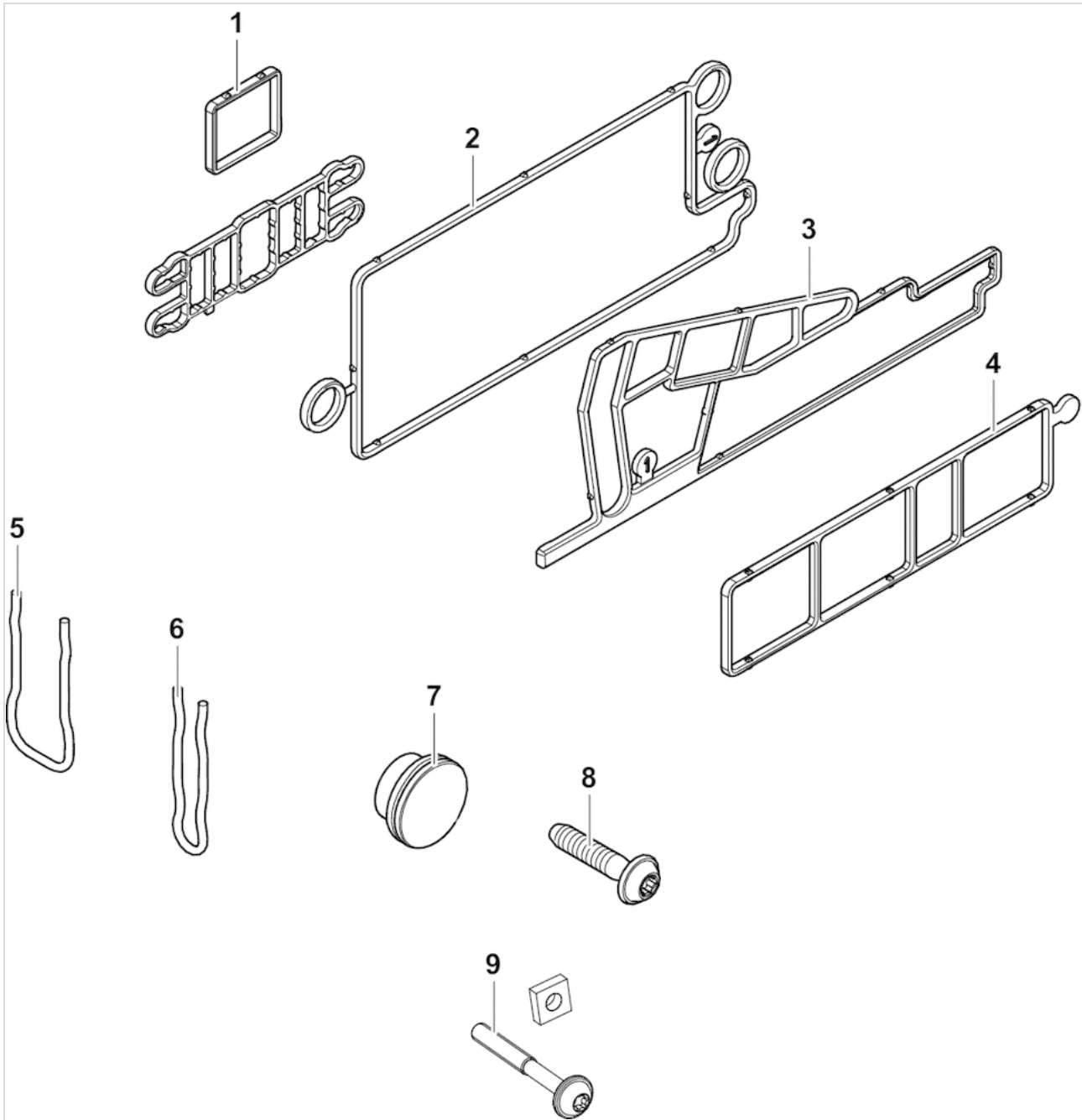
1) AV03

2) AV05

3) AV03 / AV05

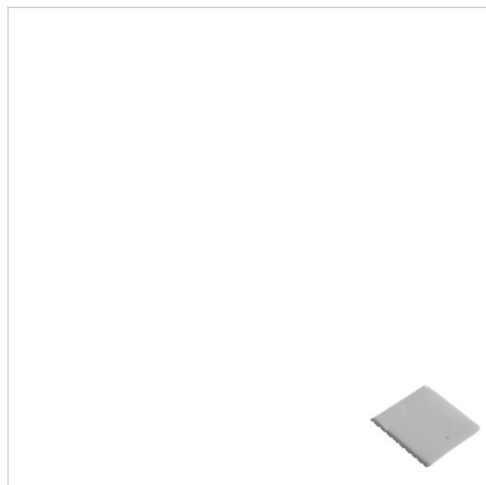
Dimensions

Overview drawing



Name plates, AES E/A-module

- for AES



Weight

0.014 kg

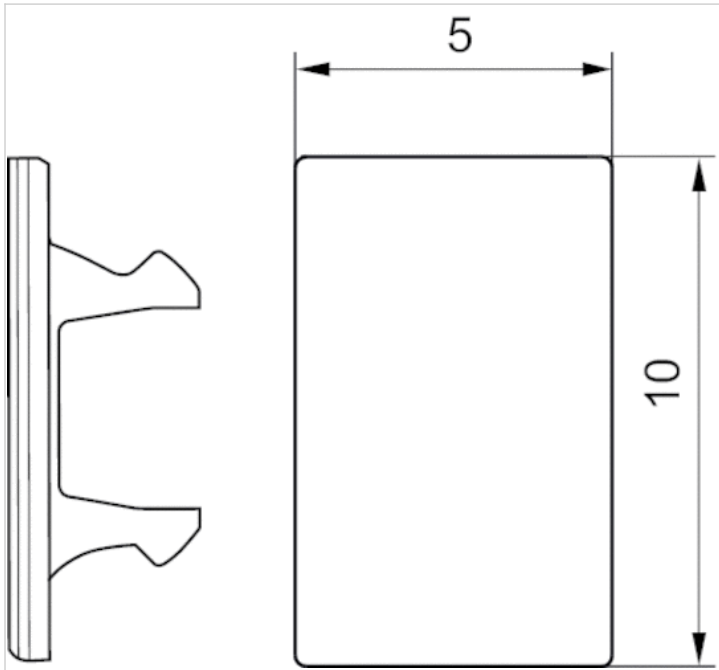
Technical data

Part No.	Type	Delivery unit
R412018192	Name plates	60 piece

Technical information

Material	
Housing	Polyamide

Dimensions



Protective cap, series CON-RD

- M8x1



Ambient temperature min./max.	-40 ... 85 °C
Protection class	IP67
Weight	0.001 kg

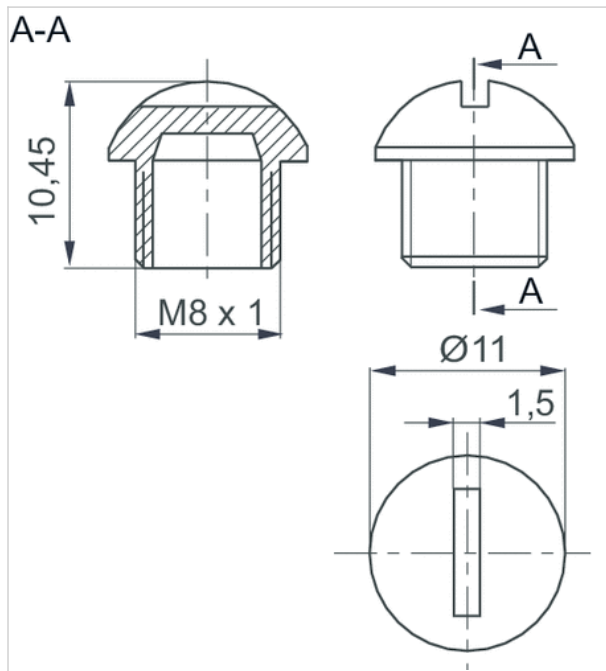
Technical data

Part No.	Type	Scope of delivery
R412003493	M8x1	25

Technical information

Material	
Housing	Polyamide

Dimensions



Protective cap, series CON-RD

- M12x1



Ambient temperature min./max.	-40 ... 85 °C
Protection class	IP67
Weight	0.001 kg

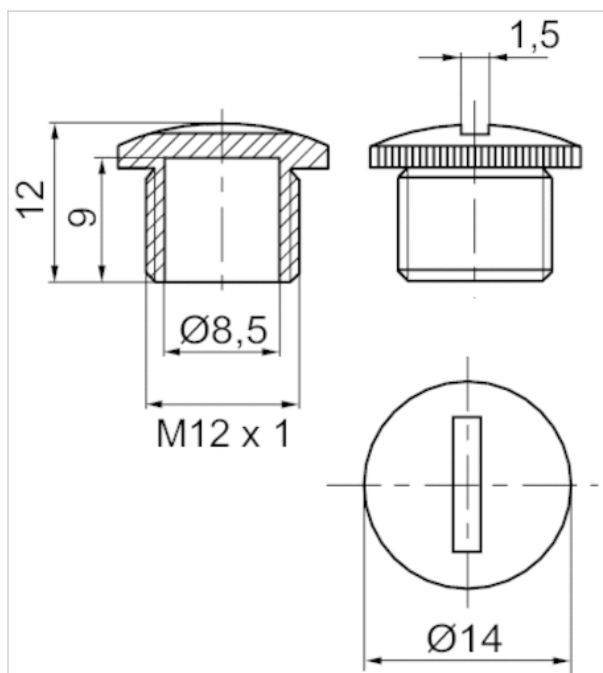
Technical data

Part No.	Type	Delivery unit
1823312001	M12x1	50 piece

Technical information

Material	
Housing	Polyamide

Dimensions



End plate left

- for AES



Ambient temperature min./max. -10 ... 60 °C
 Weight 0.033 kg

Technical data

Part No.	Type
R412015398	End plate left

Delivery contents: incl. 2 spring clamp elements

Technical information

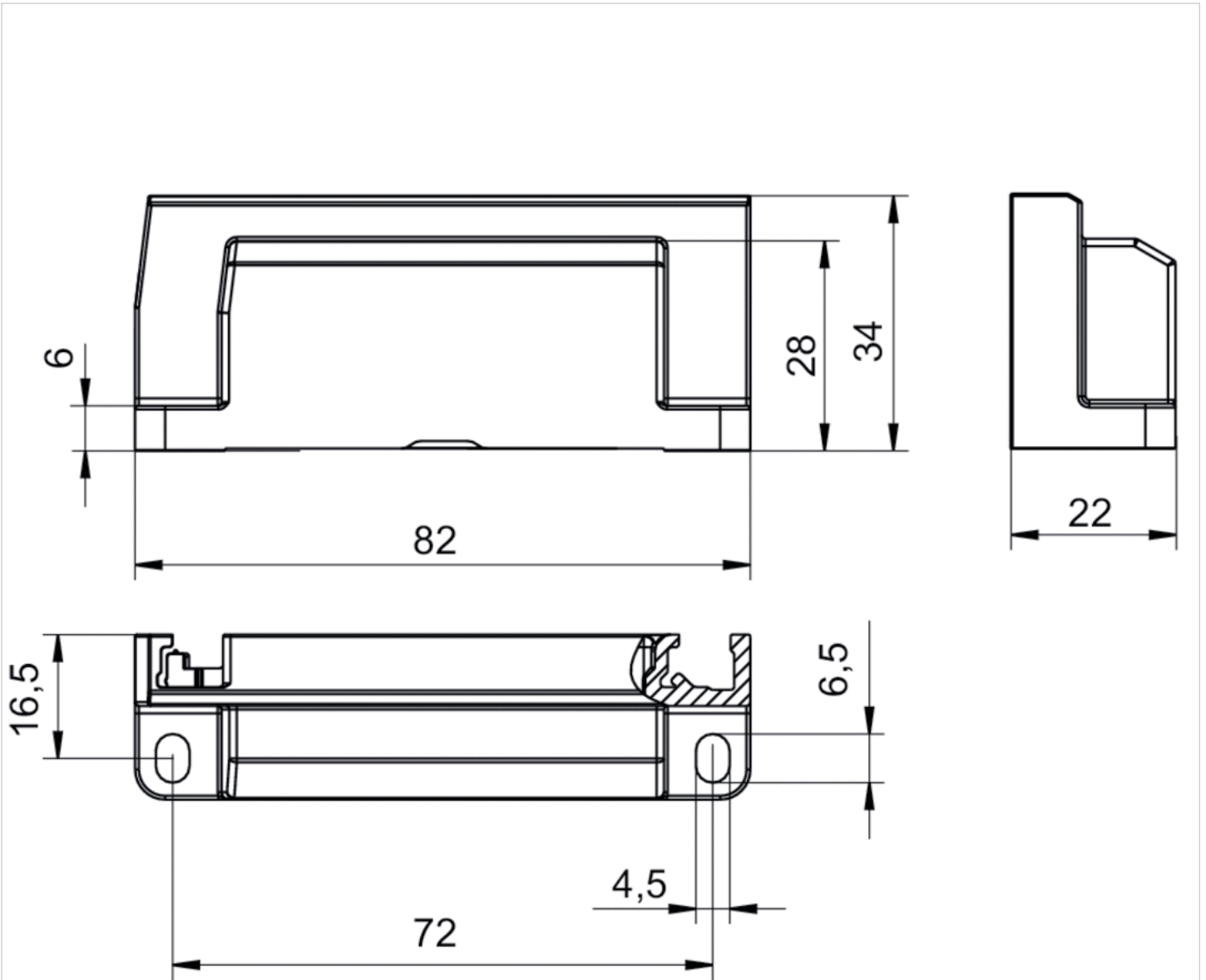
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The oil content of compressed air must remain constant during the life cycle.
 Use 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	Polyamide fiber-glass reinforced

Dimensions

Dimensions



End plate right

- for AES



Ambient temperature min./max. -10 ... 60 °C
 Weight 0.039 kg

Technical data

Part No.	Suitable for Series
R412015741	Stand-Alone variant AES

Scope of delivery incl. seal and mounting screws

Technical information

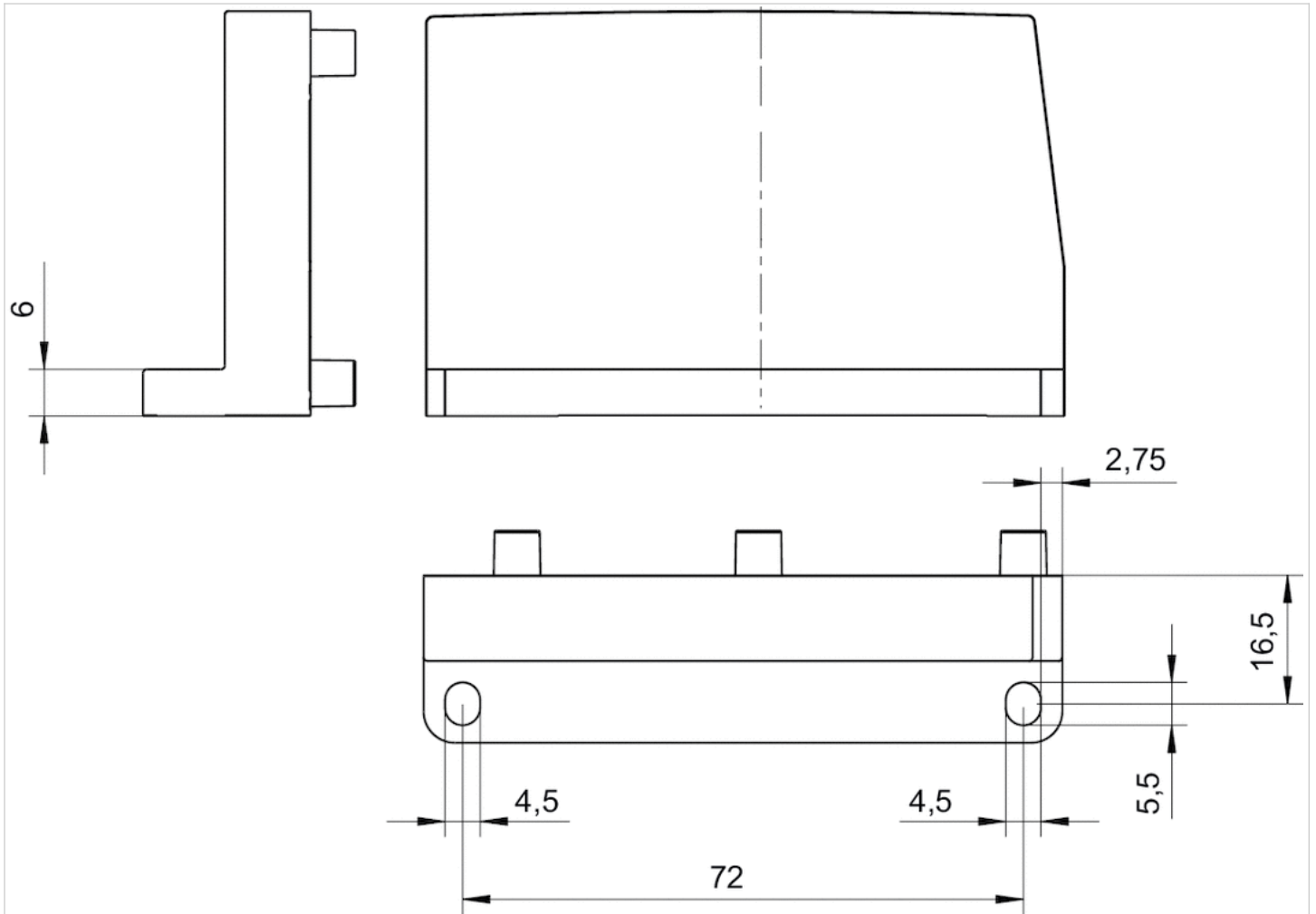
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The oil content of compressed air must remain constant during the life cycle.
 Use 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	Polyamide fiber-glass reinforced

Dimensions

Dimensions



Retaining bracket for intermediate mounting

- for AES, AV03, AV05



Technical data

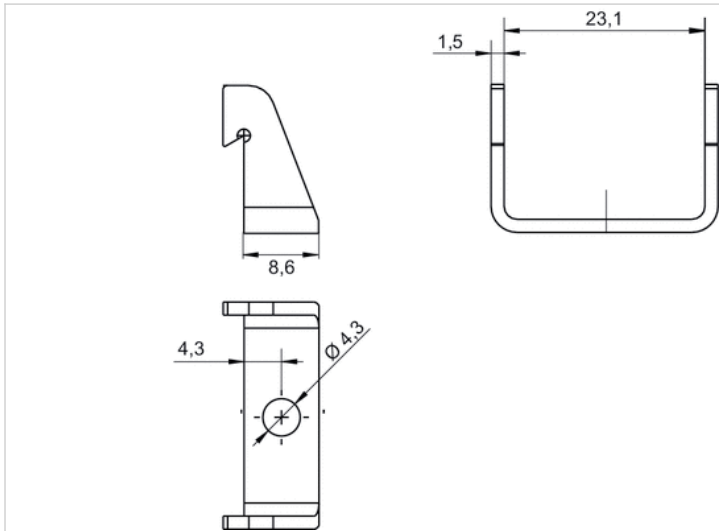
Part No.	Type	Delivery unit
R412018339	Retaining brackets	10 piece

After three I/O modules or 8 valves, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface. , Screws not included in scope of delivery, The max. permissible space between the retaining brackets is 150 mm .

Technical information

Material	
Housing	Stainless steel

Dimensions



Mounting bracket

R412020083

Mechanical accessories



Technical data

Industry

Industrial

For series

AV03

AV05

Delivery unit

10 piece

Weight

0.047 kg

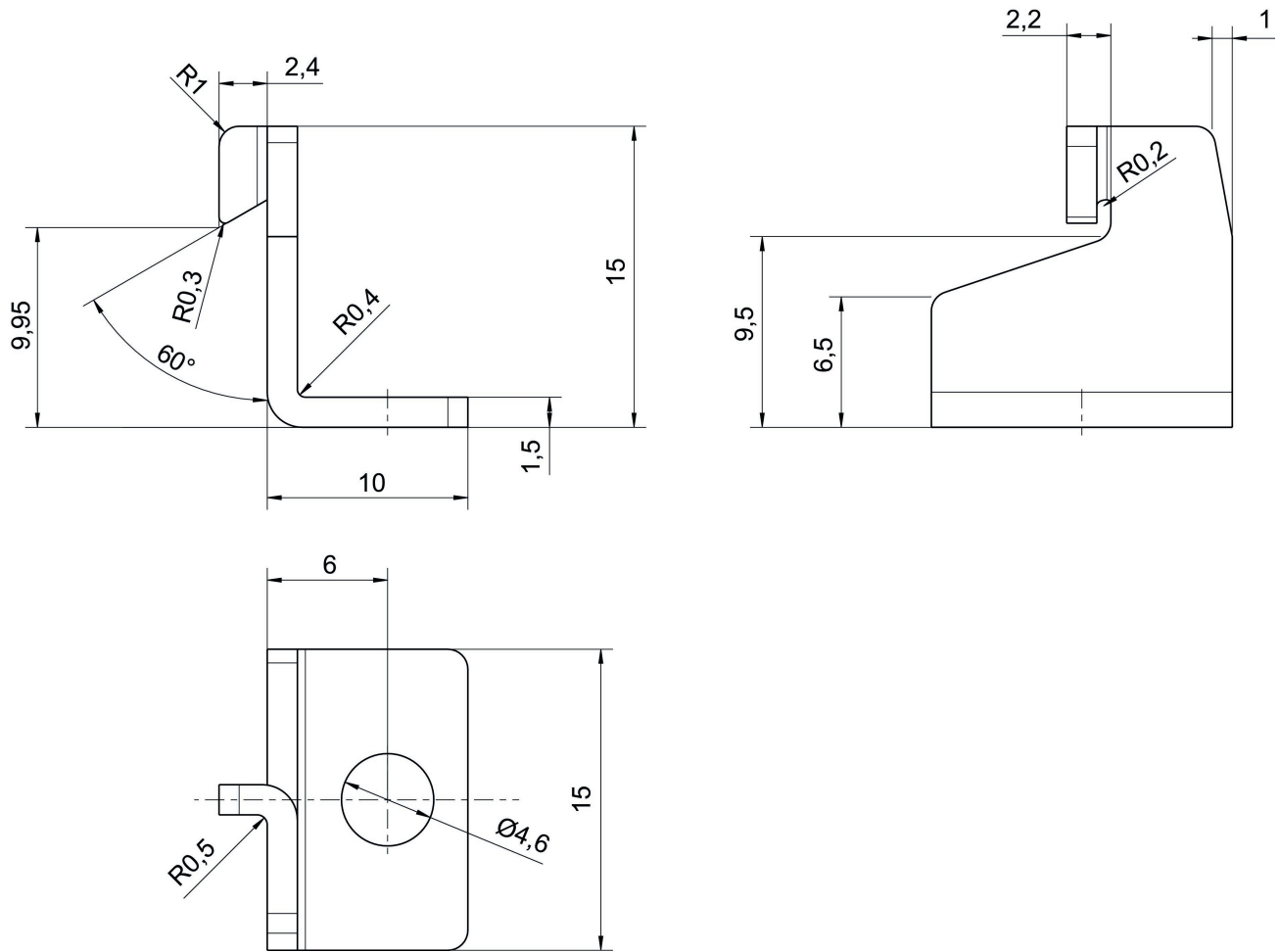
Housing material

Stainless Steel

Part No.

R412020083

Dimensions in mm



Spring clamp element

- for AES



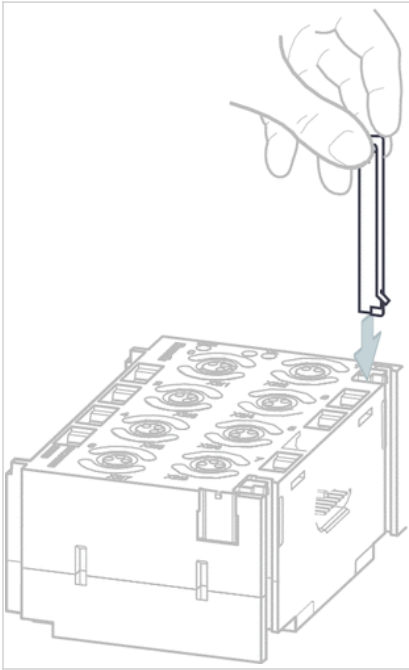
Technical data

Part No.	Type	Suitable for	Delivery unit
R412015400	Spring clamp element	For connecting fieldbus components	10 piece

Technical information

Material	
Housing	Steel

Dimensions



Release tool

- for AV



Ambient temperature min./max.

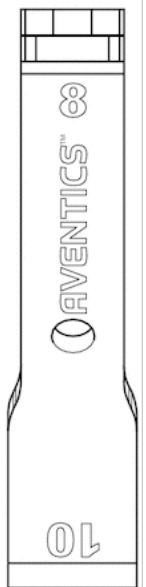
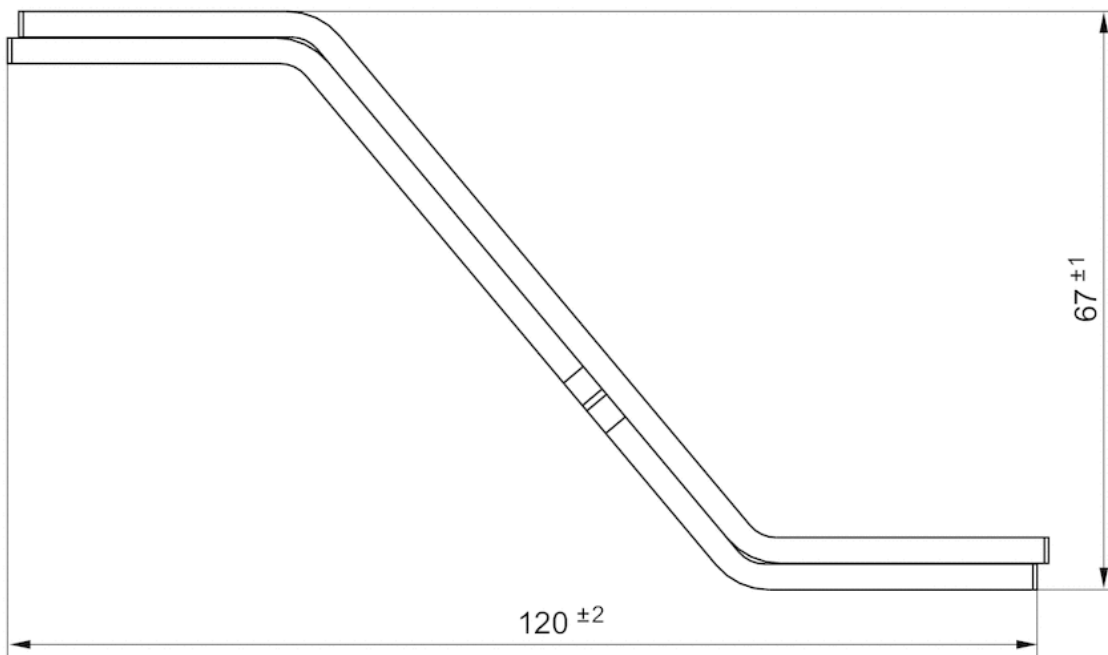
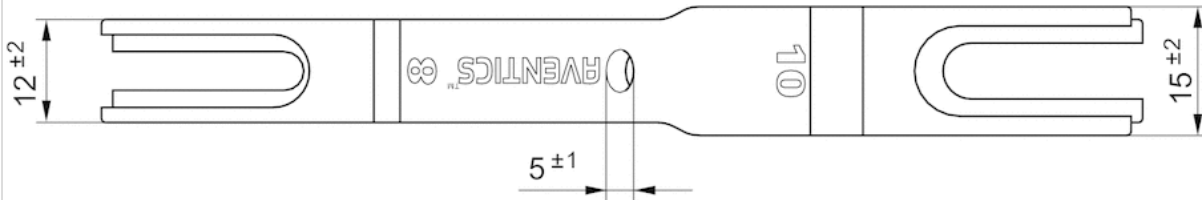
-10 ... 60 °C

Technical data

Part No.	Type
R422004106	Ø 4, Ø 6, Ø 8, Ø 10

Dimensions

Dimensions



Round plug connector, Series CON-RD

- Plug, M12x1, 4-pin, D-coded, straight, 180°
- for Ethernet, EtherNET/IP, EtherCAT, POWERLINK, sercos III
- shielded



Connection type	Thread cutting
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.41 kg



Technical data

Part No.	Max. current	suitable cable-Ø min./max
R419801401	4 A	6 / 8 mm

Technical information

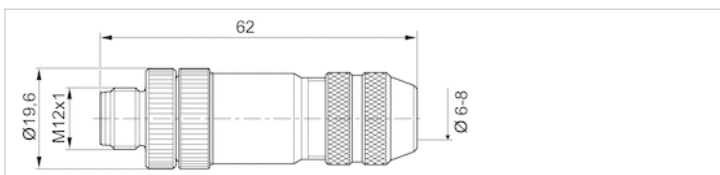
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

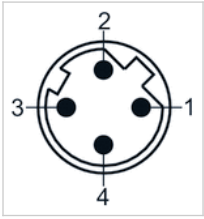
Dimensions

Dimensions



Pin assignments

Plug pin assignment

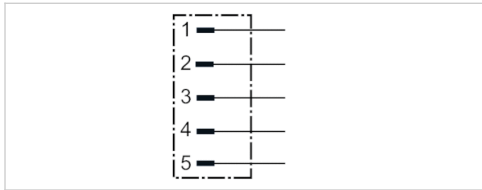


Round plug connector, Series CON-RD

- Plug, M12x1, 5-pin, A-coded, straight, 180°
- for CANopen, DeviceNet
- UL (Underwriters Laboratories)
- shielded



Connection type	Screws
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.48 kg



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8942051612	4 A	6 / 8 mm

Technical information

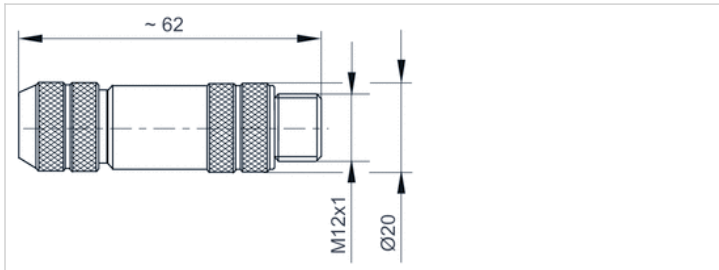
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

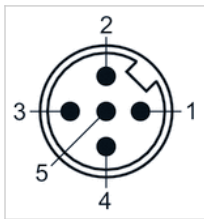
Dimensions

Dimensions



Pin assignments

Plug pin assignment

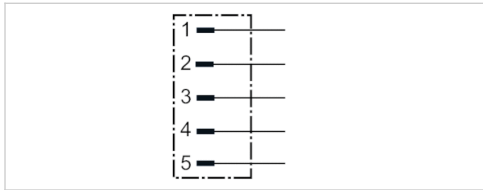


Round plug connector, Series CON-RD

- Plug, M12x1, 5-pin, B-coded, straight, 180°
- for PROFIBUS DP
- UL (Underwriters Laboratories)
- shielded



Connection type	Screws
Ambient temperature min./max.	-25 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.06 kg



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8941054054	4 A	4 / 9 mm

Technical information

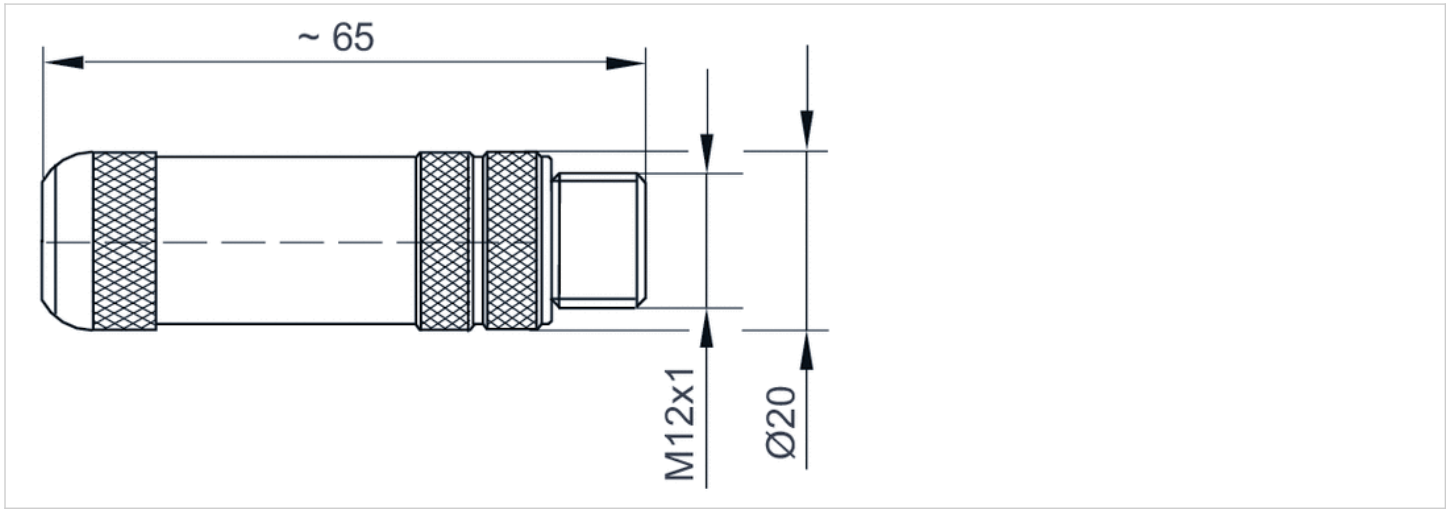
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated
Seals	Fluorocarbon caoutchouc

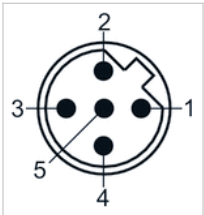
Dimensions

Dimensions



Pin assignments

Plug pin assignment



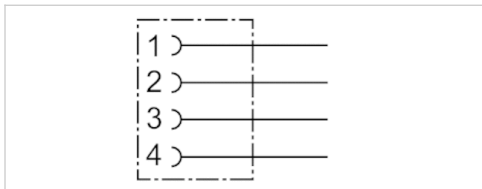
Round plug connector, Series CON-RD

- Socket, M12x1, 4-pin, A-coded, straight, 180°
- UL (Underwriters Laboratories)
- unshielded



Connection type	Screws
Ambient temperature min./max.	-25 ... 90 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.029 kg

The delivered product may vary from that in the illustration.



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8941054324	4 A	4 mm

Technical information

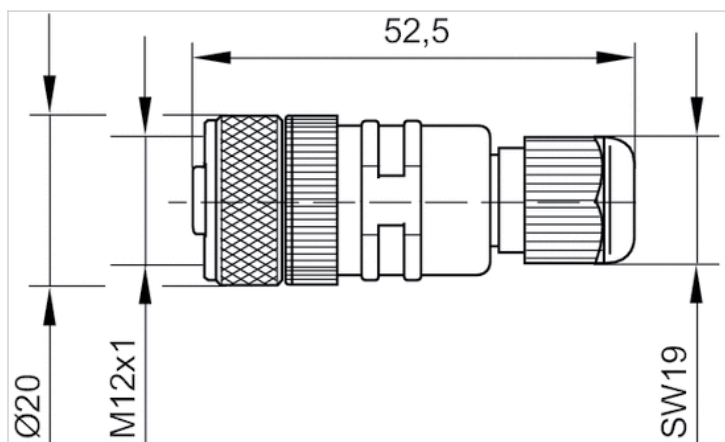
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polybutyleneterephthalate
Seals	Fluorocarbon caoutchouc

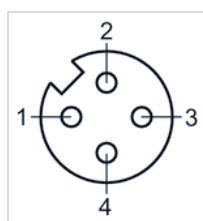
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

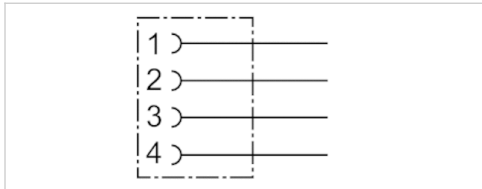


Round plug connector, Series CON-RD

- Socket, M12x1, 4-pin, A-coded, angled, 90°
- unshielded



Connection type	Screws
Ambient temperature min./max.	-25 ... 90 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.027 kg



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8941054424	4 A	4 mm

Technical information

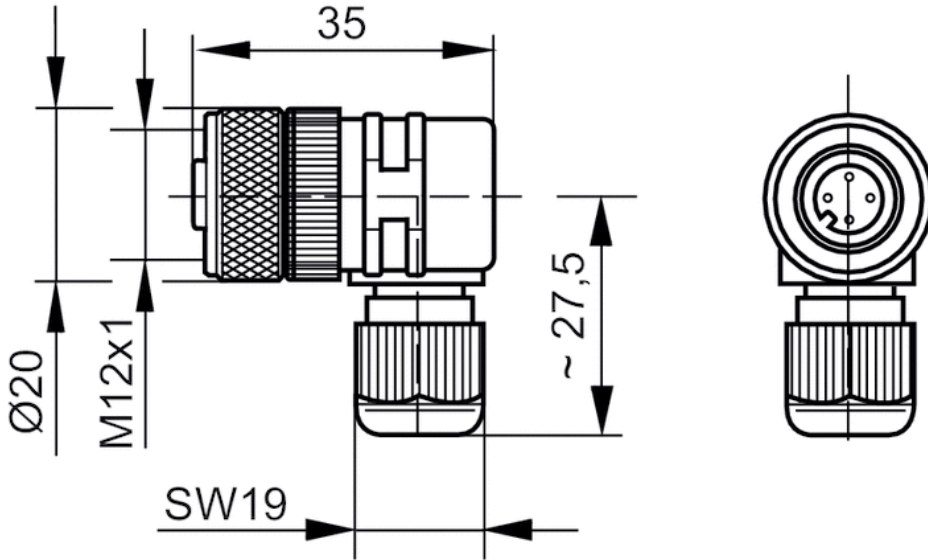
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polybutyleneterephthalate
Seals	Fluorocarbon caoutchouc

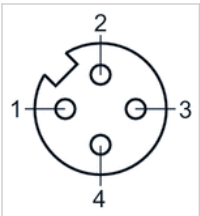
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

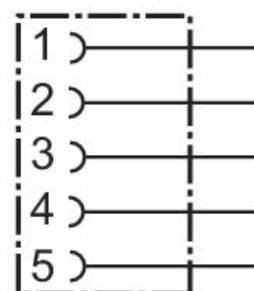


Round plug connector, Series CON-RD

8942051602

Round plug connector, Series CON-RD

- Round plug connectors for self-assembly
- M8x1, M12x1, M23, 7/8"
- Round plug connector adapter



Technical data

Industry

Industrial

Type

Round plug connectors

Connection type

Screws

Protocol

CANopen

DeviceNet

Certificates

UL (Underwriters Laboratories)

Shielding

shielded

Min. ambient temperature

-40 °C

Max. ambient temperature

85 °C

Max. current

4 A

Protection class

IP67

Operational voltage

48 V AC/DC

Electrical connection 1, type

Socket

Electrical connection 1, thread size

M12x1

Electrical connection 1, number of poles

5-pin

Electrical connection 1, coding
A-coded
Cable exit
straight

Cable exit angle
180°
Weight
0.051 kg

Material

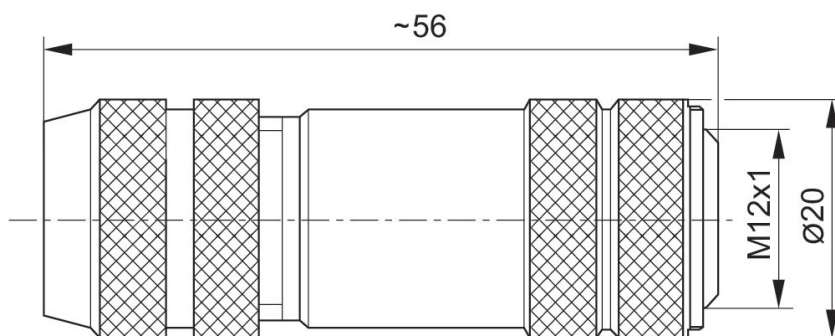
Housing material
Brass

Part No.
8942051602

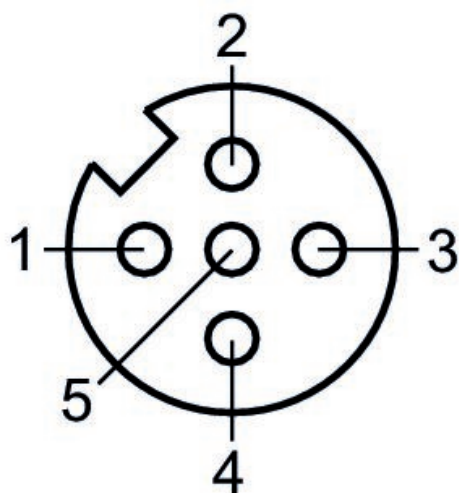
Technical information

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

Dimensions



Pin assignment, socket

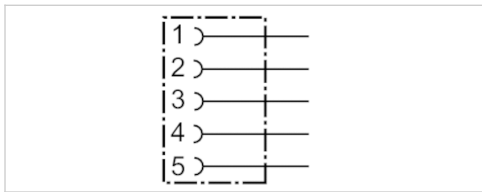


Round plug connector, Series CON-RD

- Socket, M12x1, 5-pin, B-coded, straight, 180°
- for PROFIBUS DP
- UL (Underwriters Laboratories)
- shielded



Connection type	Screws
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.06 kg



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8941054044	4 A	6 / 8 mm

Technical information

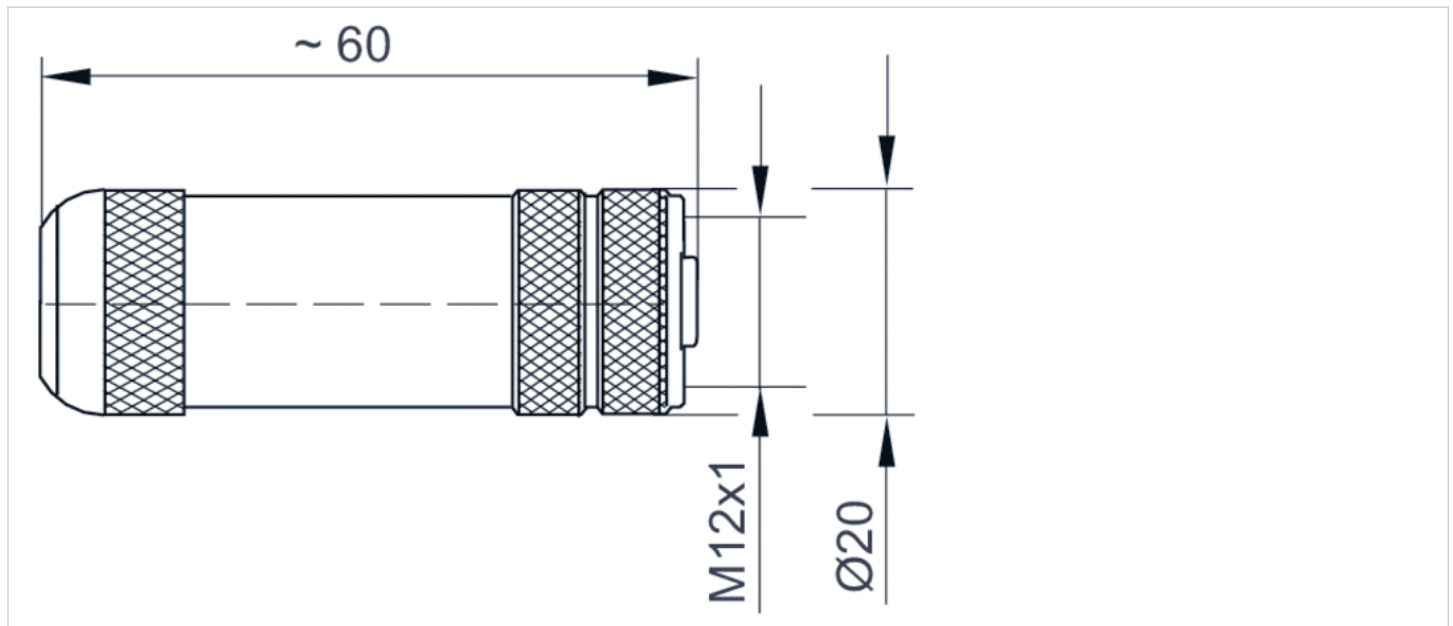
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated
Seals	Fluorocarbon caoutchouc

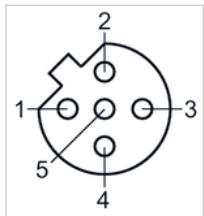
Dimensions

Dimensions



Pin assignments

Pin assignment, socket



Data final plug, Series CON-RD

- Plug, M12x1, 4-pin, B-coded, straight, 180°
- for PROFIBUS DP



Ambient temperature min./max.	-25 ... 80 °C
Protection class	IP67
Weight	0.013 kg



Technical data

Part No.
8941054064

Technical information

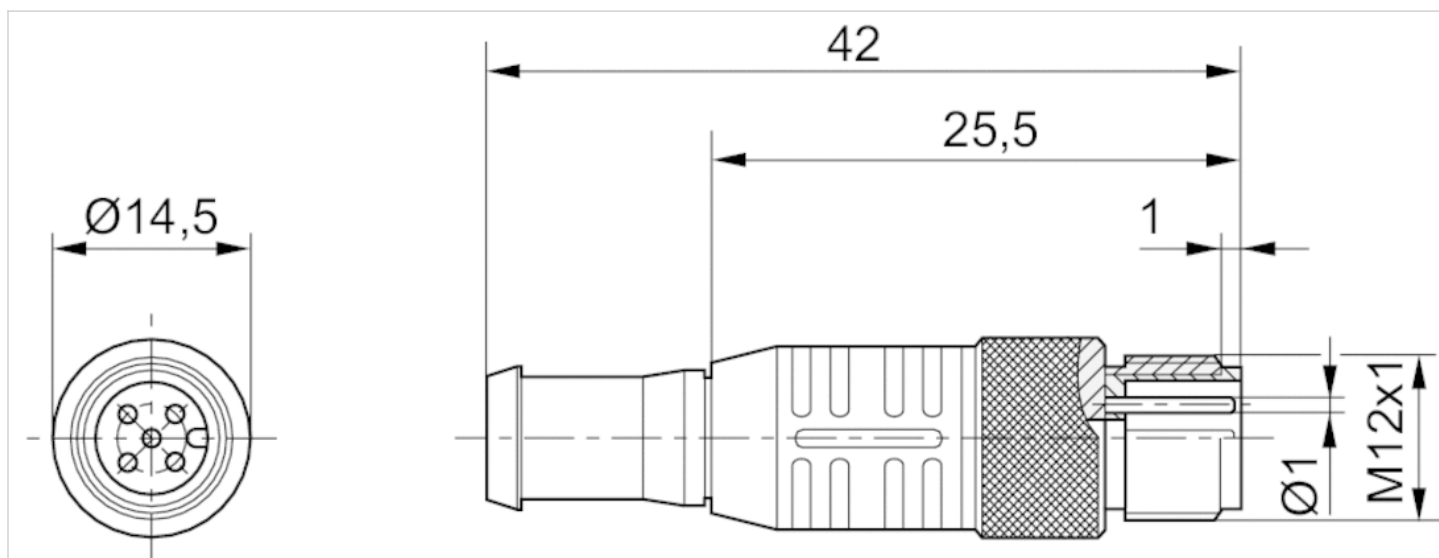
The specified protection class is only valid in assembled and tested state.
 PROFIBUS DP bus termination plug

Technical information

Material	
Housing	Thermoplastic elastomer

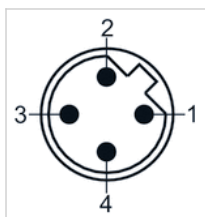
Dimensions

Dimensions



Pin assignments

Plug pin assignment



Data final plug, Series CON-RD

- Plug, M12x1, 5-pin, A-coded, straight, 180°

- for CANopen, DeviceNet



Ambient temperature min./max.	0 ... 60 °C
Protection class	IP67
Weight	0.011 kg



Technical data

Part No.
8941054264

Technical information

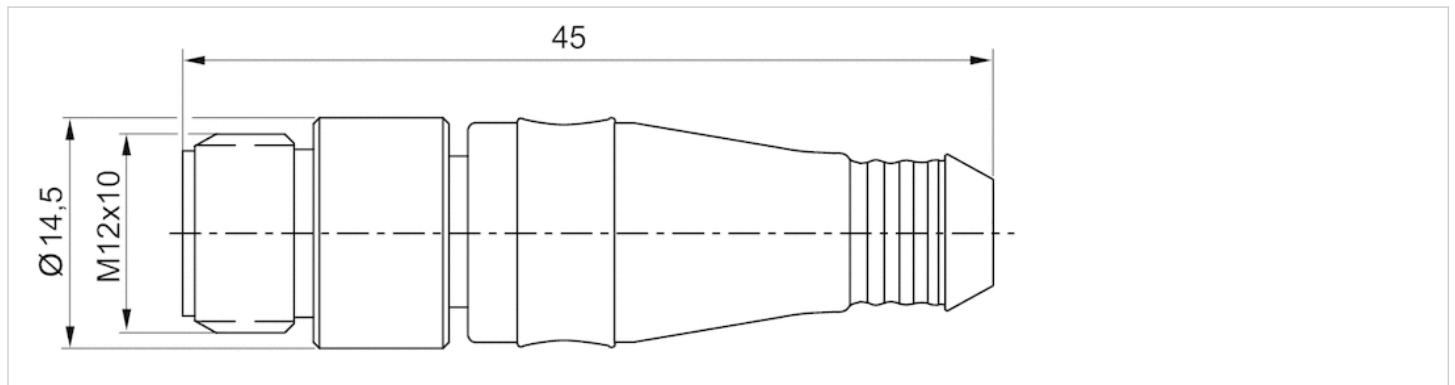
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer

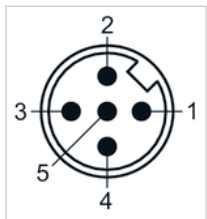
Dimensions

Dimensions



Pin assignments

Plug pin assignment



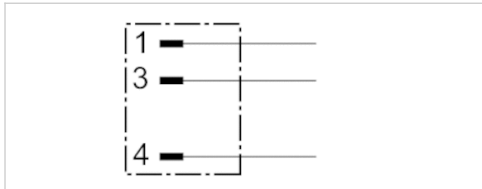
Round plug connector, Series CON-RD

- Plug, M8x1, 3-pin, A-coded, straight, 180°

- unshielded



Connection type	Screws
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.01 kg



Technical data

Part No.	Max. current	Contact assignment	suitable cable-Ø min./max
R412021676	4 A	3	3.5 / 5 mm

Technical information

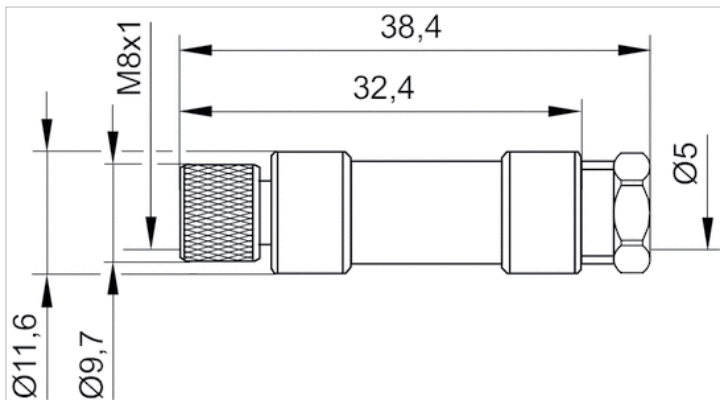
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

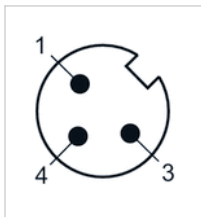
Dimensions

Dimensions



Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

- Plug, M8x1, 3-pin, A-coded, angled, 90°

- unshielded



Connection type

Ambient temperature min./max.

Operational
voltage

Protection class

Weight

Screws

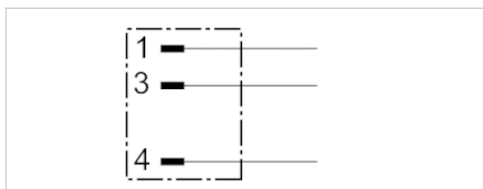
-25 ... 85 °C

48 V AC/DC

IP67

0.01 kg

The delivered product may vary from that in the illustration.



Technical data

Part No.	Max. current	Contact assignment	suitable cable-Ø min./max
R412021677	4 A	3	3.5 / 6 mm

Technical information

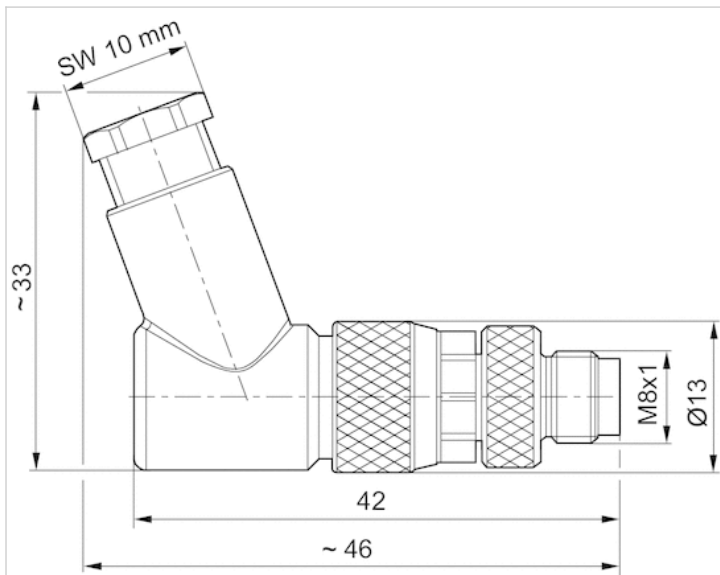
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

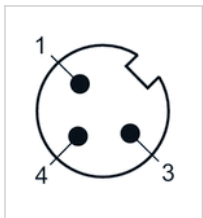
Dimensions

Dimensions



Pin assignments

Plug pin assignment

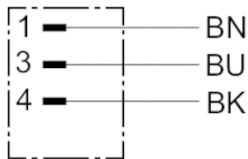


Round plug connector, Series CON-RD

- Plug M8x1 3-pin A-coded angled 90°
- open cable ends
- with cable
- suitable for dynamic laying
- unshielded



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.25 mm ²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length	Weight
R412021678	4 A	3	41 mm	4.1 mm	2 m	0.06 kg
R412021679	4 A	3	41 mm	4.1 mm	5 m	0.121 kg
R412021680	4 A	3	41 mm	4.1 mm	10 m	0.224 kg

suitable for dynamic laying

Technical information

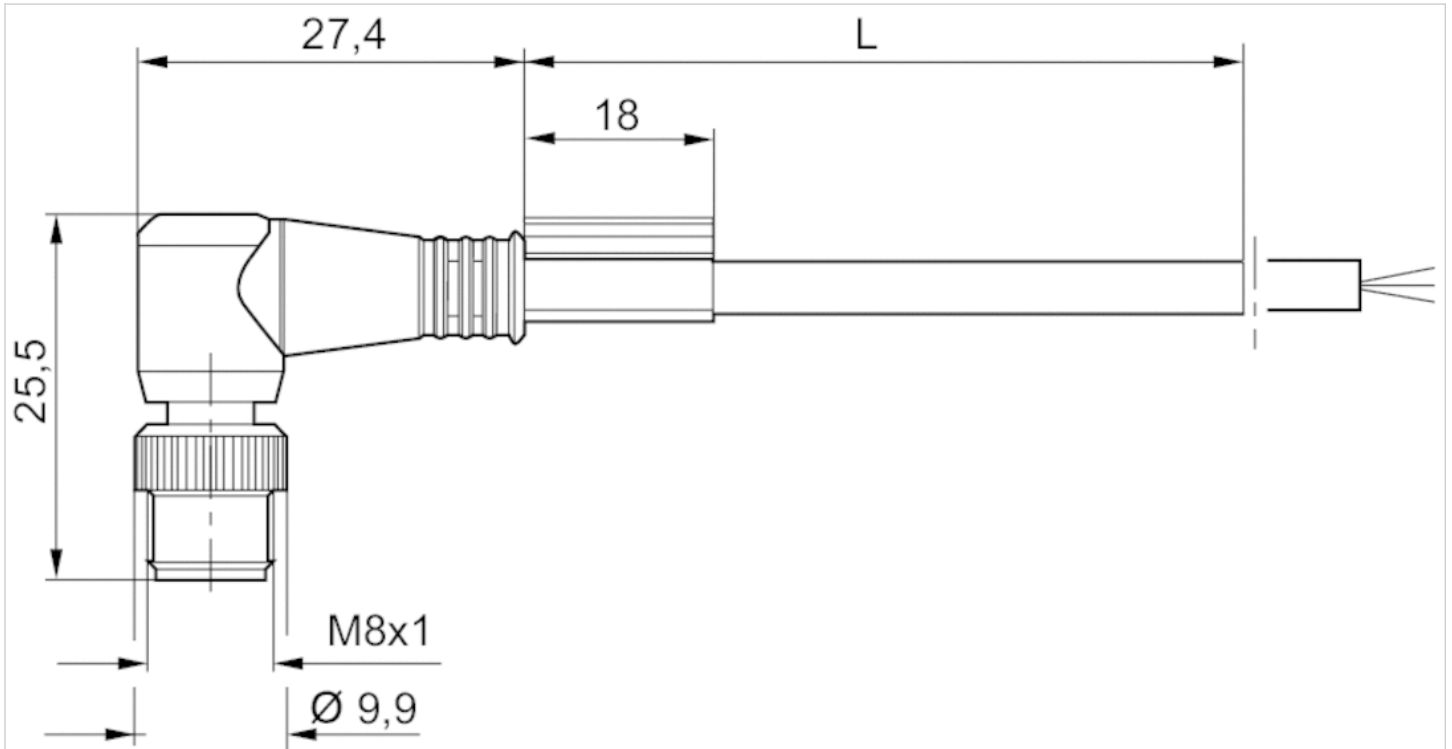
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

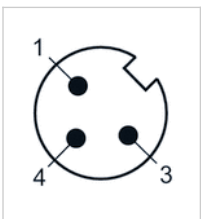
Dimensions



L = length

Pin assignments

Plug pin assignment



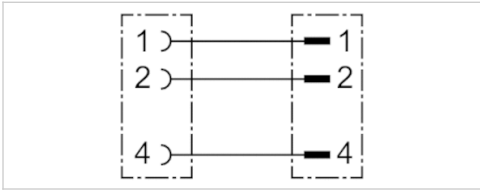
- (1) BN=brown
- (3) BU=blue
- (4) BK=black

Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded straight 180°
- Plug M8x1 3-pin A-coded angled 90°
- with cable
- suitable for dynamic laying
- unshielded



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.25 mm ²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length	Weight
R412021681	4 A	3	41 mm	4.1 mm	1 m	0.045 kg
R412021682	4 A	3	41 mm	4.1 mm	2 m	0.064 kg
R412021683	4 A	3	41 mm	4.1 mm	5 m	0.131 kg

suitable for dynamic laying

Technical information

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

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

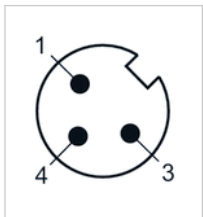
Dimensions



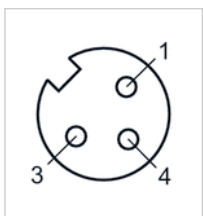
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket

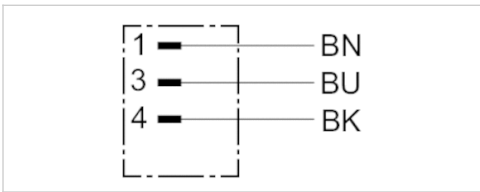


Round plug connector, Series CON-RD

- Plug M8x1 3-pin A-coded straight 180°
- open cable ends
- with cable
- unshielded



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	30 V AC/DC
Protection class	IP67
Wire cross-section	0.25 mm ²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
8946203602	3 A	3	4.5 mm	3 m	0.06 kg
8946203612	3 A	3	4.5 mm	5 m	0.143 kg
8946203622	3 A	3	4.5 mm	10 m	0.281 kg

Technical information

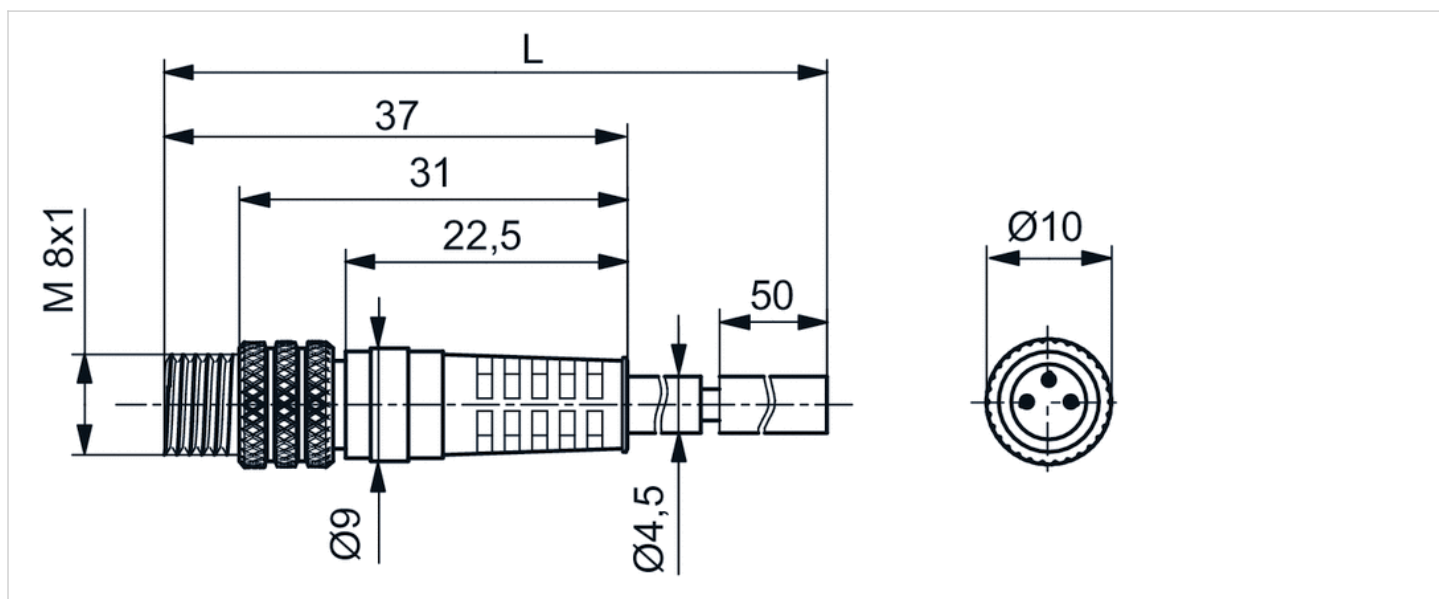
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyvinyl chloride

Dimensions

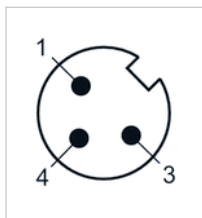
Dimensions



L = length

Pin assignments

Plug pin assignment



- (1) BN=brown
- (3) BU=blue
- (4) BK=black

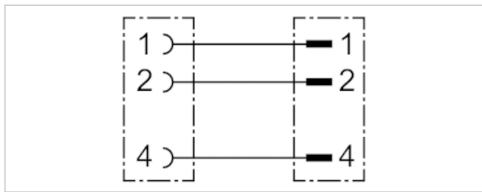
Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded straight 180°
- Plug A-coded straight 180°
- with cable
- unshielded



Protection class
Weight

IP68
See table below



Technical data

Part No.	Number of wires	Cable-Ø	Cable length	Weight
8946203702	3	4.5 mm	1 m	0.038 kg
8946203712	3	4.5 mm	2 m	0.067 kg
8946203722	3	4.5 mm	5 m	0.148 kg

Technical information

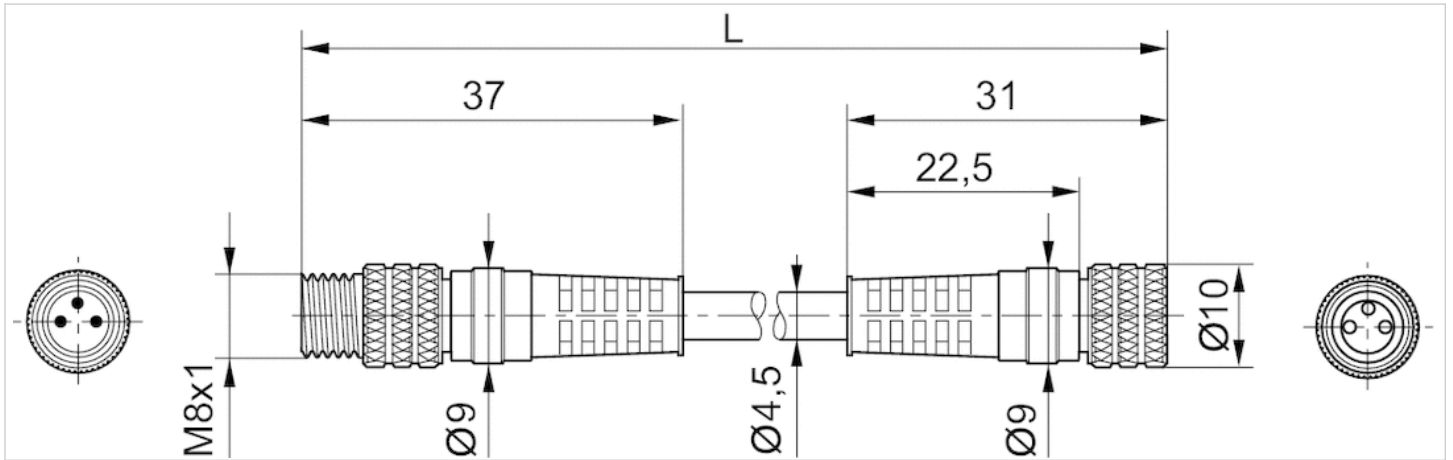
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

Dimensions



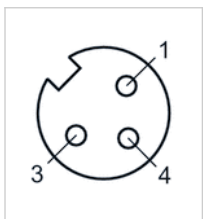
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket

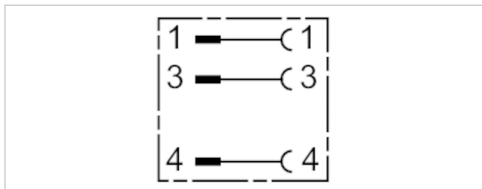


Adapter, Series CON-AP

- Socket, M12x1, 3-pin, A-coded, straight, 180°
- Plug, M8x1, 3-pin, A-coded, straight, 180°
- unshielded



Ambient temperature min./max.	-25 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.013 kg



Technical data

Part No.	Max. current	Contact assignment
R412021684	4 A	3

Technical information

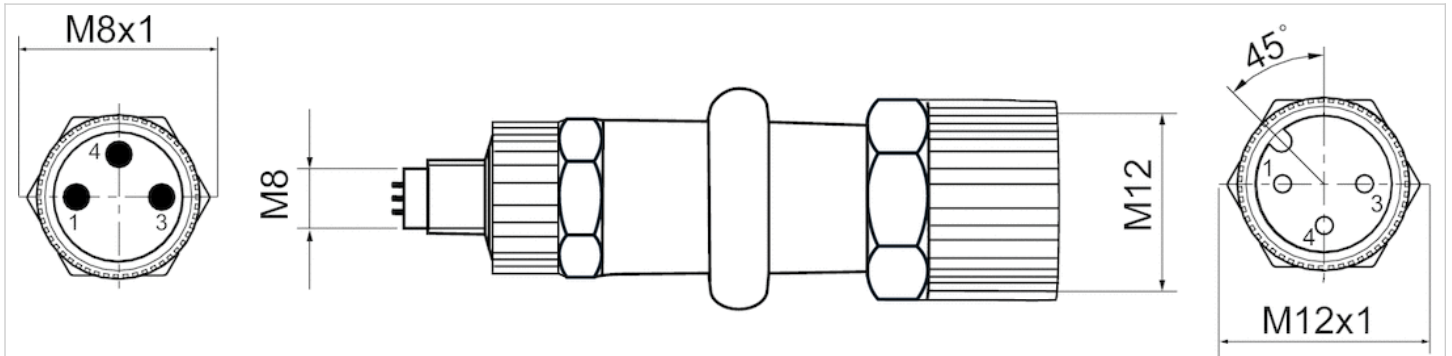
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane

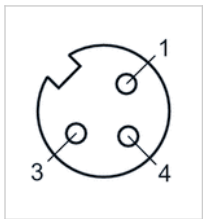
Dimensions

Dimensions

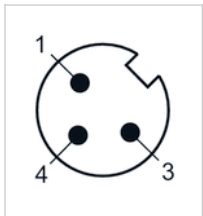


Pin assignments

Pin assignment, socket



Plug pin assignment



Round plug connector, Series CON-RD

- Plug, M12x1, 4-pin, A-coded, angled, 90° Plug, M12x1, 4-pin, A-coded, straight, 180°
- UL (Underwriters Laboratories)
- unshielded



Connection type	Screws
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	See table below

The delivered product may vary from that in the illustration.



Technical data

Part No.	Electrical connection	Max. current	suitable cable-Ø min./max	Weight
	1			
1834484223	Plug M12x1 4-pin A-coded angled 90°	4 A	4 / 6 mm	0.02 kg
1834484246	Plug M12x1 4-pin A-coded straight 180°	4 A	2.1 / 3 mm	0.024 kg

Part No.	Fig.
1834484223	Fig. 1
1834484246	Fig. 2

For the duo plug, the cable diameter to be used varies between 2.1 ... 3.0 mm and 4.0 ... 5.0 mm depending on the seal used.

Technical information

The specified protection class is only valid in assembled and tested state.
Included: 2 seals for 2 cables each with Ø 2.1 mm ... 3.0 mm and Ø 4.0 mm ... 5.0 mm .

Technical information

Material	
Housing	Polyamide

Dimensions

Fig. 1

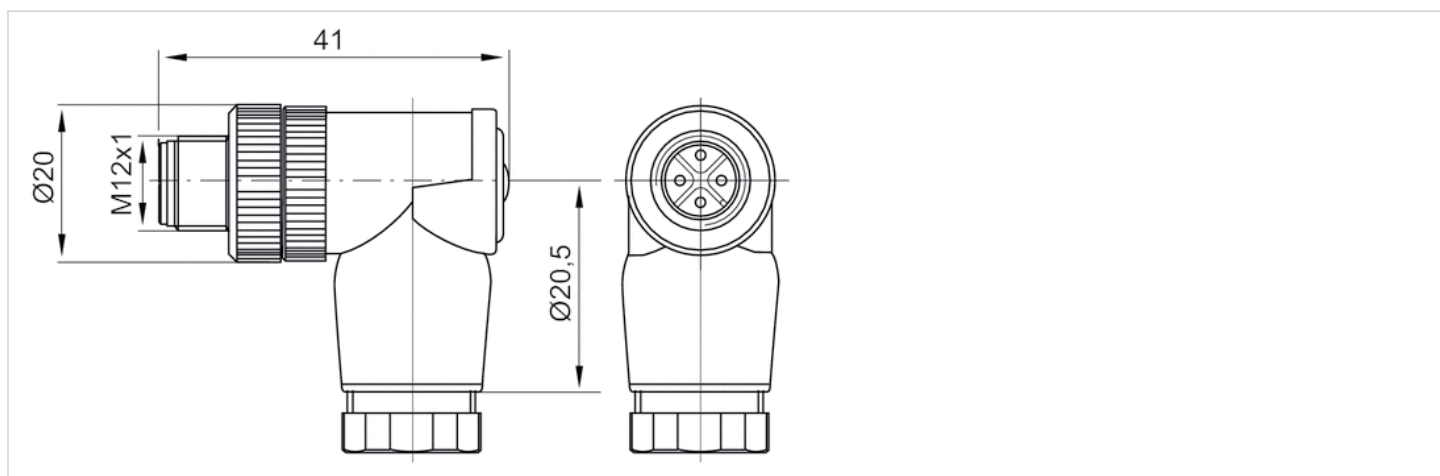
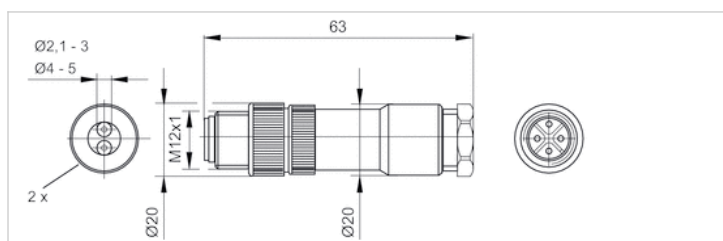


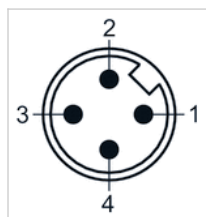
Fig. 2



duo plug

Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

- Plug, M12x1, 4-pin, A-coded, straight, 180°
- UL (Underwriters Laboratories)
- unshielded



Connection type	Screws
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.016 kg



Technical data

Part No.	Max. current	suitable cable-Ø min./max
1834484222	4 A	4 / 6 mm

Technical information

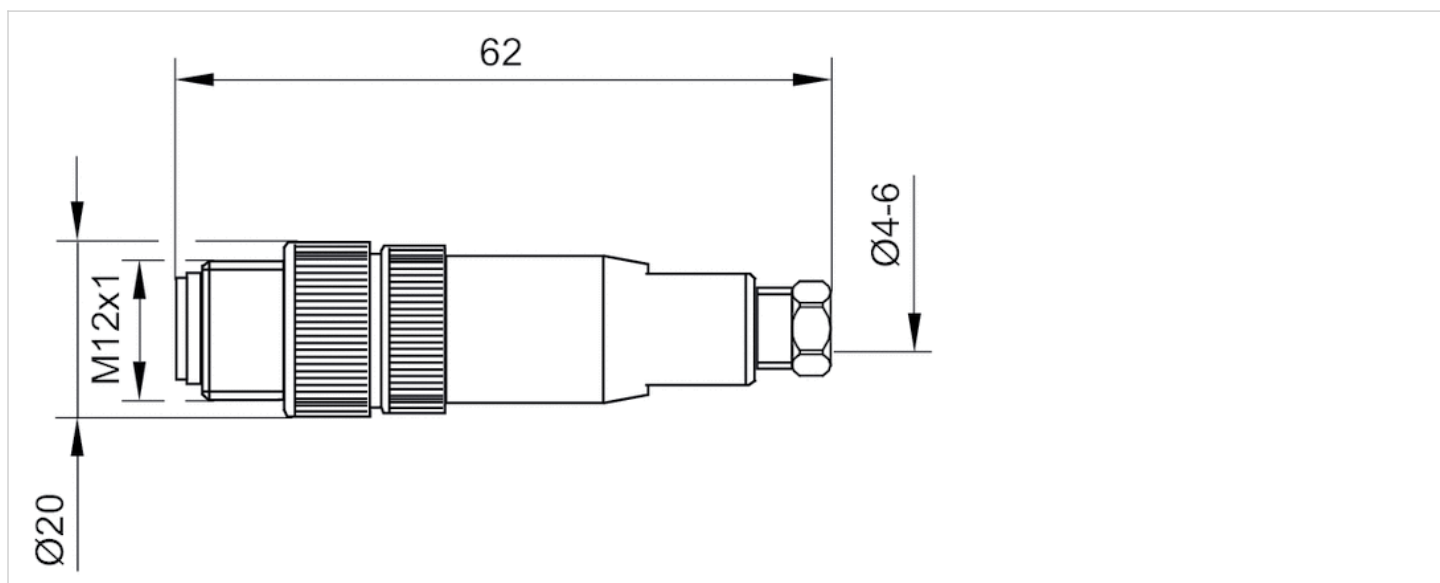
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

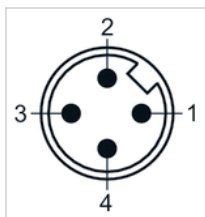
Dimensions

Dimensions



Pin assignments

Plug pin assignment



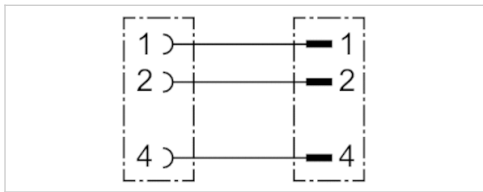
Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded straight 180°
- Plug M12x1 3-pin A-coded straight 180°
- with cable
- unshielded



Protection class
Weight

IP68
0.073 kg
The delivered product may vary from that in the illustration.



Technical data

Part No.	Number of wires	Cable length
8946203462	3	2 m

Technical information

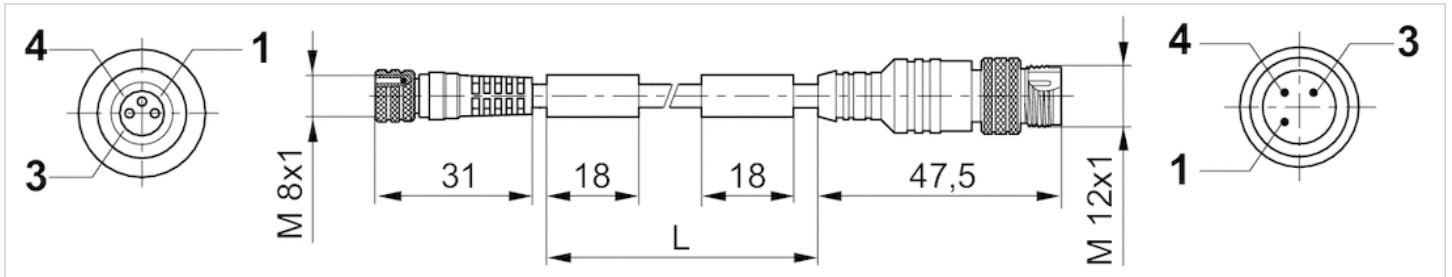
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

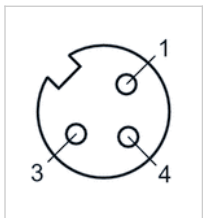
Dimensions



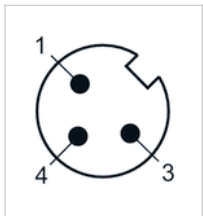
L = length

Pin assignments

Pin assignment, socket



Plug pin assignment

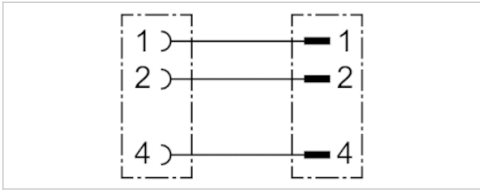


Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded straight 180°
- Plug M12x1 3-pin A-coded angled 90°
- with cable
- suitable for dynamic laying
- unshielded



Ambient temperature min./max.	See table below
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.25 mm ²
Mounting screw tightening torque	0.5 Nm
Weight	See table below
	The delivered product may vary from that in the illustration.



Technical data

Part No.	Ambient temperature min./max.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length
R412021696	-25 ... 80 °C	4 A	3	41 mm	4.1 mm	2 m
R412021697	-20 ... 80 °C	4 A	3	41 mm	4.1 mm	5 m

Part No.	Weight
R412021696	0.077 kg
R412021697	0.135 kg

suitable for dynamic laying

Technical information

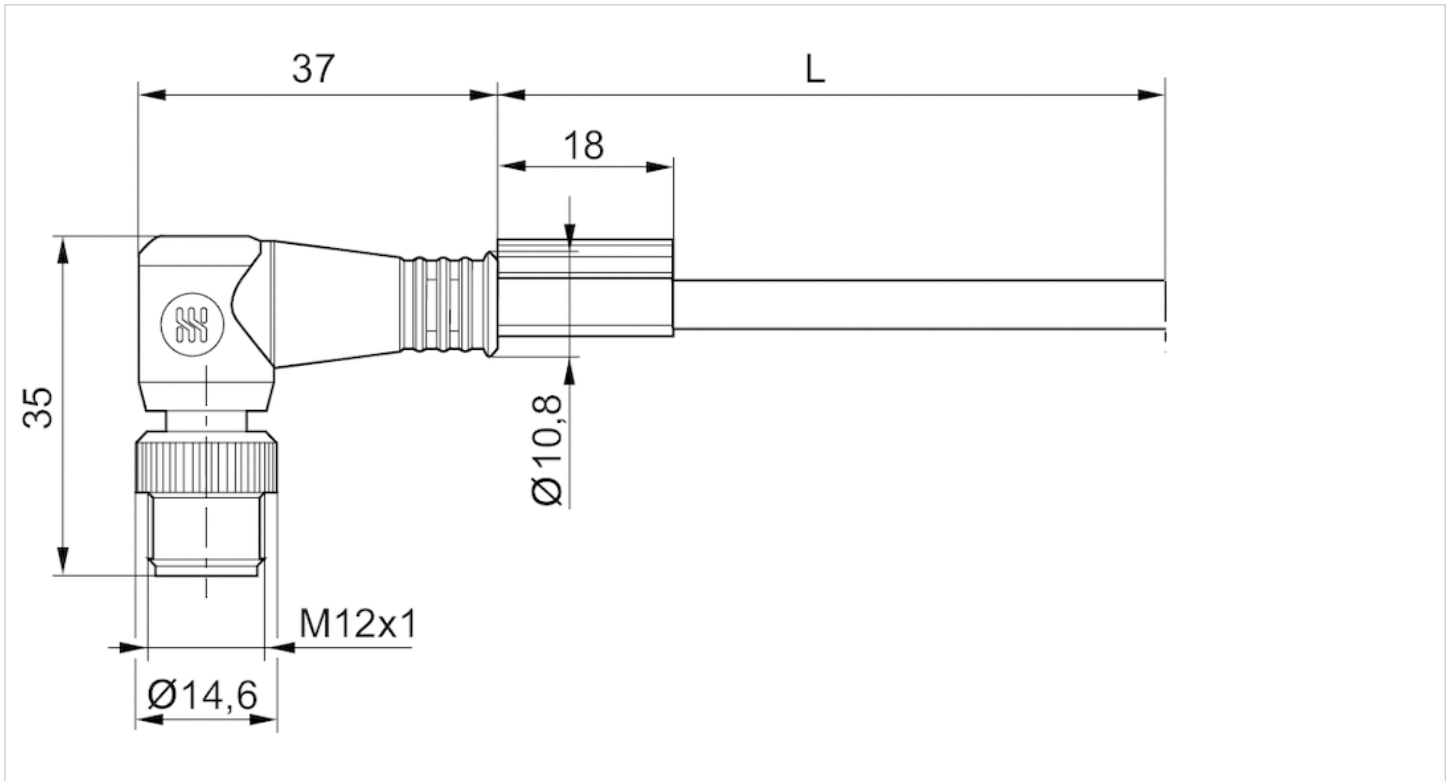
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

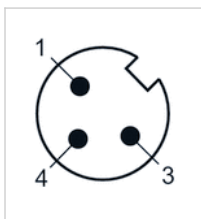
Dimensions



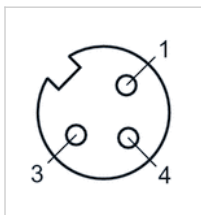
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket

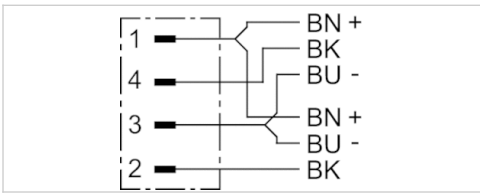


Y-Plug connector, series CON-RD

- Plug M12x1 4-pin A-coded straight 180°
- 2 x open cable ends 3-pin
- 3-pin
- with cable
- unshielded



Ambient temperature min./max.	-40 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.34 mm ²
Mounting screw tightening torque	0.8 Nm
Weight	0.122 kg



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length
R412021688	4 A	4	4.3 mm	2 m

with self-clinching screw

Technical information

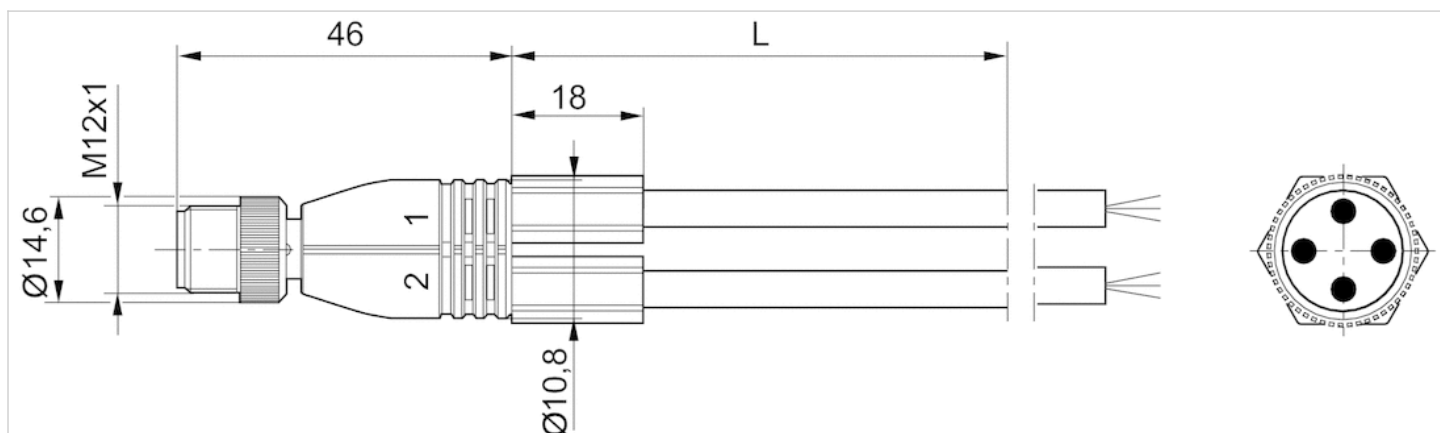
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

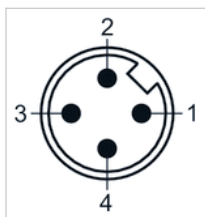
Dimensions



L = length

Pin assignments

Plug pin assignment



Line 1: (1) BN = brown, (3) BU =blue, (4) BK = black

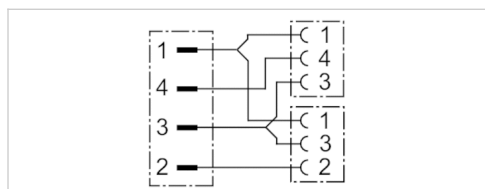
Line 2: (1) BN = brown, (3) BU =blue, (2) BK = black

Y-Plug connector, series CON-RD

- Plug M12x1 4-pin A-coded straight 180°
- Socket M8x1 3-pin A-coded straight 180°
- with cable
- unshielded



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.25 mm ²
Mounting screw tightening torque	0.8 Nm
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
R412021685	4 A	3	4.1 mm	0.6 m	0.064 kg
R412021687	4 A	3	4.1 mm	3 m	0.167 kg

Technical information

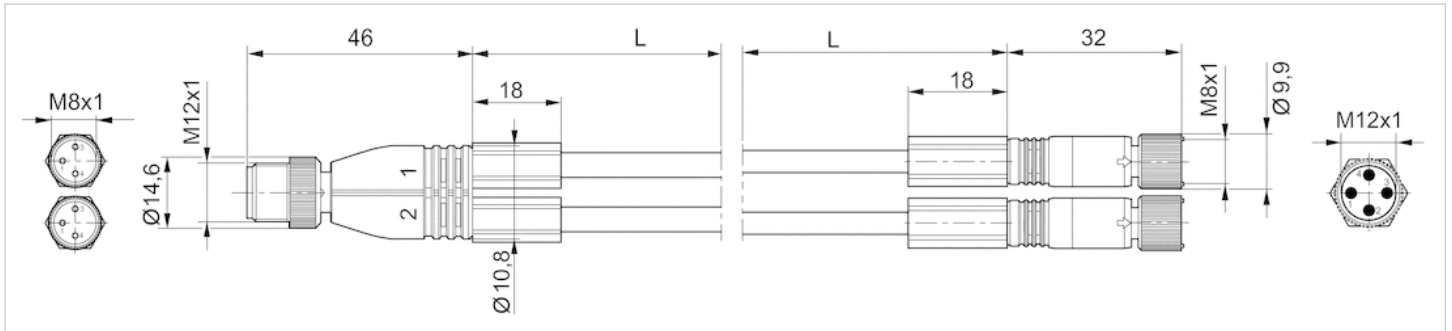
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

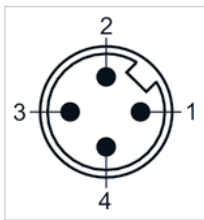
Dimensions



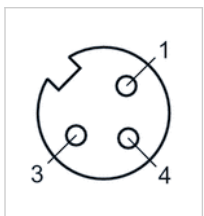
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket



Round plug connector, Series CON-RD

- Plug M12x1 5-pin A-coded straight 180°
- open cable ends 5-pin
- with cable
- unshielded

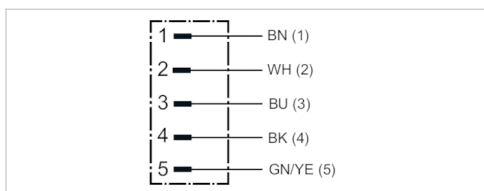


Protection class
Weight

IP68

See table below

The delivered product may vary from that in the illustration.



Technical data

Part No.	Number of wires	Cable length	Weight
8946203432	5	2 m	0.102 kg
8946203442	5	5 m	0.238 kg

with self-clinching screw

Technical information

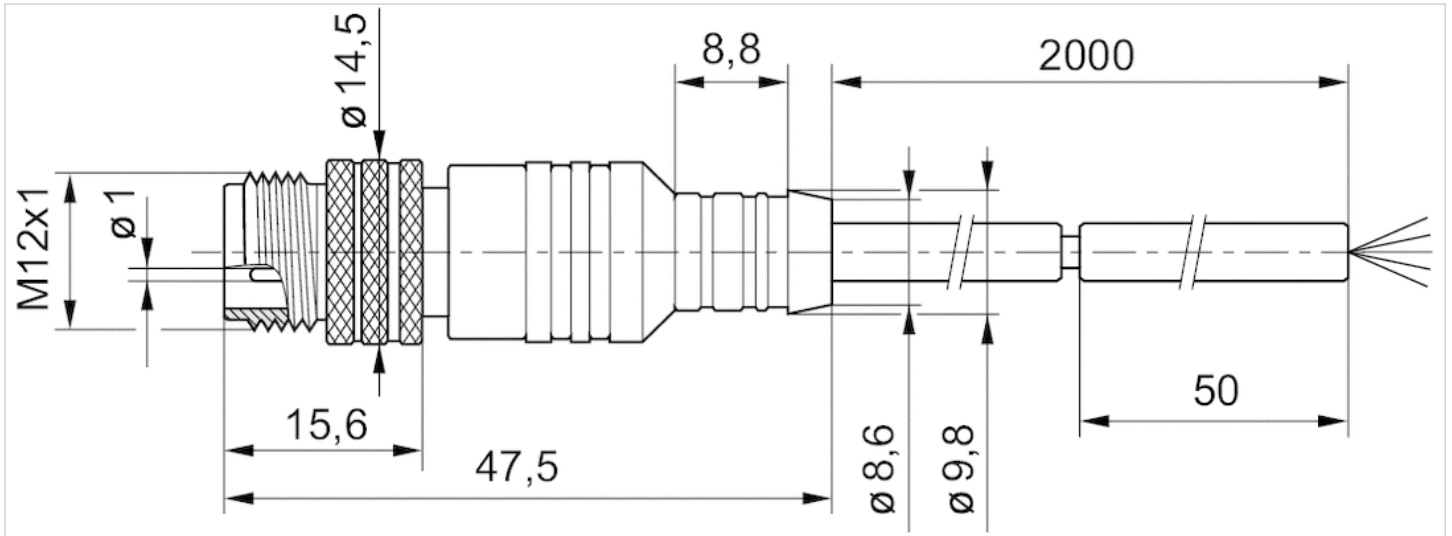
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

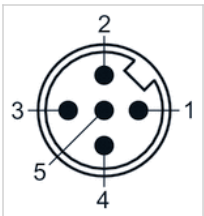
Dimensions



L = length

Pin assignments

Plug pin assignment



- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GRN-Y=green-yellow

Round plug connector, Series CON-RD

- Plug M12x1 5-pin A-coded angled 90°
- open cable ends 5-pin
- with cable
- suitable for dynamic laying
- unshielded



Ambient temperature min./max.	See table below
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.34 mm ²
Mounting screw tightening torque	0.8 Nm
Weight	See table below



Technical data

Part No.	Ambient temperature min./max.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length
R412021691	-40 ... 85 °C	4 A	5	50 mm	5 mm	2 m
R412021692	-40 ... 85 °C	4 A	5	50 mm	5 mm	5 m
R412021693	-25 ... 85 °C	4 A	5	50 mm	5 mm	10 m

Part No.	Weight
R412021691	0.093 kg
R412021692	0.2 kg
R412021693	0.381 kg

suitable for dynamic laying

Technical information

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

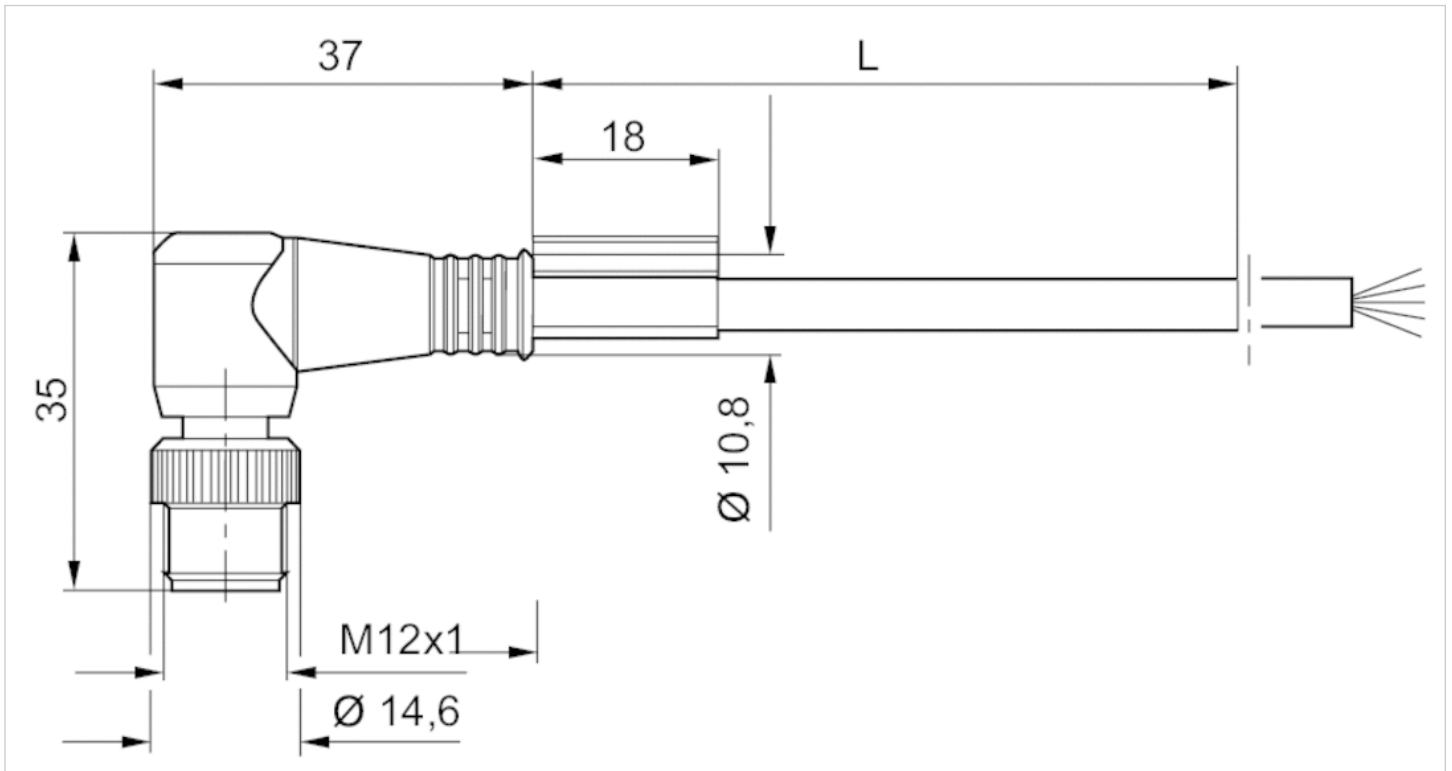
Technical information

Material

Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

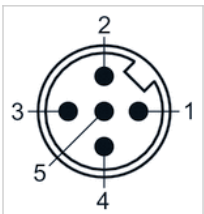
Dimensions



L = length

Pin assignments

Plug pin assignment



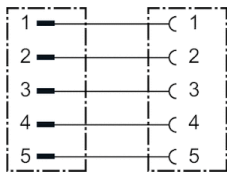
- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=grey

Round plug connector, Series CON-RD

- Socket M12x1 5-pin A-coded straight 180°
- Plug M12x1 5-pin A-coded angled 90°
- with cable
- suitable for dynamic laying
- unshielded



Ambient temperature min./max.	-25 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.34 mm ²
Mounting screw tightening torque	0.8 Nm
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length	Weight
R412021694	4 A	5	50 mm	5 mm	2 m	0.114 kg
R412021695	4 A	5	50 mm	5 mm	5 m	0.217 kg

suitable for dynamic laying

Technical information

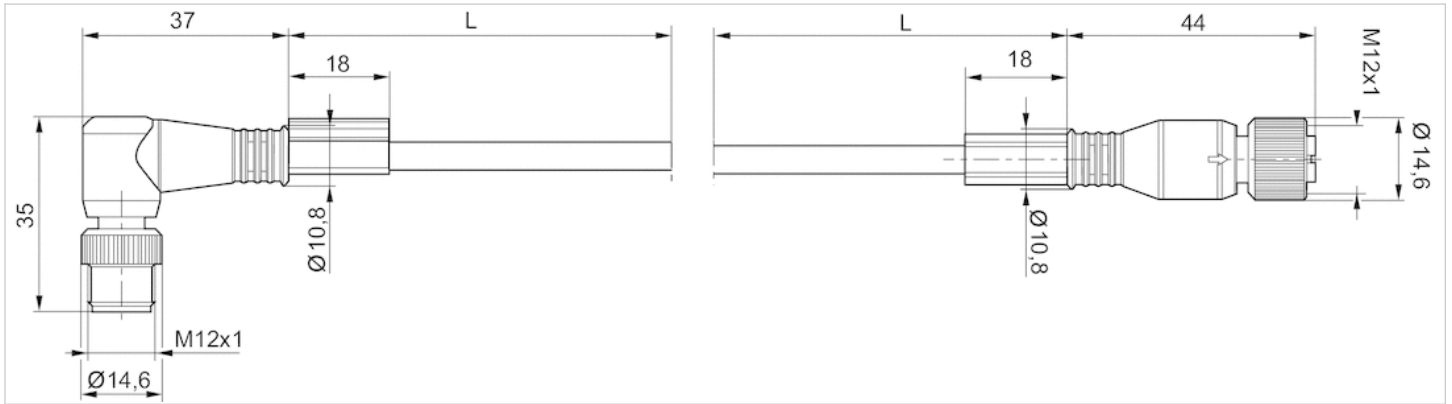
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

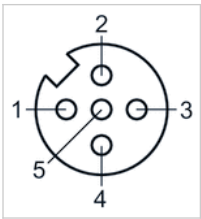
Dimensions



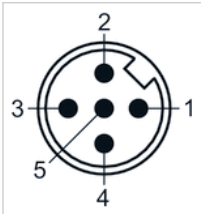
L = length

Pin assignments

Pin assignment, socket



Plug pin assignment

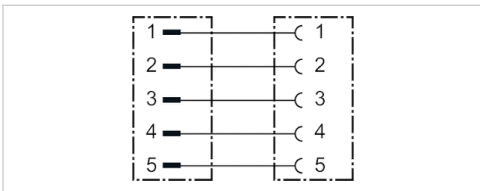


Round plug connector, Series CON-RD

- Socket M12x1 5-pin A-coded straight 180°
- Plug M12x1 5-pin A-coded angled 90°
- with cable
- suitable for dynamic laying
- shielded



Ambient temperature min./max.	-20 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.34 mm ²
Mounting screw tightening torque	0.8 Nm



Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length
R412022193	4 A	4	54 mm	5.4 mm	2 m

suitable for dynamic laying

Technical information

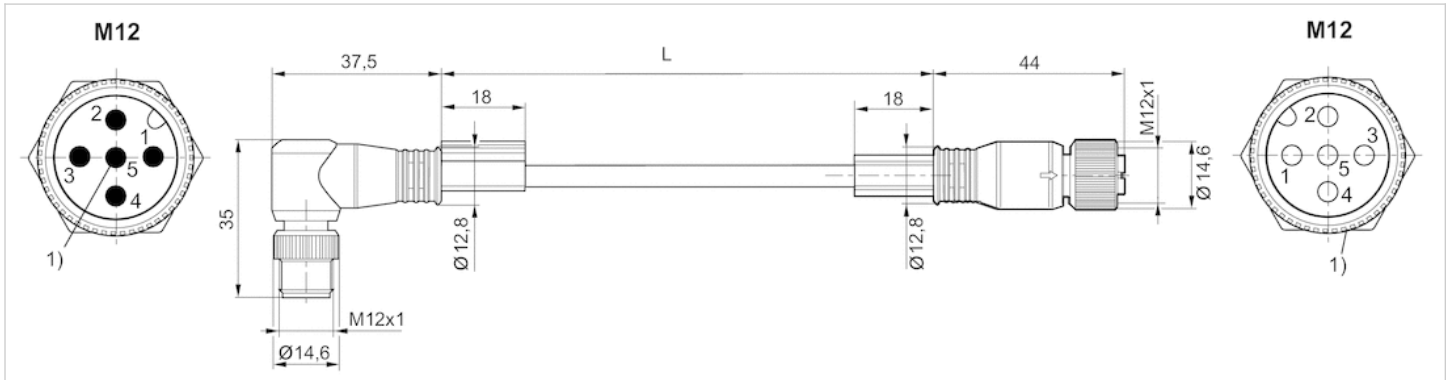
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

Dimensions



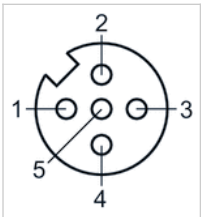
L = length

PIN assignment 1:1

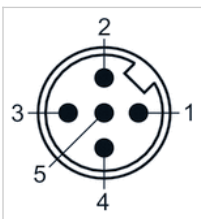
1) Shield is connected to pin 5 of the plug and the knurled screw of the socket.

Pin assignments

Pin assignment, socket



Plug pin assignment

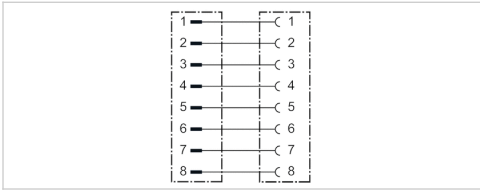


Round plug connector, Series CON-RD

- Socket M12x1 8-pin A-coded straight 180°
- Plug M12x1 8-pin A-coded straight 180°
- with cable
- suitable for dynamic laying
- shielded



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	30 / 36 V AC/DC
Protection class	IP67
Wire cross-section	0.25 mm ²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
8946202802	1.5 A	8	6.6 mm	0.5 m	0.067 kg
8946202812	1.5 A	8	6.6 mm	1 m	0.96 kg
8946202822	1.5 A	8	6.6 mm	2 m	0.161 kg
8946202832	1.5 A	8	6.6 mm	5 m	0.339 kg
8946202842	1.5 A	8	6.6 mm	10 m	0.65 kg

suitable for dynamic laying

Technical information

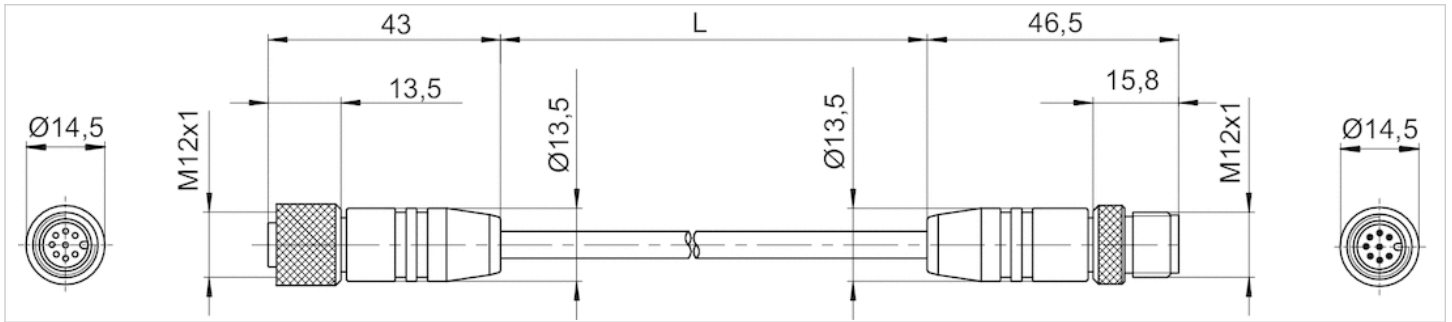
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc
Cable sheath	Polyurethane

Dimensions

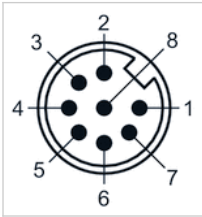
Dimensions



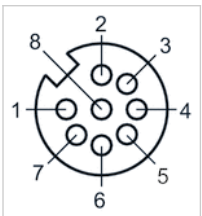
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket

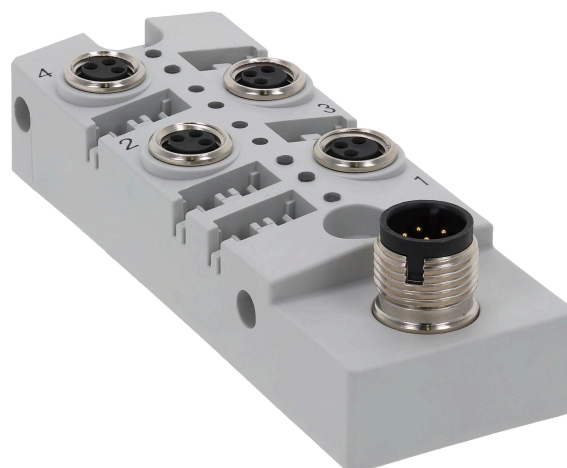


Passive distributor, Series AES

R412028732

General series information
AVENTICS Series AES Field bus modules

- The AVENTICS Series AES fieldbus connection can be integrated into all AVENTICS fieldbus-compatible valve systems or can also be configured as a stand-alone solution. AES connects your AVENTICS valve system to all relevant fieldbus protocols and offers the integration of I/O-modules and enables optimized decentralized wiring of sensors. The integration of the Digital Twin enables users to be IIoT ready and use the AES to solve their interoperability challenges.



Technical data

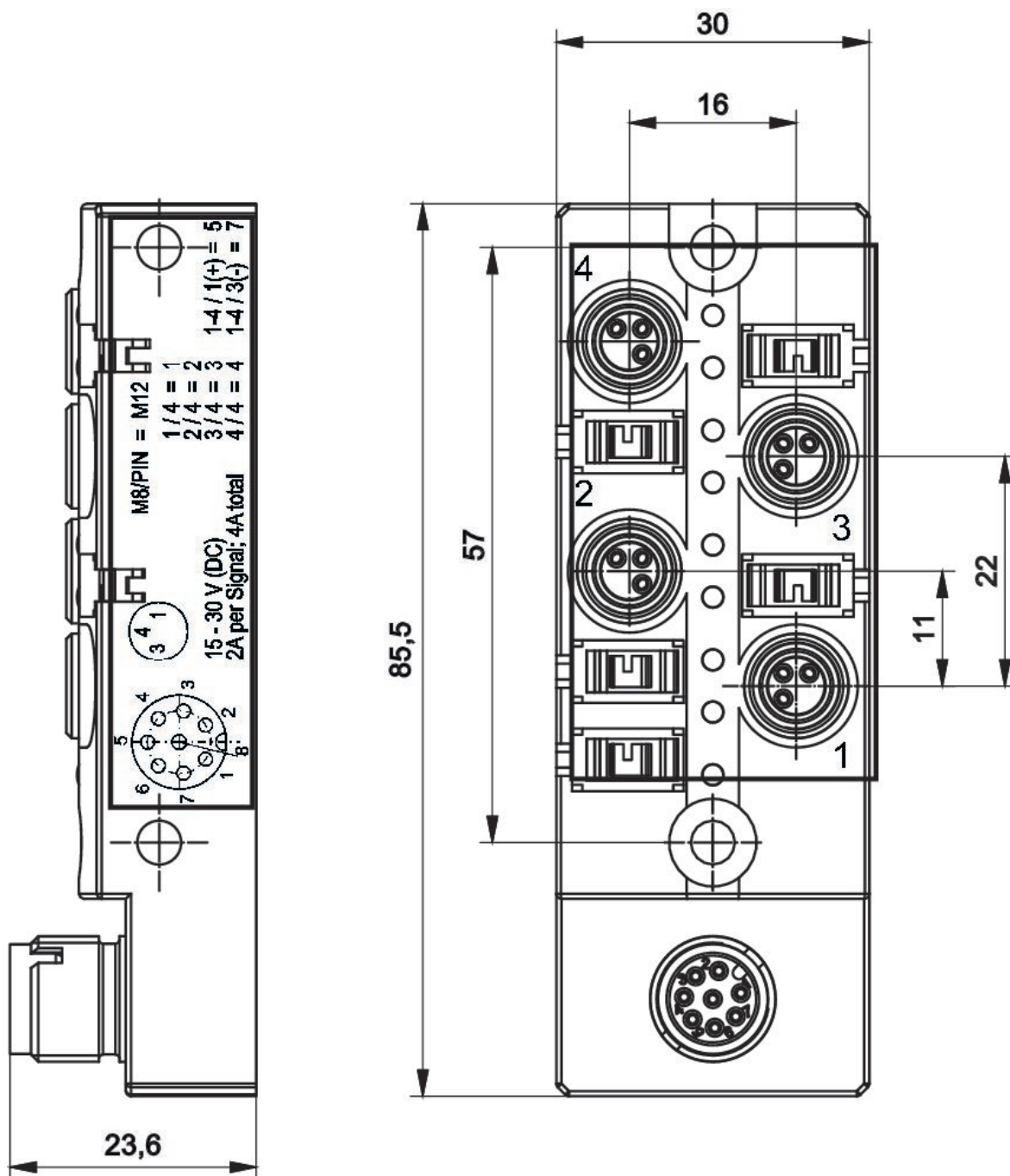
Version	Passive distributor
E/A capable	connection with I/O
Number of I/O connections	4 inputs / 4 outputs
Signal connection E/A type	Socket
Signal connection E/A thread size	M8x1
Signal connection E/A number of poles	3-pin
Min. ambient temperature	-25 °C
Max. ambient temperature	80 °C
Operational voltage electronics	15-30 V DC
Current consumption electronics	2 A
Protection class	IP67
Communication port Type	Plug
Number	1
Communication port, Thread size	M12x1
Communication port, Number of poles	8-pin
Communication port, Coding	A-coded

Material

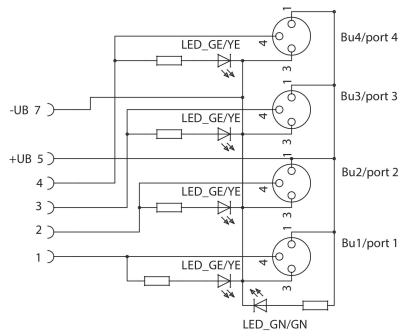
Housing material
Part No.

Polybutyleneterephthalate
R412028732

Dimensions



Circuit diagram

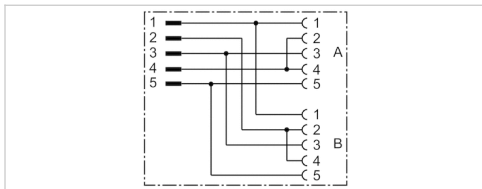


Y-Plug connector, series CON-AP

- Plug, M12x1, 5-pin, A-coded, straight, 180°
- Socket, M12x1, 5-pin, A-coded, straight, 180°
- unshielded



Ambient temperature min./max.	-25 ... 90 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.029 kg
	The delivered product may vary from that in the illustration.



Technical data

Part No.	Max. current
8941002392	4 A

Technical information

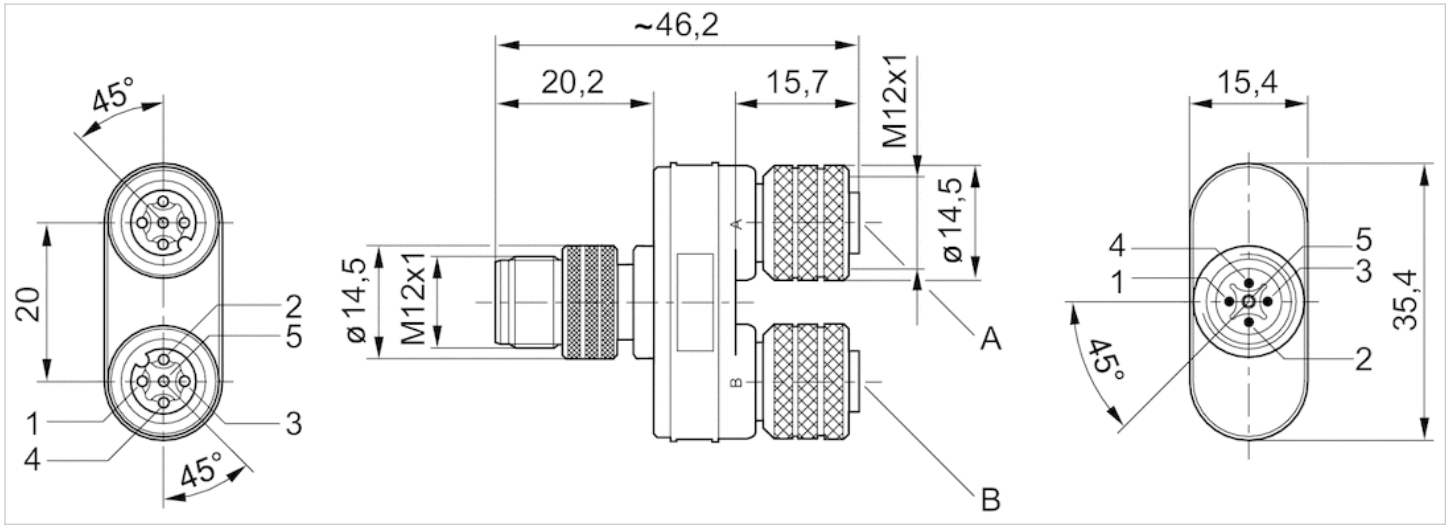
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc

Dimensions

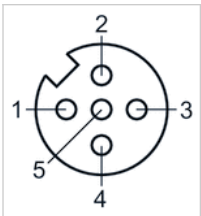
Dimensions



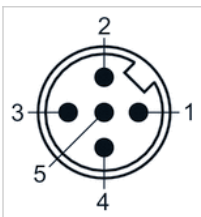
Sockets: Pin 2 and 4 bridged.

Pin assignments

Pin assignment, socket



Plug pin assignment

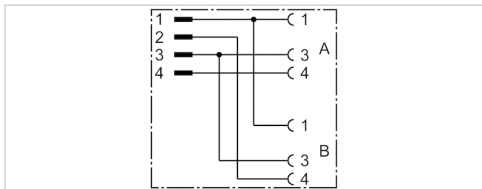


Y-Plug connector, series CON-AP

- Plug, M12x1, 4-pin, A-coded, straight, 180°
- Socket, M8x1, 3-pin, A-coded, straight, 180°
- unshielded



Ambient temperature min./max.	-25 ... 90 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.02 kg
	The delivered product may vary from that in the illustration.



Technical data

Part No.	Max. current
8941002382	4 A

Technical information

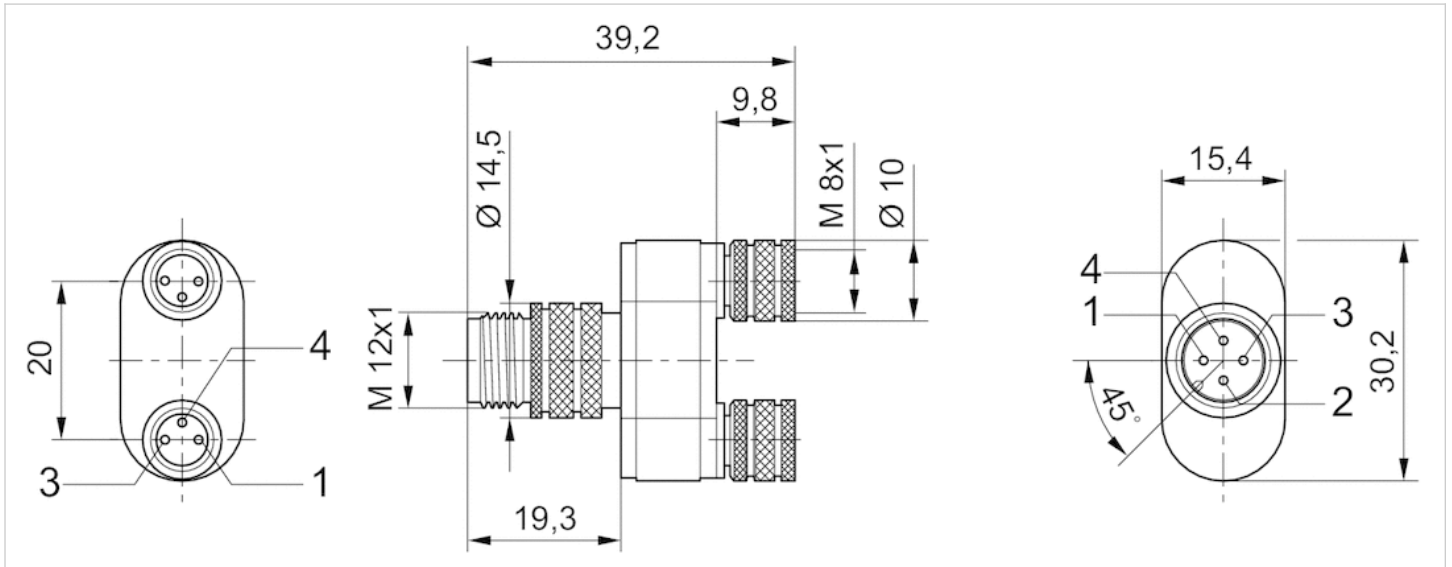
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc

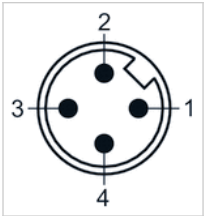
Dimensions

Dimensions

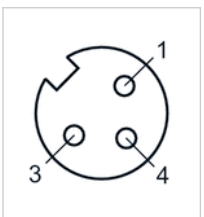


Pin assignments

Plug pin assignment



Pin assignment, socket



Y-Plug connector, series CON-AP

R412028657

Adapter



Technical data

Type	Adapters & contact bridges
Shielding	unshielded
Min. ambient temperature	-25 °C
Max. ambient temperature	90 °C
Max. current	4 A
Protection class	IP67
Operational voltage	30 V AC / 36 V DC
Electrical connection 1, type	Socket
Electrical connection 1, thread size	M12x1
Electrical connection 1, number of poles	5-pin
Electrical connection 1, coding	A-coded
Cable exit	straight
Cable exit angle	180°
Electrical connection 2, type	Plug
Electrical connection 2, thread size	M12x1
Electrical connection 2, number of poles	4-pin
Electrical connection 2, coding	A-coded
Cable exit	straight
Cable exit angle	180°

Electrical connection 3, type	Plug
Electrical connection 3, thread size	M12x1
Electrical connection 3, number of poles	5-pin
Electrical connection 3, coding	A-coded
Cable exit	straight
Cable exit angle	180°

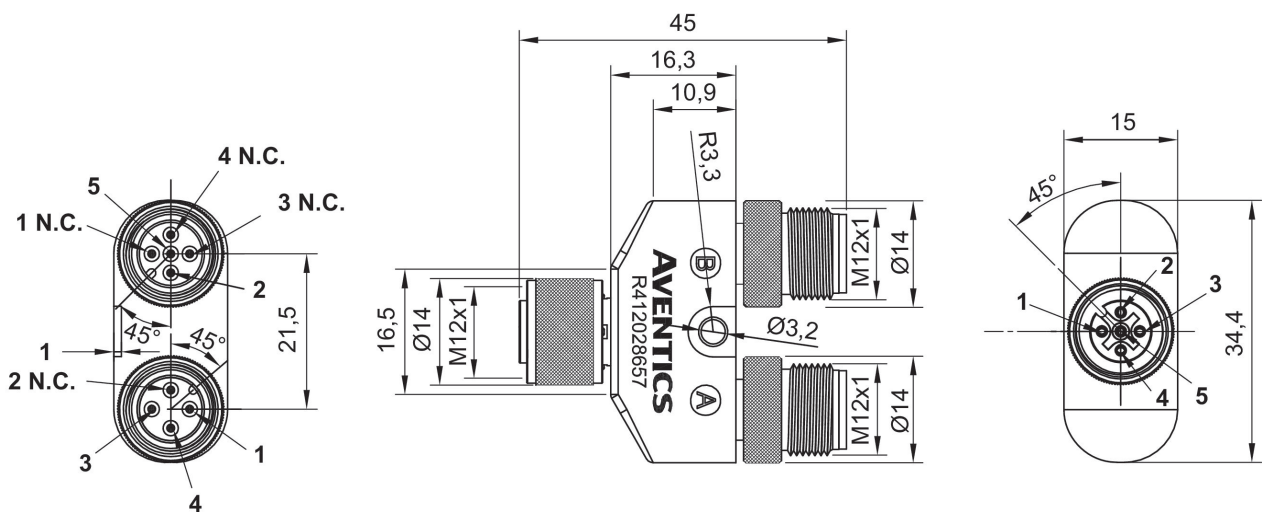
Material

Housing material	Polyurethane
Seal material	Fluorocautchouc
Part No.	R412028657

Technical information

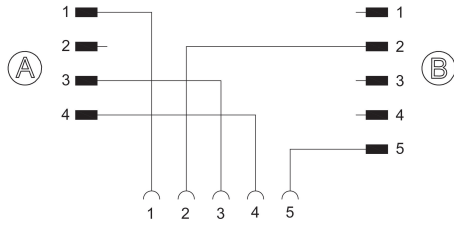
The specified protection class is only valid in assembled and tested state.
For IO-Link Class B supply (external)

Dimensions in mm



A = Electrical connection 2
B = Electrical connection 3

Pin assignments



Pin assignments

Pin	Electrical connection 1	Electrical connection 2 (A)	Electrical connection 3 (B)
1	L+	L+	N.C.
2	UA +24V	N.C.	UA +24V
3	L-	L-	N.C.
4	CQ (IO-Link data)	CQ (IO-Link data)	N.C.
5	UA 0V	N.C.	UA 0V

Multipole plug, series CON-MP

- Plug D-Sub 25-pin angled 90°
- Socket D-Sub 25-pin straight 180°
- with cable
- UL (Underwriters Laboratories)
- unshielded



Ambient temperature min./max.	-20 ... 80 °C
Operational voltage	24 V DC
Protection class	IP67
Wire cross-section	0.2 mm ²
Weight	See table below

Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Certification	Weight
R412020635	3 A	25	8.5 mm	0.5 m	UL (Underwriters Laboratories)	0.205 kg
R412020636	3 A	25	8.5 mm	1 m	UL (Underwriters Laboratories)	0.275 kg
R412020637	3 A	25	8.5 mm	2 m	UL (Underwriters Laboratories)	0.396 kg
R412020638	3 A	25	8.5 mm	5 m	UL (Underwriters Laboratories)	0.756 kg
R412020639	3 A	25	8.5 mm	10 m	UL (Underwriters Laboratories)	1.409 kg

Technical information

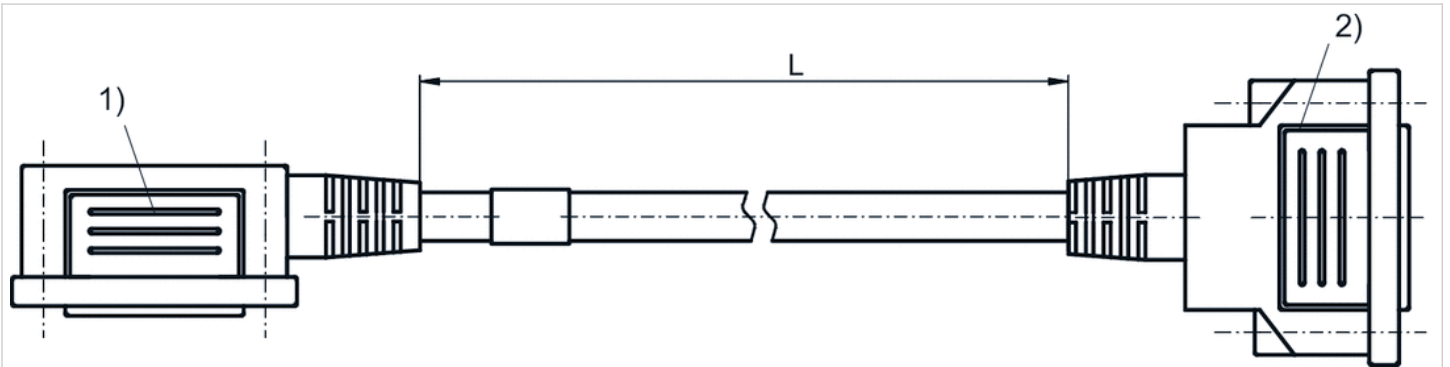
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyvinyl chloride

Dimensions

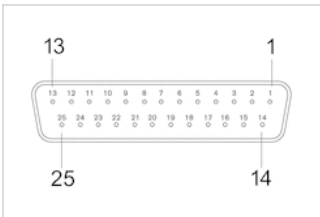
Dimensions



- 1) Port 1 (Plug)
- 2) Port 2 (Socket)

Pin assignments

PIN assignment and cable colors, cable identification as per DIN 47100

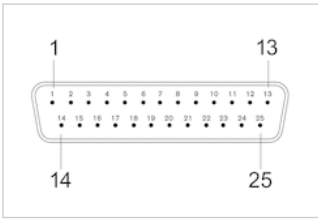


Socket

Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black
10	11	12	13	14	15				
violet	gray/pink	red/blue	white/green	brown/green	white/yellow				
16	17	18	19	20	21				
yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue				
22	23	24	25						
brown/blue	white/red	brown/red	white/black						

Pin assignments

PIN assignment and cable colors, cable identification as per DIN 47100



Plug

Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black
10	11	12	13	14	15				
violet	gray/pink	red/blue	white/green	brown/green	white/yellow				
16	17	18	19	20	21				
yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue				
22	23	24	25						
brown/blue	white/red	brown/red	white/black						

Multipole plug, series CON-MP

- Plug D-Sub 25-pin angled 90°
- Socket D-Sub 25-pin angled 90°
- with cable
- UL (Underwriters Laboratories)
- unshielded



Ambient temperature min./max.	-20 ... 80 °C
Operational voltage	24 V DC
Protection class	IP67
Wire cross-section	0.2 mm ²
Weight	See table below
	The delivered product may vary from that in the illustration.

Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Certification	Weight
R412020630	3 A	25	8.5 mm	0.5 m	UL (Underwriters Laboratories)	0.19 kg
R412020631	3 A	25	8.5 mm	1 m	UL (Underwriters Laboratories)	0.26 kg
R412020632	3 A	25	8.5 mm	2 m	UL (Underwriters Laboratories)	0.383 kg
R412020633	3 A	25	8.5 mm	5 m	UL (Underwriters Laboratories)	0.736 kg
R412020634	3 A	25	8.5 mm	10 m	UL (Underwriters Laboratories)	1.4 kg

Technical information

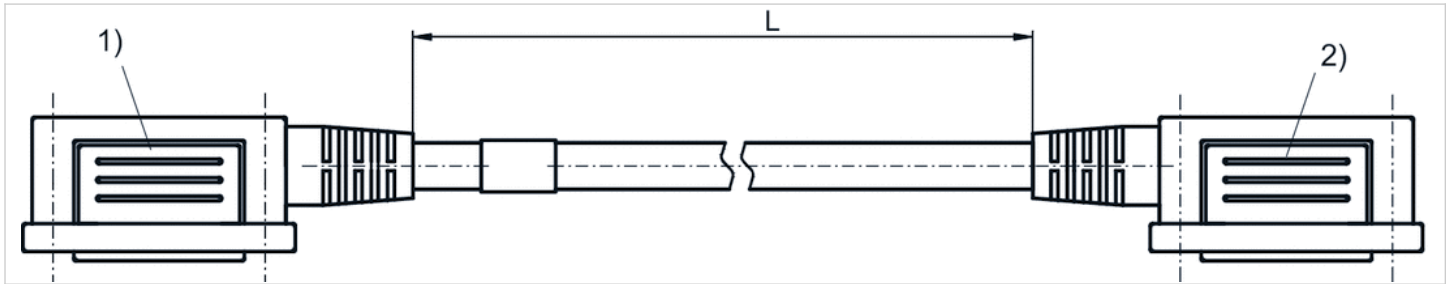
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyvinyl chloride

Dimensions

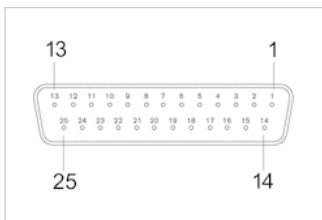
Dimensions



- 1) Port 1 (Plug)
- 2) Port 2 (Socket)

Pin assignments

PIN assignment and cable colors, cable identification as per DIN 47100

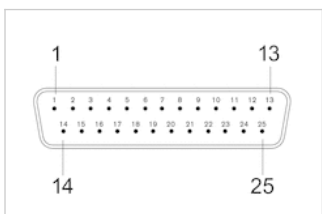


Socket

Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black
10	11	12	13	14	15				
violet	gray/pink	red/blue	white/green	brown/green	white/yellow				
16	17	18	19	20	21				
yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue				
22	23	24	25						
brown/blue	white/red	brown/red	white/black						

Pin assignments

PIN assignment and cable colors, cable identification as per DIN 47100



Plug

Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black
10	11	12	13	14	15				
violet	gray/pink	red/blue	white/green	brown/green	white/yellow				
16	17	18	19	20	21				
yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue				
22	23	24	25						
brown/blue	white/red	brown/red	white/black						

Multipole plug, series CON-MP

- open cable ends 44-pin
- with cable
- unshielded



Ambient temperature min./max.	See table below
Operational voltage	24 V DC
Protection class	IP65
Wire cross-section	0.22 mm ²
Weight	See table below

Technical data

Part No.	Ambient temperature min./max.	Electrical connection	Max. current	Number of wires
		1		
R419500466	-20 ... 80 °C	Socket D-Sub 44-pin straight 180°	3 A	44
R419500467	-20 ... 80 °C	Socket D-Sub 44-pin straight 180°	3 A	44
R419500468	-20 ... 80 °C	Socket D-Sub 44-pin straight 180°	3 A	44
R419500469	-20 ... 80 °C	Socket D-Sub 44-pin straight 180°	3 A	44
R419500470	-20 ... 80 °C	Socket D-Sub 44-pin straight 180°	3 A	44
R419500471	-20 ... 80 °C	Socket D-Sub 44-pin straight 180°	3 A	44
R419500472	-20 ... 80 °C	Socket D-Sub 44-pin angled 90°	3 A	44
R419500473	-20 ... 80 °C	Socket D-Sub 44-pin angled 90°	3 A	44
R419500474	-20 ... 80 °C	Socket D-Sub 44-pin angled 90°	3 A	44
R419500475	-20 ... 80 °C	Socket D-Sub 44-pin angled 90°	3 A	44
R419500476	-20 ... 80 °C	Socket D-Sub 44-pin angled 90°	3 A	44
R419500477	-25 ... 80 °C	Socket D-Sub 44-pin angled 90°	3 A	44

Part No.	Cable sheath	Bending radius min.	Cable-Ø	Cable length	Weight		Fig.
R419500466	Polyvinyl chloride	-	10.7 mm	3 m	0.632 kg	-	Fig. 1
R419500467	Polyvinyl chloride	-	10.7 mm	5 m	1.013 kg	-	Fig. 1
R419500468	Polyvinyl chloride	-	10.7 mm	10 m	1.934 kg	-	Fig. 1
R419500469	Polyurethane	97.5 mm	13 mm	3 m	0.722 kg	1)	Fig. 1
R419500470	Polyurethane	97.5 mm	13 mm	5 m	1.146 kg	1)	Fig. 1
R419500471	Polyurethane	97.5 mm	13 mm	10 m	2.288 kg	1)	Fig. 1
R419500472	Polyvinyl chloride	-	10.7 mm	3 m	0.61 kg	-	Fig. 2
R419500473	Polyvinyl chloride	-	10.7 mm	5 m	1.001 kg	-	Fig. 2
R419500474	Polyvinyl chloride	-	10.7 mm	10 m	1.913 kg	-	Fig. 2
R419500475	Polyurethane	97.5 mm	13 mm	3 m	0.747 kg	1)	Fig. 2
R419500476	Polyurethane	97.5 mm	13 mm	5 m	1.178 kg	1)	Fig. 2
R419500477	Polyurethane	97.5 mm	13 mm	10 m	2.295 kg	1)	Fig. 2

1) suitable for dynamic laying

Technical information

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

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyvinyl chloride Polyurethane

Dimensions

Fig. 1

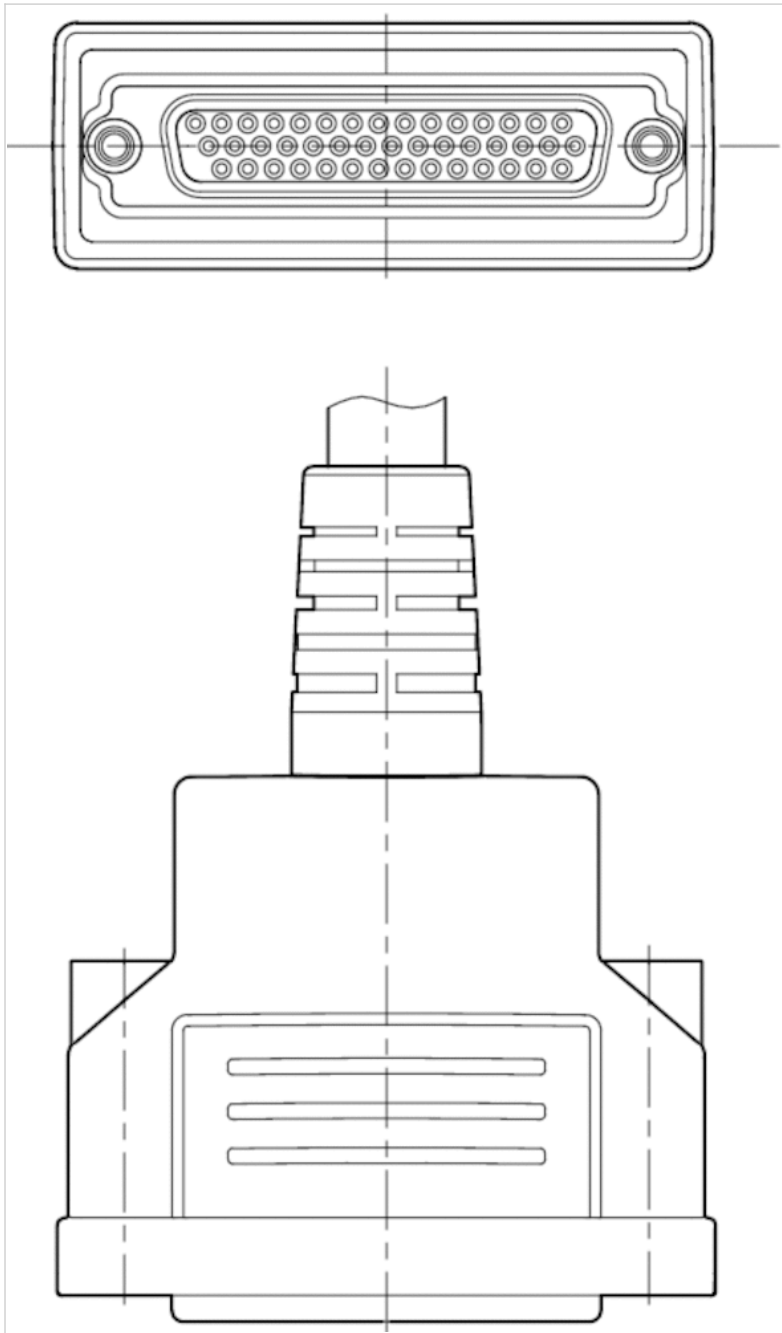
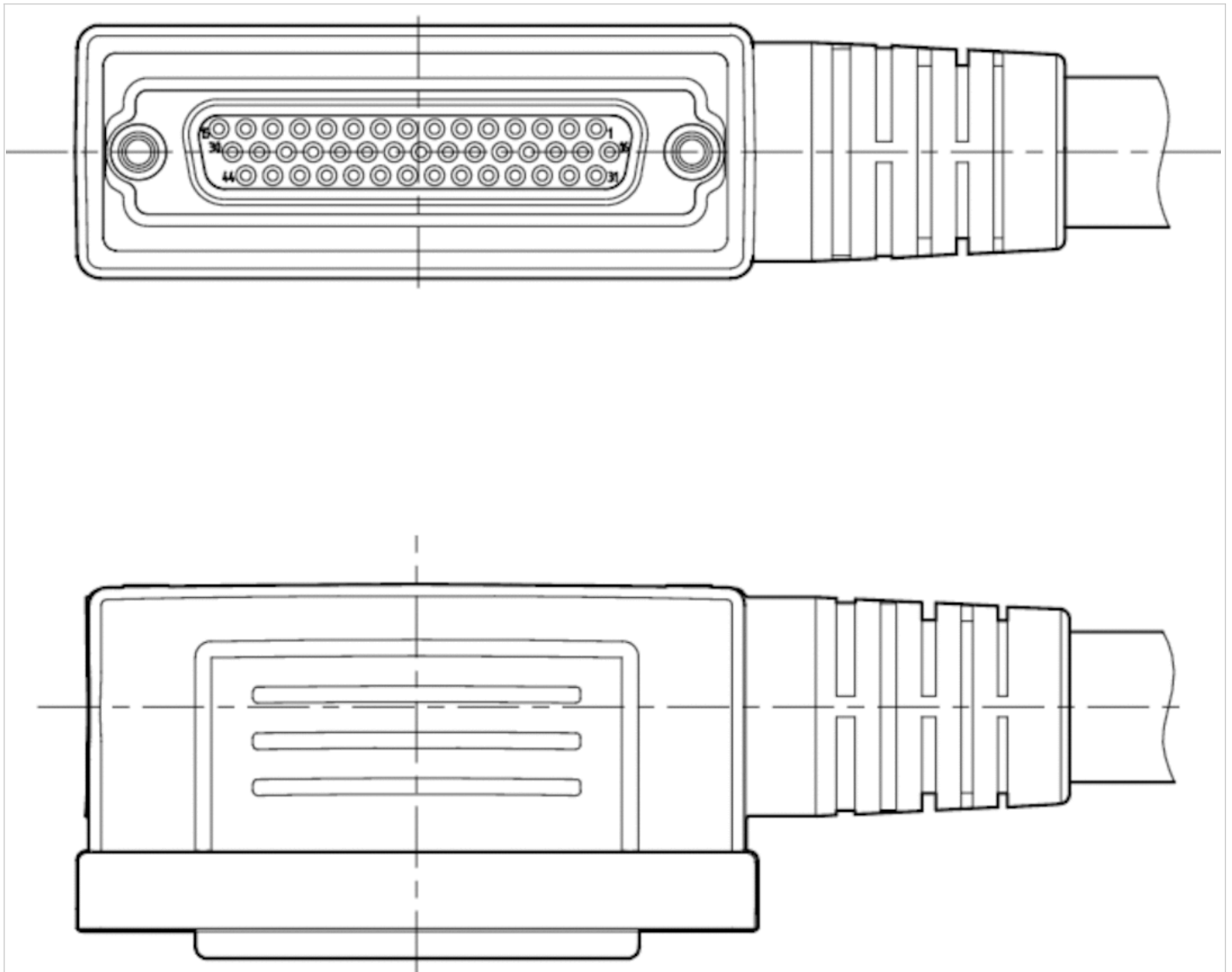
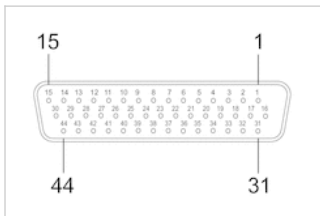


Fig. 2



Pin assignments

PIN assignment and cable colors, cable identification as per DIN 47100



Socket

Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black
10	11	12	13	14	15				
violet	gray/pink	red/blue	white/green	brown/green	white/yellow				
16	17	18	19	20	21				
yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue				
22	23	24	25	26	27				
brown/blue	white/red	brown/red	white/black	brown/black	gray/green				
28	29	30	31	32	33				
yellow/gray	pink/green	yellow/pink	green/blue	yellow/blue	green/red				
34	35	36	37	38	39	40			
yellow/red	gray/black	yellow/black	gray/blue	pink/blue	gray/red	pink/red			
41	42	43	44						
gray/black	pink/black	blue/black	red/black						

Multipole plug, series CON-MP

- open cable ends 25-pin
- with cable
- unshielded



Ambient temperature min./max.	-20 ... 80 °C
Operational voltage	24 V DC
Protection class	IP67
Wire cross-section	0.22 mm ²
Weight	See table below

Technical data

Part No.	Electrical connection	Max. current	Number of wires	Cable sheath
	1			
R419500454	Socket D-Sub 25-pin straight 180°	3 A	25	Polyvinyl chloride
R419500455	Socket D-Sub 25-pin straight 180°	3 A	25	Polyvinyl chloride
R419500456	Socket D-Sub 25-pin straight 180°	3 A	25	Polyvinyl chloride
R412022156	Socket D-Sub 25-pin straight 180°	3 A	25	Polyvinyl chloride
R419500457	Socket D-Sub 25-pin straight 180°	3 A	25	Polyurethane
R419500458	Socket D-Sub 25-pin straight 180°	3 A	25	Polyurethane
R419500459	Socket D-Sub 25-pin straight 180°	3 A	25	Polyurethane
R419500460	Socket D-Sub 25-pin angled 90°	3 A	25	Polyvinyl chloride
R419500461	Socket D-Sub 25-pin angled 90°	3 A	25	Polyvinyl chloride
R419500462	Socket D-Sub 25-pin angled 90°	3 A	25	Polyvinyl chloride
R412022352	Socket D-Sub 25-pin angled 90°	3 A	25	Polyvinyl chloride
R419500463	Socket D-Sub 25-pin angled 90°	3 A	25	Polyurethane
R419500464	Socket D-Sub 25-pin angled 90°	3 A	25	Polyurethane
R419500465	Socket D-Sub 25-pin angled 90°	3 A	25	Polyurethane

Part No.	Bending radius min.	Cable-Ø	Cable length	Weight		Fig.
R419500454	-	8.5 mm	3 m	0.465 kg	-	Fig. 1
R419500455	-	8.5 mm	5 m	0.731 kg	-	Fig. 1
R419500456	-	8.5 mm	10 m	1.373 kg	-	Fig. 1
R412022156	-	8.5 mm	15 m	2.002 kg	-	Fig. 1
R419500457	78.75 mm	10.5 mm	3 m	0.51 kg	1)	Fig. 1
R419500458	78.75 mm	10.5 mm	5 m	0.789 kg	1)	Fig. 1
R419500459	78.75 mm	10.5 mm	10 m	1.491 kg	1)	Fig. 1
R419500460	-	8.5 mm	3 m	0.46 kg	-	Fig. 2
R419500461	-	8.5 mm	5 m	0.707 kg	-	Fig. 2
R419500462	-	8.5 mm	10 m	1.334 kg	-	Fig. 2
R412022352	-	8.5 mm	15 m	1.982 kg	-	Fig. 2

Part No.	Bending radius min.	Cable-Ø	Cable length	Weight		Fig.
R419500463	78.75 mm	10.5 mm	3 m	0.484 kg	1)	Fig. 2
R419500464	78.75 mm	10.5 mm	5 m	0.767 kg	1)	Fig. 2
R419500465	78.75 mm	10.5 mm	10 m	1.461 kg	1)	Fig. 2

1) suitable for dynamic laying

Technical information

The specified protection class is only valid in assembled and tested state.
The increased wire cross-section of pin 25 is 0.82 mm².

Technical information

Material

Housing	Thermoplastic elastomer
Cable sheath	Polyvinyl chloride Polyurethane

Dimensions

Fig. 1

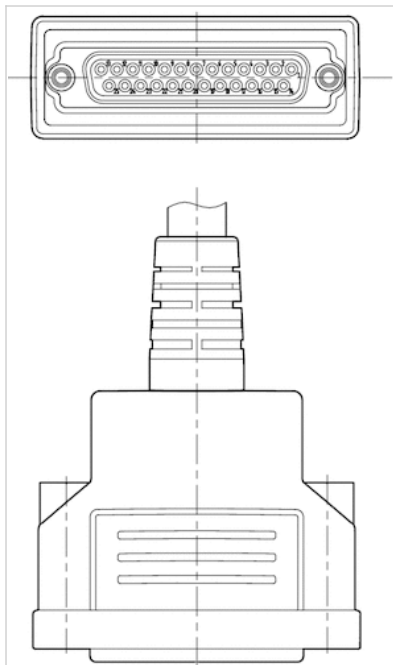
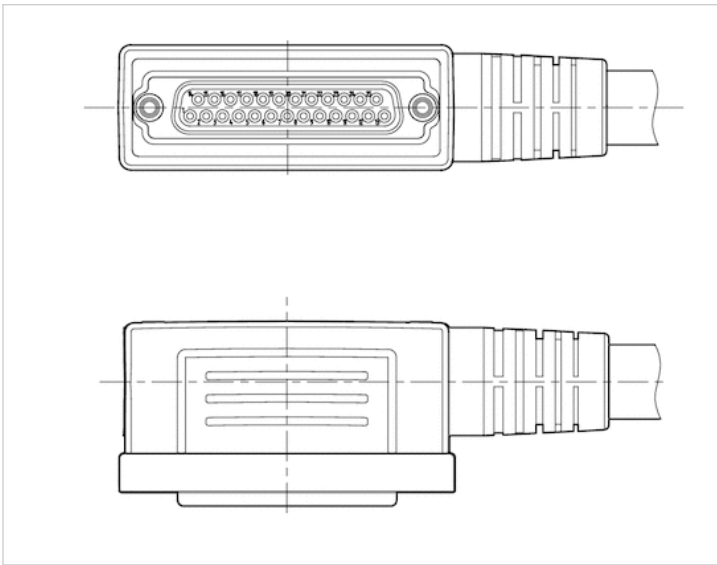
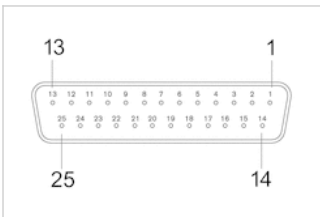


Fig. 2



Pin assignments

PIN assignment and cable colors, cable identification as per DIN 47100



Socket

Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black
10	11	12	13	14	15				
violet	gray/pink	red/blue	white/green	brown/green	white/yellow				
16	17	18	19	20	21				
yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue				
22	23	24	25						
brown/blue	white/red	brown/red	white/black						

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