

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 Q _n | 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

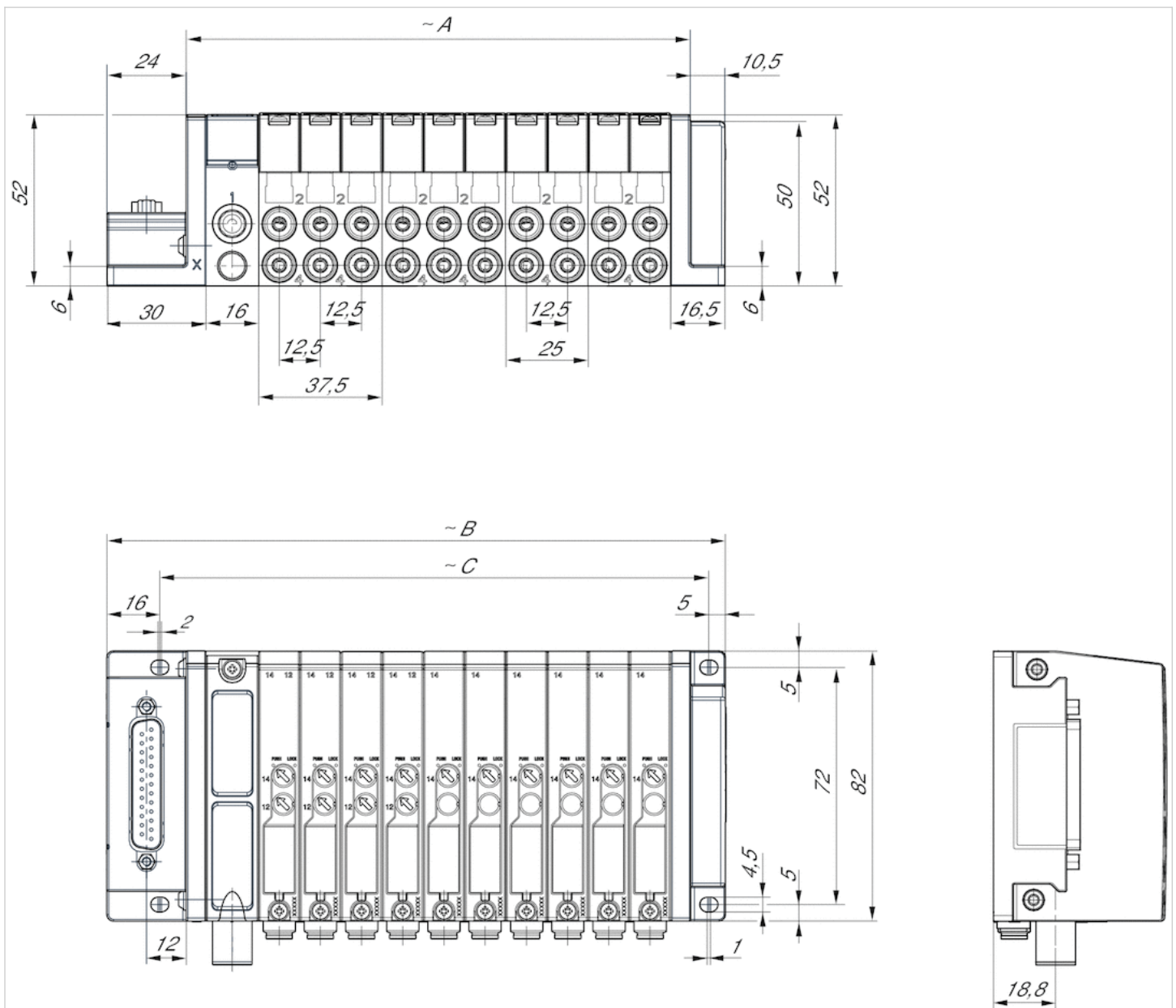
ATEX-certified valve systems with identification II 3G Ex nA IIC Gc can be generated in the Internet configurator.

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)

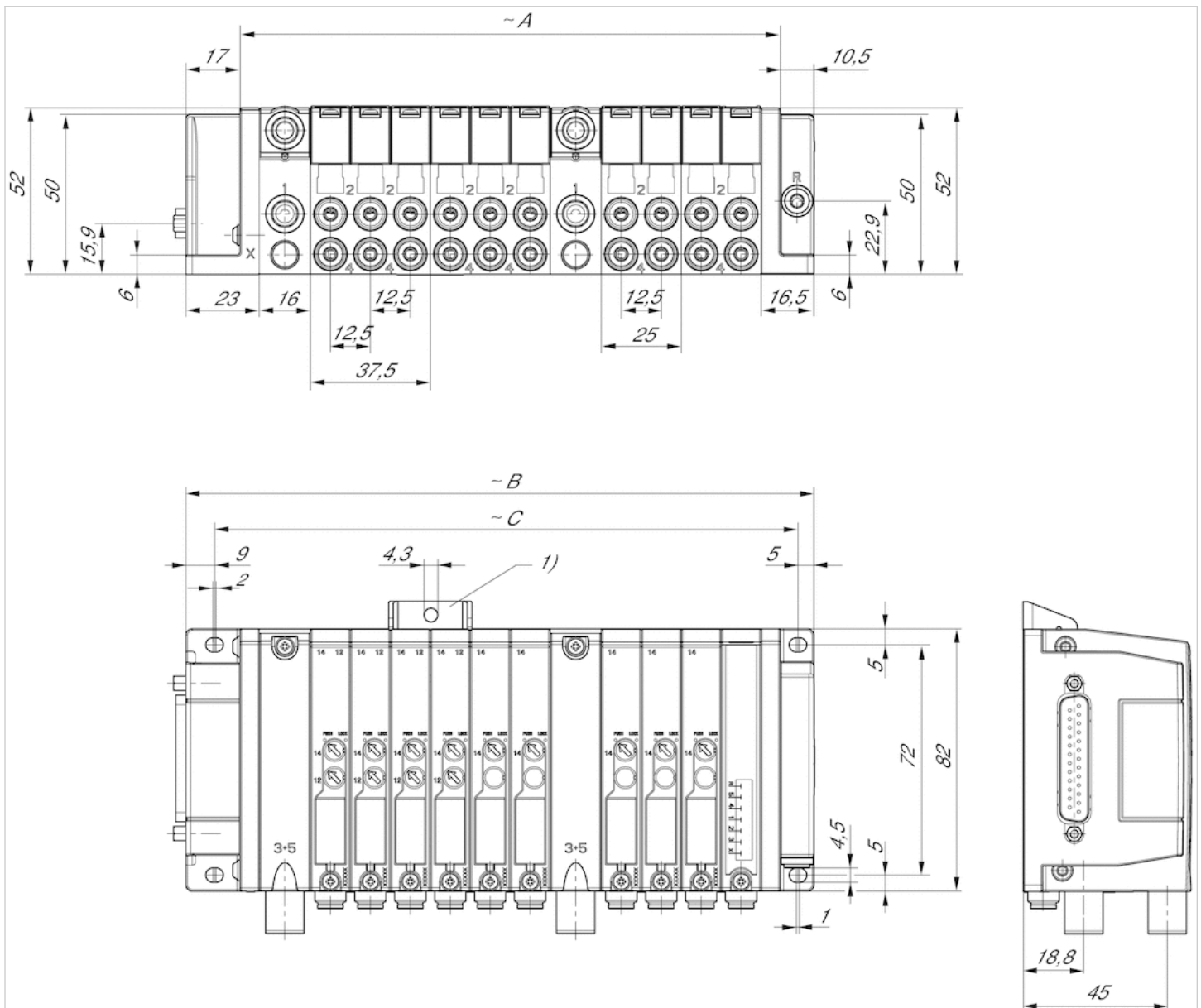
3 and 5 = push-in fitting Ø8 mm. Connection angle: straight

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

$$B = \text{number of valve positions} \times 12.5 \text{ mm} + \text{number of supply plates} \times 16 \text{ mm} + 39.5 \text{ mm}$$

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)

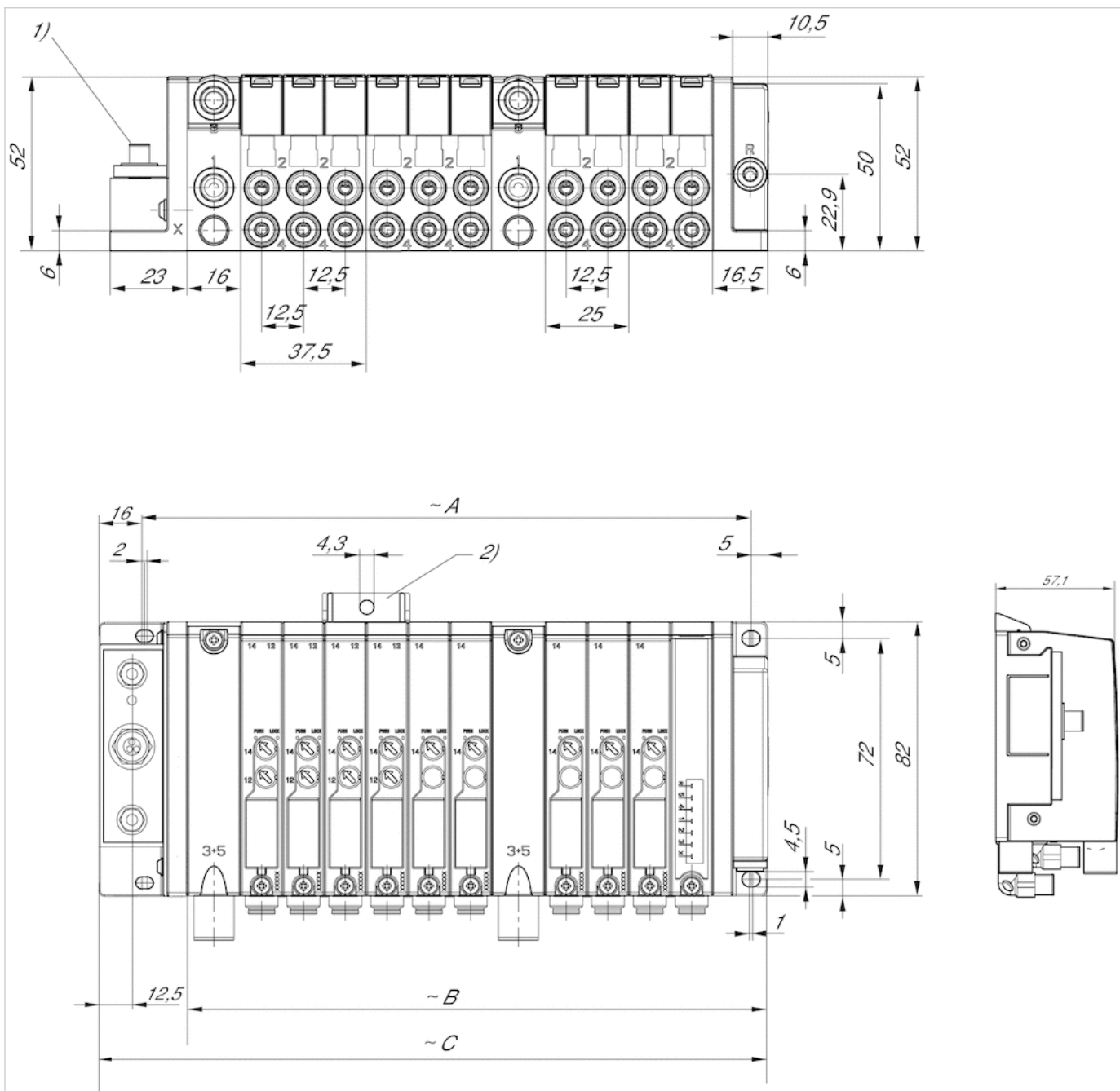
3 and 5 = push-in fitting Ø8 mm. Connection angle: straight

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

$$B = \text{number of valve positions} \times 12.5 \text{ mm} + \text{number of supply plates} \times 16 \text{ mm} + 39.5 \text{ mm}$$

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)

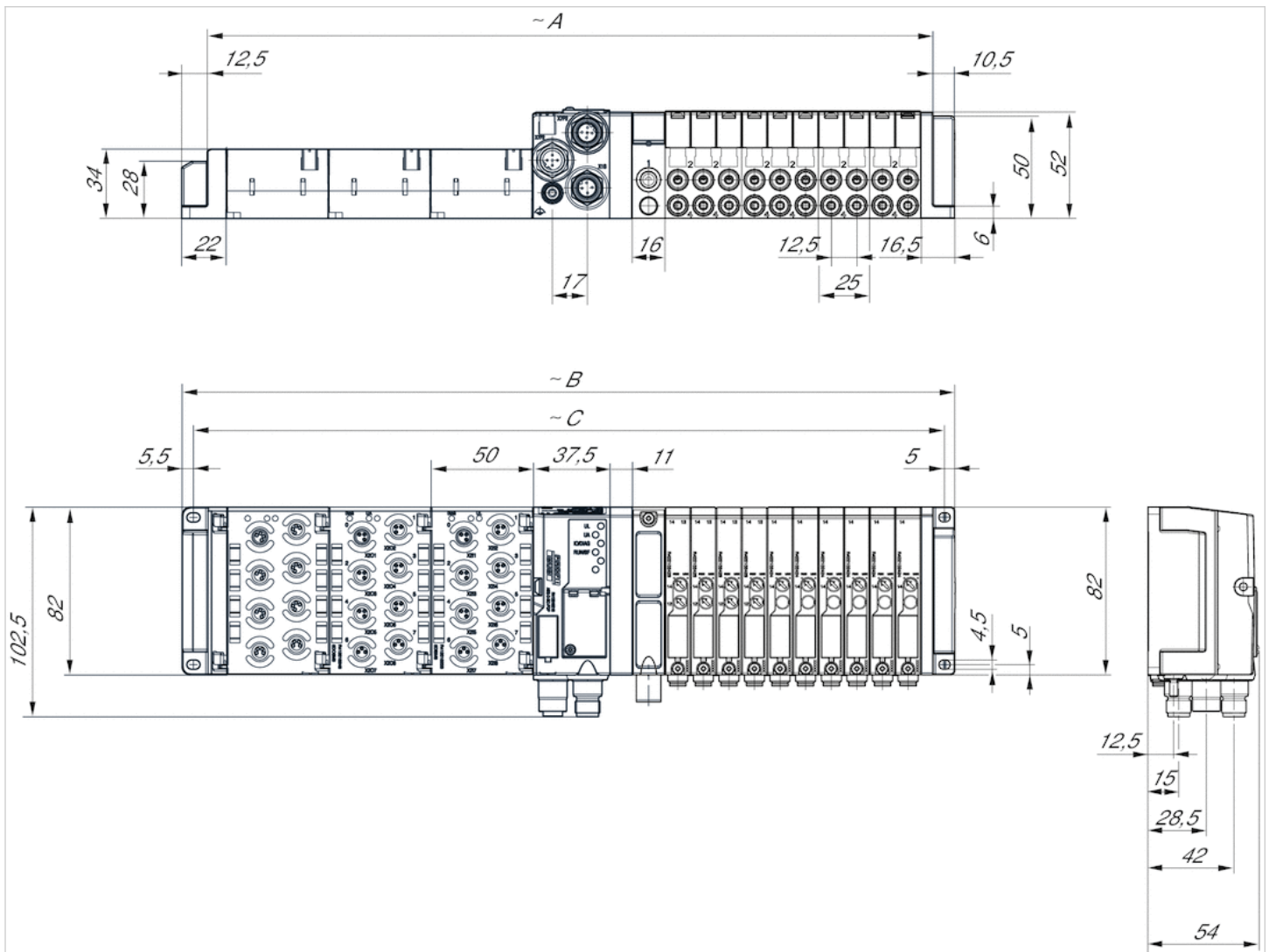
3 and 5 = push-in fitting Ø8 mm. Connection angle: straight

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 = number of valve positions x 12.5 mm + number of supply plates x 16 mm + number of I/O x 50 mm + 64 mm

B = number of valve positions x 12.5 mm + number of supply plates x 16 mm + number of I/O x 50 mm + 87 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 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)

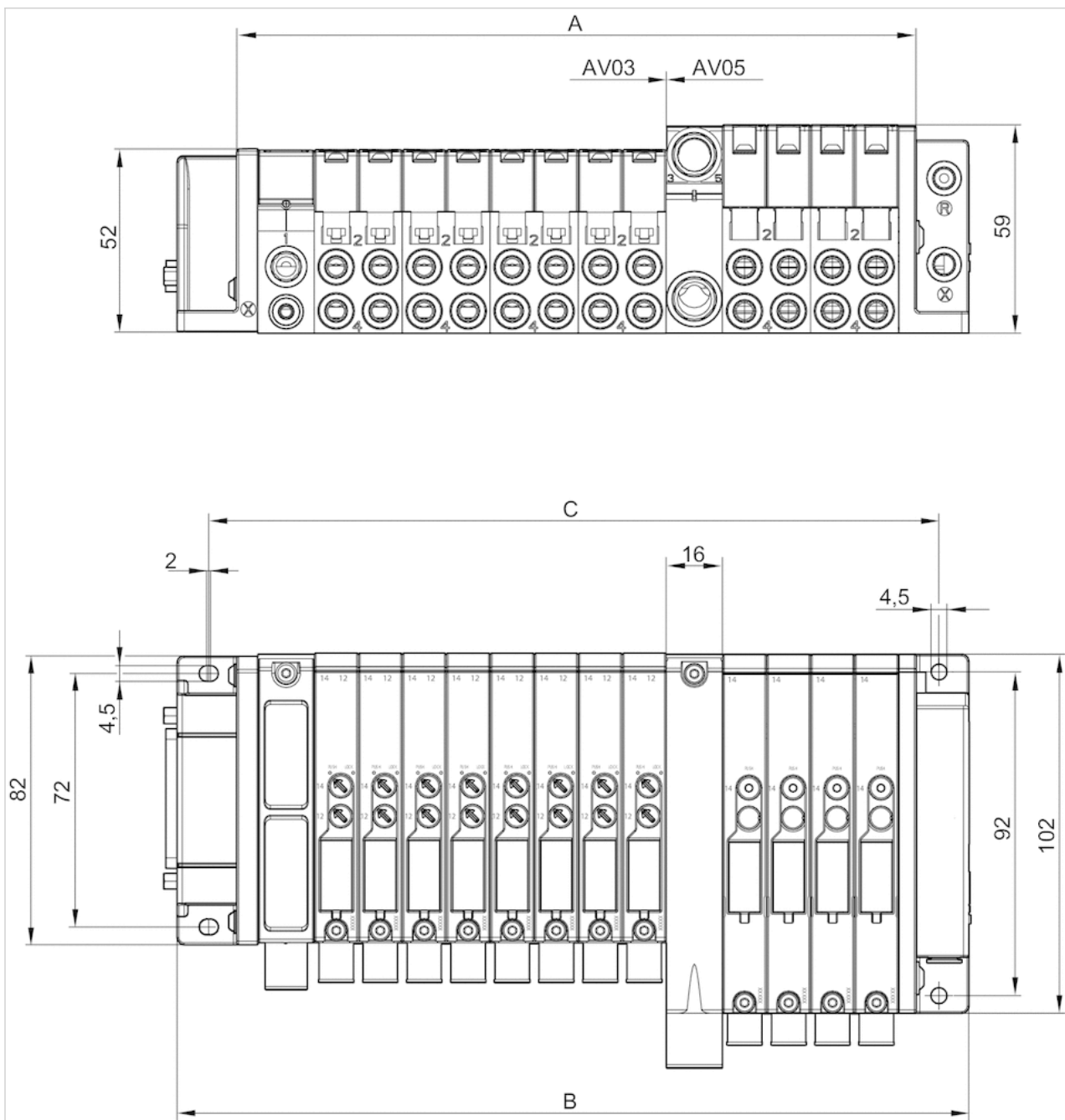
3 and 5 = push-in fitting Ø8 mm. Connection angle: straight

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, 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)

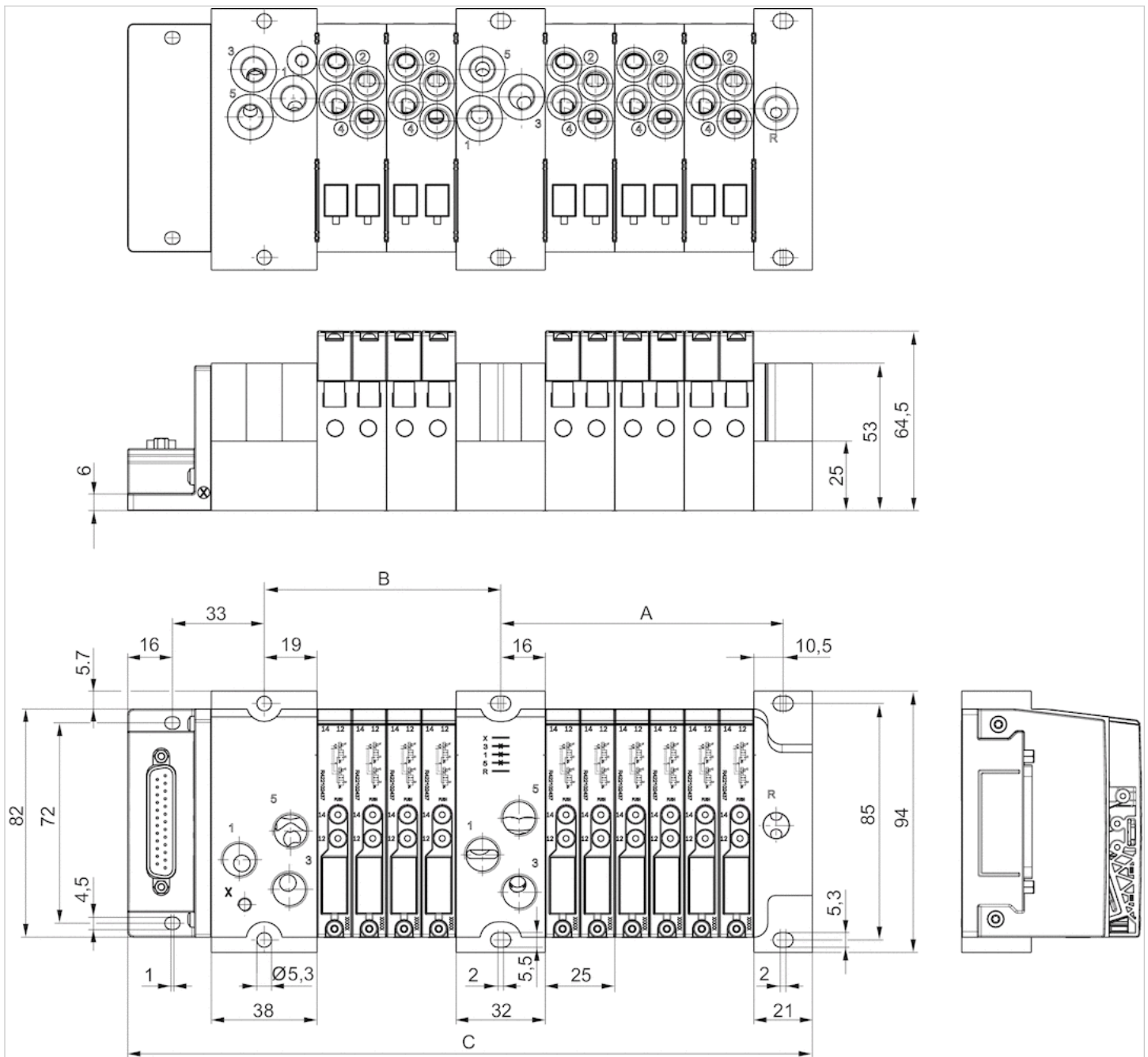
2 and 4 = push-in fitting Ø6 mm and Ø8 mm. Connection angle: straight and 90° (exchangeable fittings)

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

Dimensions, AV-BP



A = number of valve positions x 12.5 mm + 26.5 mm

$$B = \text{number of valve positions} \times 12.5 \text{ mm} + 35 \text{ mm}$$

D-SUB: C = number of valve positions x 12.5 mm + number of I/Os x 32 mm + 89 mm

AES: $C = \text{number of valve positions} \times 12.5 + \text{number of supply plates} \times 32 + \text{number of I/O} \times 50 + 129.3$

Connections 2, 4: G1/8, depth 7 mm, max. external push-in fitting diameter: 12 mm

Connection R: G1/8, depth 8 mm, max. external push-in fitting diameter: 15 mm

Connection X on bottom: G1/8, depth 6 mm, max. external push-in fitting diameter: 10 mm Connection X on top: G1/8, depth 6 mm, max. external push-in fitting diameter: 12 mm

Connections 1, 3, 5 on bottom: G1/8, depth 7 mm, max. external push-in fitting diameter: 16 mm

Connections 1, 3, 5 on top: G1/8, depth 7 mm, max. external push-in fitting diameter: 16 mm





2x2/2-directional valve, Series AV03

- 2x2/2
- $Q_n = 280 \text{ l/min}$
- 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 μm |
| 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 | Voltage tolerance |
|------------|---|---|-------|---------------------|-------------------|
| | | | | DC | DC |
| R422102436 |  |  | NC/NC | 24 V | -10% / +10% |
| R422102437 |  |  | NC/NC | 24 V | -10% / +10% |

| Part No. | Power consumption | Flow conductance | 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 $\Delta p = 1 \text{ bar}$, MO = Manual override

Technical information

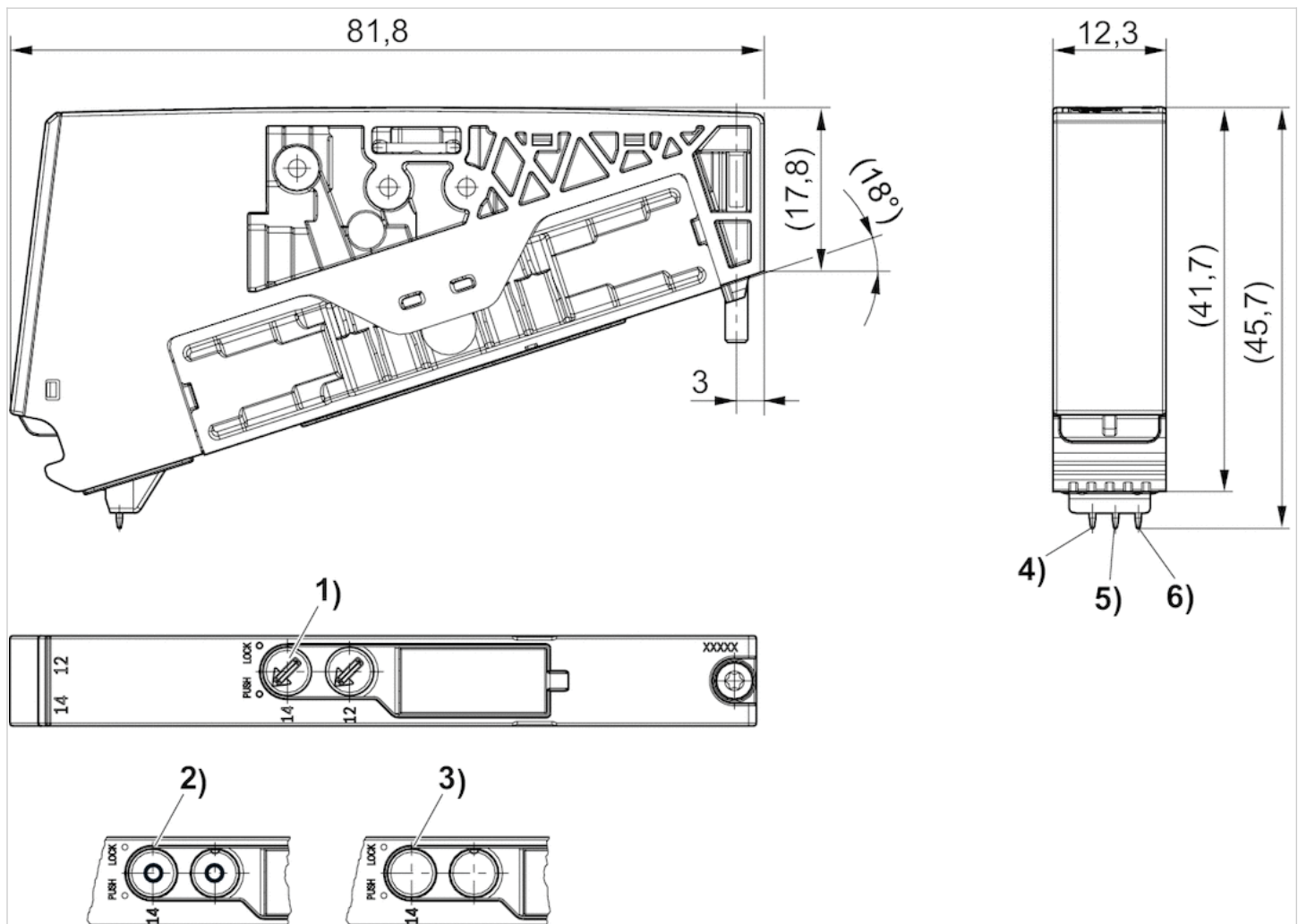
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The oil content of compressed air must remain constant during the life cycle.
Use only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

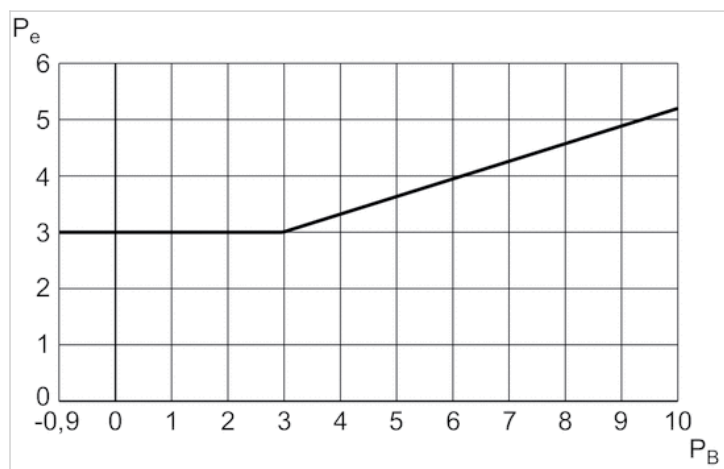
Dimensions



- 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
- $Q_n = 250-300 \text{ l/min}$
- 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 | Voltage tolerance |
|------------|---|---|-------|---------------------|-------------------|
| | | | | 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.

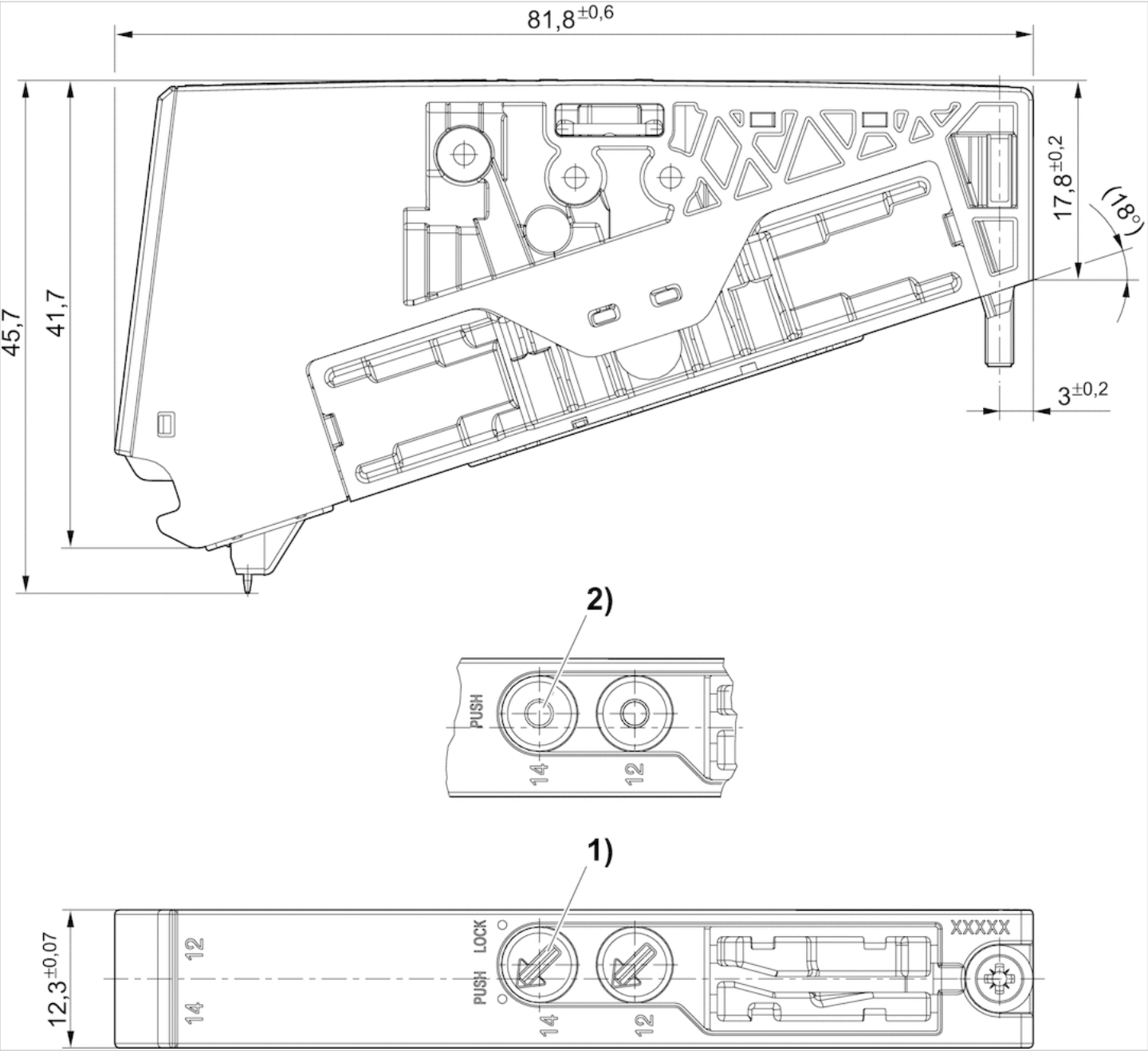
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

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

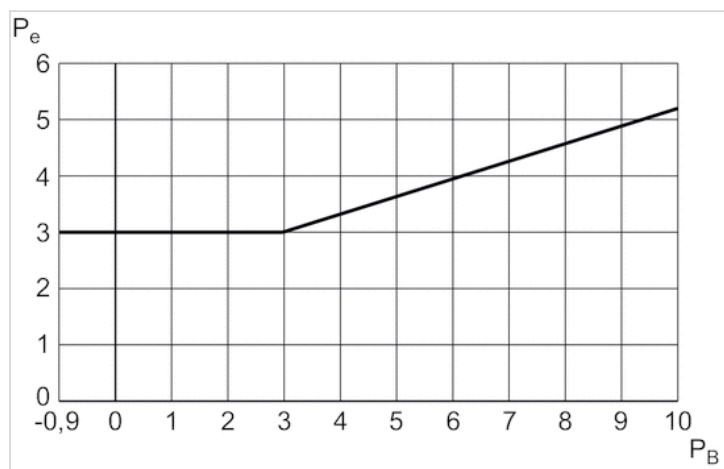
Dimensions



- 1) with detent
- 2) without detent

Diagrams

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

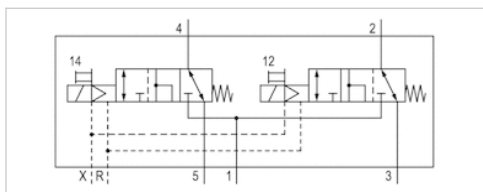


PB= Working pressure

Pe = external control pressure, min.

2x3/2-directional valve, Series AV03

- 2x3/2
- $Q_n = 300 \text{ l/min}$
- 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/m³ |
| 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 $\Delta p = 1 \text{ bar}$, 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.

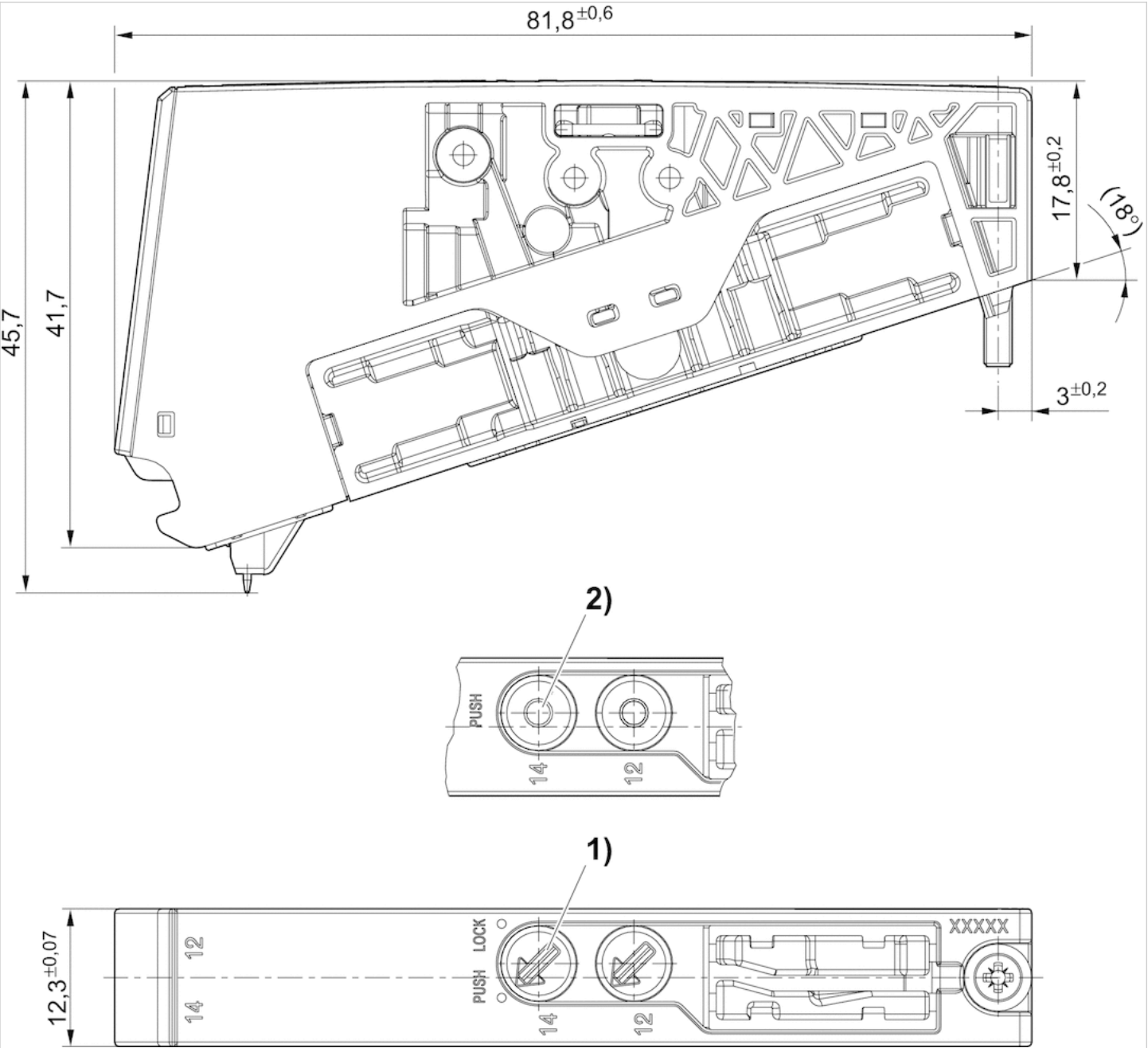
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

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



PB= Working pressure

Pe = external control pressure, min.













5/2-directional valve, Series AV03

- 5/2
- $Q_n = 300 \text{ l/min}$
- 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/m^3 |
| Nominal flow Q_n | 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 | 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).

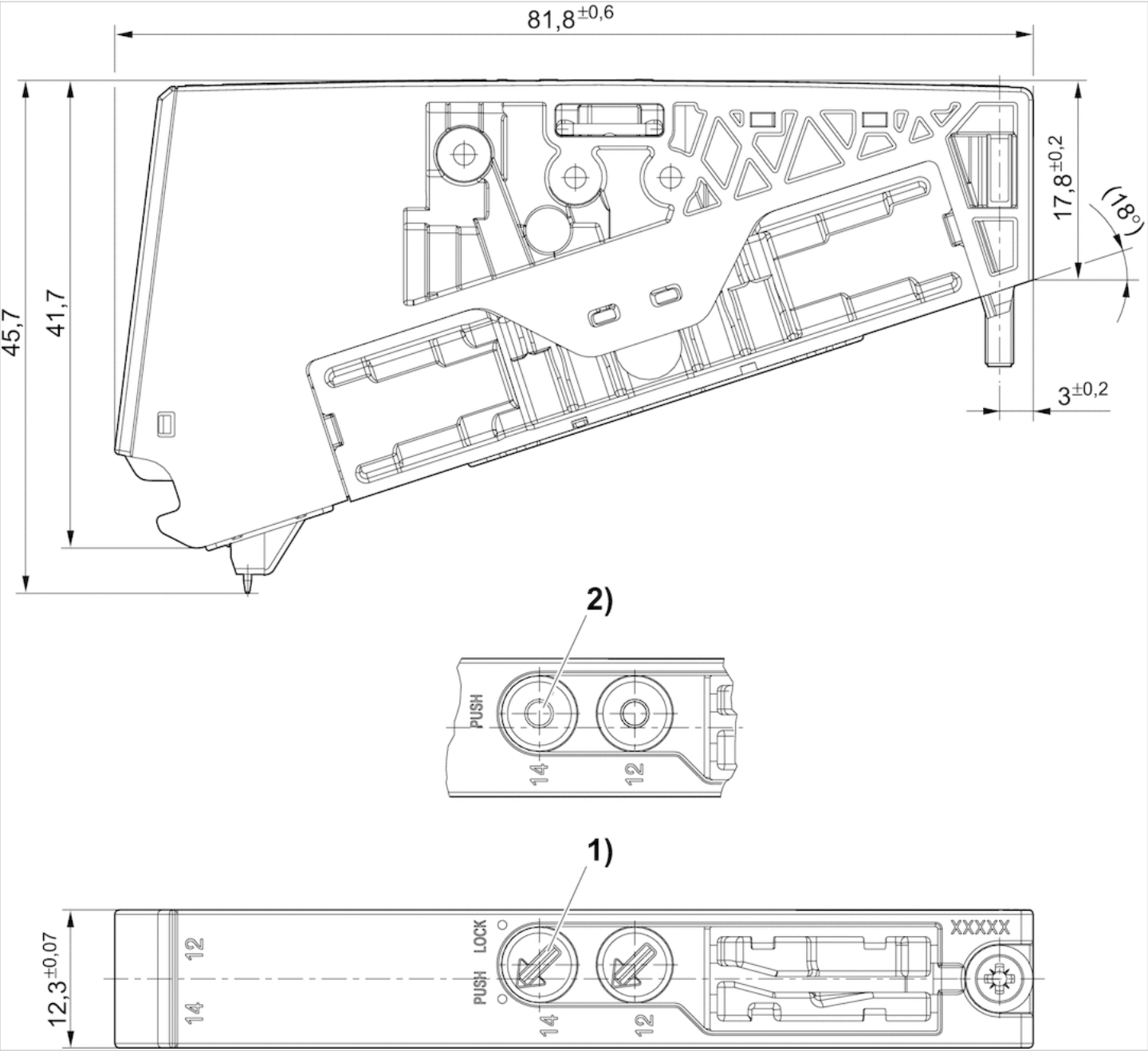
The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.

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
- $Q_n = 240 \text{ l/min}$
- 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 Q_n | 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 | | Operational voltage | Voltage tolerance |
|------------|---|---|---------------|---------------------|-------------------|
| | | | | DC | DC |
| 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 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).

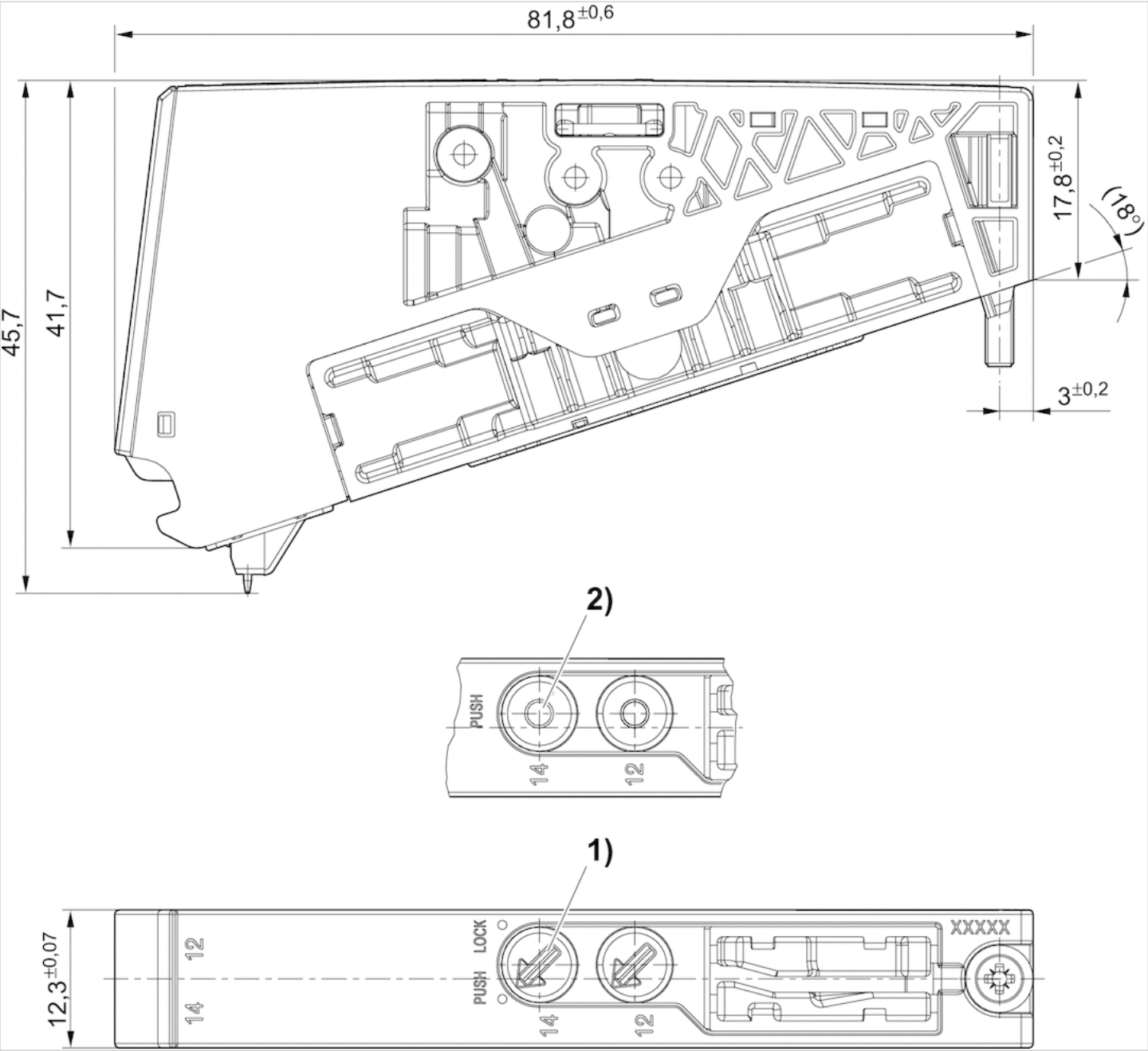
The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.

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

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/m³ |
| 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.

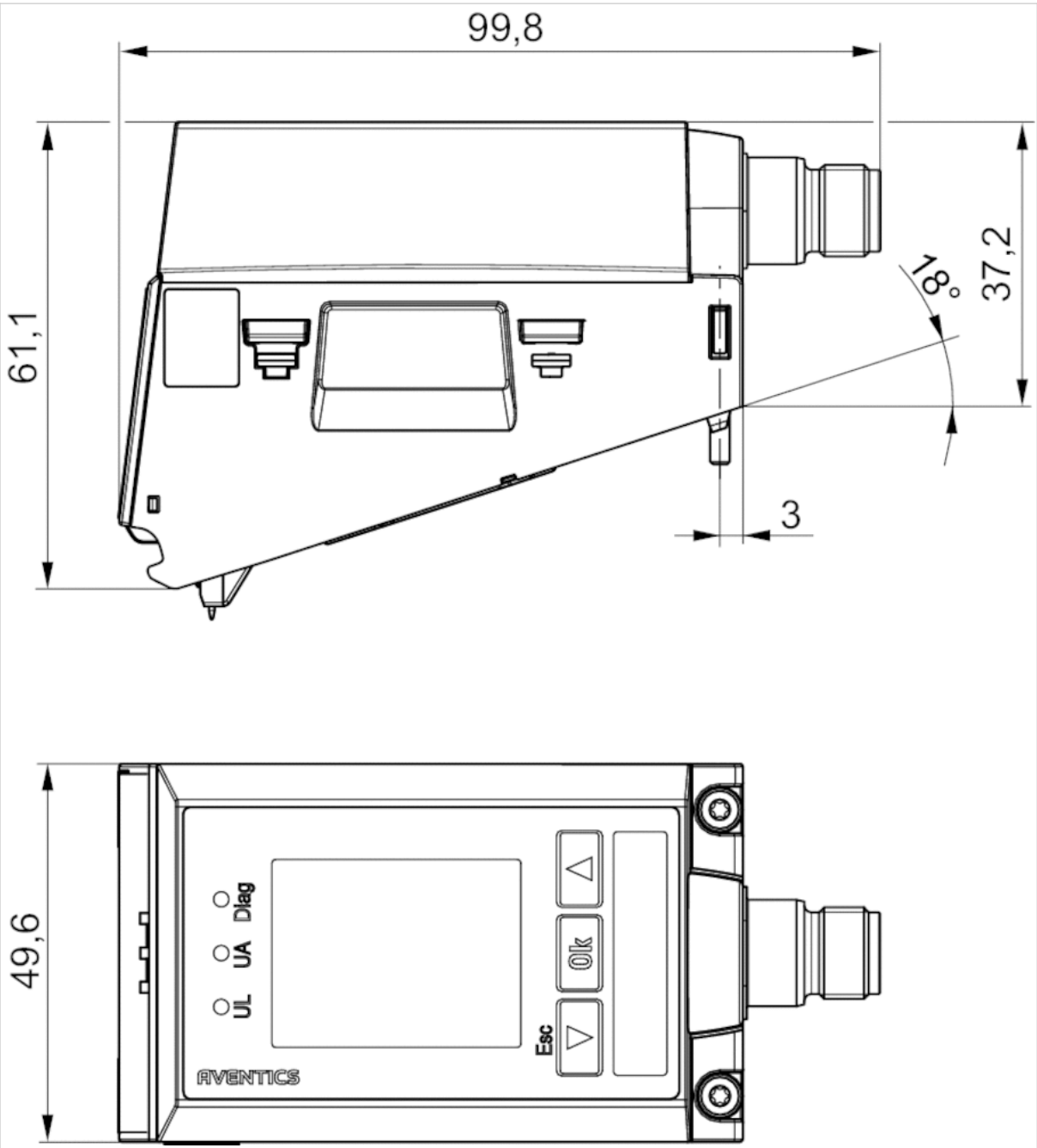
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in the MediaCentre).

Technical information

| Material | |
|----------|--------------------------|
| Housing | Polyarylamide |
| Seals | Nitrile butadiene rubber |

Dimensions

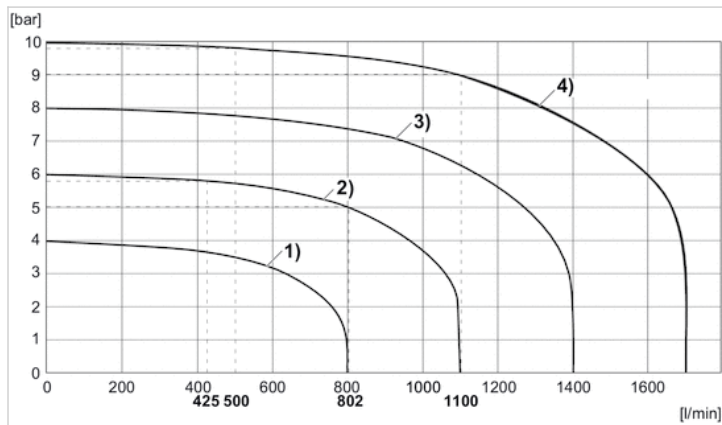
Dimensions



Port for plug M12x1

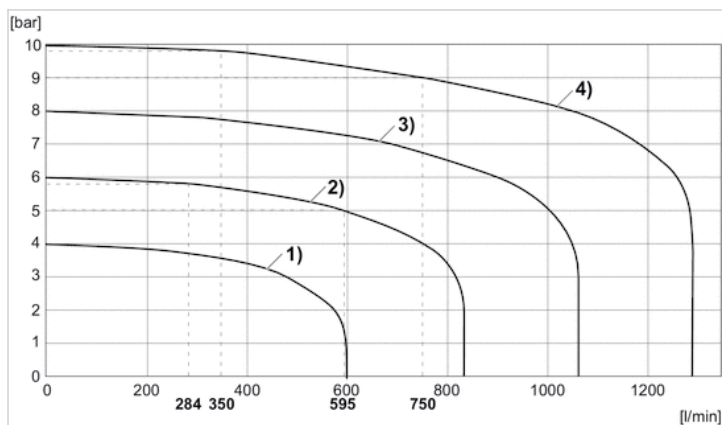
Diagrams

Flow characteristic curve, Pressure zone control



- 1) $P_v = 5$ 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

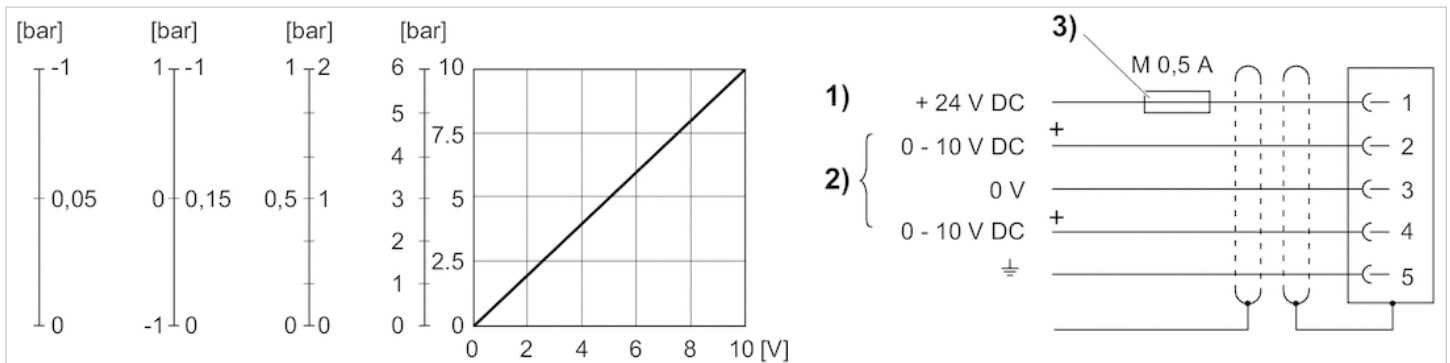
Flow characteristic curve, Single pressure control



- 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

Circuit diagram

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



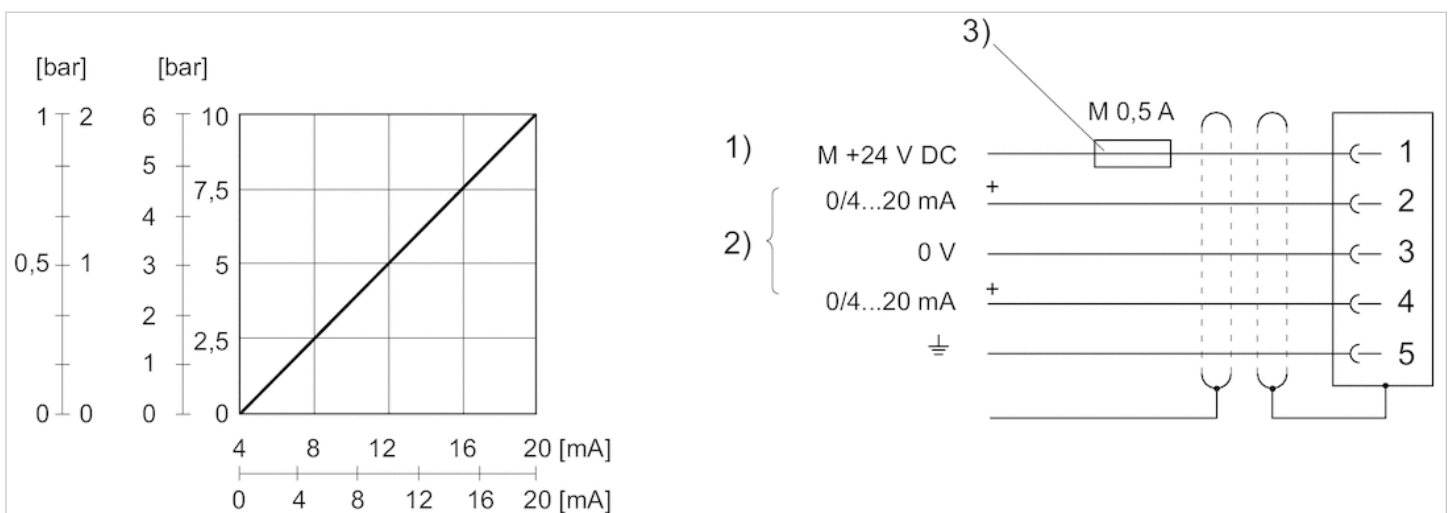
1) Supply voltage 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V.

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/m³ |
| 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

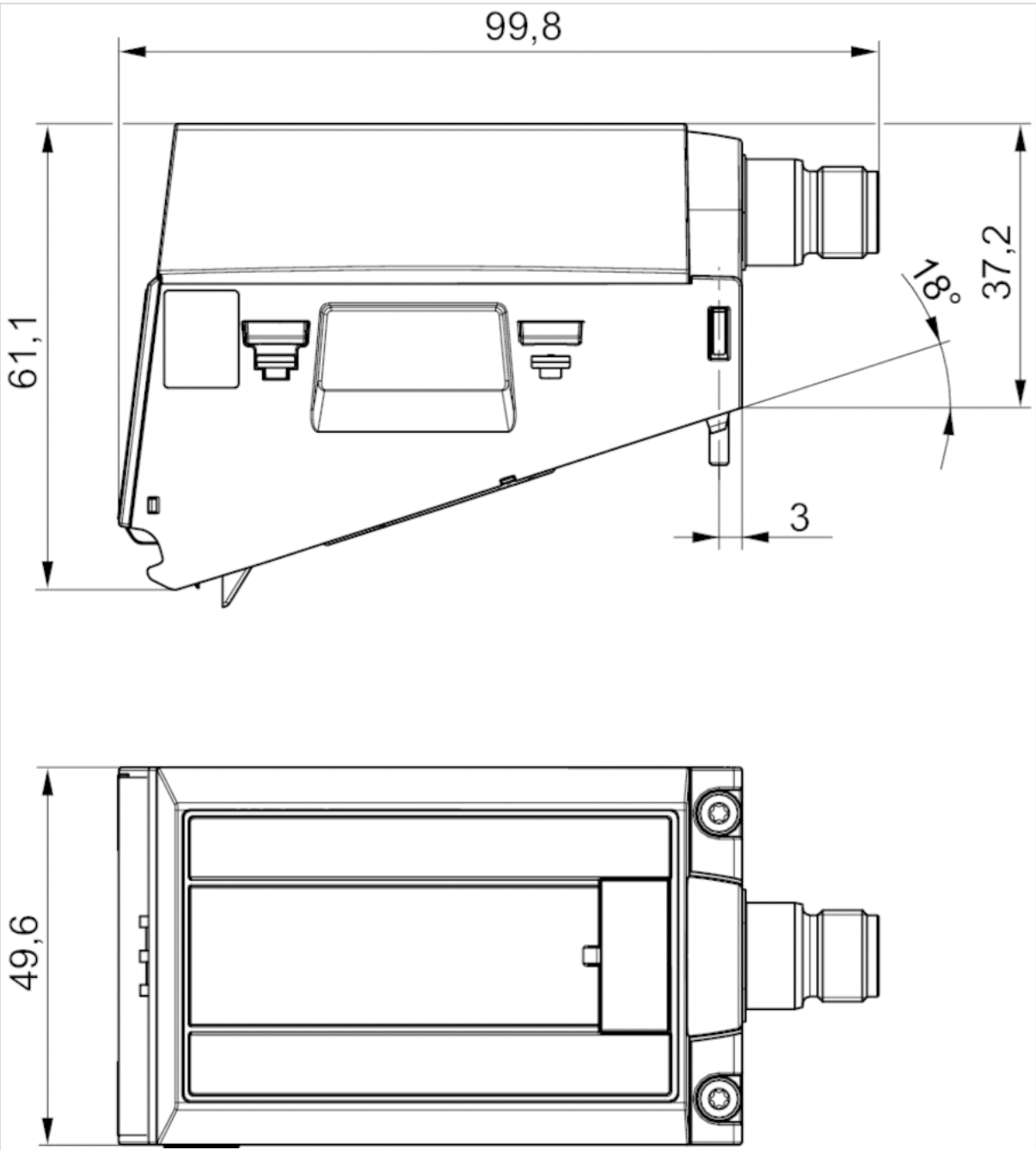
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The oil content of compressed air must remain constant during the life cycle.
Use only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

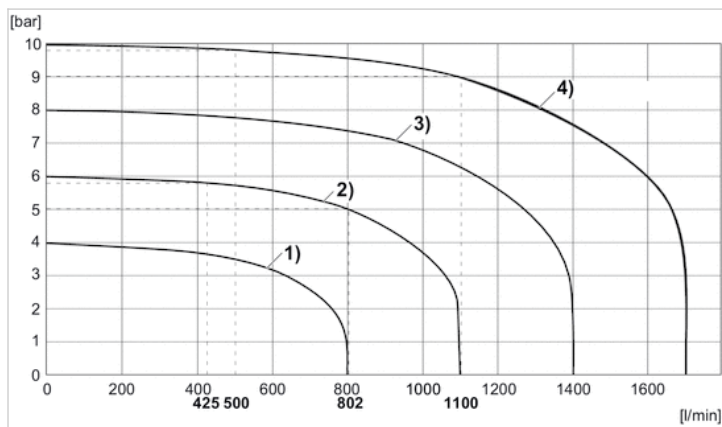
Dimensions



Port for plug M12x1

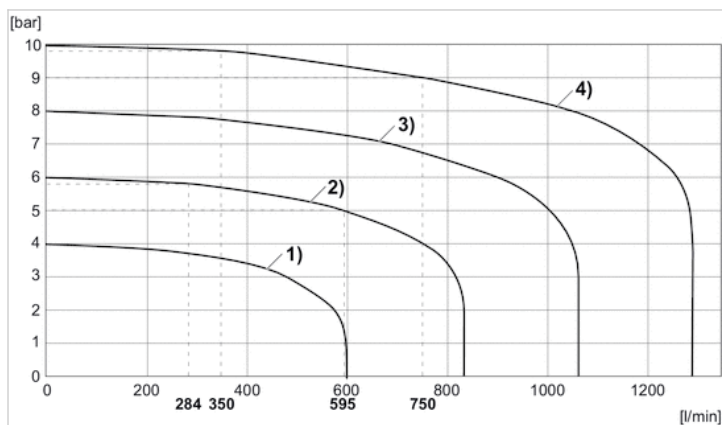
Diagrams

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

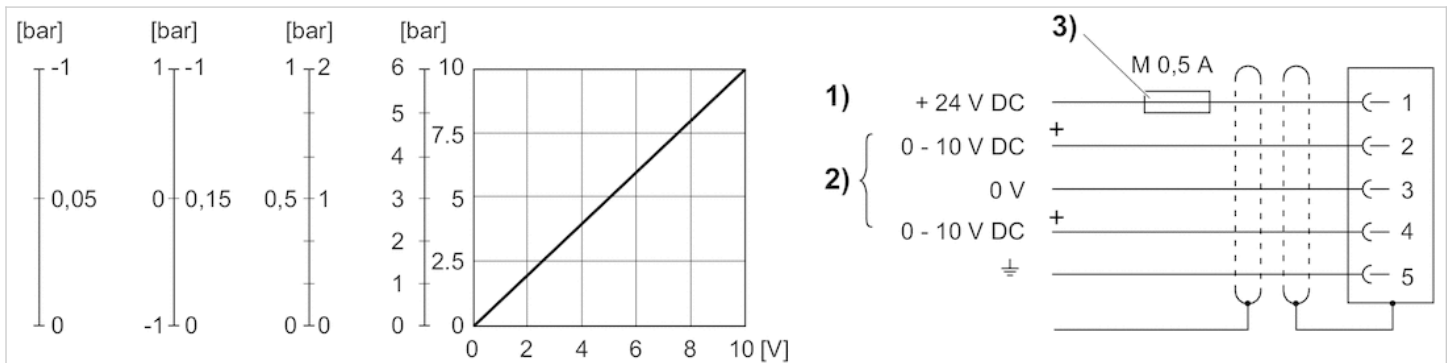
Flow characteristic curve, Single pressure control



- 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



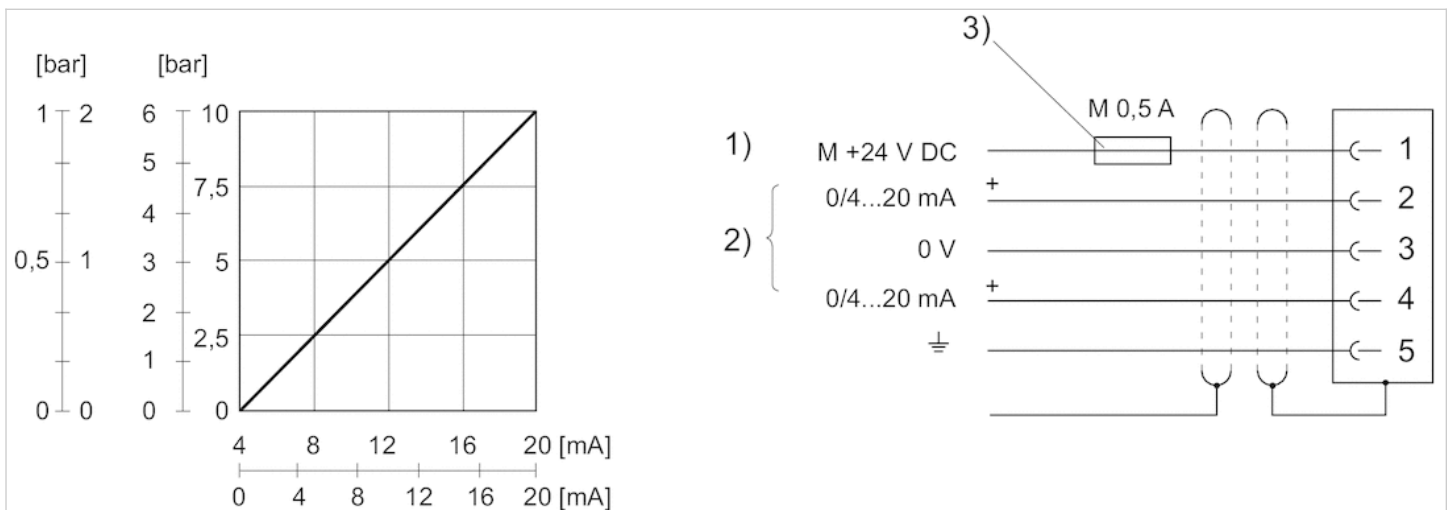
1) Supply voltage 2) Actual value (pin 4) and nominal value (pin 2) are related to 0 V.

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.

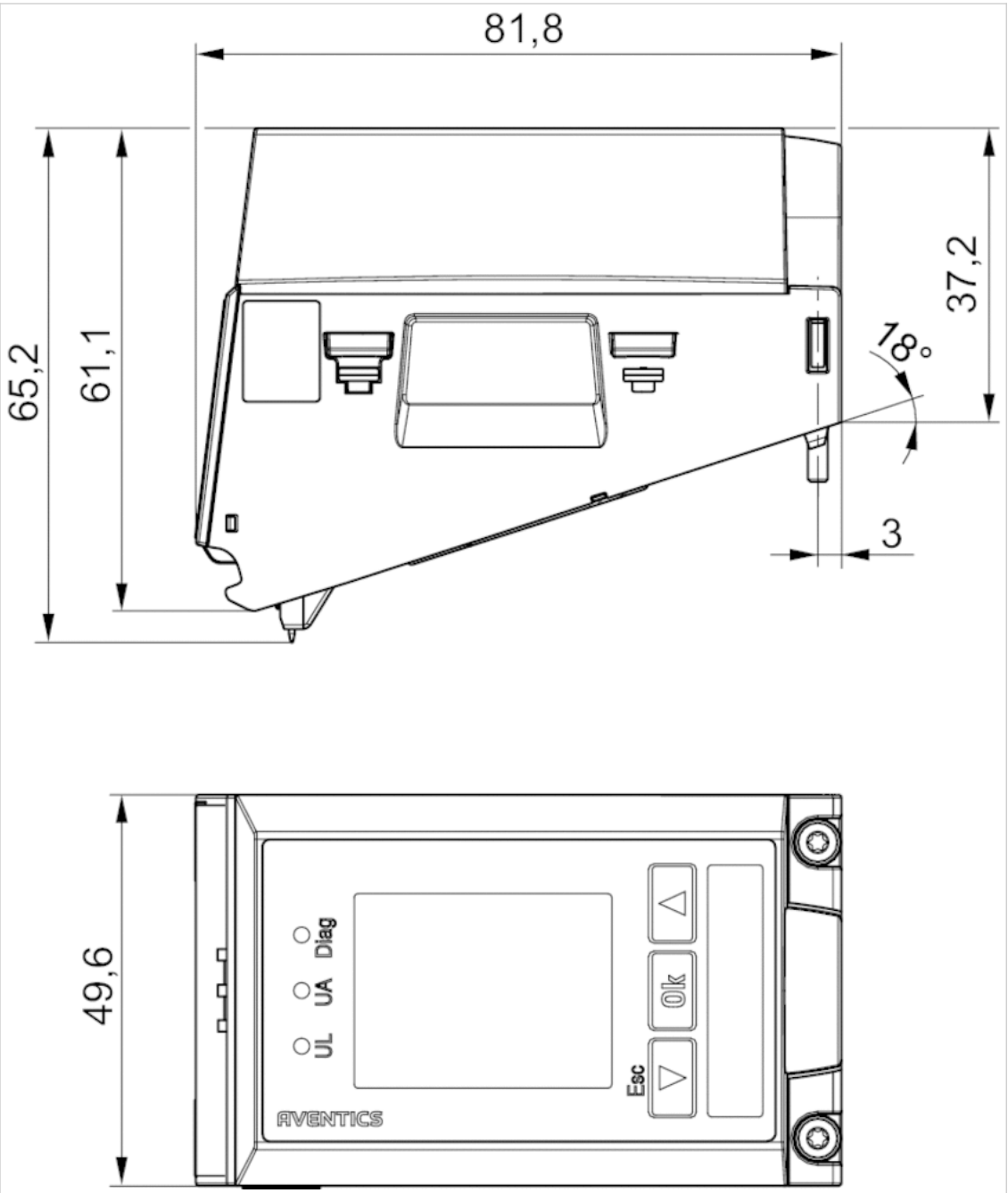
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

| Material | |
|----------|--------------------------|
| Housing | Polyarylamide |
| Seals | Nitrile butadiene rubber |

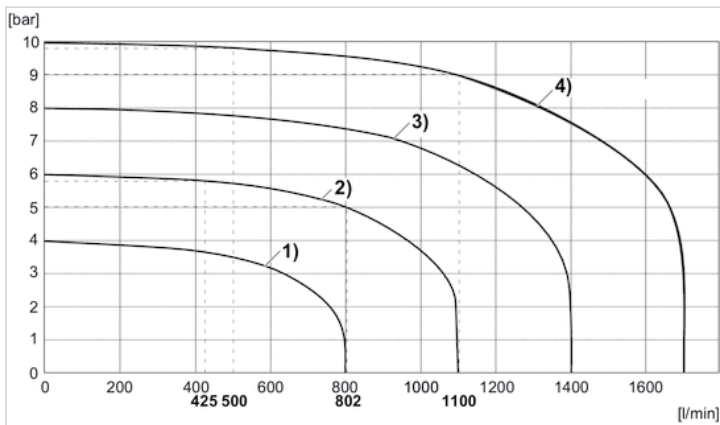
Dimensions

Dimensions



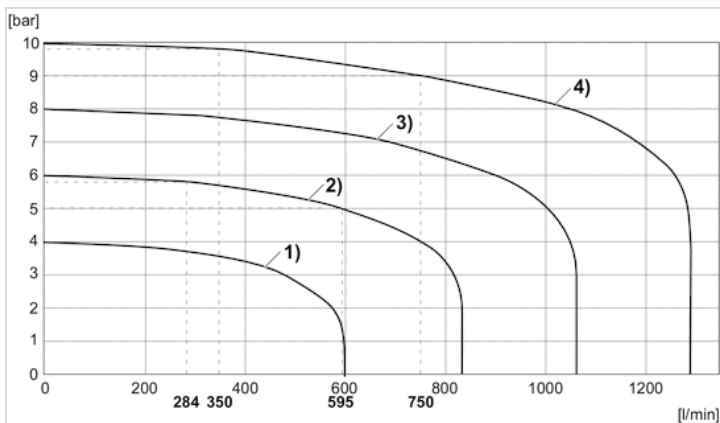
Diagrams

Flow characteristic curve, Pressure zone control



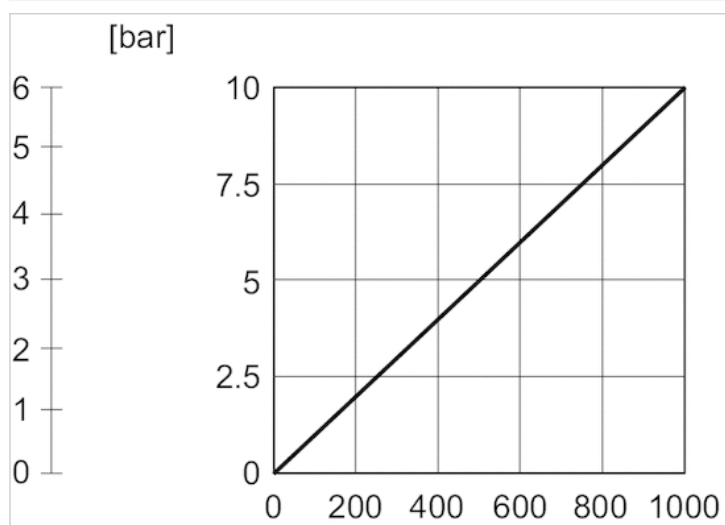
- 1) $P_v = 5 \text{ bar}$, controlled: 4 bar
- 2) $P_v = 7 \text{ bar}$, controlled: 6 bar
- 3) $P_v = 9 \text{ bar}$, controlled: 8 bar
- 4) $P_v = 11 \text{ bar}$, controlled: 10 bar

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.

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.

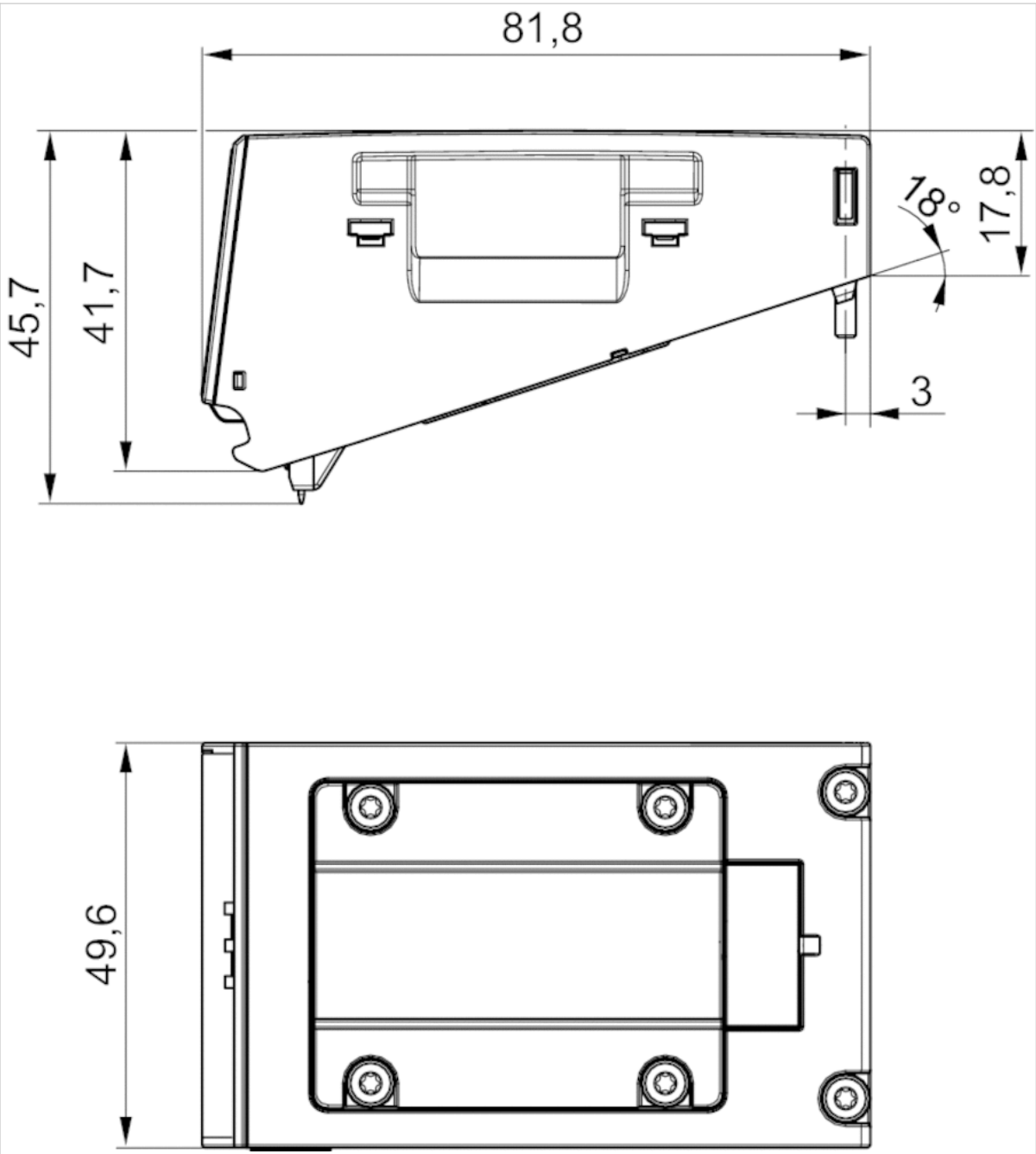
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

| Material | |
|----------|--------------------------|
| Housing | Polyarylamide |
| Seals | Nitrile butadiene rubber |

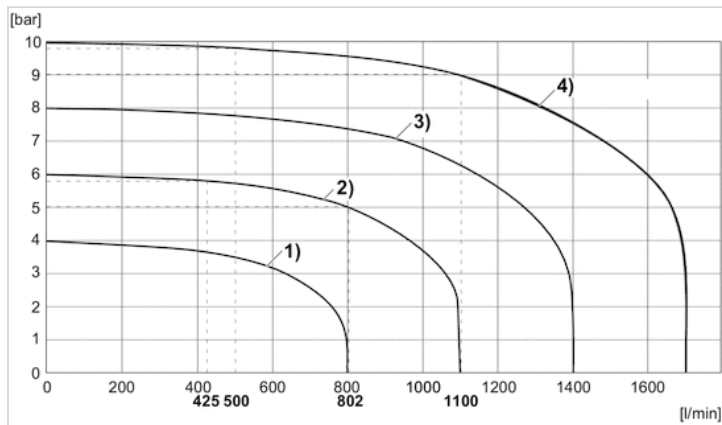
Dimensions

Dimensions



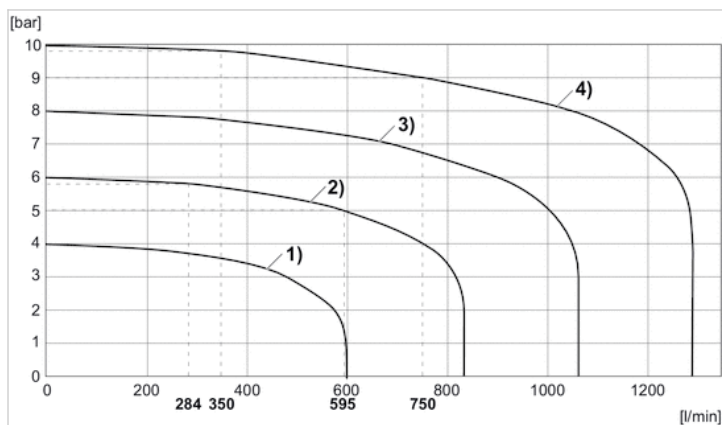
Diagrams

Flow characteristic curve, Pressure zone control



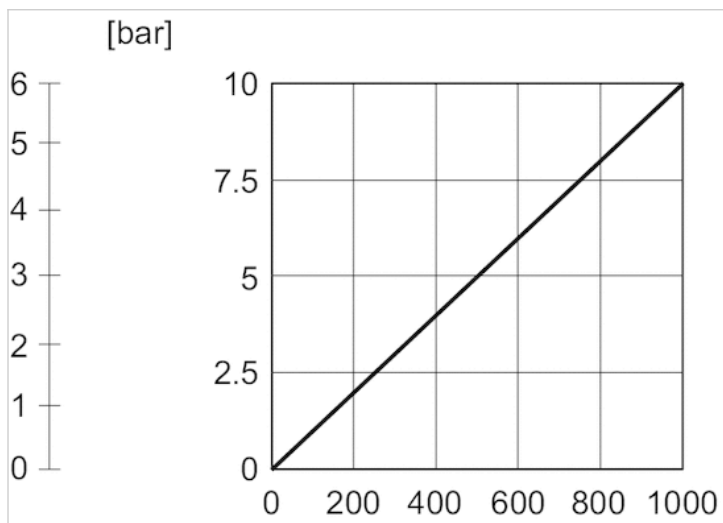
- 1) $P_v = 5 \text{ bar}$, controlled: 4 bar
- 2) $P_v = 7 \text{ bar}$, controlled: 6 bar
- 3) $P_v = 9 \text{ bar}$, controlled: 8 bar
- 4) $P_v = 11 \text{ bar}$, controlled: 10 bar

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

Short circuit

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

Plug

Communication port, Thread size

M12x1

Communication port, Number of poles

5-pin

Communication port, Coding

B-coded

Communication port 2

Socket

Communication port 2

M12x1

Communication port 2

5-pin

Communication port 2

B-coded

Weight

0.16 kg

Material

Housing material

Polyamide fiber-glass reinforced

Part No.

R412018218

Technical information

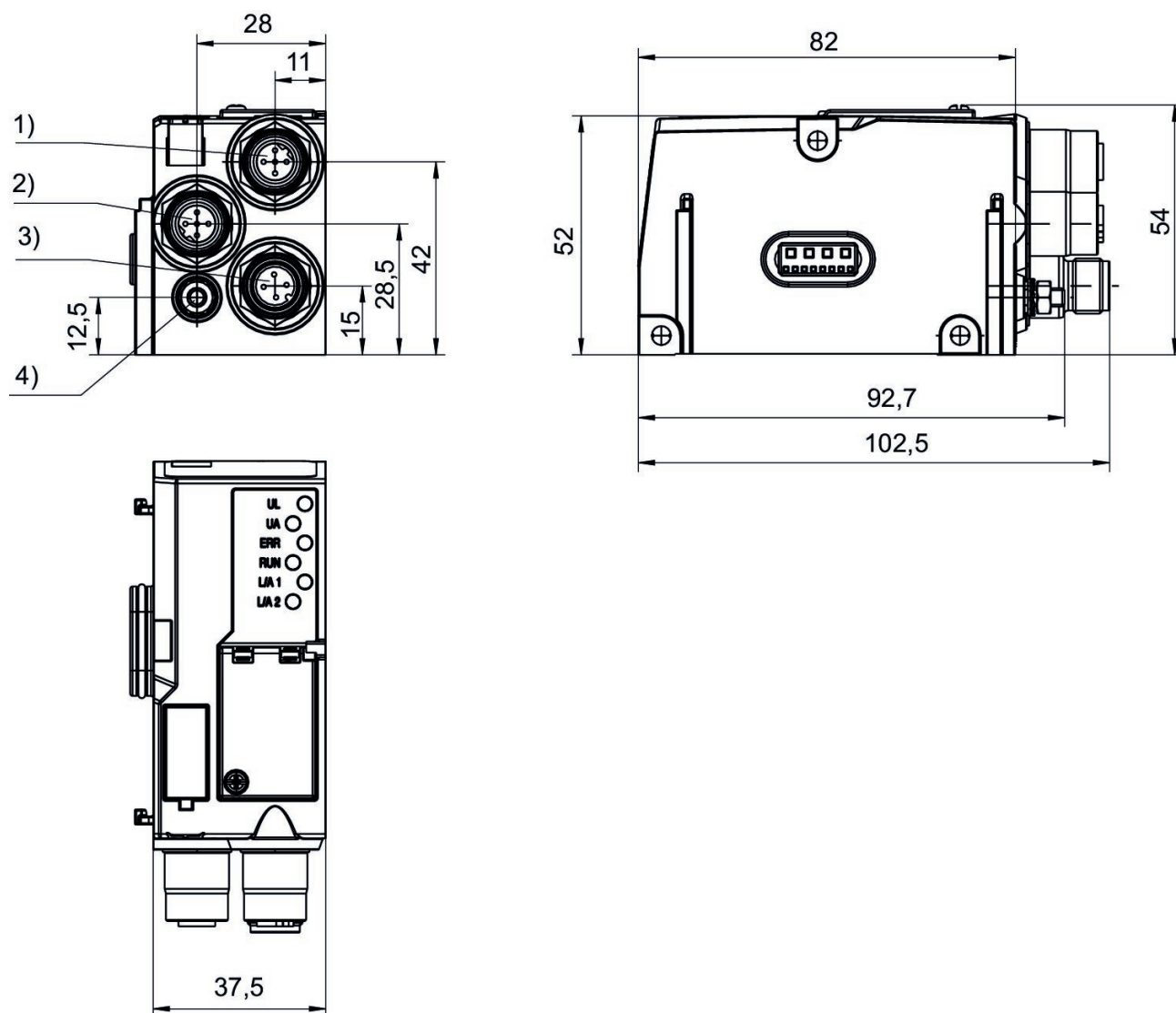
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Short circuit

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

Plug

Communication port, Thread size

M12x1

Communication port, Number of poles

5-pin

Communication port, Coding

A-coded

Communication port 2

Socket

Communication port 2

M12x1

Communication port 2

5-pin

Communication port 2

A-coded

Weight

0.16 kg

Material

Housing material

Polyamide fiber-glass reinforced

Part No.

R412018220

Technical information

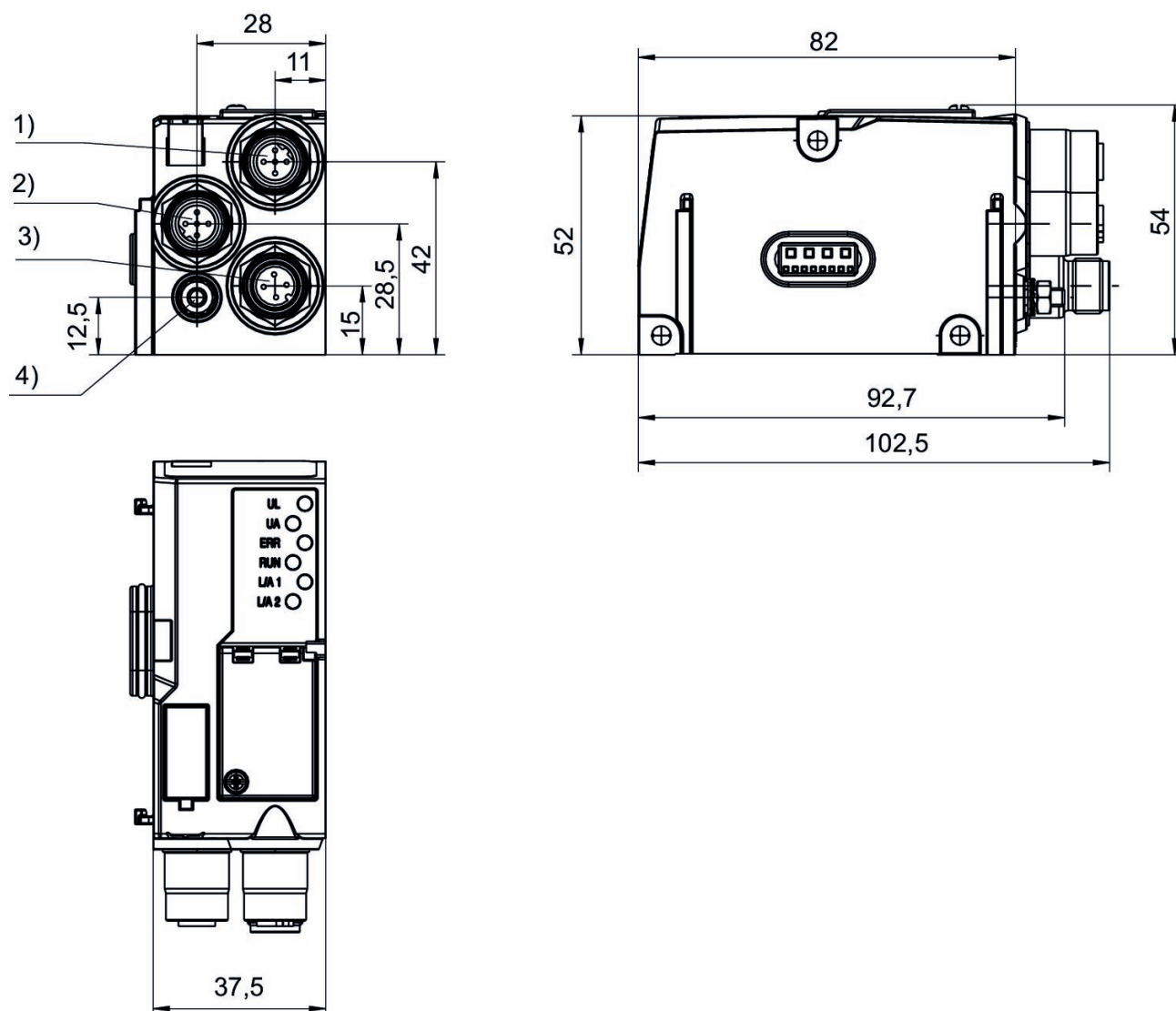
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Short circuit

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

Plug

Communication port, Thread size

M12x1

Communication port, Number of poles

5-pin

Communication port, Coding

A-coded

Communication port 2

Socket

Communication port 2

M12x1

Communication port 2

5-pin

Communication port 2

A-coded

Weight

0.16 kg

Material

Housing material

Polyamide fiber-glass reinforced

Part No.

R412018221

Technical information

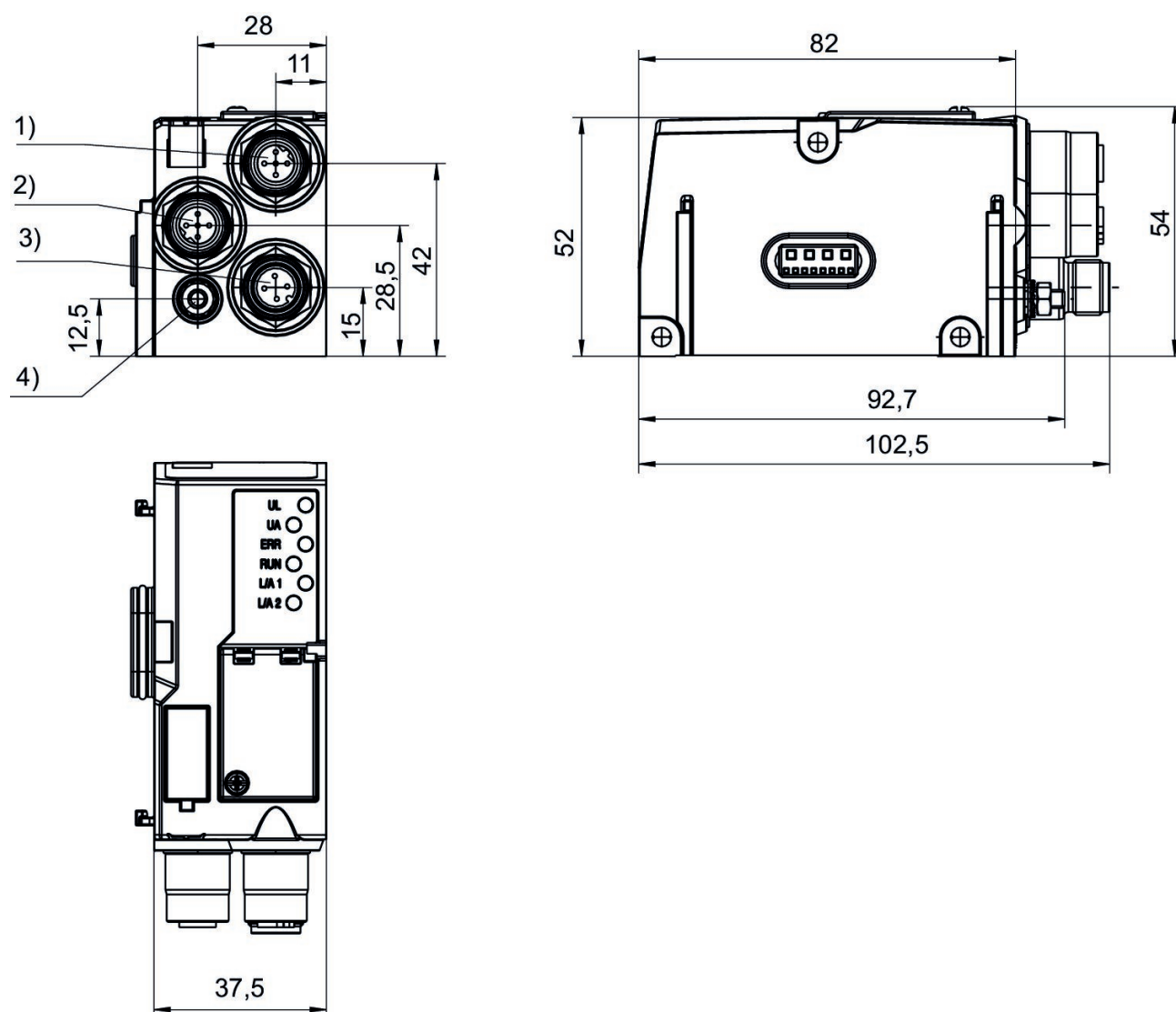
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

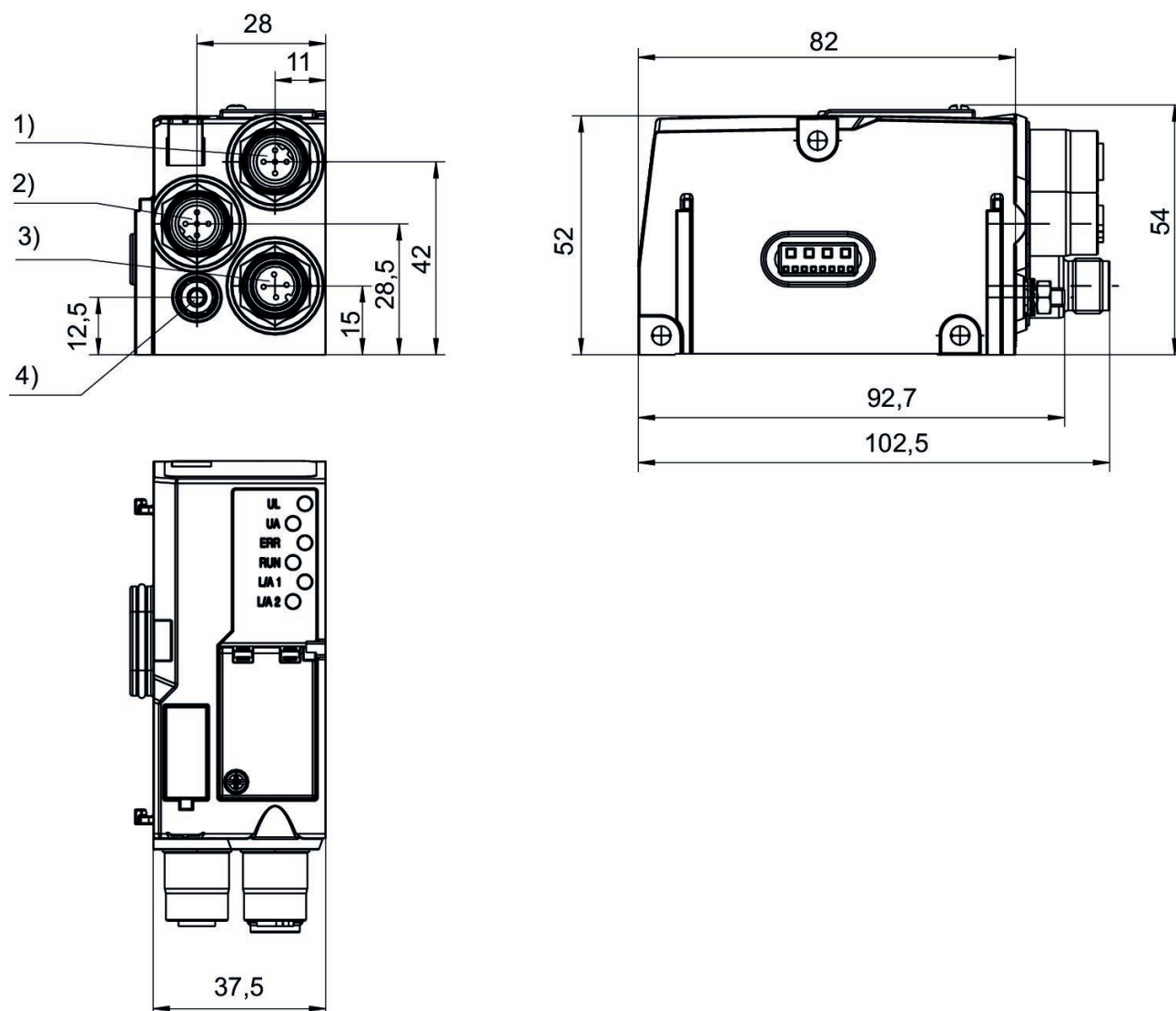
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

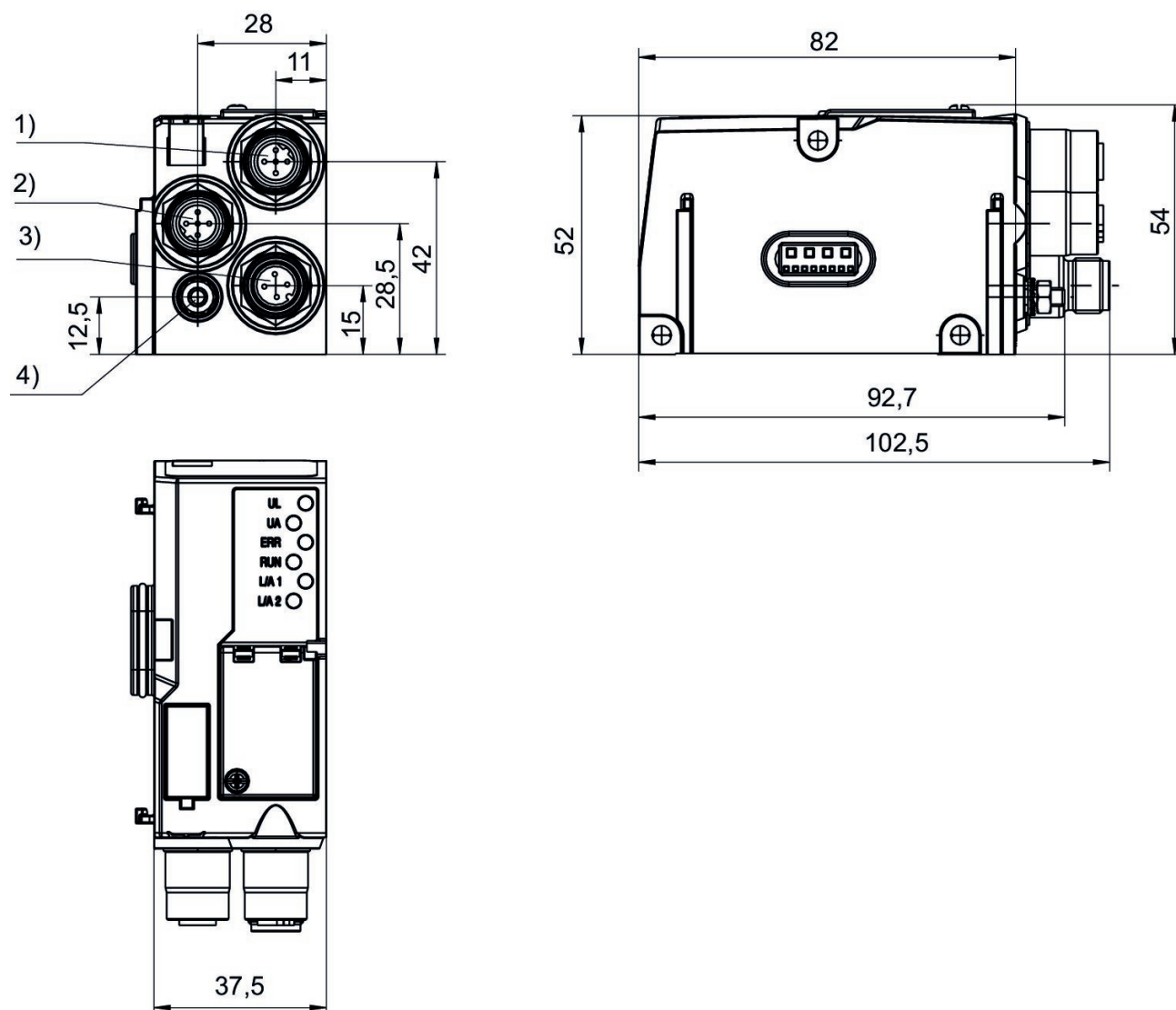
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

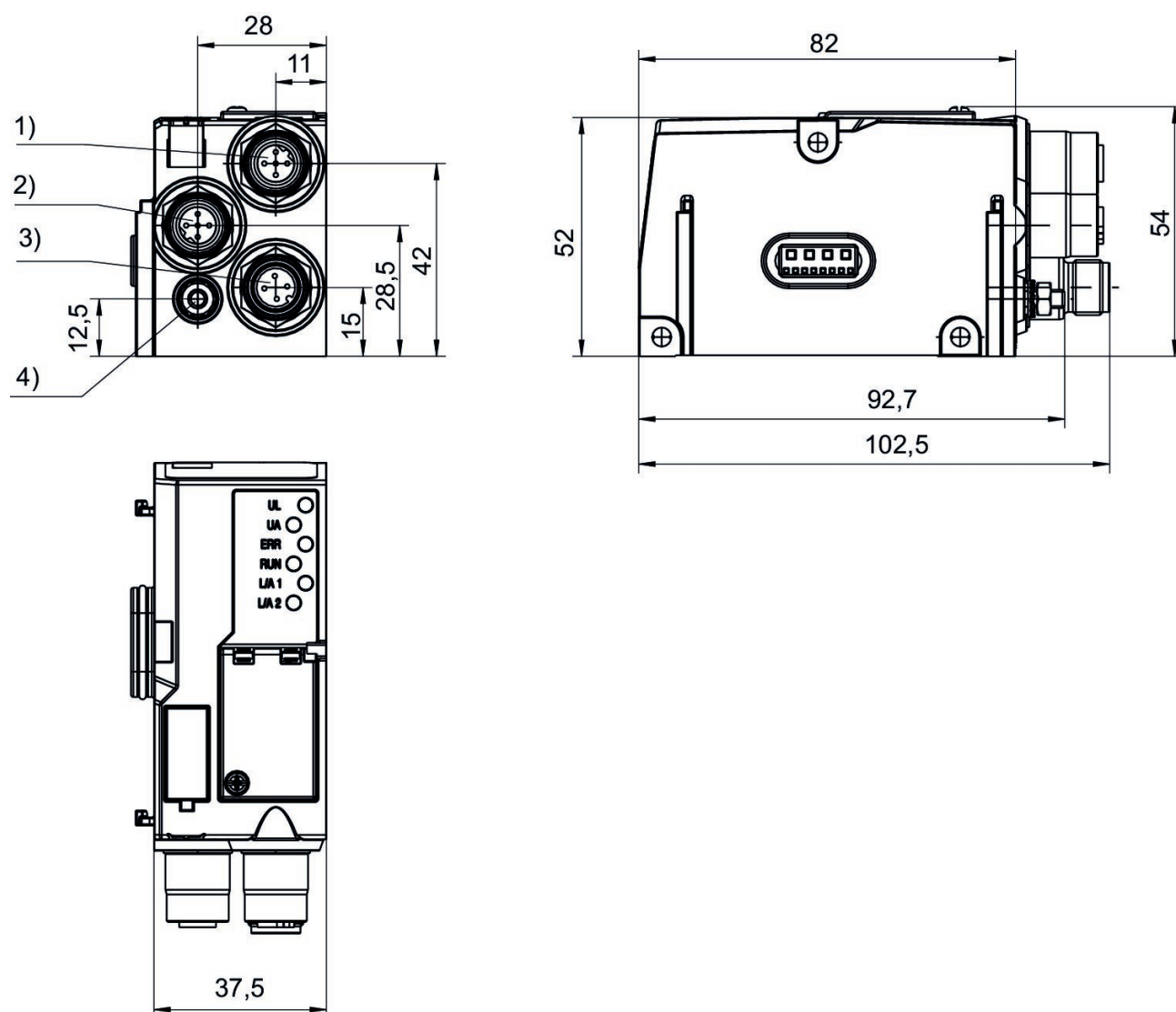
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

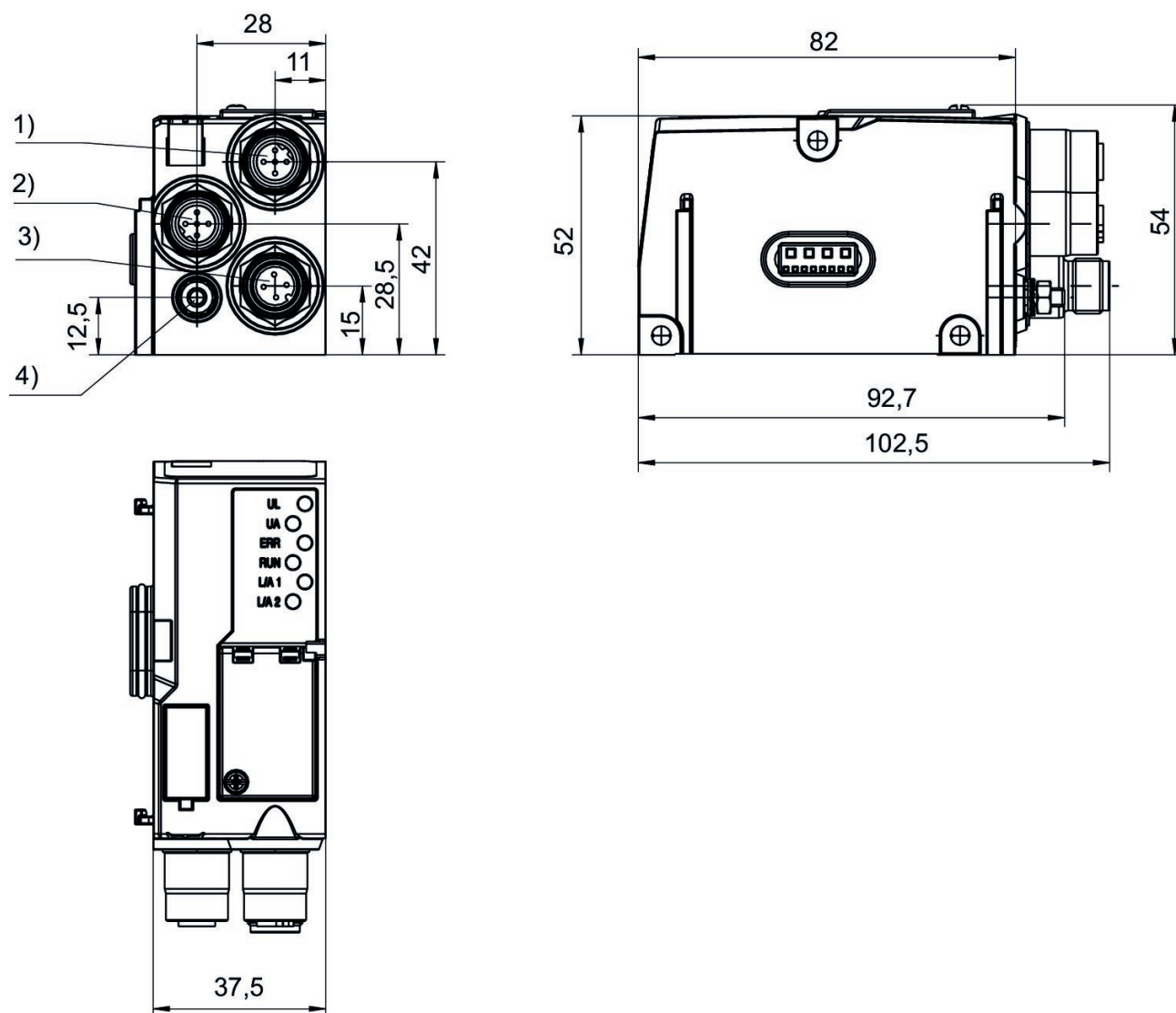
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

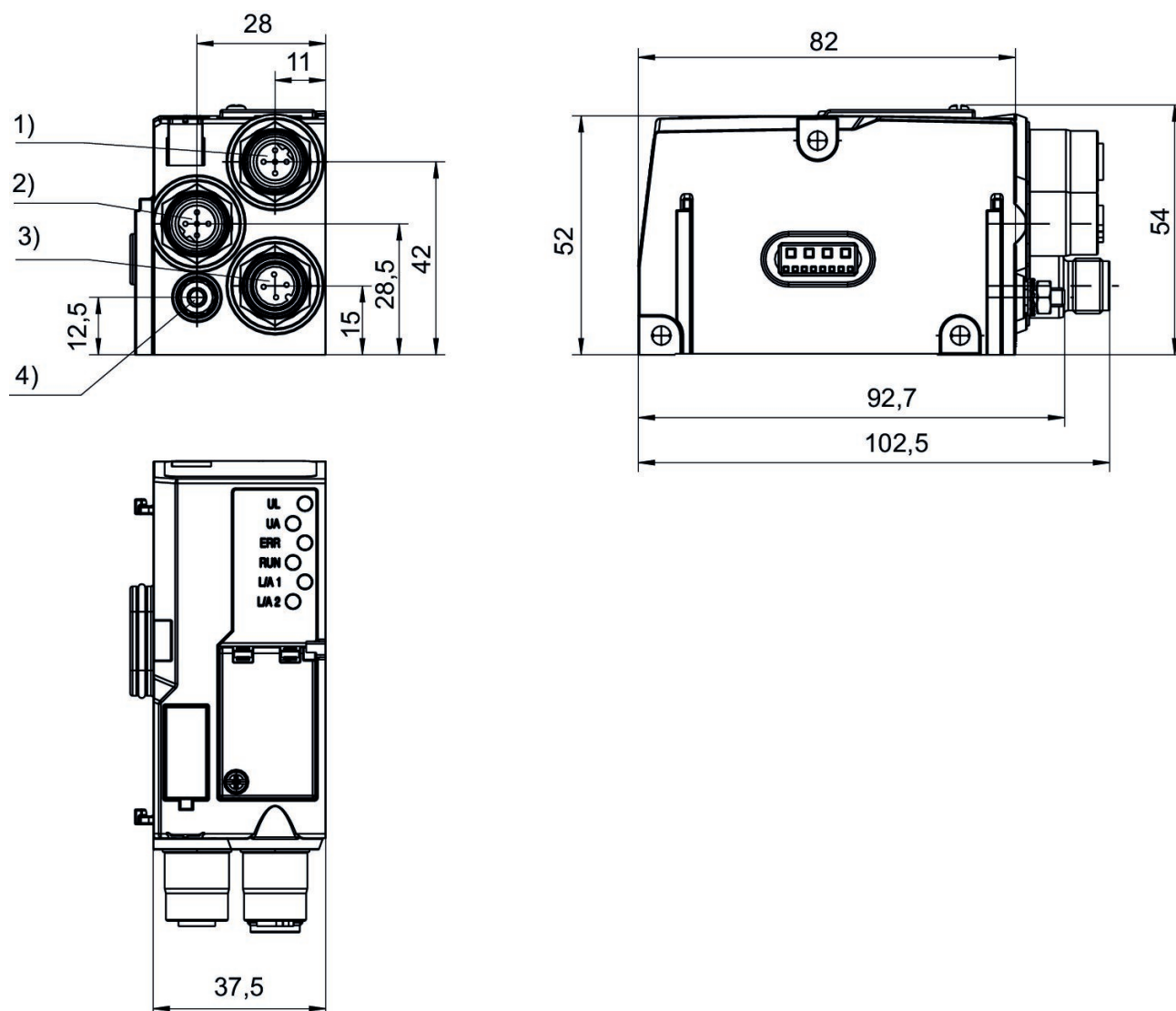
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

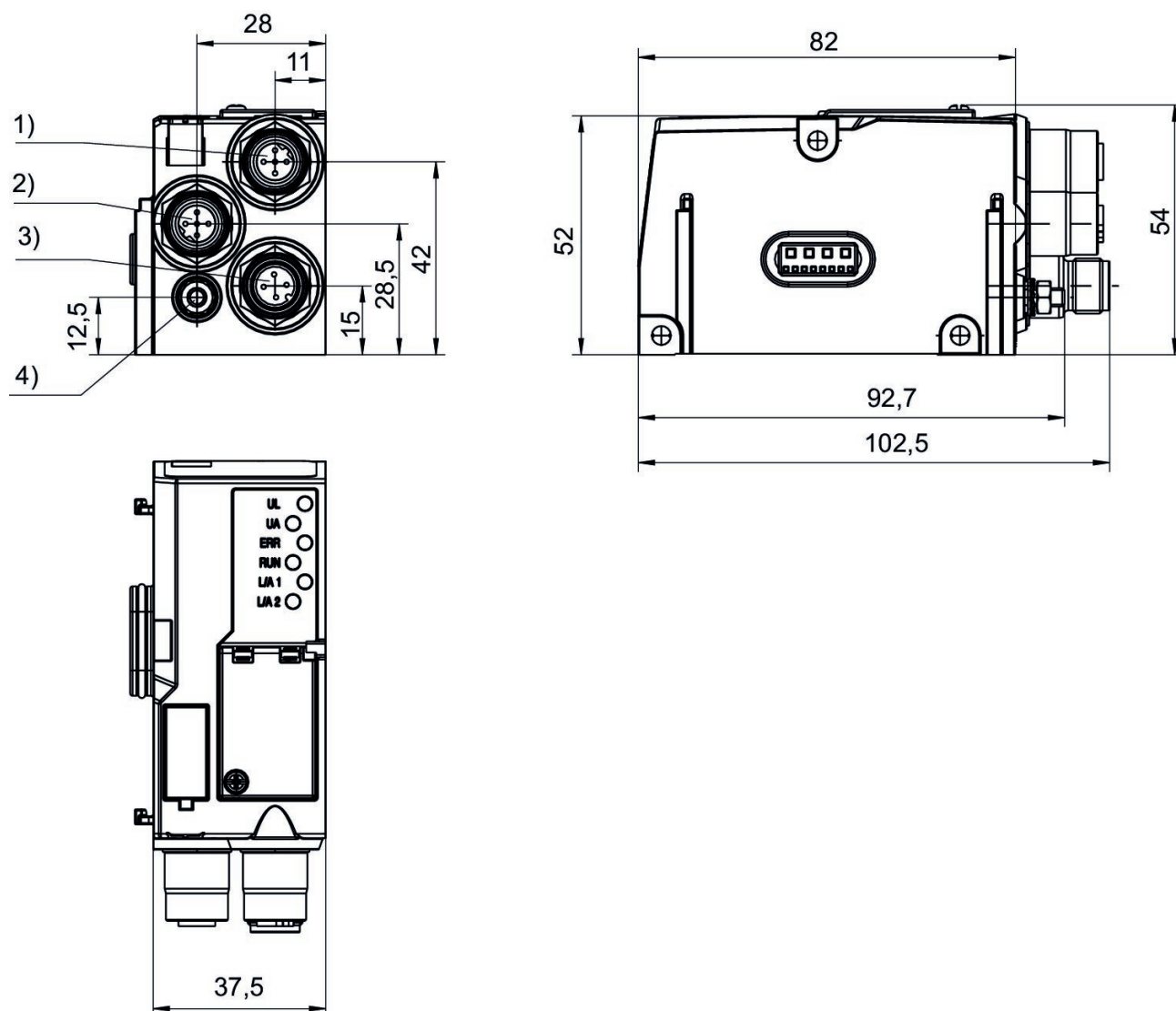
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

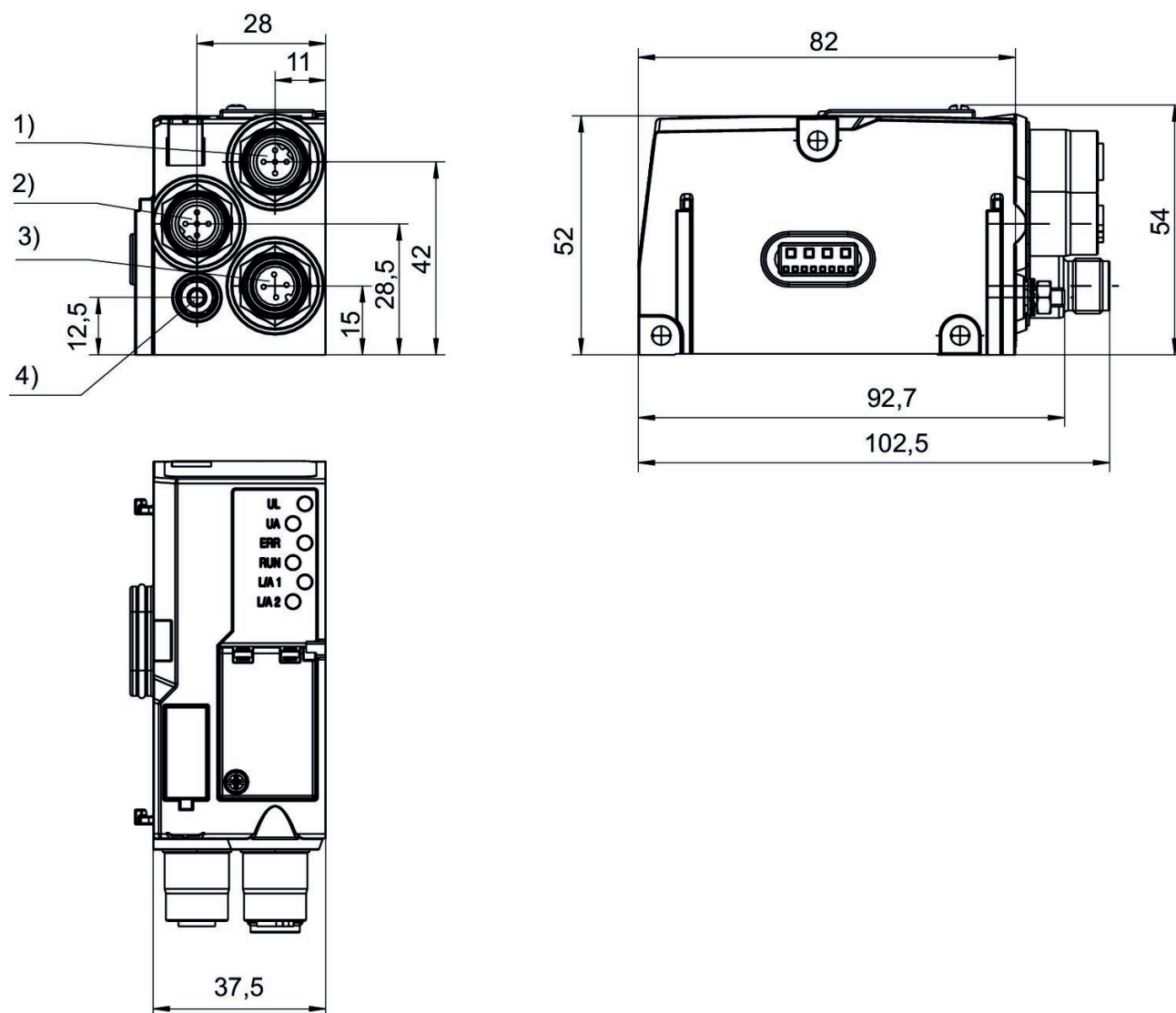
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

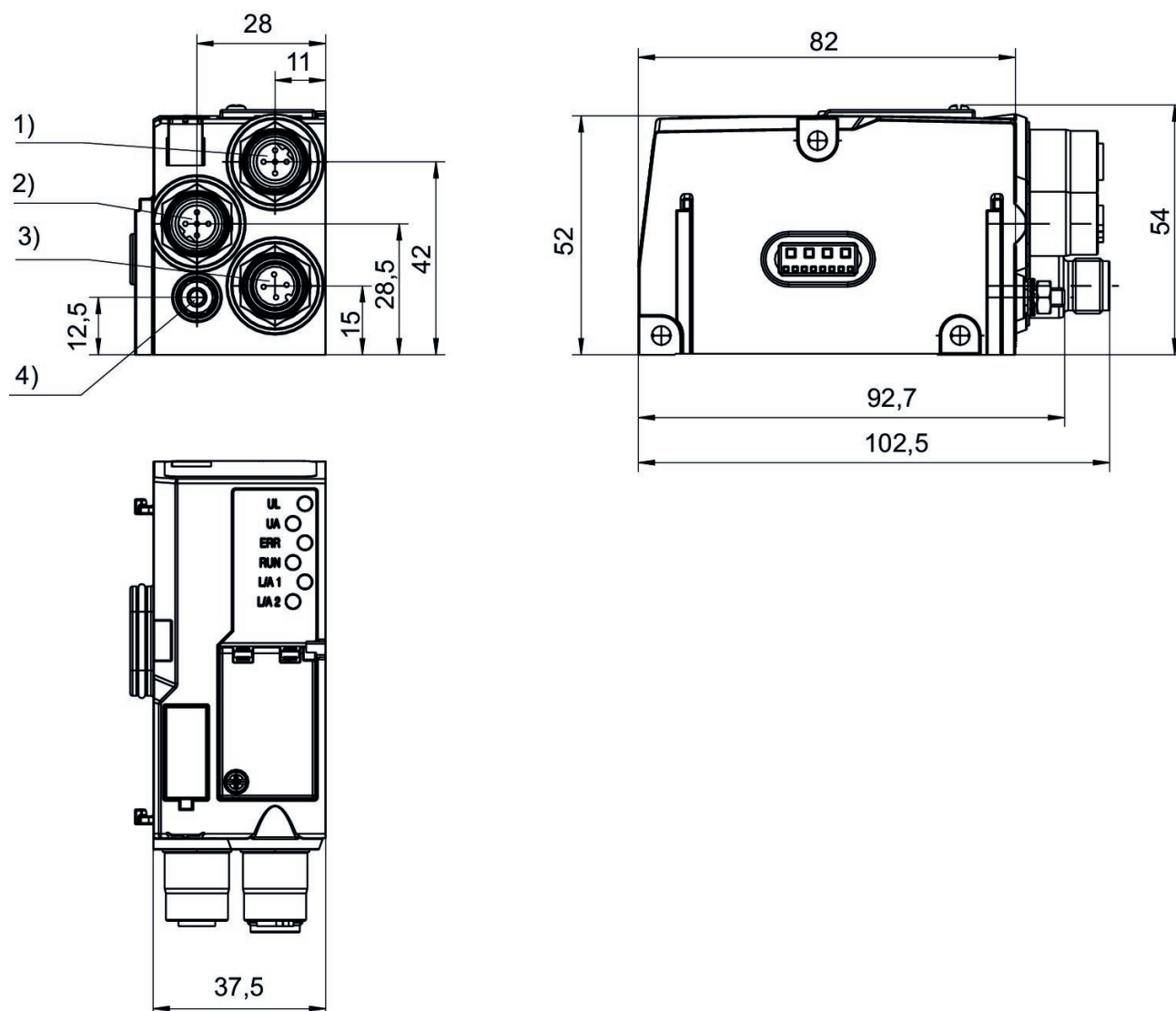
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

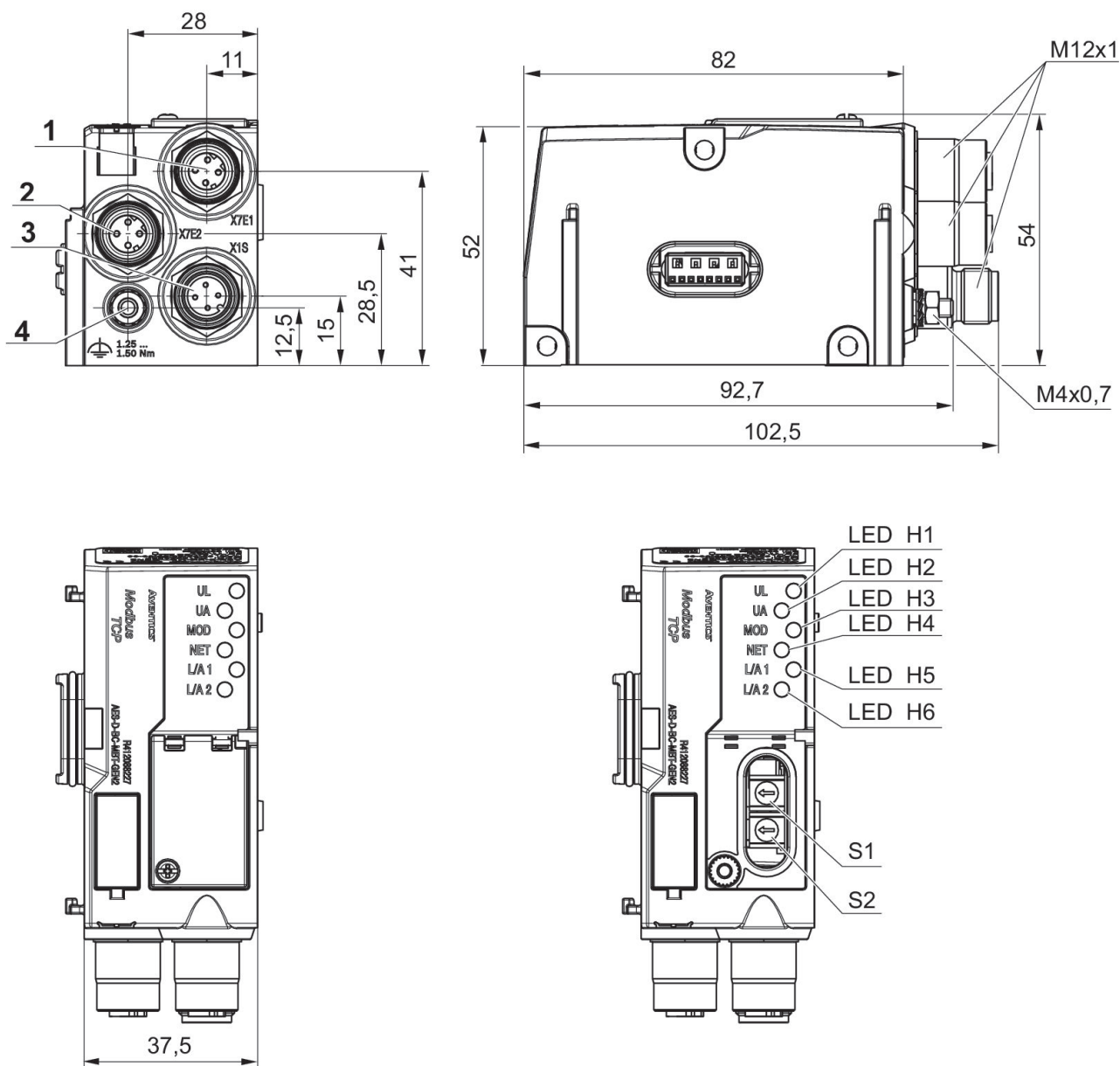
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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.

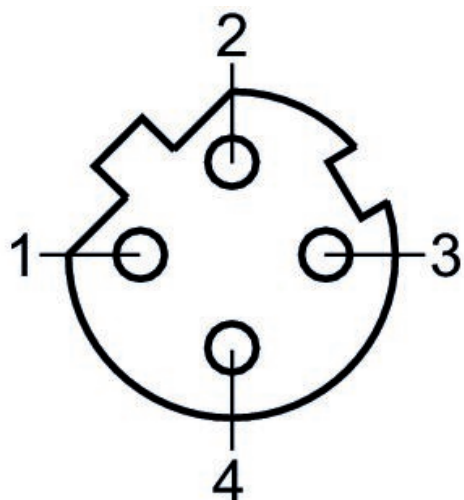
Scope of delivery: Incl. mounting screws 3x

Dimensions

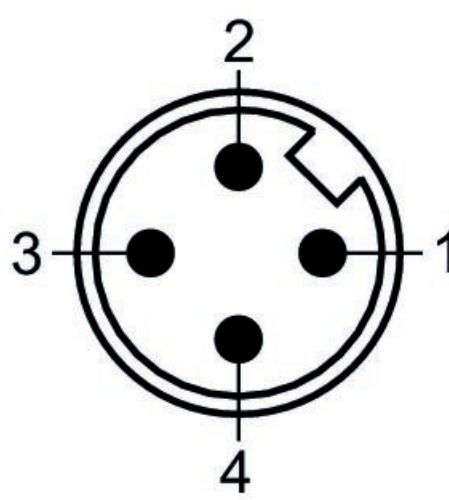


1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

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 |
|--|------------------------|

Technical information

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

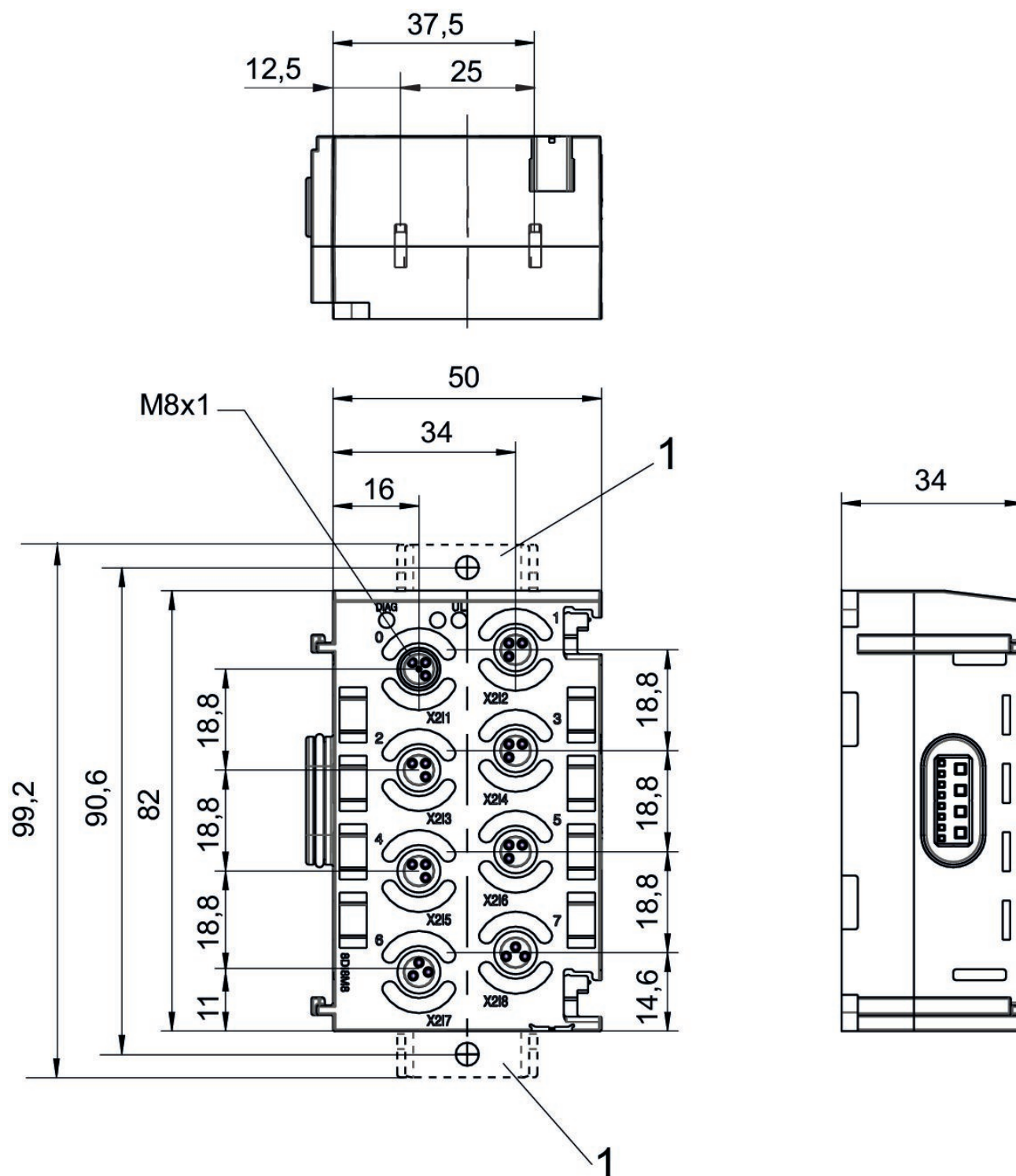
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Function specification for fieldbus configuration.

Dimensions

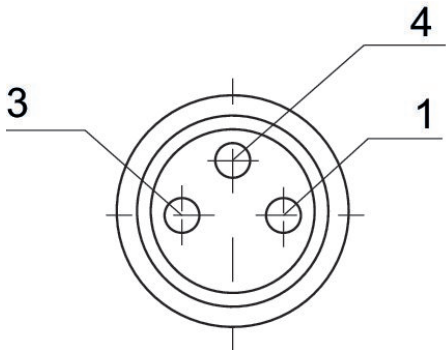


1) Retaining bracket (optional)
Pin assignment M8x1 (3-pin)

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.

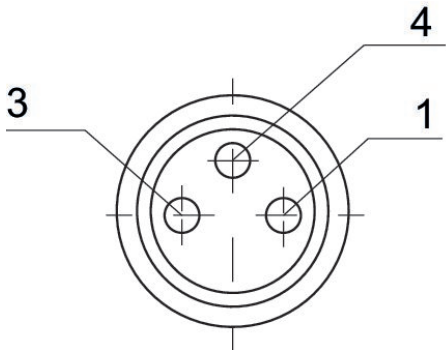
Delivery contents: incl. 2 spring clamp elements and seal

[illegible]

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.

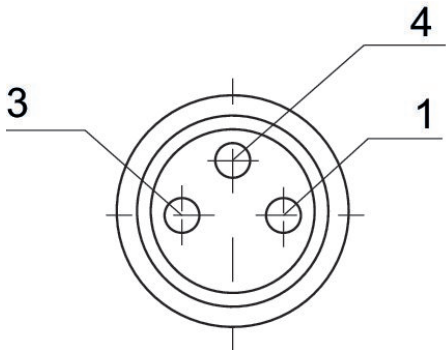
Delivery contents: incl. 2 spring clamp elements and seal

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

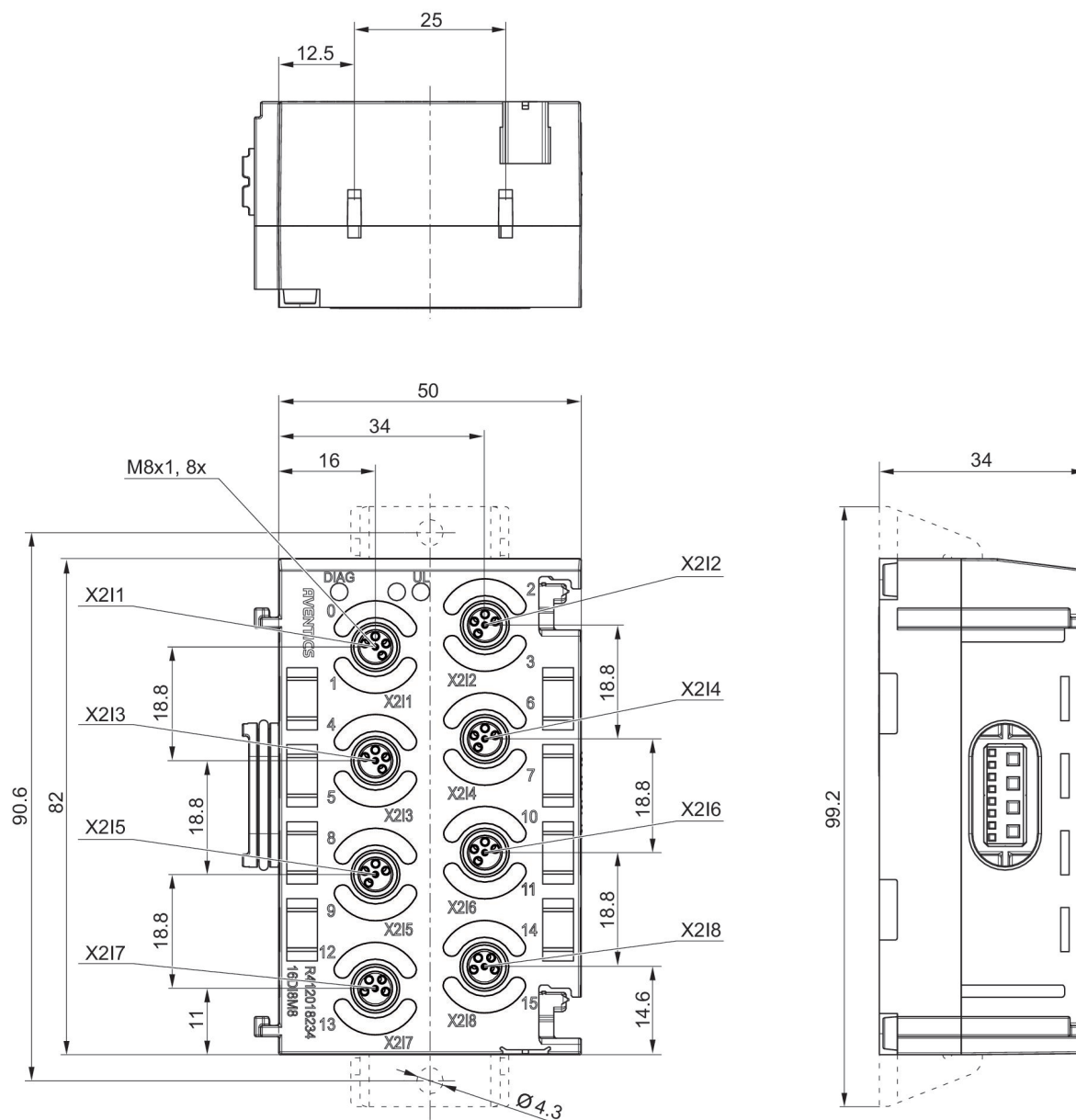
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Voltage and short-circuit monitoring per LED.

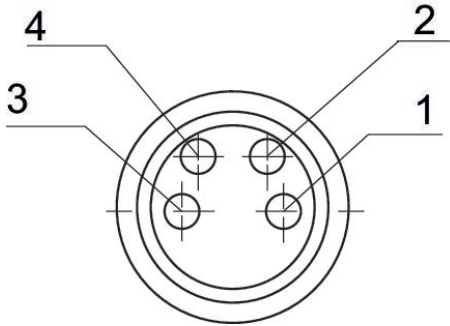
Delivery contents: incl. 2 spring clamp elements and seal

Dimensions



1) Retaining bracket (optional)
Pin assignment M8x1 (4-pin)

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

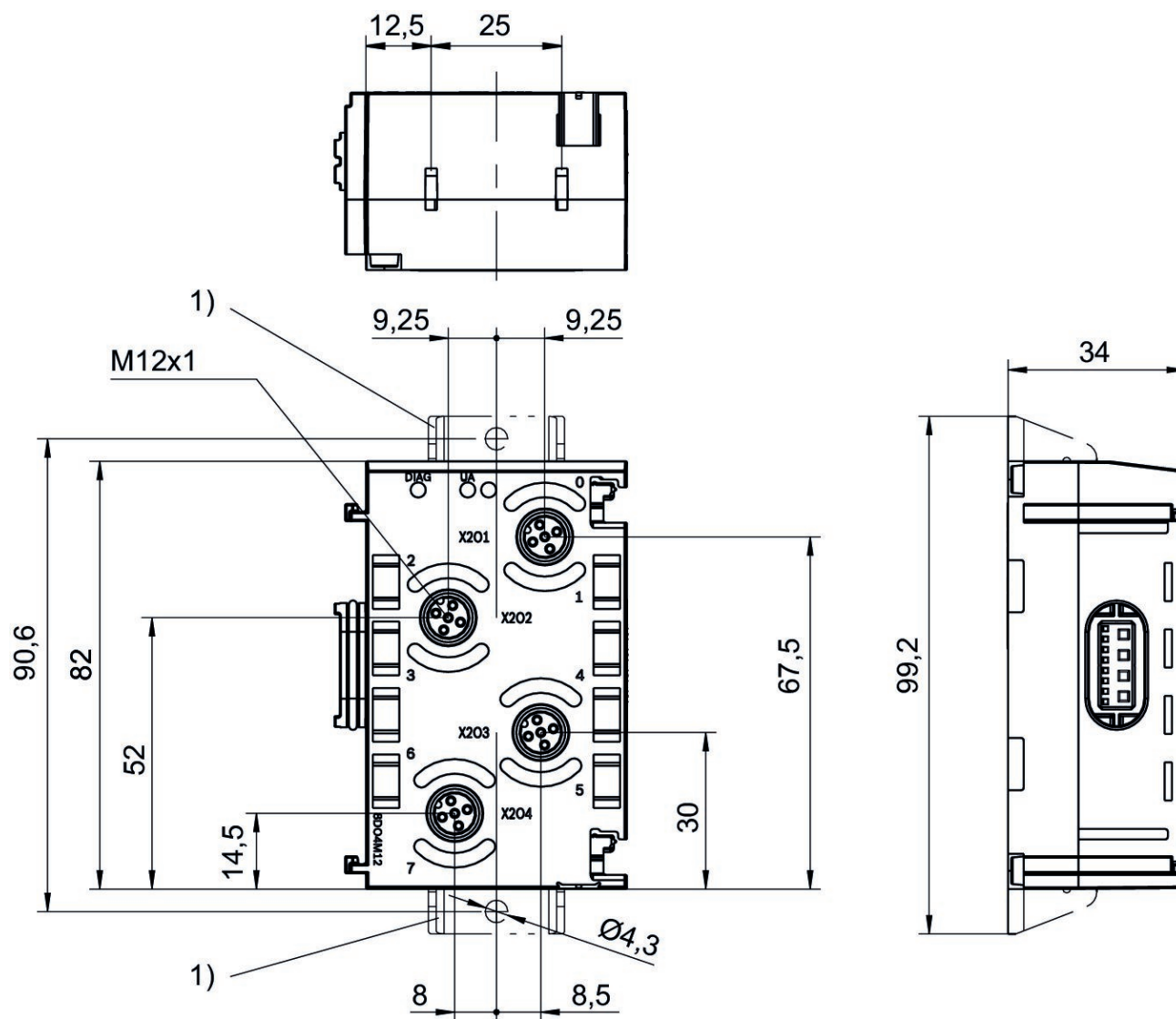
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Voltage and short-circuit monitoring per LED.

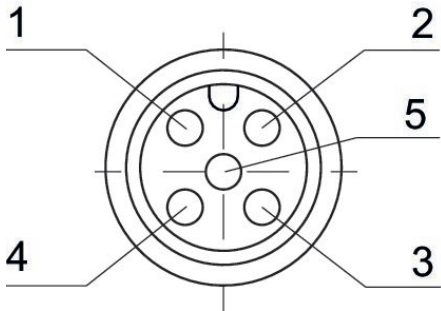
Delivery contents: incl. 2 spring clamp elements and seal

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

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

Technical drawing of the BDOAM12 module, showing front, top, and side views with dimensions and labels.

Front View (Main):

- Overall height: 90,6
- Overall width: 34
- Top section height: 82
- Bottom section height: 67,5
- Distance from bottom to first connector row: 52
- Distance between connector rows: 14,5
- Distance from bottom to last connector row: 30
- Labels: DIAG, UA, X201, X202, X203, X204, BDOAM12, 0, 1, 2, 3, 4, 5, 6, 7.
- Mounting holes: M12x1 (indicated by callout 1).
- Bottom hole diameter: $\varnothing 4,3$.

Top View:

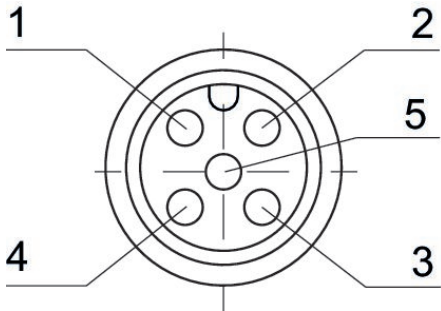
- Overall width: 25
- Distance from left edge to center: 12,5
- Distance from center to right edge: 9,25
- Distance from center to mounting hole: 9,25

Side View:

- Overall height: 99,2
- Overall width: 34

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.

Technical drawing of the BDO4M12 module, showing three views: top, front, and side.

Top View:

- Overall width: 37 (12,5 + 25)
- Distance between mounting holes: 18 (9,25 + 9,25)
- Mounting holes: M12x1

Front View:

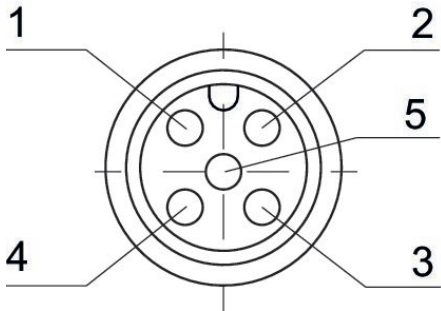
- Overall height: 90,6
- Distance from top edge to first connector row: 82
- Distance between connector rows: 52
- Distance from bottom edge to last connector row: 14,5
- Connector rows: X201, X202, X203, X204
- Mounting holes: Ø4,3

Side View:

- Overall depth: 99,2
- Module width: 34

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

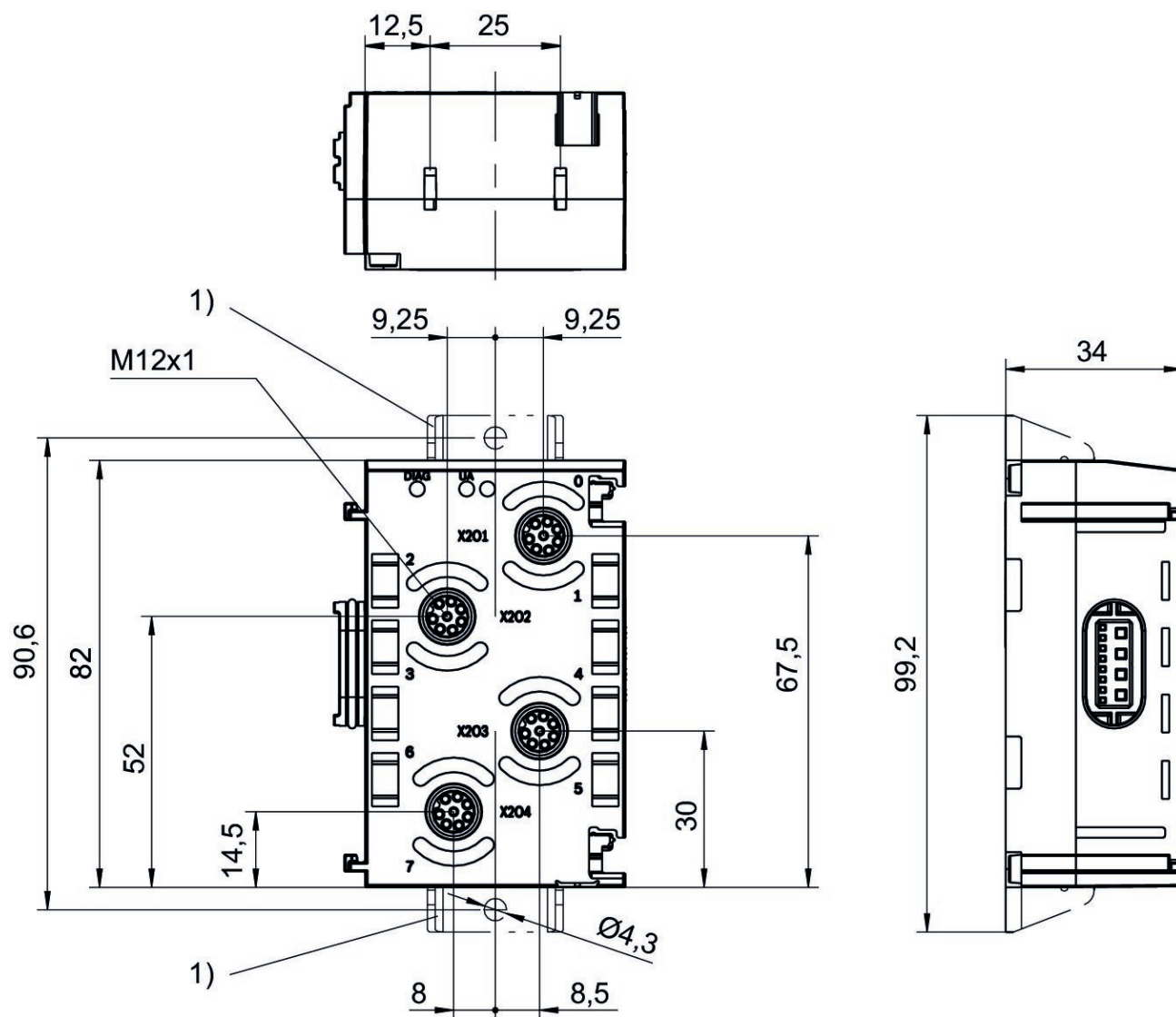
Technical information

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

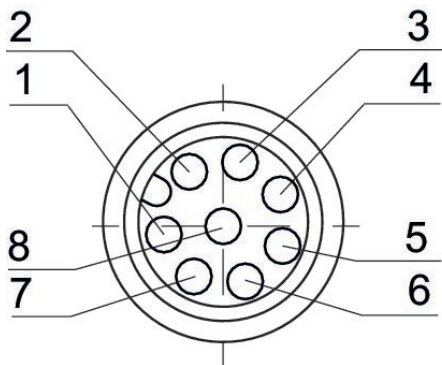
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

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

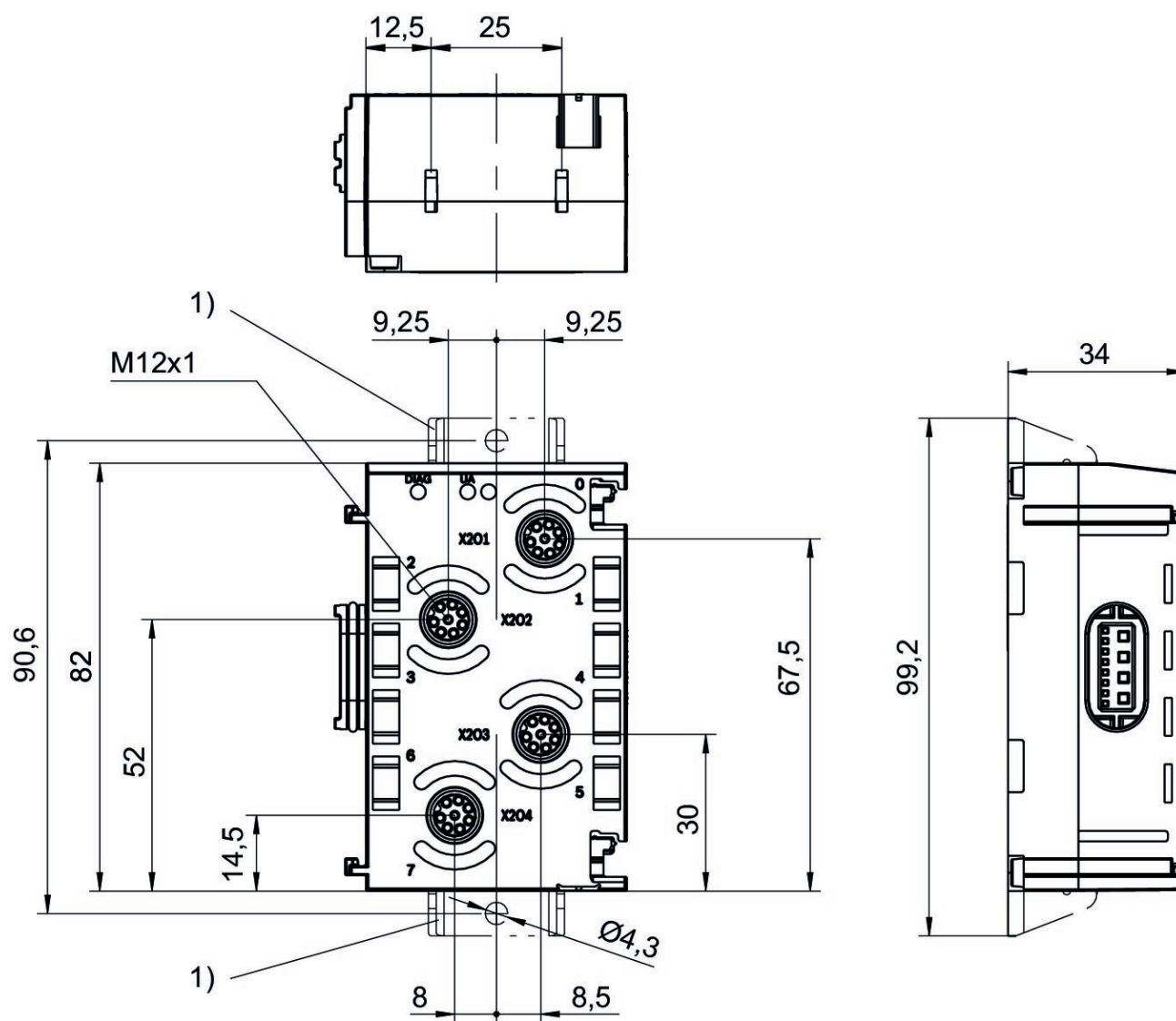
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Voltage and short-circuit monitoring per LED.

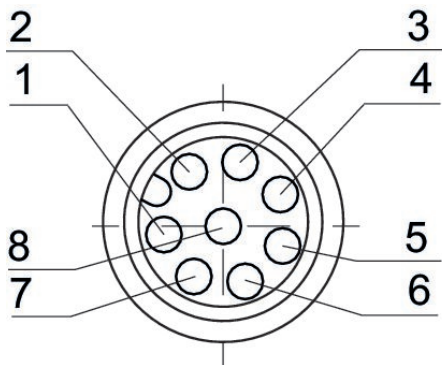
Delivery contents: incl. 2 spring clamp elements and seal

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

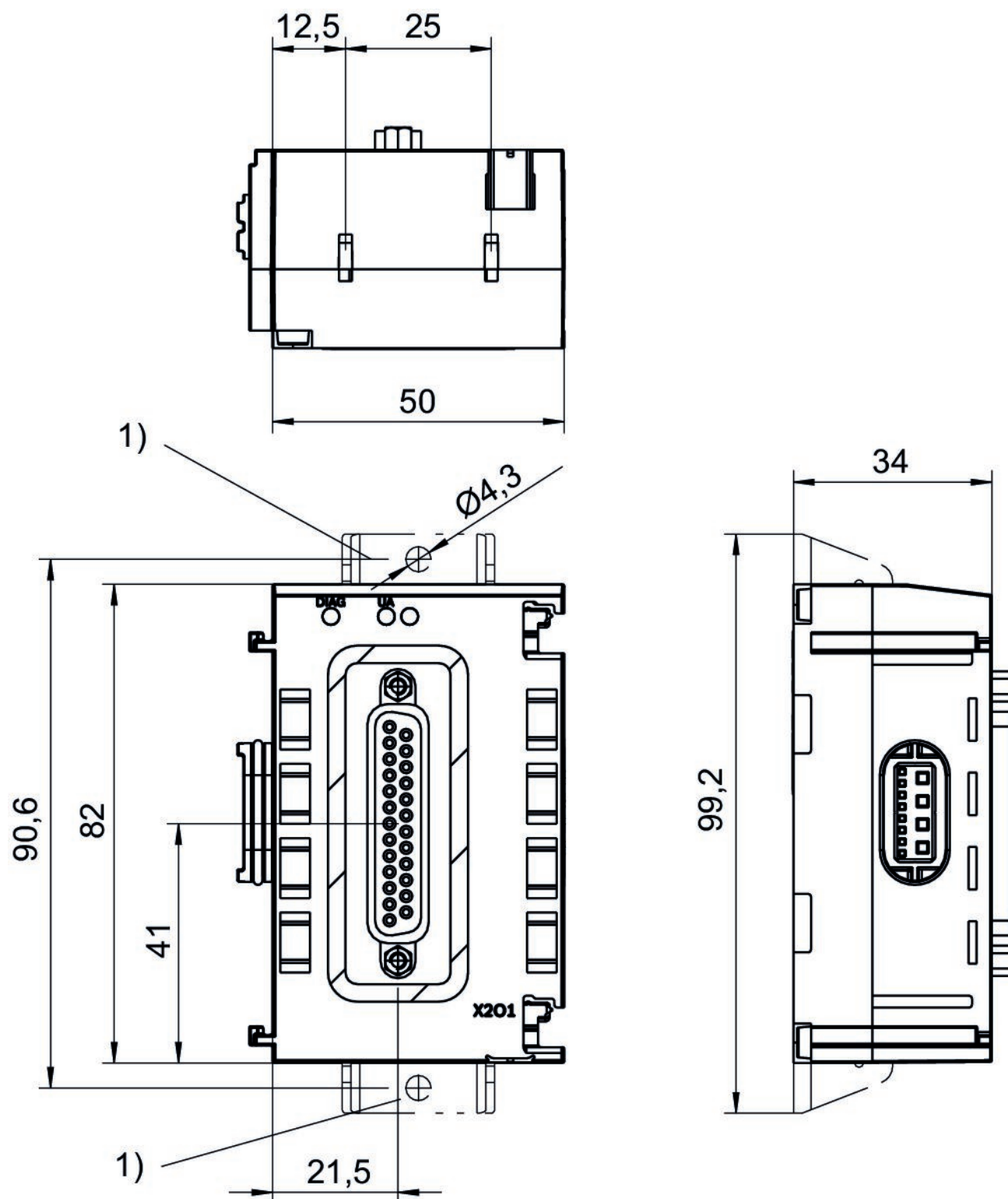
Technical information

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.

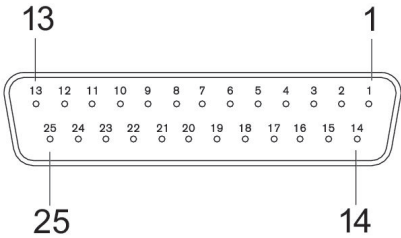
Delivery contents: incl. 2 spring clamp elements and seal

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 |

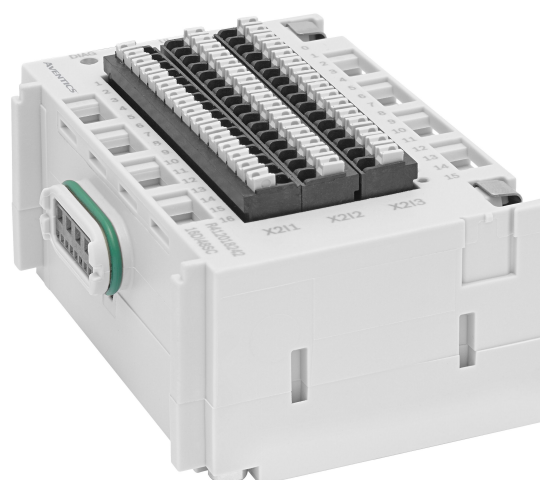
X = bit value

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

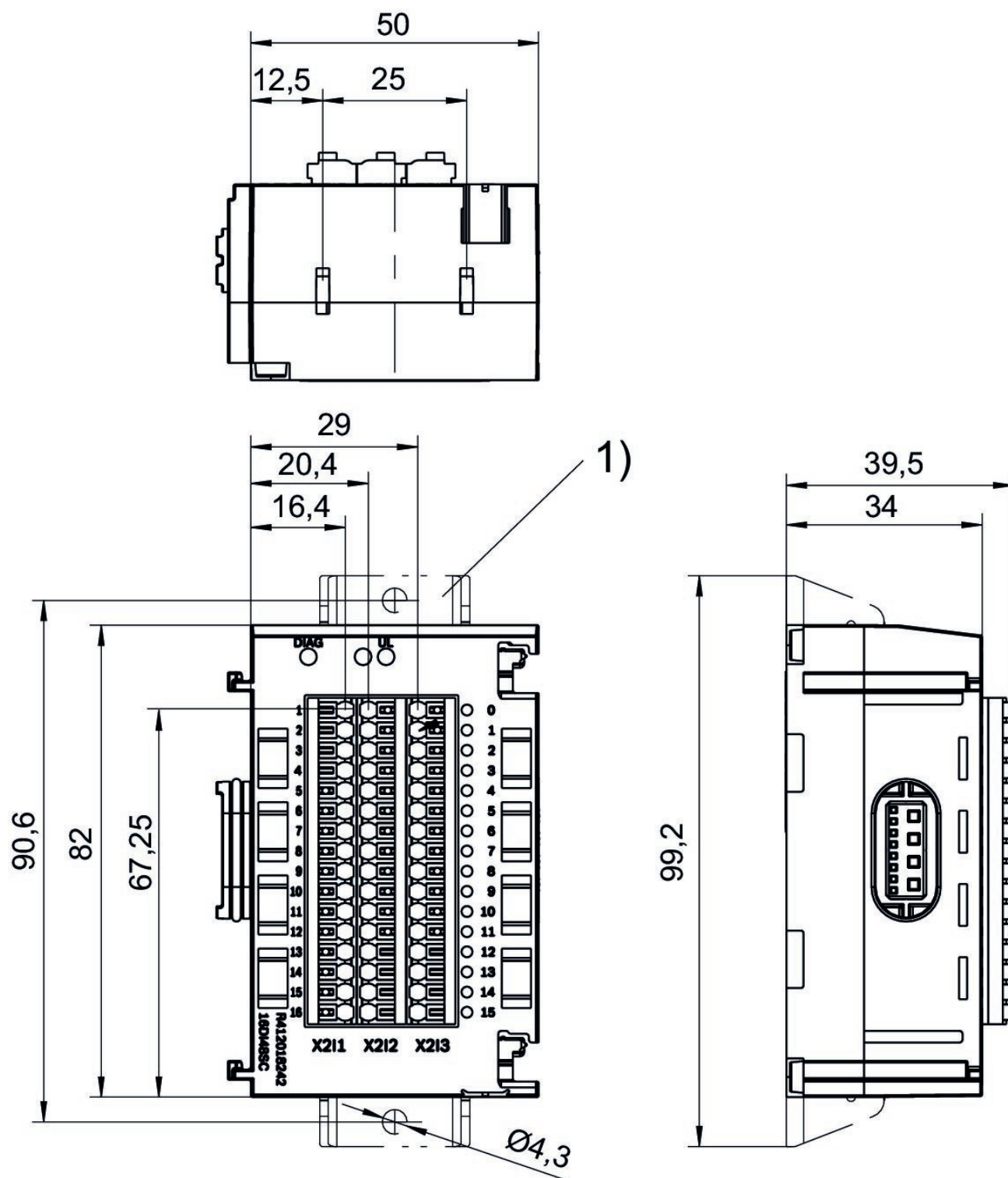
Technical information

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



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

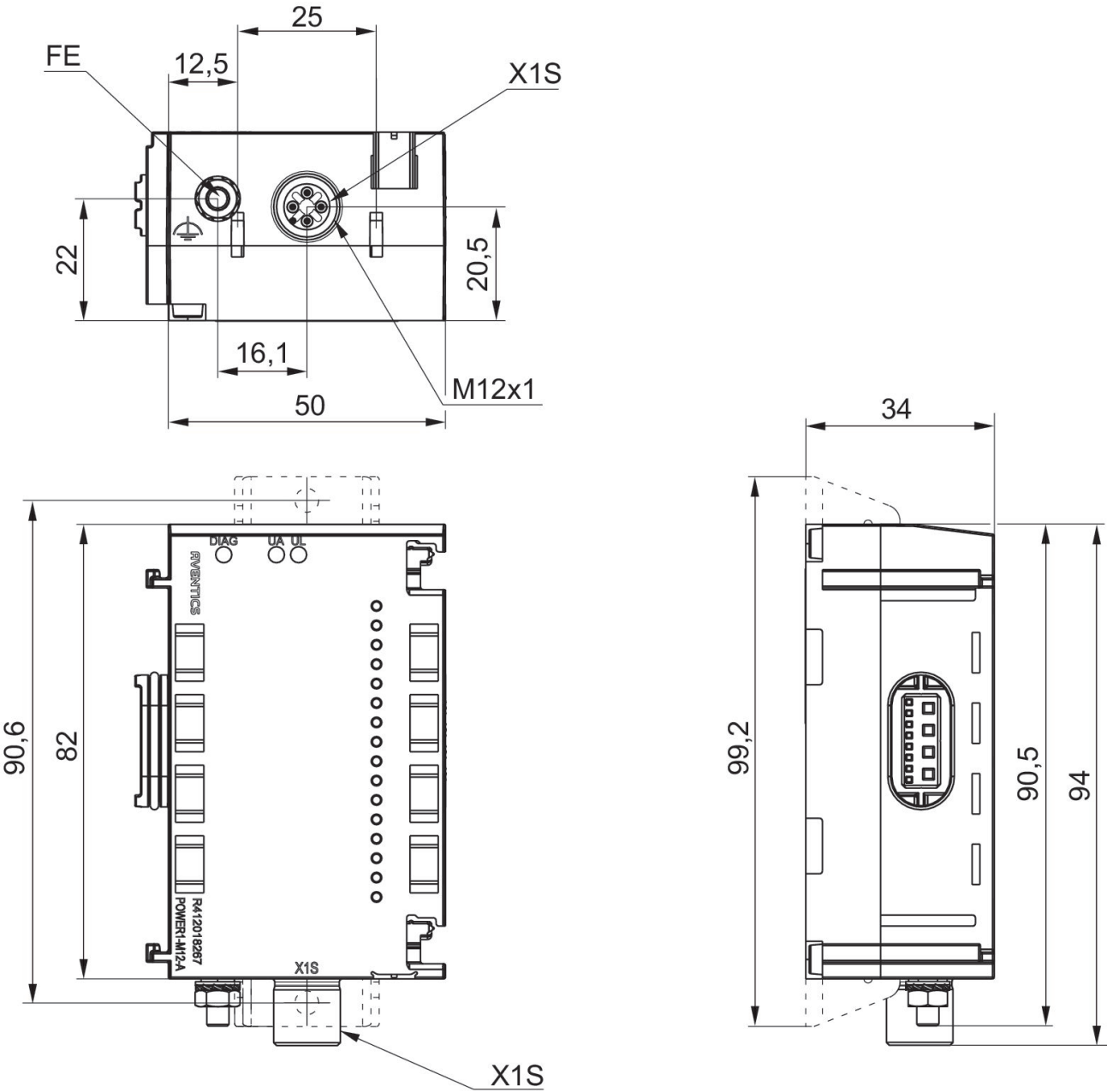
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

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

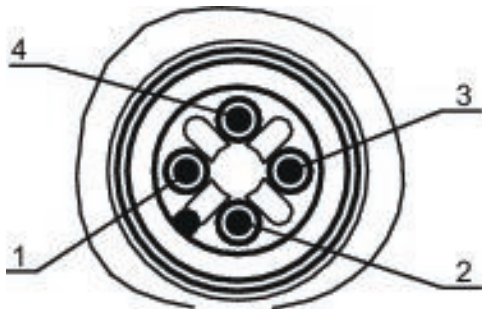
The supply voltage is galvanically isolated from the right-hand module.

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

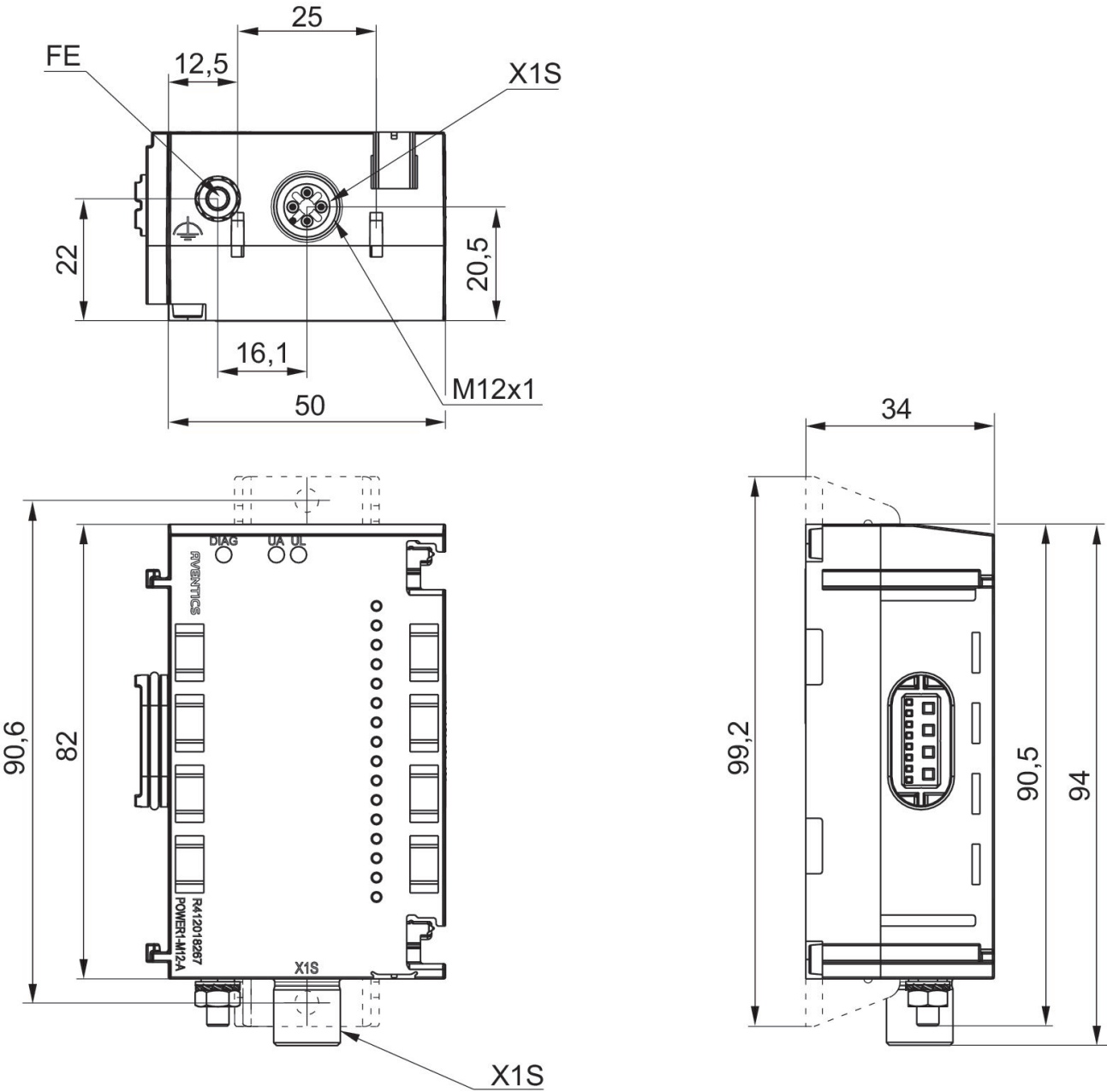
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

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

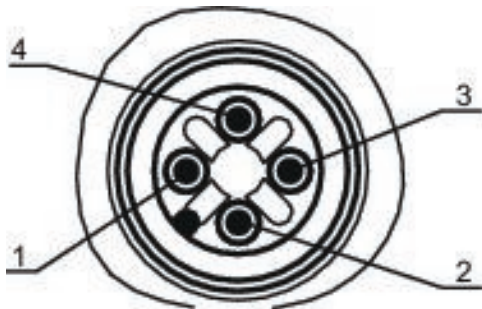
The supply voltage is galvanically isolated from the right-hand module.

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.

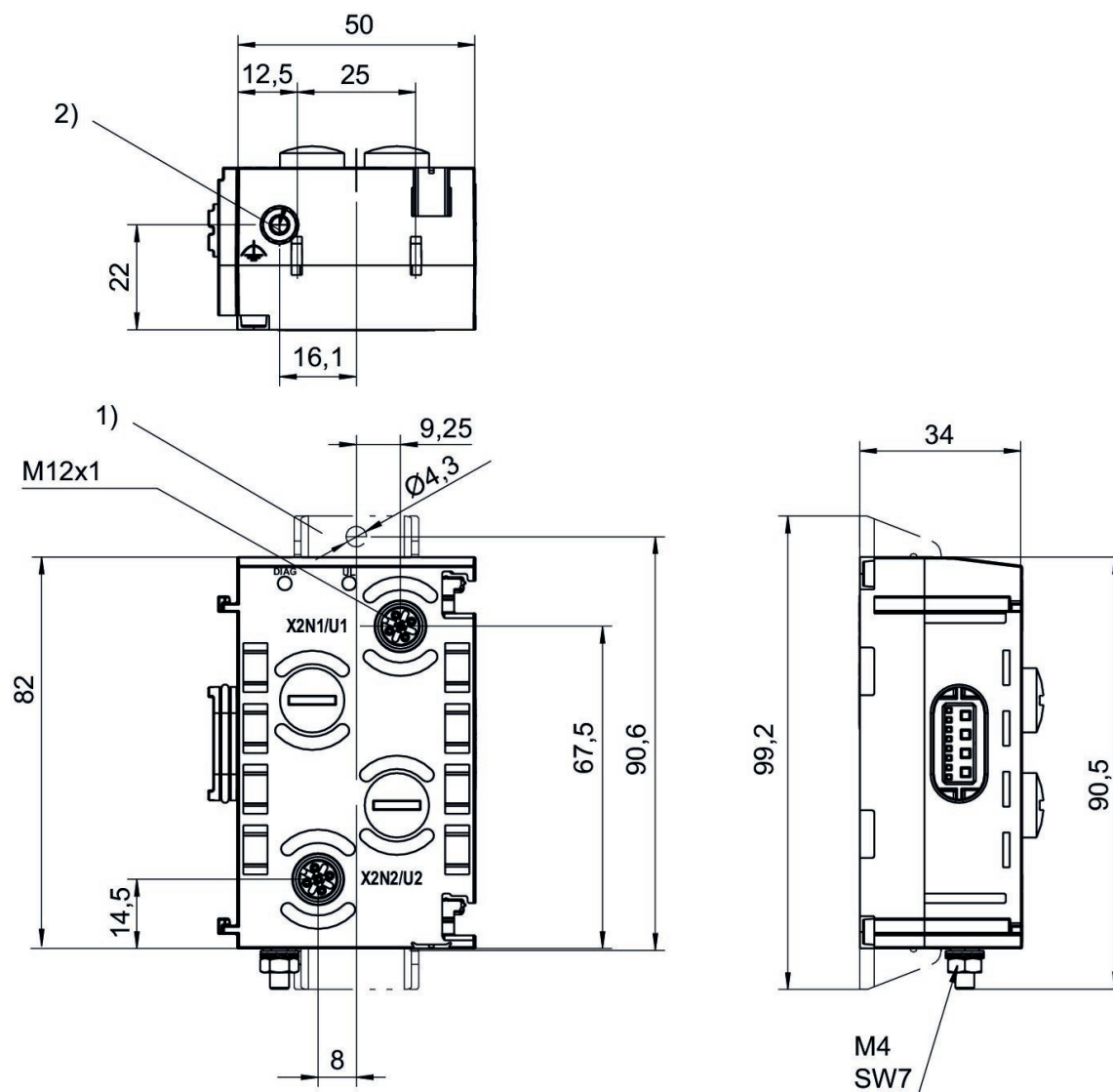
Voltage and short-circuit monitoring per LED.

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

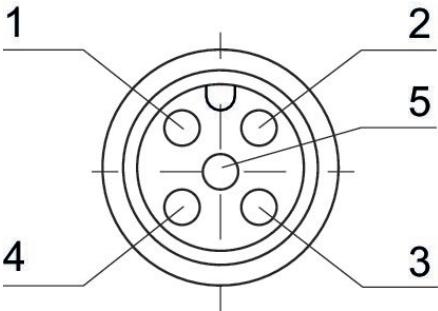
Dimensions



- 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.

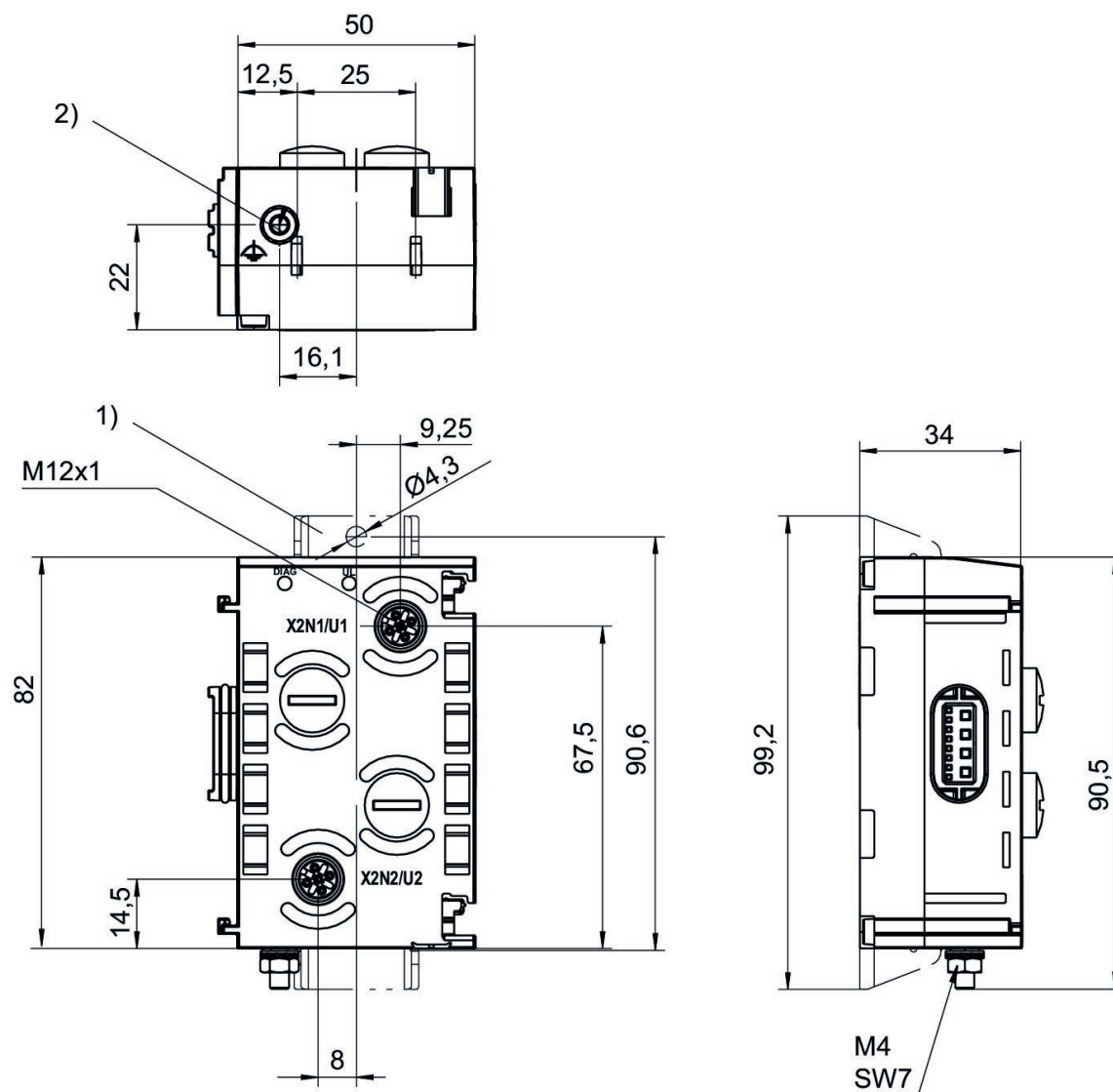
Voltage and short-circuit monitoring per LED.

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.

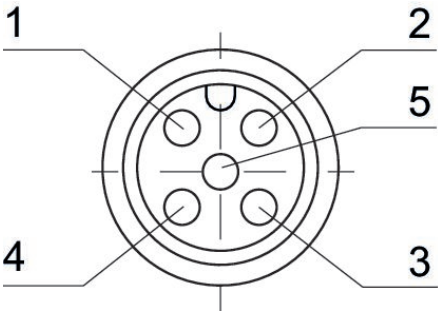
Dimensions



- 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.

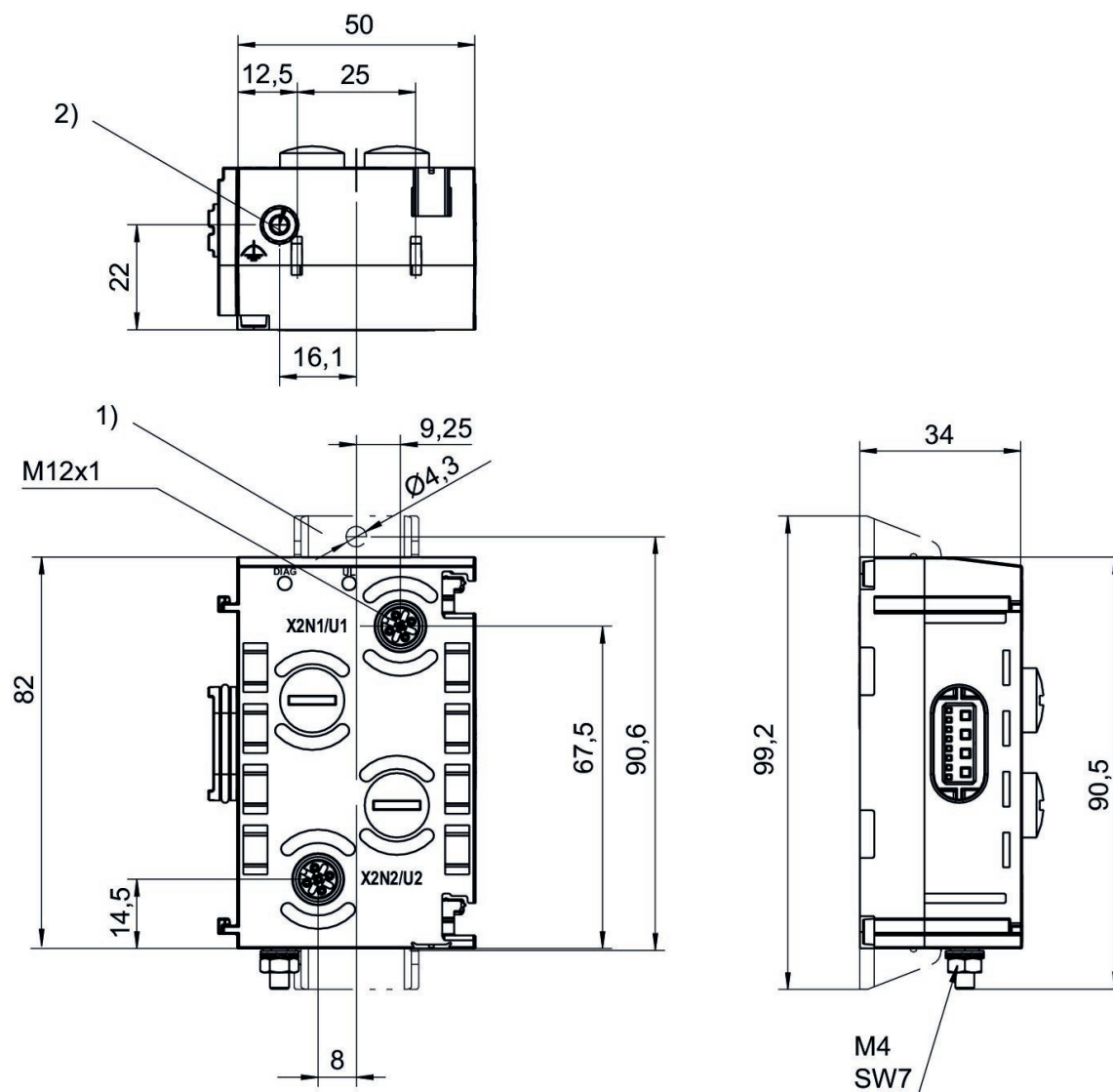
Voltage and short-circuit monitoring per LED.

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

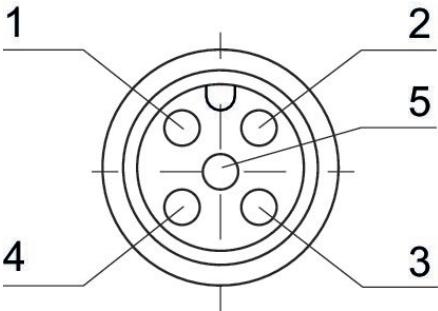
Dimensions



- 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

Technical information

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

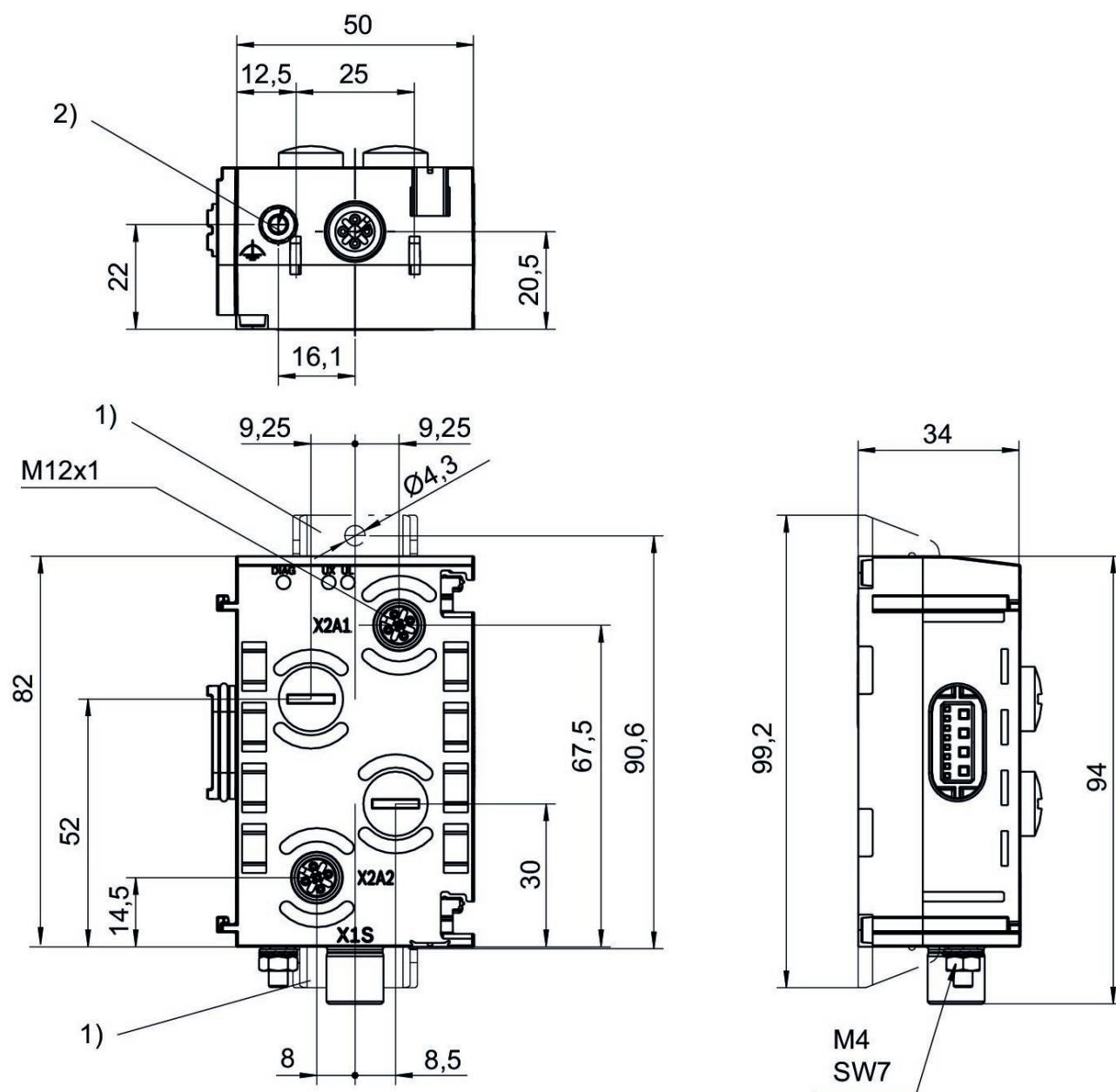
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

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

Delivery contents: incl. 2 spring clamp elements and seal

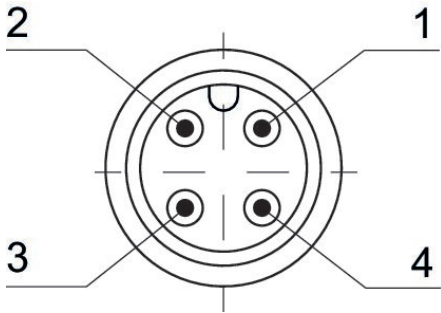
freely selectable signals, configurable

Dimensions

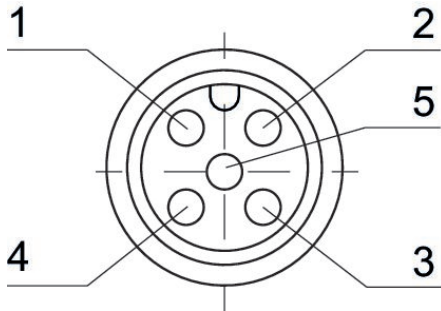


- 1) Retaining bracket (optional)
2) Ground

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 in- ternally 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.

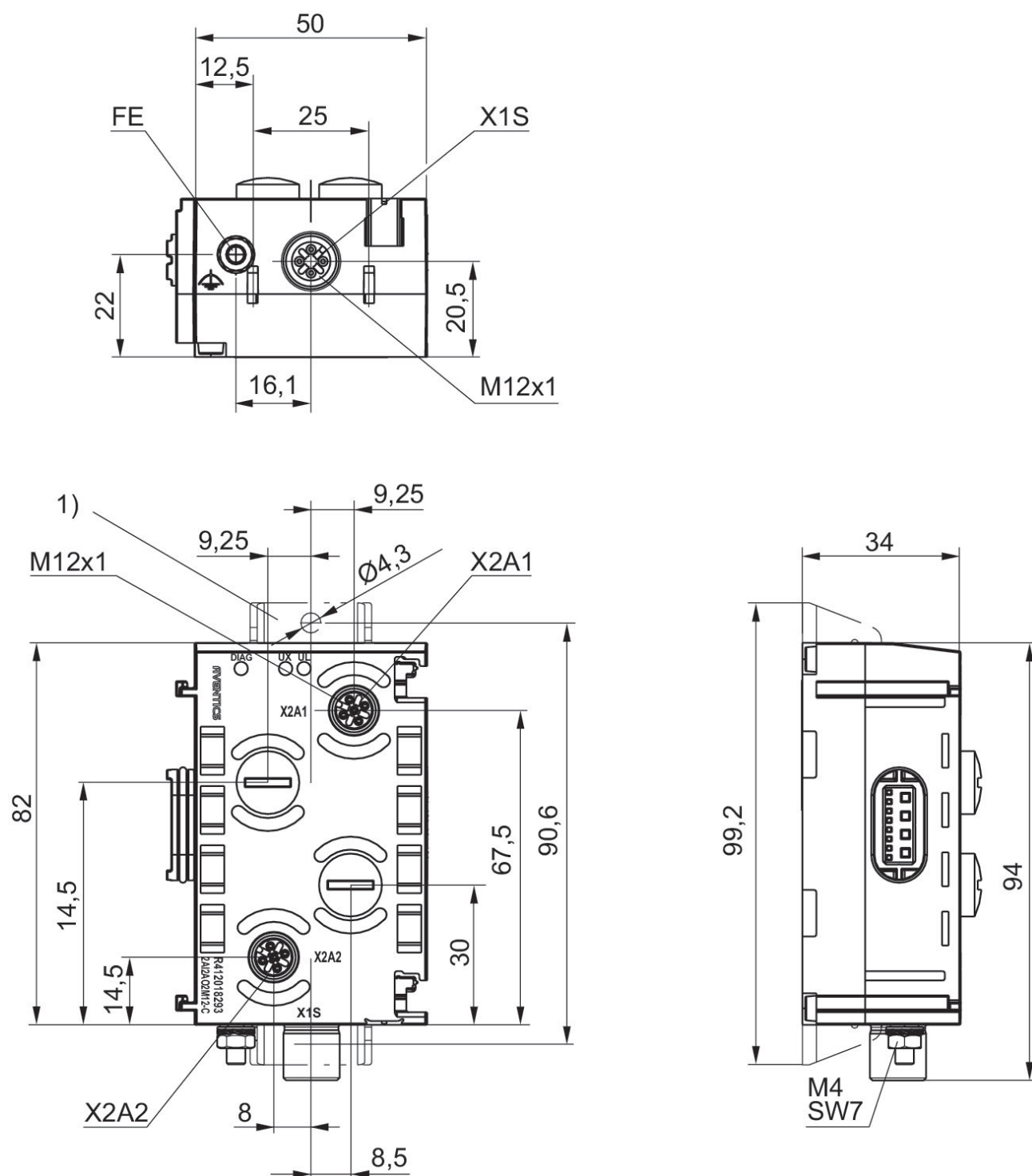
After direct connection to an electropneumatic pressure regulator suitable for controlling positions or superior control circuits.

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

Delivery contents: incl. 2 spring clamp elements and seal

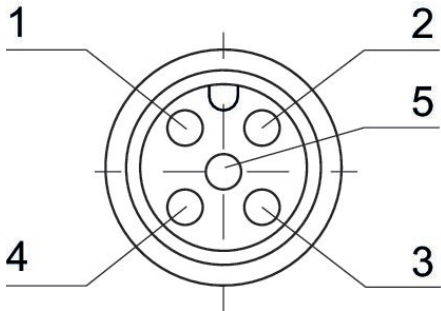
freely selectable signals, configurable

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 in-ternally 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.

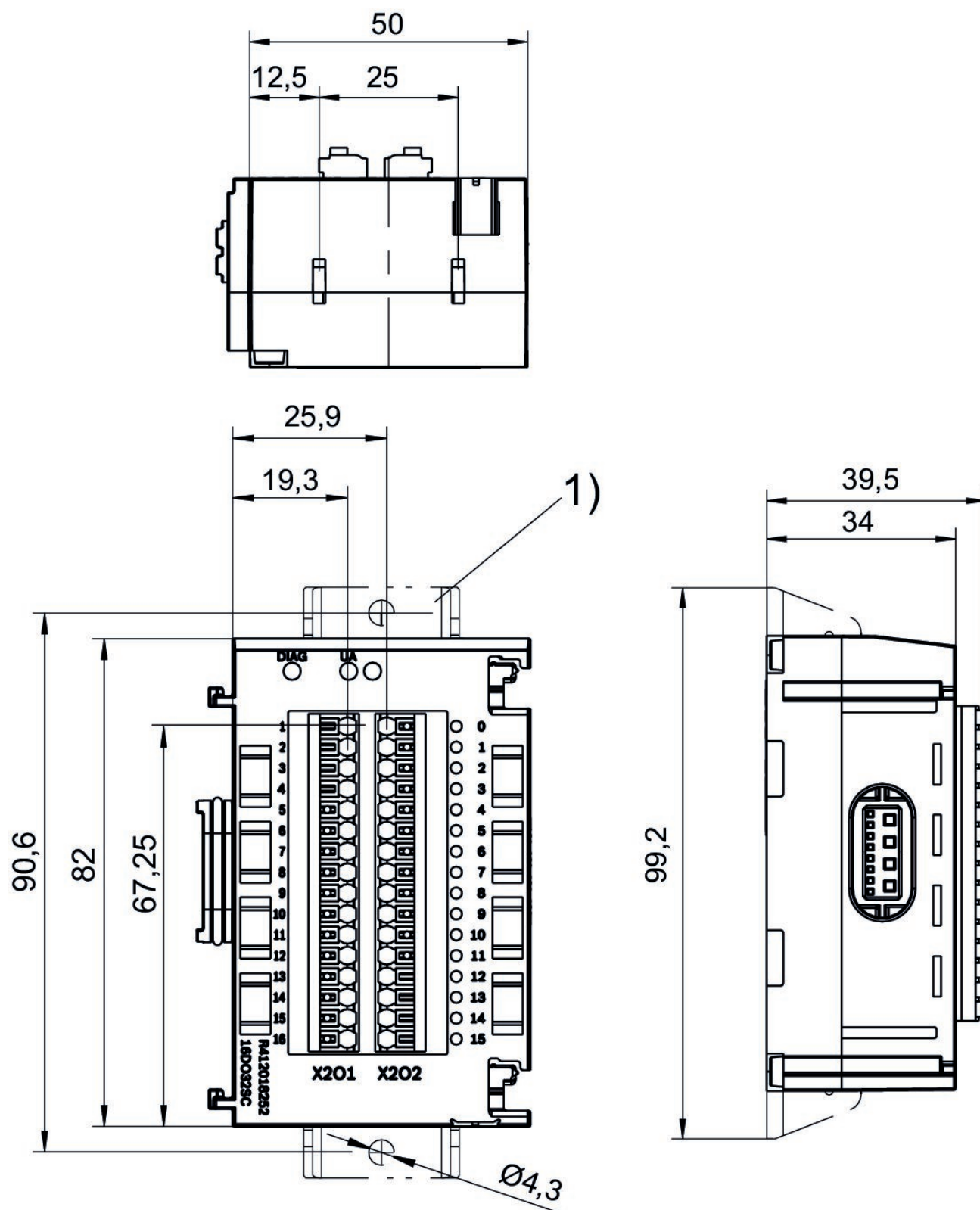
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

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

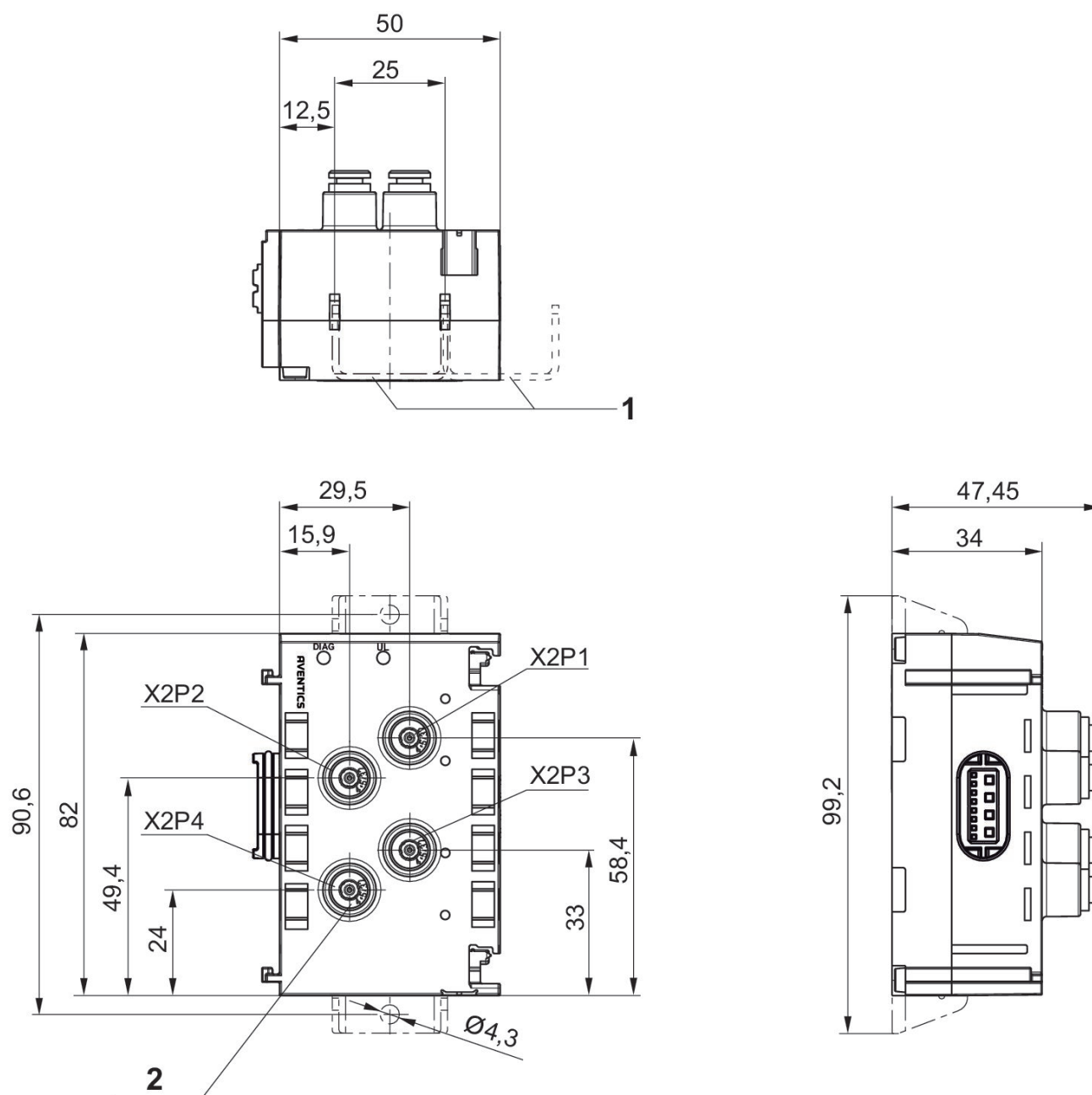
Part No.
R412018291

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 .



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

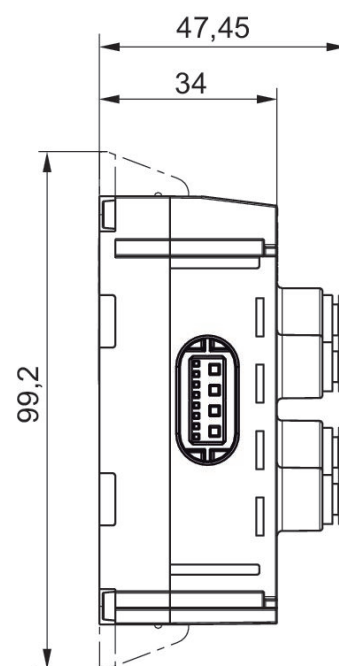
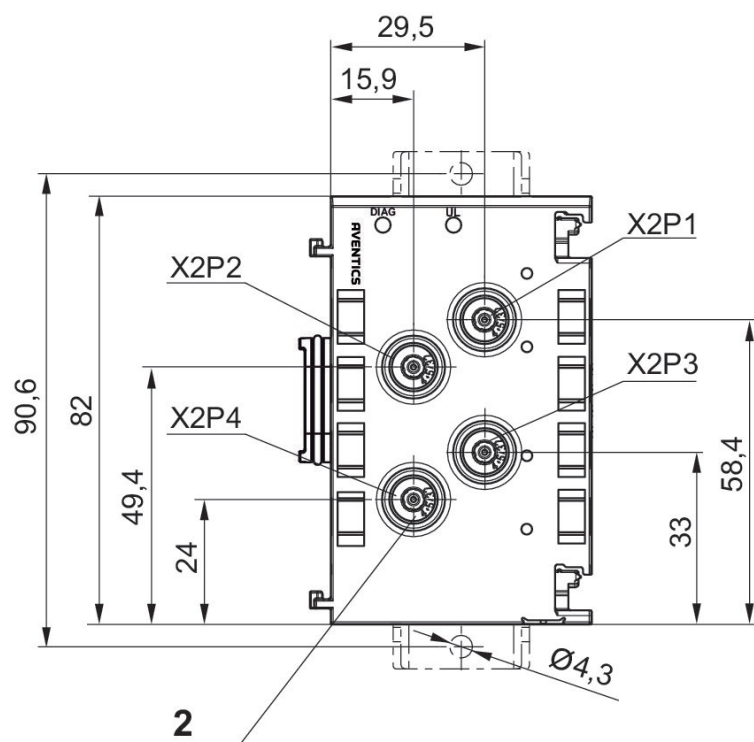
Part No.
R412018292

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 .



- 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.

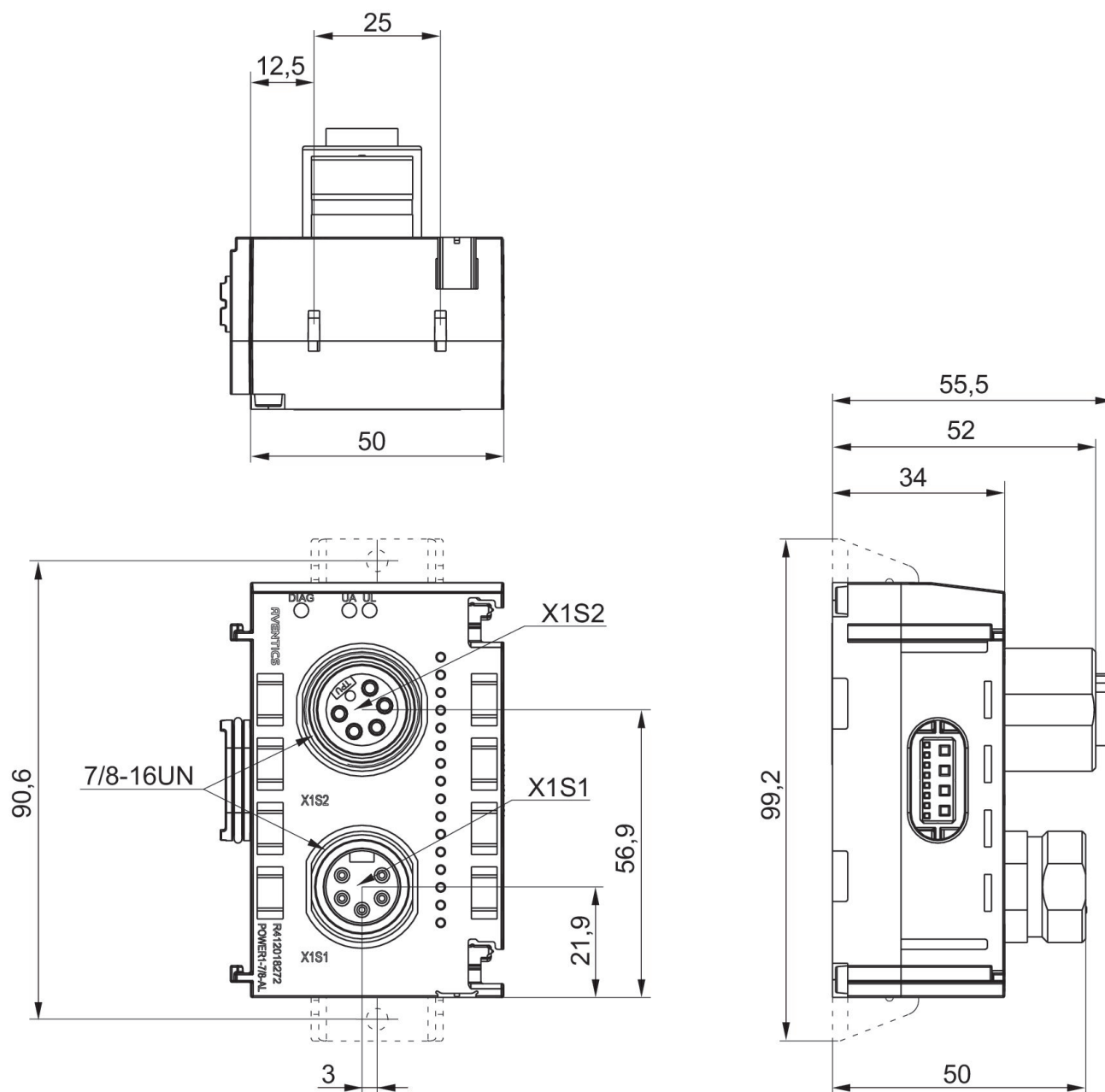
UL: Logic voltage (power supply for electronic components and sensors)

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.

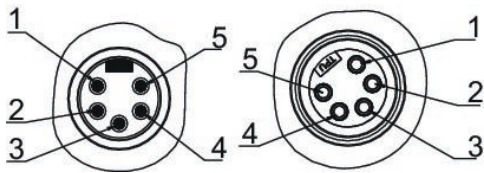
Power plug X1S on the bus coupler must be closed with sealing cap R412024837.

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/m³ |
| 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

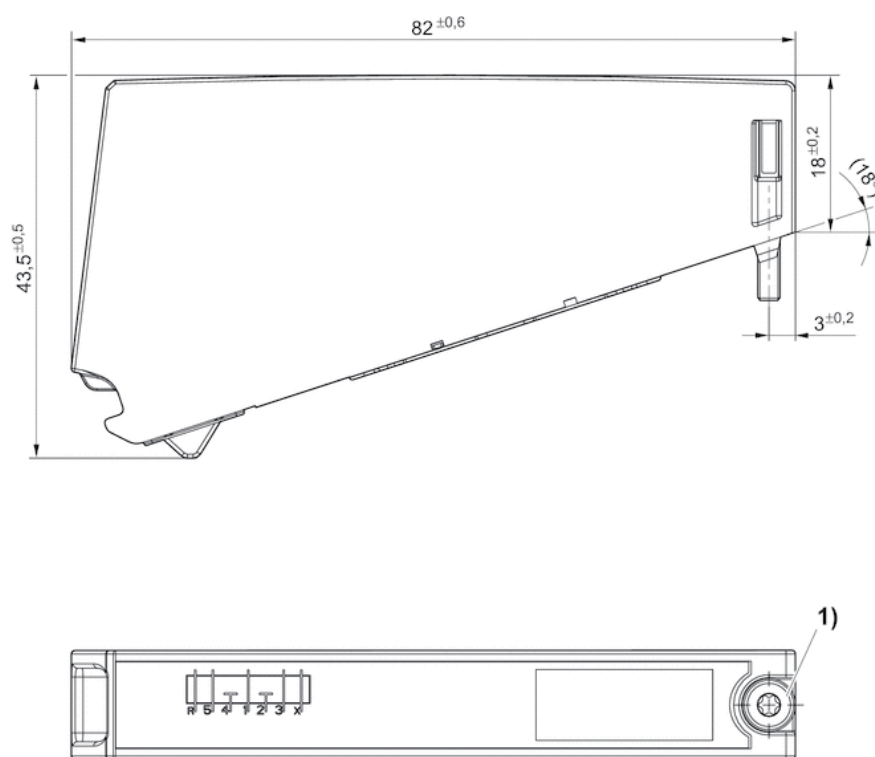
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The oil content of compressed air must remain constant during the life cycle.
 Use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



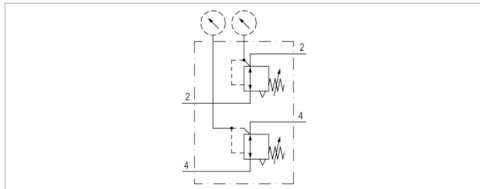
1) Mounting screw

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

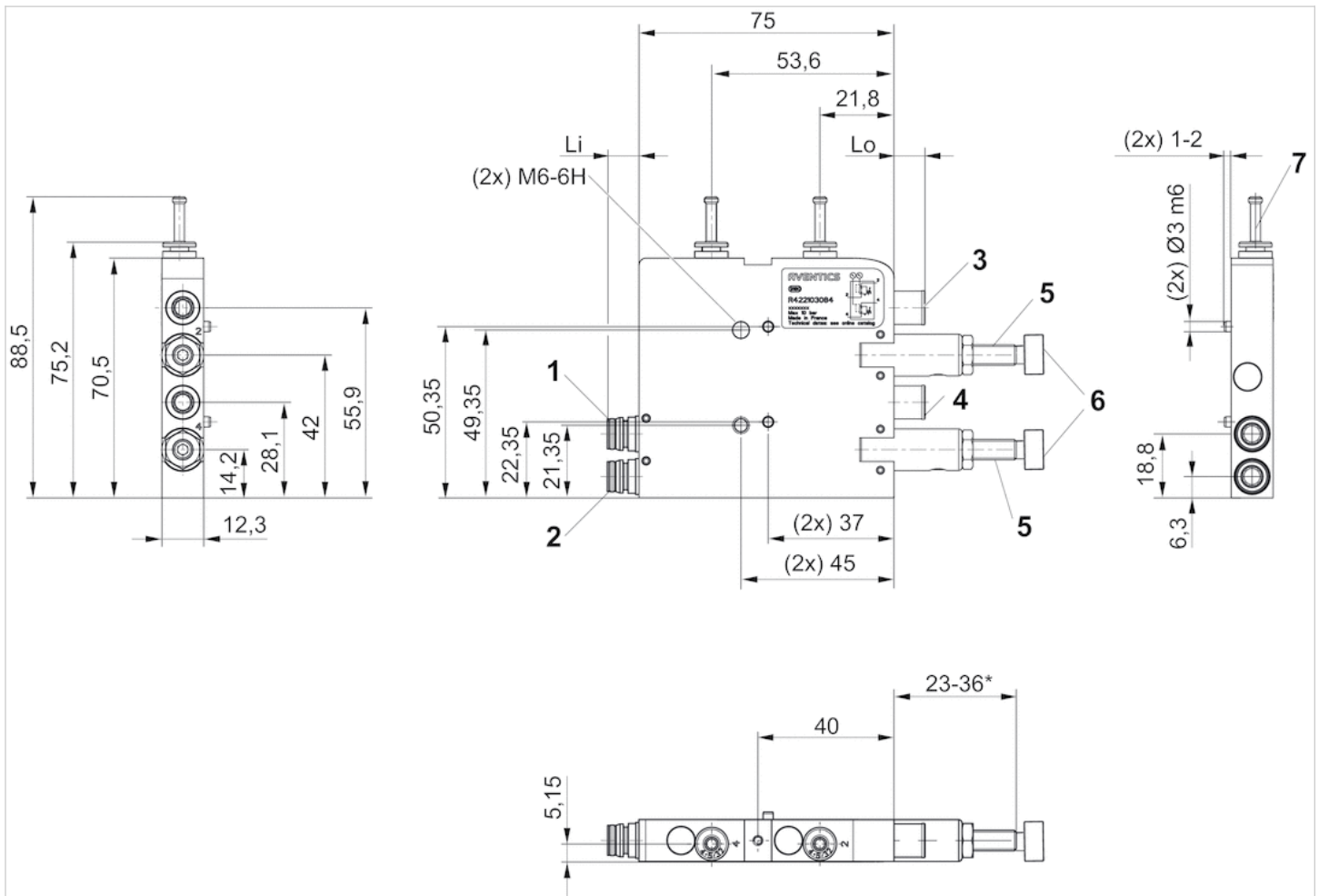
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

Technical information

| Material | |
|----------|--------------------------------|
| Housing | Aluminum |
| Seals | Acrylonitrile butadiene rubber |

Dimensions

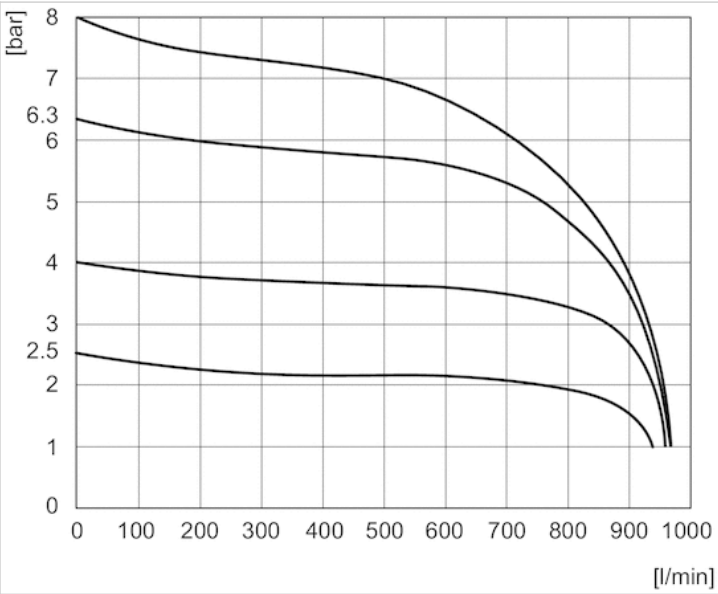
Dimensions



- 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

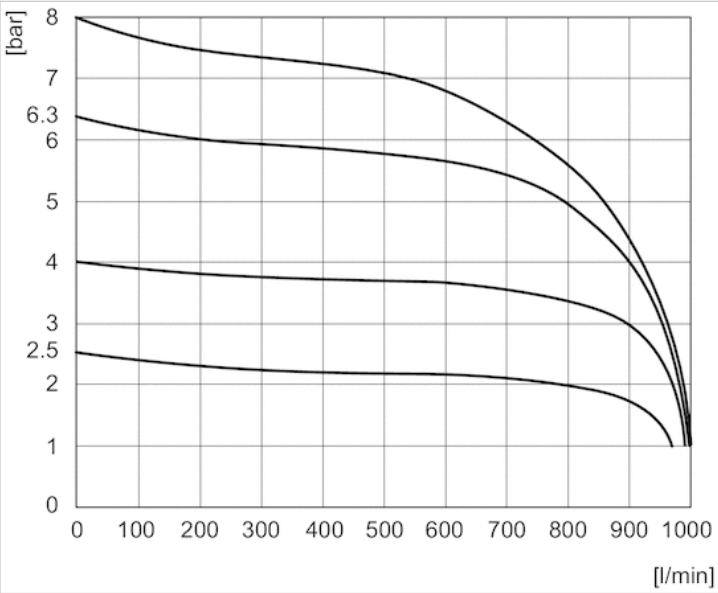
Diagrams

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

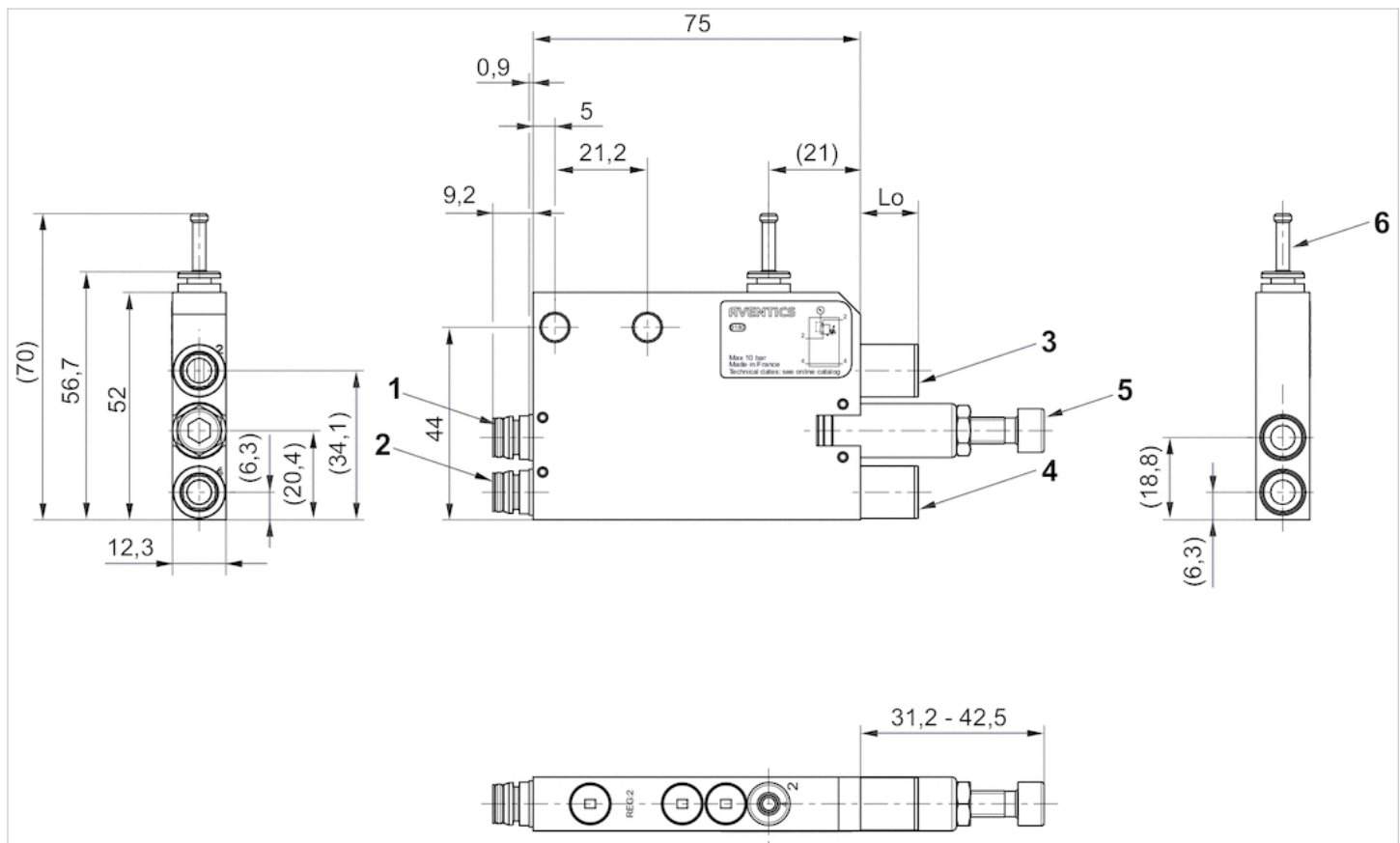
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

Technical information

| Material | |
|----------|--------------------------------|
| Housing | Aluminum |
| Seals | Acrylonitrile butadiene rubber |

Dimensions

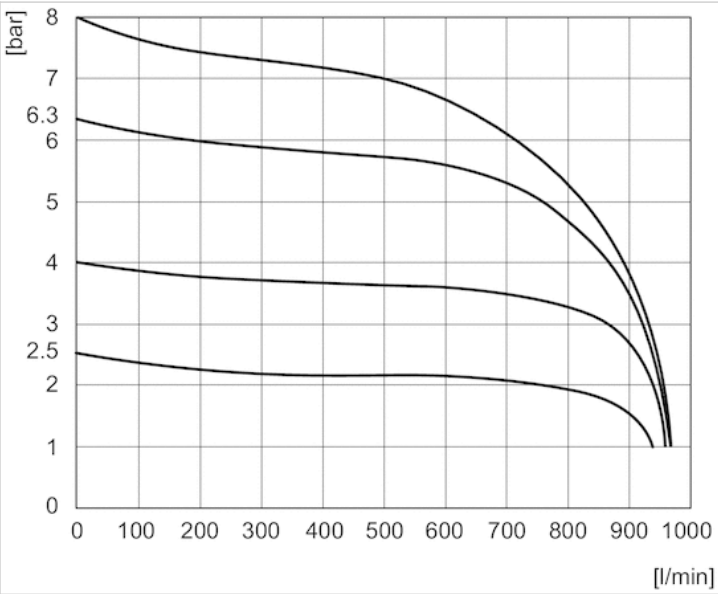
Dimensions



- 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

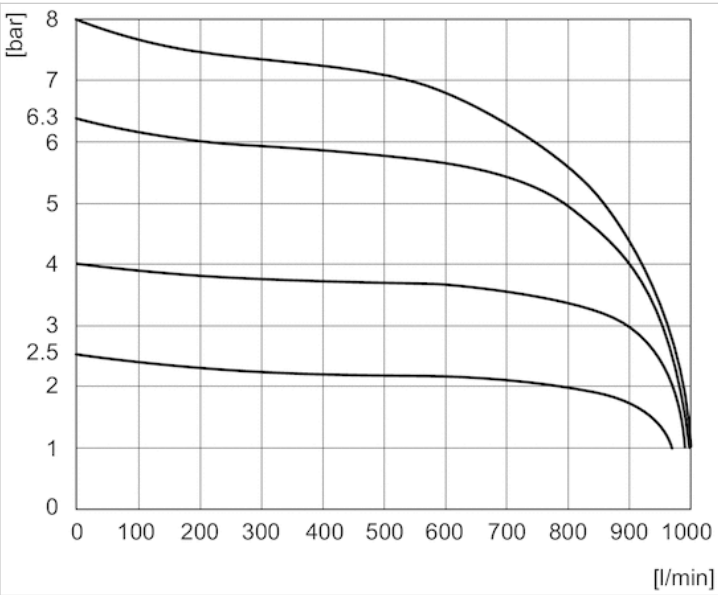
Diagrams

Flow diagram, Port 2



Pv = 9 bar

Flow diagram, Port 4



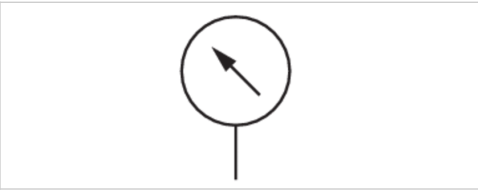
Pv = 9 bar

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

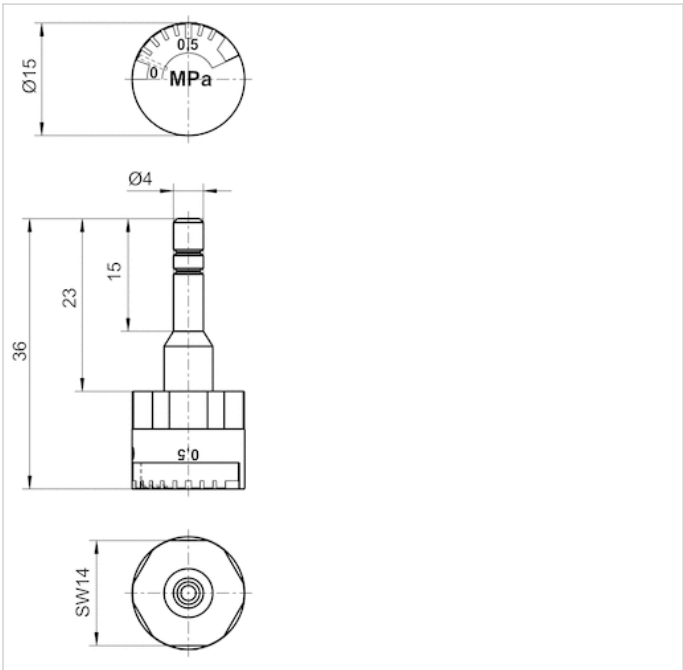
| Part No. | Compressed air connection | Nominal diameter | Range of application | Display range |
|------------|---------------------------|------------------|----------------------|---------------|
| R412009413 | Ø 4 | 15 mm | 0 ... 10 bar | 0 ... 10 bar |

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.

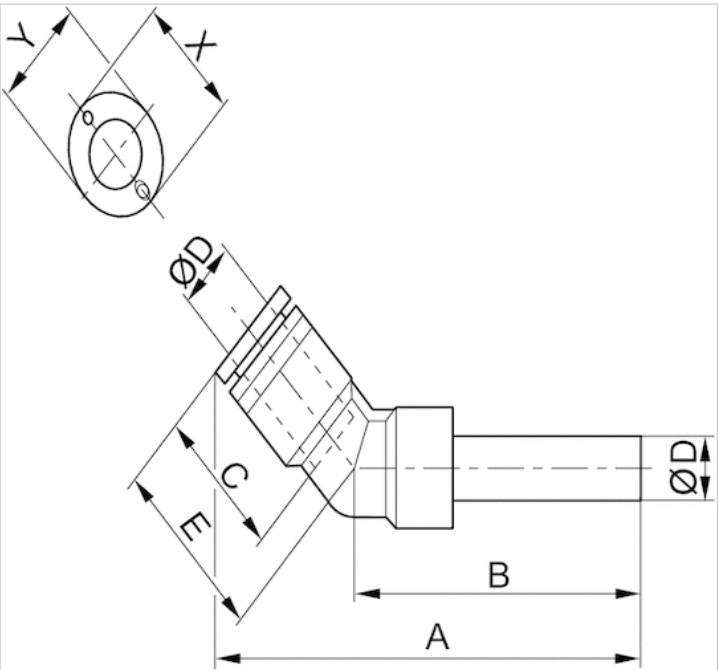
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

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 | Ø 4 | Ø 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 direction of throttle 1 ► 2 |
| R422003578 |  | direction of throttle 2 ► 1 direction of throttle 1 ► 2 |
| R422003667 |  | direction of throttle 2 ► 1 direction of throttle 1 ► 2 |

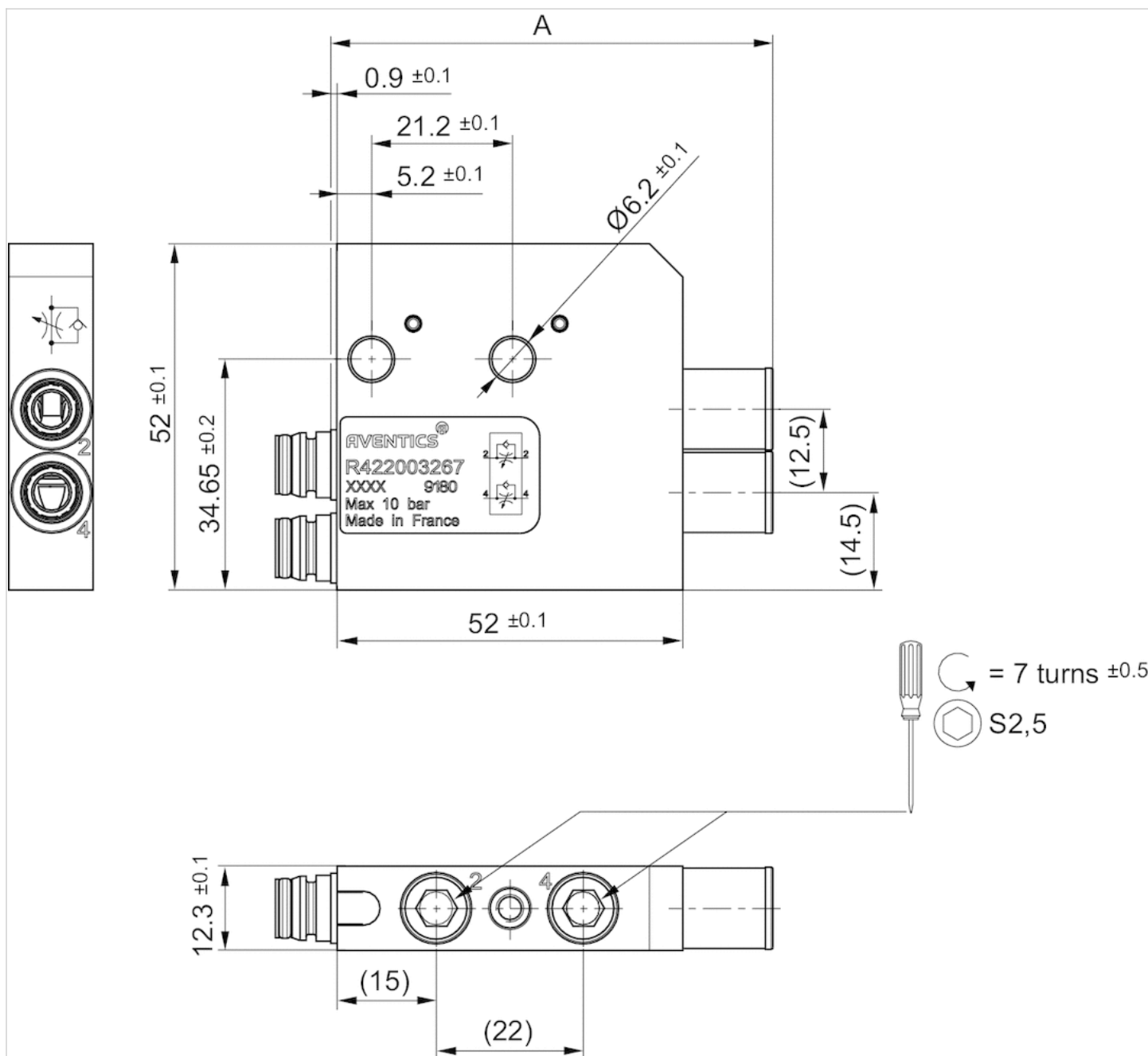
| Part No. | Compressed air connection type Input | Compressed air connection Output | Fig. |
|------------|--------------------------------------|----------------------------------|--------|
| R422003311 | push-in fitting | Ø 6 | Fig. 1 |
| R422003267 | push-in fitting | Ø 8 | Fig. 1 |
| R422003666 | 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

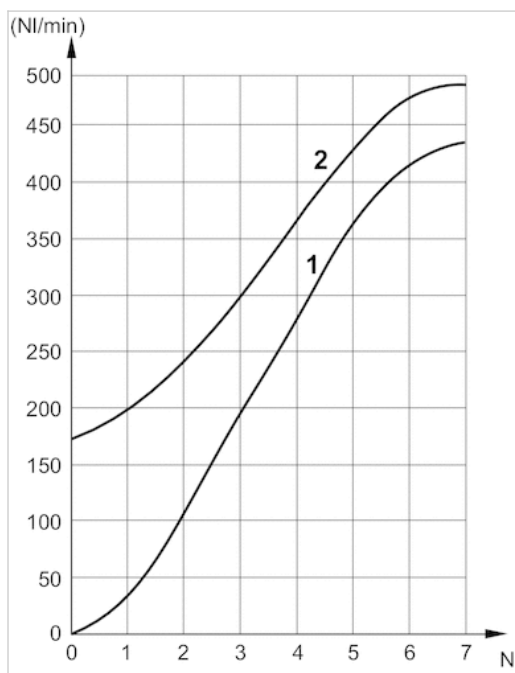


Dimensions

| 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 | 65.2±0.5 |

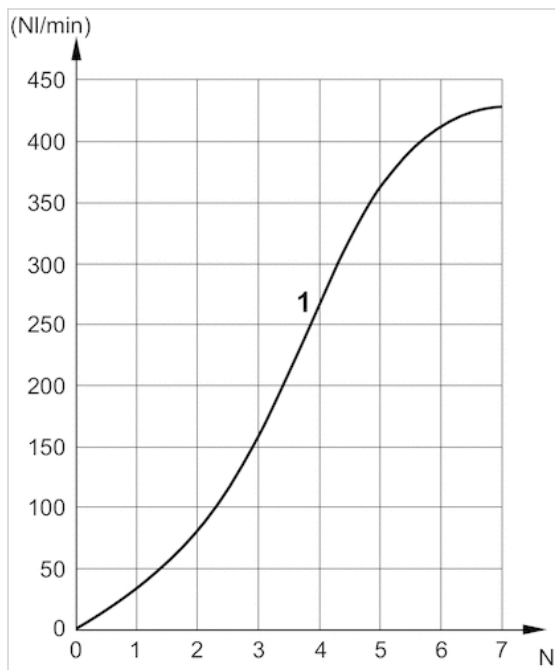
Diagrams

Fig. 1, single solenoid



- 1) Controlled flow
- 2) Uncontrolled flow

Fig. 2, double solenoid



- 1) Controlled flow

Accessories, Throttle module Series AV

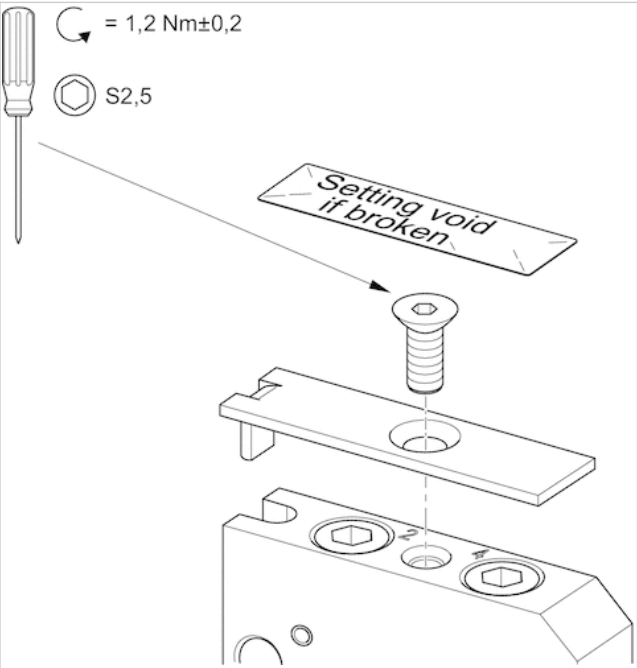


Working pressure min./max. -10 ... 60 bar
Ambient temperature min./max. -10 ... 60 °C

Technical data

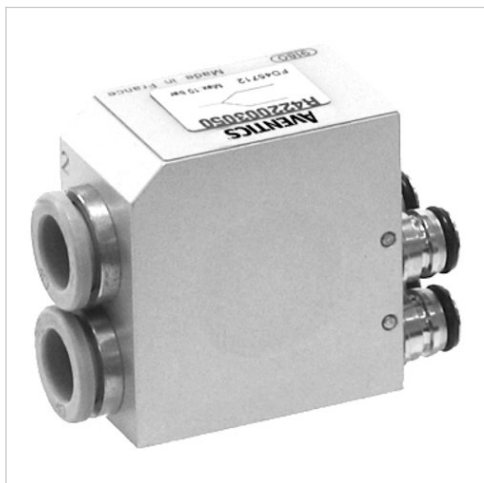
| Part No. | Type | Scope of delivery |
|------------|--------------------------|------------------------------|
| R422003595 | Tamper-proof plate kit | 1 plate, 1 screw, 4 stickers |
| R422003596 | Tamper-proof sticker kit | 4 stickers |

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

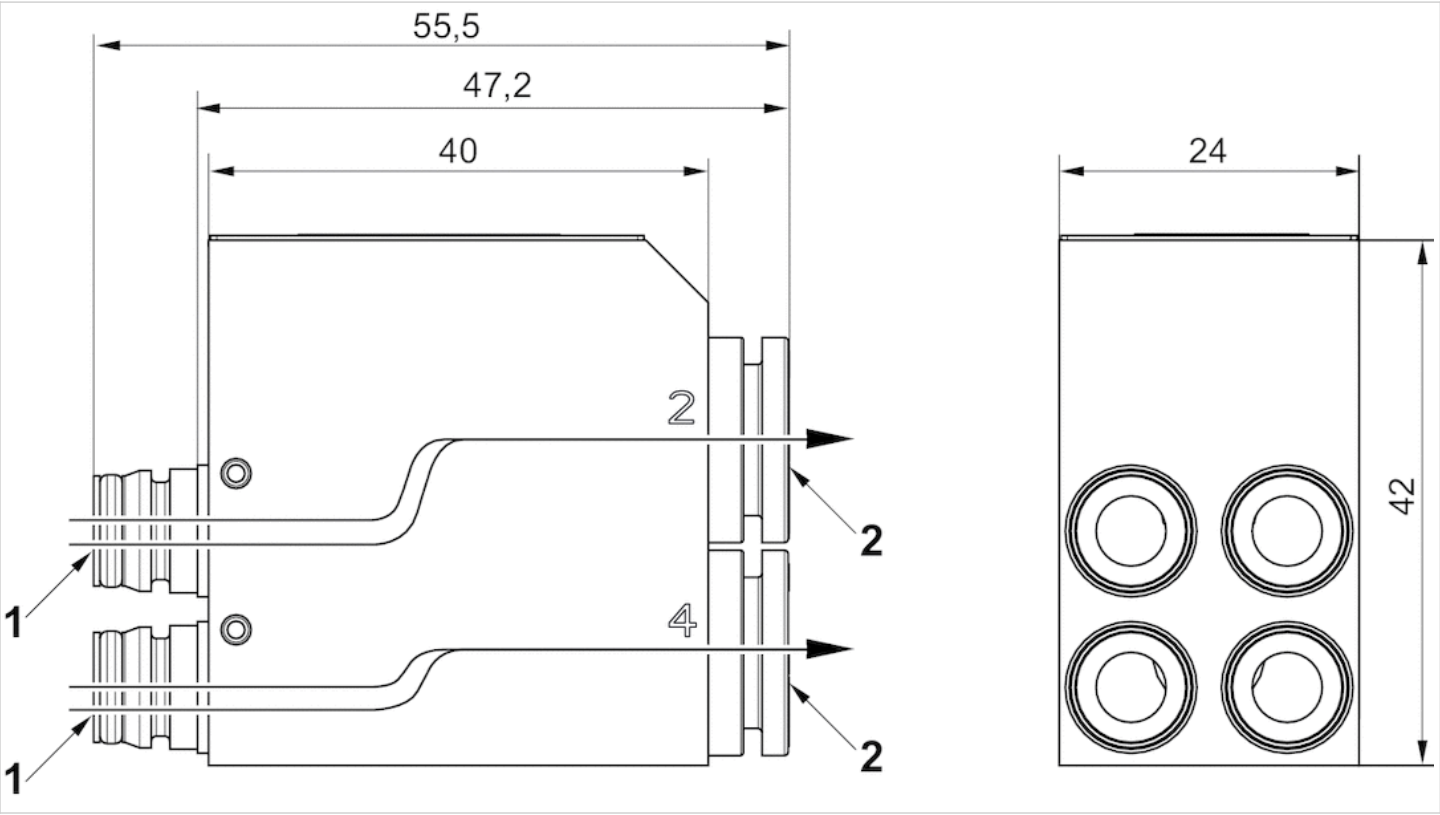
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
 Doubling of flow rate performance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



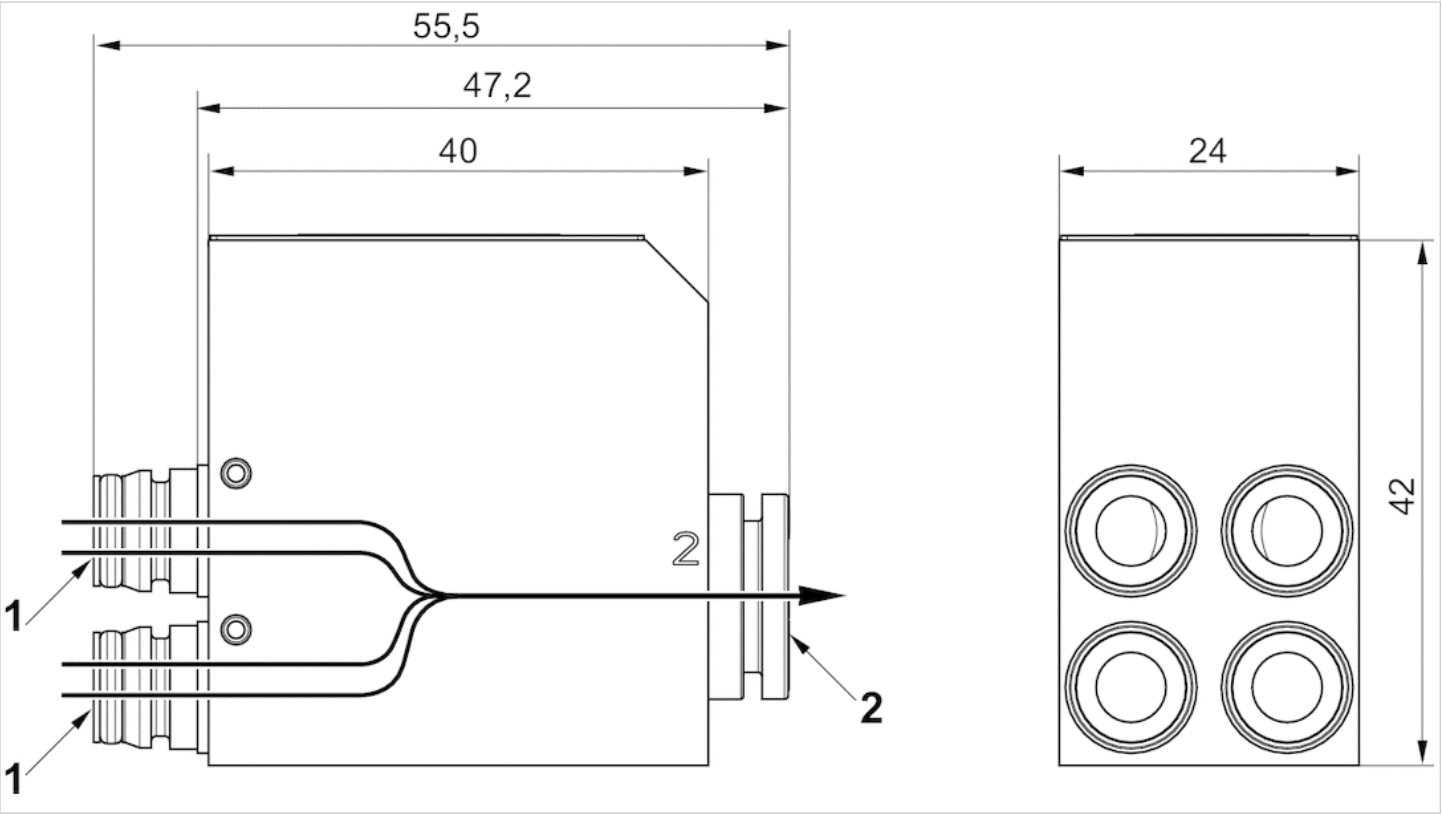
- 1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
- 2) 2 x Ø 10

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.

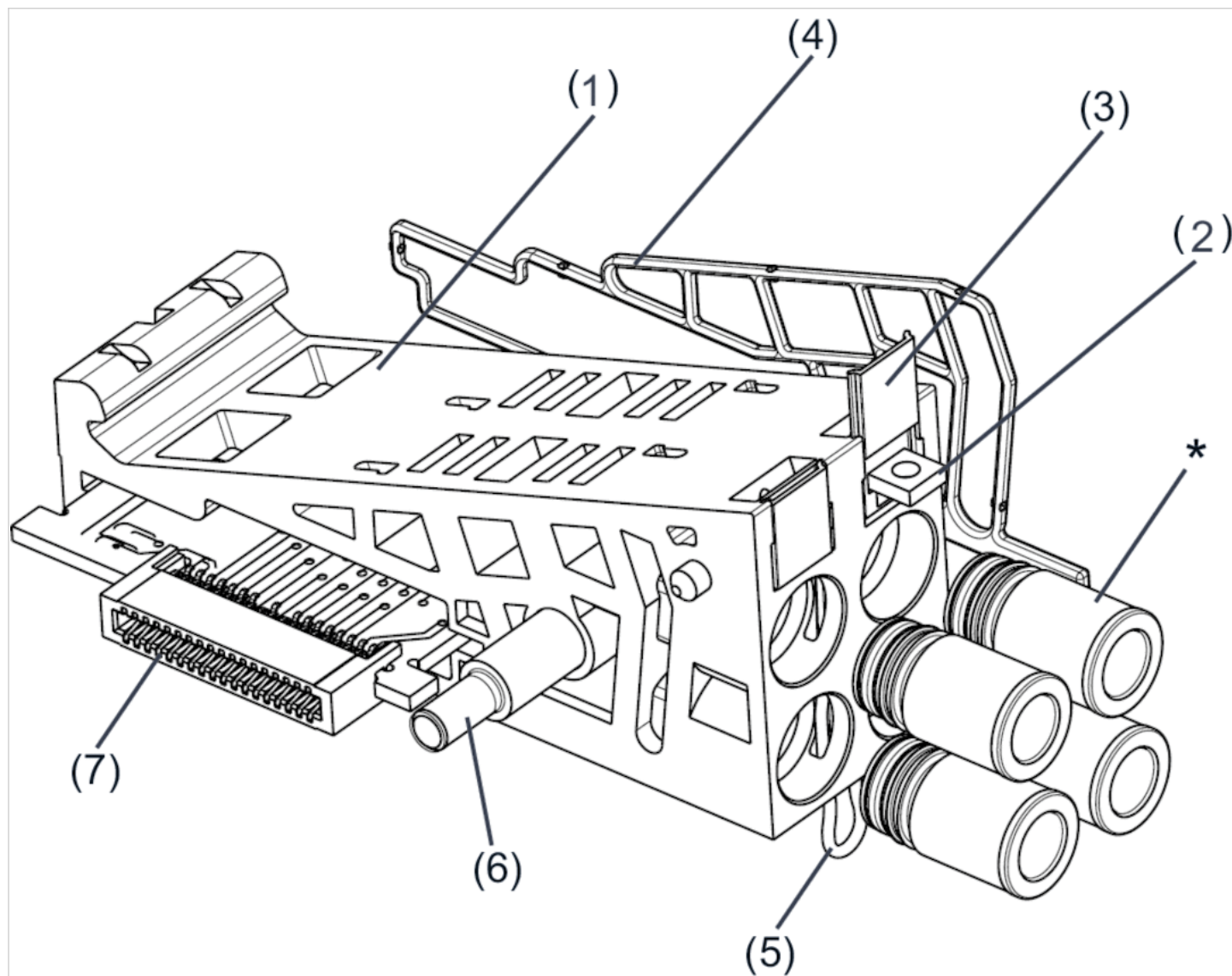
After two AV-EP or one AV-EP and 4 vales, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface.

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.

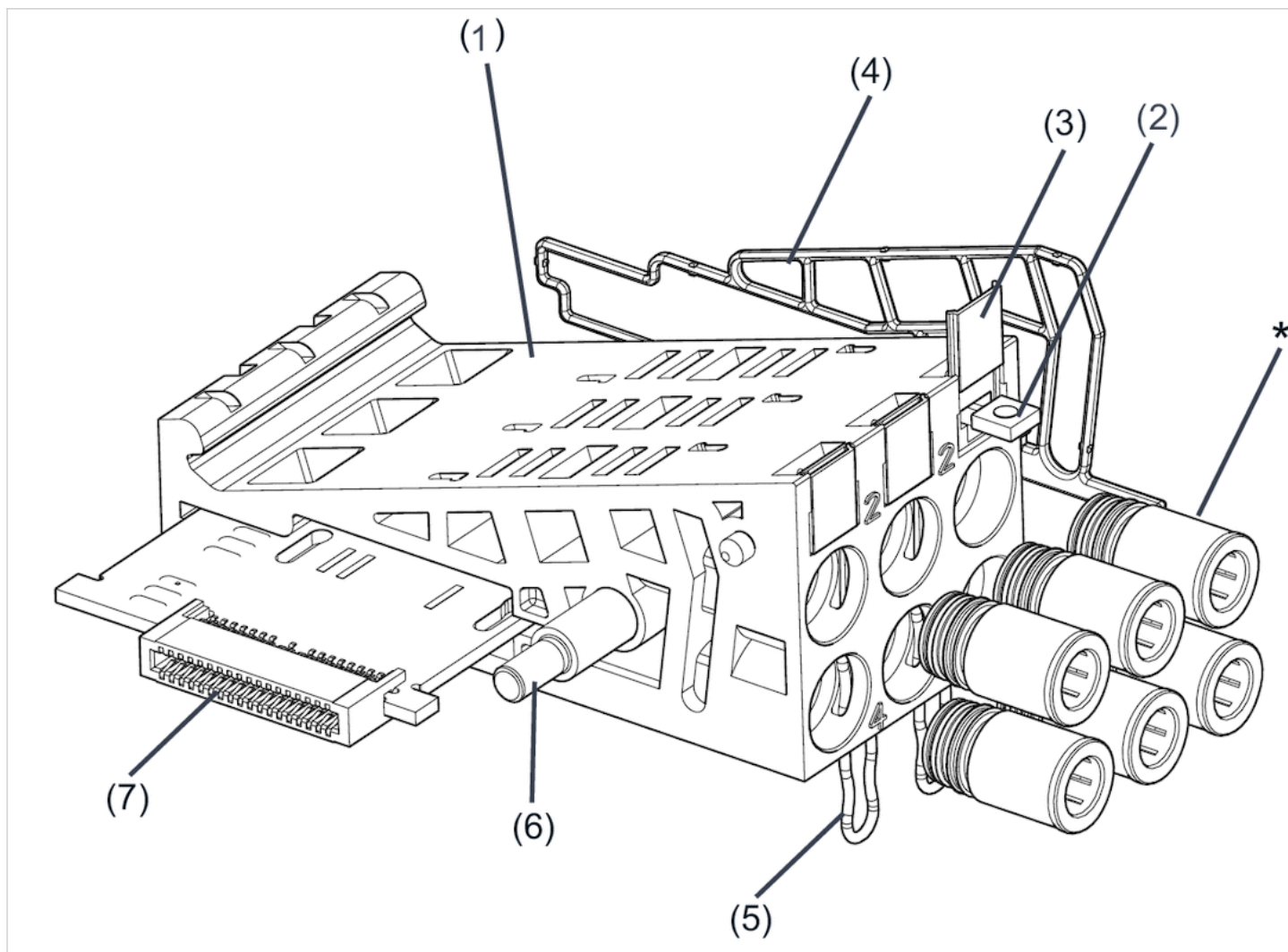
After three I/O modules or 8 valves, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface.

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

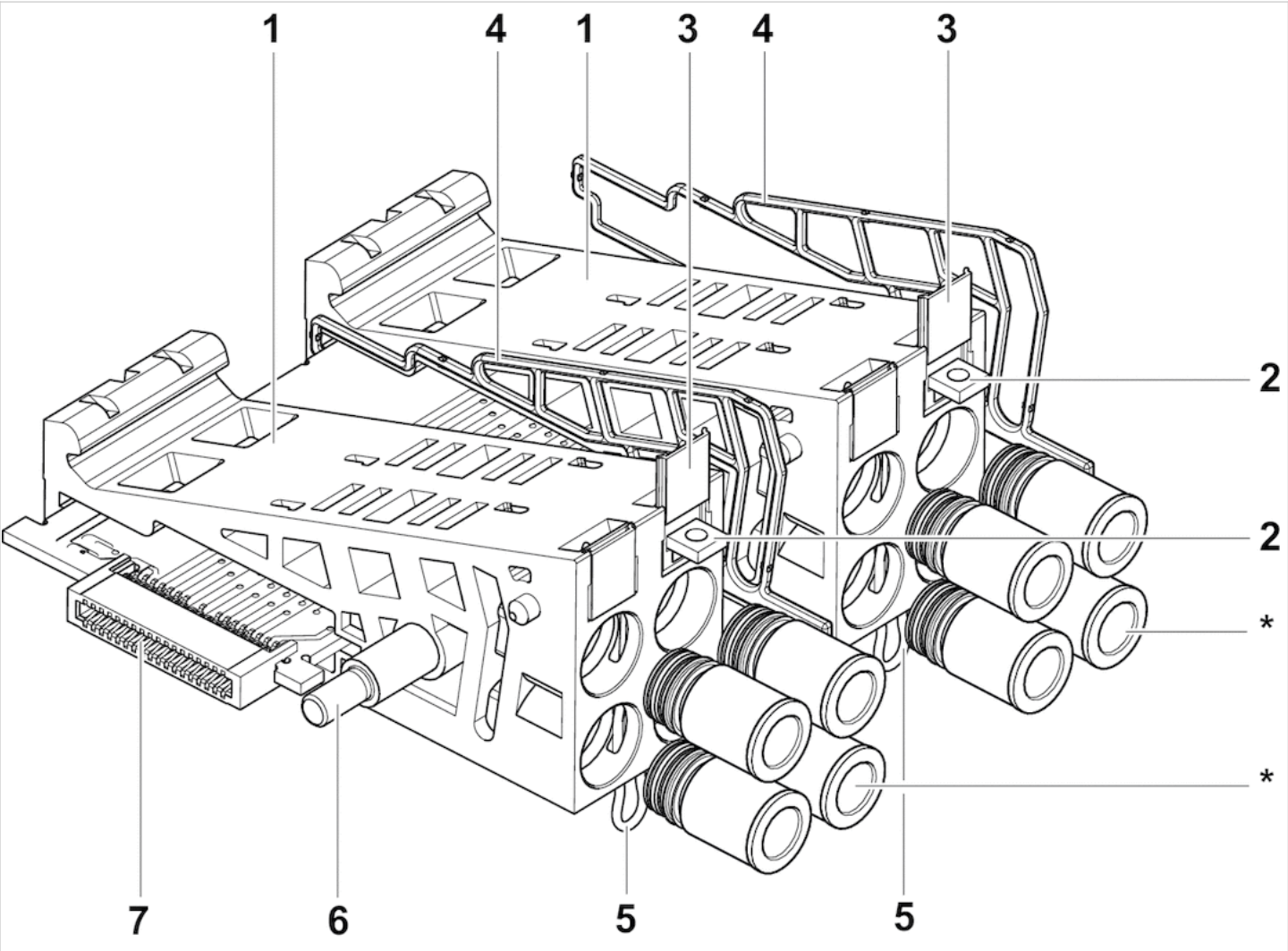
After three I/O modules or 8 valves, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface.

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 |

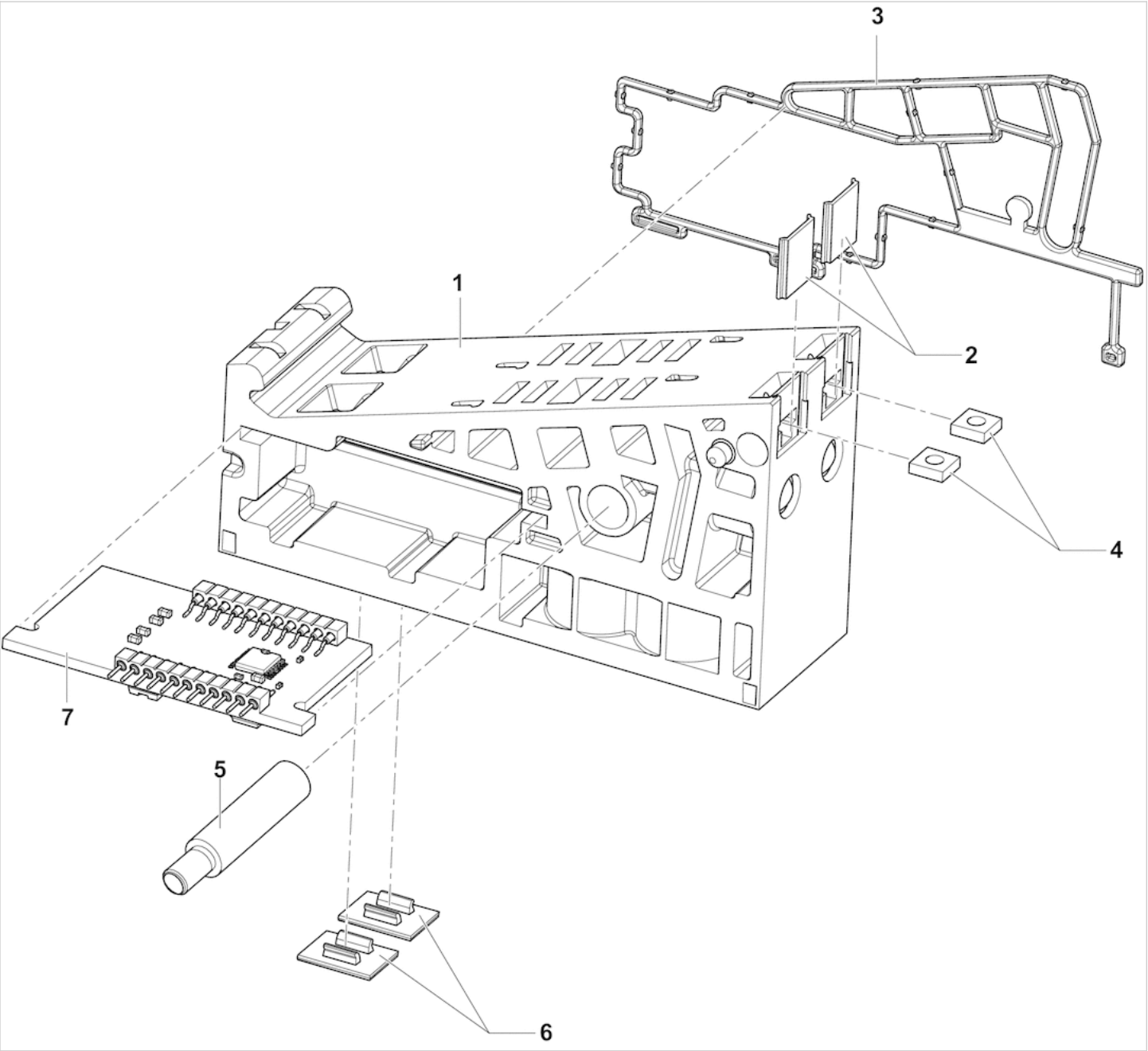
| Part No. | Scope of delivery | Fig. |
|------------|--|--------|
| R412026452 | 1 base plate (1) incl. 2 labels (2), 1 seal (3), 2 nuts (4), 2 tie rod extensions (5), 2 labels (6), and 1 extension circuit board (7) | Fig. 1 |
| R412026453 | 2 base plates (1) incl. 4 labels (2), 2 seals (3), 4 nuts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

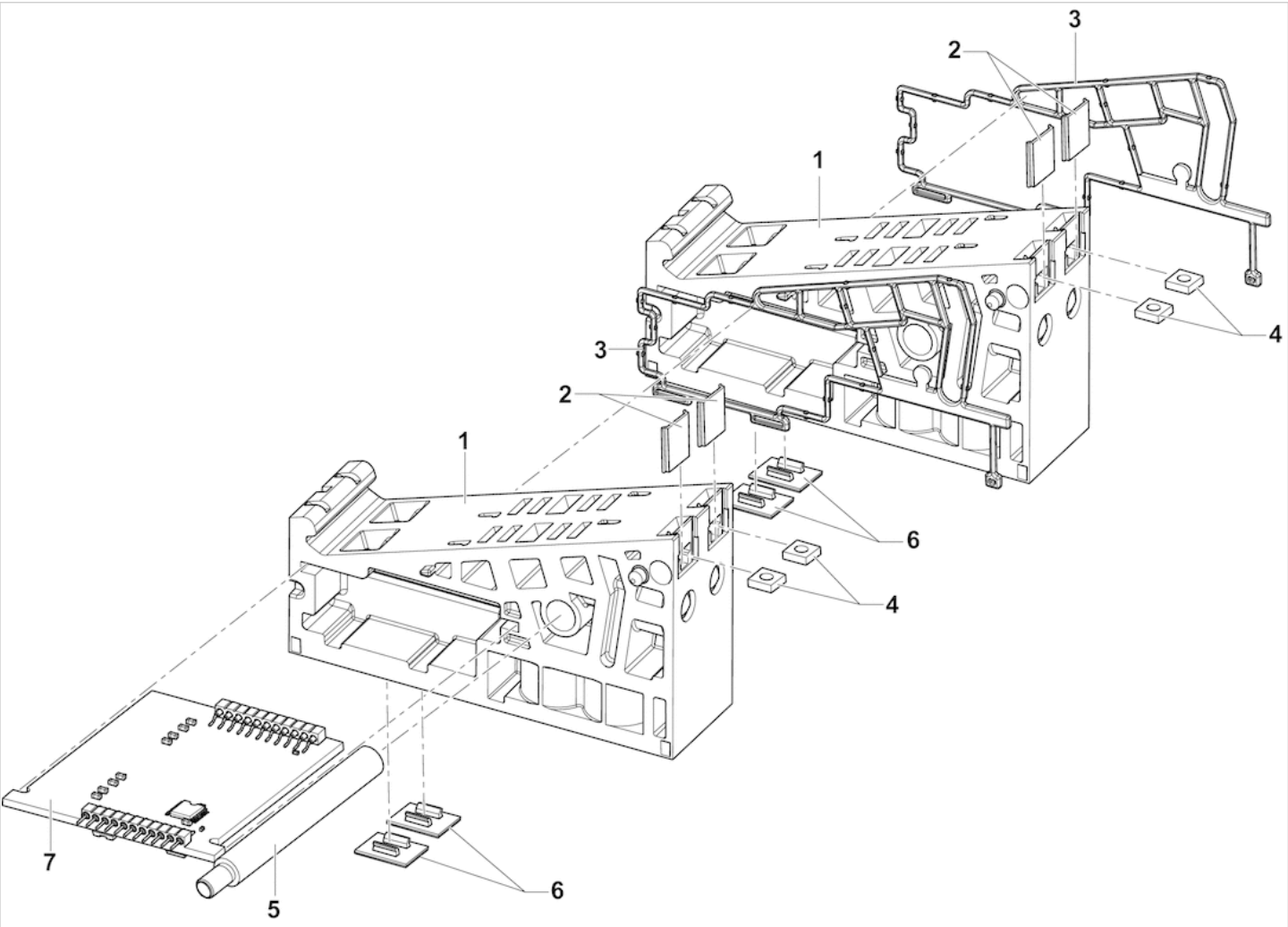
| Material | |
|----------|----------------------------------|
| Housing | Polyamide fiber-glass reinforced |
| Seals | Nitrile butadiene rubber |

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.

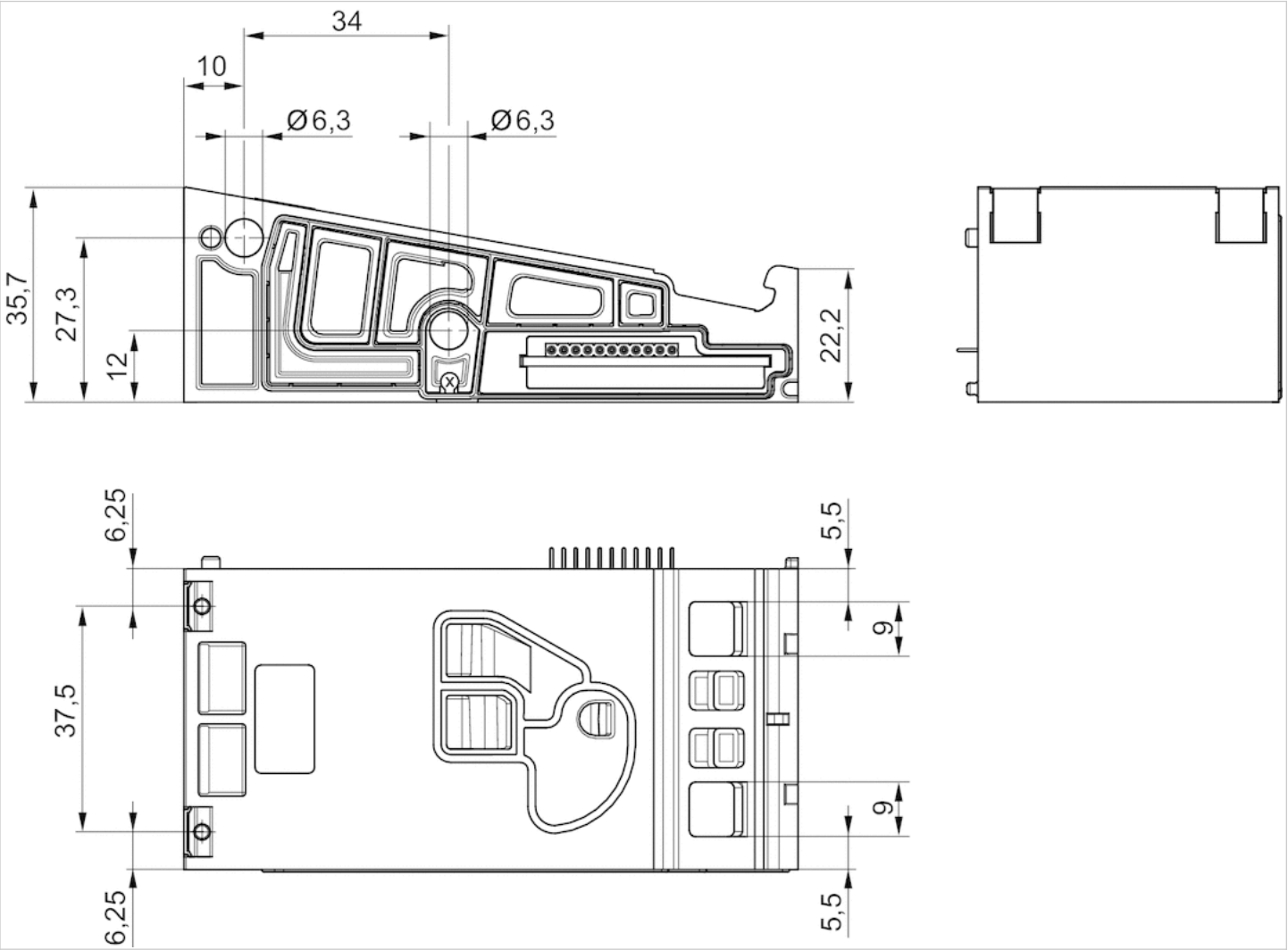
After three I/O modules or 8 valves, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface.

Technical information

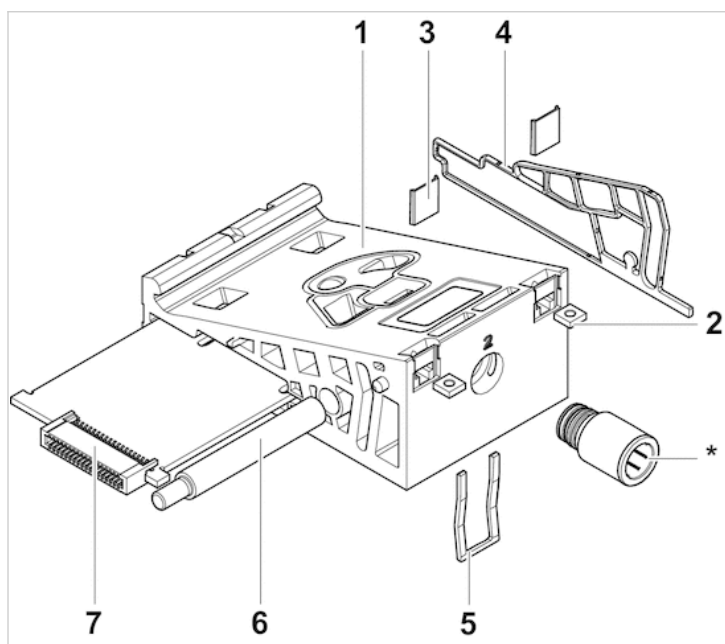
| Material | |
|----------|--------------------------|
| Housing | Polyamide |
| Seals | Nitrile butadiene rubber |

Dimensions

Dimensions



Overview drawing

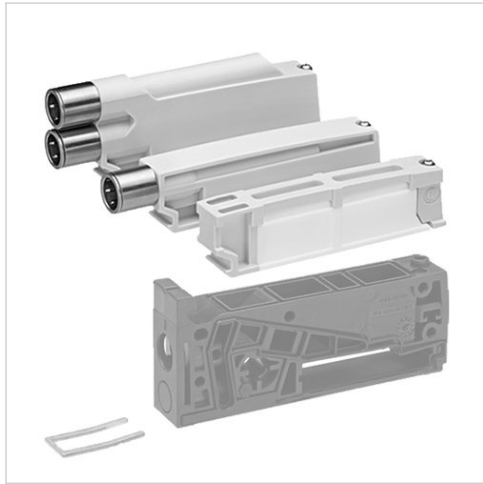


* Push-in fittings not included in the scope of delivery.

* 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 |

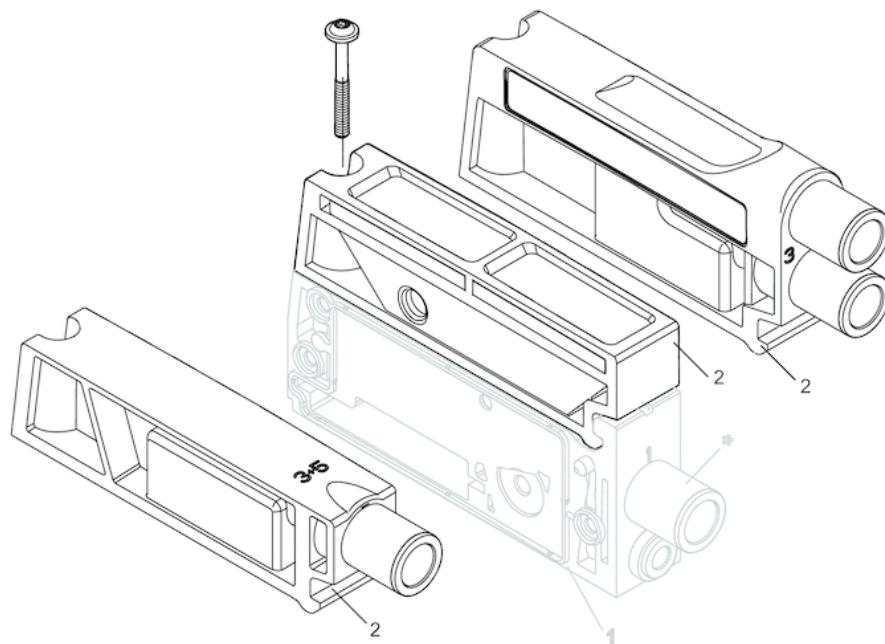
| Part No. | Scope of delivery |
|------------|--|
| R412018331 | Exhaust module, including 1 seal, 1 mounting screw |
| R412018332 | Exhaust module, incl. 1 mounting screw, push-in fitting Ø 8 mm |
| R412018333 | Exhaust module, incl. 1 mounting screw, push-in fitting Ø 8 mm |

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/m³ |

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.

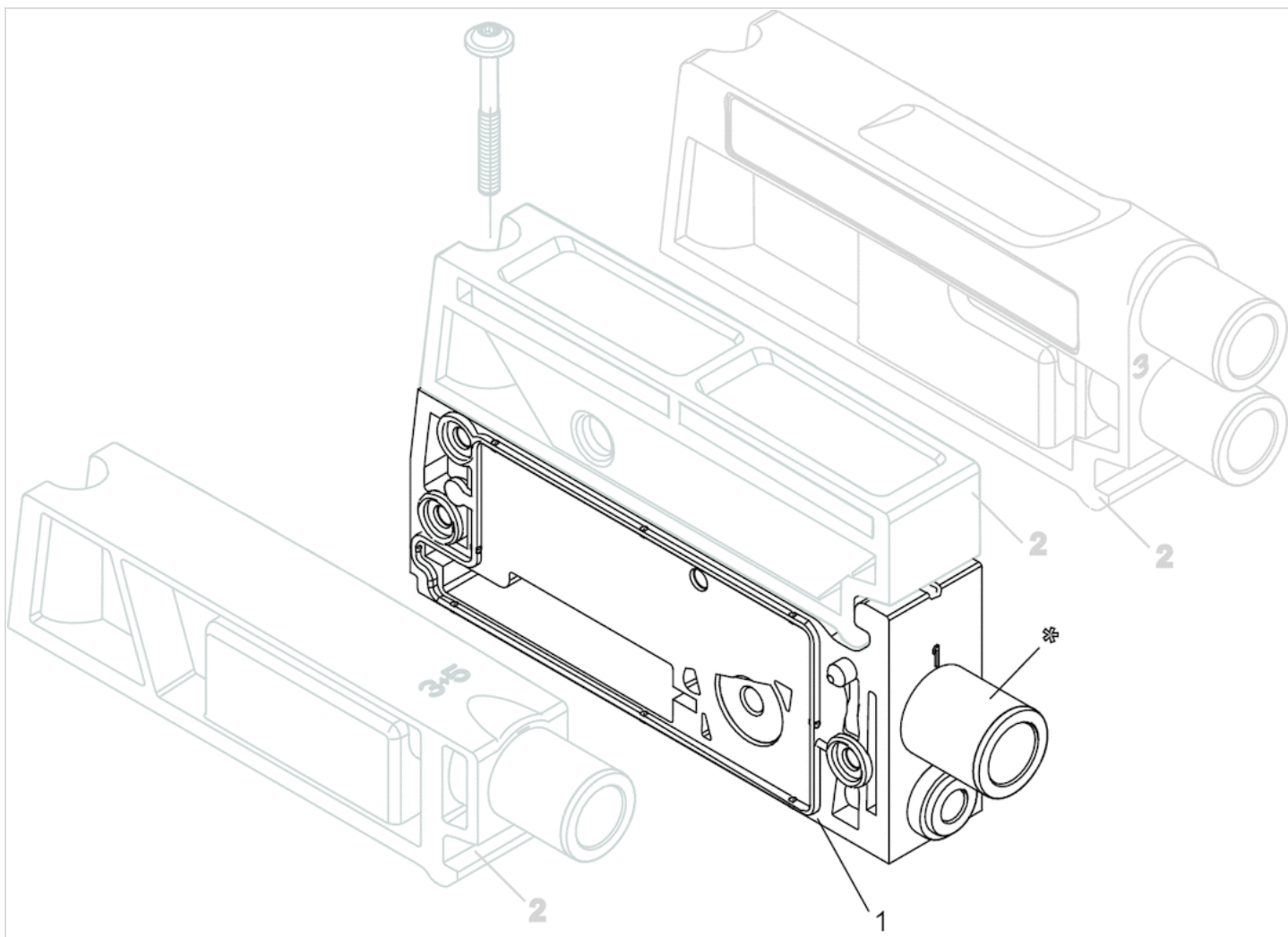
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

| Material | |
|----------|----------------|
| Housing | Polyamide |
| Seals | Nitrile rubber |

Dimensions

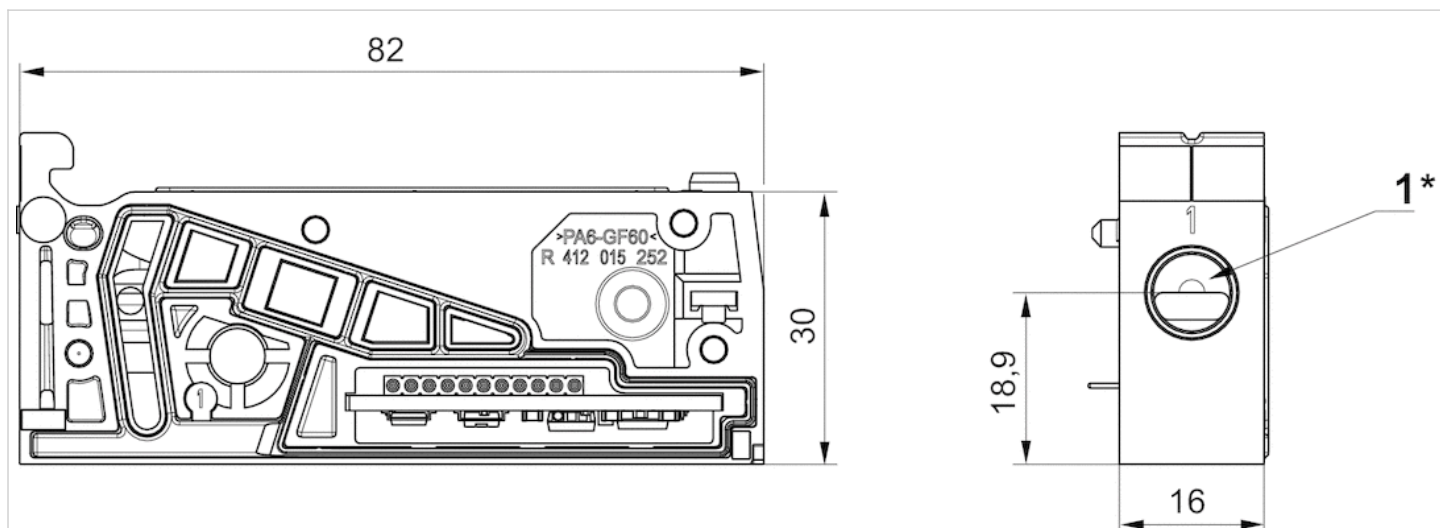
Overview drawing



* 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.

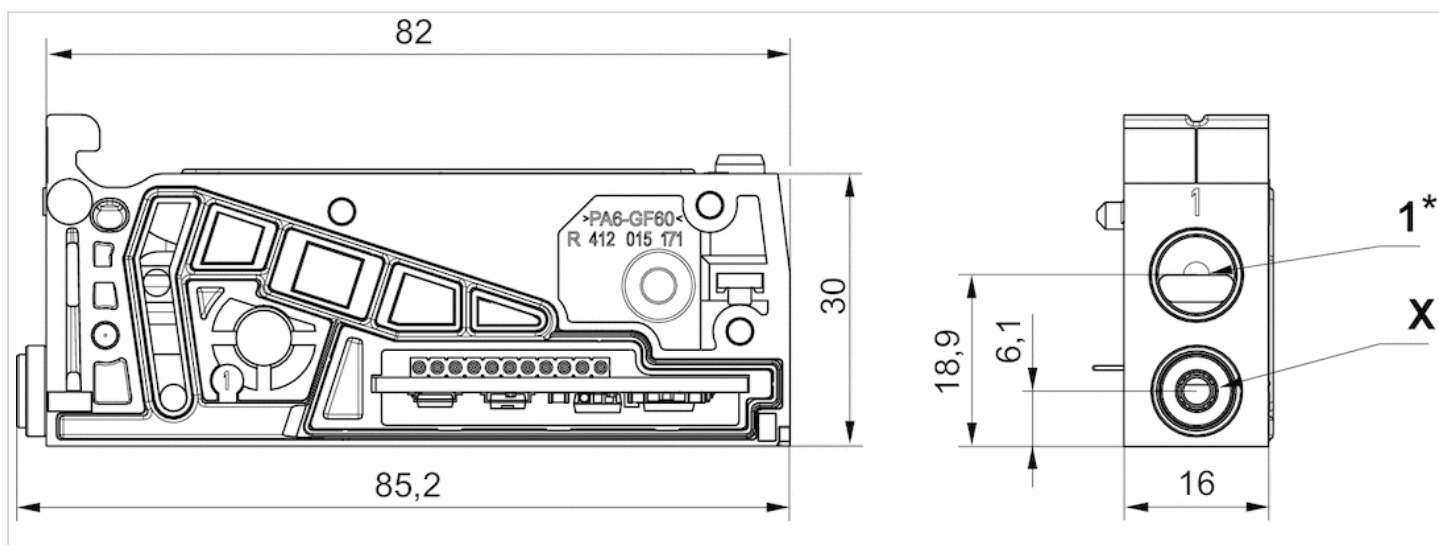
Fig. 1



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.

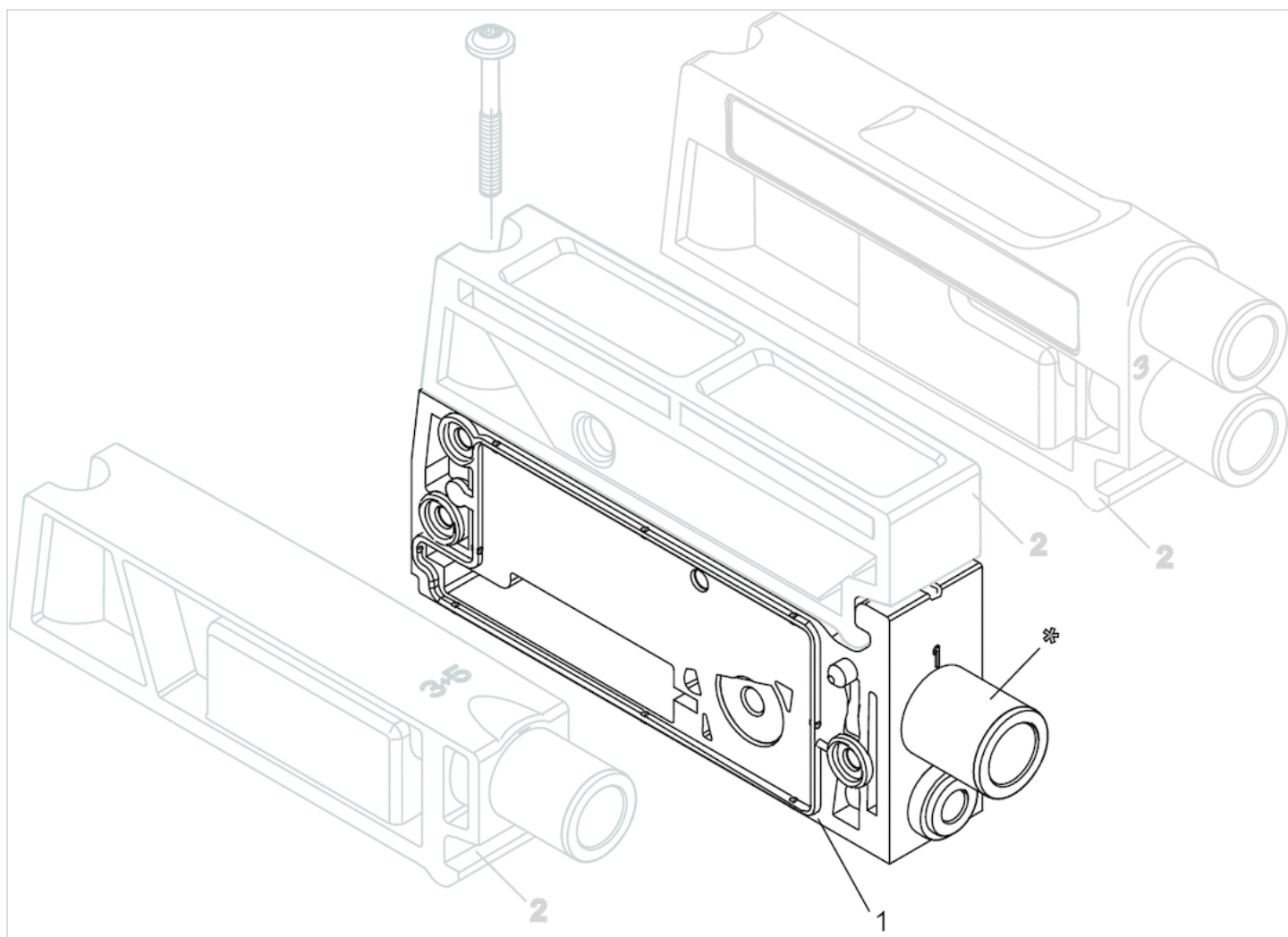
Position 1: Push-in fittings not included in the scope of delivery.

Technical information

| Material | |
|----------|----------------|
| Housing | Polyamide |
| Seals | Nitrile rubber |

Dimensions

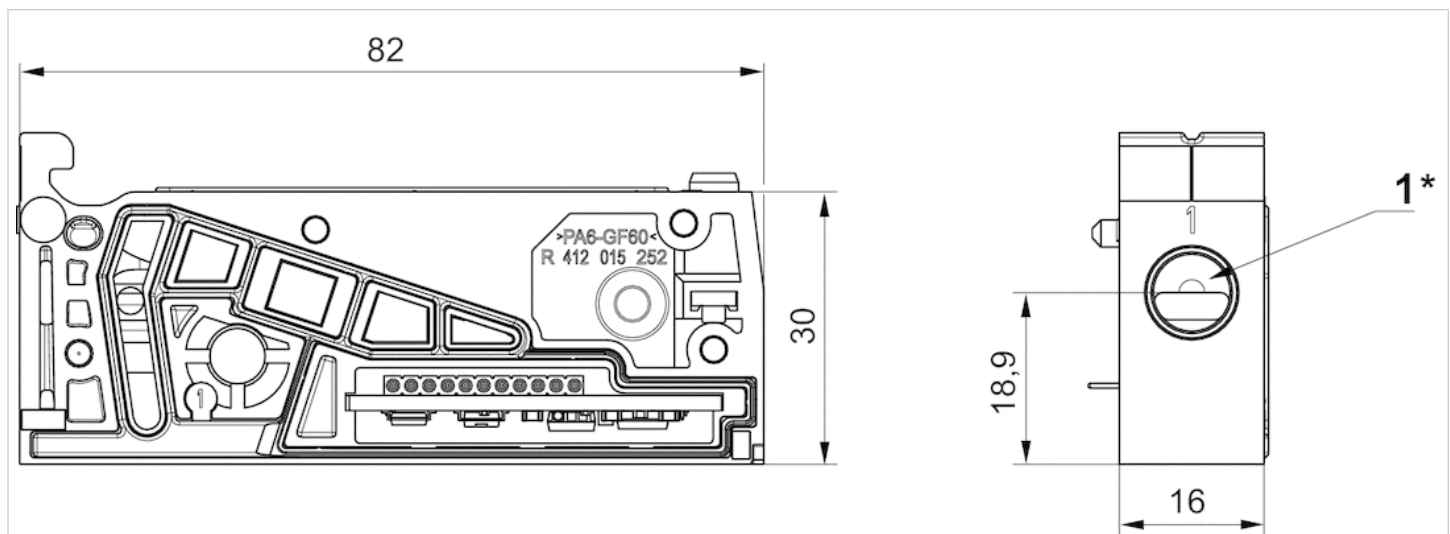
Overview drawing



* 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.

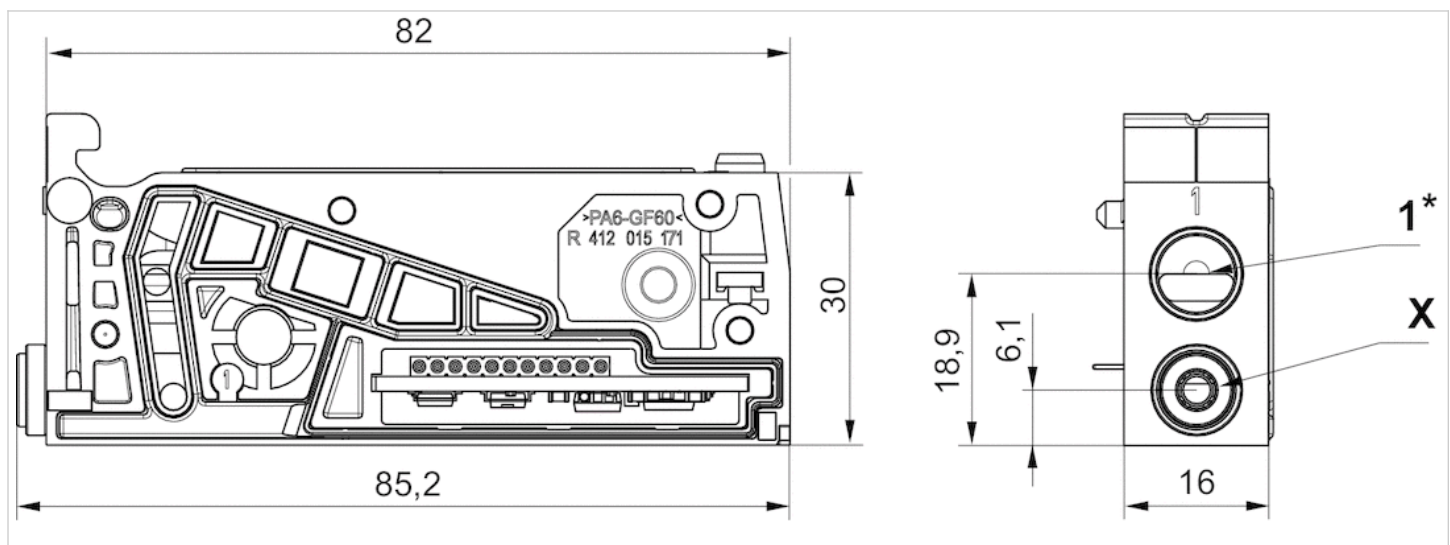
Fig. 1



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.

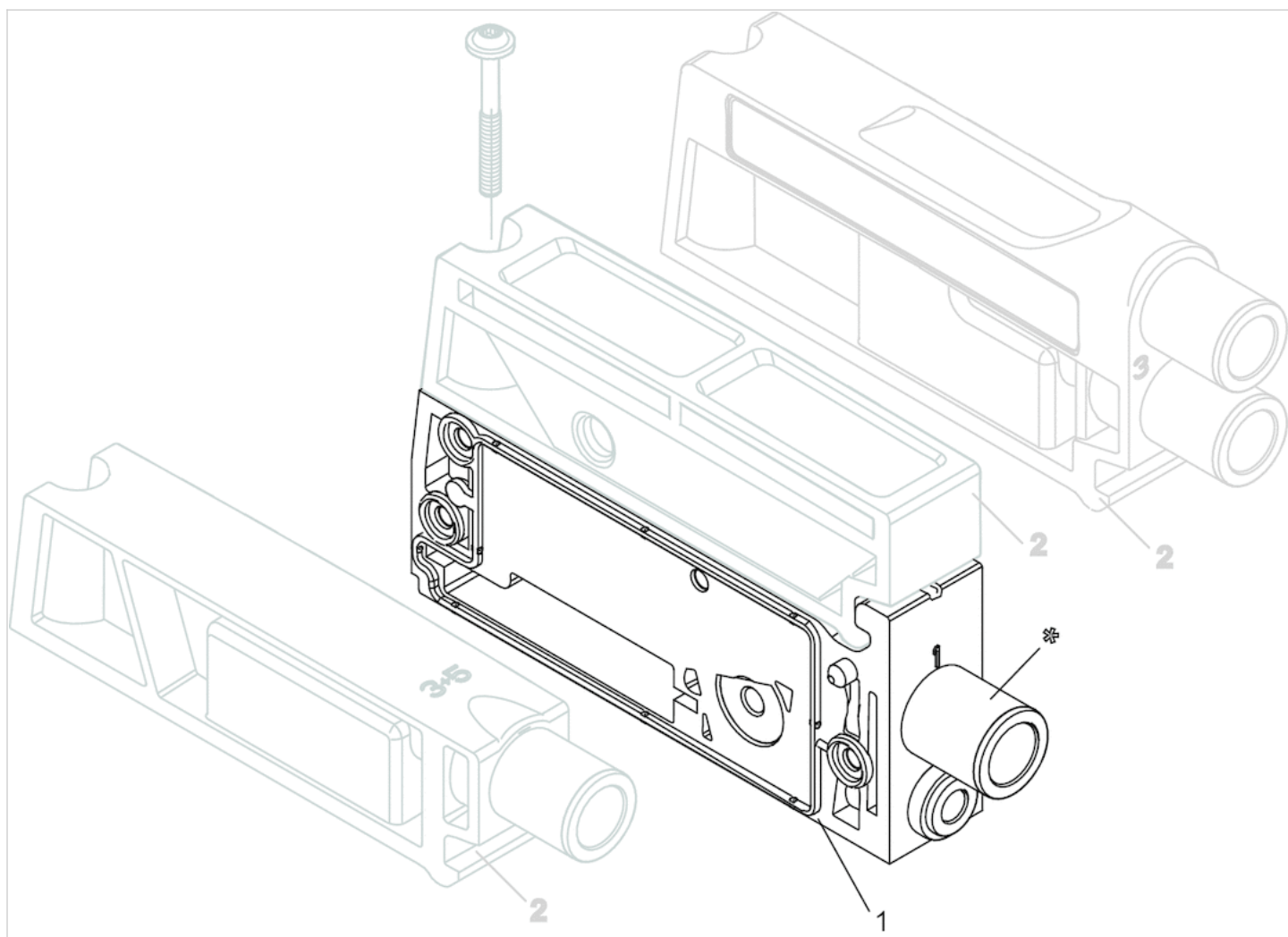
Position 1: Push-in fittings not included in the scope of delivery.

Technical information

| Material | |
|----------|----------------|
| Housing | Polyamide |
| Seals | Nitrile rubber |

Dimensions

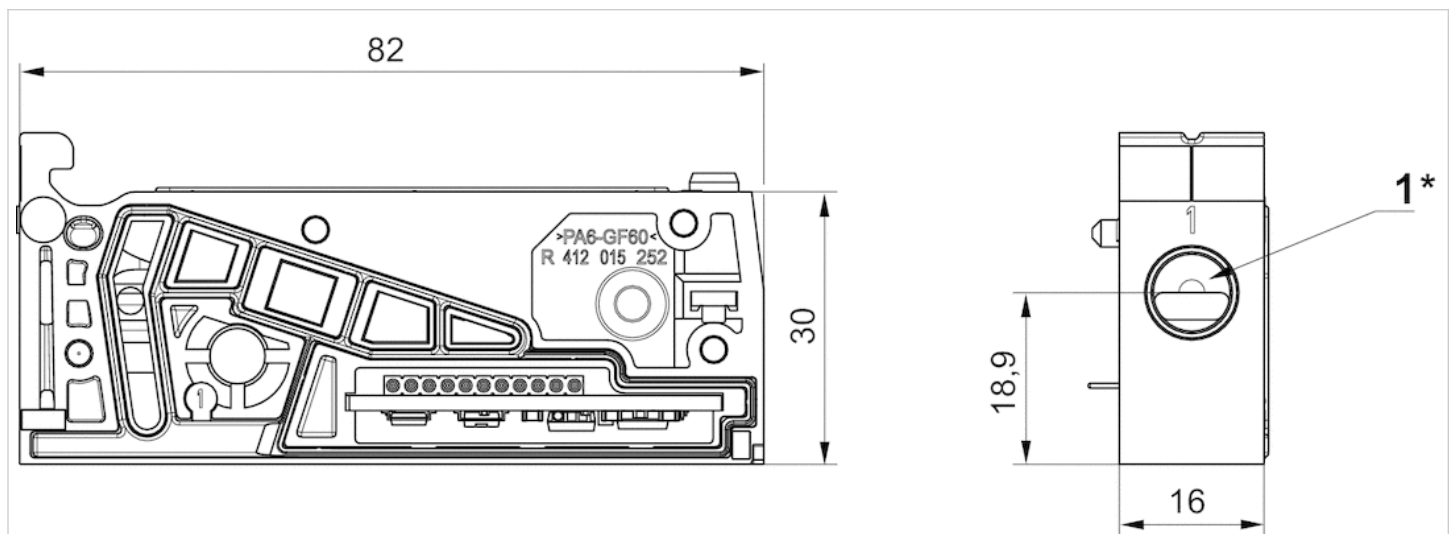
Overview drawing



* 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.

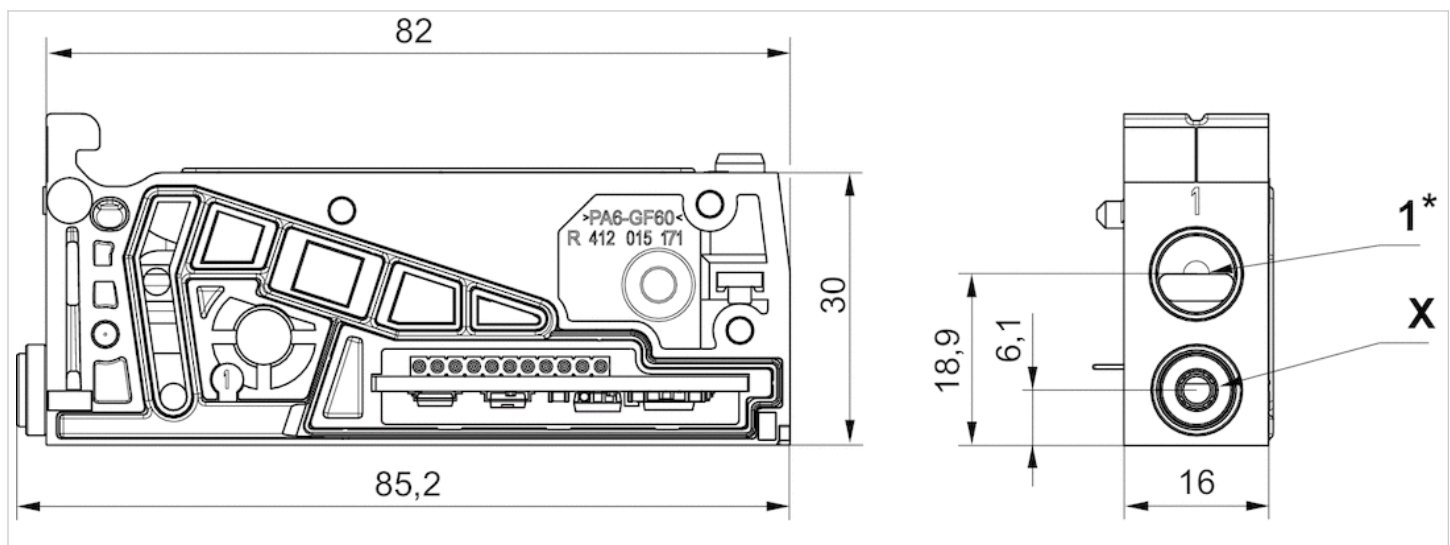
Fig. 1



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 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

- 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) |

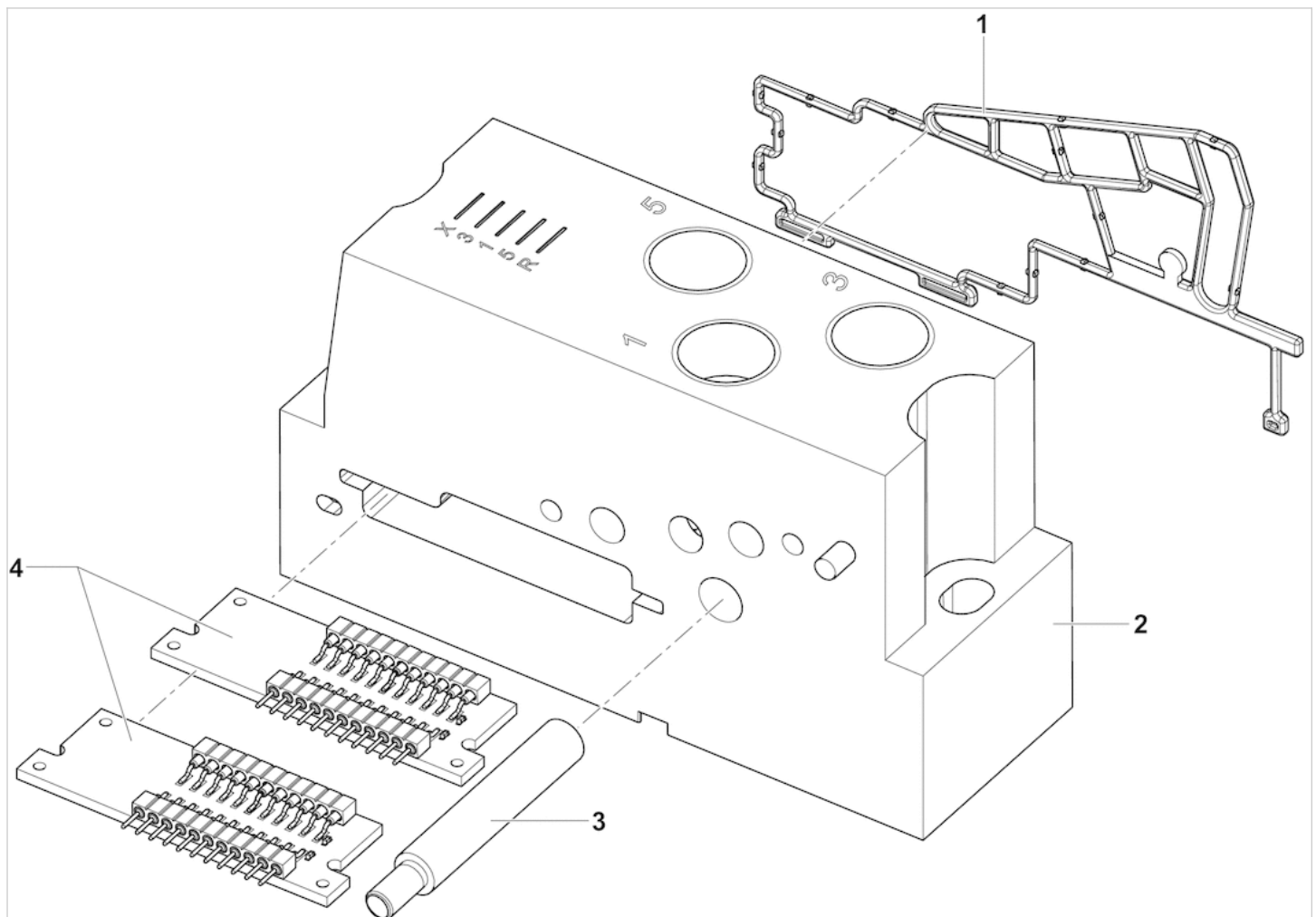
| Part No. | Scope of delivery |
|------------|---|
| R412026439 | Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4) |
| R412026436 | Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4) |
| R412026440 | Supply plate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

- for AV03, AES



| | |
|-------------------------------|---------------|
| Ambient temperature min./max. | -10 ... 60 °C |
| Medium temperature min./max. | -10 ... 60 °C |
| Max. power consumption | 2 A |
| Protection class | IP65 |
| Weight | 0.12 kg |

Technical data

| Part No. | | Scope of delivery |
|------------|---|--|
| R412021748 |  | Supply plate, incl. 1 seal, 1 tie rod, and 1 screw for extension |
| R412021752 |  | Supply plate, incl. 1 seal, 1 tie rod, and 1 screw for extension |

| Part No. | electrical connections | DC operating voltage | Voltage tolerance DC |
|------------|------------------------|----------------------|----------------------|
| R412021748 | M12, 4-pin, A-coded | 24 V | -10% / +10% |
| R412021752 | M12, 4-pin, A-coded | 24 V | -10% / +10% |

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).

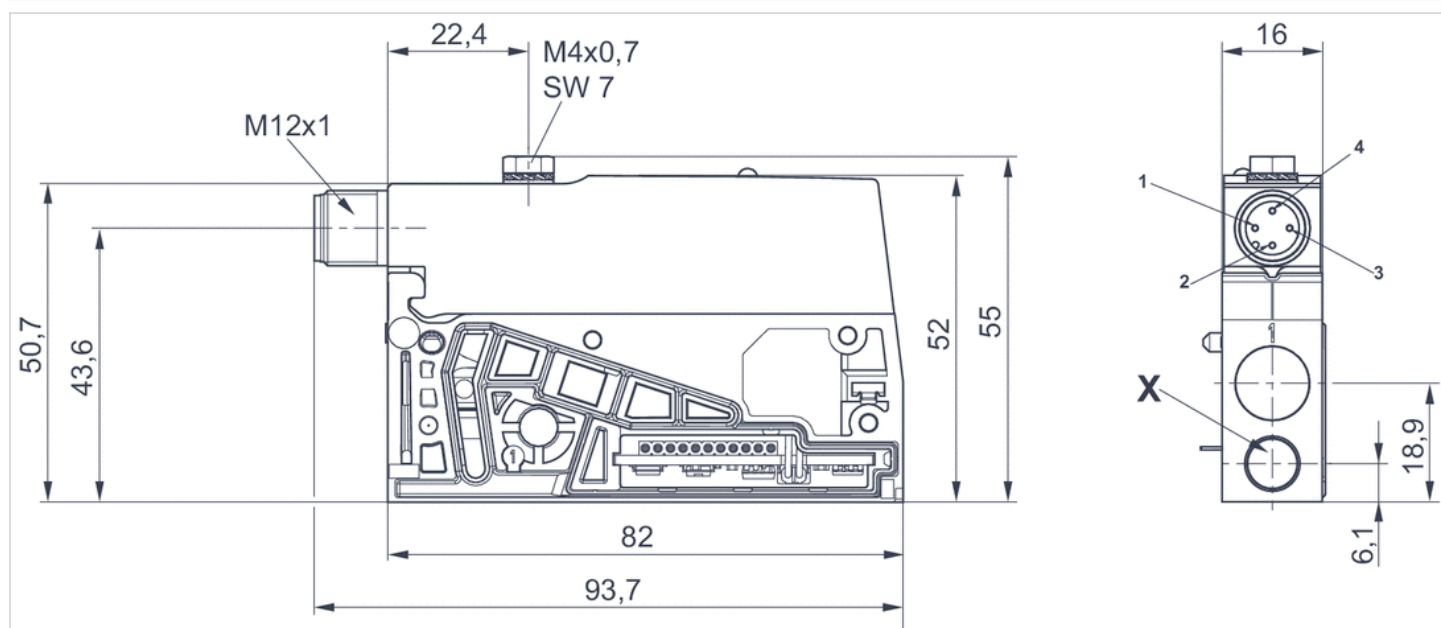
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 Please note that the supply plate may only be used in conjunction with AES series fieldbus modules.

Technical information

| Material | |
|----------|--------------------|
| Housing | Polyamide Aluminum |
| Seal | Nitrile rubber |

Dimensions

Dimensions



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

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 tide 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.

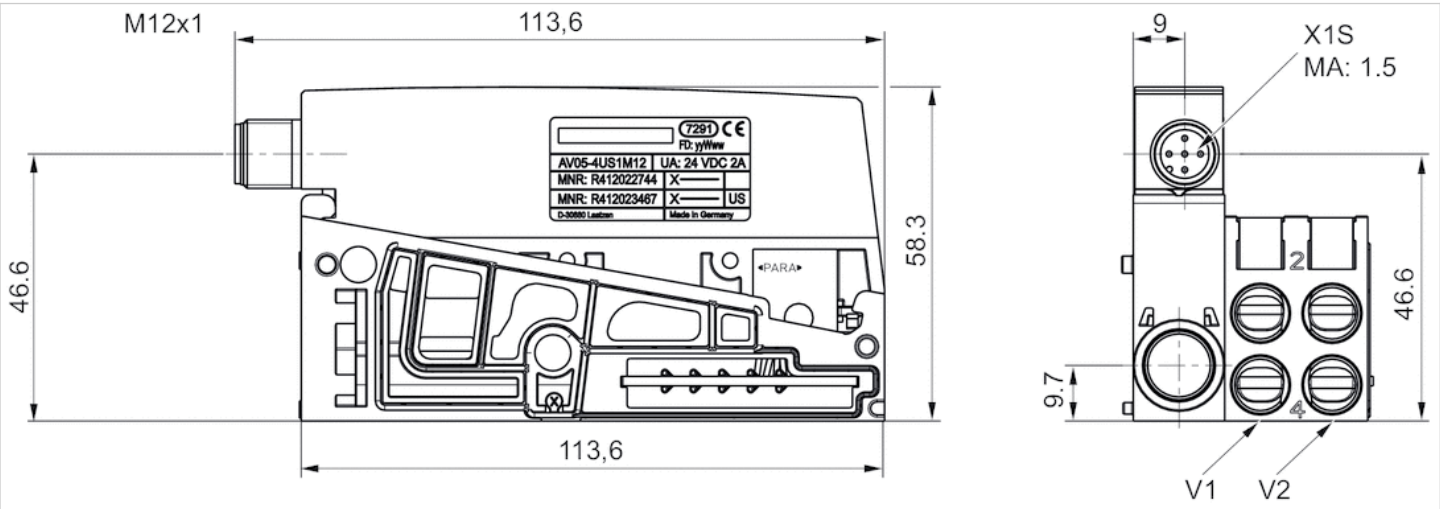
Technical information

Material

| | |
|---------|--------------------|
| Housing | Polyamide Aluminum |
| Seal | Nitrile rubber |

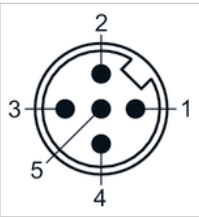
Dimensions

Dimensions



Pin assignments

Plug pin assignment

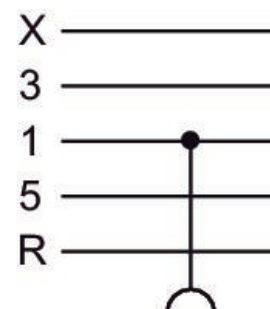


- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=grey

| 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

Compressed air connection input
Ø 12

Pilot connection
Ø 12

Valve system version
Fieldbus

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

Working pressure min.
-0.95 bar

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.

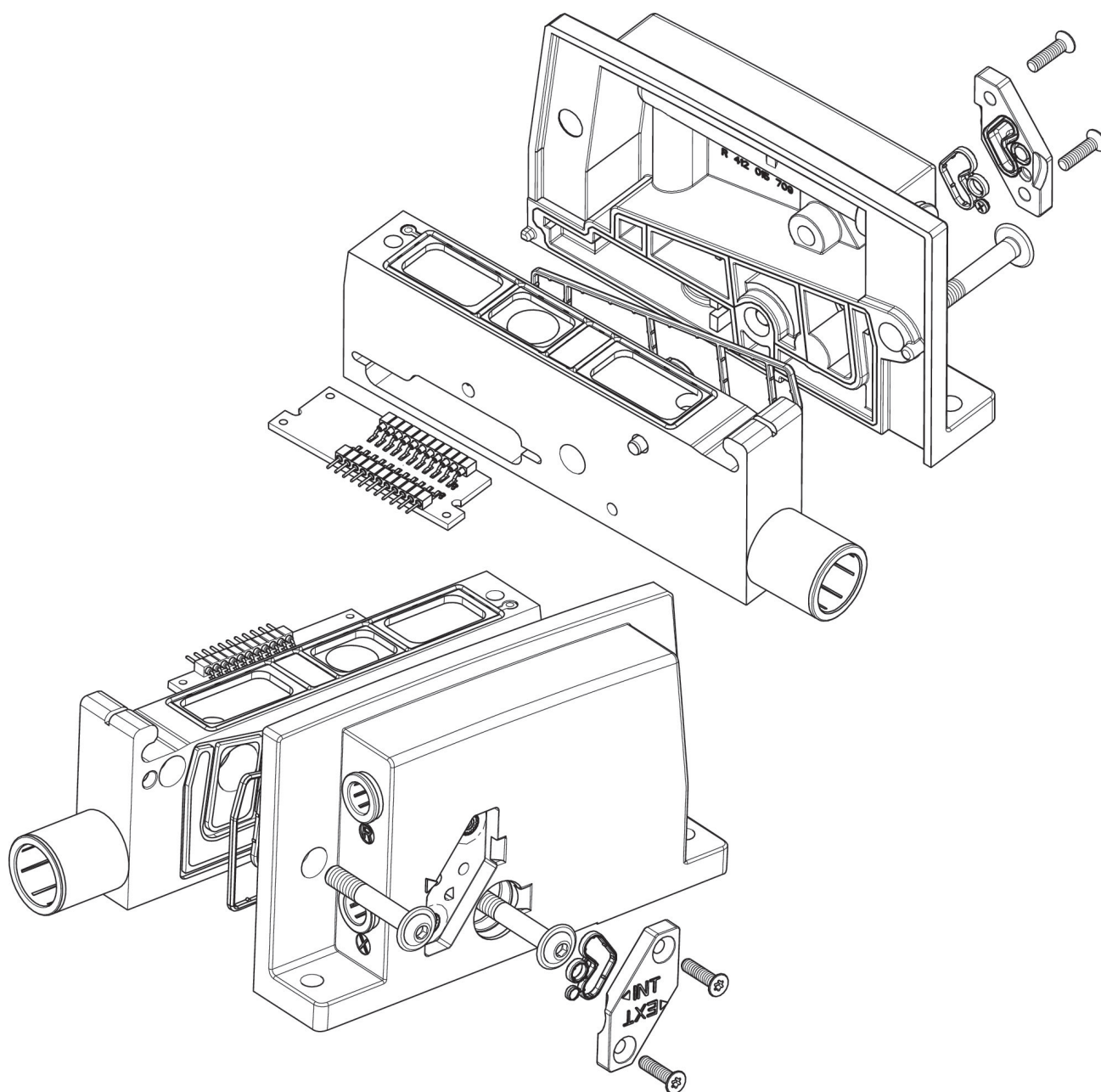
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

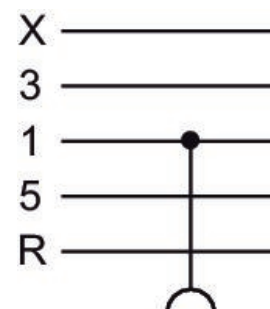
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Extension kit, combination plate, Series AV

R412022594



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, no pressure zones

Compressed air connection input
Ø 3/8"

Pilot connection
Ø 3/8"

Valve system version
Fieldbus

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

Working pressure min.
-0.95 bar

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.

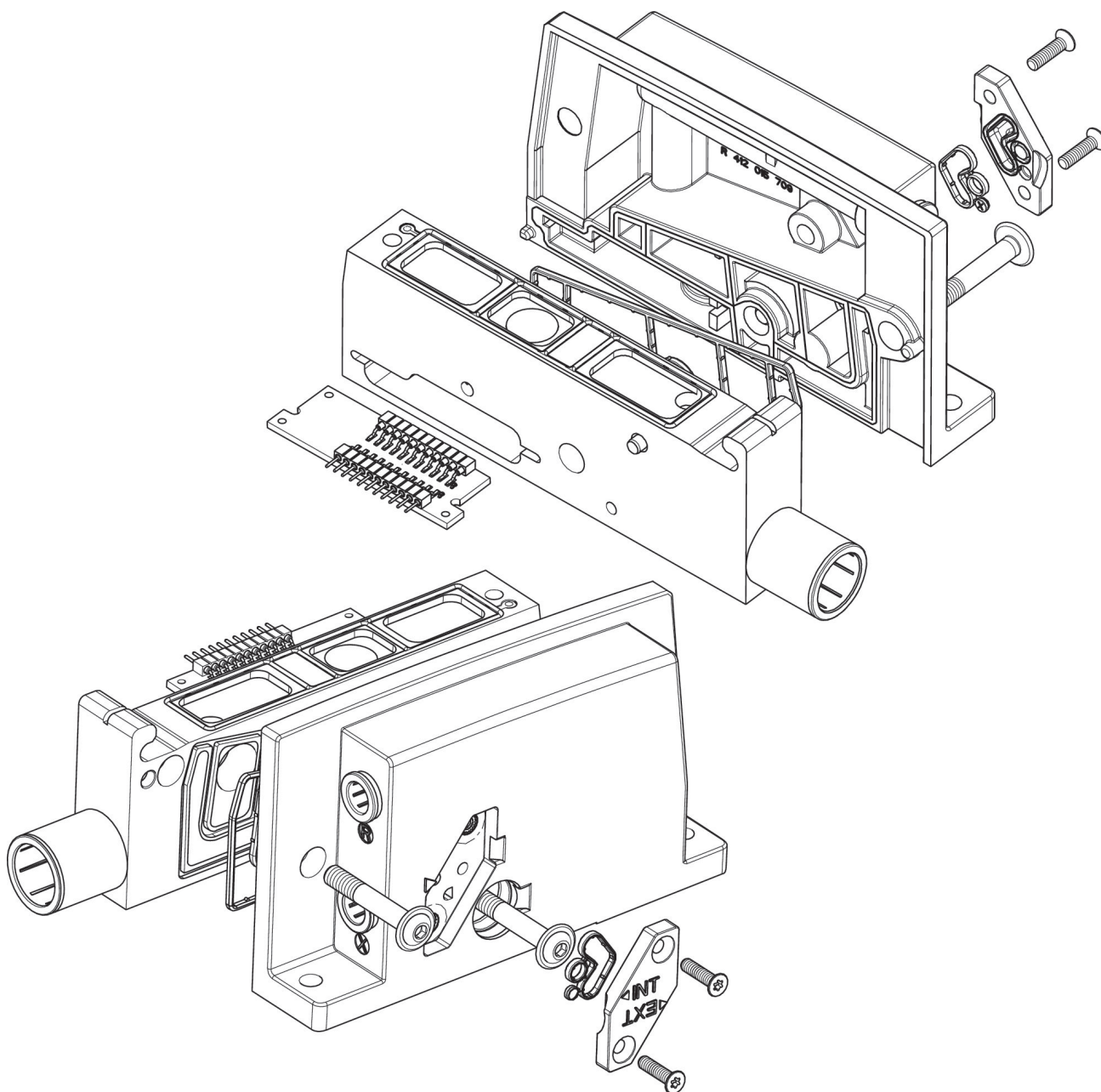
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

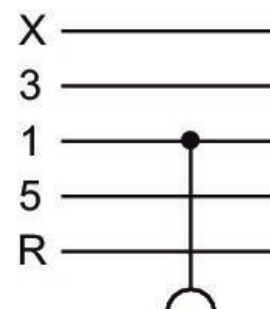
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Extension kit, combination plate, Series AV

R412021777



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, no pressure zones

Compressed air connection input
Ø 12

Pilot connection
Ø 12

Valve system version
Multipole

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

Working pressure min.
-0.95 bar

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.

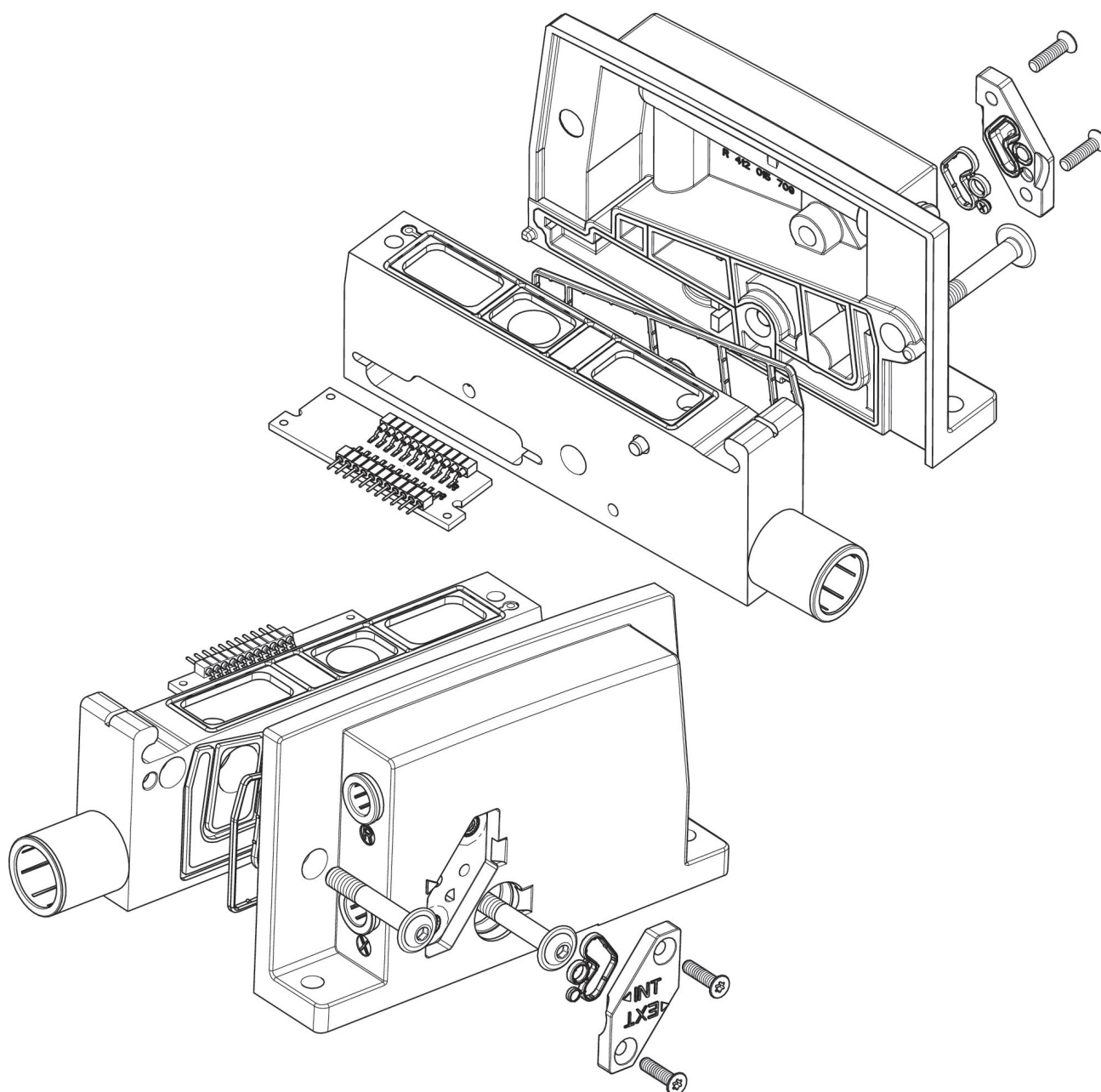
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

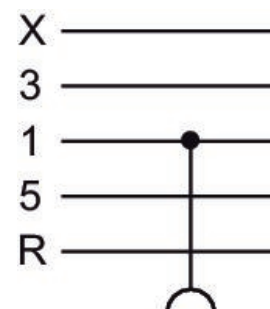
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

Dimensions



Extension kit, combination plate, Series AV

R412022592



Technical data

Industry
Industrial

Type
Base plate

Type
Supply plate, connection 1, no pressure zones

Compressed air connection input
Ø 3/8"

Pilot connection
Ø 3/8"

Valve system version
Multipole

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

Working pressure min.
-0.95 bar

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.

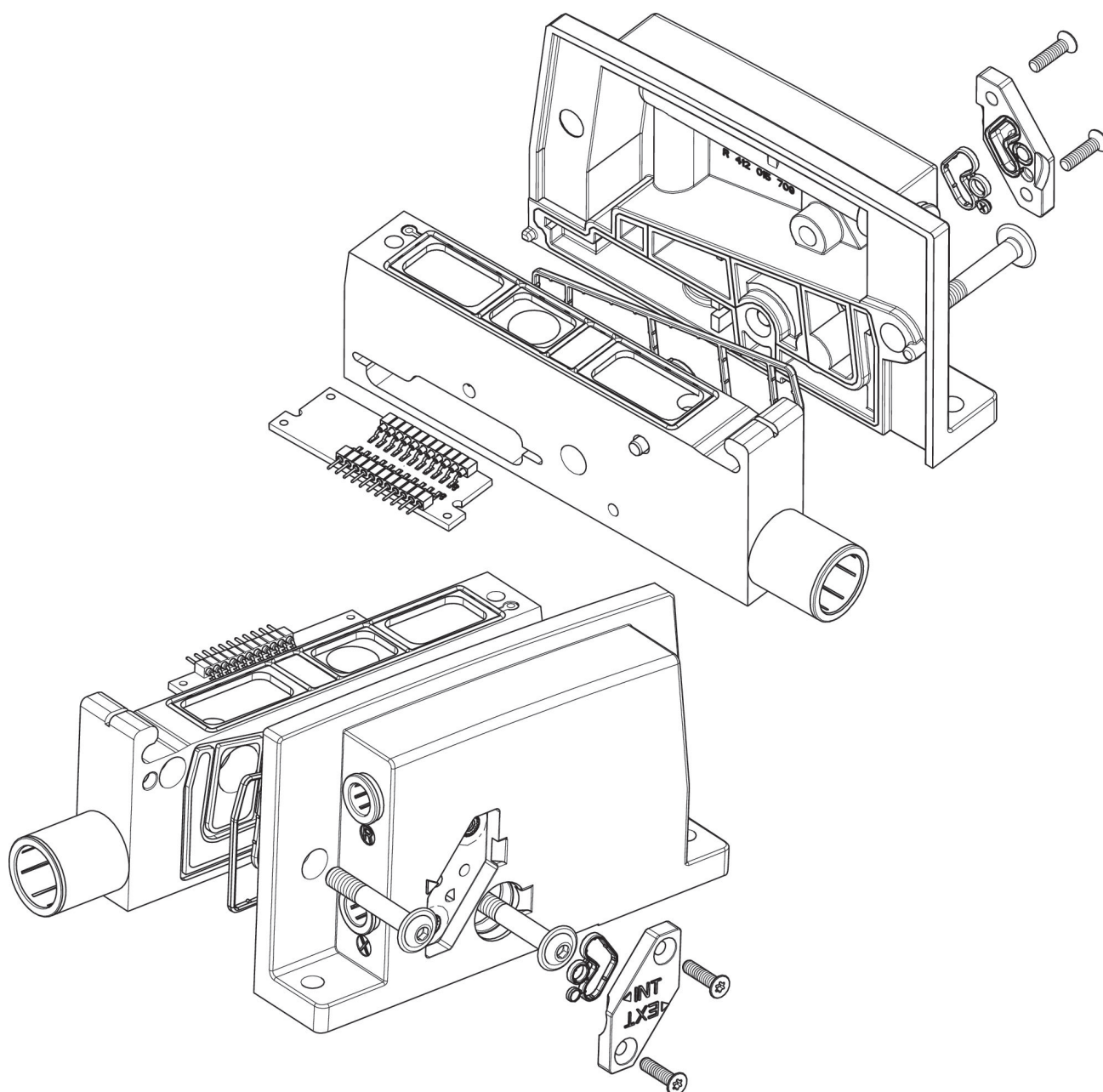
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

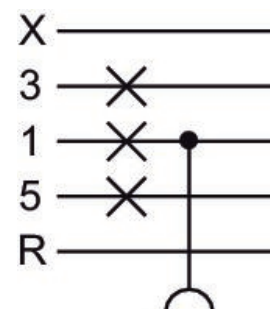
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

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

Compressed air connection input
Ø 12

Pilot connection
Ø 12

Valve system version
Fieldbus

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

Working pressure min.
-0.95 bar

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.

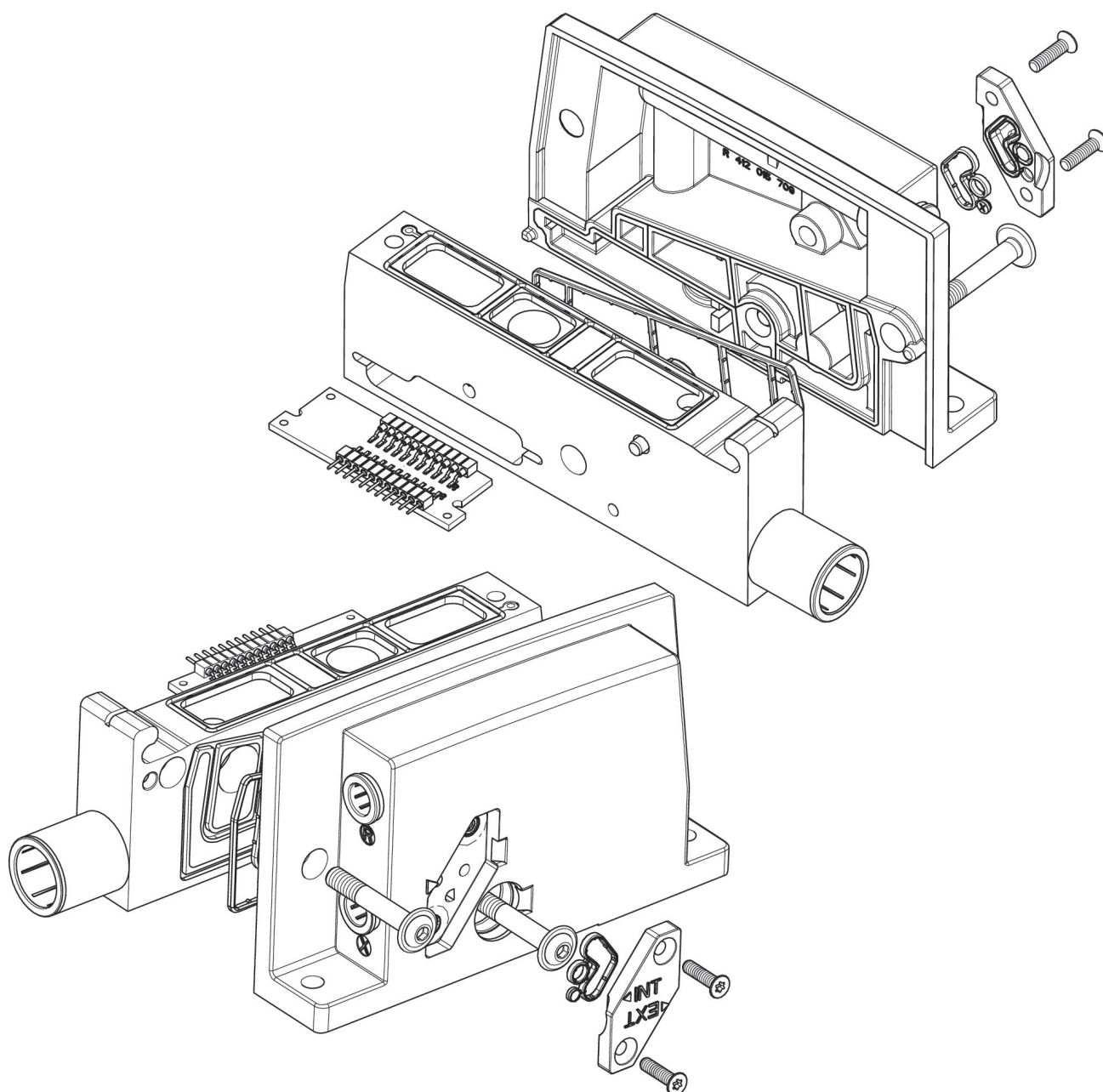
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

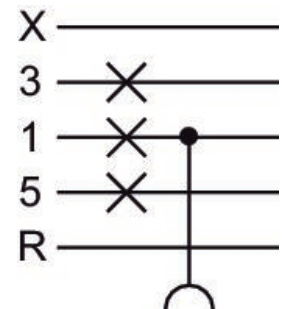
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

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

Compressed air connection input
Ø 3/8"

Pilot connection
Ø 3/8"

Valve system version
Fieldbus

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

Working pressure min.
-0.95 bar

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.

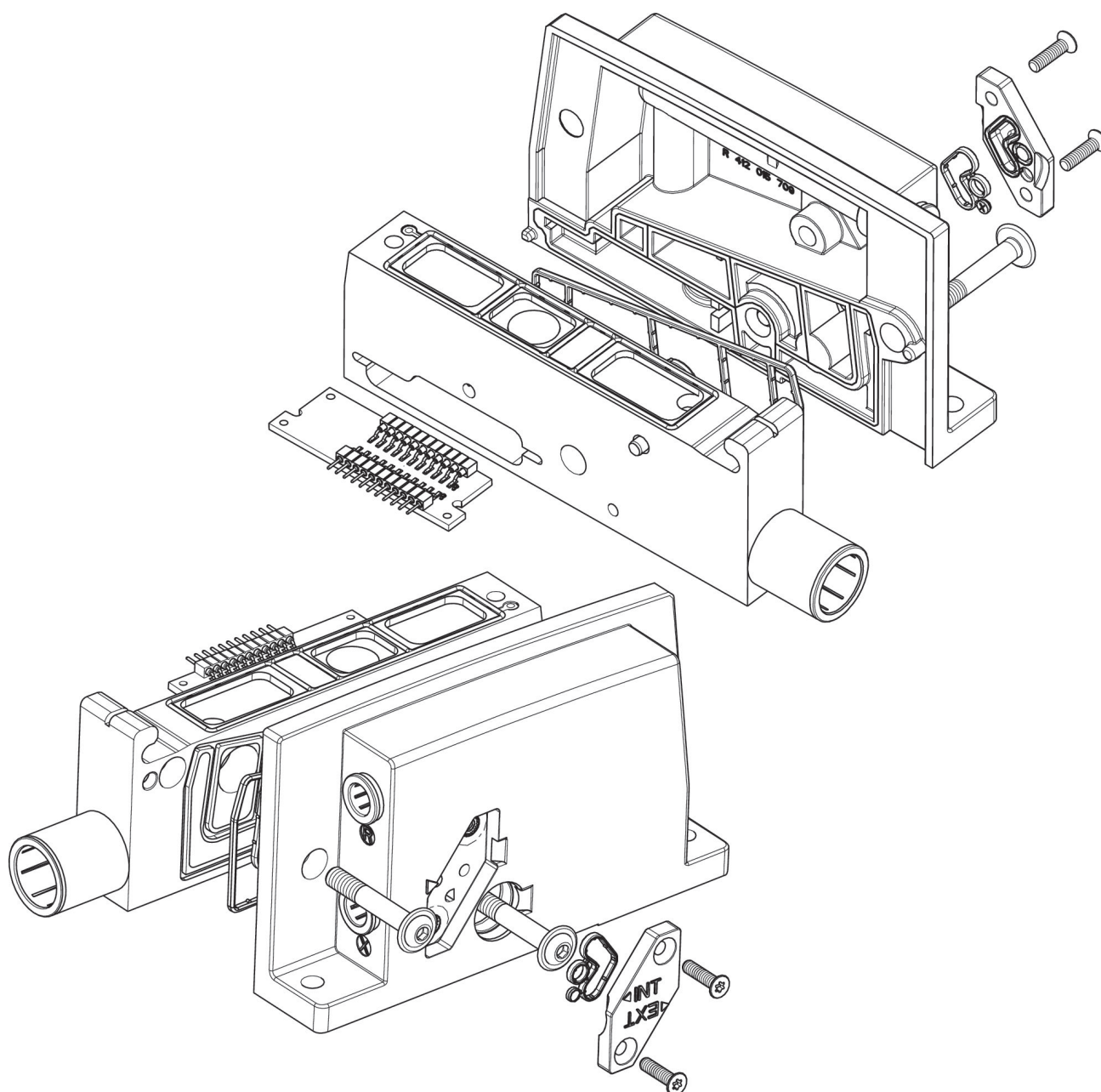
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

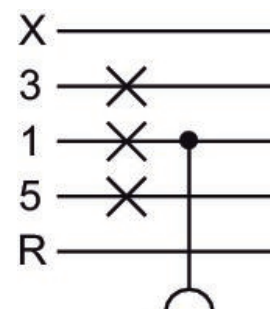
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

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

Compressed air connection input
Ø 12

Pilot connection
Ø 12

Valve system version
Multipole

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

Working pressure min.
-0.95 bar

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.

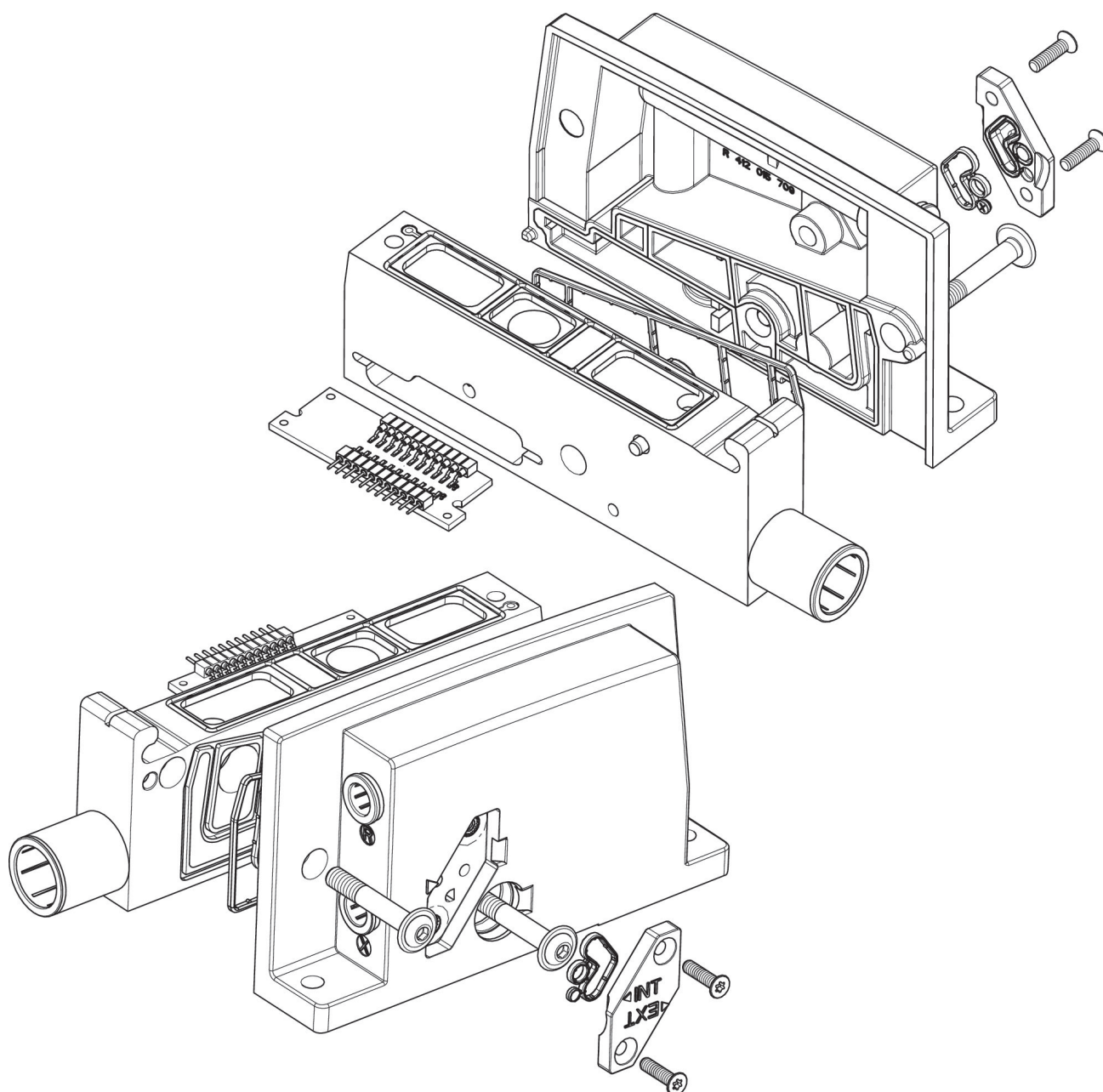
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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.

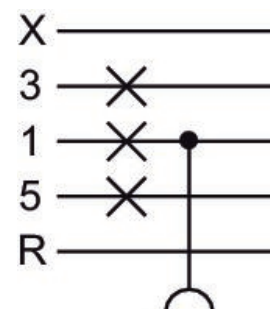
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

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

Compressed air connection input
Ø 3/8"

Pilot connection
Ø 3/8"

Valve system version
Multipole

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

Working pressure min.
-0.95 bar

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.

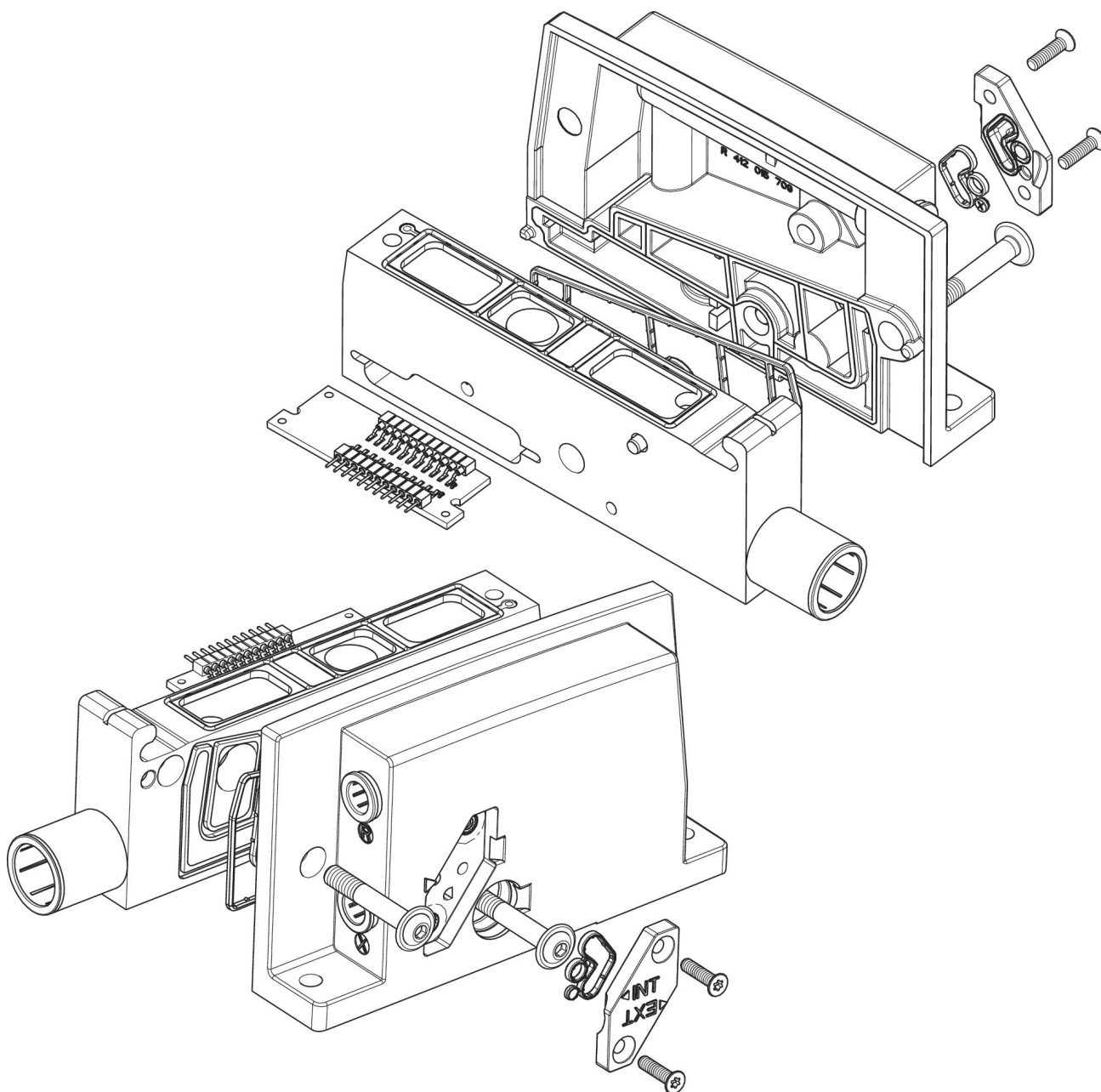
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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

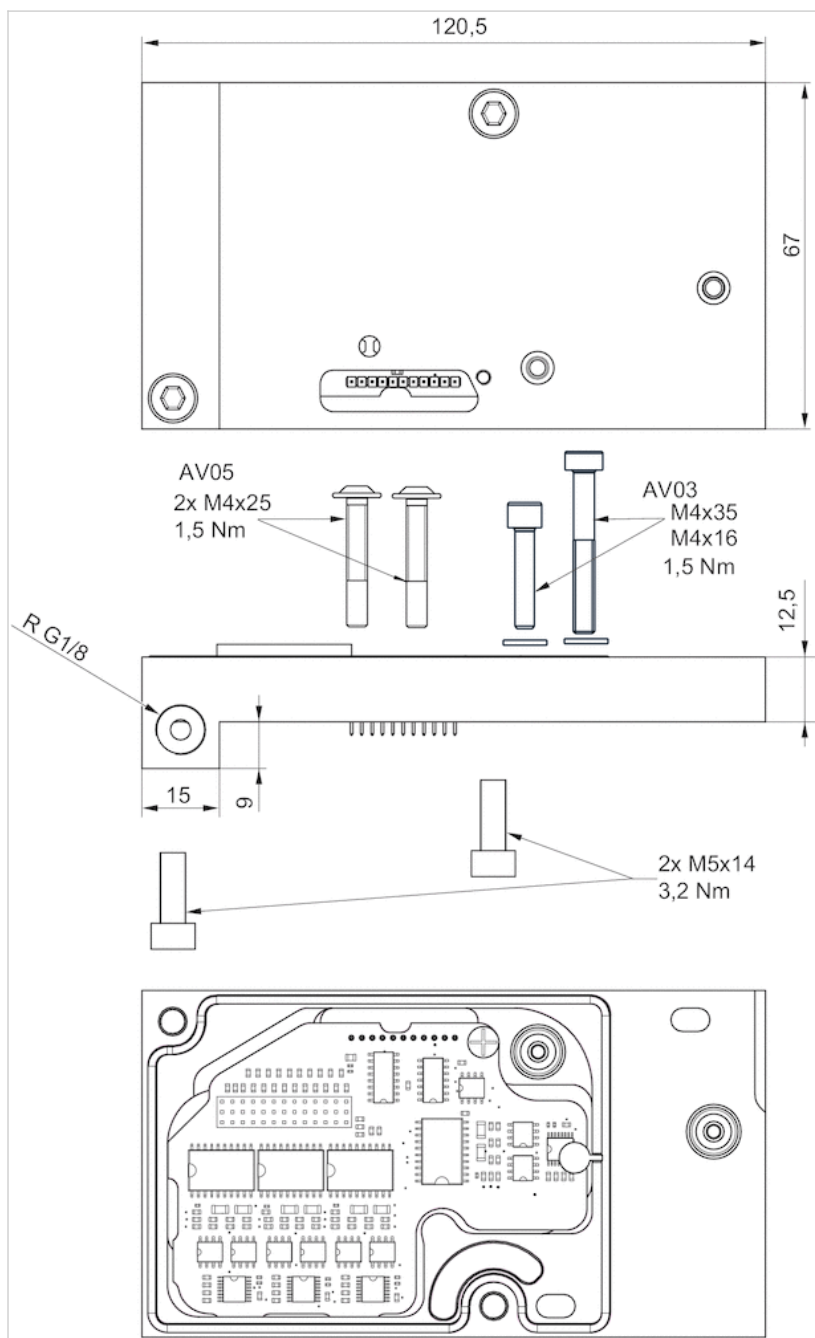
The multipole combination plate can transmit up to 30 signals and is suitable for use with AV variants with 25-pin D-Sub plug as well as 44-pin D-Sub plug.

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

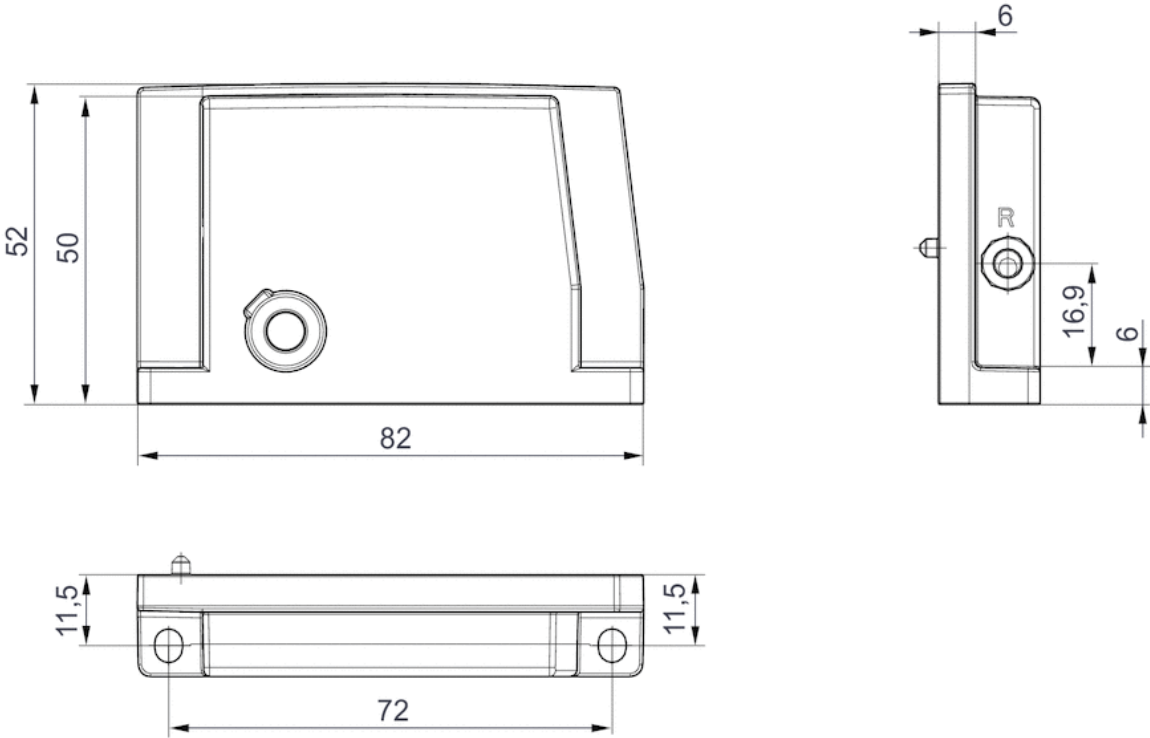
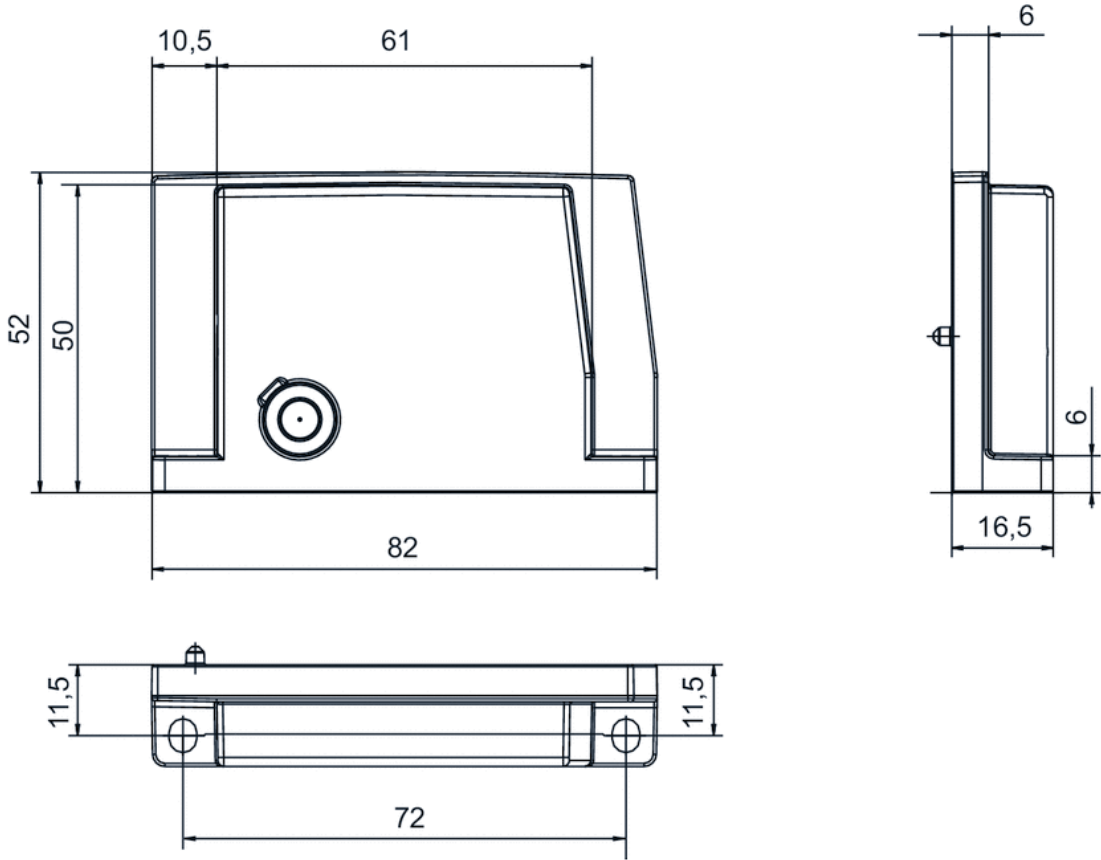


Fig. 2



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).

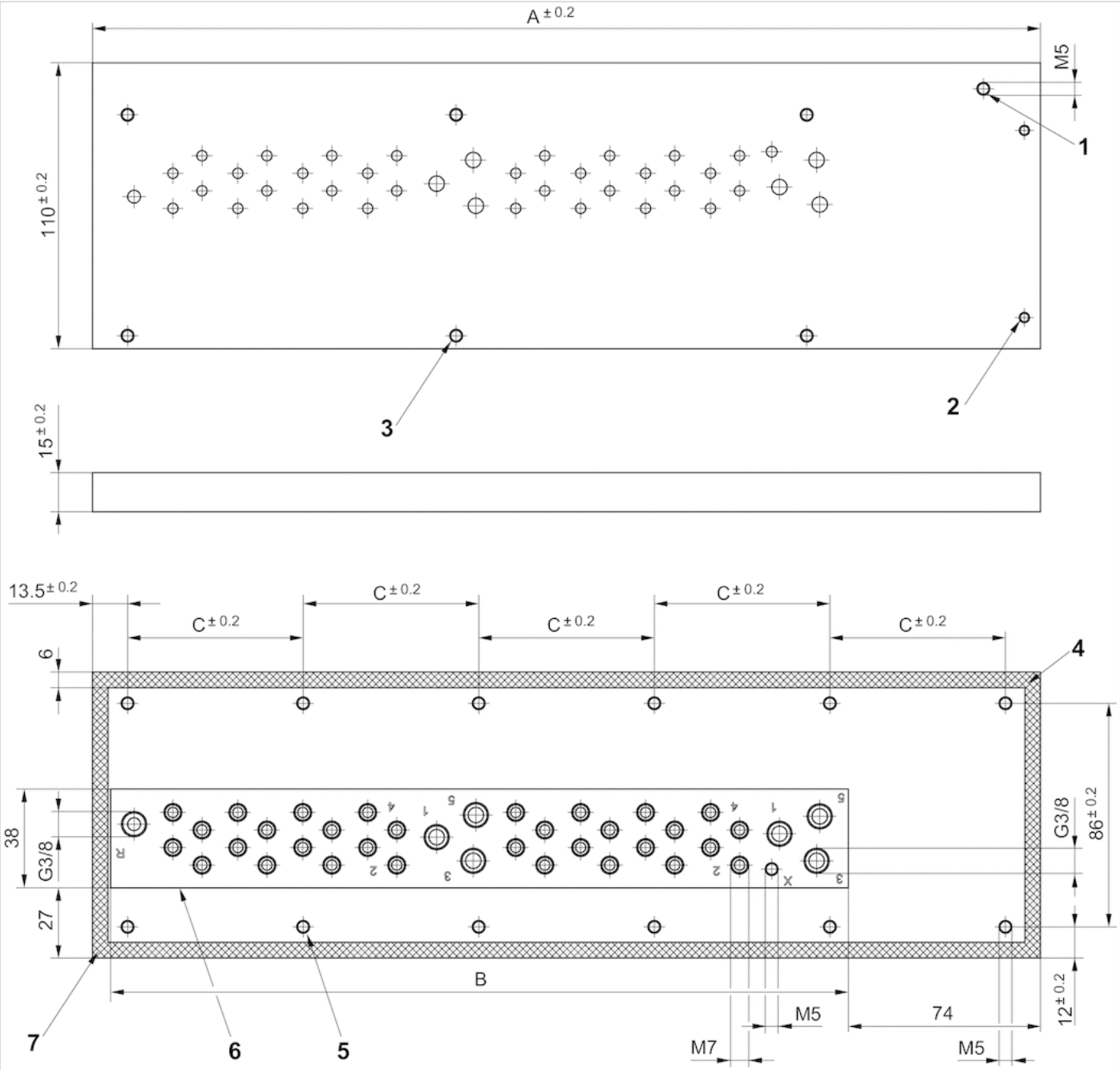
The protection class depends on the stability of the mounting wall.

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

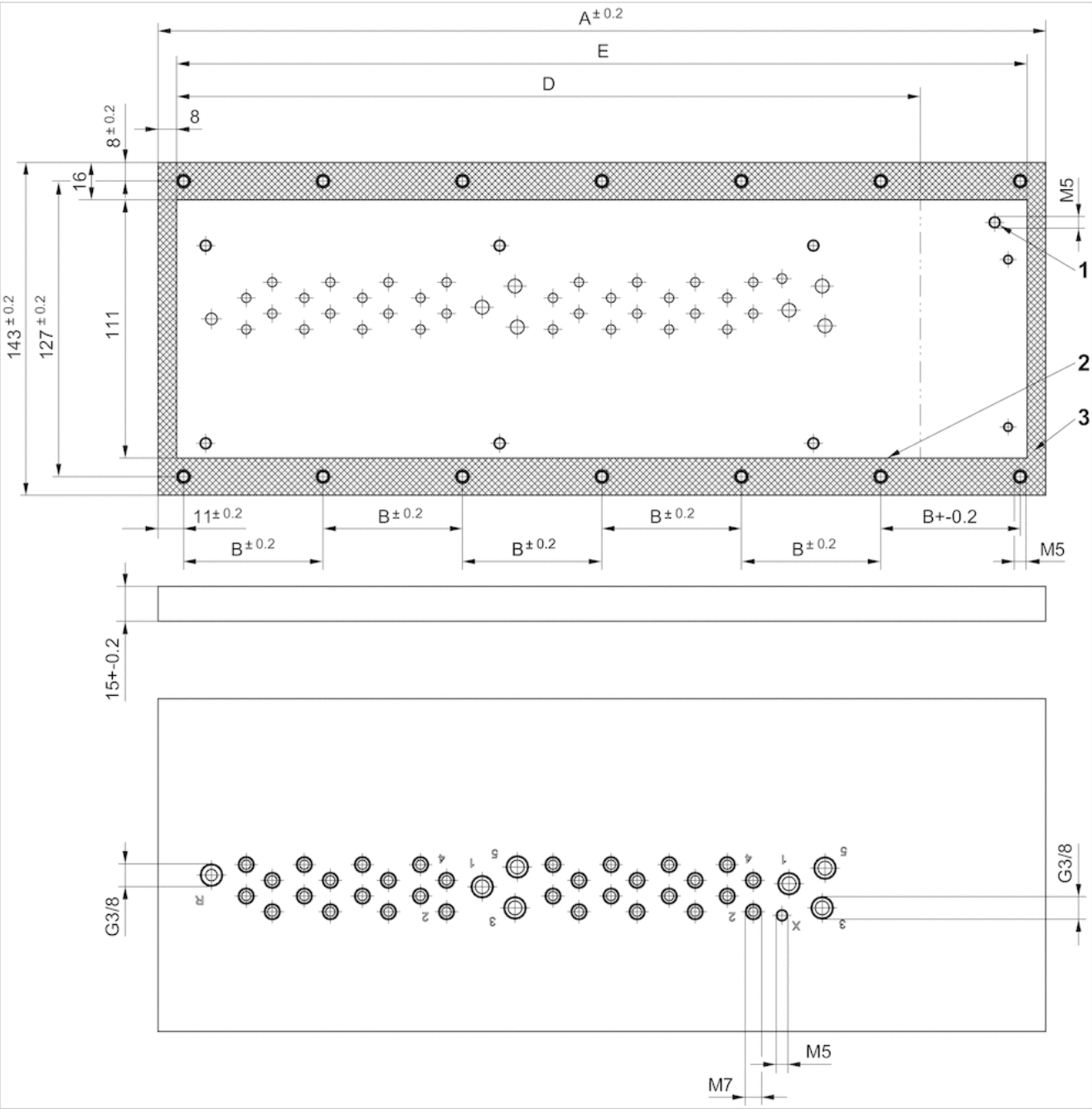
Dimensions

| 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



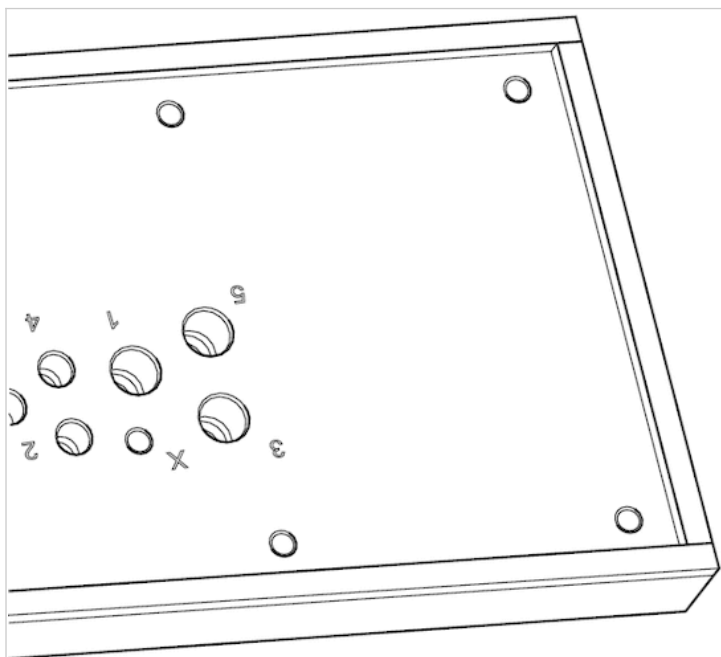
- 1) Thread for ground screw
- 2) Control cabinet cut-out
- 3) sealing surface

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

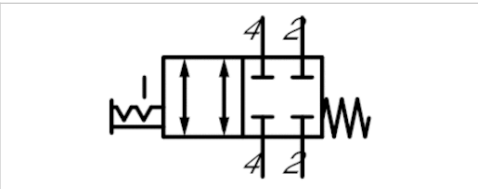
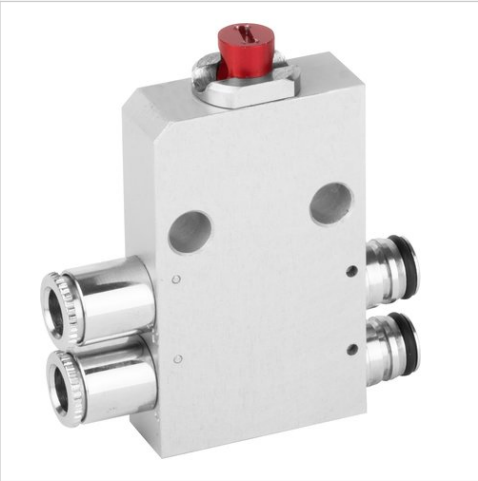
Dimensions

| 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
- Qn = 250-750 l/min
- Compressed air connection output Ø 1/4" Ø 8 Ø 6 Ø 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 |
|------------|--------------------------------|----------------------------------|-----------------|
| | | | Qn |
| R422102699 | push-in fitting | Ø 1/4" | 550 l/min |
| R422102704 | push-in fitting | Ø 8 | 750 l/min |
| R422102705 | push-in fitting | Ø 6 | 550 l/min |
| R422102706 | push-in fitting | Ø 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

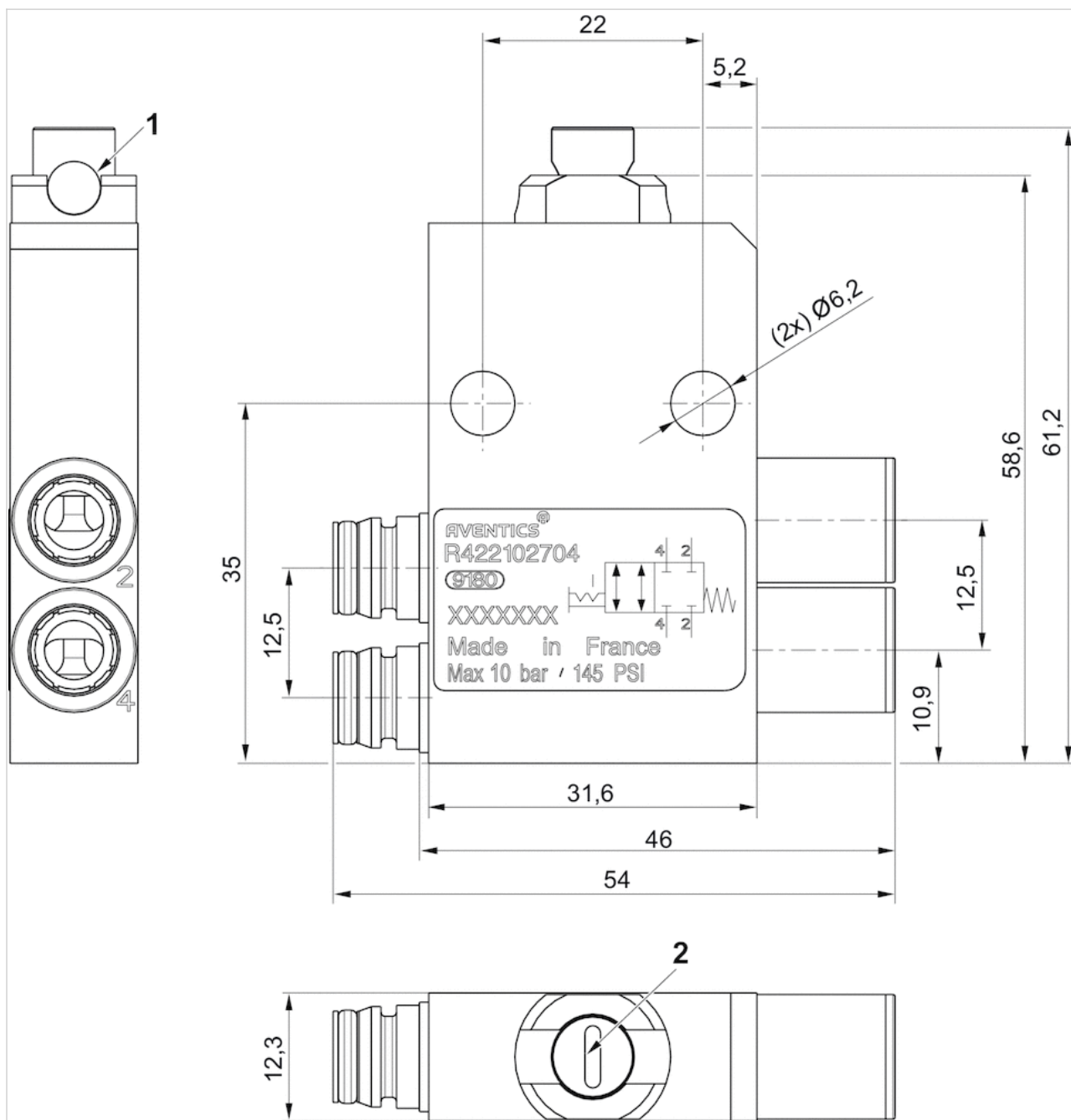
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

| Material | |
|----------|--------------------------|
| Housing | Aluminum |
| Seals | Nitrile butadiene rubber |

Dimensions

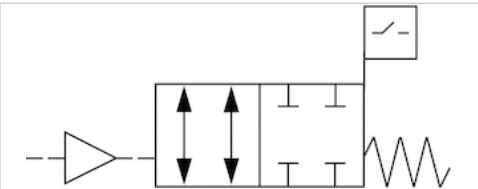
Dimensions



- 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

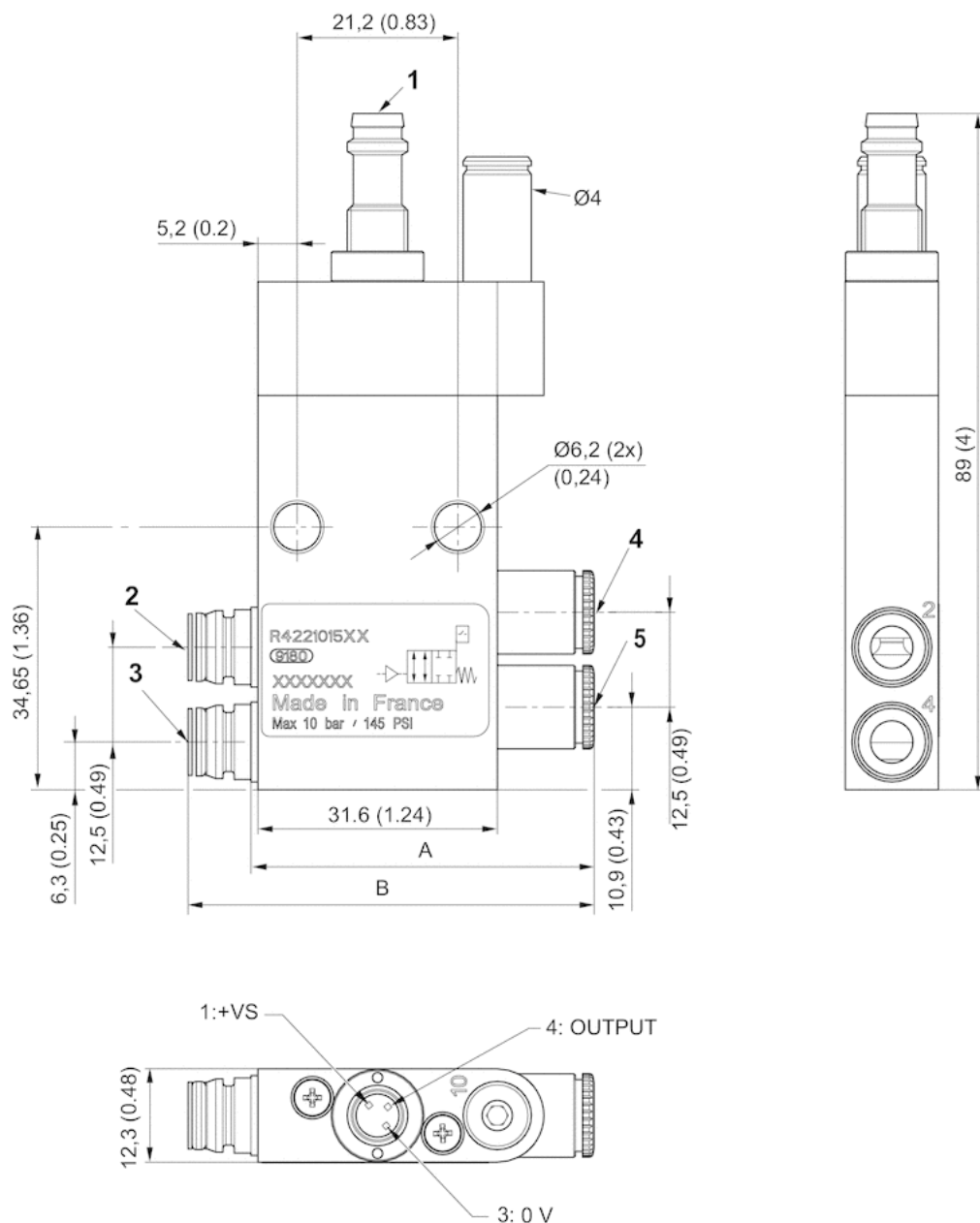
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 In the non-actuated state, the sensor signal is “high”

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

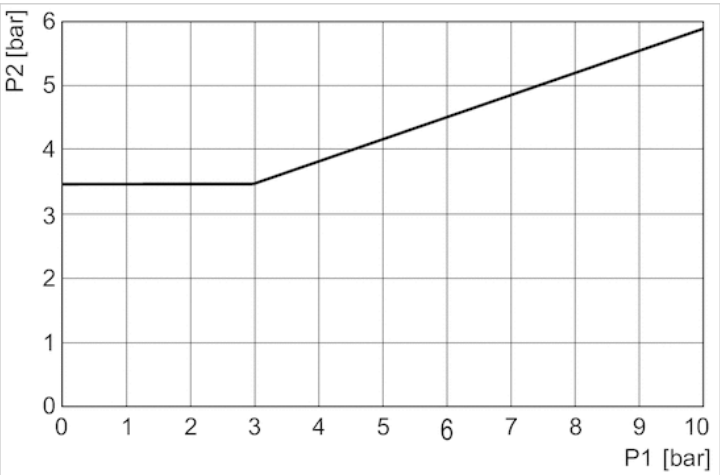
Dimensions

| Part No. | A | B |
|------------|------|------|
| R422101511 | 42±1 | 50±1 |

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

Diagrams

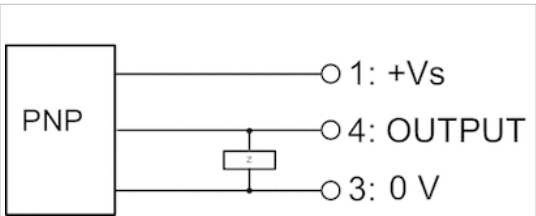
Minimum control pressure (depending on operating pressure)



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

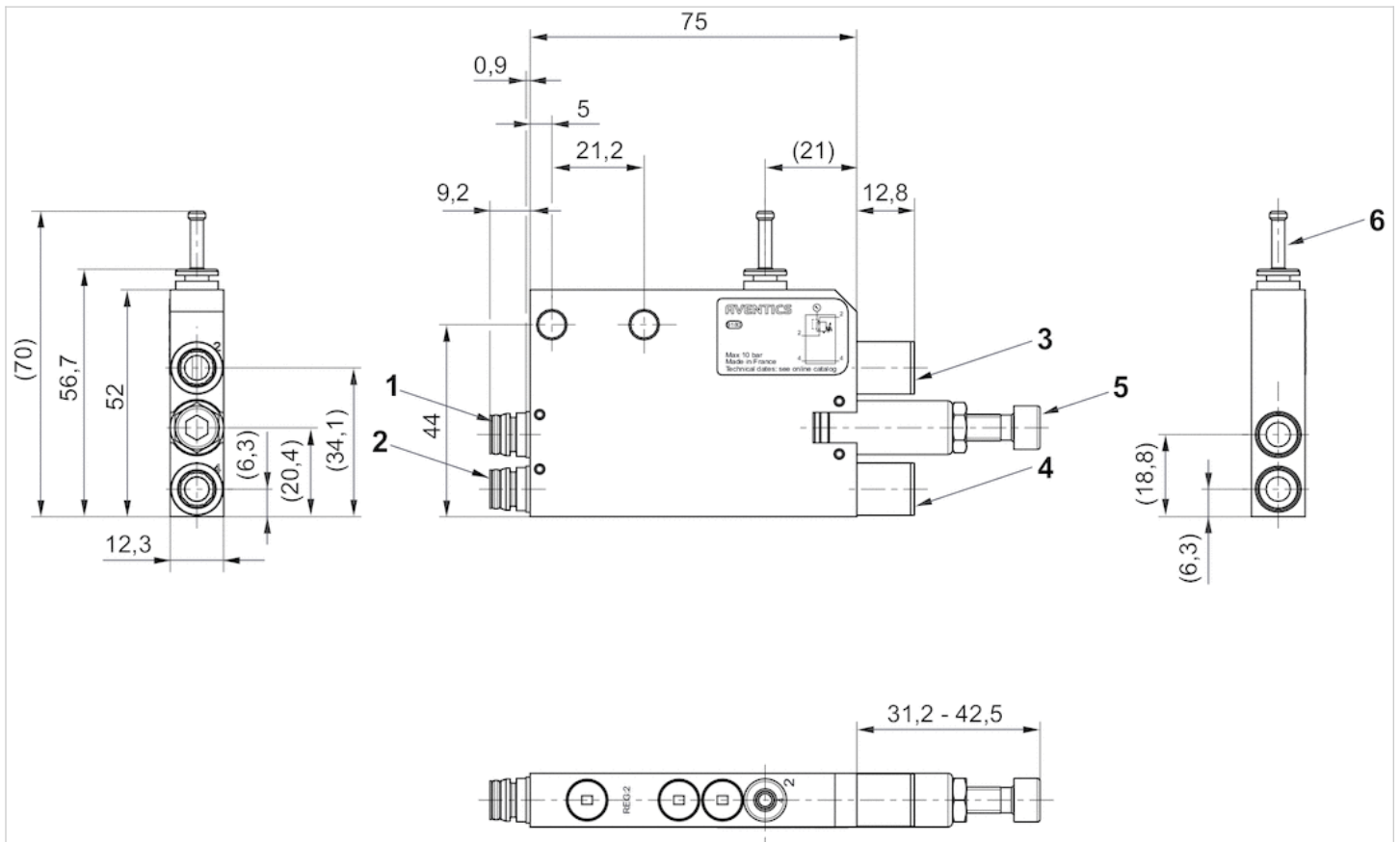
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

Technical information

| Material | |
|----------|--------------------------------|
| Housing | Aluminum |
| Seals | Acrylonitrile butadiene rubber |

Dimensions

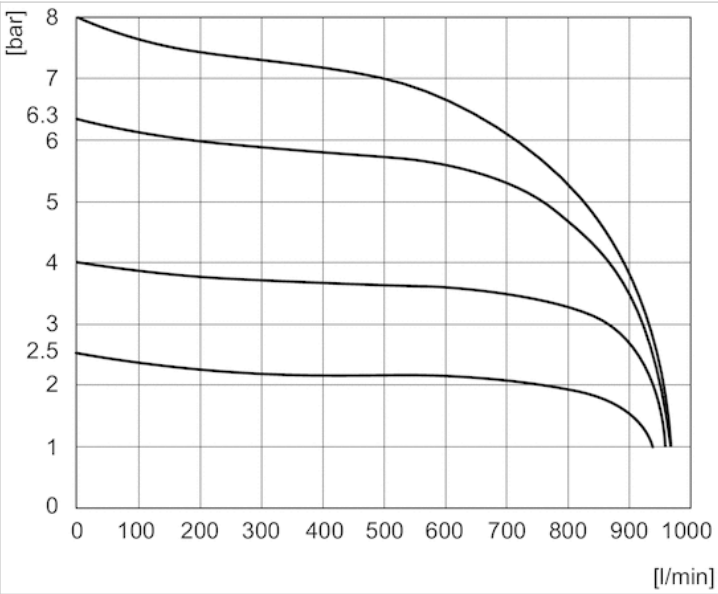
Dimensions



- 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

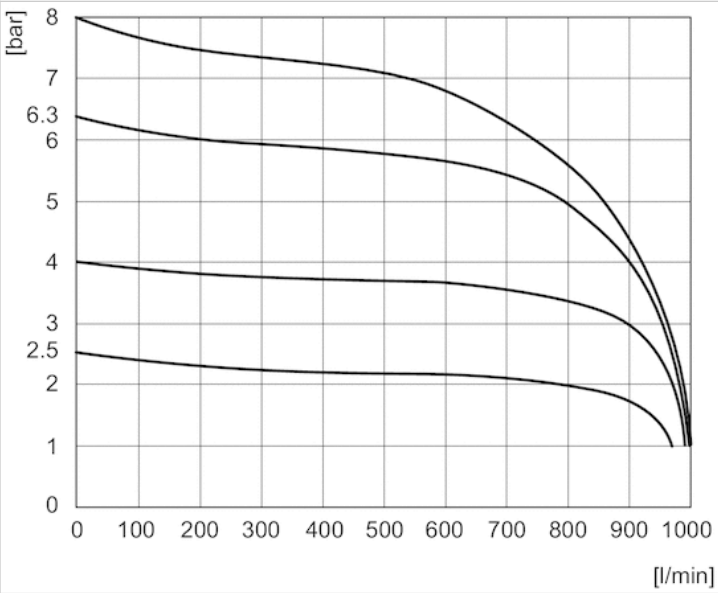
Diagrams

Flow diagram, Port 2



Pv = 9 bar

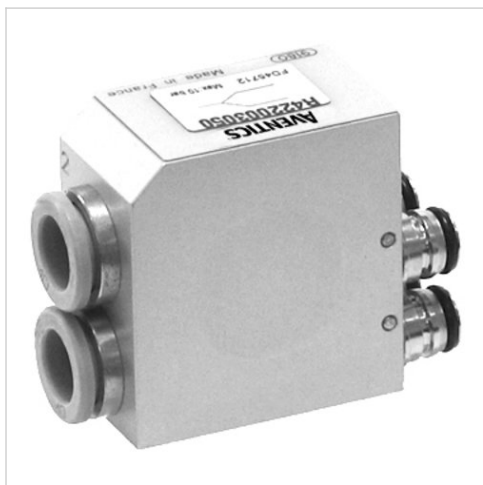
Flow diagram, Port 4



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.

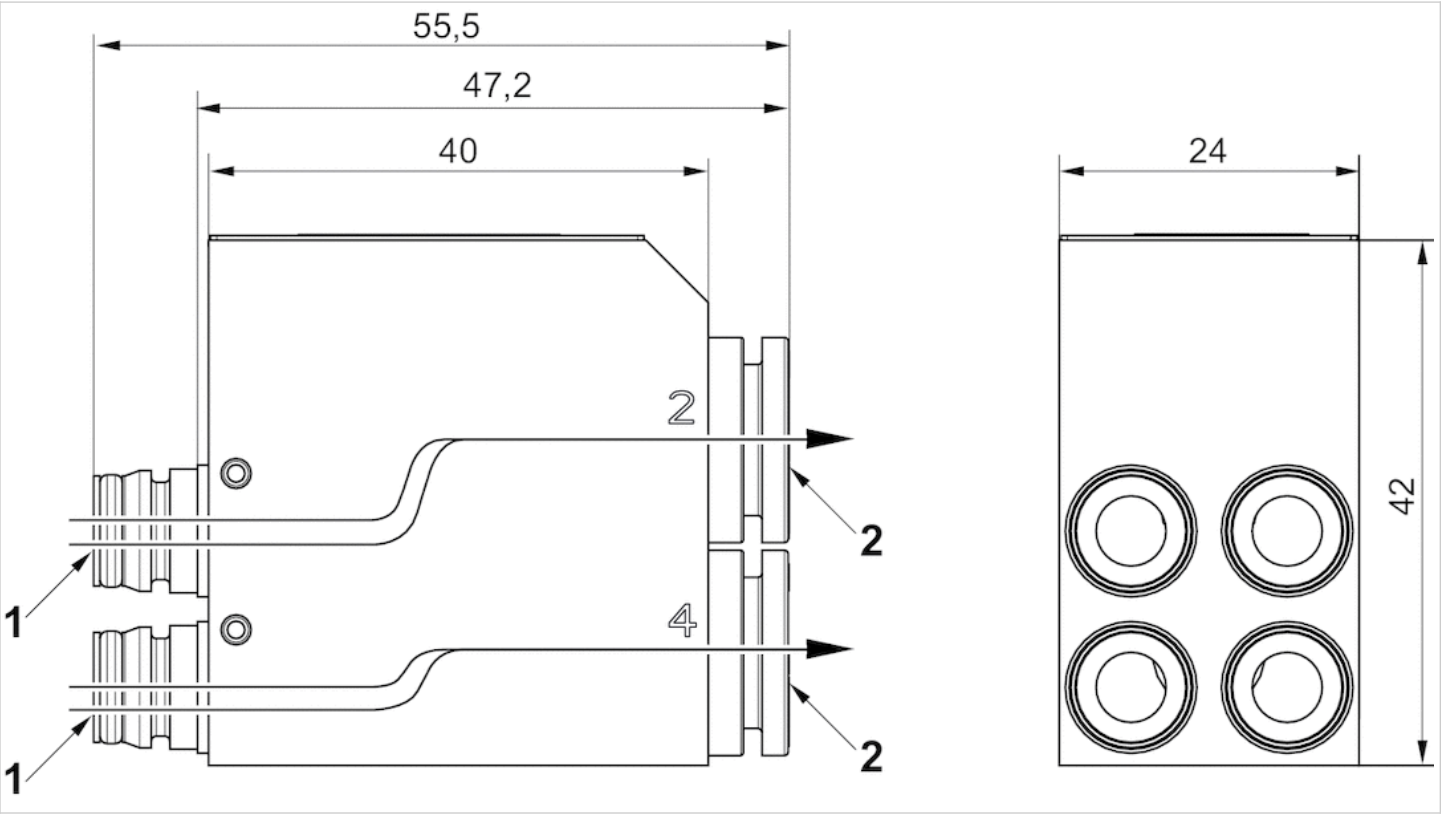
Both valves must be identical models and controlled electrically at the same time.

Technical information

| Material | |
|----------|----------------|
| Housing | Aluminum |
| Seals | Nitrile rubber |

Dimensions

Fig. 1



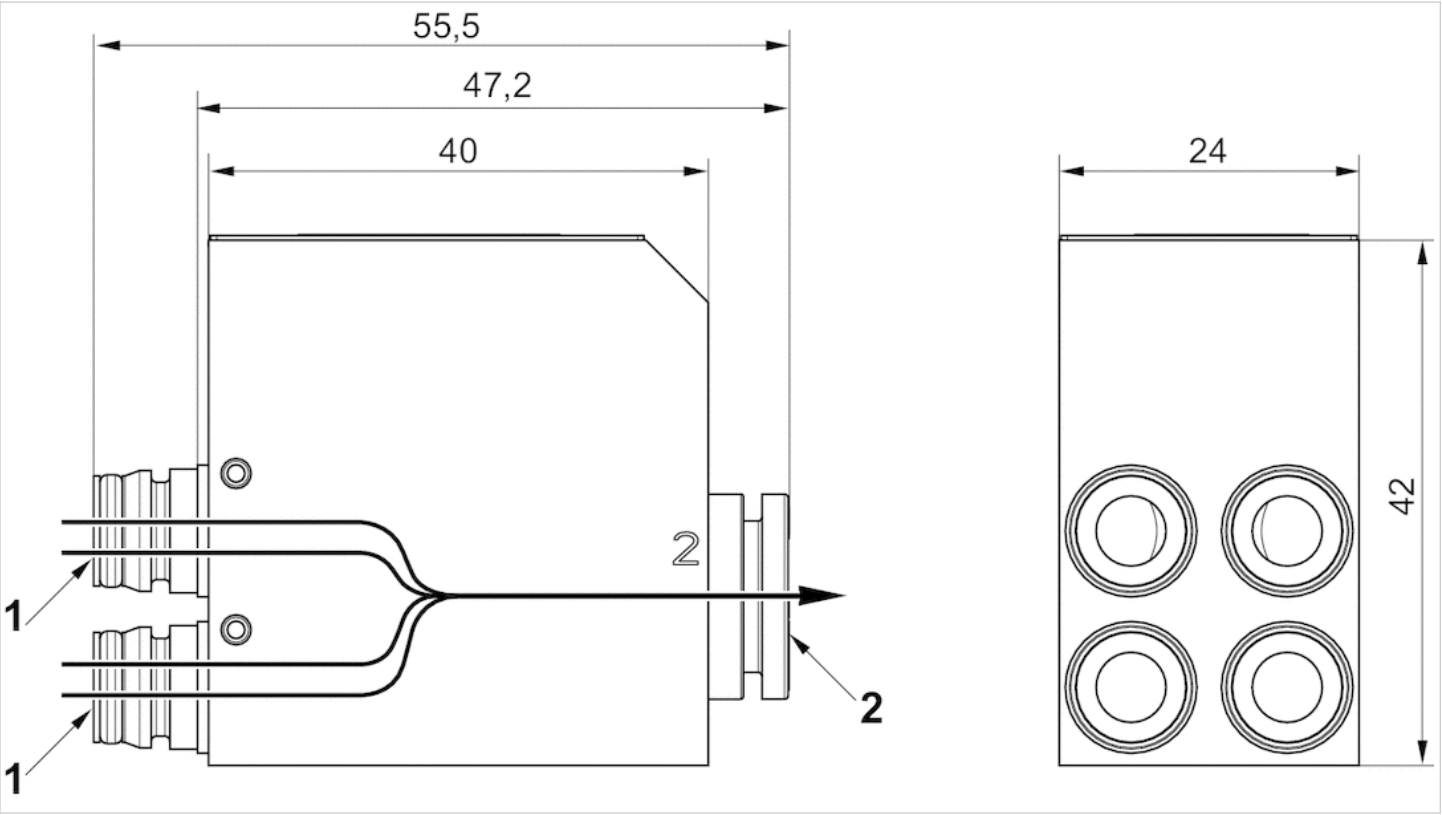
- 1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
- 2) 2 x Ø 10

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

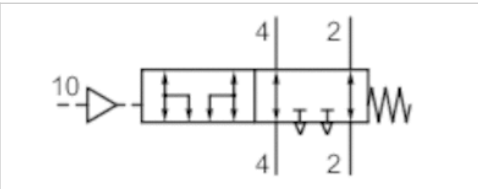
| Number of valves | 2 | 2 |
|------------------|-------|-------|
| Valve function | 2x3/2 | 2x3/2 |
| Series | AV03 | AV05 |
| Flow [l/min] | 830 | 1400 |

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.

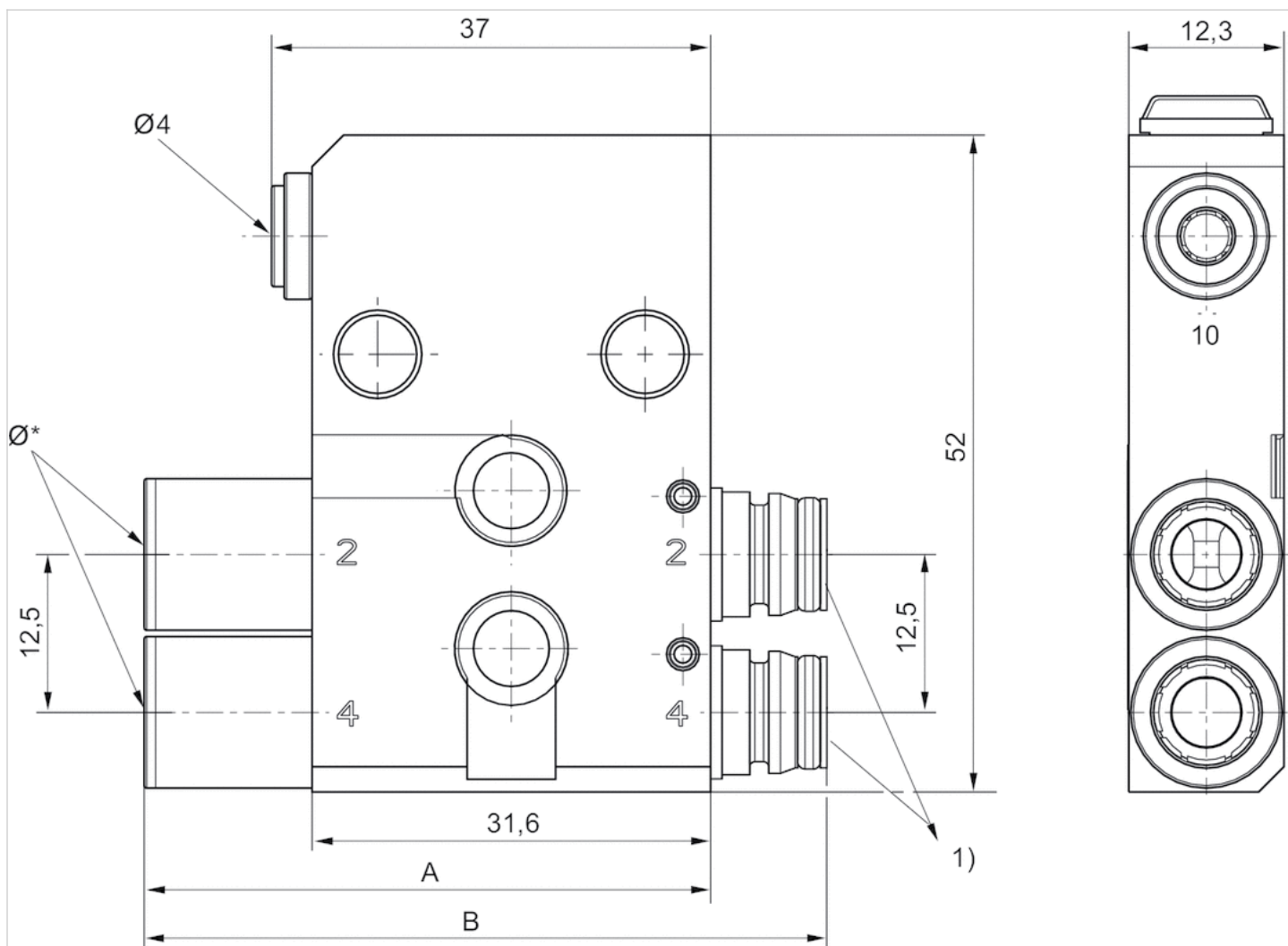
Applications with vertical actuators with exhaust or pressure throttles and a maximum load of 15 kg as well as up to a speed of Vmax 33 mm/s .

Technical information

| Material | |
|----------|----------------|
| Housing | Aluminum |
| Seals | Nitrile rubber |

Dimensions

Dimensions



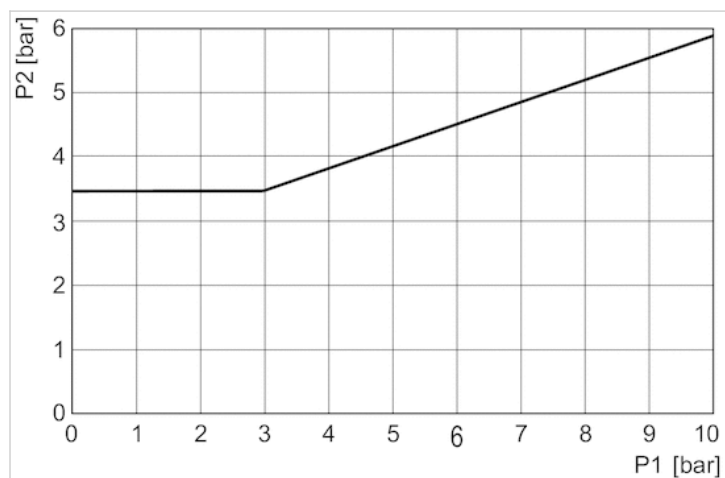
1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

Dimensions

| Part No. | Ø* | A | B |
|------------|----|----|----|
| R422003046 | 8 | 46 | 54 |
| R422003185 | 6 | 42 | 50 |
| R422003187 | 4 | 38 | 46 |

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

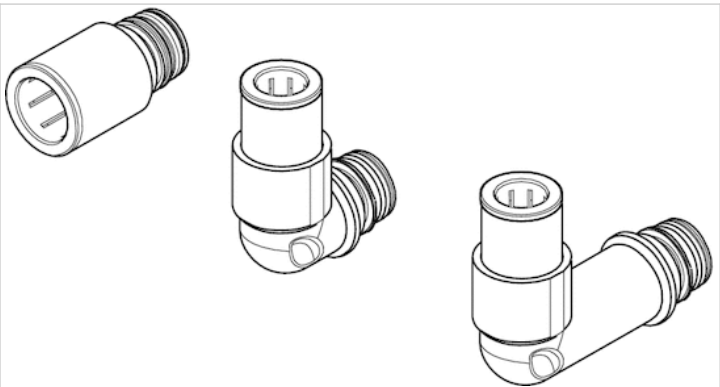
Technical information

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

For series
AV03

Type
Top connection

Min. medium temperature
-10 °C

Max. medium temperature
60 °C

Weight
0.045 kg

Material

Housing material
Polyamide

Screws material
Steel

Part No.
R412018334

Technical information

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

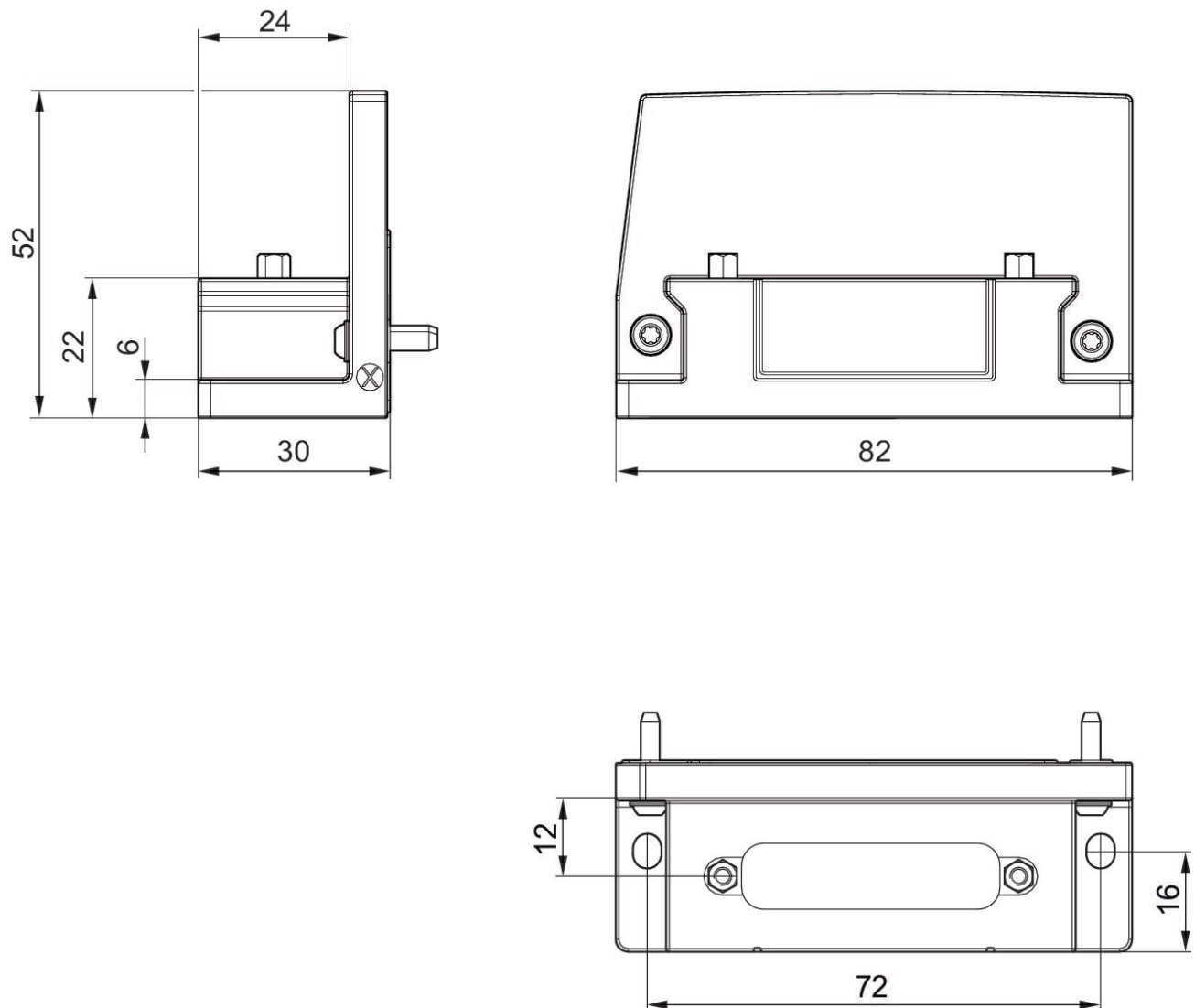
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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

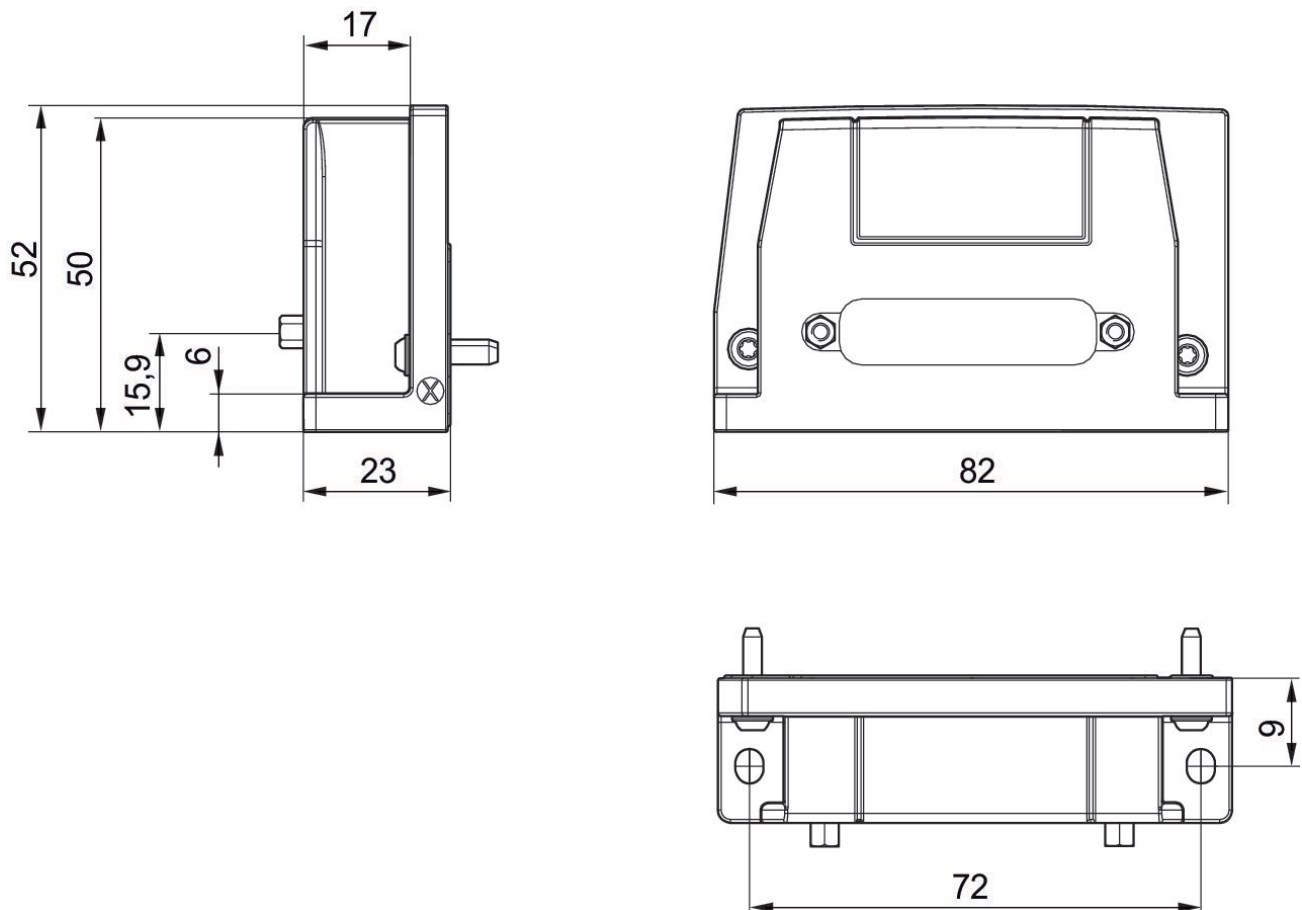
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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

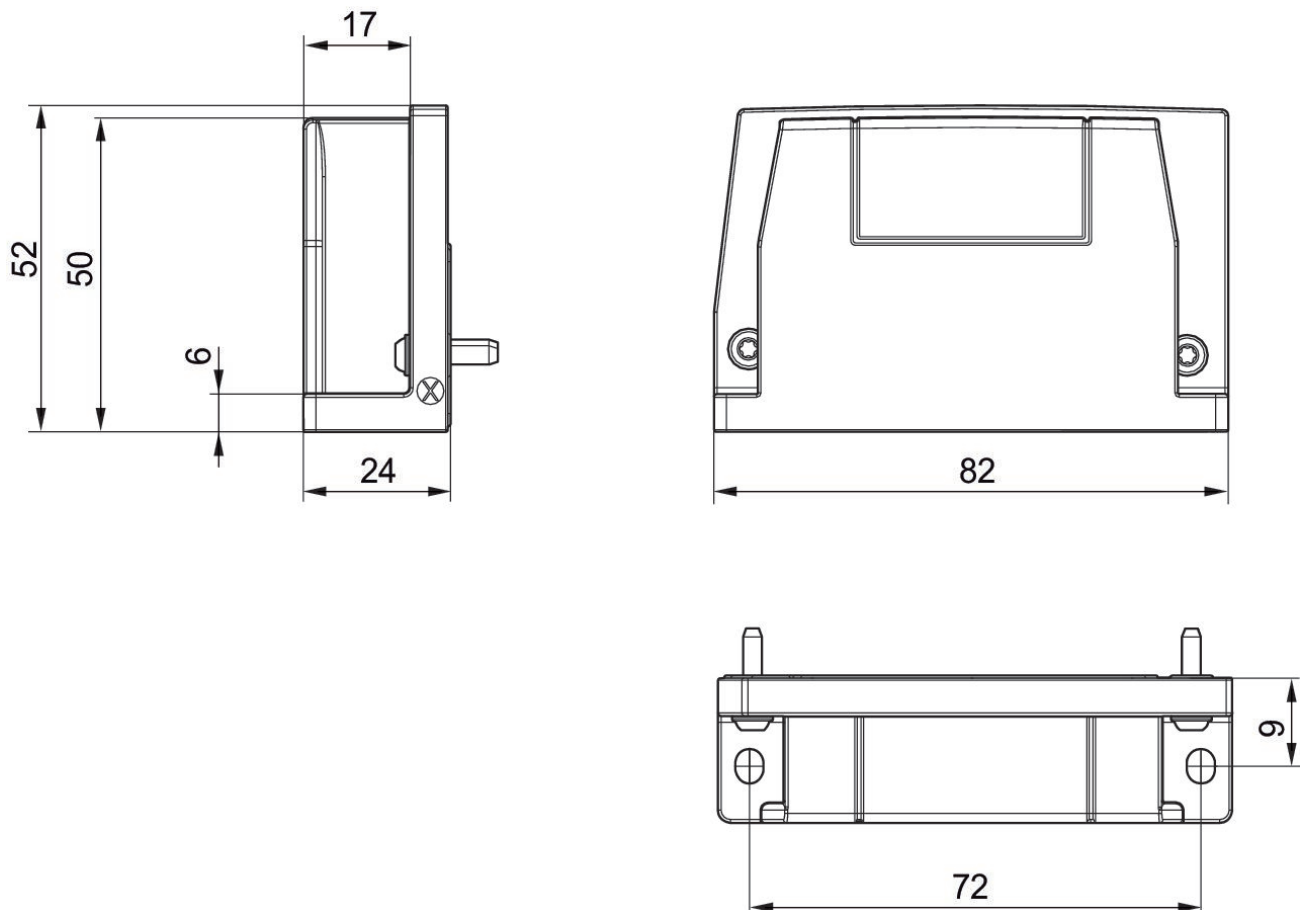
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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

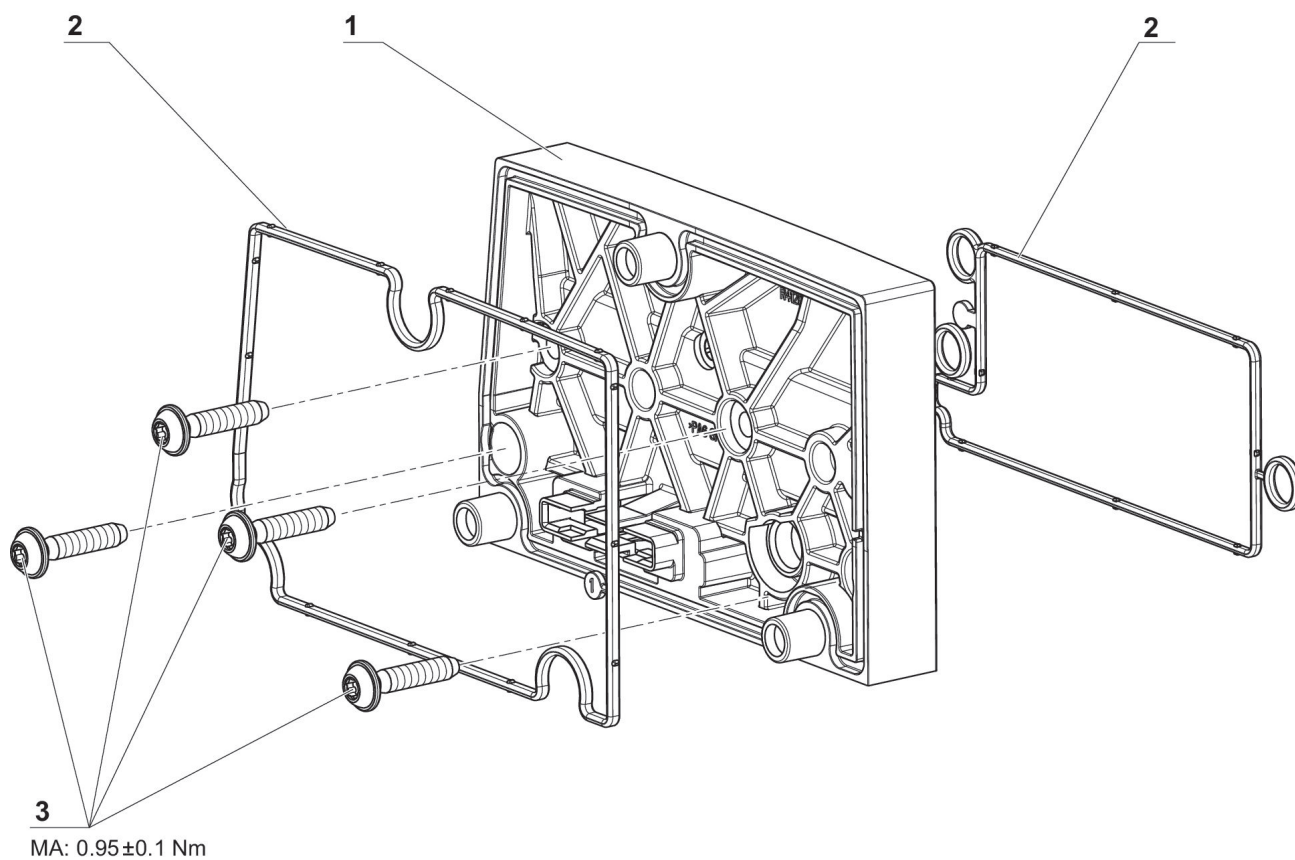
Technical information

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 |

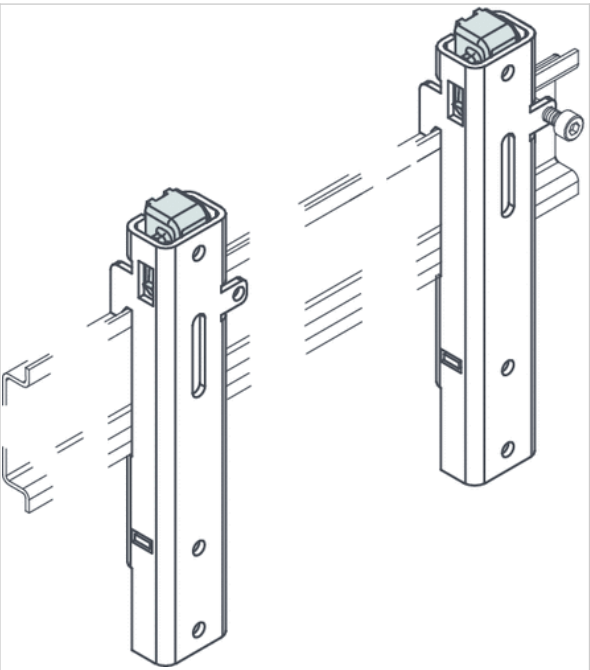
Scope of delivery: 2 clamps, 4 screws M4x8 DIN 912, 1 screw M3x14 DIN 912, Note: The valve system should not be equipped with more than the maximum number of components. After maximum equipment of the valve system, we recommend no longer assembling the valve system on a DIN rail.

Technical information

| Material | |
|----------|----------------------|
| Housing | Steel, chrome-plated |

Dimensions

Dimensions



Assembly kit

- for AV



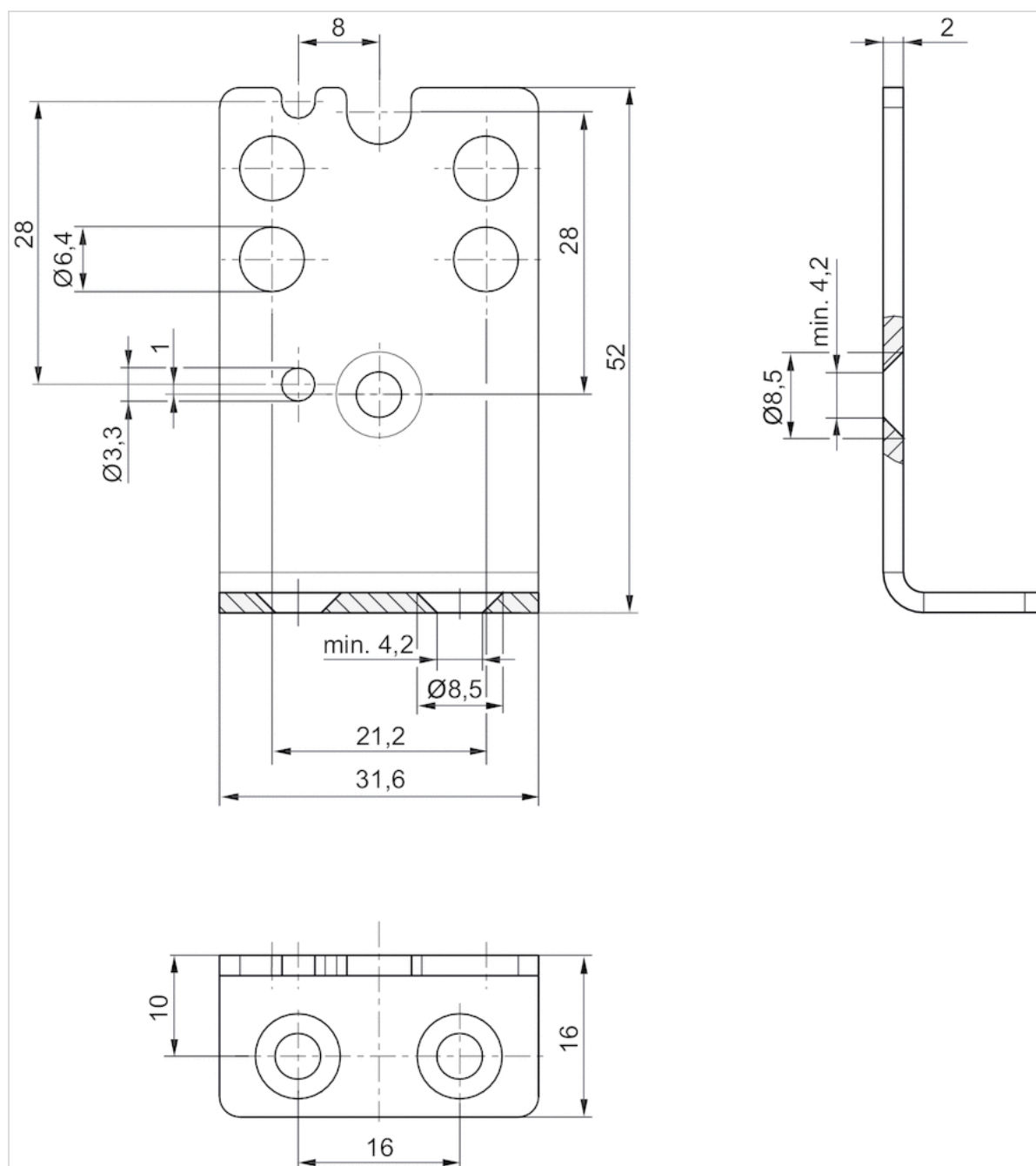
Technical data

| 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

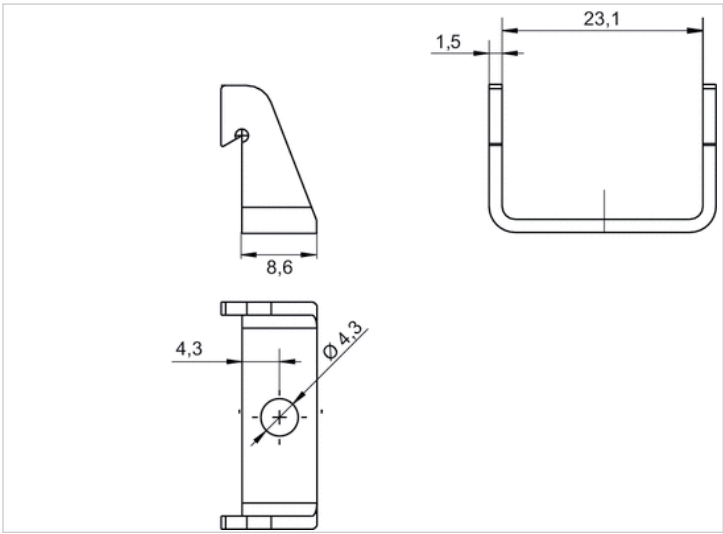
| Part No. | Type | Delivery unit |
|------------|--------------------|---------------|
| R412018339 | Retaining brackets | 10 piece |

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

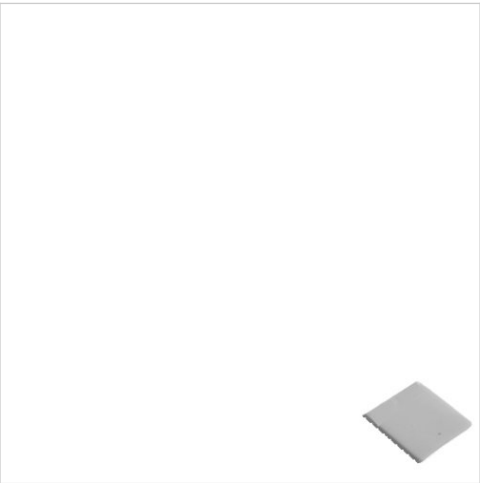
| Material | |
|----------|-----------------|
| Housing | Stainless steel |

Dimensions



Name plates, front

- for AV03, AV05, AES



Weight

0.014 kg

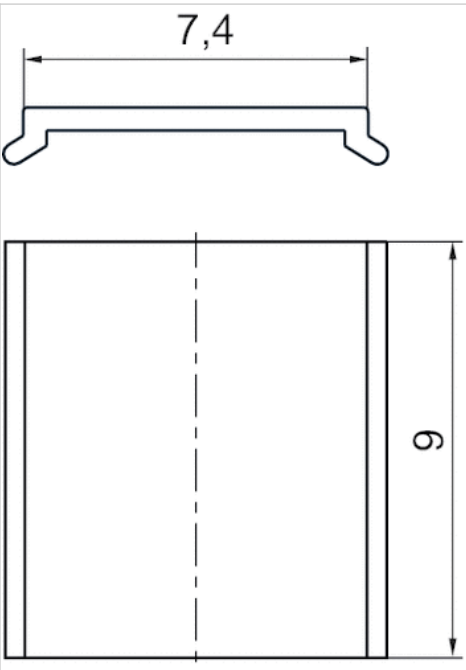
Technical data

| Part No. | Type | Delivery unit |
|------------|-------------|---------------|
| R412019552 | Name plates | 150 piece |

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

Dimensions



Name plates

- for AV03, AV05, AES



Weight

0.014 kg

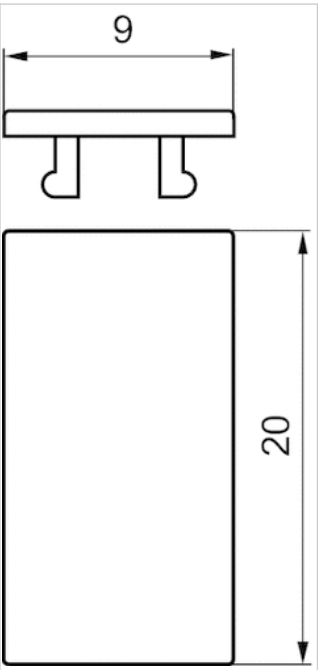
Technical data

| Part No. | Type | Delivery unit |
|------------|-------------|---------------|
| R422100889 | Name plates | 24 piece |

Technical information

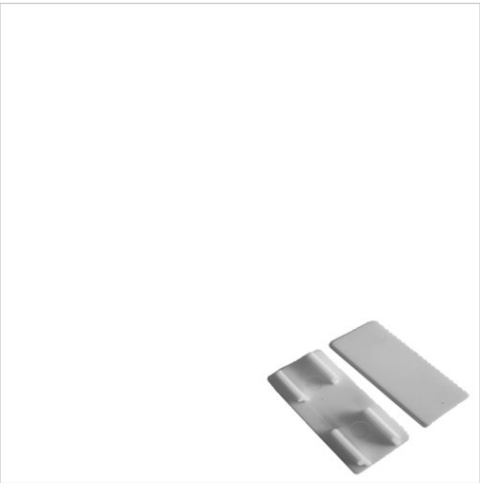
| Material | |
|----------|--------------|
| Housing | Polycarbonat |

Dimensions



Name plates

- for AV03-BP, AV05-BP



Weight

0.014 kg

Technical data

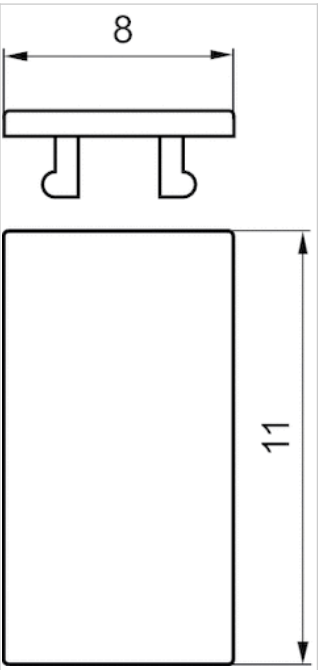
| Part No. | Type | Scope of delivery |
|------------|-------------|-------------------|
| R412026461 | Name plates | 20 Piece |

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

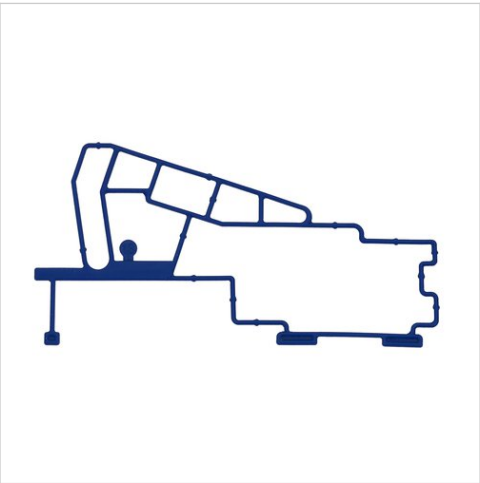
Dimensions

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.

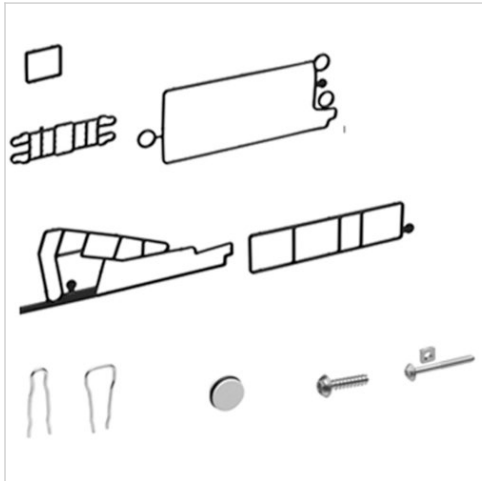
-10 ... 60 °C

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) |

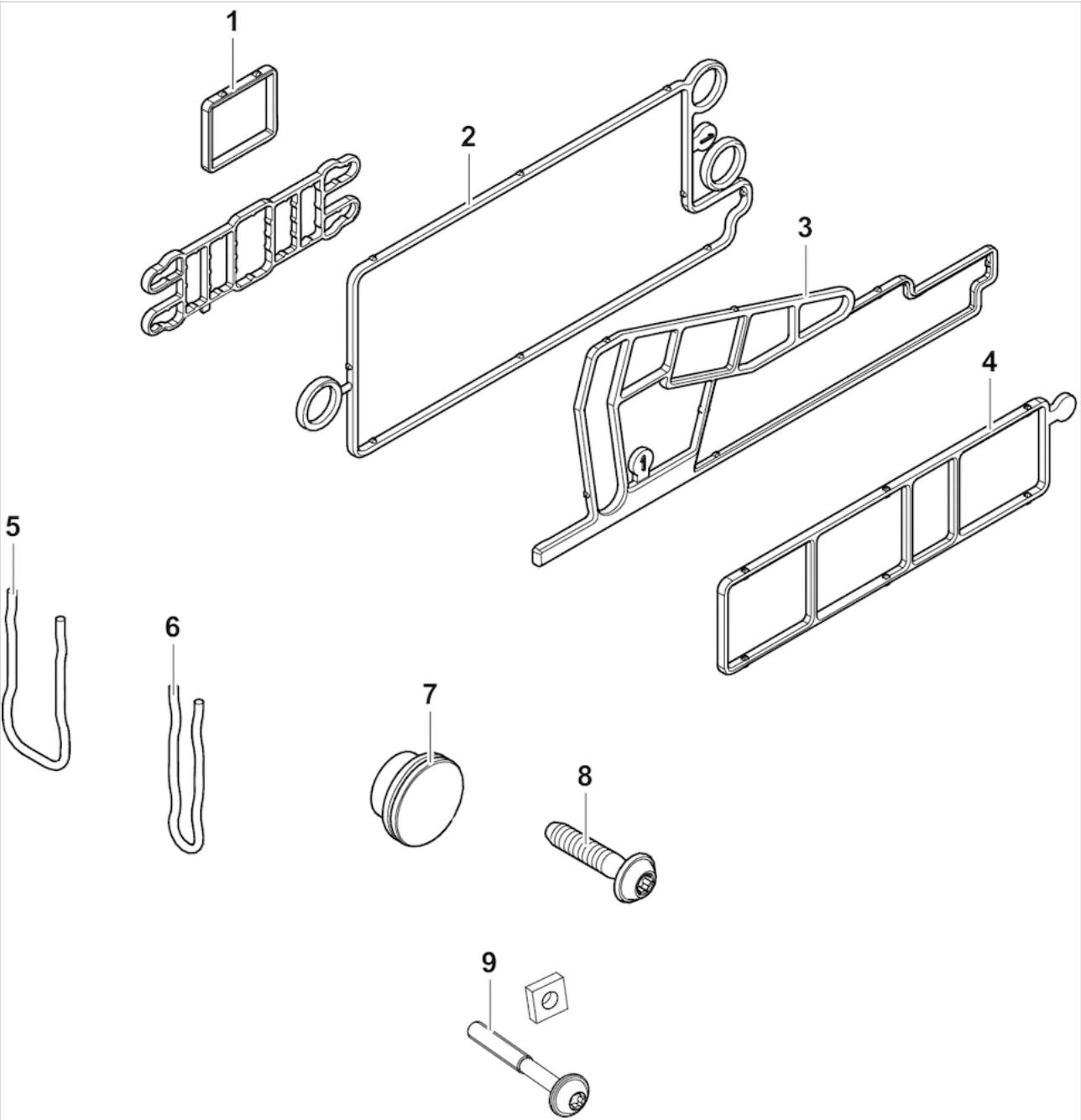
1) AV03

2) AV05

3) AV03 / AV05

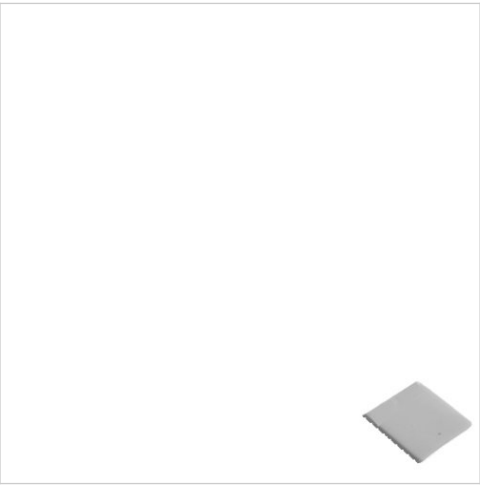
Dimensions

Overview drawing



Name plates

- for AES



Weight

0.014 kg

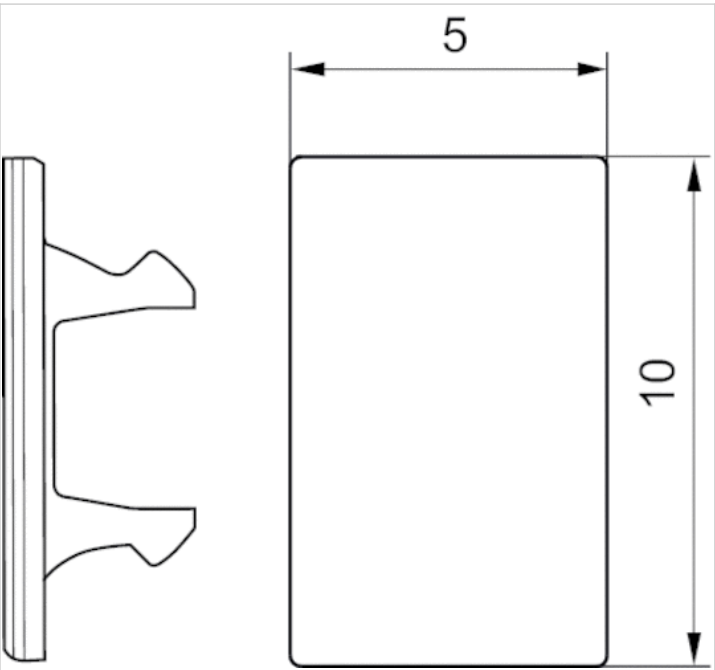
Technical data

| 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 |

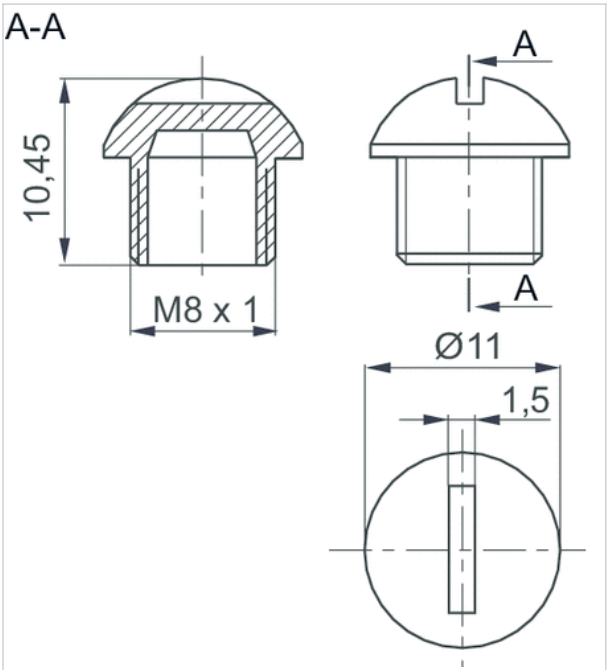
Technical data

| 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 |

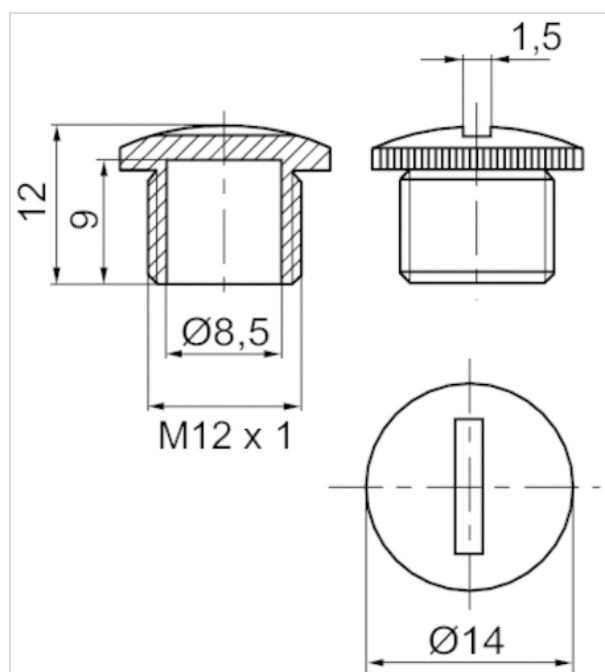
Technical data

| Part No. | Type | Delivery unit |
|------------|-------|---------------|
| 1823312001 | M12x1 | 50 piece |

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

Dimensions



End plate left

- for AES



Ambient temperature min./max.

 Weight

-10 ... 60 °C

 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.

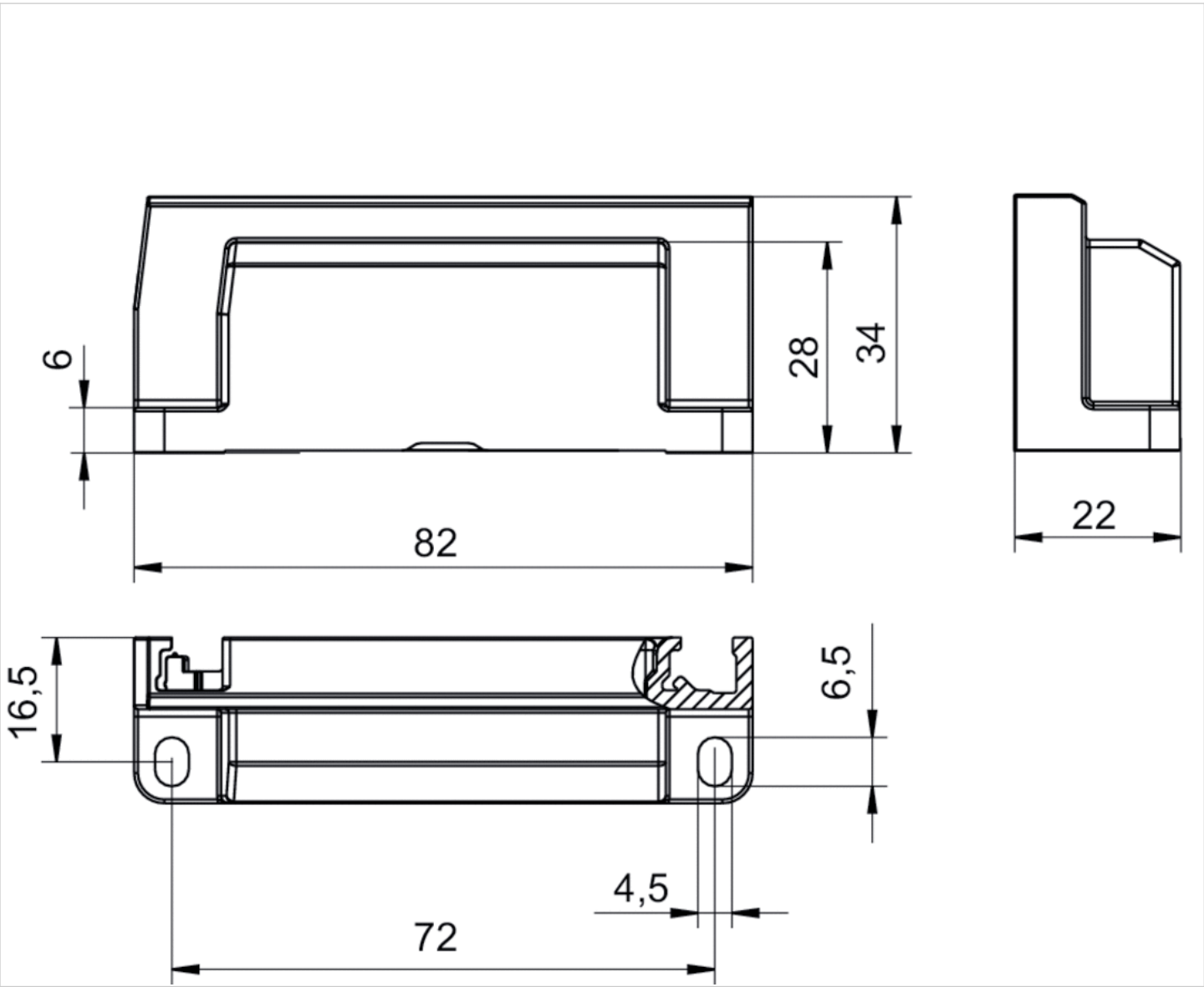
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in the MediaCentre).

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

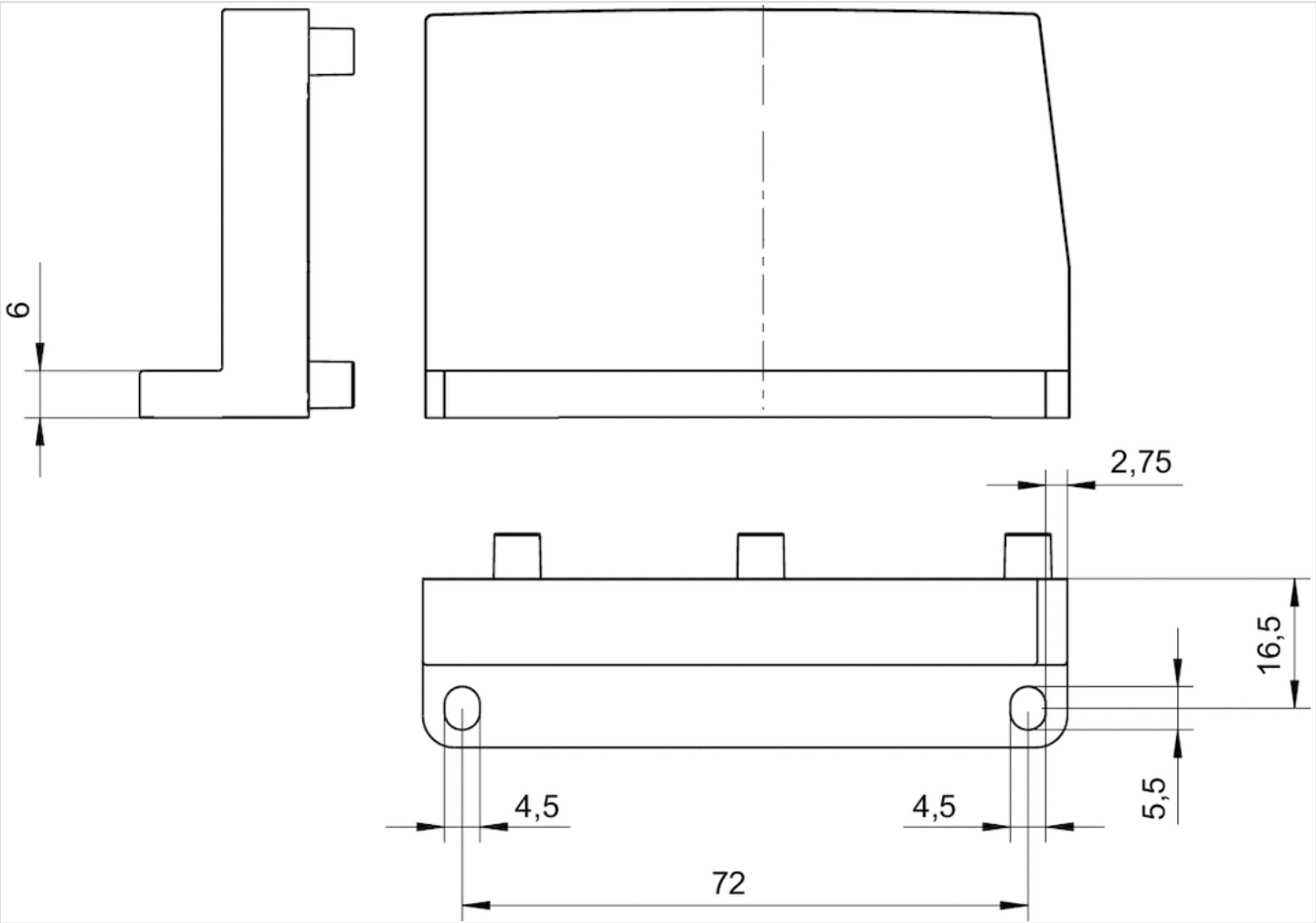
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The oil content of compressed air must remain constant during the life cycle.
Use only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

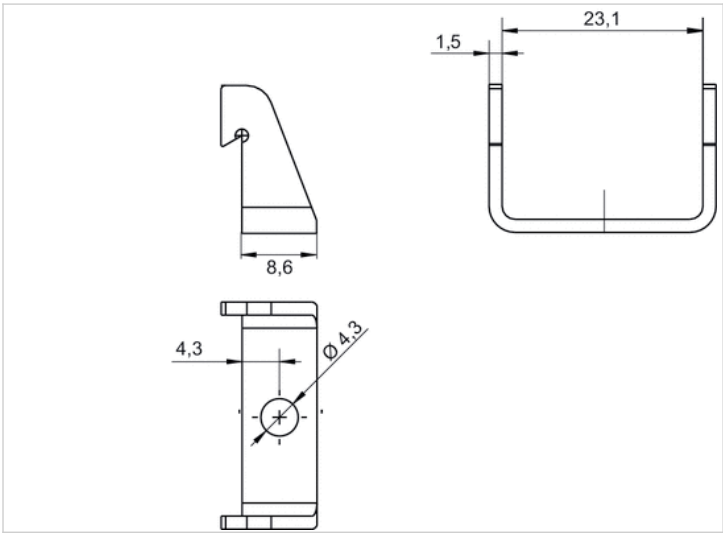
| Part No. | Type | Delivery unit |
|------------|--------------------|---------------|
| R412018339 | Retaining brackets | 10 piece |

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



Spring clamp element

- for AES



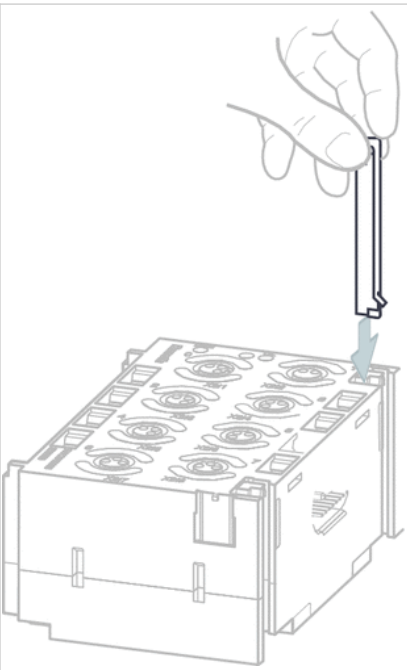
Technical data

| 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



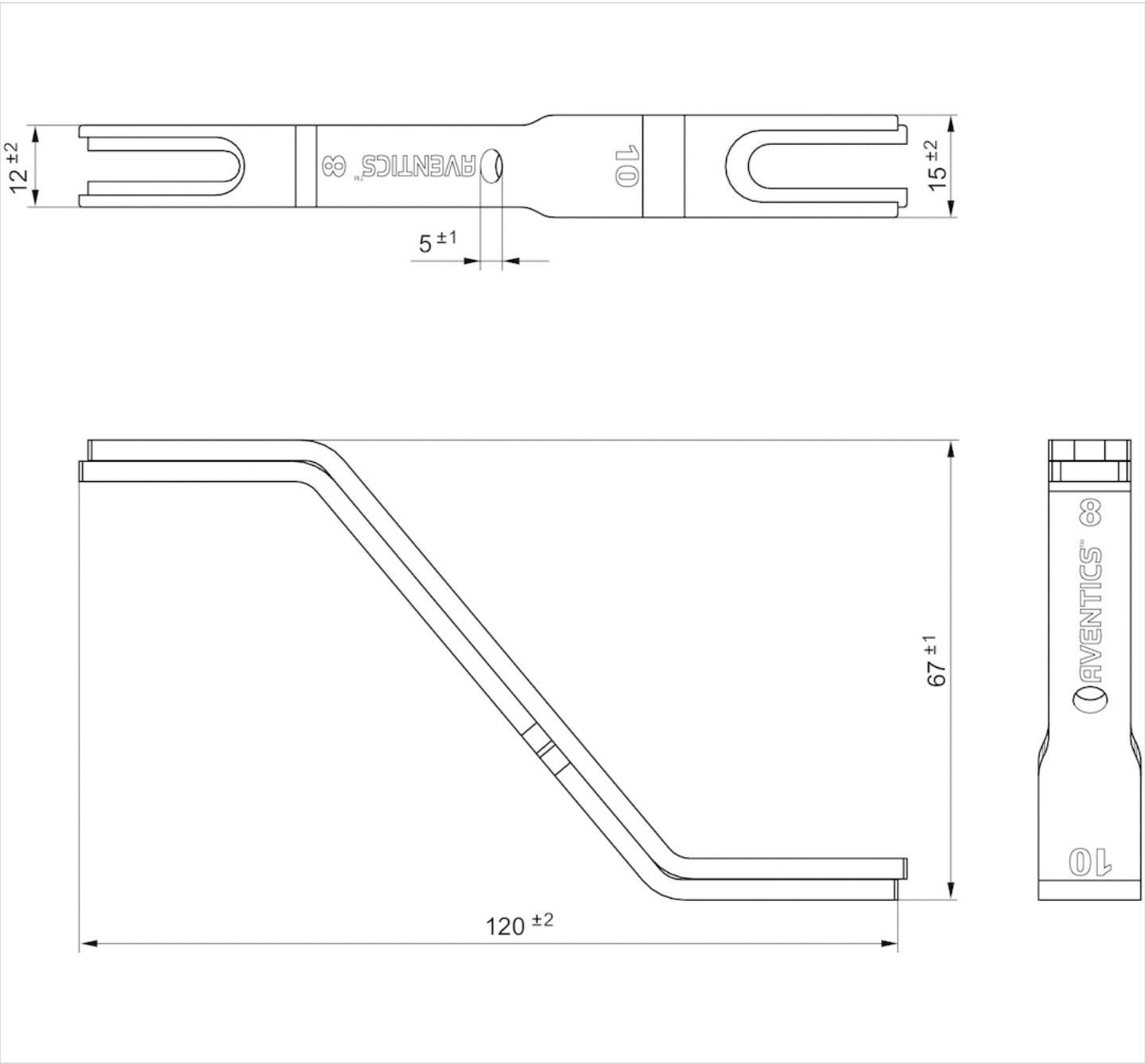
Ambient temperature min./max. -10 ... 60 °C

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

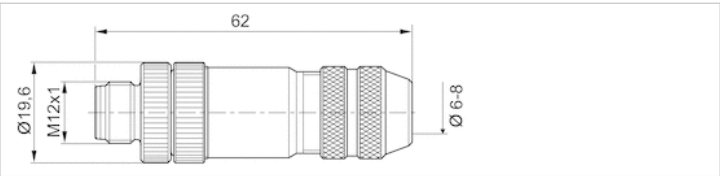
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|----------------------|
| Housing | Brass, nickel-plated |

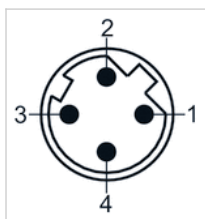
Dimensions

Dimensions



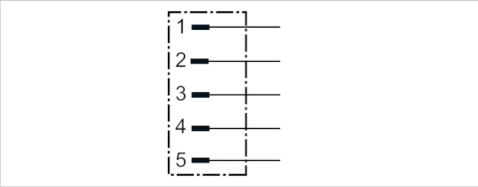
Pin assignments

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

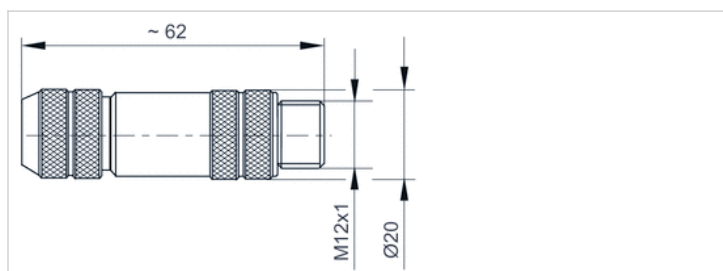
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|----------------------|
| Housing | Brass, nickel-plated |

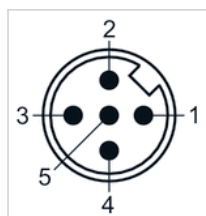
Dimensions

Dimensions



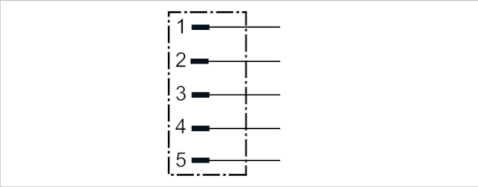
Pin assignments

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

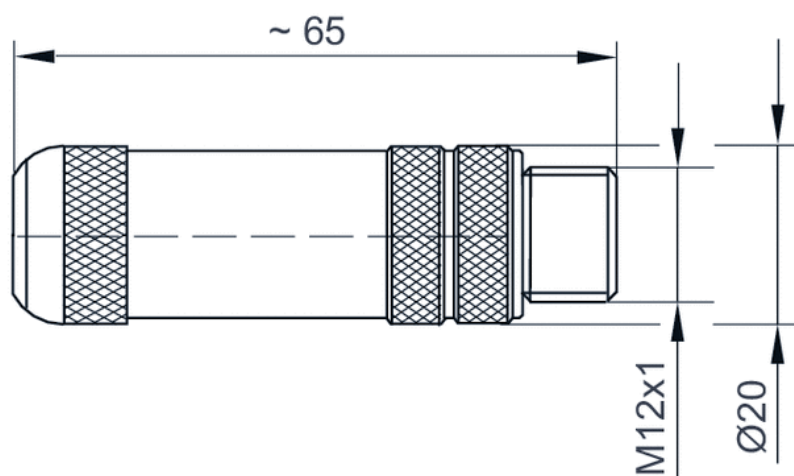
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|-------------------------|
| Housing | Brass, nickel-plated |
| Seals | Fluorocarbon caoutchouc |

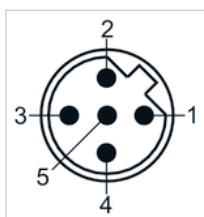
Dimensions

Dimensions



Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

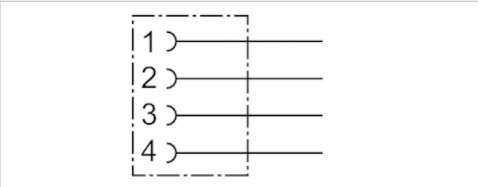
- Socket, M12x1, 4-pin, A-coded, straight, 180°
- UL (Underwriters Laboratories)
- unshielded



Connection type
 Ambient temperature min./max.
 Operational voltage
 Protection class
 Weight

Screws
 -25 ... 90 °C
 48 V AC/DC

 IP67
 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

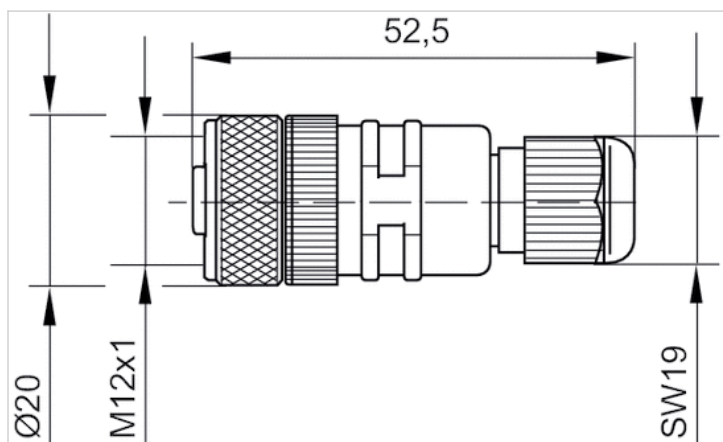
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|---------------------------|
| Housing | Polybutyleneterephthalate |
| Seals | Fluorocarbon caoutchouc |

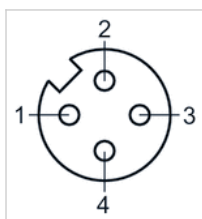
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

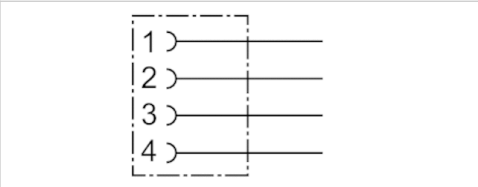


Round plug connector, Series CON-RD

- 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

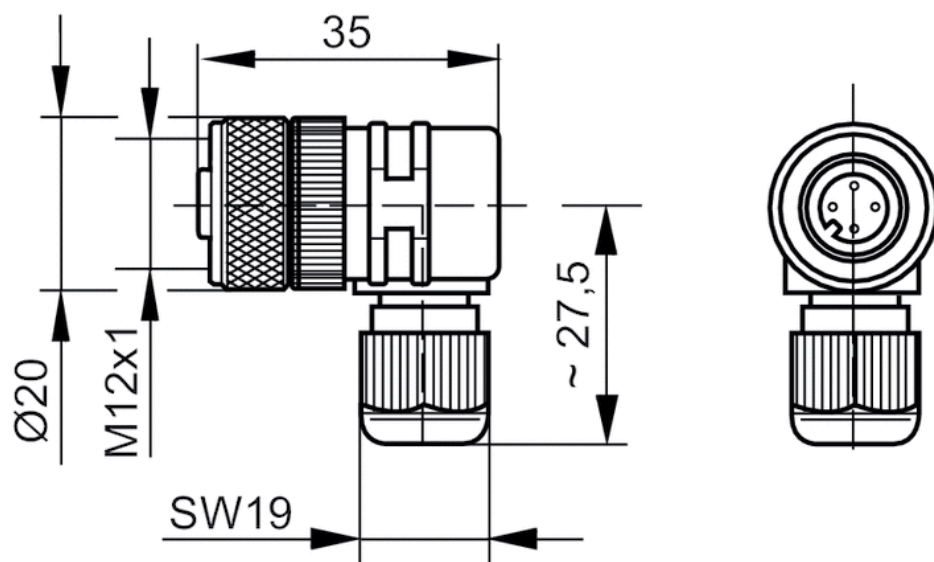
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|---------------------------|
| Housing | Polybutyleneterephthalate |
| Seals | Fluorocarbon caoutchouc |

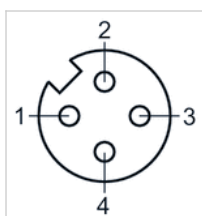
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

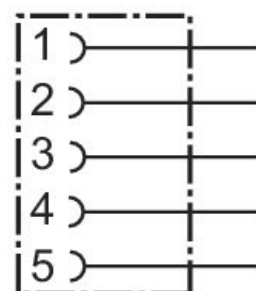


Round plug connector, Series CON-RD

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

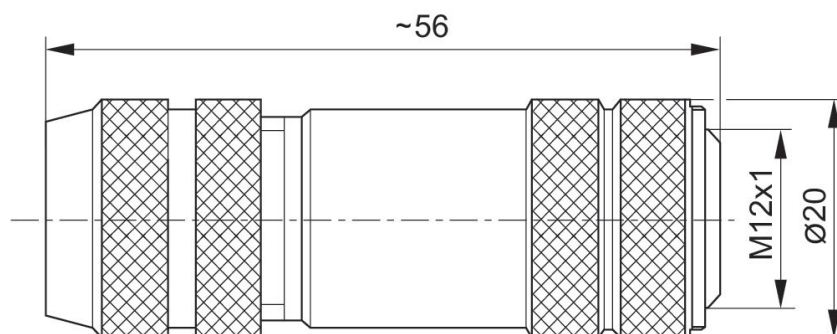
Housing material
Brass

Part No.
8942051602

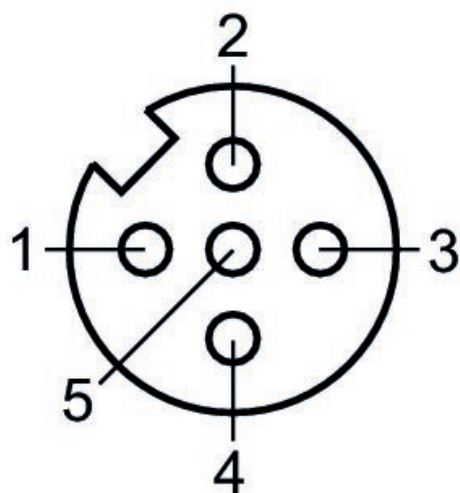
Technical information

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

Dimensions



Pin assignment, socket

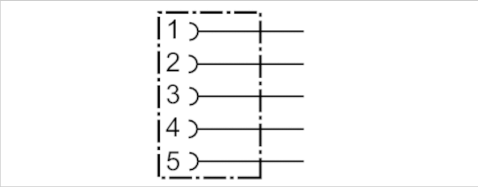


Round plug connector, Series CON-RD

- 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

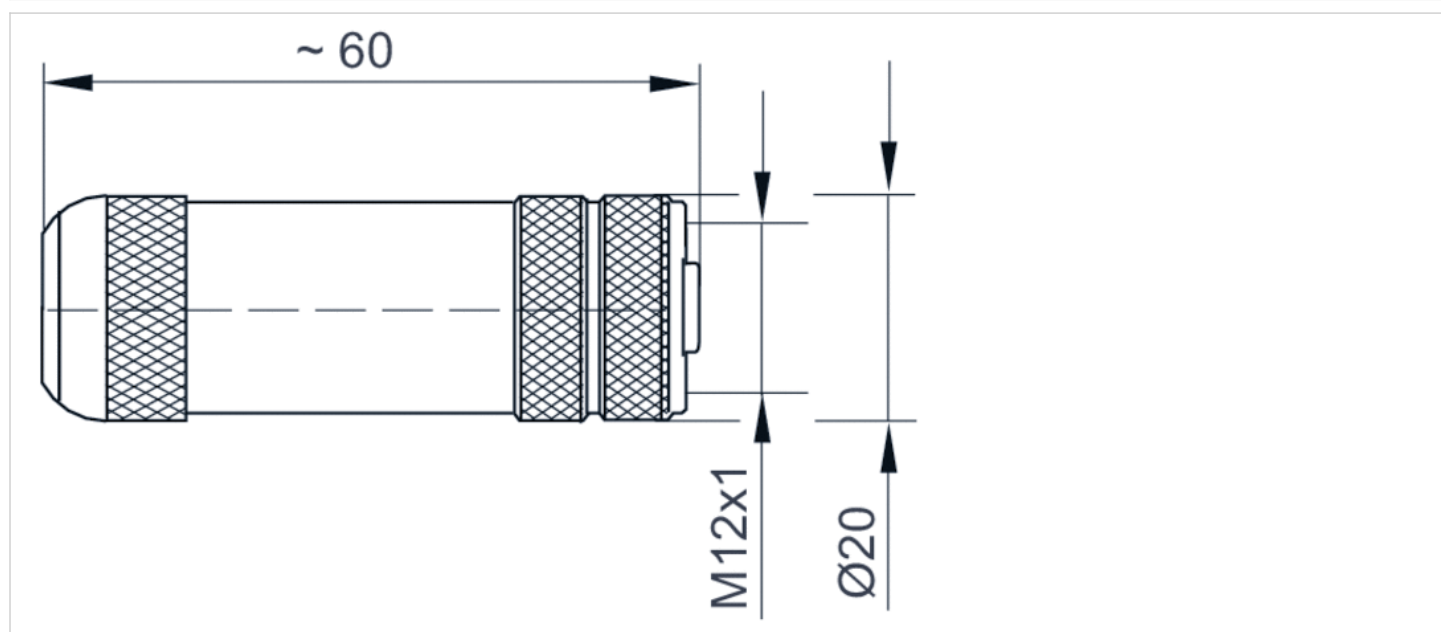
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|-------------------------|
| Housing | Brass, nickel-plated |
| Seals | Fluorocarbon caoutchouc |

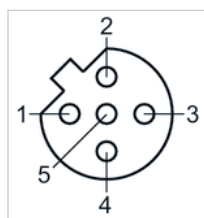
Dimensions

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.

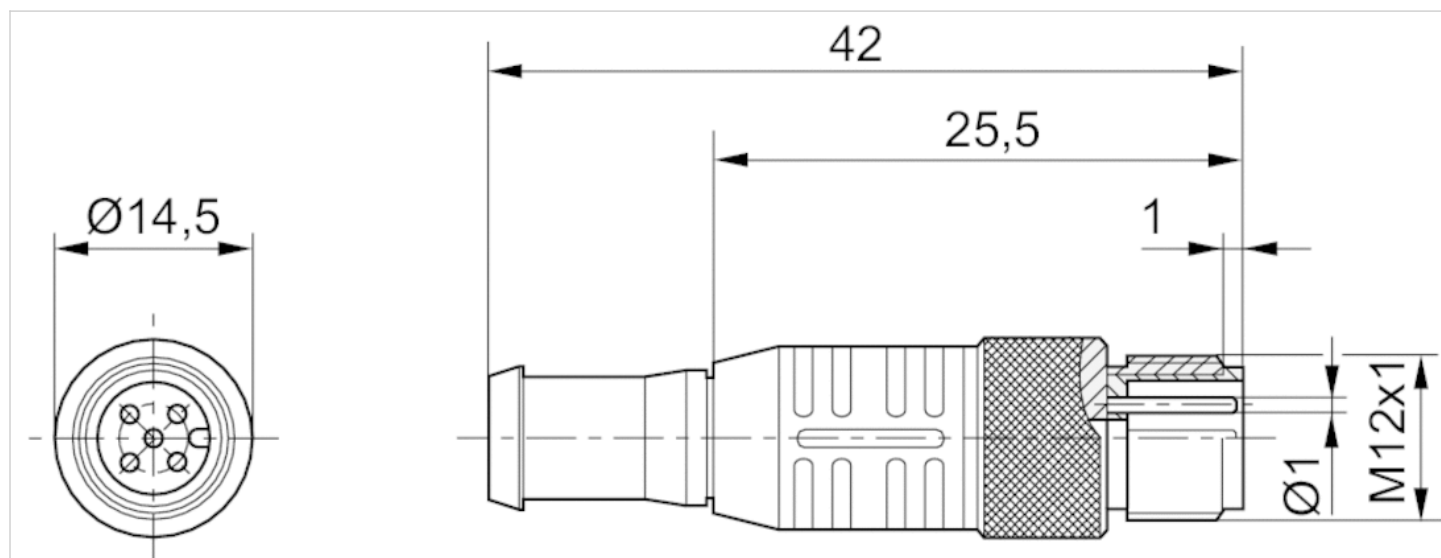
PROFIBUS DP bus termination plug

Technical information

| | |
|----------|-------------------------|
| Material | |
| Housing | Thermoplastic elastomer |

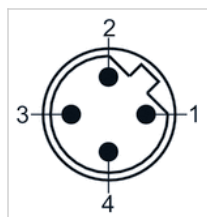
Dimensions

Dimensions



Pin assignments

Plug pin assignment

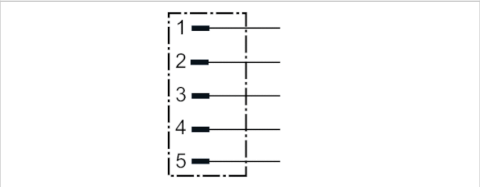


Data final plug, Series CON-RD

- 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

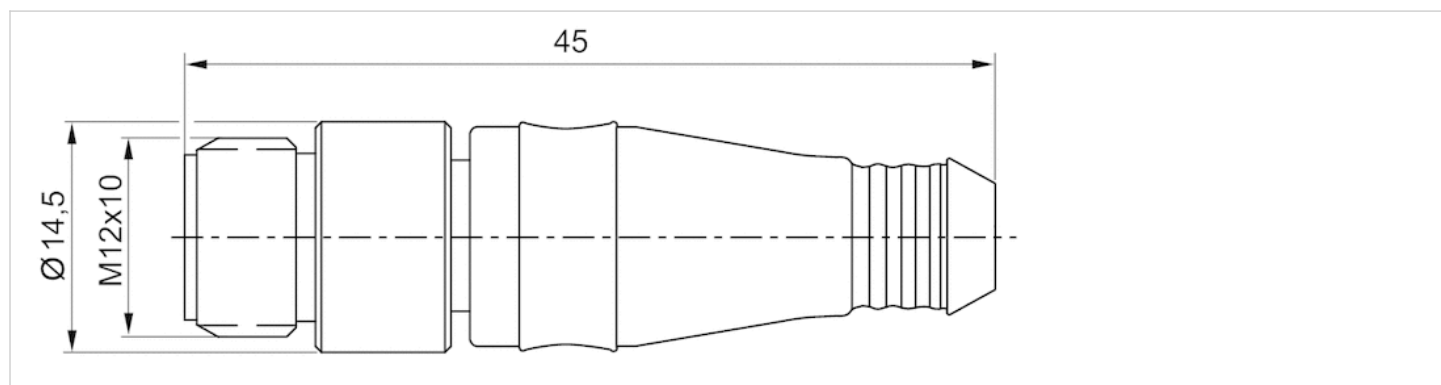
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|-------------------------|
| Housing | Thermoplastic elastomer |

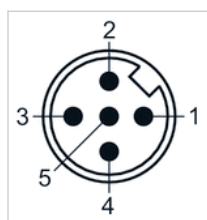
Dimensions

Dimensions



Pin assignments

Plug pin assignment

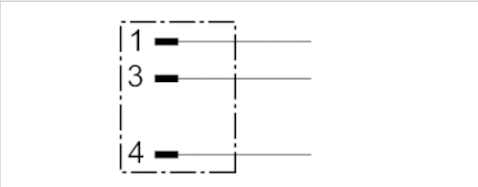


Round plug connector, Series CON-RD

- 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

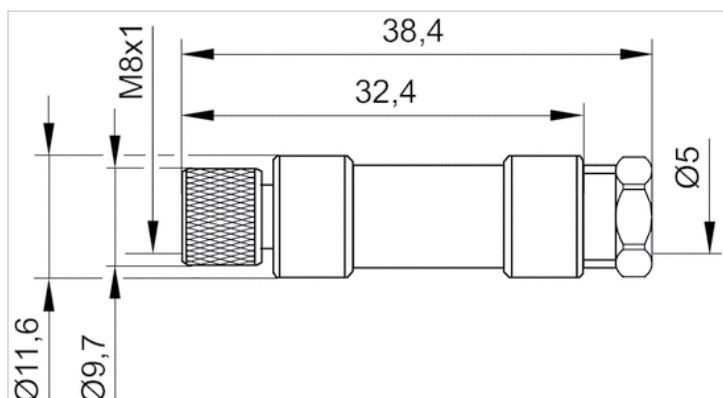
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

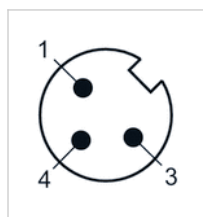
Dimensions

Dimensions



Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

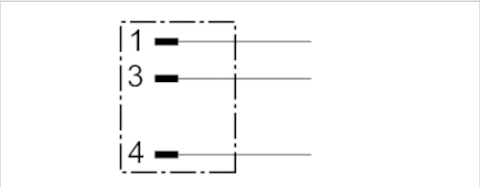
- Plug, M8x1, 3-pin, A-coded, angled, 90°
- unshielded



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

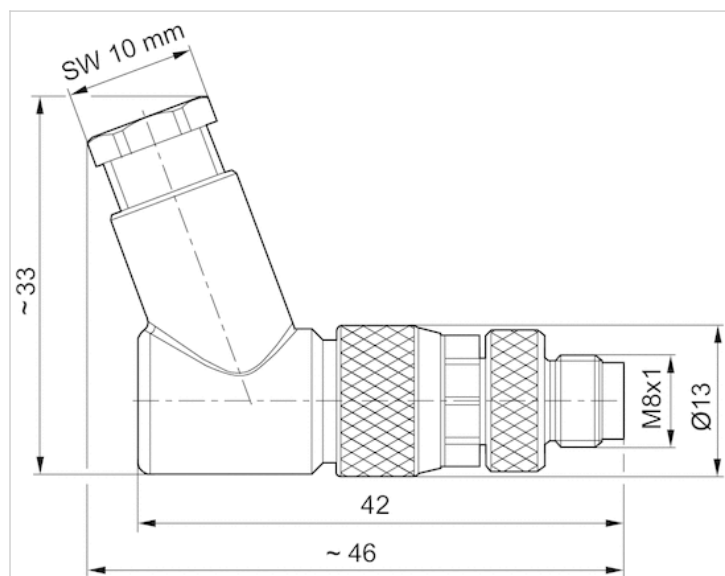
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

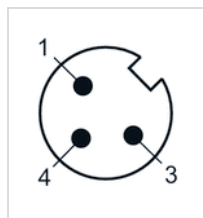
Dimensions

Dimensions



Pin assignments

Plug pin assignment

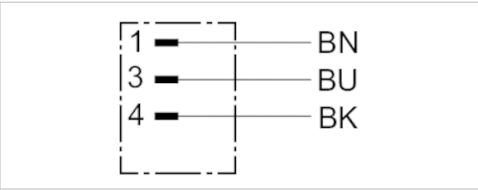


Round plug connector, Series CON-RD

- 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 mm² |
| 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

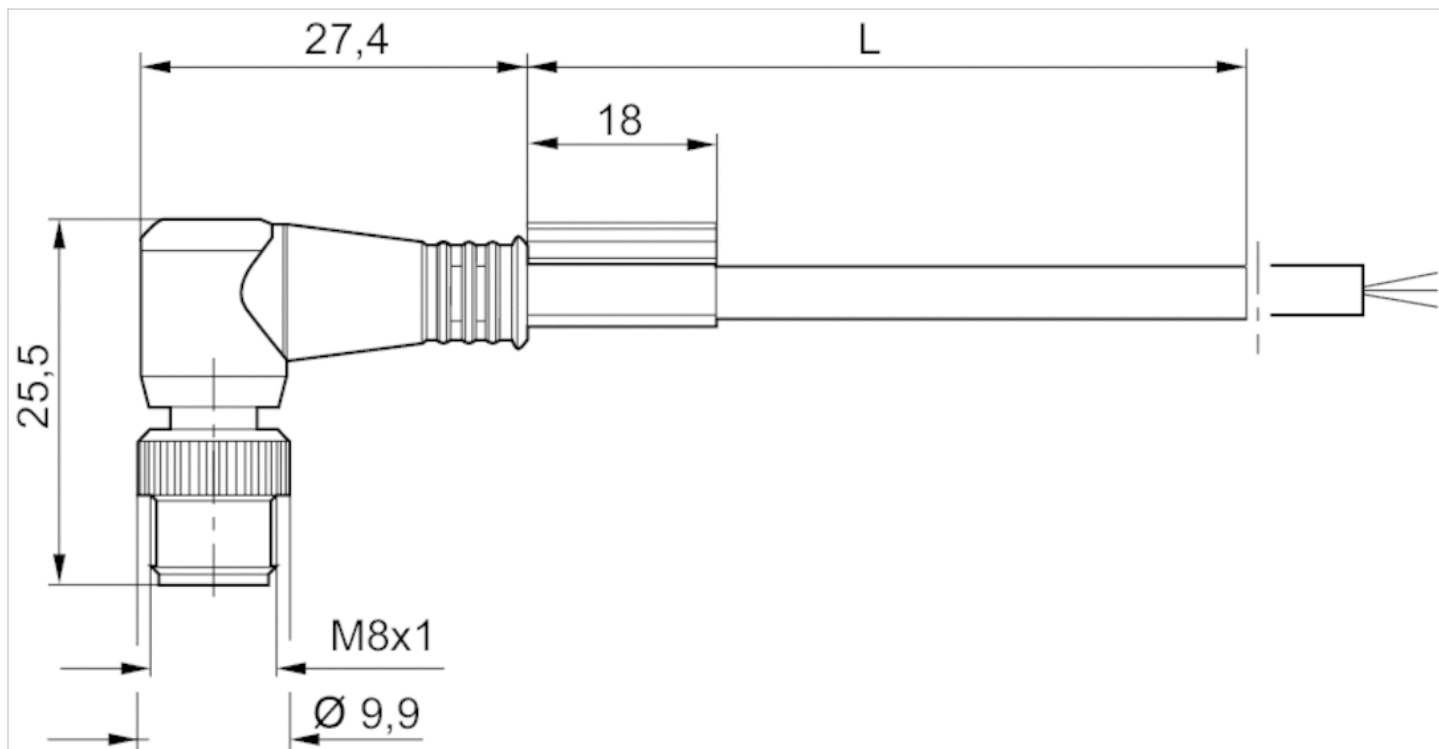
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------|
| Housing | Polyurethane |
| Cable sheath | Polyurethane |

Dimensions

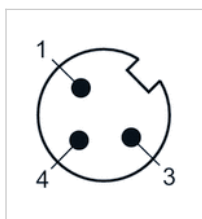
Dimensions



L = length

Pin assignments

Plug pin assignment



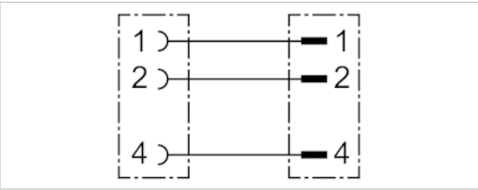
- (1) BN=brown
- (3) BU=blue
- (4) BK=black

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 mm² |
| 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

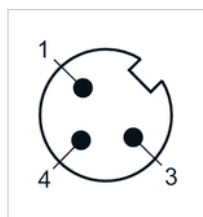
Dimensions



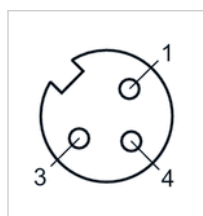
L = length

Pin assignments

Plug pin assignment

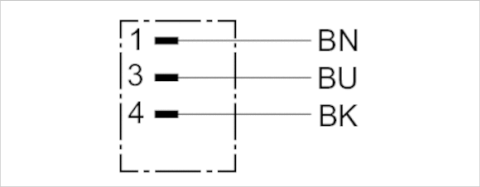


Pin assignment, socket



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 mm² |
| 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

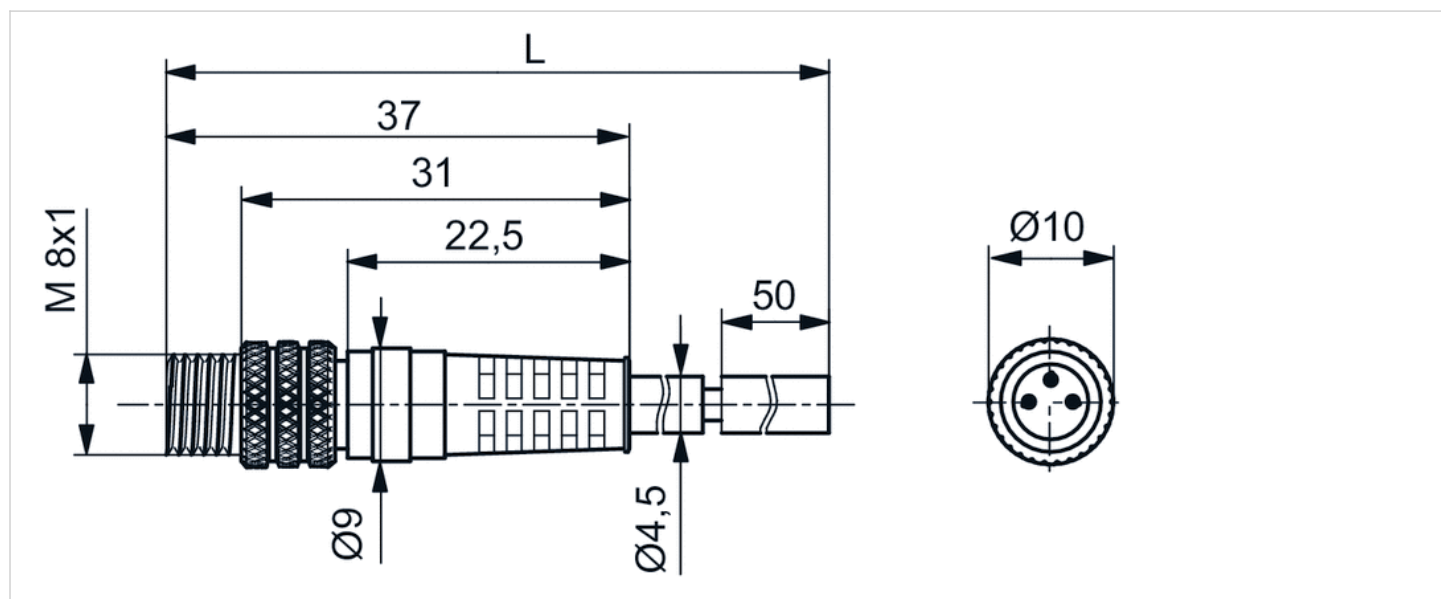
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------------|
| Housing | Polyurethane |
| Cable sheath | Polyvinyl chloride |

Dimensions

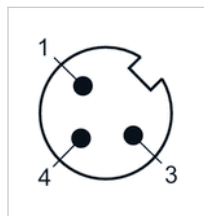
Dimensions



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

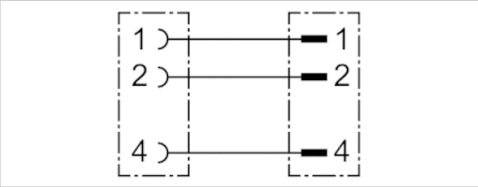


Protection class

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

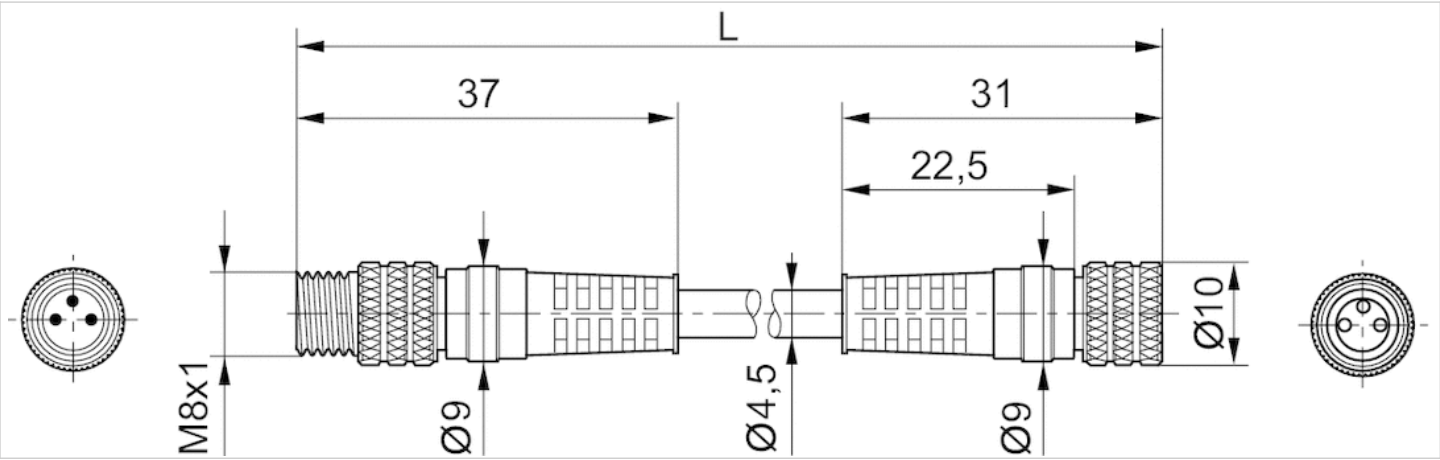
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------------|
| Cable sheath | Polyvinyl chloride |

Dimensions

Dimensions



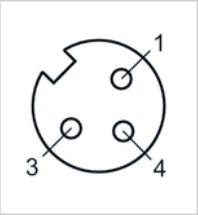
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket

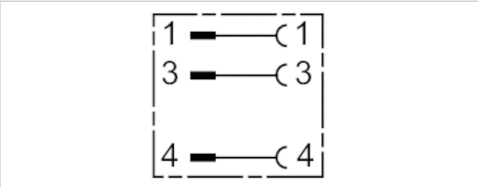


Adapter, Series CON-AP

- 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

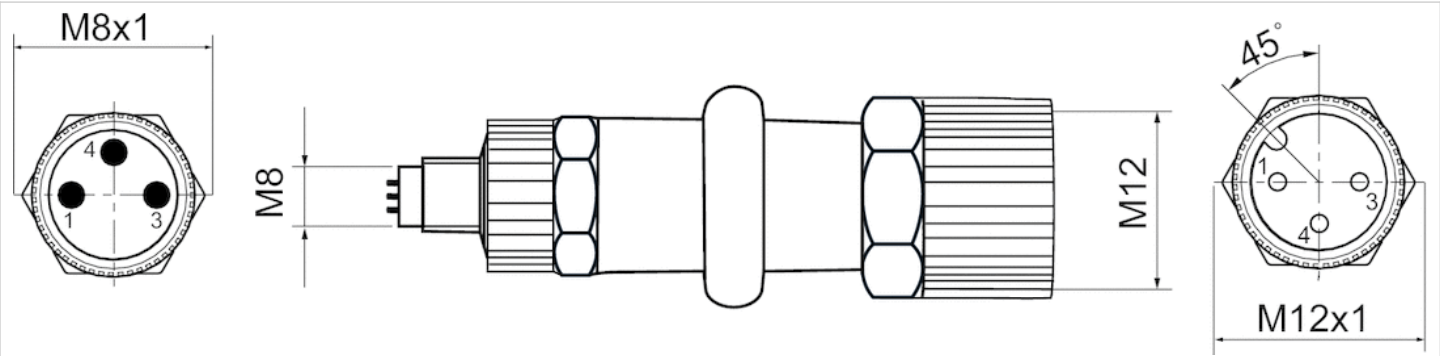
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|--------------|
| Housing | Polyurethane |

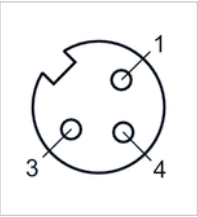
Dimensions

Dimensions

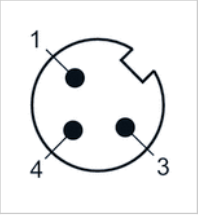


Pin assignments

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

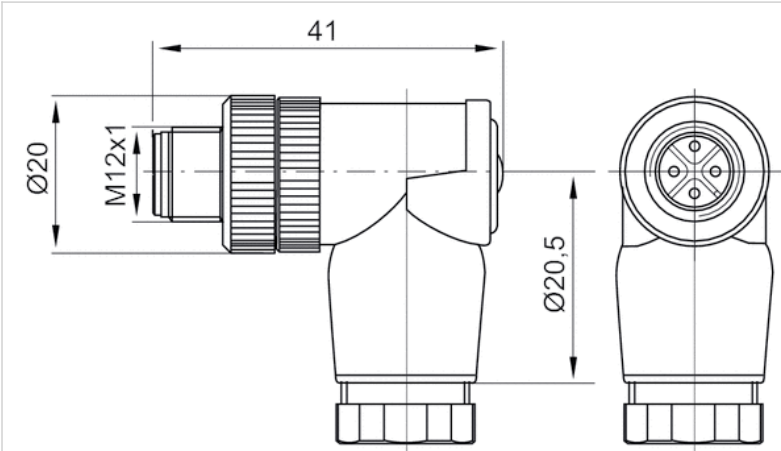
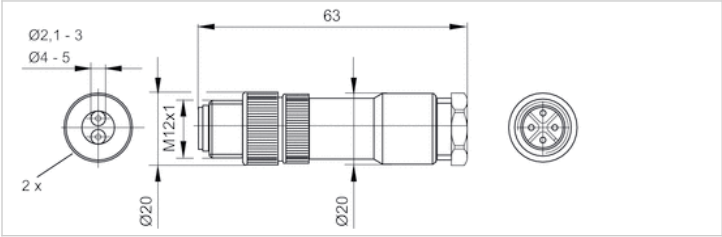


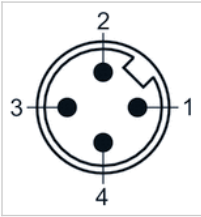
Fig. 2



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

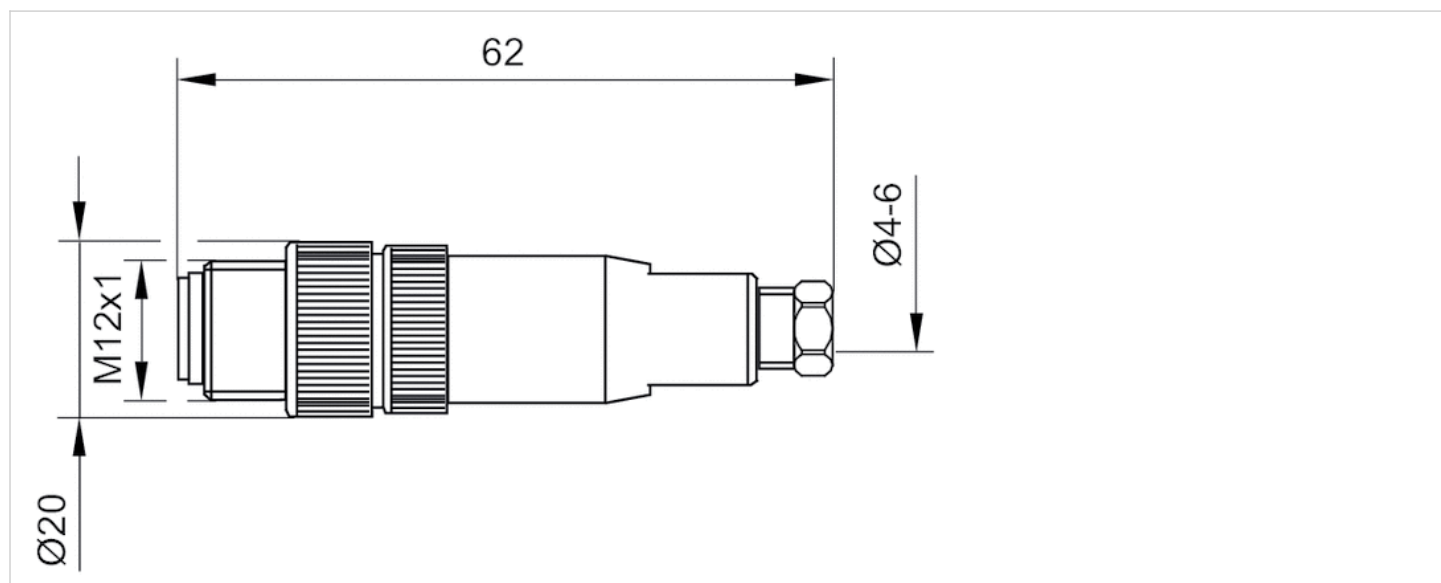
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

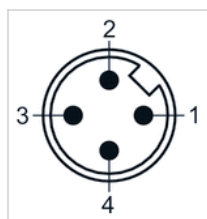
Dimensions

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



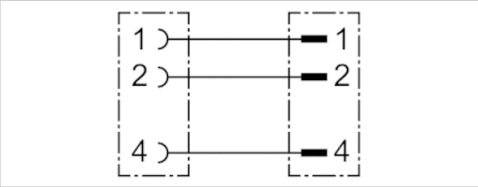
Protection class

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

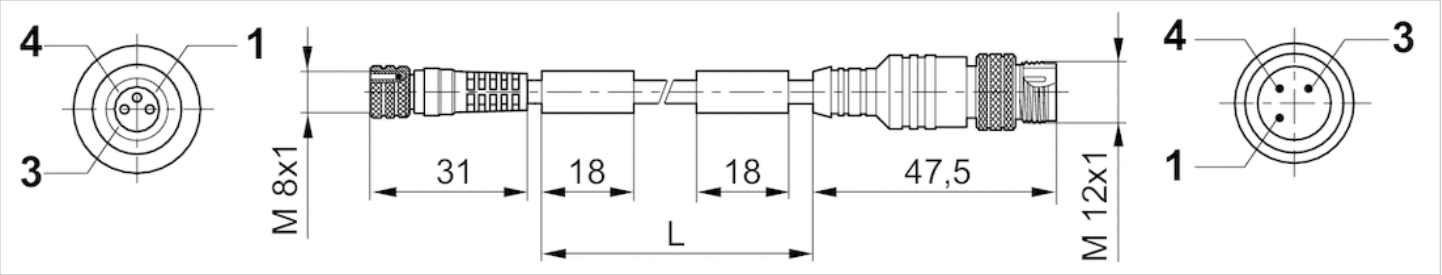
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------------|
| Cable sheath | Polyvinyl chloride |

Dimensions

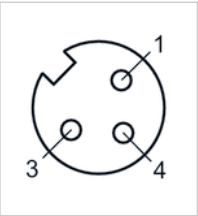
Dimensions



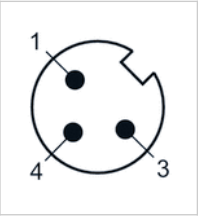
L = length

Pin assignments

Pin assignment, socket



Plug pin assignment

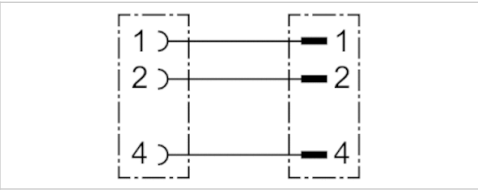


Round plug connector, Series CON-RD

- 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 mm² |
| 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

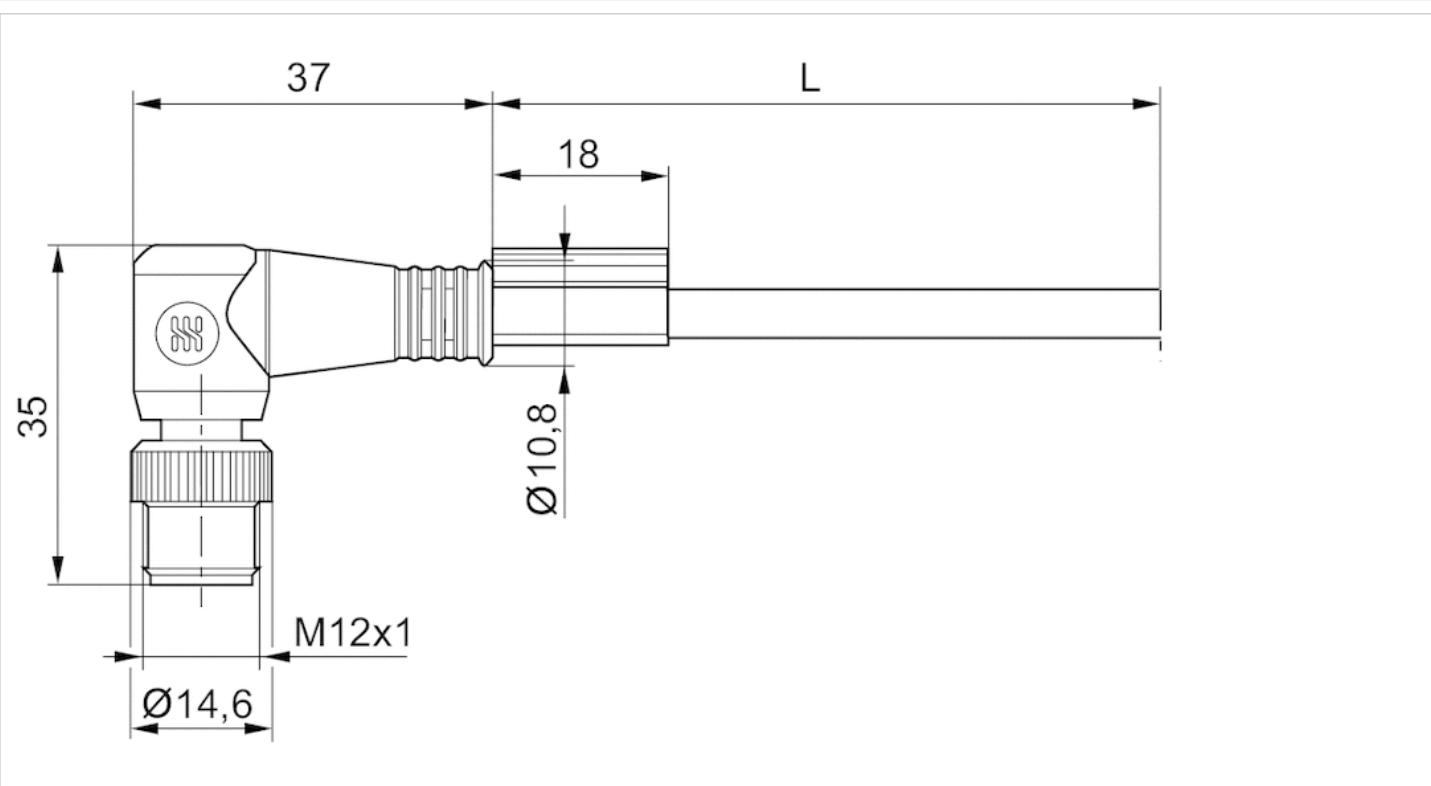
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------|
| Housing | Polyurethane |
| Cable sheath | Polyurethane |

Dimensions

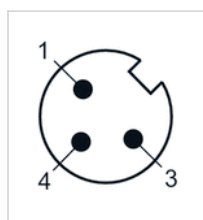
Dimensions



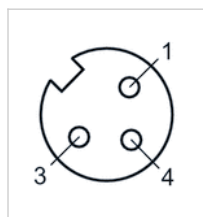
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket

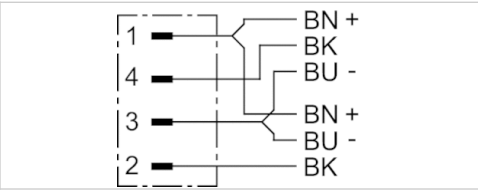


Y-Plug connector, series CON-RD

- 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 mm² |
| 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

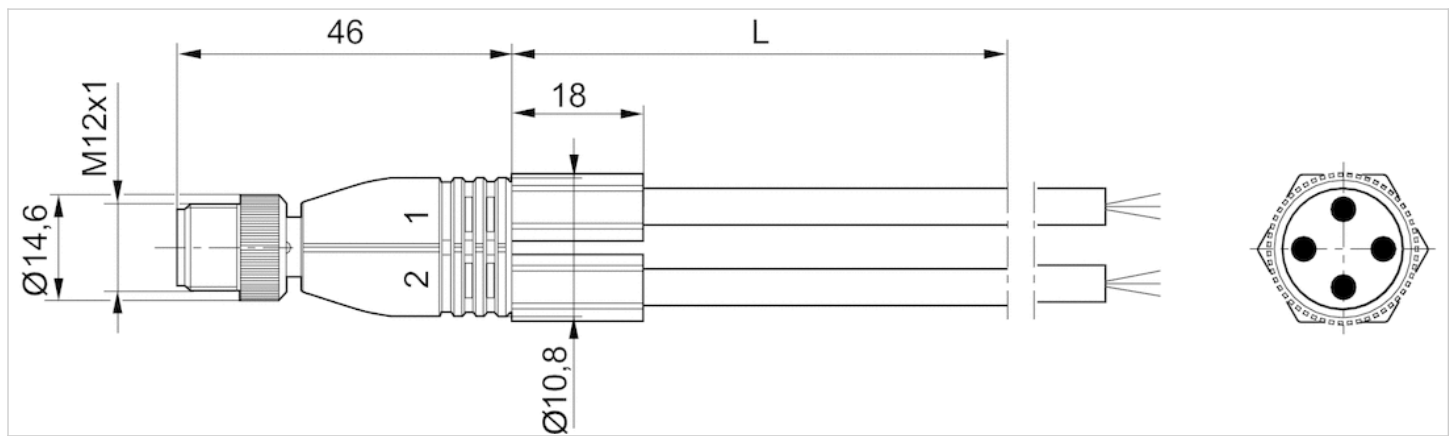
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------|
| Housing | Polyurethane |
| Cable sheath | Polyurethane |

Dimensions

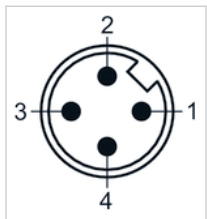
Dimensions



L = length

Pin assignments

Plug pin assignment

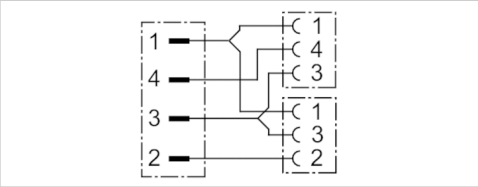


Line 1: (1) BN = brown, (3) BU =blue, (4) BK = black

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 mm² |
| 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

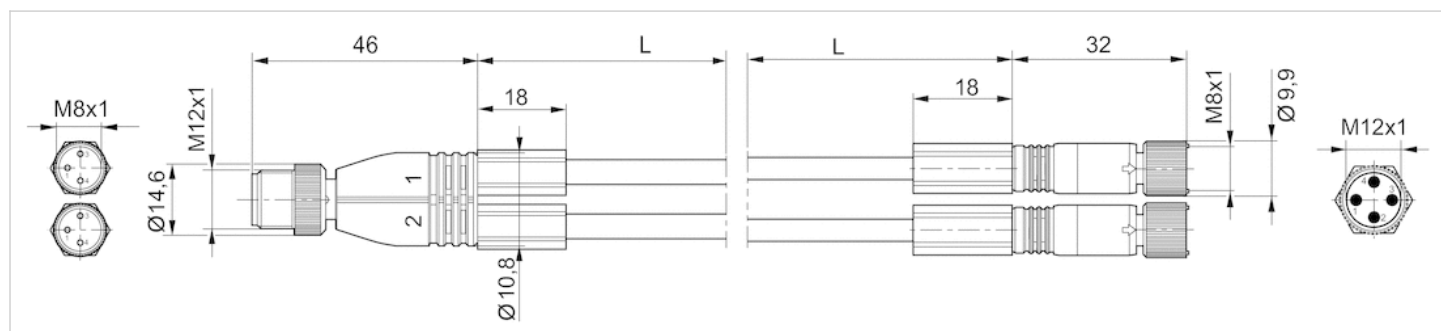
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------|
| Housing | Polyurethane |
| Cable sheath | Polyurethane |

Dimensions

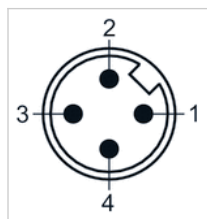
Dimensions



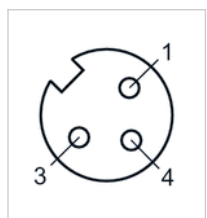
L = length

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



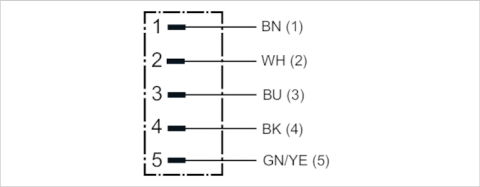
Protection class

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

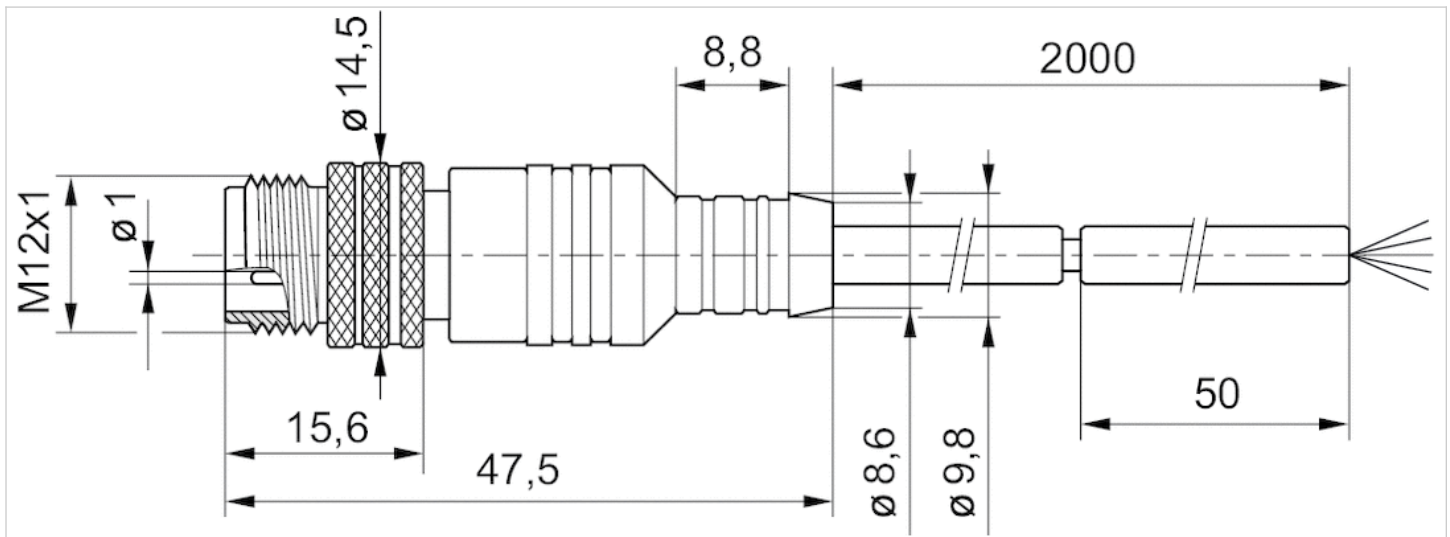
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------------|
| Cable sheath | Polyvinyl chloride |

Dimensions

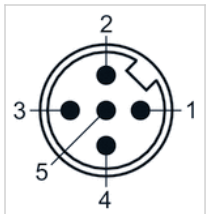
Dimensions



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 |

| | |
|---|--------|
| 1 | BN (1) |
| 2 | WH(2) |
| 3 | BU (3) |
| 4 | BK (4) |
| 5 | GR (5) |

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.

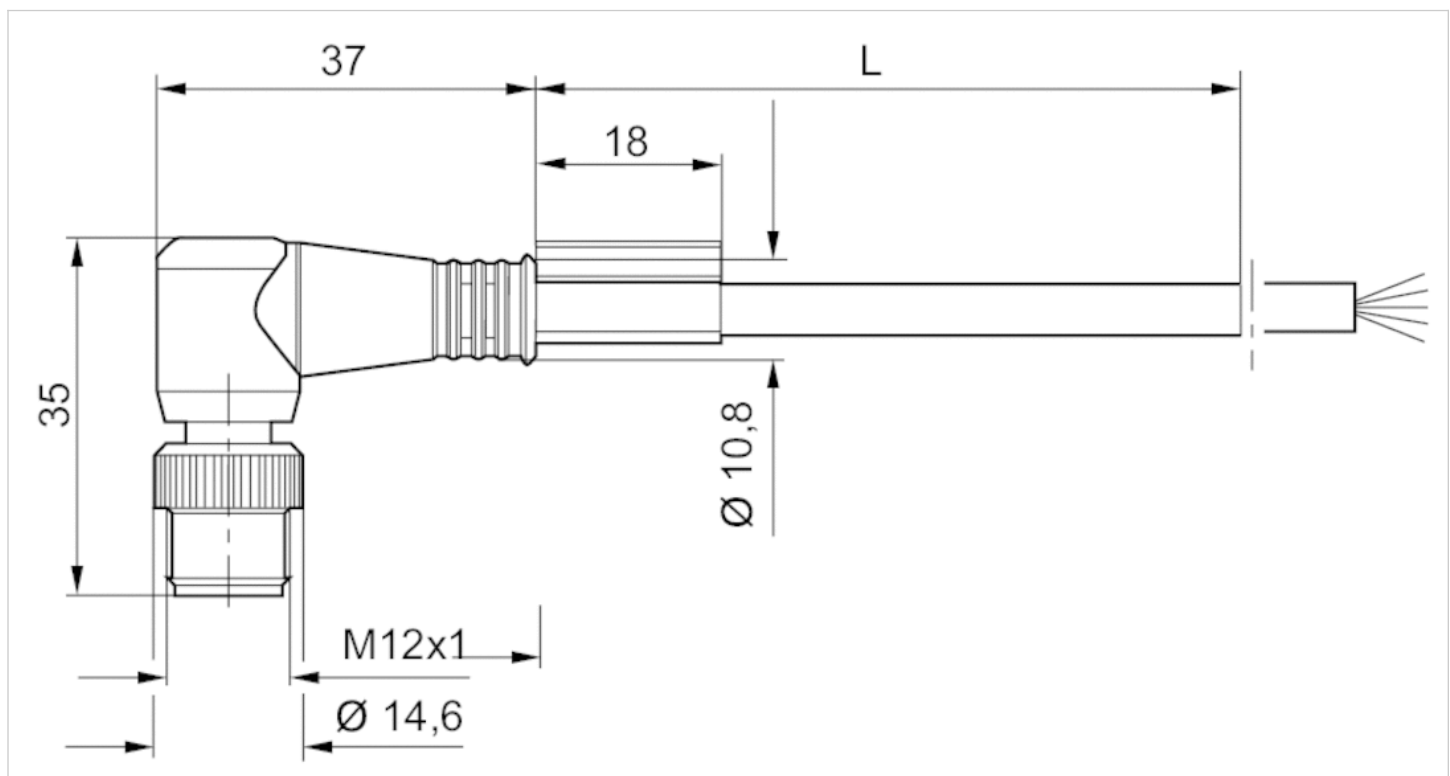
Technical information

Material

| | |
|--------------|--------------|
| Housing | Polyurethane |
| Cable sheath | Polyurethane |

Dimensions

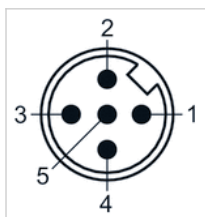
Dimensions



L = length

Pin assignments

Plug pin assignment



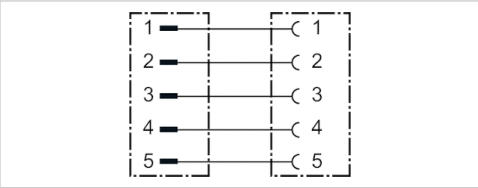
- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=grey

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 mm² |
| 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

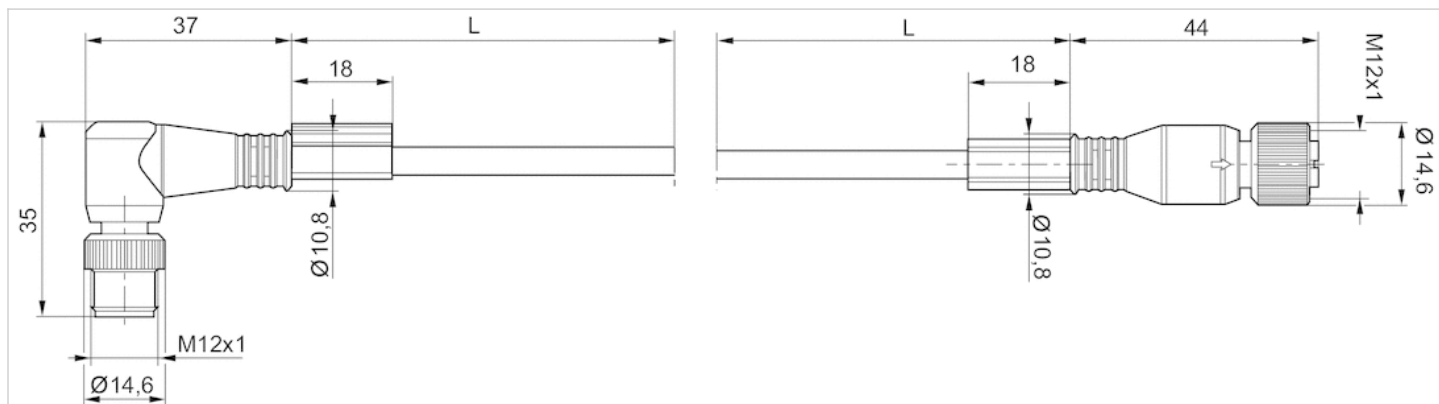
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------|
| Housing | Polyurethane |
| Cable sheath | Polyurethane |

Dimensions

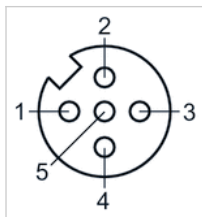
Dimensions



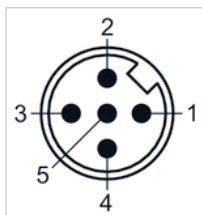
L = length

Pin assignments

Pin assignment, socket



Plug pin assignment

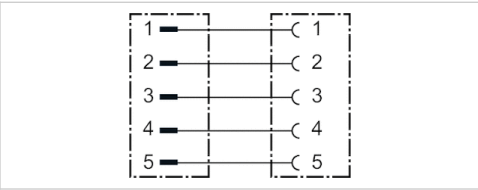


Round plug connector, Series CON-RD

- 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 mm² |
| 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

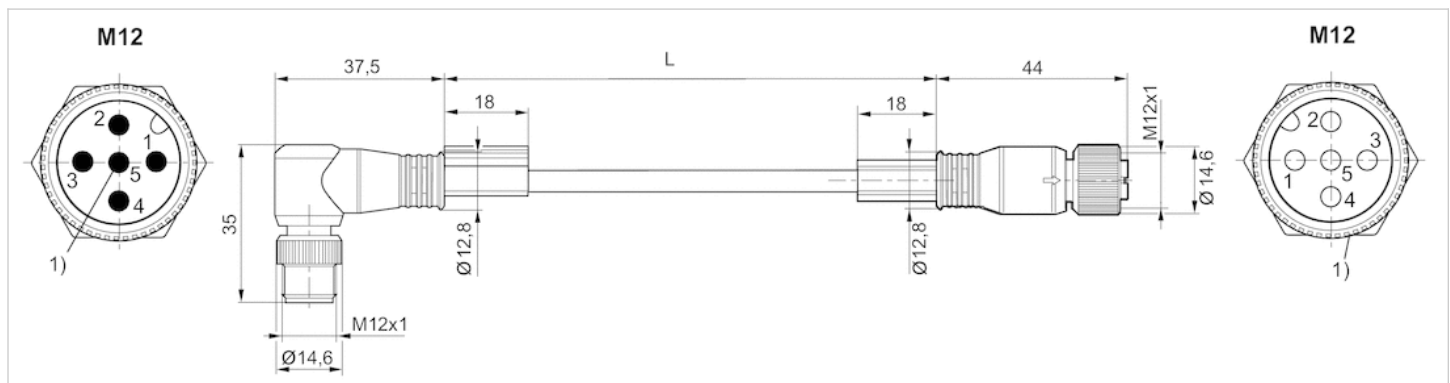
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------|
| Housing | Polyurethane |
| Cable sheath | Polyurethane |

Dimensions

Dimensions



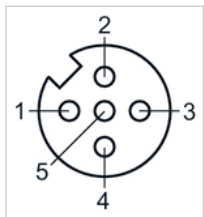
L = length

PIN assignment 1:1

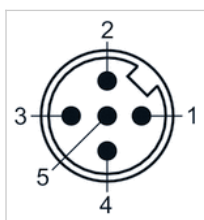
1) Shield is connected to pin 5 of the plug and the knurled screw of the socket.

Pin assignments

Pin assignment, socket

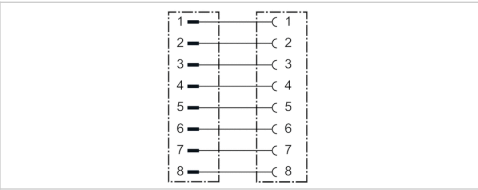


Plug pin assignment



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 mm² |
| 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

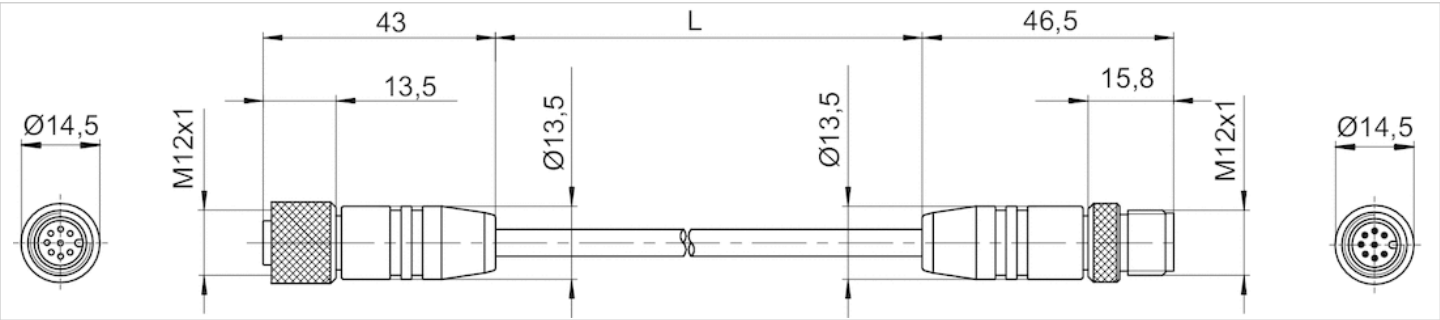
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|------------------|
| Housing | Polyurethane |
| Seals | Fluorocaoutchouc |
| Cable sheath | Polyurethane |

Dimensions

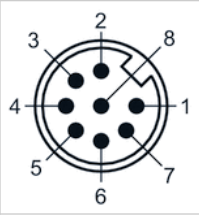
Dimensions



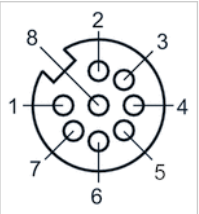
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket



Distributor, Series AES

- 4x passive distributor, M12x1, 8-pin / 4x M8x1, 3-pin
- Plug (male), M12x1, 8-pin



| | |
|---------------------------------|---------------|
| Ambient temperature min./max. | -30 ... 80 °C |
| Operational voltage electronics | 24 V DC |
| Power consumption electronics | 2 A |
| Protection class | IP67 |
| Weight | 0.07 kg |

Technical data

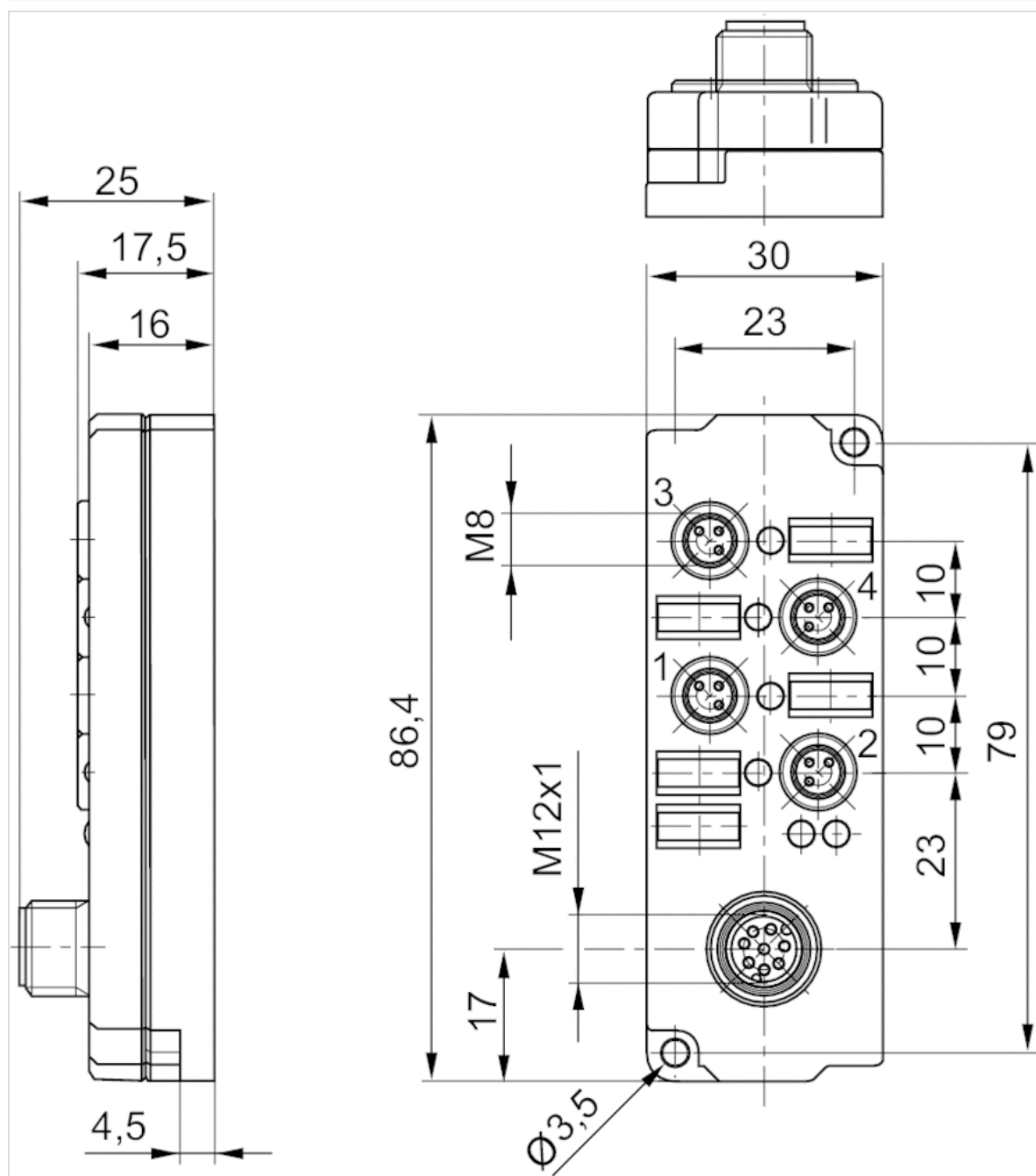
| Part No. | Type | Port | Port |
|------------|------------------|---------------------------|------------------------------|
| | | 1 | 2 |
| R402001810 | 16DI4M12 16DI8M8 | Plug (male), M12x1, 8-pin | Socket (female), M8x1, 3-pin |

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

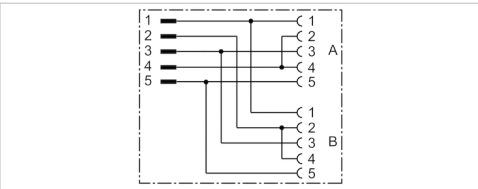
Dimensions

Dimensions



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

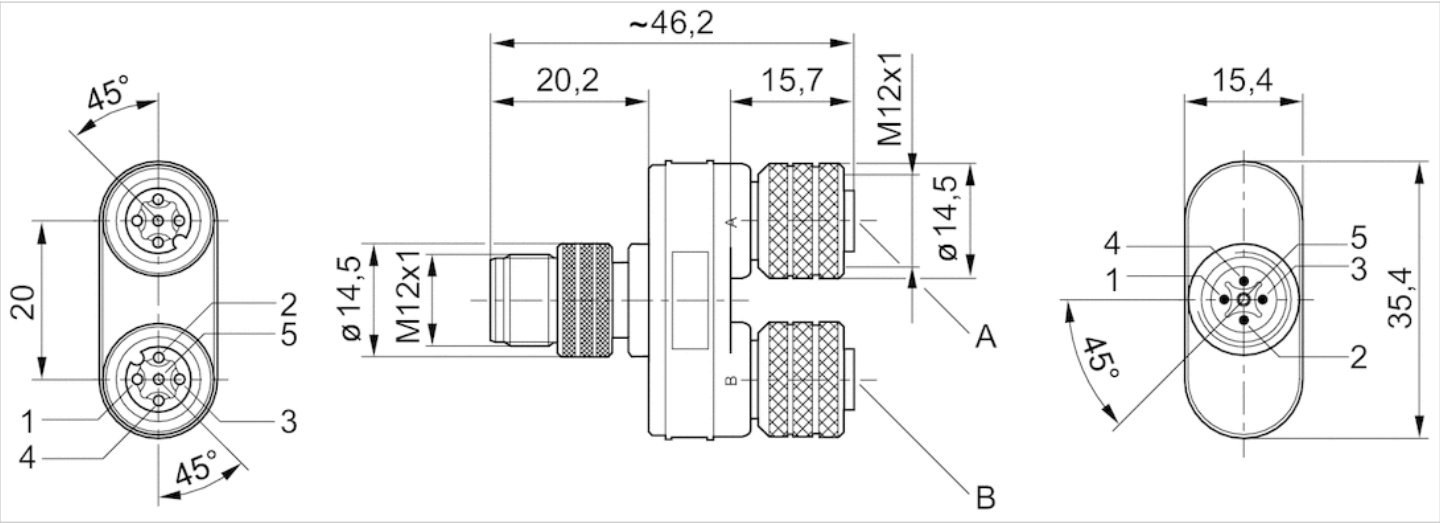
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|------------------|
| Housing | Polyurethane |
| Seals | Fluorocaoutchouc |

Dimensions

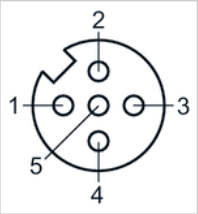
Dimensions



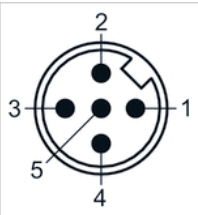
Sockets: Pin 2 and 4 bridged.

Pin assignments

Pin assignment, socket



Plug pin assignment

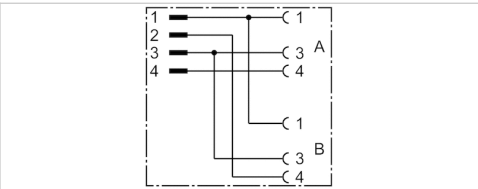


Y-Plug connector, series CON-AP

- 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

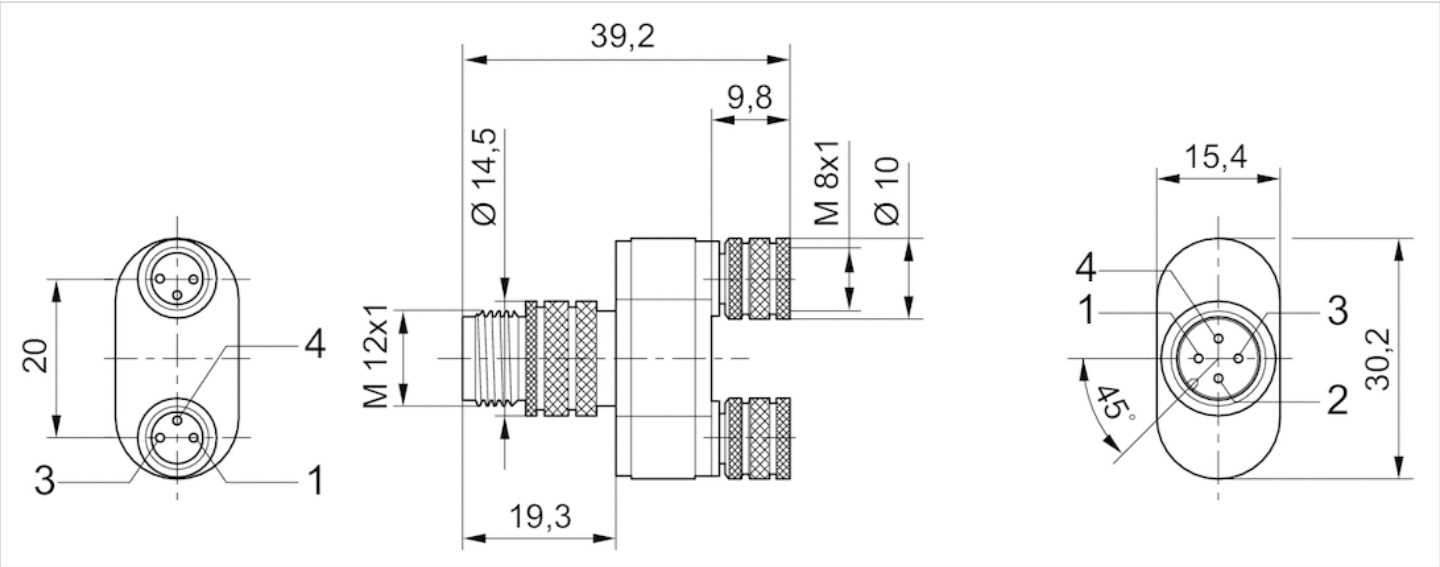
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|------------------|
| Housing | Polyurethane |
| Seals | Fluorocaoutchouc |

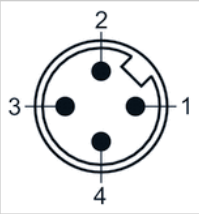
Dimensions

Dimensions

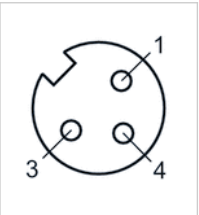


Pin assignments

Plug pin assignment



Pin assignment, socket



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 mm² |
| 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

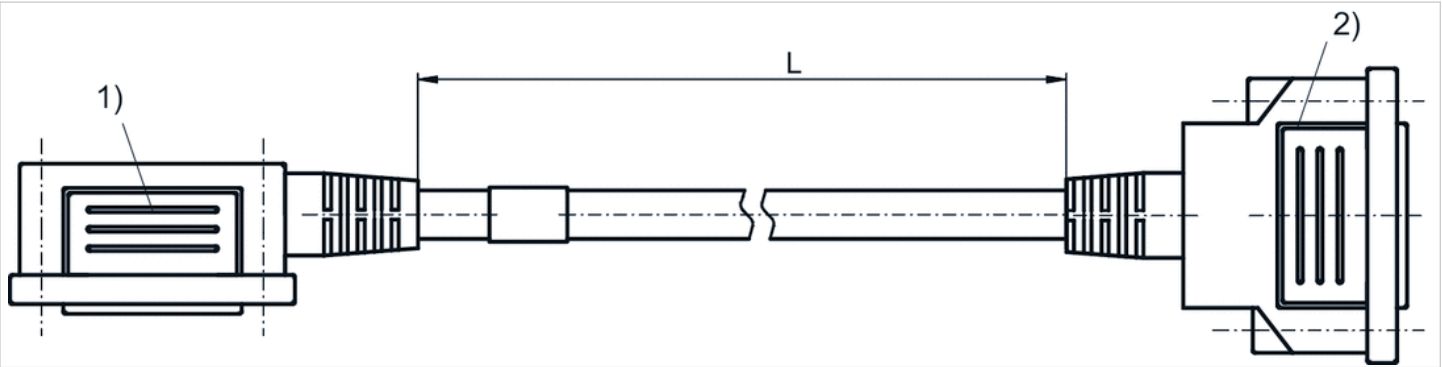
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|-------------------------|
| Housing | Thermoplastic elastomer |
| Cable sheath | Polyvinyl chloride |

Dimensions

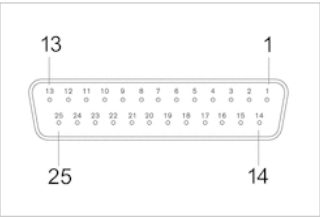
Dimensions



- 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 |

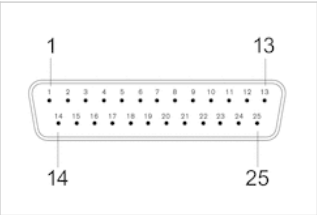
| 10 | 11 | 12 | 13 | 14 | 15 |
|--------|-----------|----------|-------------|-------------|--------------|
| violet | gray/pink | red/blue | white/green | brown/green | white/yellow |

| 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

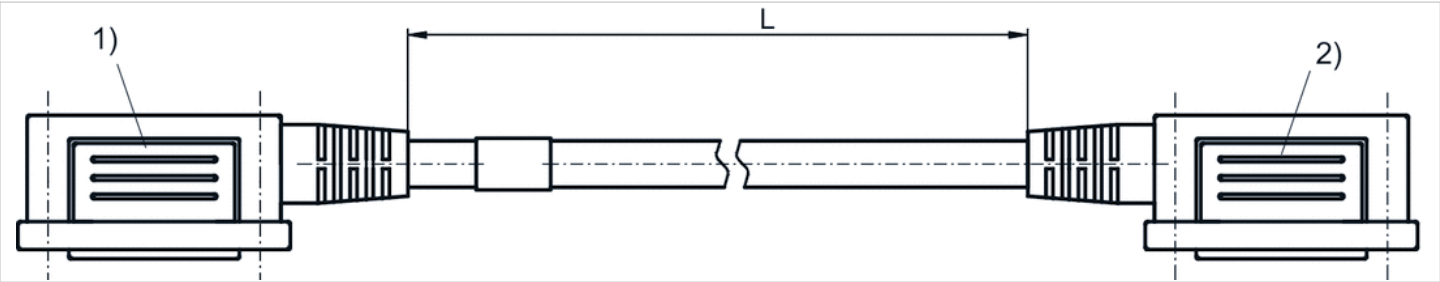
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|-------------------------|
| Housing | Thermoplastic elastomer |
| Cable sheath | Polyvinyl chloride |

Dimensions

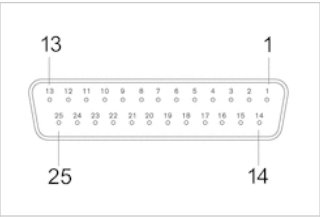
Dimensions



- 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 |

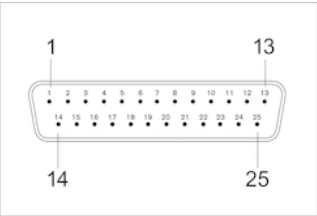
| 10 | 11 | 12 | 13 | 14 | 15 |
|--------|-----------|----------|-------------|-------------|--------------|
| violet | gray/pink | red/blue | white/green | brown/green | white/yellow |

| 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

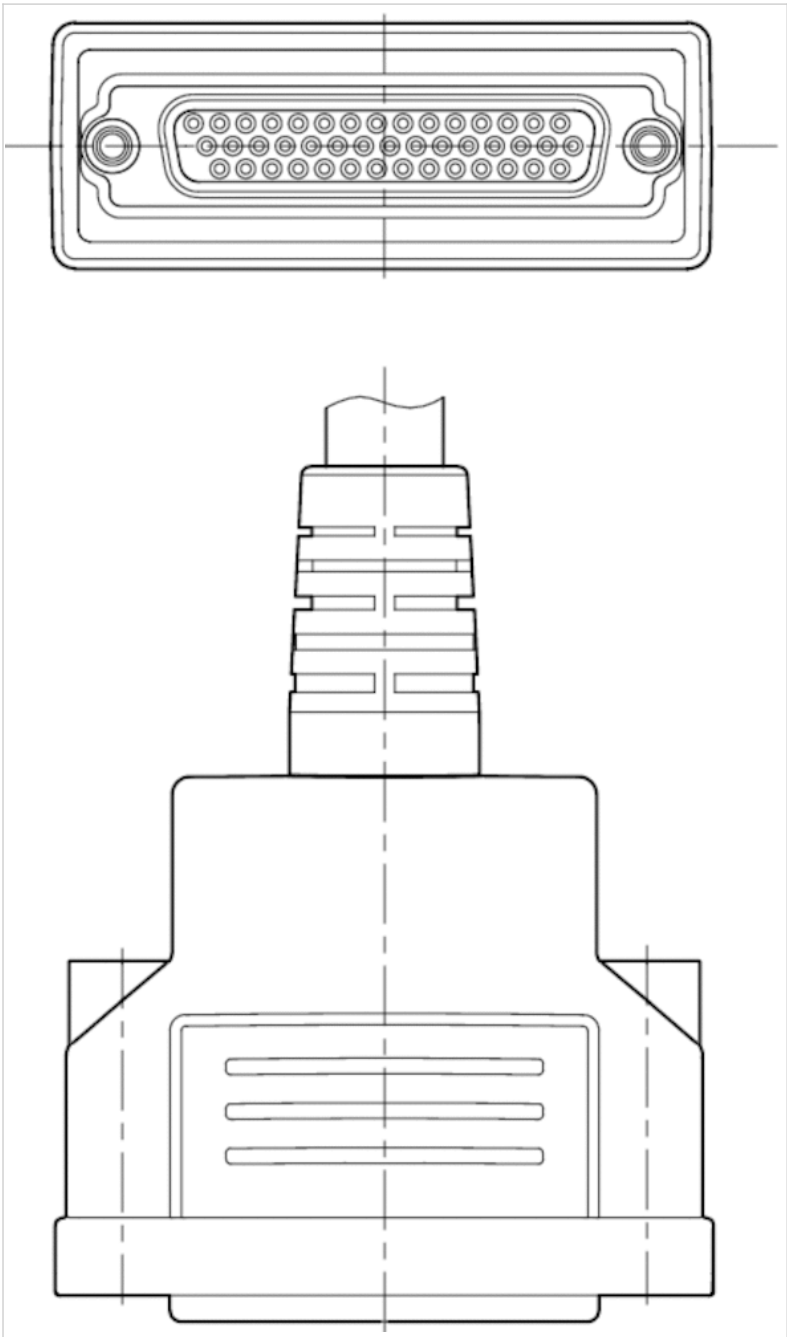
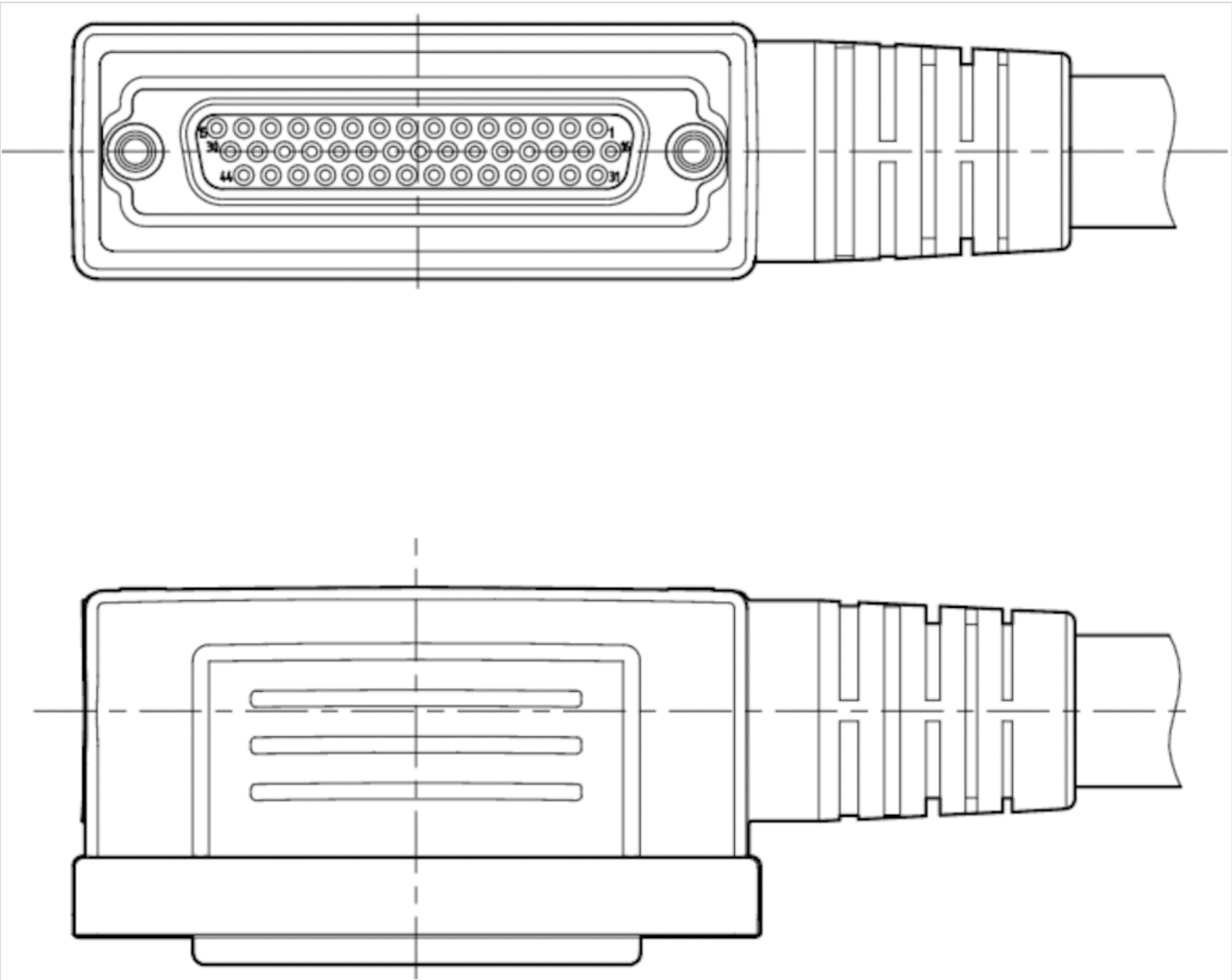
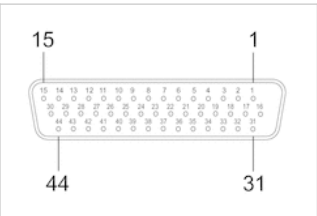


Fig. 2



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

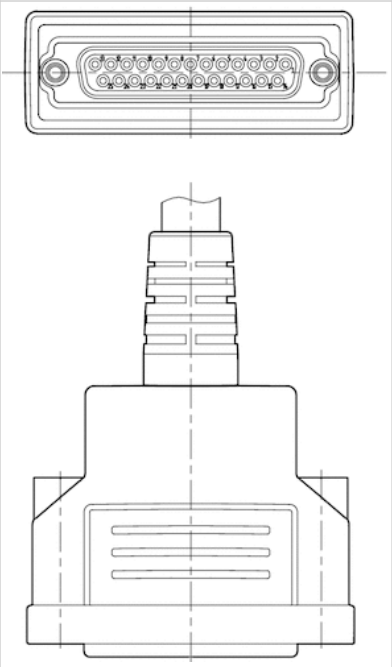
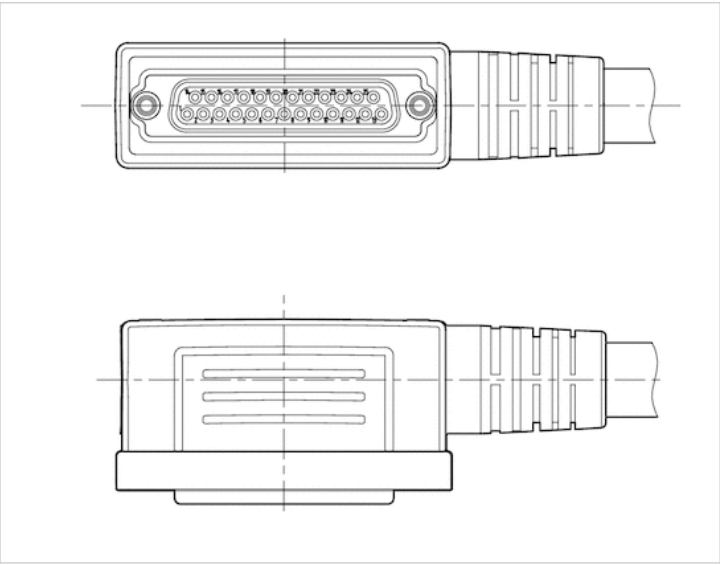
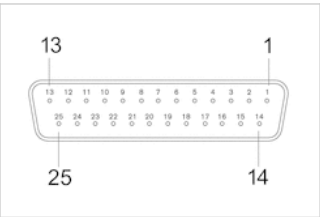


Fig. 2



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 |

Efficient pneumatic solutions, our program: cylinders and drives, valves and valve systems, air supply management



Visit us: [Emerson.com/Aventics](https://www.emerson.com/Aventics)

Your local contact: [Emerson.com/contactus](https://www.emerson.com/contactus)



Emerson.com



Facebook.com/EmersonAutomationSolutions



LinkedIn.com/company/Emerson-Automation-Solutions



Twitter.com/EMR_Automation

An example configuration is depicted on the title page. The delivered product may thus vary from that in the illustration. Subject to change. This Document, as well as the data, specifications and other information set forth in it, are the exclusive property of AVENTICS GmbH. It may not be reproduced or given to third parties without its consent. Only use the AVENTICS products shown in industrial applications. Read the product documentation completely and carefully before using the product. Observe the applicable regulations and laws of the respective country. When integrating the product into applications, note the system manufacturer's specifications for safe use of the product. The data specified only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that the products are subject to a natural process of wear and aging.

The Emerson logo is a trademark and service mark of Emerson Electric Co. Brand logotype are registered trademarks of one of the Emerson family of companies. All other marks are the property of their respective owners. © 2017 Emerson Electric Co. All rights reserved.
2022-09-30



CONSIDER IT SOLVED™