

Series AV05



AVENTICS™ Series AV05



AV05 series valve system

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



Blocking principle	Combination of double and triple base plate principles
Working pressure min./max.	-13 ... 145 psi
Control pressure min./max.	44 ... 116 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³
Nominal flow Qn	0.711 Cv
Operational voltage electronics	24 V DC
Number of valve positions max.	64
Protection class with connection	IP65
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.
	AV05-BP	D-Sub plug, 25-pin, on the side D-Sub plug, 44-pin, on the side 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)
	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 EtherNET/IP 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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 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

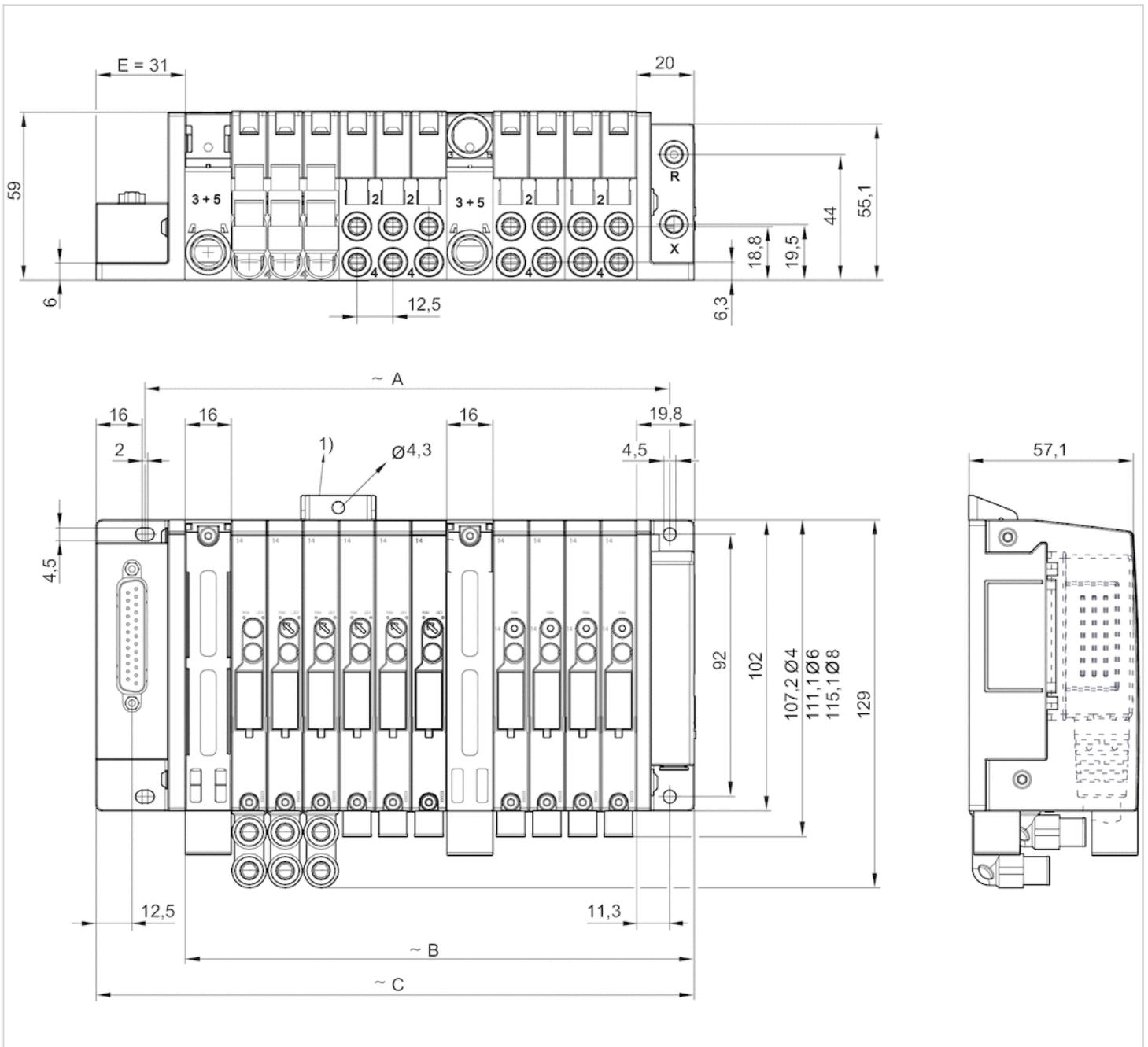
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 The combination of double and triple base plates allows a configuration in increments of 1.
 See the following pages on the 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.
 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	Polyamide fiber-glass reinforced
Base plate	Polyamide fiber-glass reinforced
Supply plate	Aluminum, Polyamide fiber-glass reinforced

Dimensions

Dimensions in mm, D-Sub plug, 25-pin, 44-pin, top



1) Retaining bracket (optional)

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

B = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 20 mm

C = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 51 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)

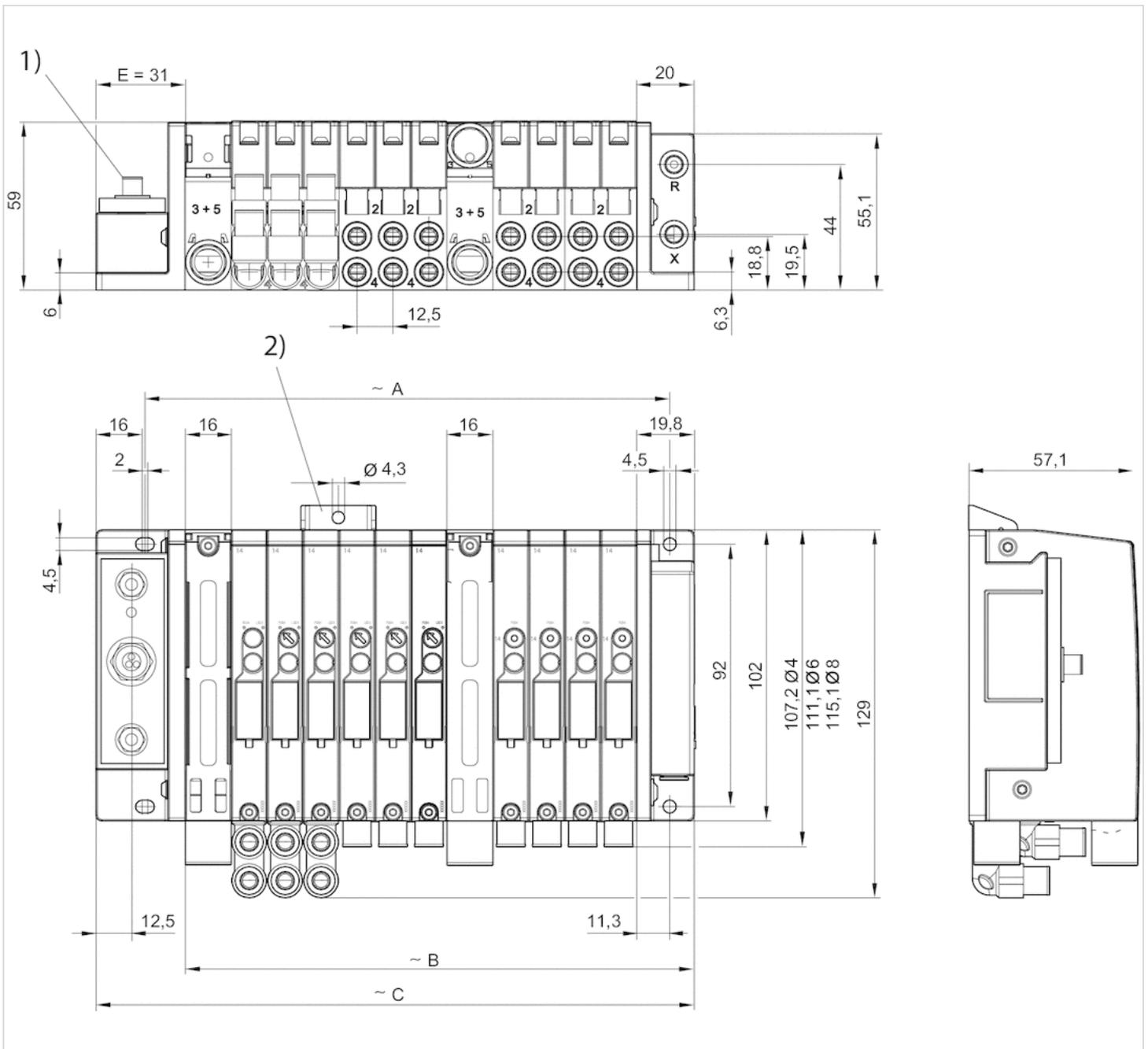
3 and 5 = push-in fitting Ø12 mm. Connection angle: straight

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

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

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

Dimensions in mm, 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 + 25.5 mm

B = number of valve positions x 12.5 mm + number of supply plates x 16 mm + 20 mm

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

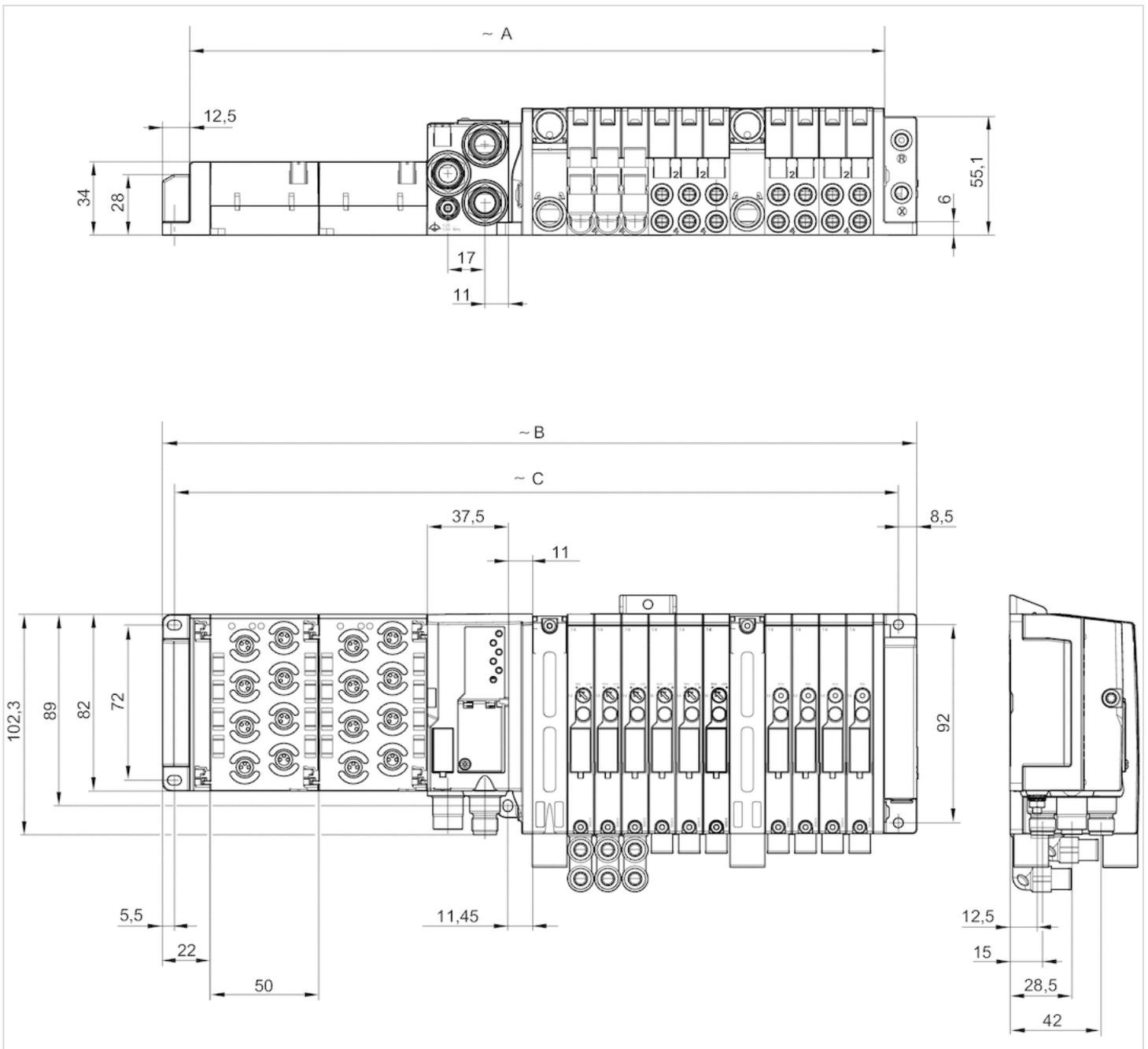
3 und 5 = push-in fitting Ø12 mm. Connection angle: straight

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

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

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

Dimensions in mm, 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 + 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)

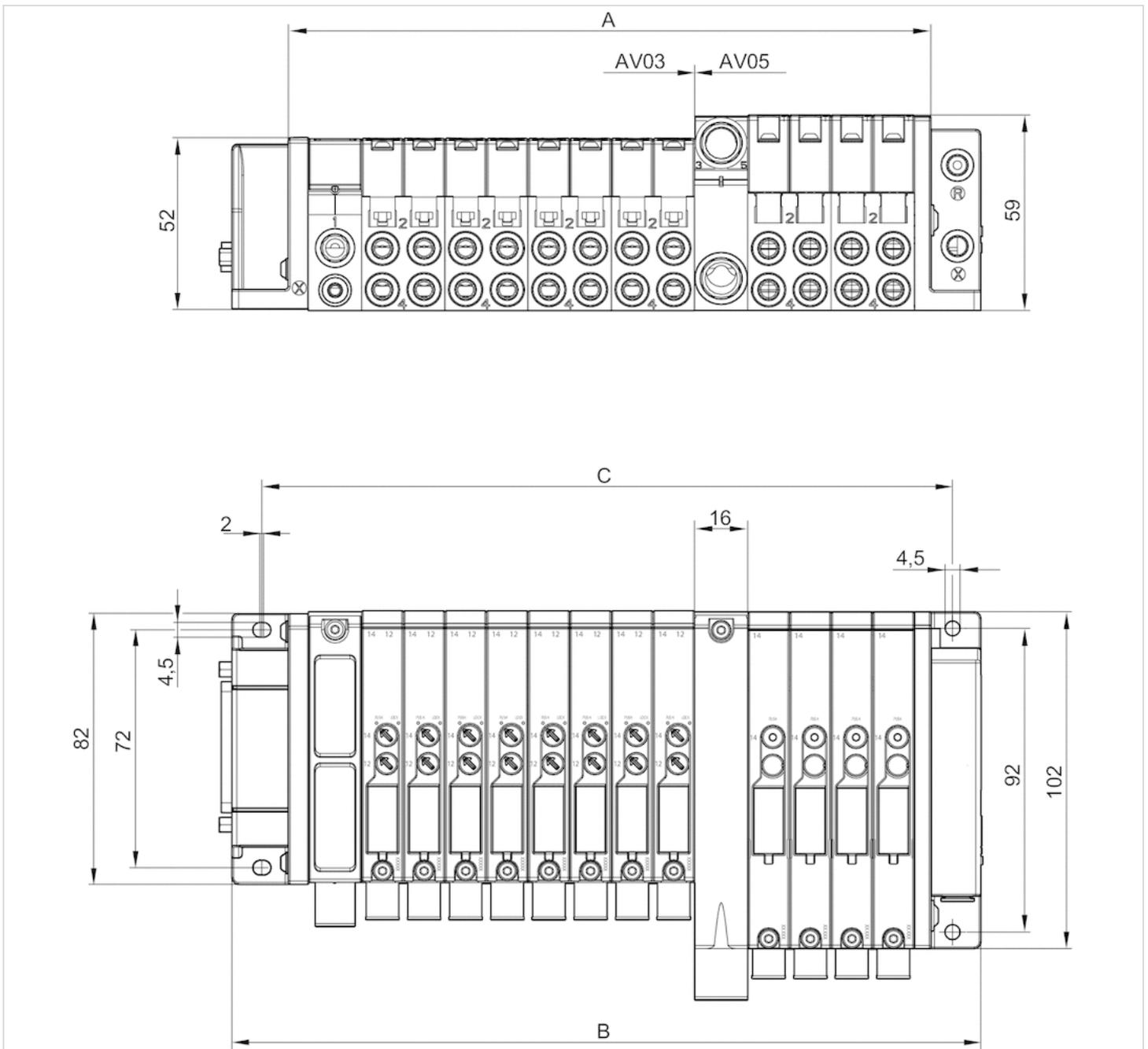
3 und 5 = push-in fitting Ø12 mm. Connection angle: straight

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

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

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)

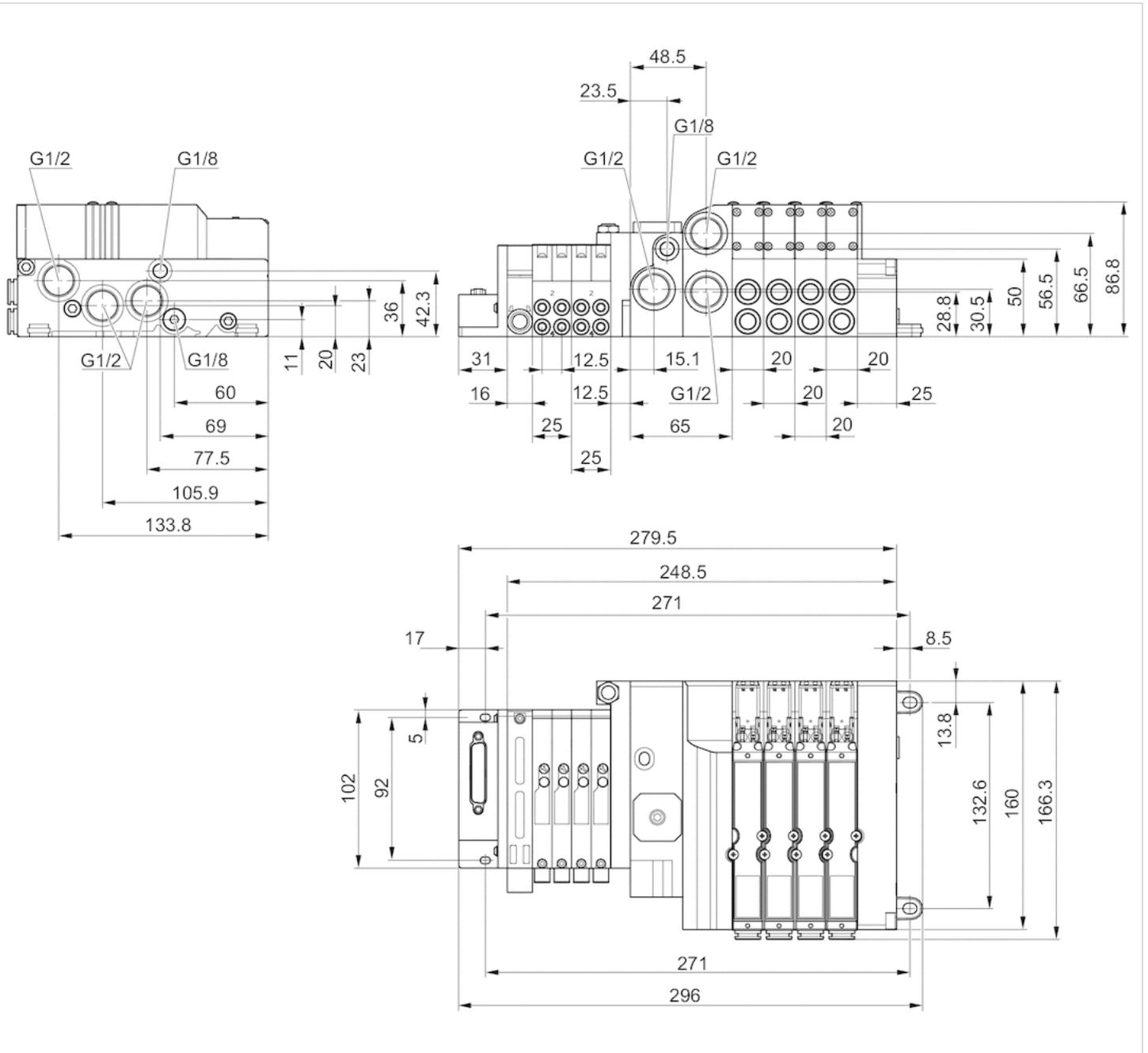
2 and 4 = push-in fitting Ø6 mm and Ø8 mm. Connection angle: straight and 90° (exchangeable fittings)

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

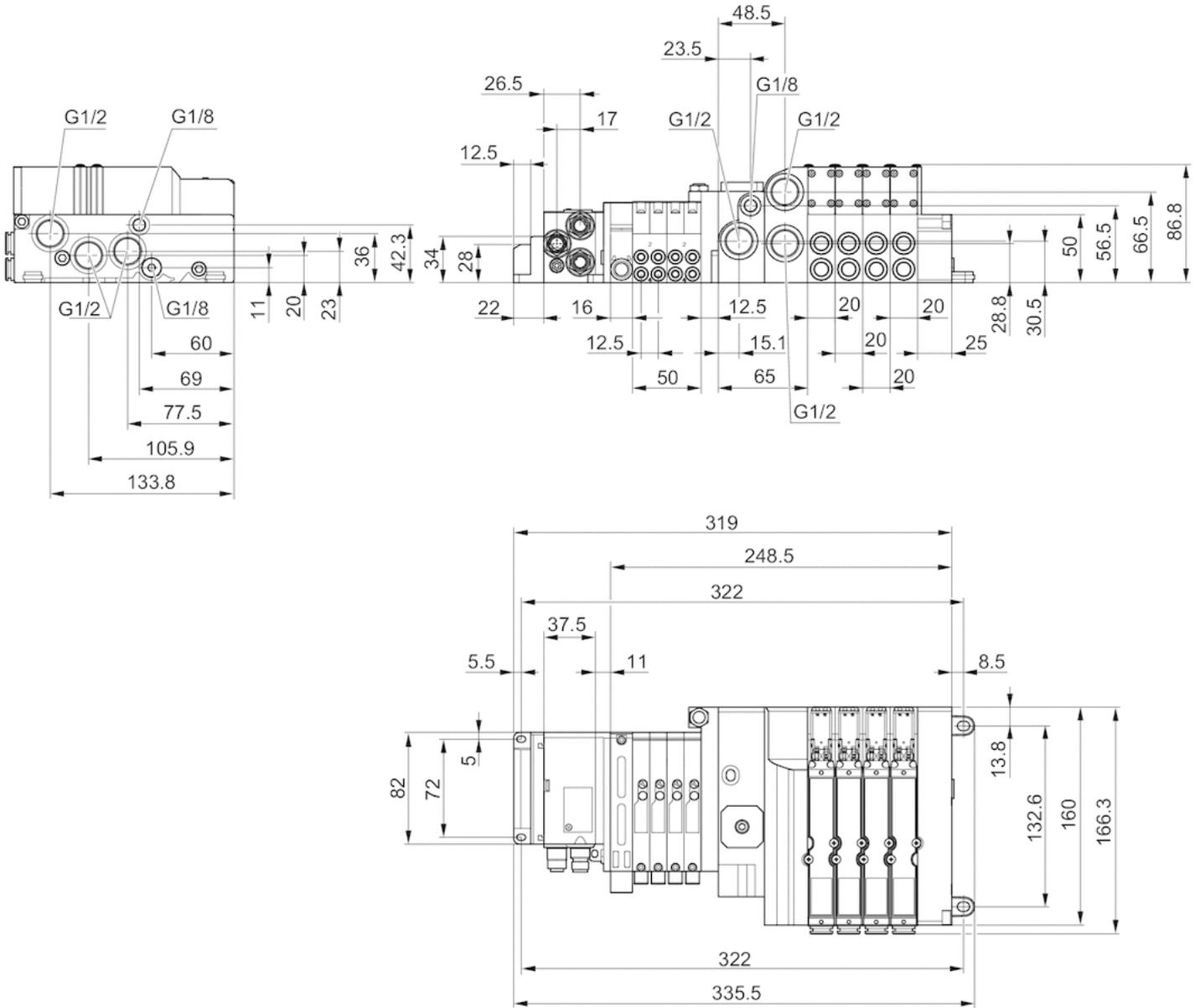
R = collected pilot exhaust air, push-in fitting Ø6 mm. Connection angle: straight

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

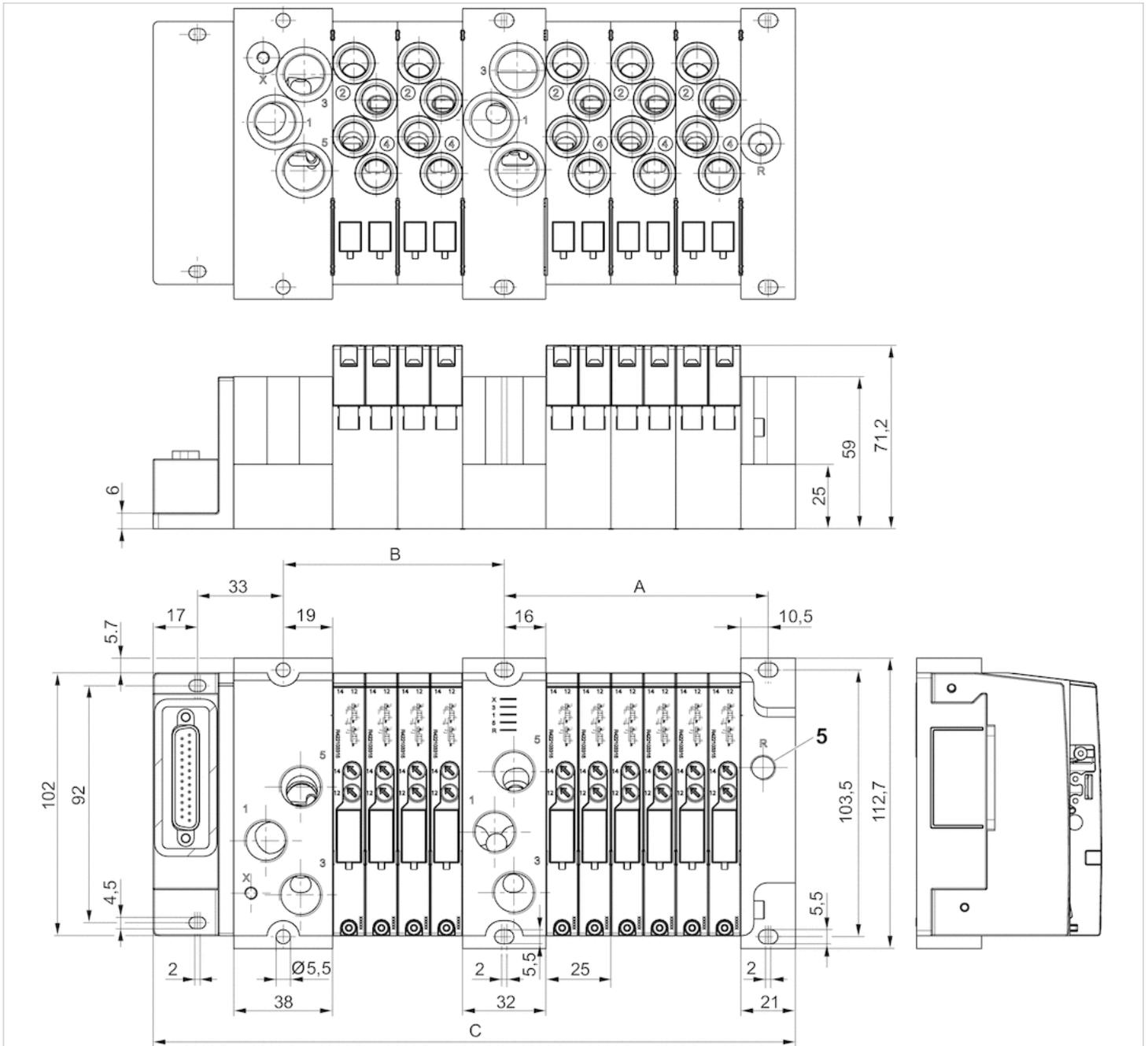
Dimensions, AV05/HF02-LG in combination, D-Sub connector, 44-pin



Dimensions, AV05/HF02-LG in combination, PROFIBUS DP



Dimensions AV-BP



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

B = number of valve positions x 12.5 mm + 35 mm

D-SUB: C = number of valve positions x 12.5 mm + number of I/Os x 32 mm + 90 mm

AES: C = number of valve positions x 12.5 + number of I/Os x 32 + number of I/Os x 50 + 129.

Connections 1, 3, 5 on bottom: G3/8, depth 10.5 mm, max. external push-in fitting diameter: 24 mm

Connections 1, 3, 5 on top: G3/8, depth 12 mm, max. external push-in fitting diameter: 24 mm

Connection X: M5, depth 8 mm, max. external push-in fitting diameter: 12 mm

2x2/2-directional valve, Series AV05

- 2x3/2
- Qn = 0.589 Cv
- NC/NC
- Plate connection
- Manual override : with detent
- double solenoid
- With spring return
- Pilot : External



Type	Spool valve, positive overlapping
Activation	Electrically
Pilot	External
Sealing principle	Soft sealing
Blocking principle	Base plate principle, multiple
Working pressure min./max.	-13 ... 145 psi
Control pressure min./max.	44 ... 116 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m³
Nominal flow Qn	0.589 Cv
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	0.369 ft./lbs.
Weight	0.11 lbs

Technical data

Part No.	MO	Operational voltage	Voltage tolerance	
			DC	DC
R422103315		24 V	-10% / +10%	-10% / +10%
R422103316		24 V	-10% / +10%	-10% / +10%
R422103317		24 V	-10% / +10%	-10% / +10%

Part No.	Power consumption	Flow conductance	Flow conductance
	DC	b	C-value
R422103315	0.55 W	0.29	1.17 l/(s*bar)
R422103316	0.55 W	0.29	1.17 l/(s*bar)
R422103317	0.55 W	0.29	1.17 l/(s*bar)

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

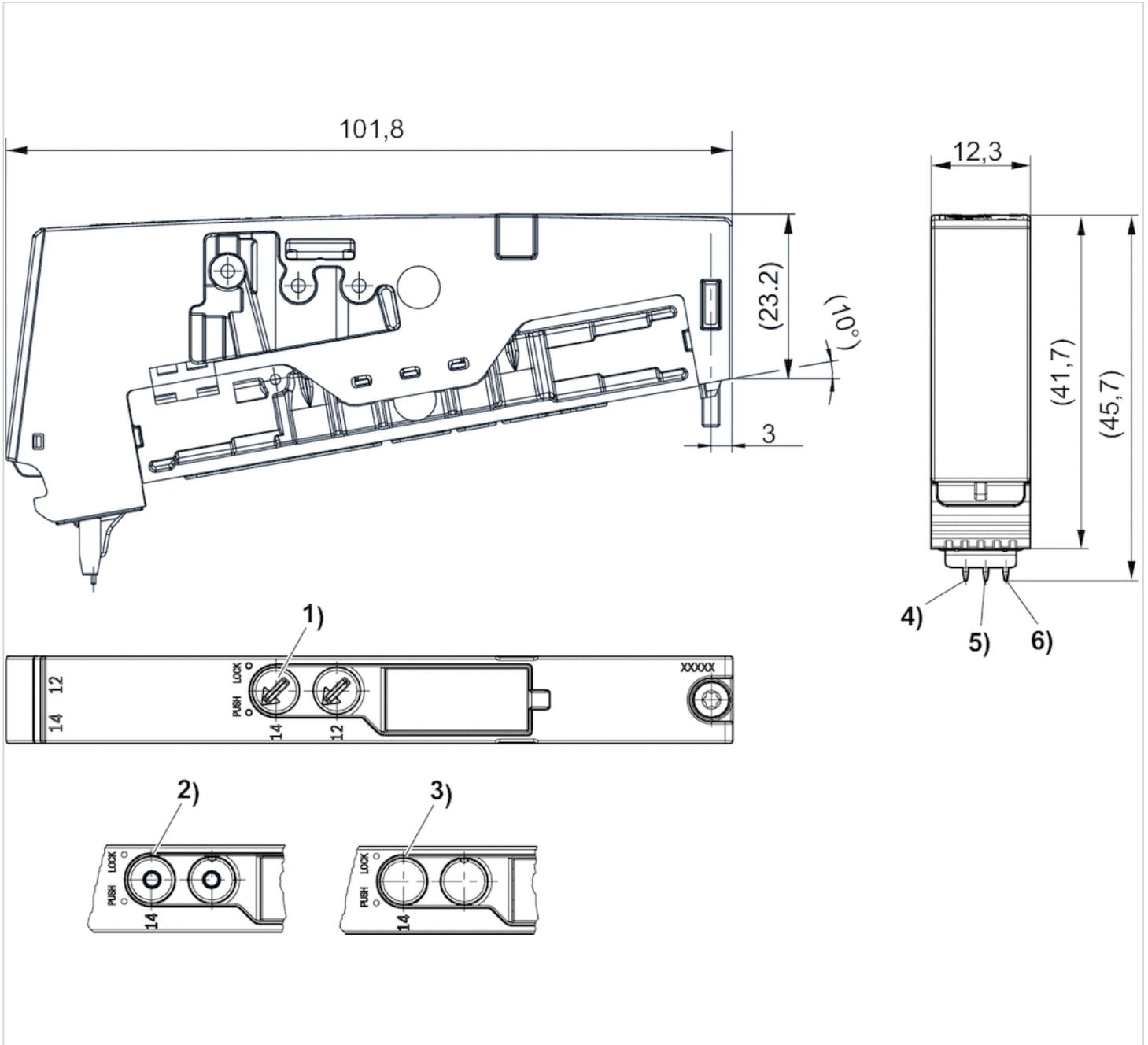
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 The oil content of compressed air must remain constant during the life cycle.
 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



P_B = Working pressure
 P_e = external control pressure, min.

2x3/2-directional valve, Series AV05

- 2x3/2
- $Q_n = 0.61-0.66 \text{ Cv}$
- NC/NC NO/NO NC/NO
- Plate connection
- Manual override : with detent without detent without
- double solenoid
- Pilot : External



Type	Spool valve, positive overlapping
Activation	Electrically
Pilot	External
Sealing principle	Soft sealing
Blocking principle	Base plate principle, multiple
Working pressure min./max.	-13 ... 145 psi
Control pressure min./max.	44 ... 116 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
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
Nominal flow 1 ▶ 2	See table below
Nominal flow 2 ▶ 3	0.528 Cv
Pilot control exhaust	With collective pilot air exhaust
Protection class with connection	IP65
LED status display	Yellow
Duty cycle	100 %
Typ. switch-on time	16 ms
Typ. switch-off time	25 ms
mounting screws	Hexalobular socket (TORX) ISO 10664-8
Mounting screw tightening torque	0.37 ft./lbs.
Tightening torque tolerance	$\pm 0,1 \text{ mT}$
Weight	See table below

Technical data

Part No.		MO		Operational voltage	
				DC	DC
R422103006			NC/NC	24 V	-10% / +10%
R422103007			NC/NC	24 V	-10% / +10%
R422103080			NC/NC	24 V	-10% / +10%
R422103008			NO/NO	24 V	-10% / +10%
R422103009			NO/NO	24 V	-10% / +10%
R422103081			NO/NO	24 V	-10% / +10%
R422103010			NC/NO	24 V	-10% / +10%
R422103011			NC/NO	24 V	-10% / +10%
R422103082			NC/NO	24 V	-10% / +10%

Part No.	Power consumption	Flow conductance	Flow conductance	Nominal flow Qn
	DC	b	C-value	
R422103006	0.55 W	0.38	2.46 l/(s*bar)	0.66 Cv
R422103007	0.55 W	0.38	2.46 l/(s*bar)	0.66 Cv
R422103080	0.55 W	0.38	2.46 l/(s*bar)	0.66 Cv
R422103008	0.55 W	0.45	2.07 l/(s*bar)	0.61 Cv
R422103009	0.55 W	0.45	2.07 l/(s*bar)	0.61 Cv
R422103081	0.55 W	0.45	2.07 l/(s*bar)	0.61 Cv
R422103010	0.55 W	0.45	2.07 l/(s*bar)	0.66 Cv
R422103011	0.55 W	0.45	2.07 l/(s*bar)	0.66 Cv
R422103082	0.55 W	0.45	2.07 l/(s*bar)	0.66 Cv

Part No.	Nominal flow 1 ▶ 2	Weight
R422103006	0.66 Cv	0.146 lbs
R422103007	0.66 Cv	0.146 lbs
R422103080	0.66 Cv	0.146 lbs
R422103008	0.61 Cv	0.141 lbs
R422103009	0.61 Cv	0.141 lbs
R422103081	0.61 Cv	0.141 lbs
R422103010	0.66 Cv	0.143 lbs
R422103011	0.66 Cv	0.143 lbs
R422103082	0.66 Cv	0.143 lbs

Nominal flow Qn at 87 psi and Δp = 14.5 psi, MO = Manual override

Technical information

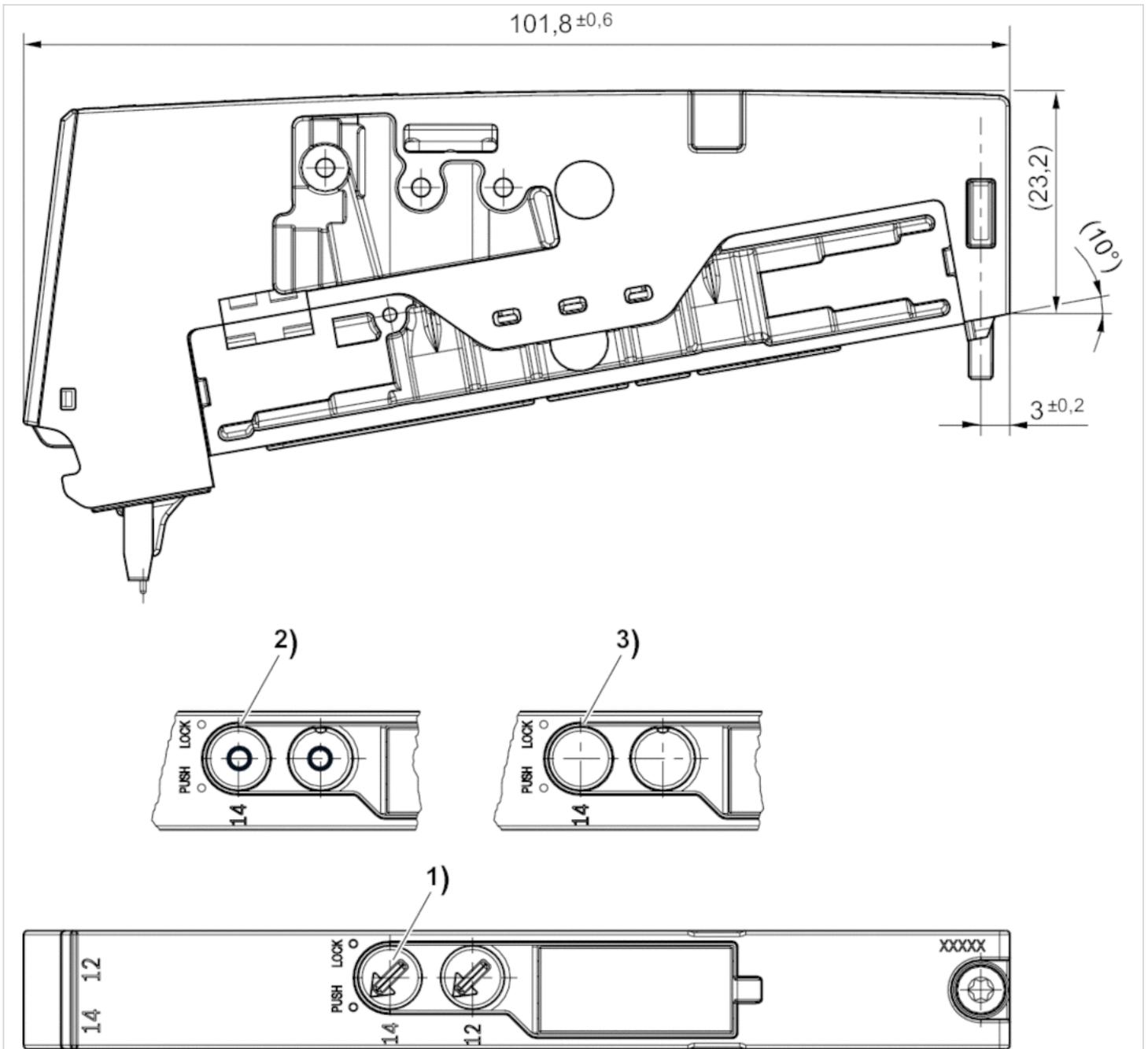
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 The oil content of compressed air must remain constant during the life cycle.
 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
End plate	Polyamide fiber-glass reinforced

Dimensions

Dimensions



- 1) Manual override: with detent
- 2) manual override: without detent
- 3) Manual override: without detent

Diagrams

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

 P_B = Working pressure P_e = external control pressure, min.

5/2-directional valve, Series AV05

- 5/2
- Qn = 0.711 Cv
- Plate connection
- Manual override : with detent without detent without
- single solenoid double solenoid
- Pilot : External



Type	Spool valve, positive overlapping
Activation	Electrically
Pilot	External
Sealing principle	Soft sealing
Blocking principle	Base plate principle, multiple
Working pressure min./max.	-13 ... 145 psi
Control pressure min./max.	44 ... 116 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m³
Nominal flow Qn	0.711 Cv
Nominal flow 1 ▶ 2	0.711 Cv
Nominal flow 2 ▶ 3	0.61 Cv
Pilot control exhaust	With collective pilot air exhaust
Protection class with connection	IP65
LED status display	Yellow
Duty cycle	100 %
mounting screws	Hexalobular socket (TORX) ISO 10664-8
Mounting screw tightening torque	0.37 ft./lbs.
Tightening torque tolerance	±0,1 mT
Weight	See table below

Technical data

Part No.	MO	Operational voltage		Voltage tolerance
		DC	DC	DC
R422103000		24 V		-10% / +10%
R422103001		24 V		-10% / +10%
R422103077		24 V		-10% / +10%
R422103012		24 V		-10% / +10%
R422103013		24 V		-10% / +10%
R422103083		24 V		-10% / +10%
R422103002		24 V		-10% / +10%
R422103003		24 V		-10% / +10%
R422103078		24 V		-10% / +10%

Part No.	Power consumption	Flow conductance	Flow conductance	Typ. switch-on time
	DC	b	C-value	
R422103000	0.55 W	0.38	2.54 l/(s*bar)	17 ms

Part No.	Power consumption	Flow conductance	Flow conductance	Typ. switch-on time
	DC	b	C-value	
R422103001	0.55 W	0.38	2.54 l/(s*bar)	17 ms
R422103077	0.55 W	0.38	2.54 l/(s*bar)	17 ms
R422103012	0.55 W	0.38	2.54 l/(s*bar)	16 ms
R422103013	0.55 W	0.38	2.54 l/(s*bar)	16 ms
R422103083	0.55 W	0.38	2.54 l/(s*bar)	16 ms
R422103002	0.55 W	0.38	2.54 l/(s*bar)	13 ms
R422103003	0.55 W	0.38	2.54 l/(s*bar)	13 ms
R422103078	0.55 W	0.38	2.54 l/(s*bar)	13 ms

Part No.	Typ. switch-off time	Weight
R422103000	26 ms	0.128 lbs
R422103001	26 ms	0.128 lbs
R422103077	26 ms	0.128 lbs
R422103012	22 ms	0.134 lbs
R422103013	22 ms	0.134 lbs
R422103083	22 ms	0.134 lbs
R422103002	13 ms	0.141 lbs
R422103003	13 ms	0.141 lbs
R422103078	13 ms	0.141 lbs

Nominal flow Qn at 87 psi and Δp = 14.5 psi, 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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 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).

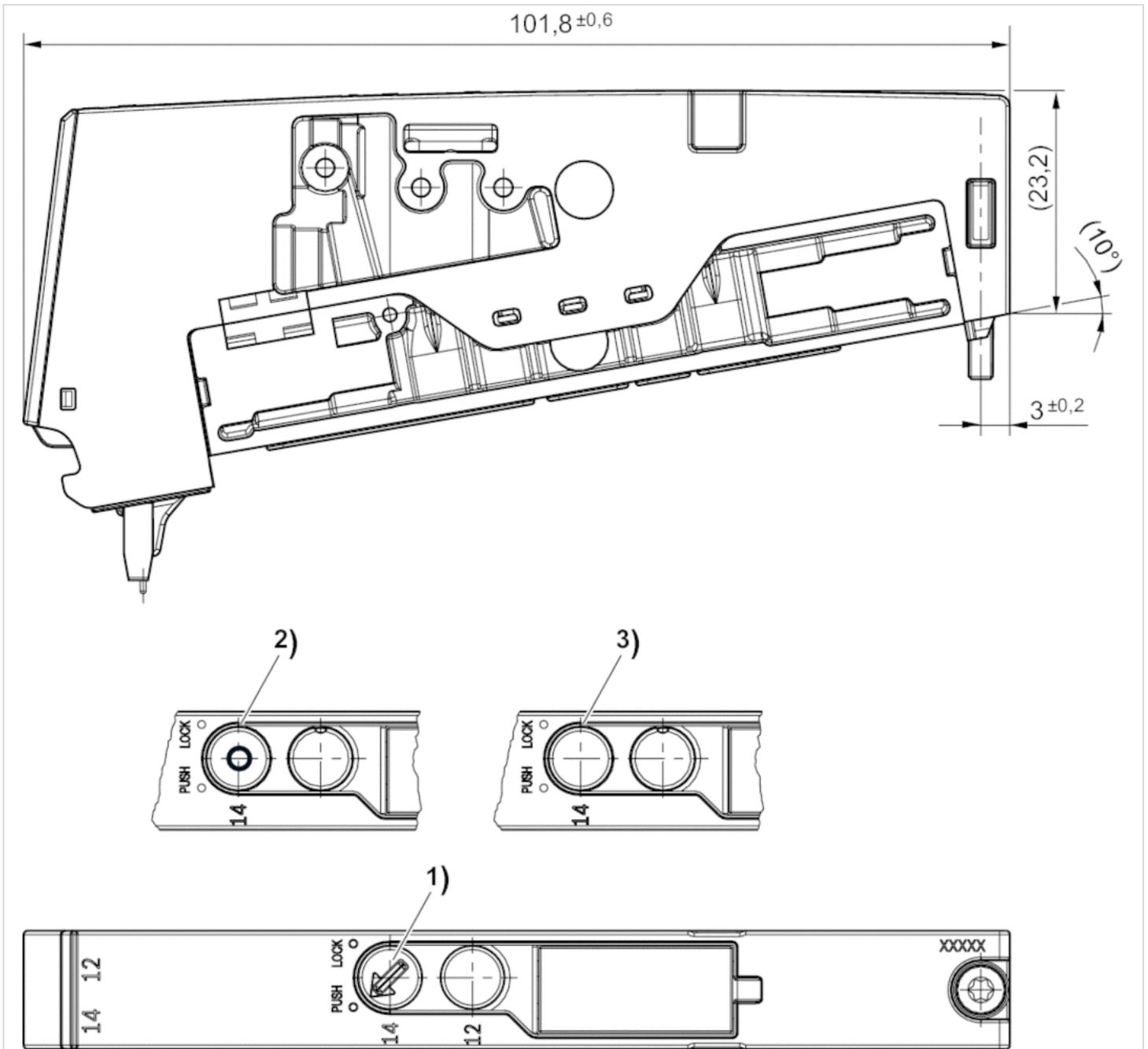
The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.

Technical information

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

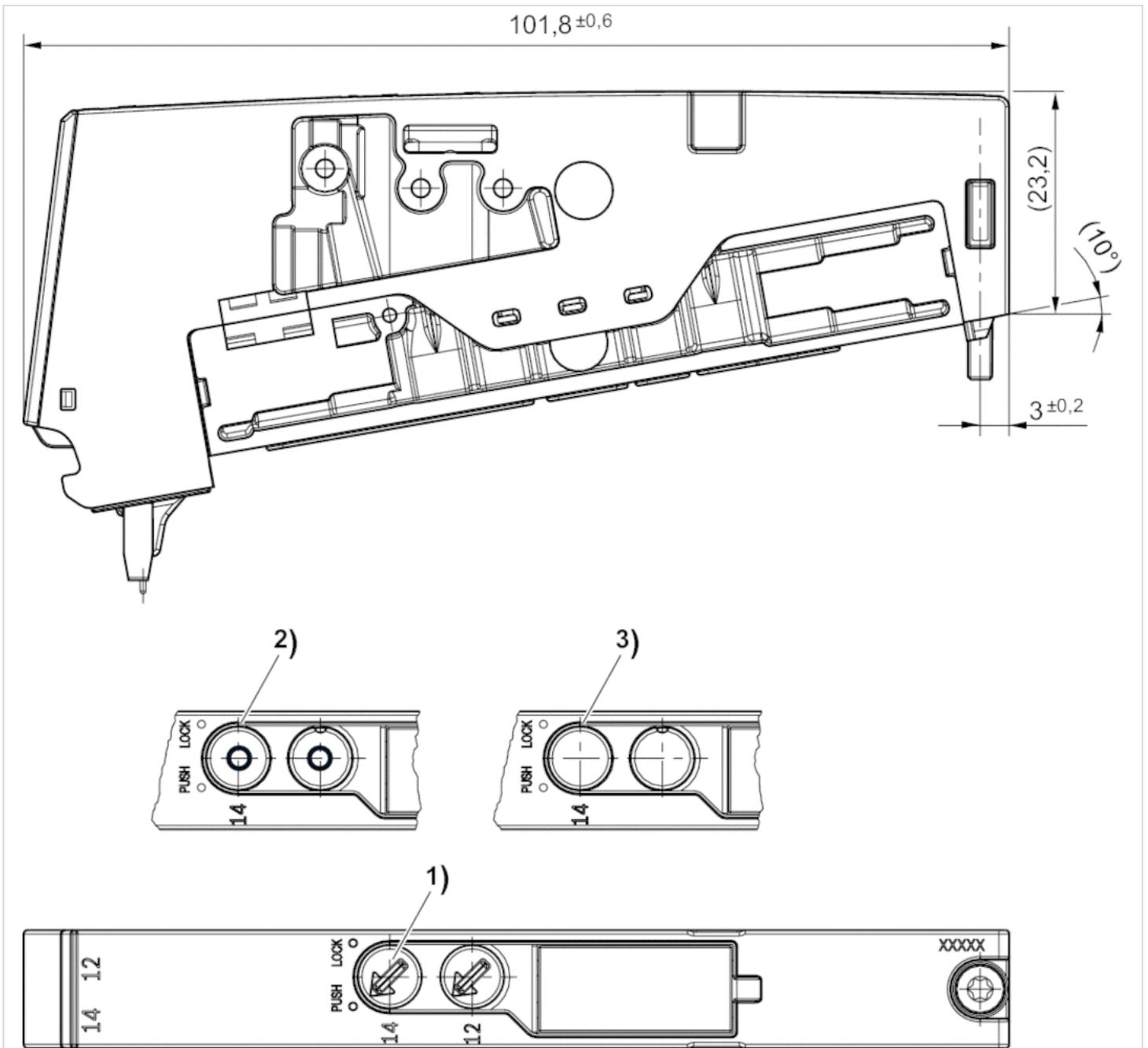
Dimensions

Dimensions, single solenoid



- 1) Manual override: with detent
- 2) manual override: without detent
- 3) Manual override: without detent

Dimensions



- 1) Manual override: with detent
- 2) manual override: without detent
- 3) Manual override: without detent

5/3-directional valve, Series AV05

- 5/3
- $Q_n = 0.66 \text{ Cv}$
- closed center
- Plate connection
- Manual override : with detent without detent without
- double solenoid
- Pilot : External



Type	Spool valve, positive overlapping
Activation	Electrically
Pilot	External
Sealing principle	Soft sealing
Blocking principle	Base plate principle, multiple
Working pressure min./max.	-13 ... 145 psi
Control pressure min./max.	44 ... 116 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air
Max. particle size	40 μm
Oil content of compressed air	0 ... 5 mg/m^3
Nominal flow Q_n	0.66 Cv
Nominal flow 1 \blacktriangleright 2	0.66 Cv
Nominal flow 2 \blacktriangleright 3	0.528 Cv
Pilot control exhaust	With collective pilot air exhaust
Protection class with connection	IP65
LED status display	Yellow
Duty cycle	100 %
Typ. switch-on time	13 ms
Typ. switch-off time	13 ms
mounting screws	Hexalobular socket (TORX) ISO 10664-8
Mounting screw tightening torque	0.37 ft./lbs.
Tightening torque tolerance	$\pm 0,1 \text{ mT}$
Weight	0.137 lbs

Technical data

Part No.		MO		Operational voltage		Voltage tolerance
				DC	DC	DC
R422103004			closed center	24 V		-10% / +10%
R422103005			closed center	24 V		-10% / +10%
R422103079			-	24 V		-10% / +10%

Part No.	Power consumption		Flow conductance	Flow conductance
	DC		b	C-value
R422103004	0.55 W		0.37	2.49 l/(s*bar)
R422103005	0.55 W		0.37	2.49 l/(s*bar)
R422103079	0.55 W		0.37	2.49 l/(s*bar)

Nominal flow Qn at 87 psi and $\Delta p = 14.5$ psi, 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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

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).

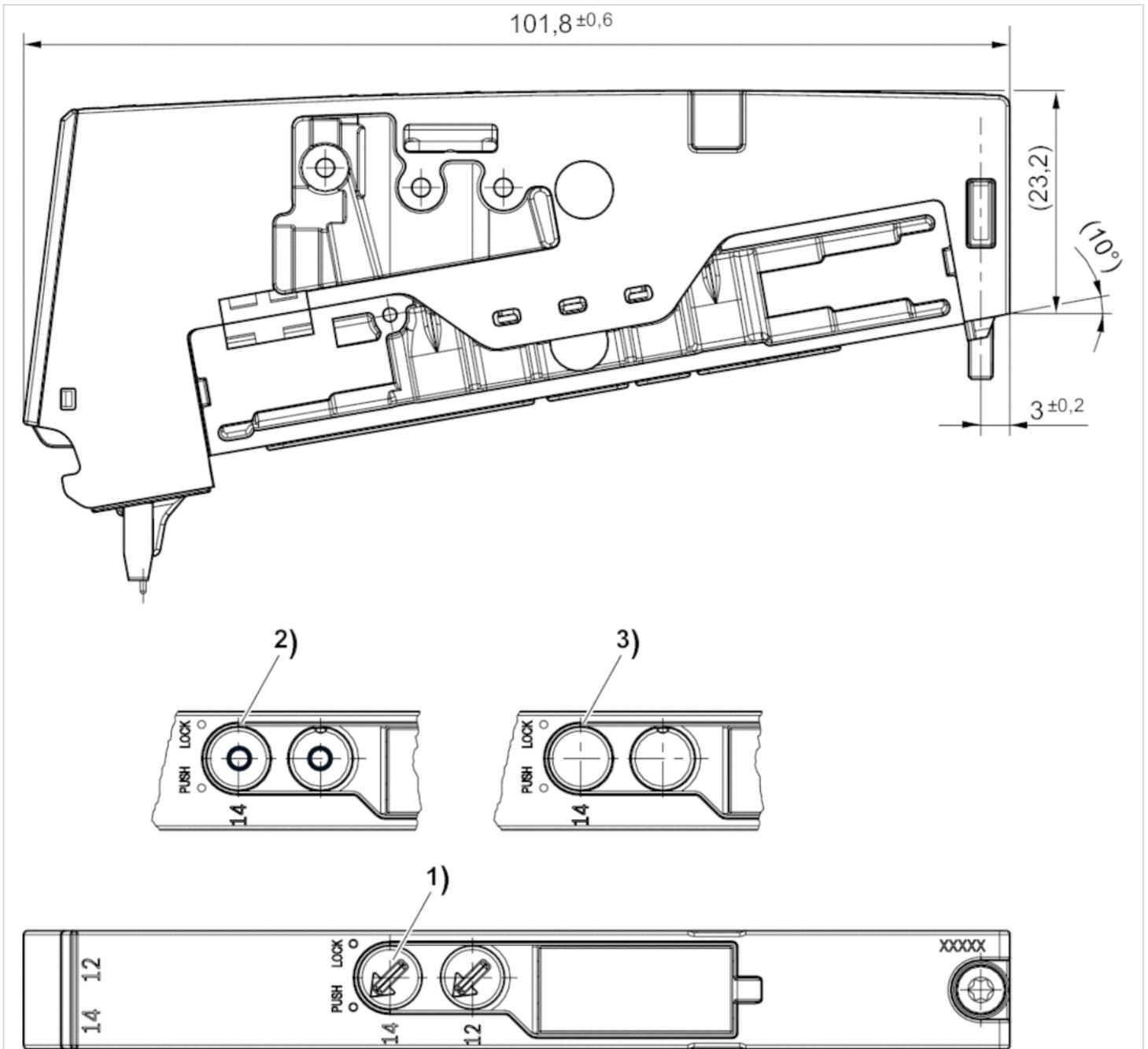
The pilot type (external/internal) is not implemented in the valve, but in the end plate of the valve system.

Technical information

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

Dimensions

Dimensions



- 1) Manual override: with detent
- 2) manual override: without detent
- 3) Manual override: without detent

E/P pressure regulator, Series AV05-EP

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



Type	Piloted pressure regulator
Mounting orientation	Any
Working pressure max	159 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
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	0.551 lbs

Technical data

Part No.		Pressure setting range min./max.	Nominal input value	Actual output value
			Min./max.	Min./max.
R414007402		8 ... 87 psi	0 ... 10 V	0 ... 10 V
R414007407		8 ... 87 psi	4 ... 20 mA	4 ... 20 mA
R414007413		8 ... 145 psi	0 ... 10 V	0 ... 10 V
R414007418		8 ... 145 psi	4 ... 20 mA	4 ... 20 mA
R414007403		8 ... 87 psi	0 ... 10 V	0 ... 10 V
R414007408		8 ... 87 psi	4 ... 20 mA	4 ... 20 mA
R414007414		8 ... 145 psi	0 ... 10 V	0 ... 10 V
R414007419		8 ... 145 psi	4 ... 20 mA	4 ... 20 mA
R414007392		8 ... 145 psi	0 ... 10 V	0 ... 10 V
R414007396		8 ... 145 psi	4 ... 20 mA	4 ... 20 mA

Part No.	Max. power consumption	Repetitive precision	Hysteresis	
	mA			
R414007402	220 mA	0.58 psi	0.725 psi	1)
R414007407	220 mA	0.58 psi	0.725 psi	1)
R414007413	220 mA	0.58 psi	0.725 psi	1)
R414007418	220 mA	0.58 psi	0.725 psi	1)
R414007403	160 mA	0.58 psi	0.725 psi	2)
R414007408	160 mA	0.58 psi	0.725 psi	2)
R414007414	160 mA	0.58 psi	0.725 psi	2)
R414007419	160 mA	0.58 psi	0.725 psi	2)
R414007392	160 mA	2.61 psi	2.9 psi	2)
R414007396	160 mA	2.61 psi	2.9 psi	2)

See diagrams for flow characteristic curve

- 1) Power outage: operating line exhaust
- 2) Power outage: maintain pressure

Technical information

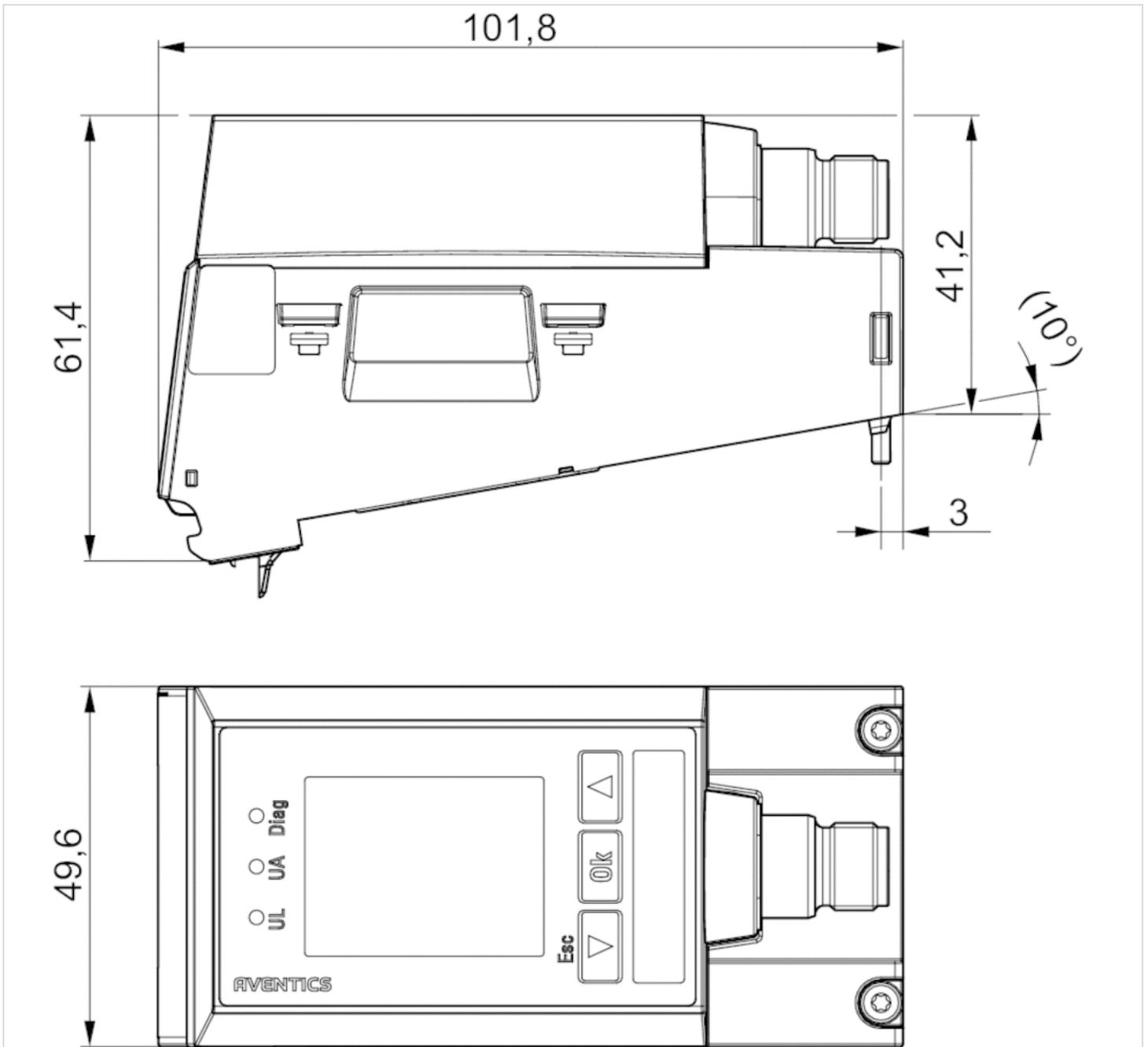
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 The oil content of compressed air must remain constant during the life cycle.
 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

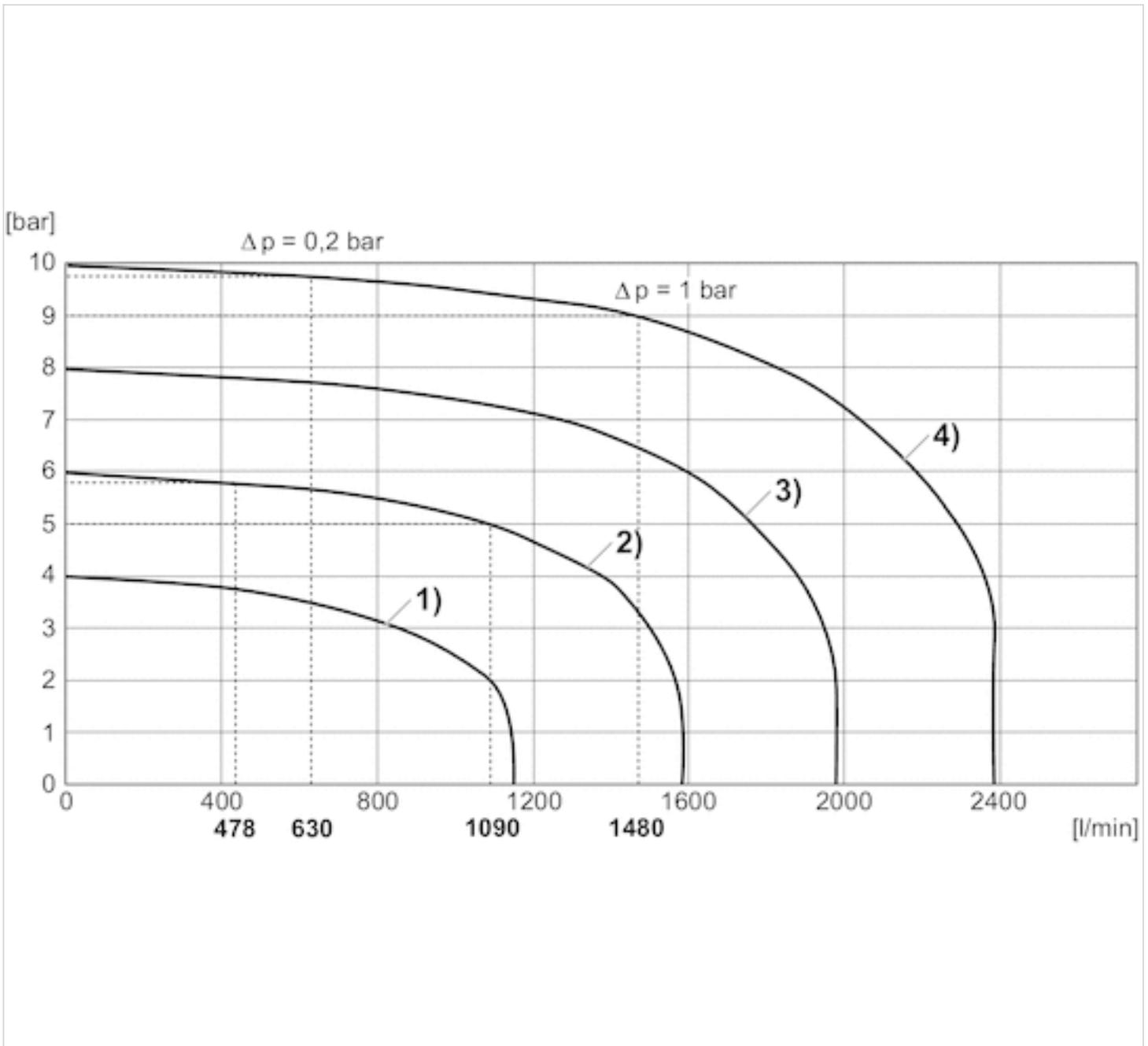
Dimensions



Port for plug M12x1

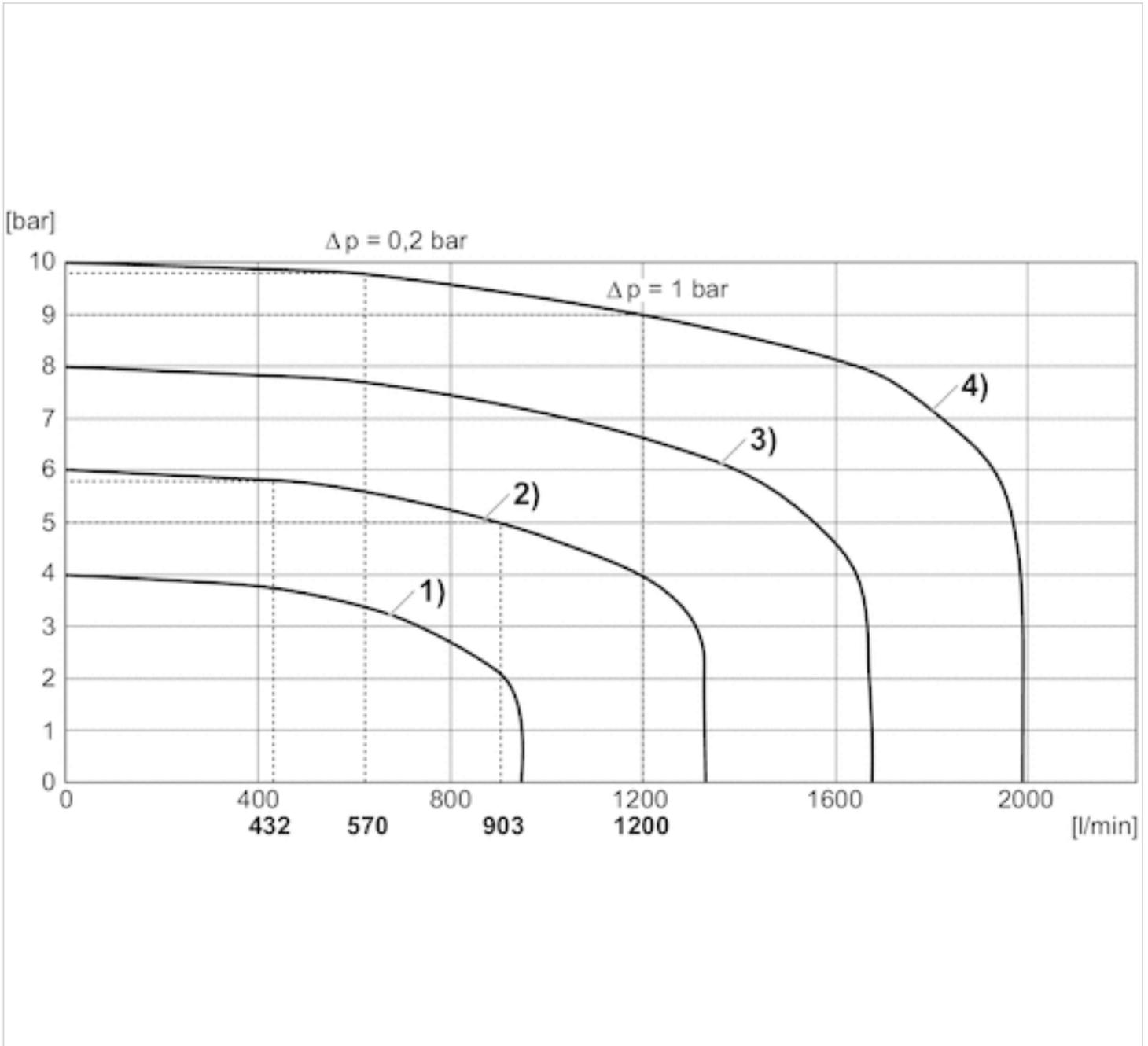
Diagrams

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

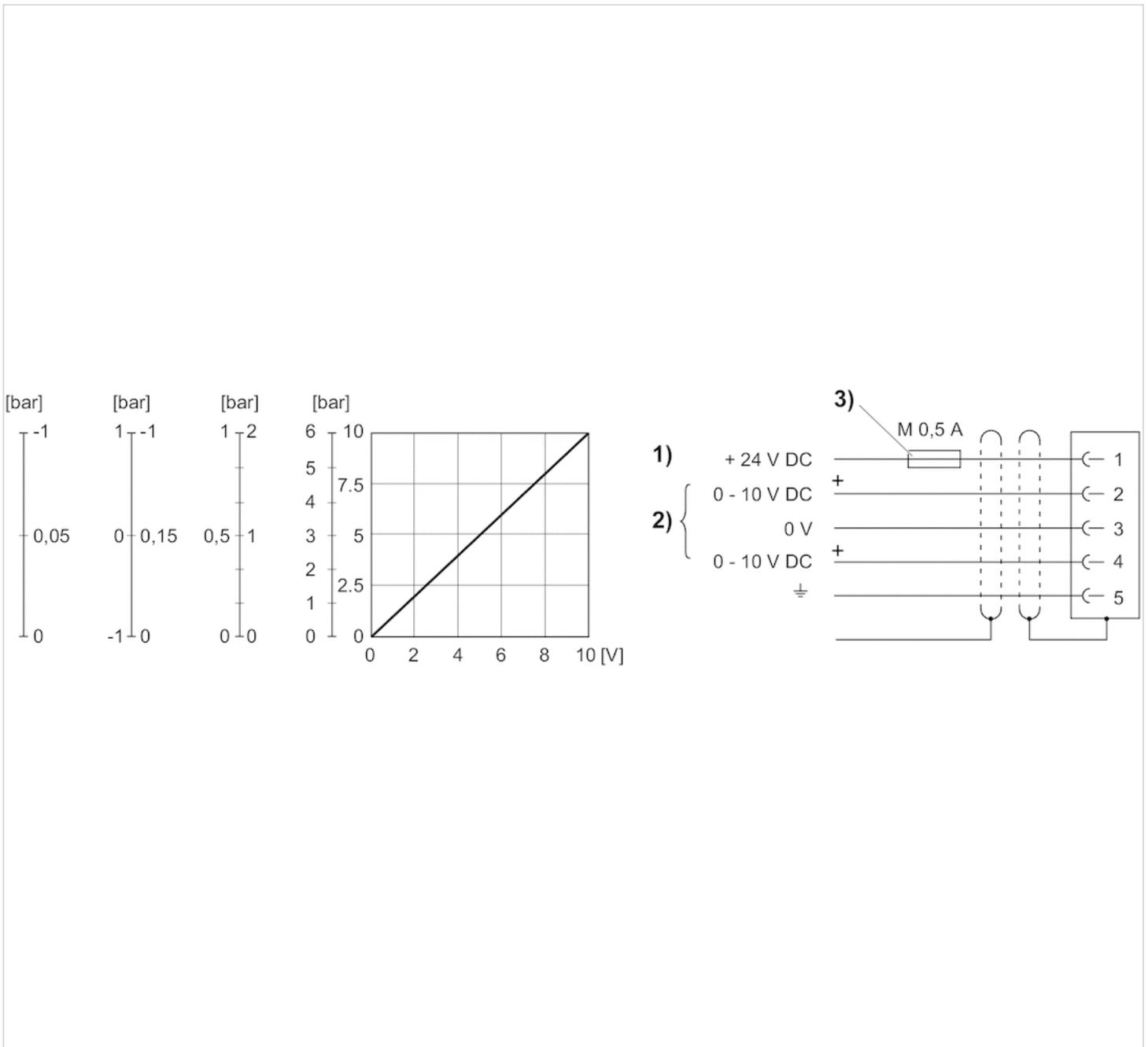
Flow characteristic curve, Single pressure control



- 1) $P_v = 5 \text{ bar}$, 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

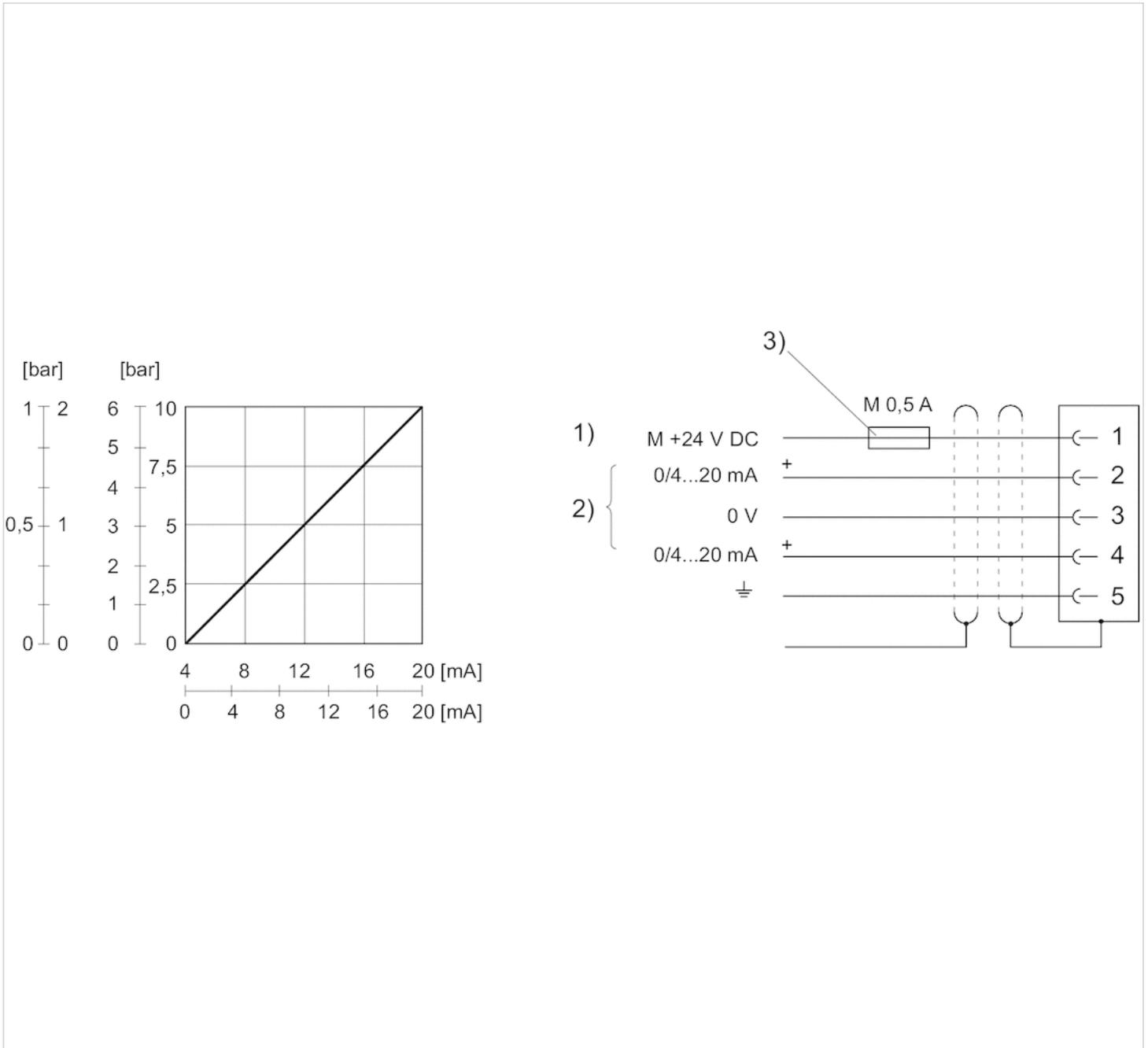
Circuit diagram

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 kΩ.
- 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 AV05-EP

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



Type	Piloted pressure regulator
Mounting orientation	Any
Working pressure max	159 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
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	0.529 lbs

Technical data

Part No.		Pressure setting range min./max.	Nominal input value	Actual output value
			Min./max.	Min./max.
R414007399		8 ... 87 psi	0 ... 10 V	0 ... 10 V
R414007404		8 ... 87 psi	4 ... 20 mA	4 ... 20 mA
R414007410		8 ... 145 psi	0 ... 10 V	0 ... 10 V
R414007415		8 ... 145 psi	4 ... 20 mA	4 ... 20 mA
R414007400		8 ... 87 psi	0 ... 10 V	0 ... 10 V
R414007405		8 ... 87 psi	4 ... 20 mA	4 ... 20 mA
R414007411		8 ... 145 psi	0 ... 10 V	0 ... 10 V
R414007416		8 ... 145 psi	4 ... 20 mA	4 ... 20 mA
R414007390		8 ... 145 psi	0 ... 10 V	0 ... 10 V
R414007394		8 ... 145 psi	4 ... 20 mA	4 ... 20 mA

Part No.	Max. power consumption	Repetitive precision	Hysteresis	
	mA			
R414007399	180 mA	0.58 psi	0.725 psi	1)
R414007404	180 mA	0.58 psi	0.725 psi	1)
R414007410	180 mA	0.58 psi	0.725 psi	1)
R414007415	180 mA	0.58 psi	0.725 psi	1)
R414007400	120 mA	0.58 psi	0.725 psi	2)
R414007405	120 mA	0.58 psi	0.725 psi	2)
R414007411	120 mA	0.58 psi	0.725 psi	2)
R414007416	120 mA	0.58 psi	0.725 psi	2)
R414007390	120 mA	2.61 psi	2.9 psi	2)
R414007394	120 mA	2.61 psi	2.9 psi	2)

See diagrams for flow characteristic curve

- 1) Power outage: operating line exhaust
- 2) Power outage: maintain pressure

Technical information

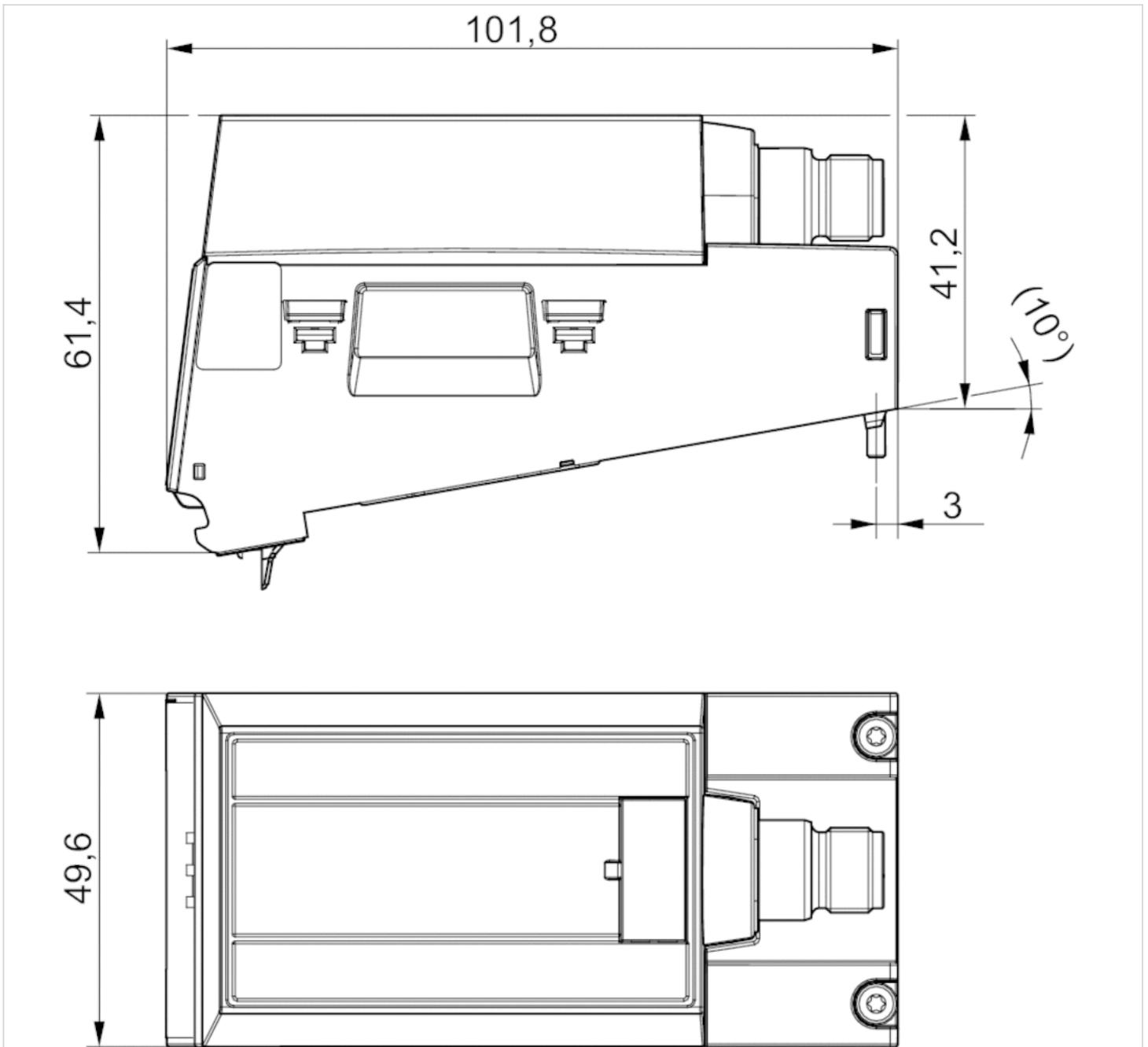
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 The oil content of compressed air must remain constant during the life cycle.
 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

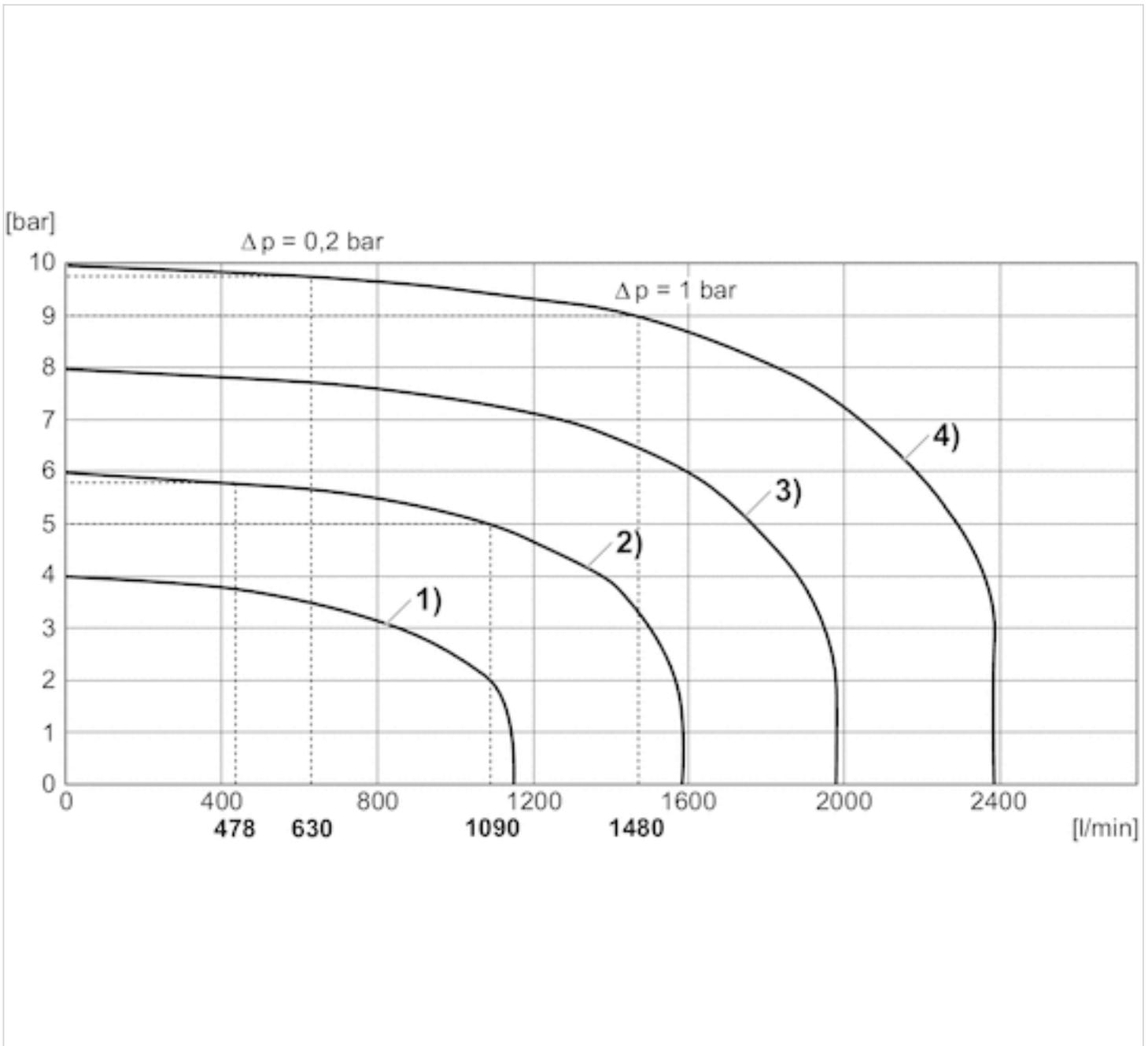
Dimensions



Port for plug M12x1

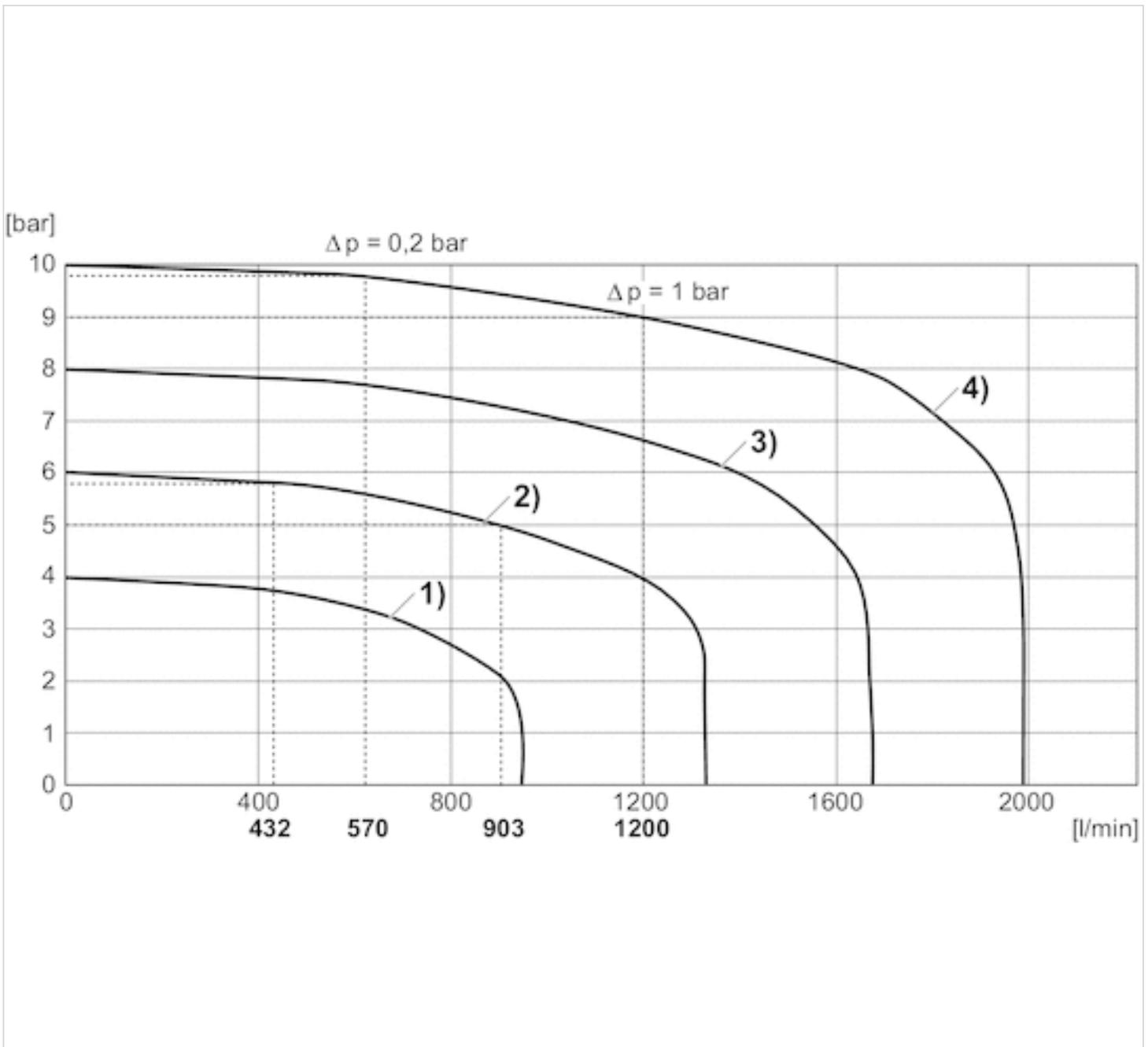
Diagrams

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

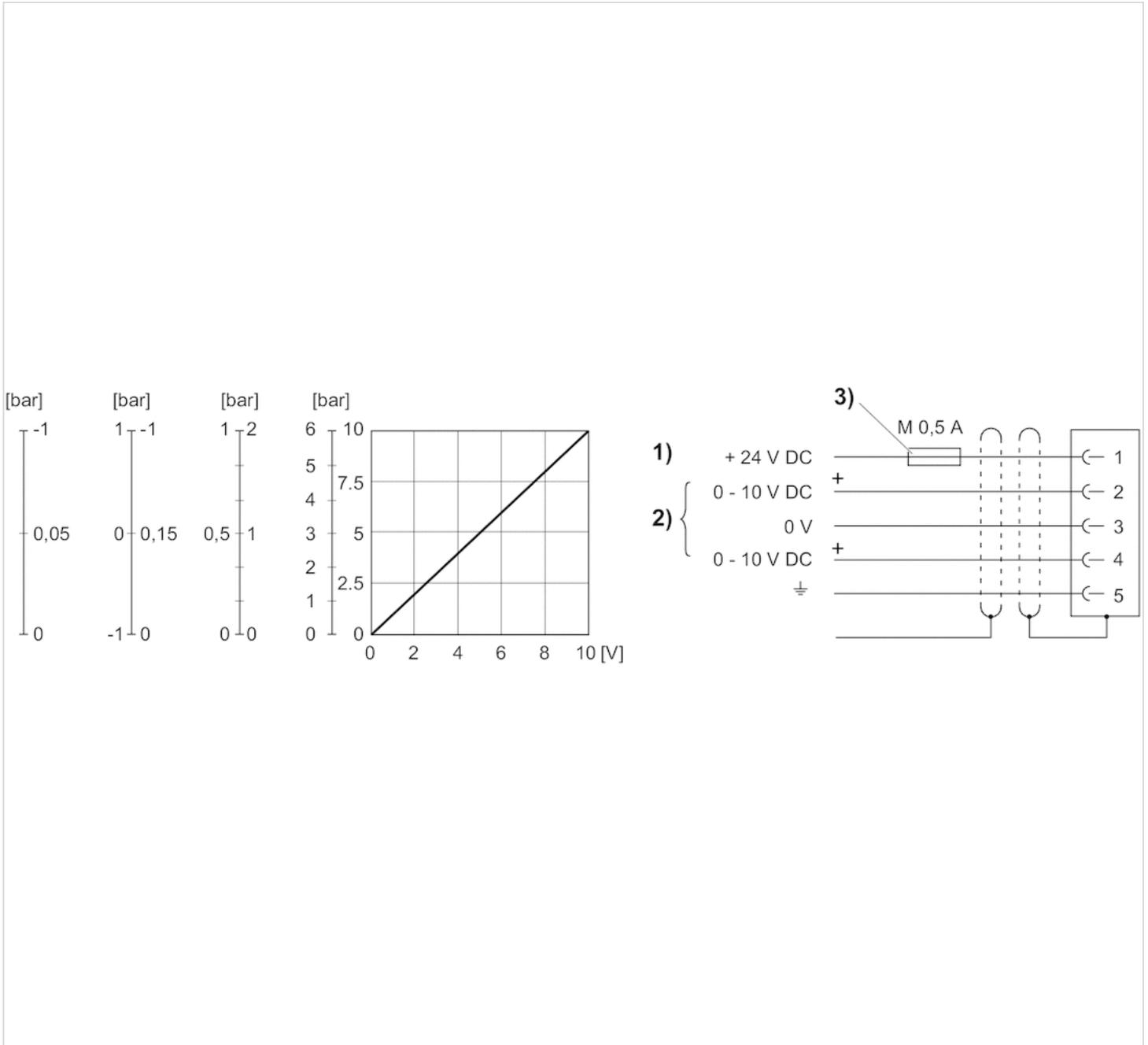
Flow characteristic curve, Single pressure control



- 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

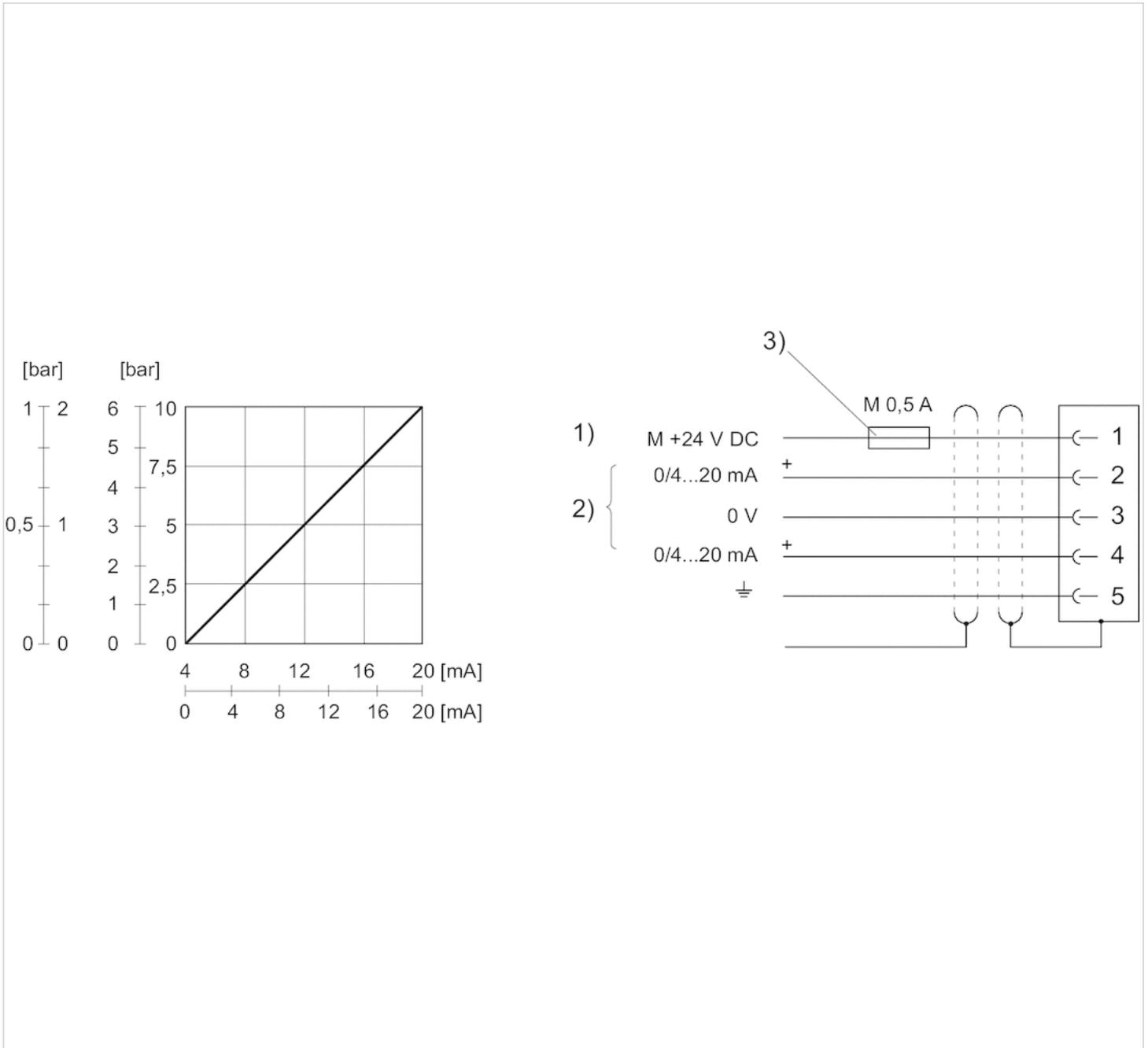
Circuit diagram

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 kΩ.
- 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 AV05-EP

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



Type	Piloted pressure regulator
Mounting orientation	Any
Working pressure max	159 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
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	0.551 lbs

Technical data

Part No.		Pressure setting range min./max.	Max. power consumption	Repetitive precision
			mA	
R414007920		8 ... 145 psi	220 mA	0.58 psi
R414007886		8 ... 145 psi	160 mA	0.58 psi
R414007398		8 ... 145 psi	160 mA	2.61 psi

Part No.	Hysteresis	
R414007920	0.725 psi	1)
R414007886	0.725 psi	2)
R414007398	2.9 psi	2)

See diagrams for flow characteristic curve

- 1) Power outage: operating line exhaust
- 2) Power outage: maintain pressure

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

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

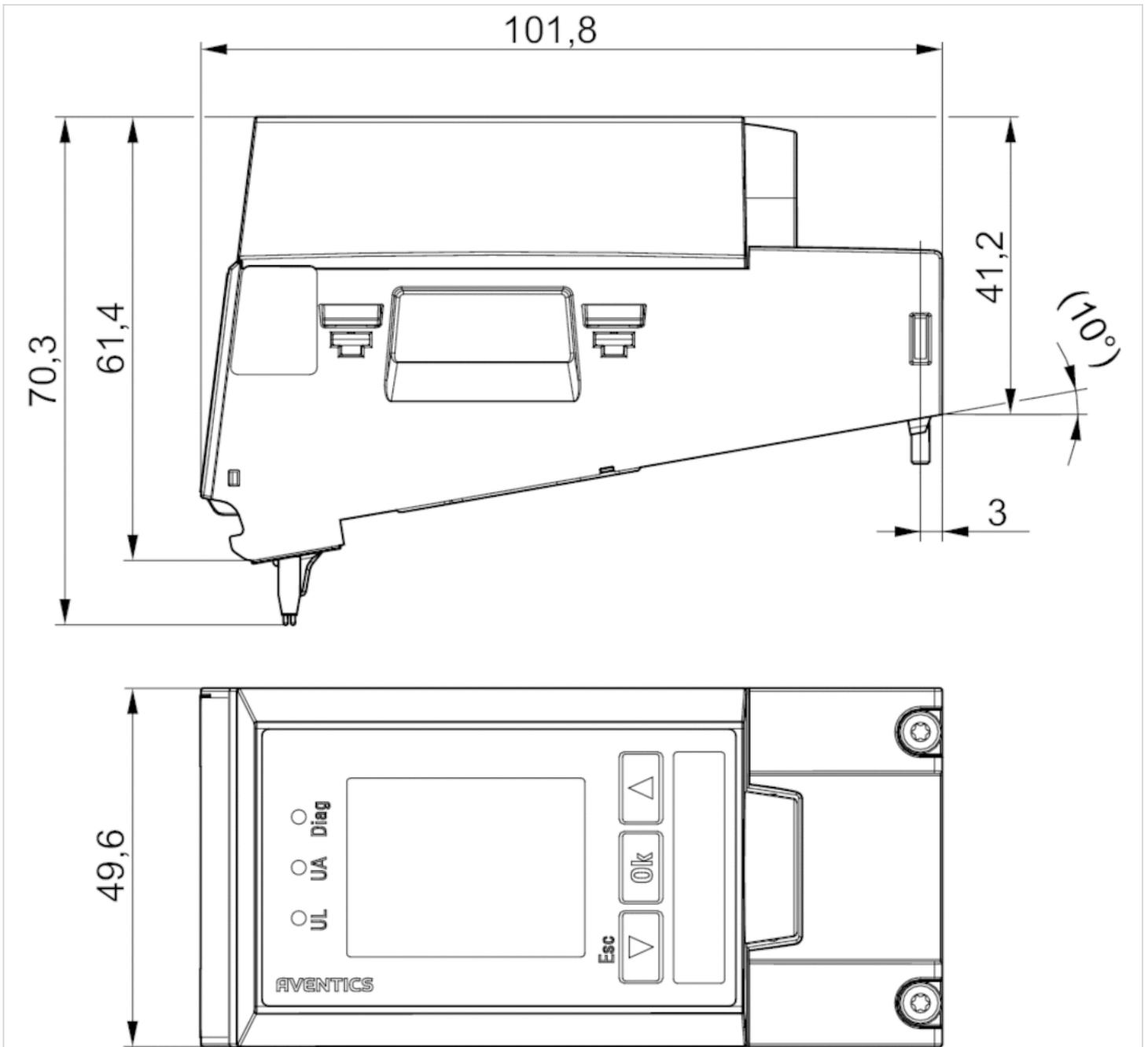
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Polyarylamide
Seals	Nitrile butadiene rubber

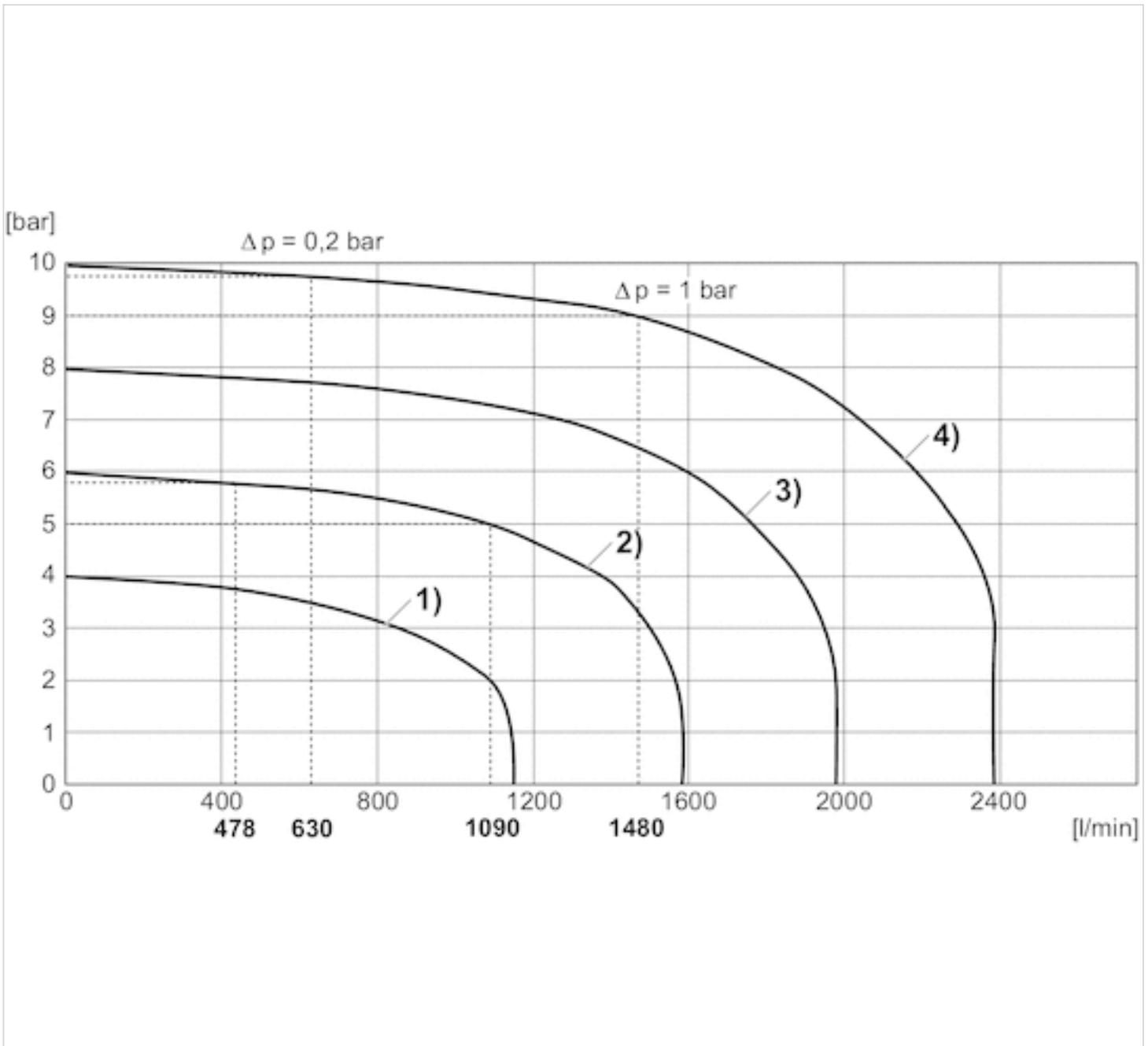
Dimensions

Dimensions



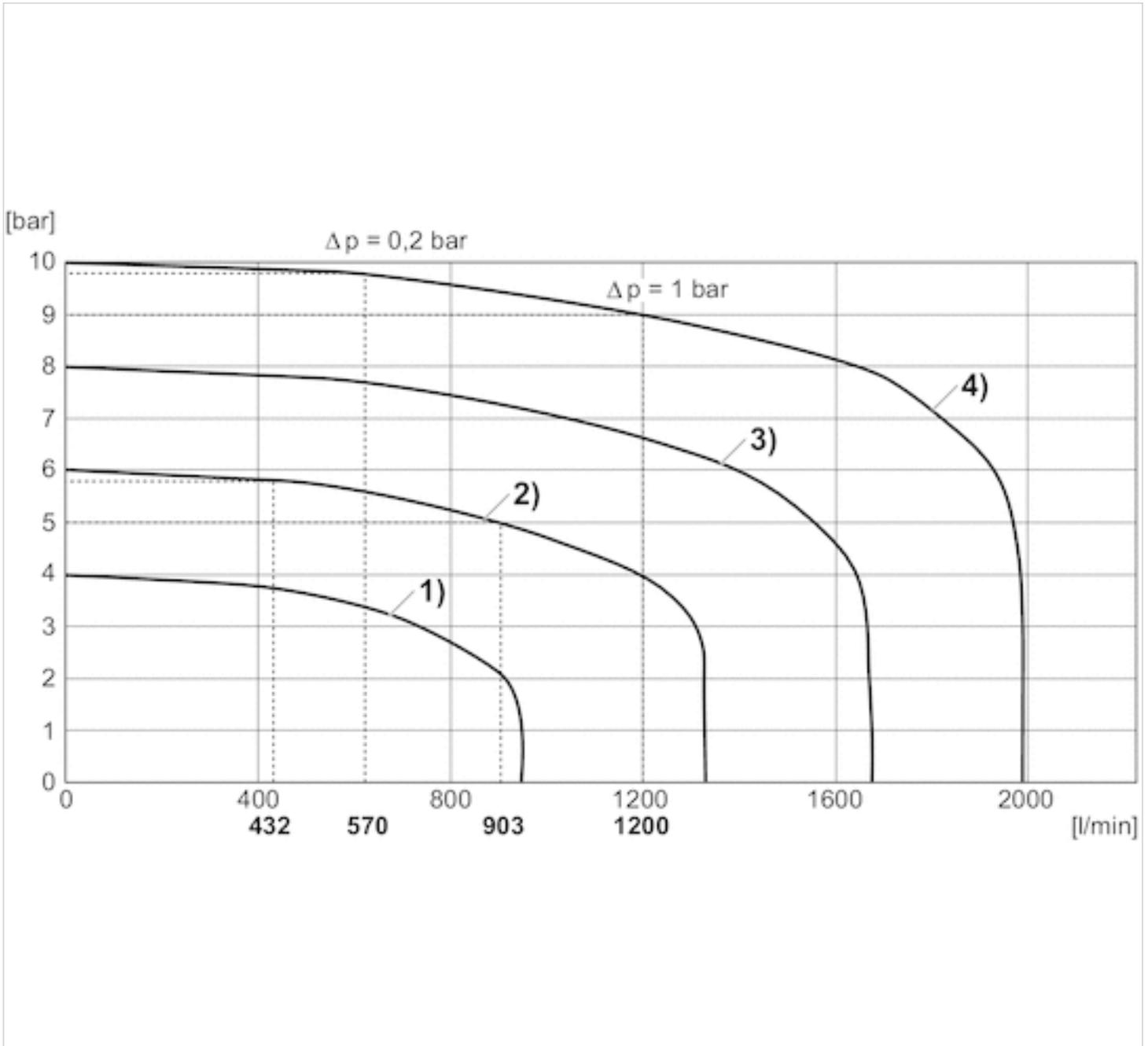
Diagrams

Flow characteristic curve, Pressure zone control



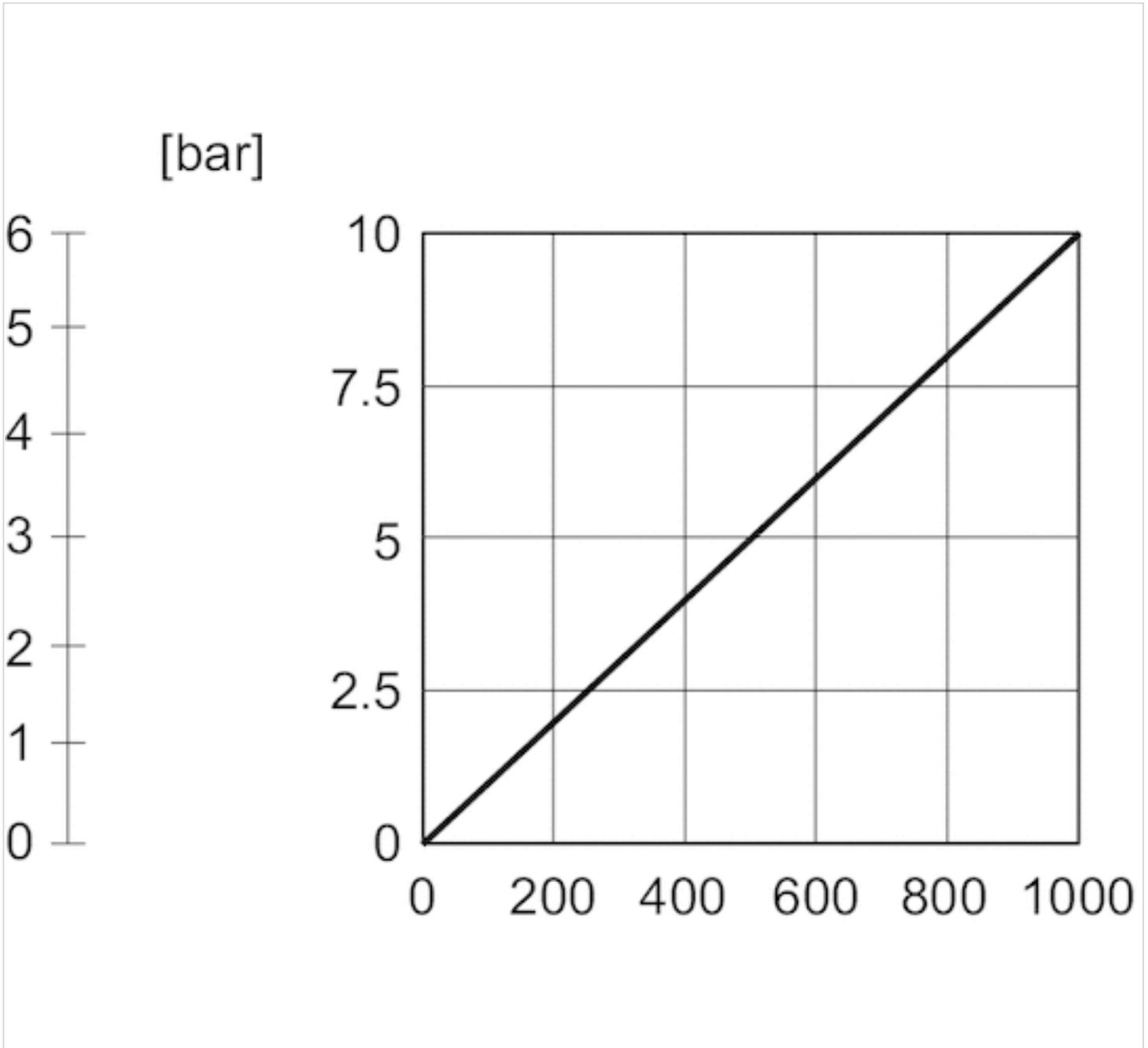
- 1) Pv = 5 bar , controlled: 4 bar
- 2) Pv = 7 bar , controlled: 6 bar
- 3) Pv = 9 bar , controlled: 8 bar
- 4) Pv = 11 bar , controlled: 10 bar

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 AV05-EP

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



Type	Piloted pressure regulator
Mounting orientation	Any
Working pressure max	159 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
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	0.419 lbs

Technical data

Part No.		Pressure setting range min./max.	Max. power consumption	Repetitive precision
			mA	
R414007919		8 ... 145 psi	180 mA	0.58 psi
R414007421		8 ... 145 psi	120 mA	0.58 psi
R414007397		8 ... 145 psi	120 mA	2.61 psi

Part No.	Hysteresis	
R414007919	0.725 psi	1)
R414007421	0.725 psi	2)
R414007397	2.9 psi	2)

See diagrams for flow characteristic curve

- 1) Power outage: operating line exhaust
- 2) Power outage: maintain pressure

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

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

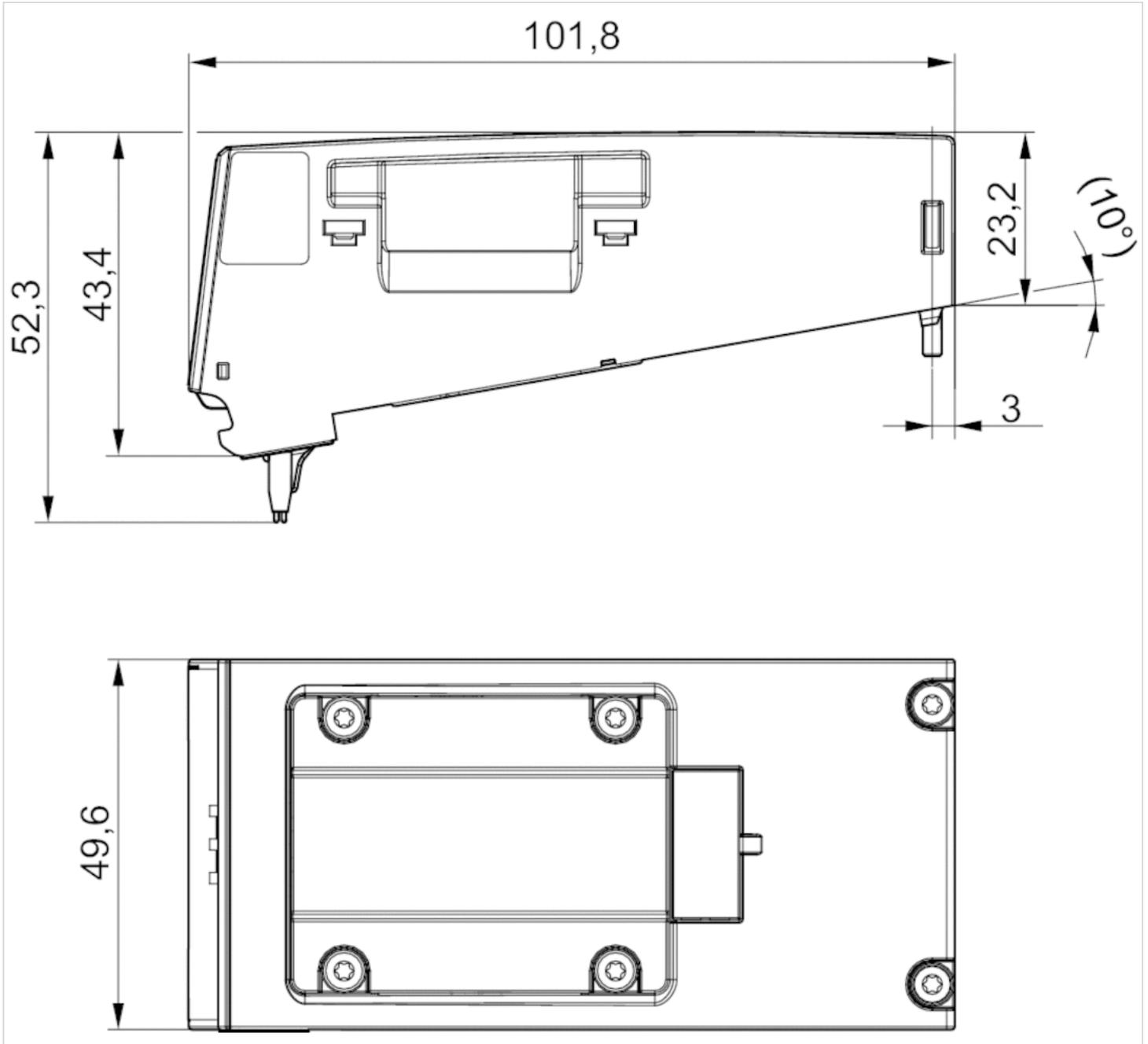
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Polyarylamide
Seals	Nitrile butadiene rubber

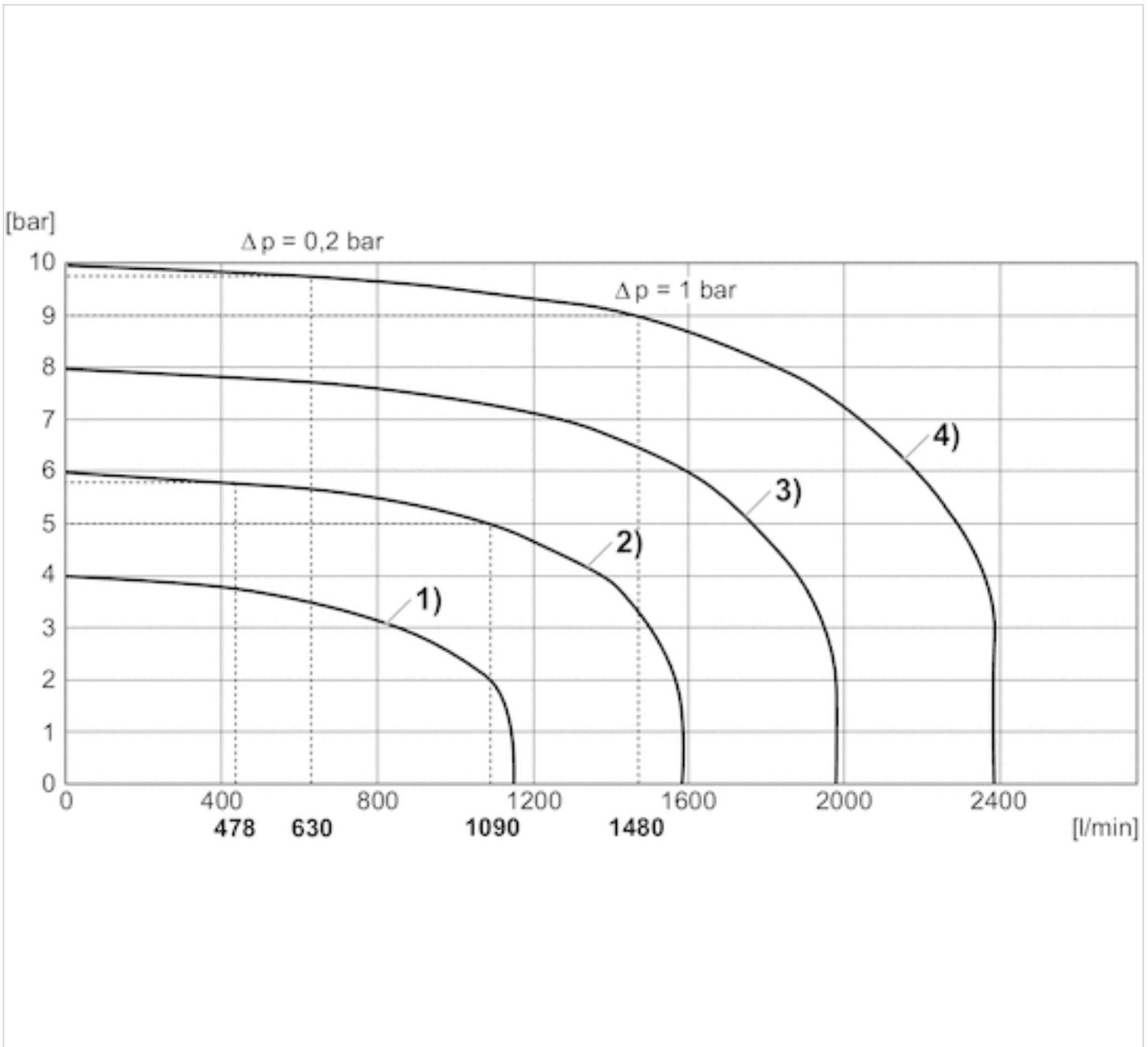
Dimensions

Dimensions



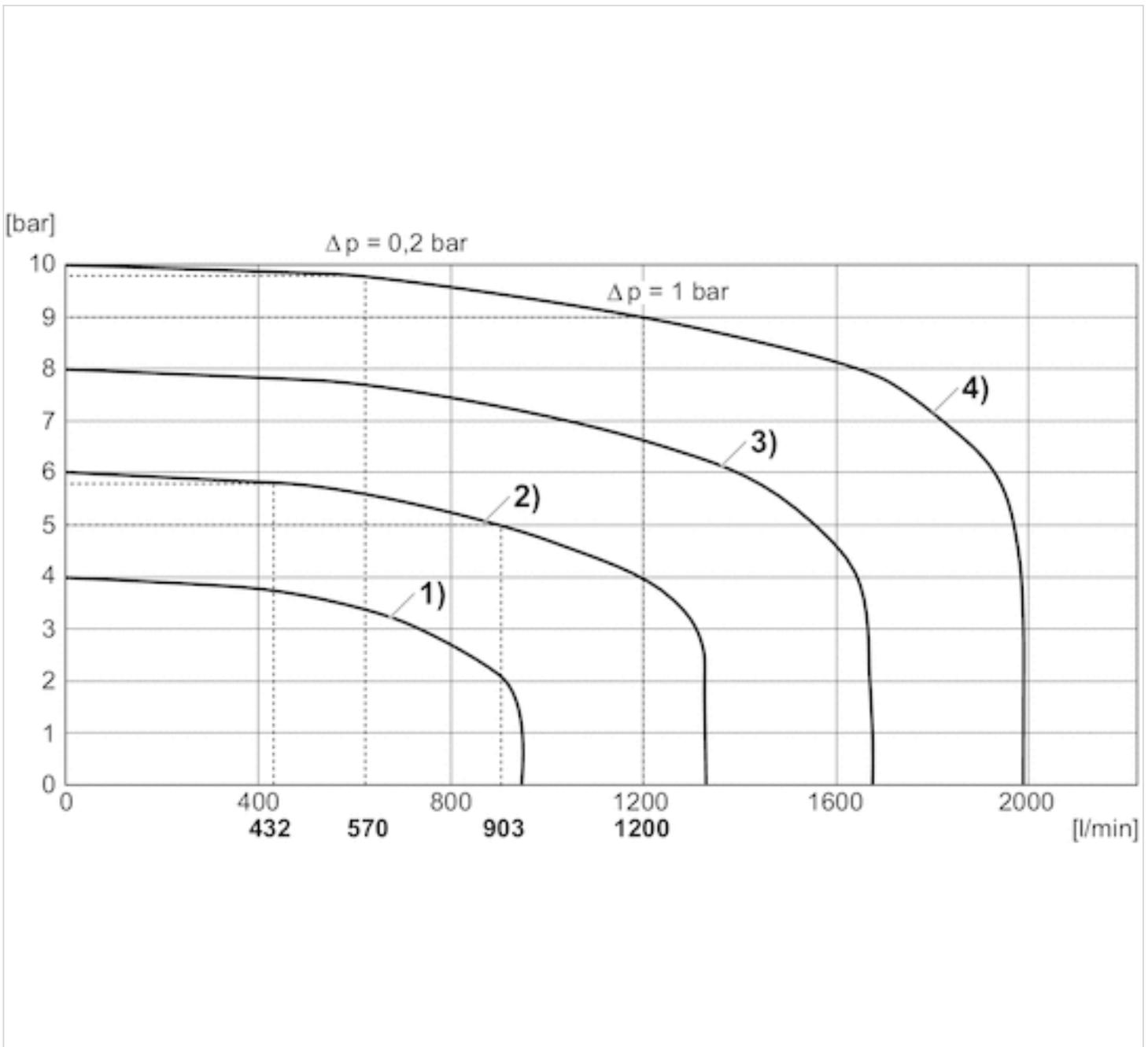
Diagrams

Flow characteristic curve, Pressure zone control



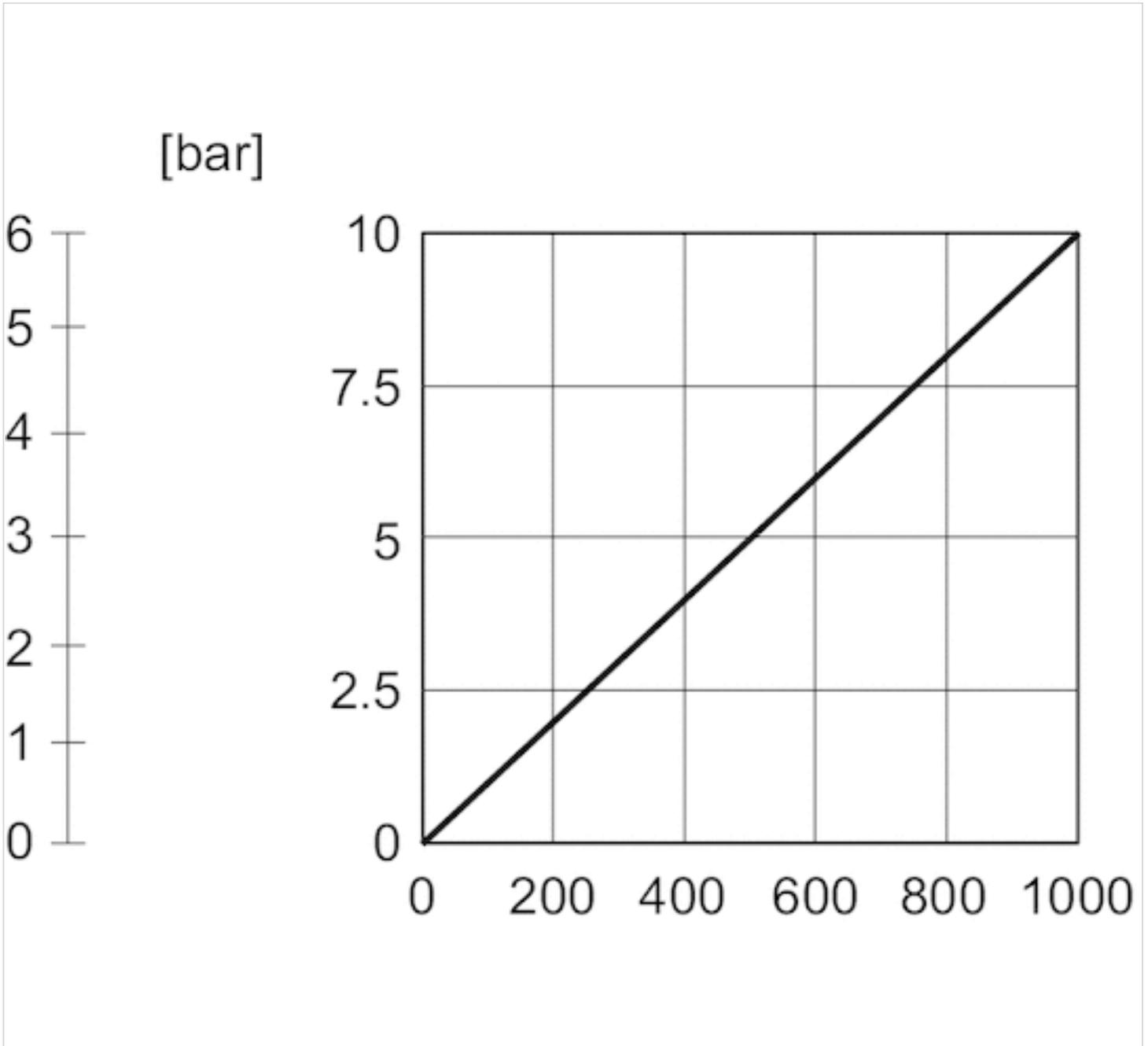
- 1) Pv = 5 bar , controlled: 4 bar
- 2) Pv = 7 bar , controlled: 6 bar
- 3) Pv = 9 bar , controlled: 8 bar
- 4) Pv = 11 bar , controlled: 10 bar

Flow characteristic curve, Single pressure control



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

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



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

Series AES

- Fieldbus connection with I/O functionality
- D-design
- Bus coupler
- Fieldbus protocol PROFIBUS DP CANopen DeviceNet EtherNET/IP PROFINET IO EtherCAT POWERLINK



Version	Bus coupler
Ambient temperature min./max.	14 ... 140 °F
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
Number of solenoid coils max.	128
Number of valve positions max.	64
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
Weight	See table below

Technical data

Part No.	Fieldbus protocol	Port
		1
R412018218	PROFIBUS DP	Plug (male), M12, 5-pin, B-coded
R412018220	CANopen	Plug (male), M12, 5-pin, A-coded
R412018221	DeviceNet	Plug (male), M12, 5-pin, A-coded
R412018222	EtherNET/IP	Socket (female), M12, 4-pin, D-coded
R412018223	PROFINET IO	Socket (female), M12, 4-pin, D-coded
R412088223	PROFINET IO	Socket (female), M12, 4-pin, D-coded
R412018225	EtherCAT	Socket (female), M12, 4-pin, D-coded
R412088225	EtherCAT	Socket (female), M12, 4-pin, D-coded
R412018226	POWERLINK	Socket (female), M12, 4-pin, D-coded

Part No.	Port	power supply
	2	
R412018218	Socket (female), M12, 5-pin, B-coded	Plug (male), M12, 4-pin, A-coded
R412018220	Socket (female), M12, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded
R412018221	Socket (female), M12, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded
R412018222	Socket (female), M12, 4-pin, D-coded	Plug (male), M12, 4-pin, A-coded
R412018223	Socket (female), M12, 4-pin, D-coded	Plug (male), M12, 4-pin, A-coded
R412088223	Socket (female), M12, 4-pin, D-coded	Plug (male), M12, 4-pin, A-coded
R412018225	Socket (female), M12, 4-pin, D-coded	Plug (male), M12, 4-pin, A-coded

Part No.	Port	power supply
	2	
R412088225	Socket (female), M12, 4-pin, D-coded	Plug (male), M12, 4-pin, A-coded
R412018226	Socket (female), M12, 4-pin, D-coded	Plug (male), M12, 4-pin, A-coded

Part No.	Weight	
R412018218	0.353 lbs	-
R412018220	0.353 lbs	-
R412018221	0.353 lbs	-
R412018222	0.386 lbs	-
R412018223	0.386 lbs	1)
R412088223	0.386 lbs	-
R412018225	0.386 lbs	1)
R412088225	0.386 lbs	-
R412018226	0.386 lbs	-

Scope of delivery: Incl. mounting screws 3x

1) Do not use in new constructions!

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.

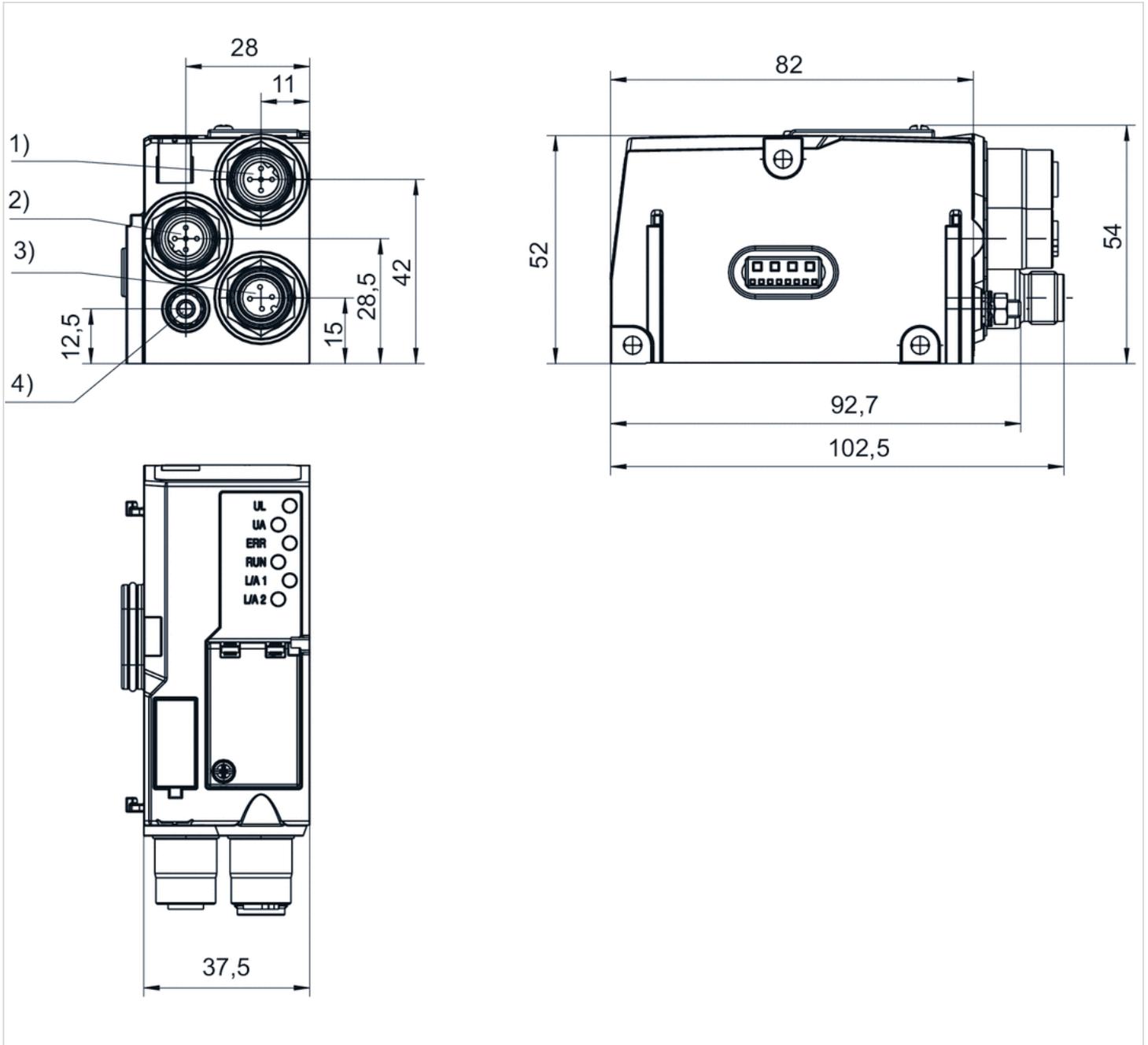
Technical information

Material

Housing	Polyamide fiber-glass reinforced
---------	----------------------------------

Dimensions

Dimensions



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

Series AES

- digital inputs/outputs, Socket (female), M8x1



Ambient temperature min./max.	14 ... 140 °F
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
Filter time	3 ms
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	0.242 lbs

Technical data

Part No.	Type	Port	power supply	Number of inputs	Number of outputs
		1			
R412018269	8DIDO8M8	Socket (female), 3-pin	Internal	8	8
R412018233	8DI8M8	Socket (female), 3-pin	Internal	8	-
R412018248	8DO8M8	Socket (female), 3-pin	Internal	-	8
R412018234	16DI8M8	Socket (female), 4-pin	Internal	16	-

Part No.	I/O module version	Fig.	
R412018269	Digital inputs Digital outputs Combination module	Fig. 1	1)
R412018233	Digital inputs	Fig. 1	-
R412018248	Digital outputs	Fig. 1	-
R412018234	Digital inputs	Fig. 2	-

Delivery contents: incl. 2 spring clamp elements and seal

1) Function specification for fieldbus configuration.

Technical information

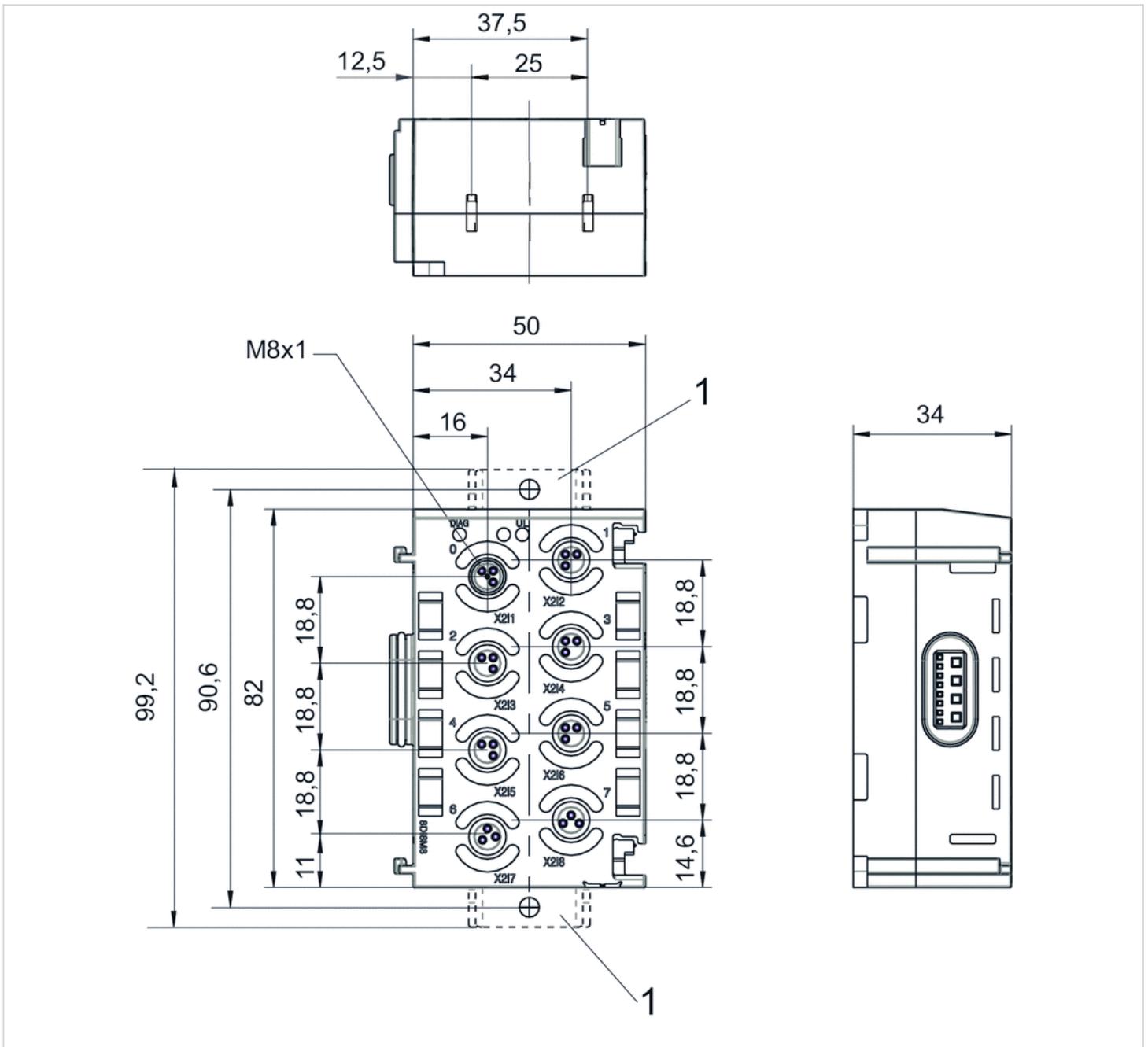
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office. The total current of all outputs (including valves) must not exceed 4 A in the overall system. Voltage and short-circuit monitoring per LED.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

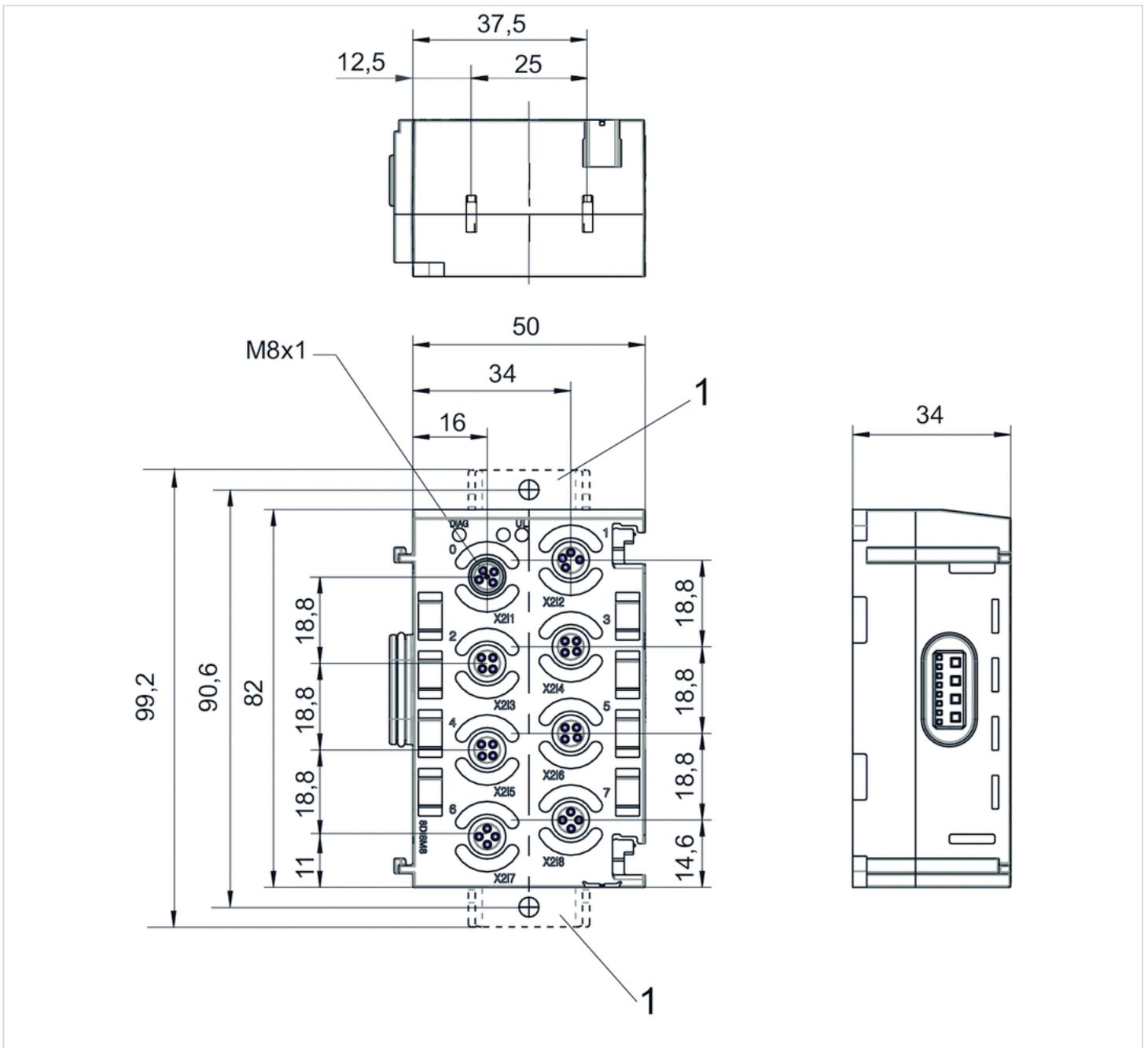
Dimensions

Dimensions, Fig. 1



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

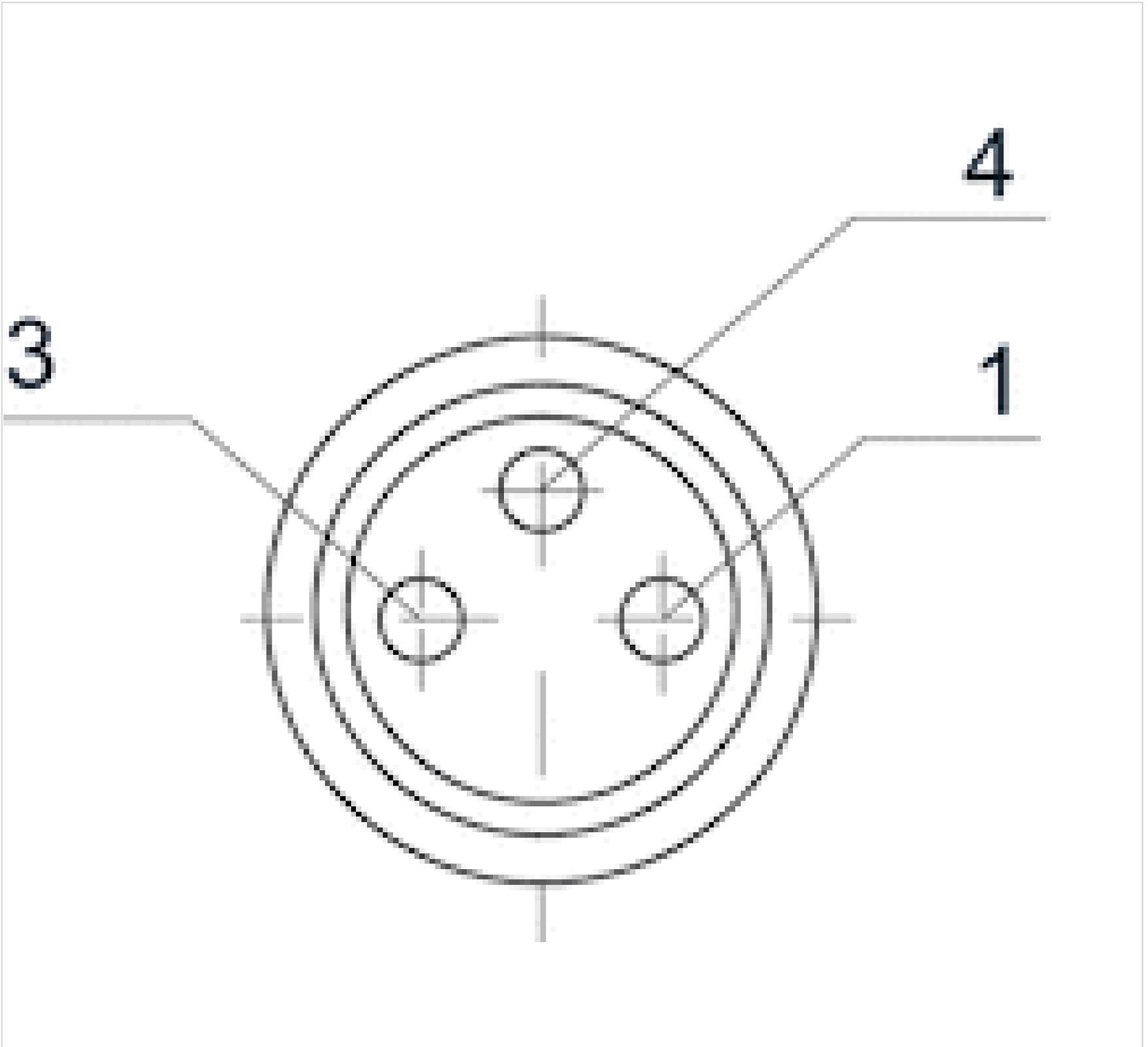
Dimensions, Fig. 2



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

Pin assignments

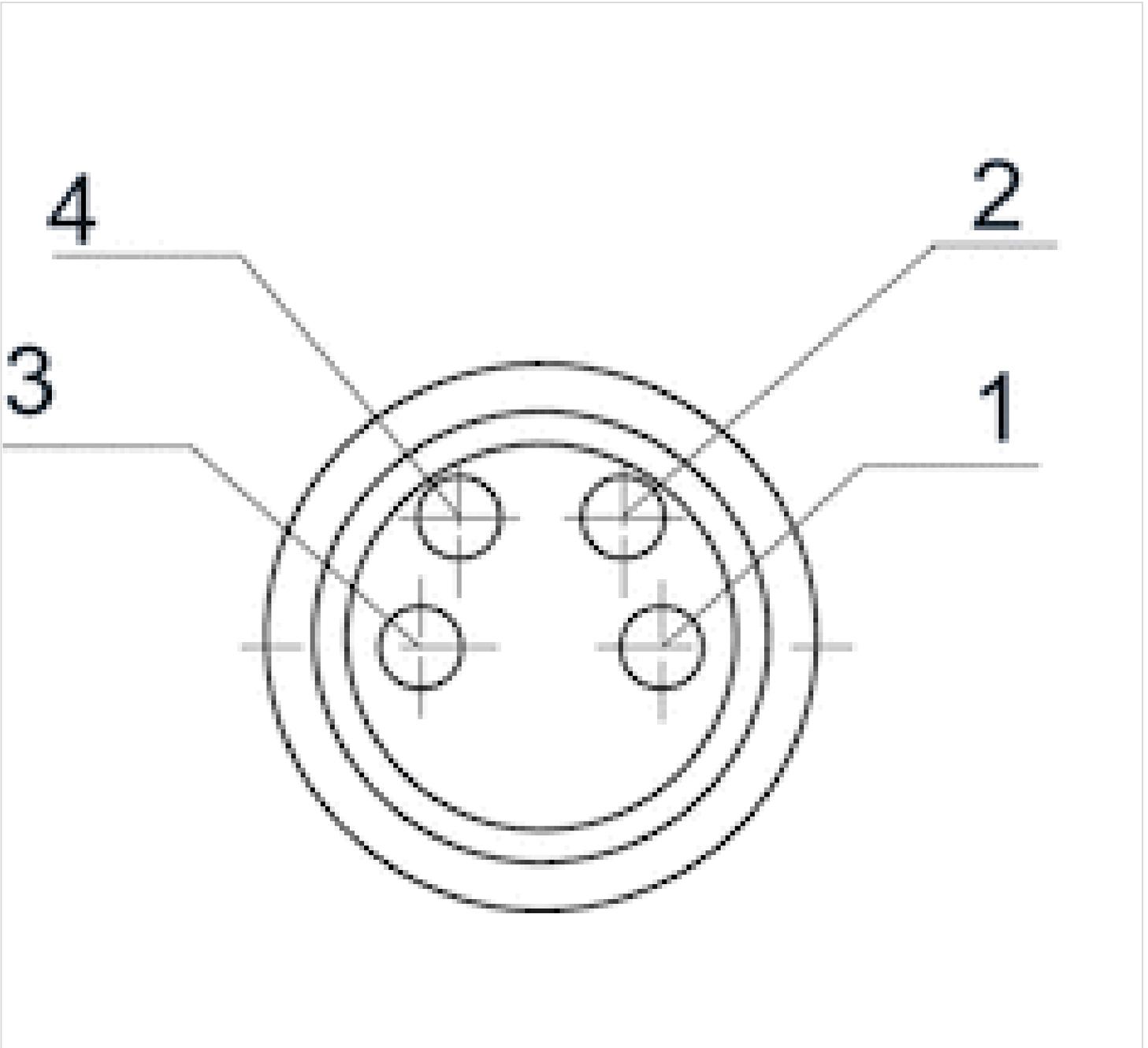
Pin assignments, PNP, 3-pin



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

Pin assignments

Pin assignments, PNP, 4-pin



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

Series AES

- digital inputs/outputs
- Socket (female), M12x1, 5-pin



Ambient temperature min./max.	14 ... 140 °F
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	0.242 lbs

Technical data

Part No.	Type	Port	power supply	Number of inputs	Number of outputs
		1			
R412018235	8DI4M12	Socket (female), M12x1, 5-pin	Internal	8	-
R412018250	8DO4M12	Socket (female), M12x1, 5-pin	Internal	-	8
R412018270	8DIDO4M12	Socket (female), M12x1, 5-pin	Internal	8	8

Part No.	I/O module version	
R412018235	Digital inputs	-
R412018250	Digital outputs	-
R412018270	Digital inputs Digital outputs Combination module	1)

Delivery contents: incl. 2 spring clamp elements and seal

1) Function specification for fieldbus configuration.

Technical information

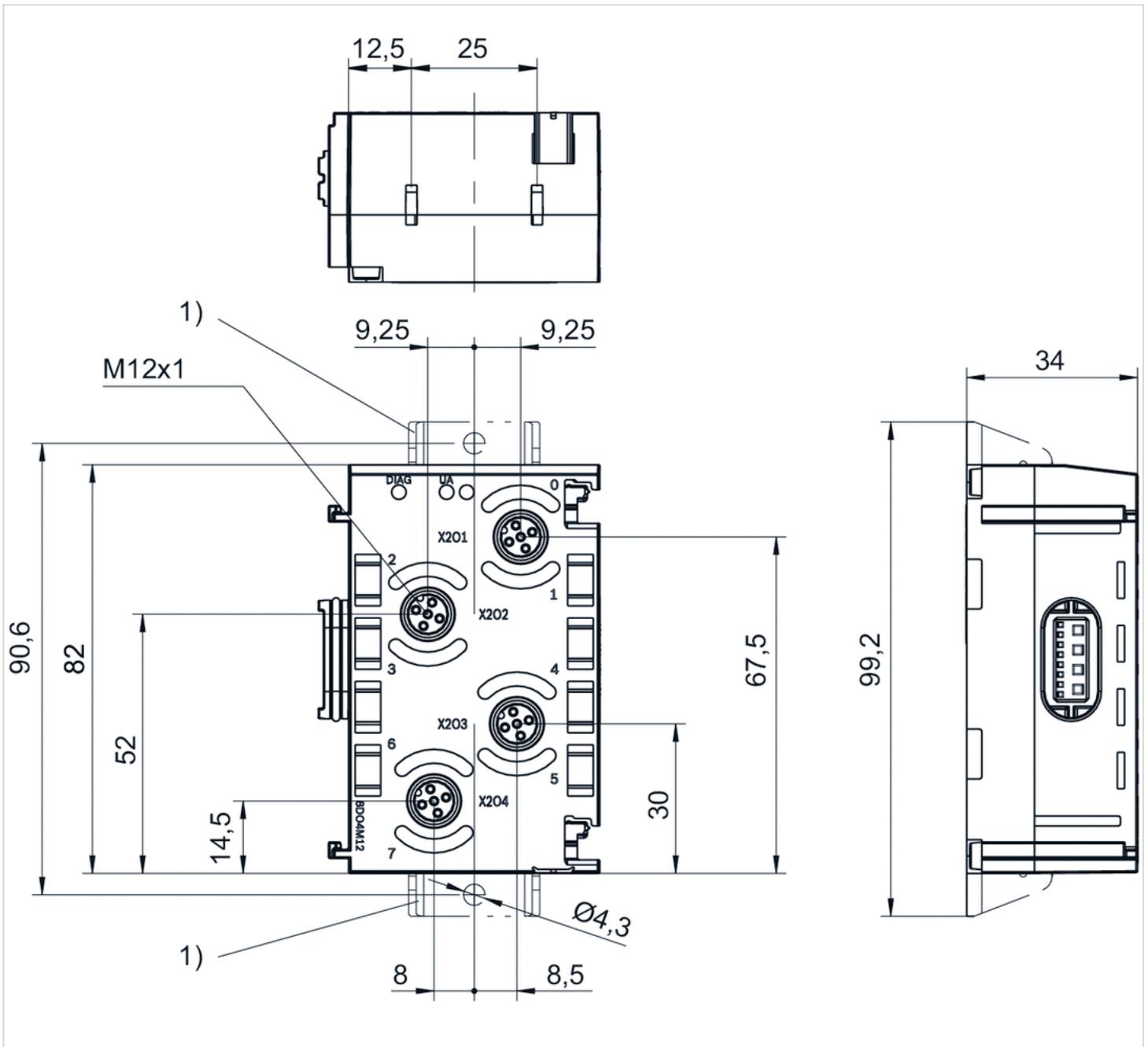
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office. The total current of all outputs (including valves) must not exceed 4 A in the overall system. Voltage and short-circuit monitoring per LED.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

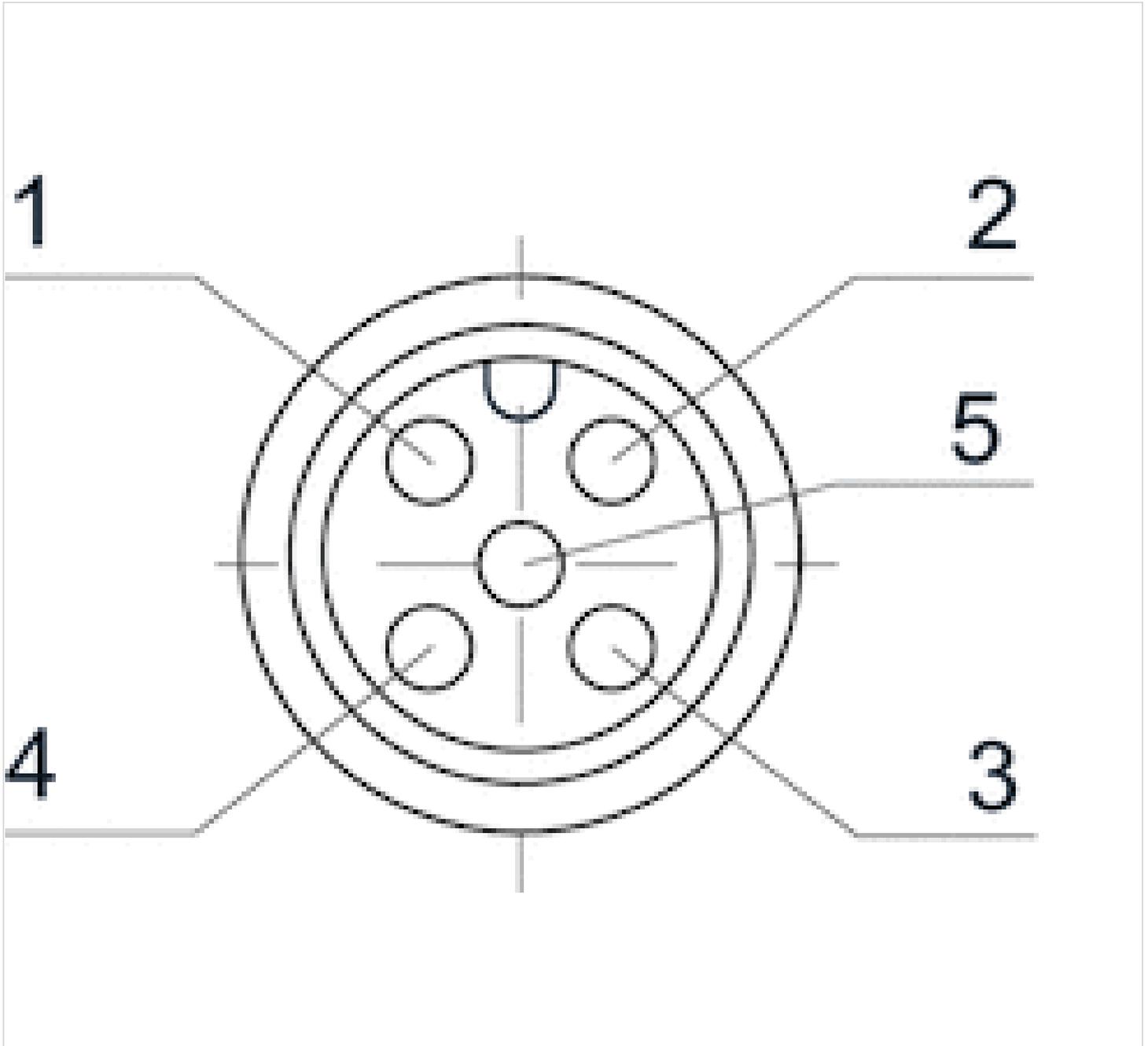
Dimensions



1) Retaining bracket (optional)

Pin assignments

Pin assignments, PNP



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

X = bit value

Series AES

- digital inputs/outputs
- Socket (female), M12, 8-pin



Ambient temperature min./max.	14 ... 140 °F
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
Filter time	3 ms
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	0.242 lbs

Technical data

Part No.	Type	Port	power supply	Number of inputs	Number of outputs
		1			
R412018243	16DI4M12	Socket (female), M12, 8-pin	Internal	16	-
R412018263	16DO4M12	Socket (female), M12, 8-pin	Internal	-	16

Part No.	I/O module version
R412018243	Digital inputs
R412018263	Digital outputs

Delivery contents: incl. 2 spring clamp elements and seal

Technical information

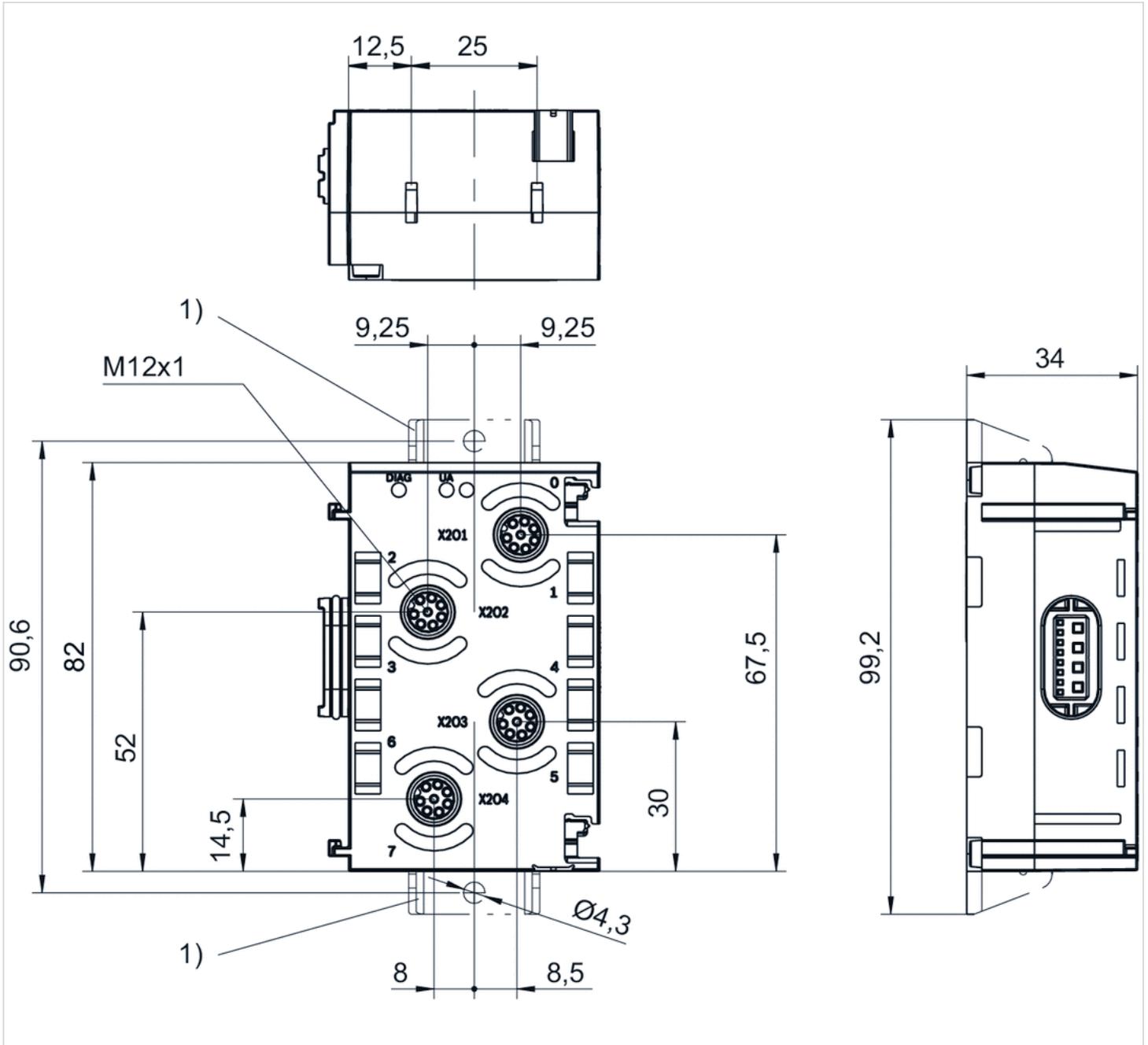
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office. The total current of all outputs (including valves) must not exceed 4 A in the overall system. Voltage and short-circuit monitoring per LED.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

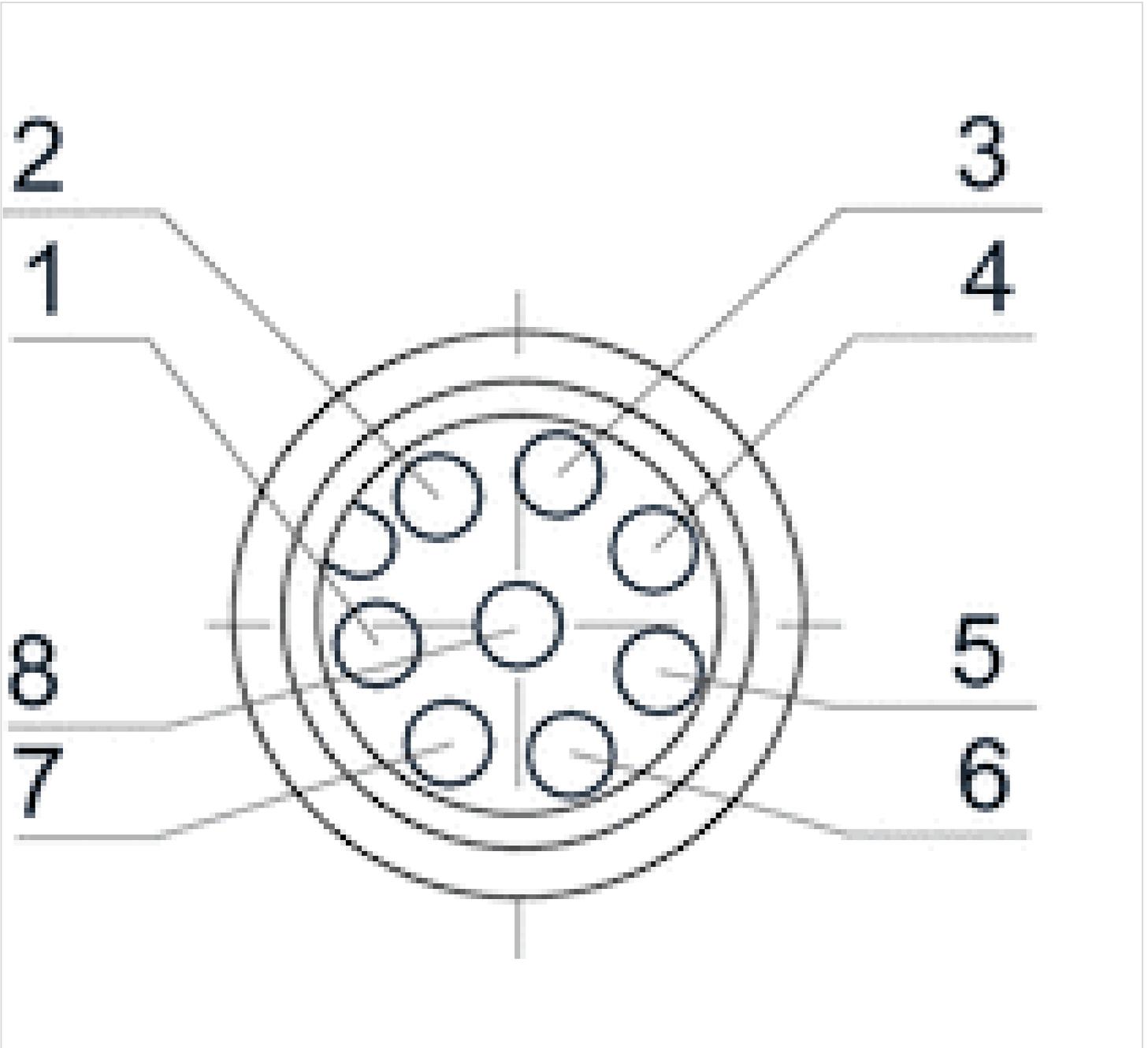
Dimensions



1) Retaining bracket (optional)

Pin assignments

Pin assignments, PNP



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

X = bit value

Series AES

- digital outputs
- Socket, D-Sub, 25-pin



Ambient temperature min./max.	14 ... 140 °F
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	0.254 lbs

Technical data

Part No.	Type	Port	power supply	Number of inputs	Number of outputs
		1			
R412018254	24DO1DSUB25	Socket, D-Sub, 25-pin	Internal	24	24

Delivery contents: incl. 2 spring clamp elements and seal

Technical information

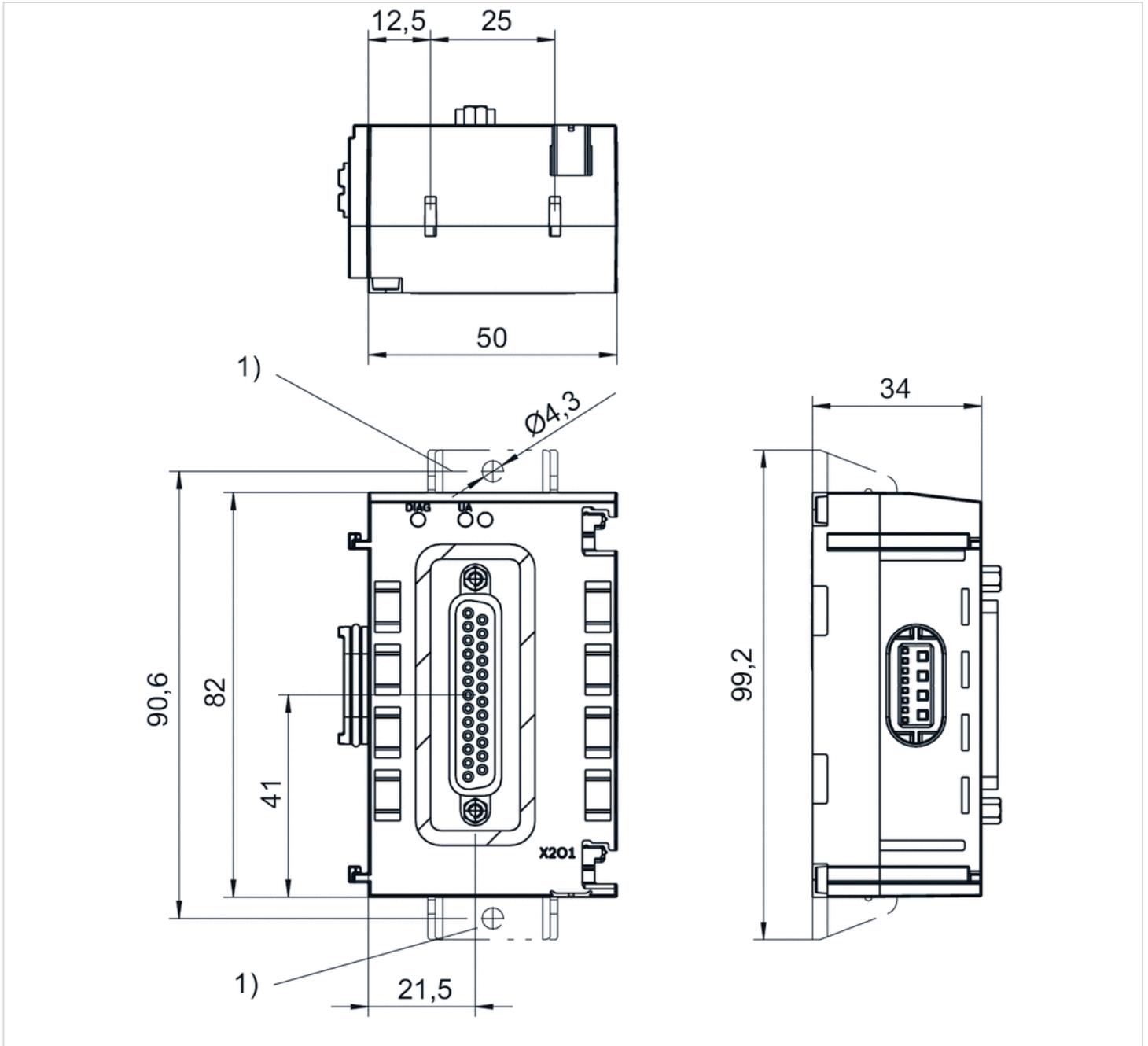
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office. Voltage and short-circuit monitoring per LED.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

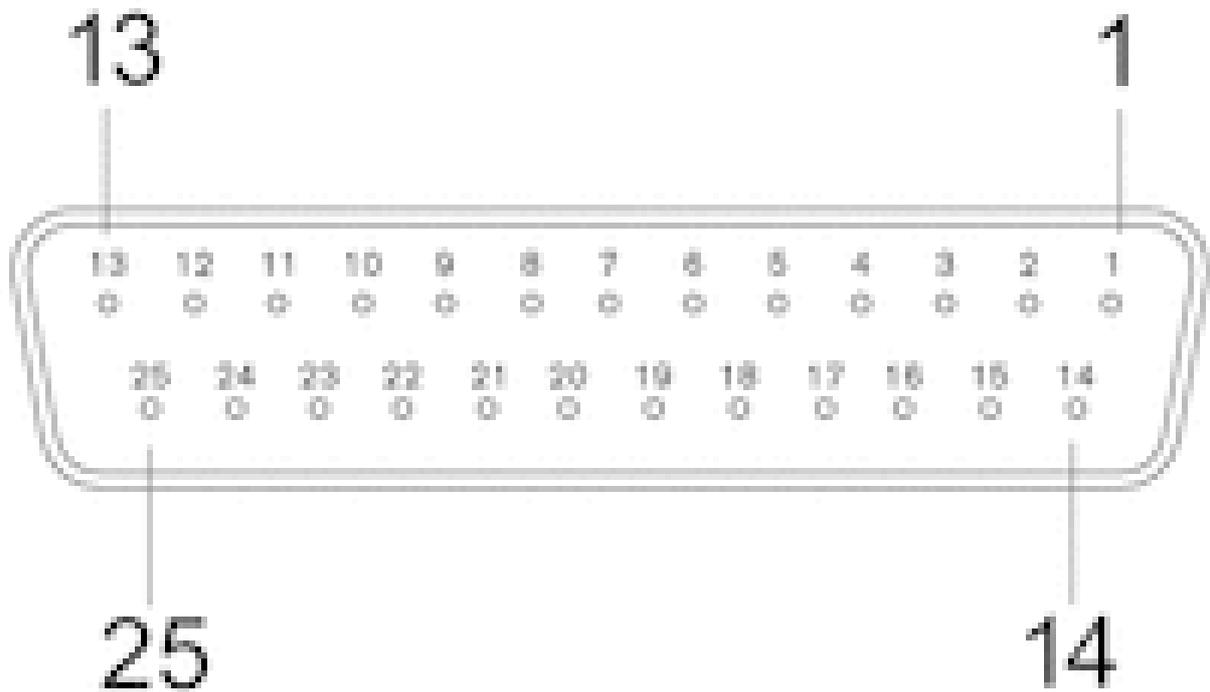
Dimensions



1) Retaining bracket (optional)

Pin assignments

PIN assignment and cable colors, cable identification as per DIN 47100



Socket

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

X = bit value

Series AES

- digital inputs
- Spring clamp connections



Ambient temperature min./max.	14 ... 140 °F
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.	4 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	0.254 lbs

Technical data

Part No.	Type	Port	power supply	Number of inputs
		1		
R412018242	16DI48SC	Spring clamp connections	Internal	16

Delivery contents: incl. 2 spring clamp elements and seal

Technical information

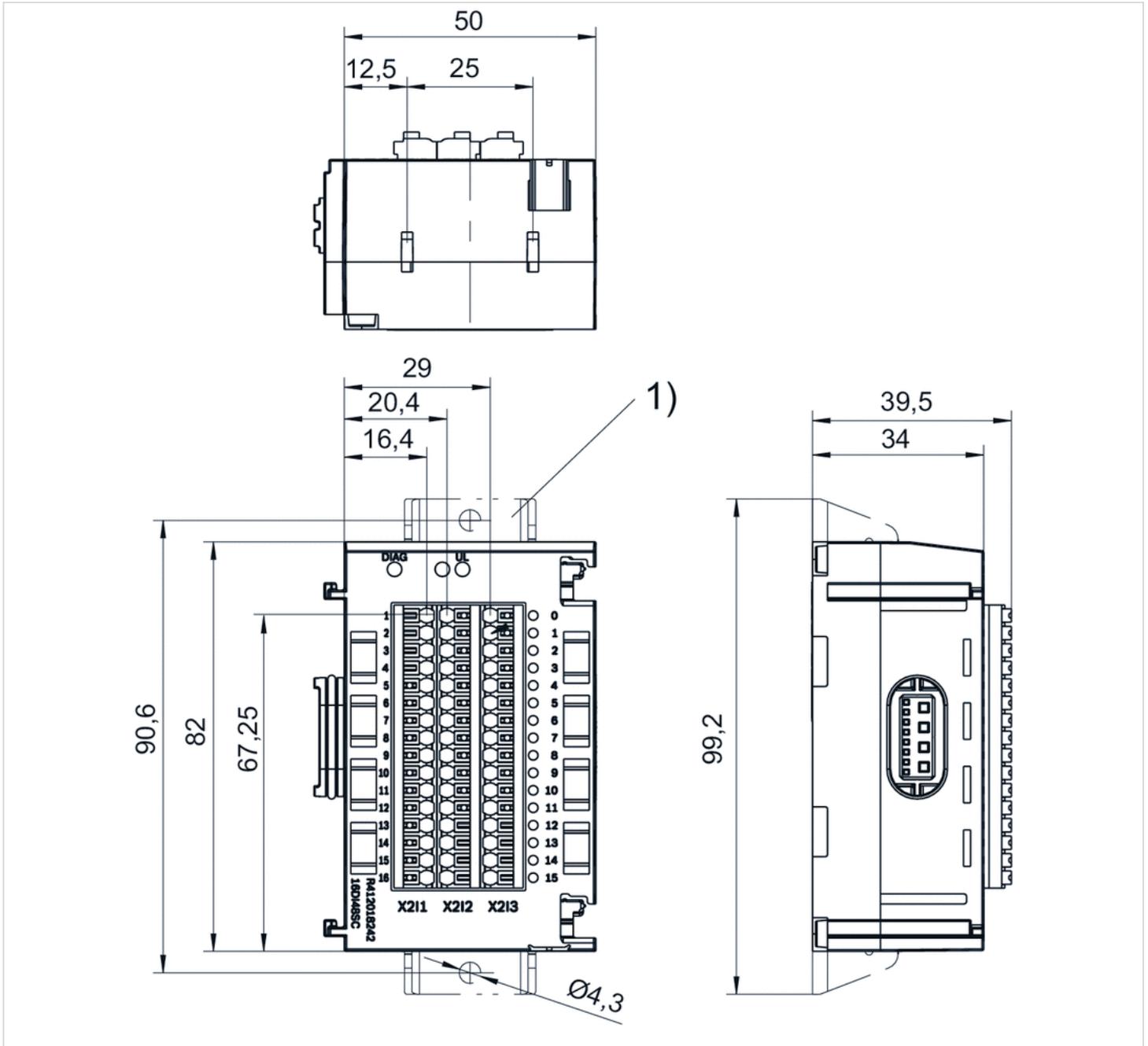
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.
 Voltage and short-circuit monitoring per LED.
 The clamp area for stranded wires is between 0.2 and 1.5 mm².

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

Dimensions



1) Retaining bracket (optional)

Series AES

- digital outputs
- Spring clamp connections



Ambient temperature min./max.	14 ... 140 °F
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	0.254 lbs

Technical data

Part No.	Type	Port	power supply	Number of outputs	I/O module version
		1			
R412018252	16DO32SC	Spring clamp connections	Internal	16	Digital outputs

Delivery contents: incl. 2 spring clamp elements and seal

Technical information

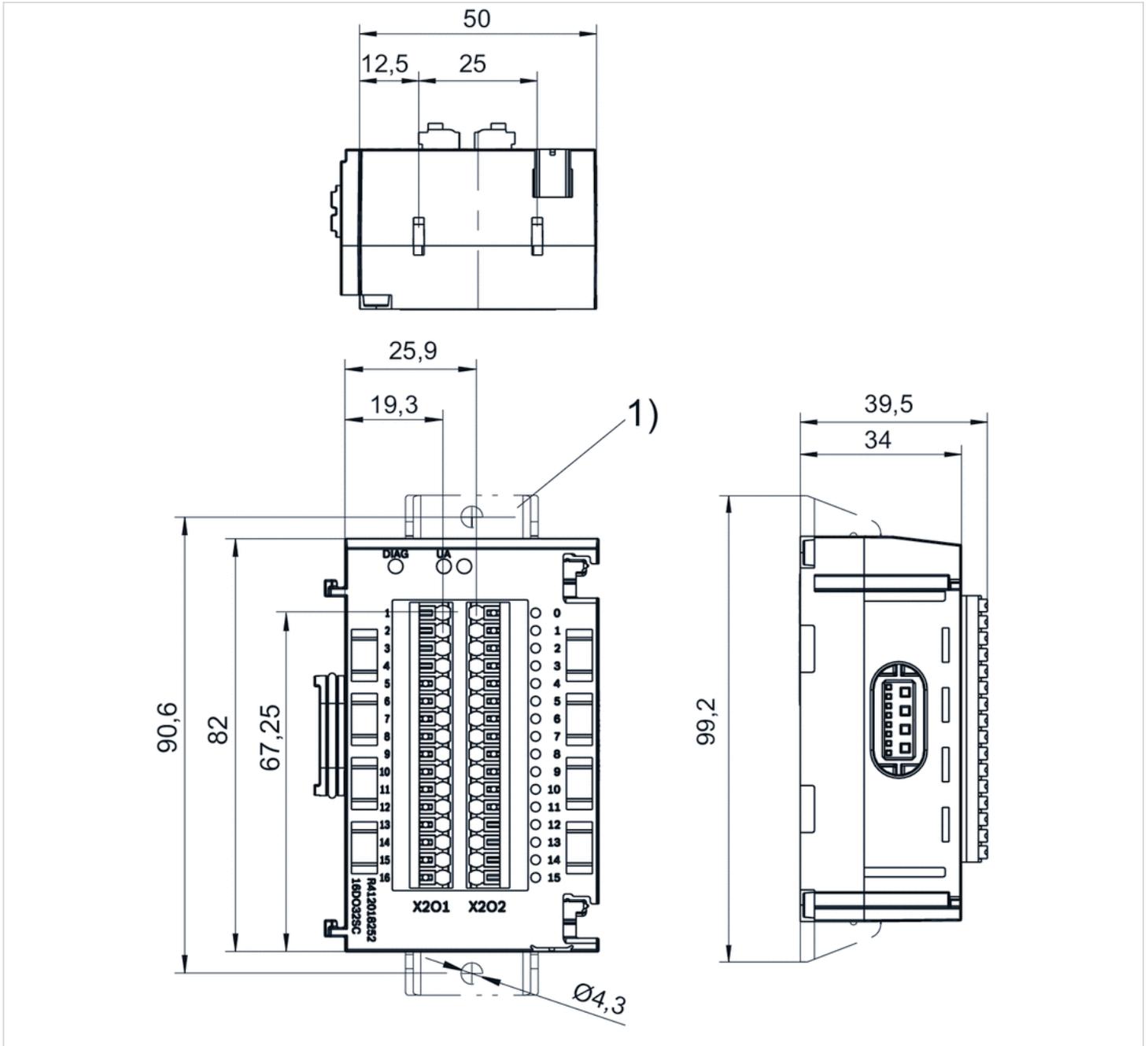
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.
 The total current of all outputs (including valves) must not exceed 4 A in the overall system.
 Voltage and short-circuit monitoring per LED.
 The clamp area for stranded wires is between 0.2 and 1.5 mm².

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

Dimensions



1) Retaining bracket (optional)

Dimensions

Port	X201	
Contact	1	2
Function	Output signal 24 V DC bit 0.0	Output signal 24 V DC bit 0.1
	3	4
	Output signal 24 V DC bit 0.2	Output signal 24 V DC bit 0.3
	5	6
	Output signal 24 V DC bit 0.4	Output signal 24 V DC bit 0.5
	7	8
	Output signal 24 V DC bit 0.6	Output signal 24 V DC bit 0.7
	9	10
	Output signal 24 V DC bit 1.0	Output signal 24 V DC bit 1.1
	11	12
	Output signal 24 V DC bit 1.2	Output signal 24 V DC bit 1.3
	13	14
	Output signal 24 V DC bit 1.4	Output signal 24 V DC bit 1.5
		X202
	15	16
	Output signal 24 V DC bit 1.6	Output signal 24 V DC bit 1.7
		1-16
		0 V DC

Series AES

- analog inputs/outputs M12x1, 5-pin ▶ with external power supply ▶ control of E/P pressure regulators
- Socket (female), M12x1, 5-pin



Ambient temperature min./max.	14 ... 140 °F
Operational voltage electronics	24 V DC
Max. current per channel	1.2 A
Protection class	IP65
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	0.242 lbs

Technical data

Part No.	Type	Port
		1
R412018287	2AI2AO2M12-AE	Socket (female), M12x1, 5-pin

Part No.	power supply	Number of inputs	Number of outputs
R412018287	Plug (male), M12, 4-pin, A-coded	2	2

Part No.	Analog inputs
R412018287	0 - 10 V / ± 10 V, 2 - 10 V / ± 10 V, 0 - 20 mA / ± 20 mA, 4 - 20 mA / ± 20 mA

Part No.	Analog outputs
R412018287	0 - 10 V / ± 10 V, 0 ... 20 mA, 4 ... 20 mA

Part No.	I/O module version
R412018287	Analog inputs Analog outputs

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

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.

Technical information

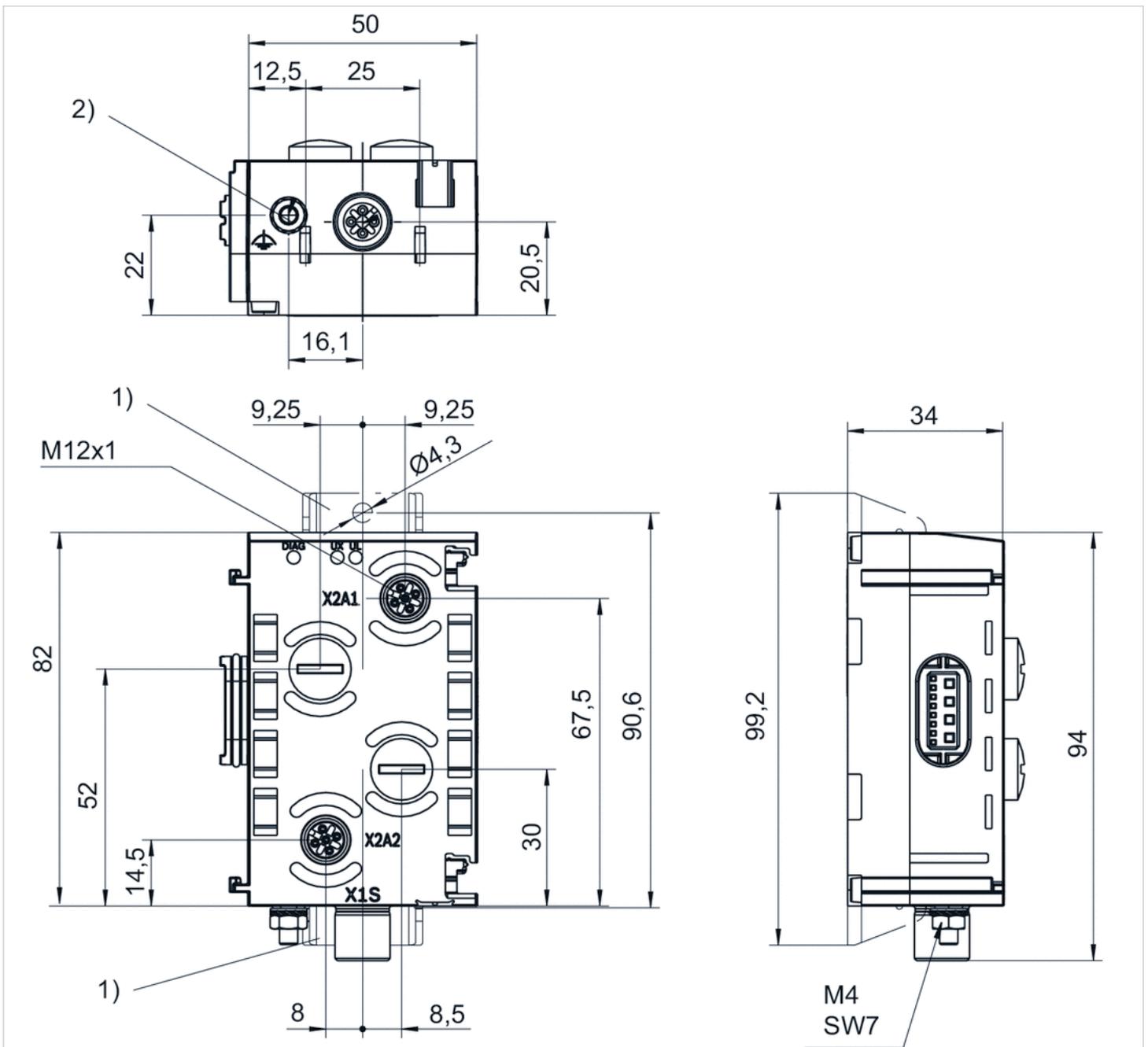
Material

Housing

Polyamide fiber-glass reinforced

Dimensions

Dimensions

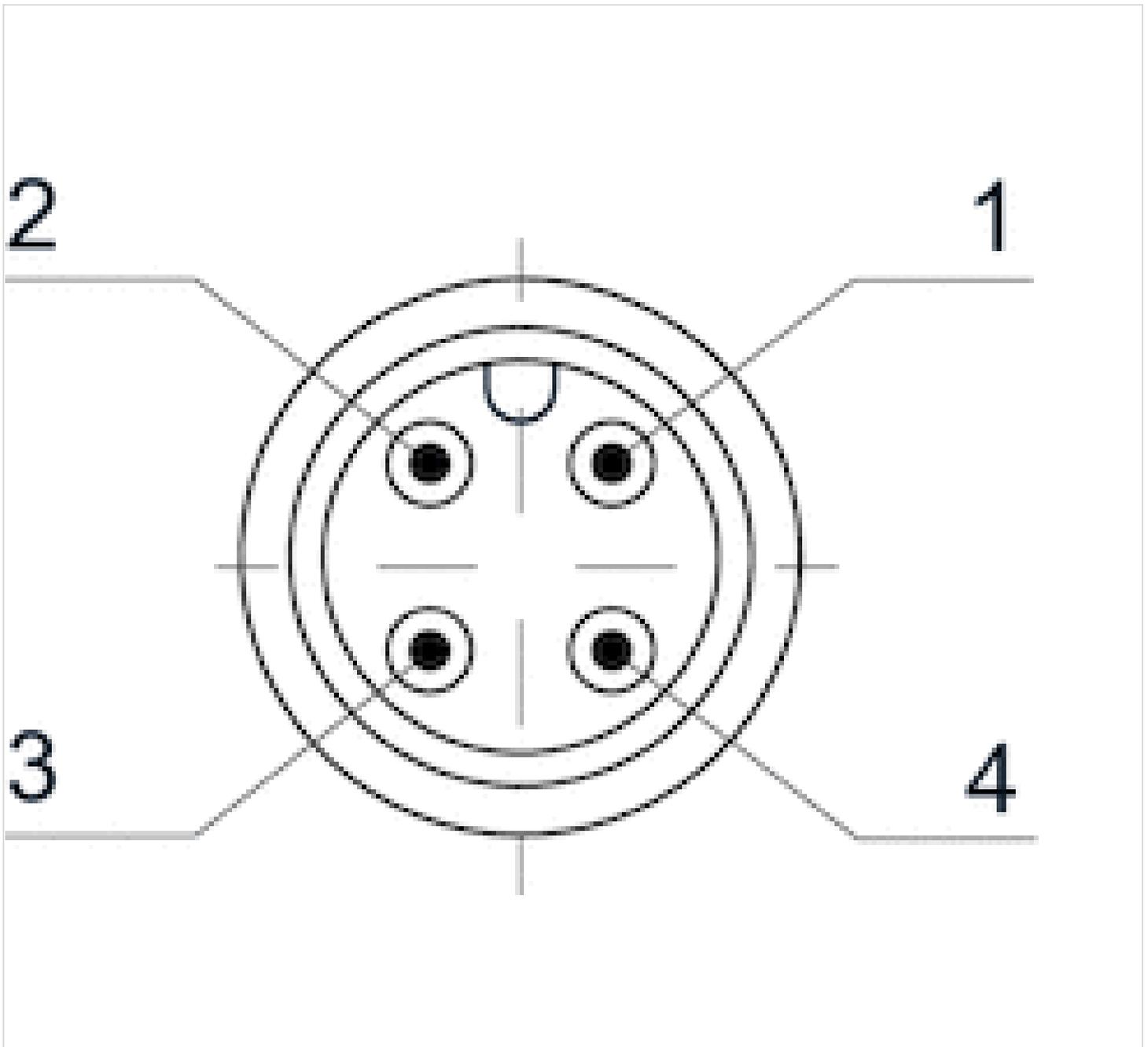


1) Retaining bracket (optional)

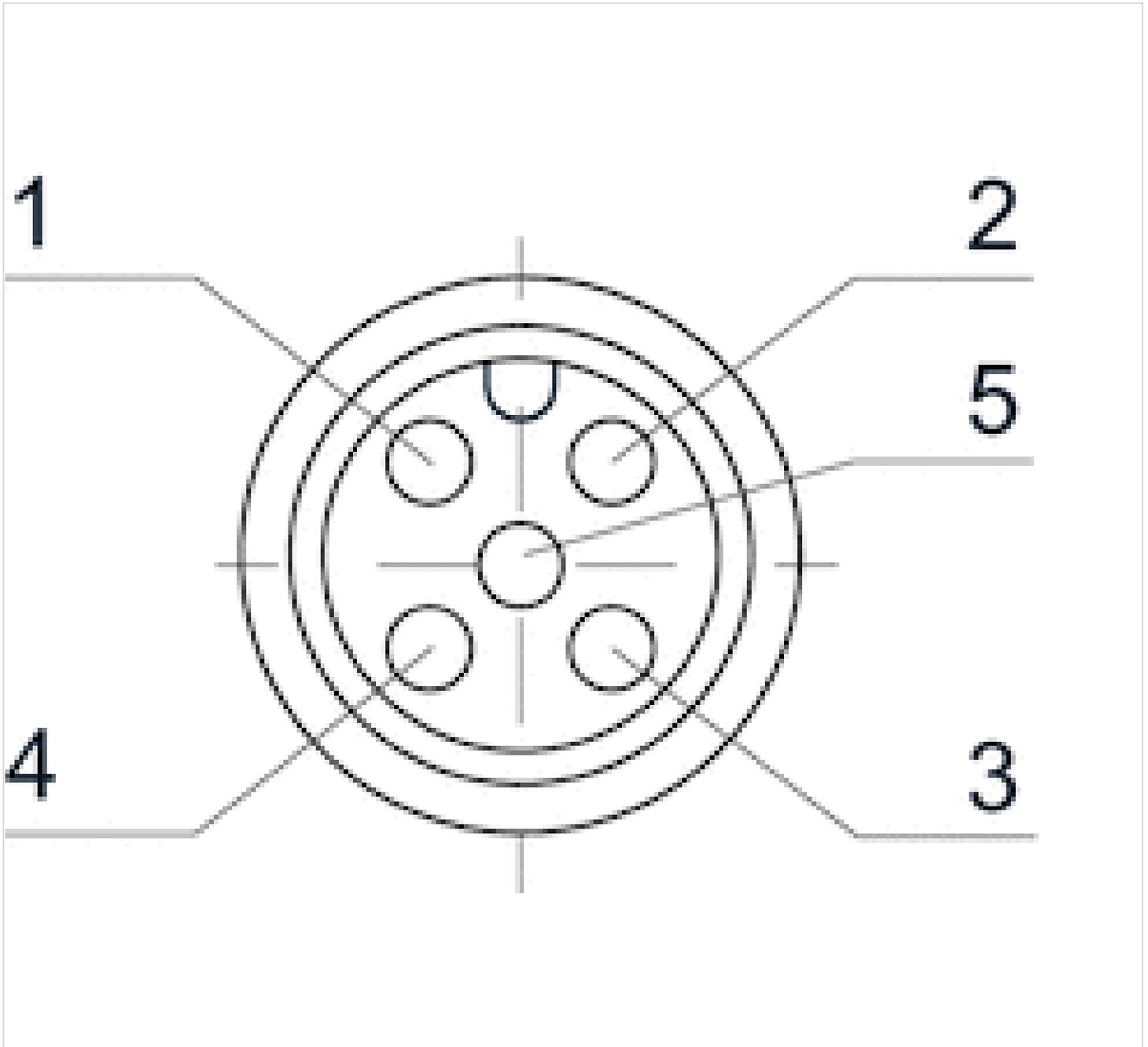
2) Ground

Pin assignments

Plug (male)



Pin assignments, Socket (female)



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

Series AES

- analog inputs/outputs, M12x1, 5-pin
- I/O module version
- Socket (female), M12, 5-pin



Version	I/O module version
Ambient temperature min./max.	14 ... 140 °F
Operational voltage electronics	24 V DC
Max. current per channel	0.5 A
Protection class	IP65
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	0.242 lbs

Technical data

Part No.	Type	Port	power supply	Number of inputs	Number of outputs
		1			
R412018277	2AI2M12-E	Socket (female), M12, 5-pin	Internal	2	-
R412018278	4AI4M12-E	Socket (female), M12, 5-pin	Internal	4	-
R412018281	2AO2M12-E	Socket (female), M12, 5-pin	Internal	-	2

Part No.	Analog inputs
R412018277	0 - 10 V / ± 10 V, 2 - 10 V / ± 10 V, 0 - 20 mA / ± 20 mA, 4 - 20 mA / ± 20 mA
R412018278	0 ... 10 V, 2 - 10 V, 0 ... 20 mA, 4 ... 20 mA
R412018281	-

Part No.	Analog outputs	
R412018277	-	1)
R412018278	-	-
R412018281	0 - 10 V / ± 10 V, 0 ... 20 mA, 4 ... 20 mA	1)

Delivery contents: incl. 2 spring clamp elements and seal

1) freely selectable signals, configurable

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.

Technical information

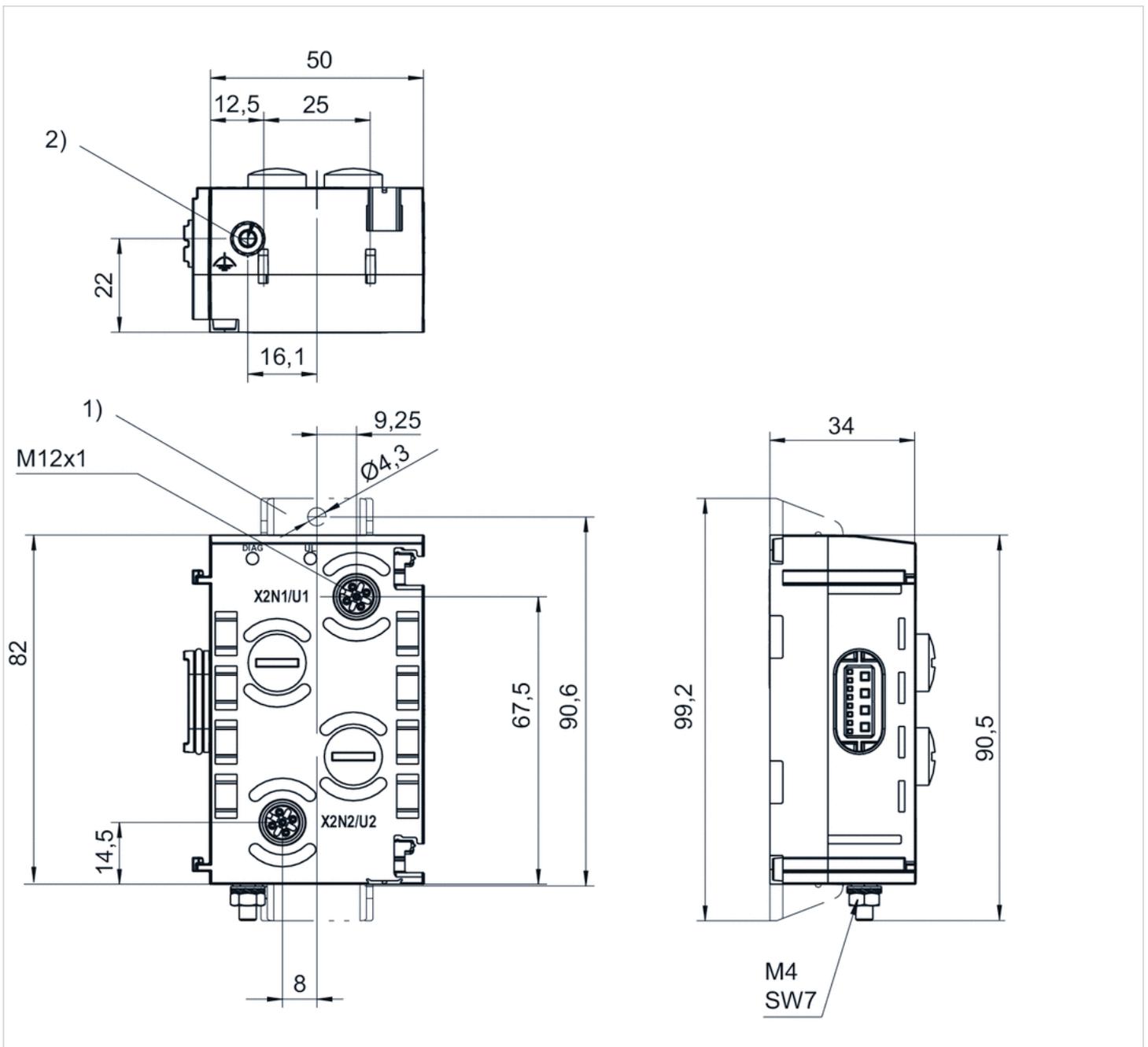
Material

Housing

Polyamide fiber-glass reinforced

Dimensions

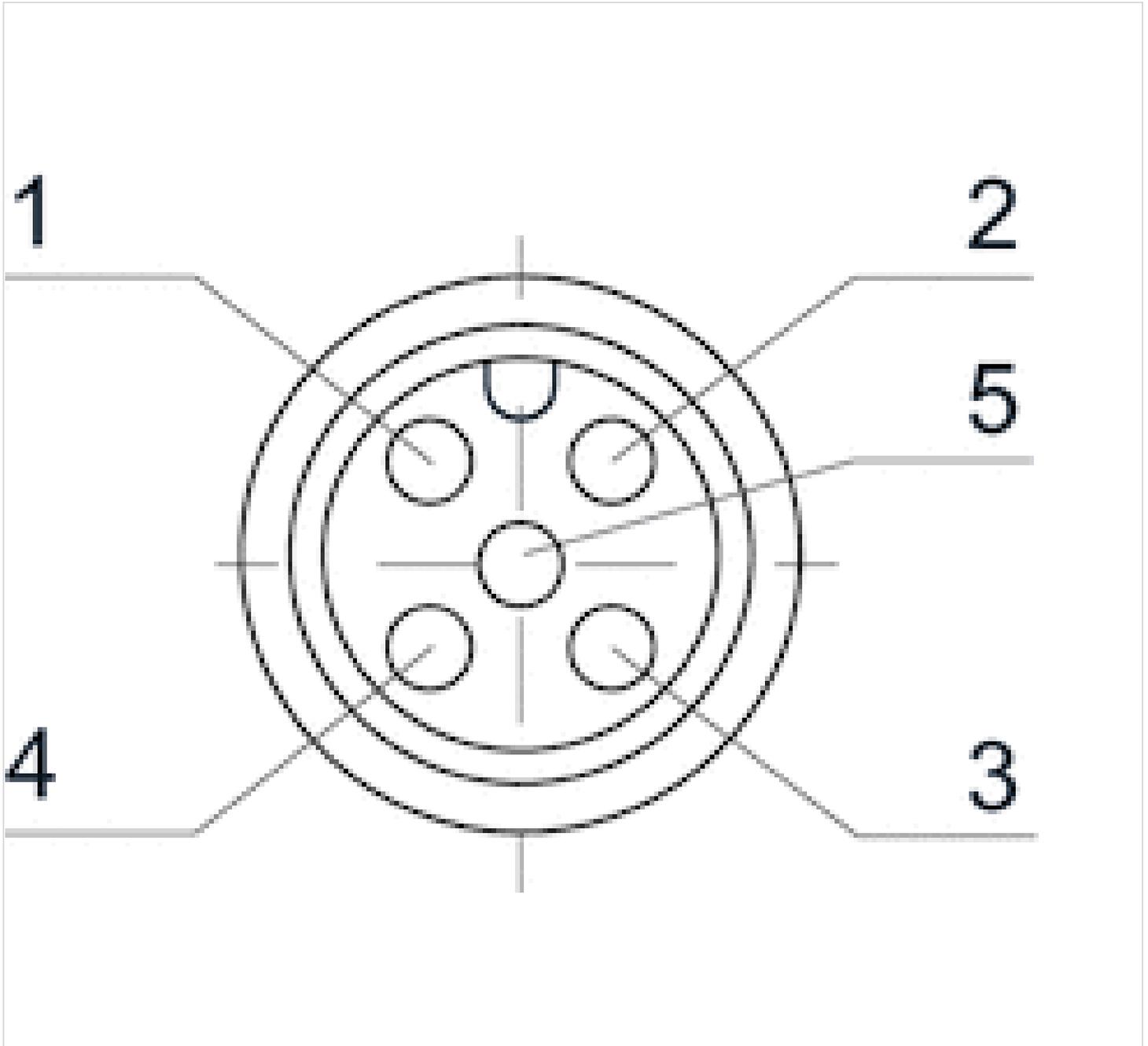
Dimensions



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

Pin assignments

Pin assignments, Socket (female)



Pin	1
Socket (female) X2N1 - X2N22AI2M12-E	24 V DC
Socket (female) X2U1 - X2U44AI4M12-E	24 V DC
Socket (female) X2U1 - X2U22AO2M12-E	not assigned
2	3
Input signal (differential input, positive signal)	0 V DC
Input signal (differential input, positive signal)	0 V DC
Output signal	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)

Series AES

- Pressure measurement module with 4 compressed air connection



Ambient temperature min./max.	14 ... 140 °F
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	0.254 lbs

Technical data

Part No.	Type	Port size	Number of inputs	Measurement range	
				min.	max.
R412018291	4P4D4	D4	4	0 bar	10 bar
R412018292	4VP4D4	D4	4	-1 bar	1 bar

Technical information

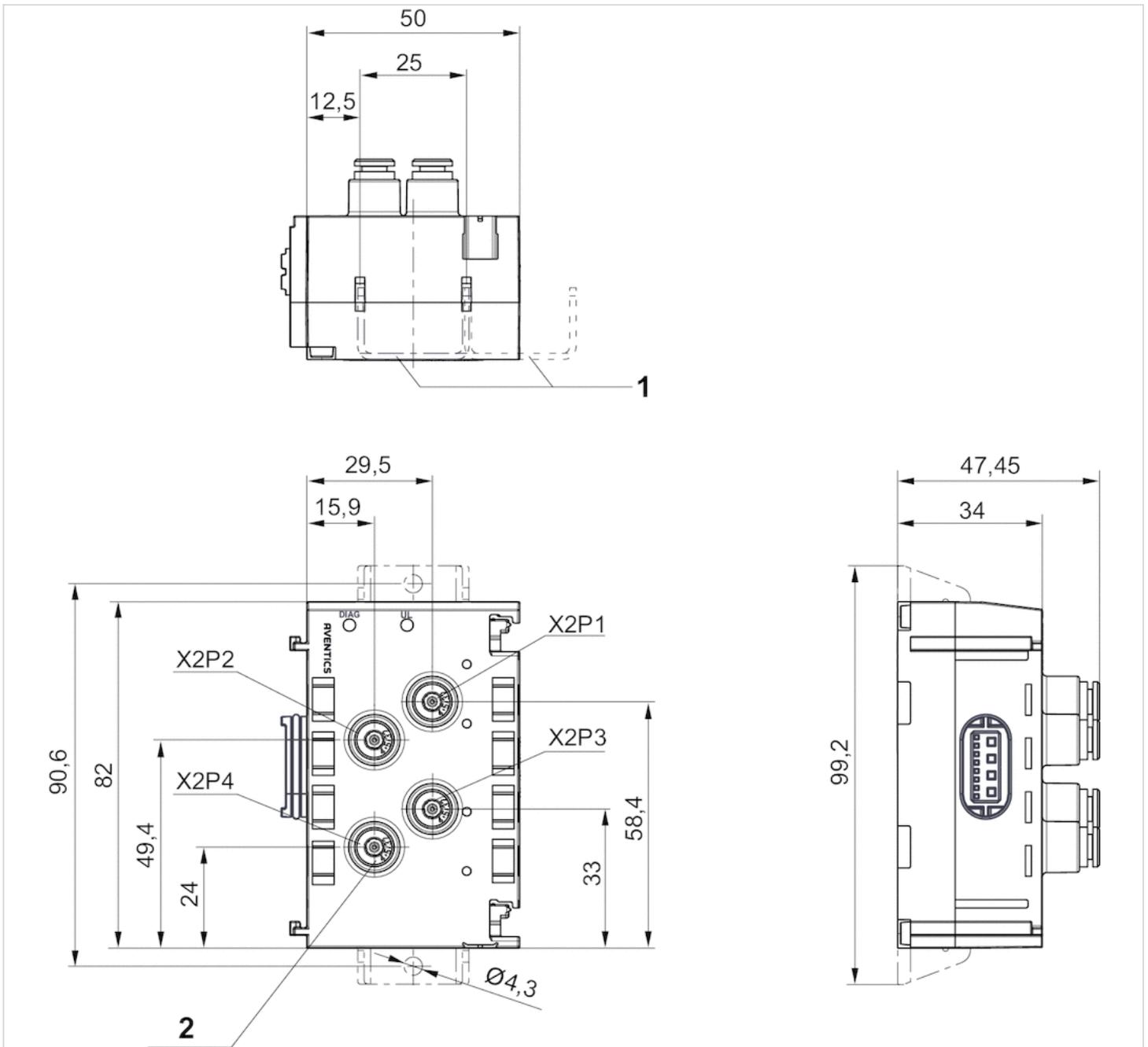
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

Dimensions



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

Series AES

- control module M12x1, 5-pin ▶ with external power supply ▶ control of E/P pressure regulators
- ▶ position control ▶ superordinate control
- I/O module version
- Socket (female), M12x1, 5-pin



Version	I/O module version
Ambient temperature min./max.	14 ... 140 °F
Operational voltage electronics	24 V DC
Protection class	IP65
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	0.242 lbs

Technical data

Part No.	Type	Port	power supply
		1	
R412018293	2AI2AO2M12-C	Socket (female), M12x1, 5-pin	Plug (male), M12, 4-pin, A-coded

Part No.	Number of inputs	Number of outputs
R412018293	2	2

Part No.	Analog inputs
R412018293	0 - 10 V / ± 10 V, 2 - 10 V / ± 10 V, 0 - 20 mA / ± 20 mA, 4 - 20 mA / ± 20 mA

Part No.	Analog outputs
R412018293	0 - 10 V / ± 10 V, 0 ... 20 mA, 4 ... 20 mA

Part No.	I/O module version
R412018293	Analog inputs Analog outputs

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

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.

Technical information

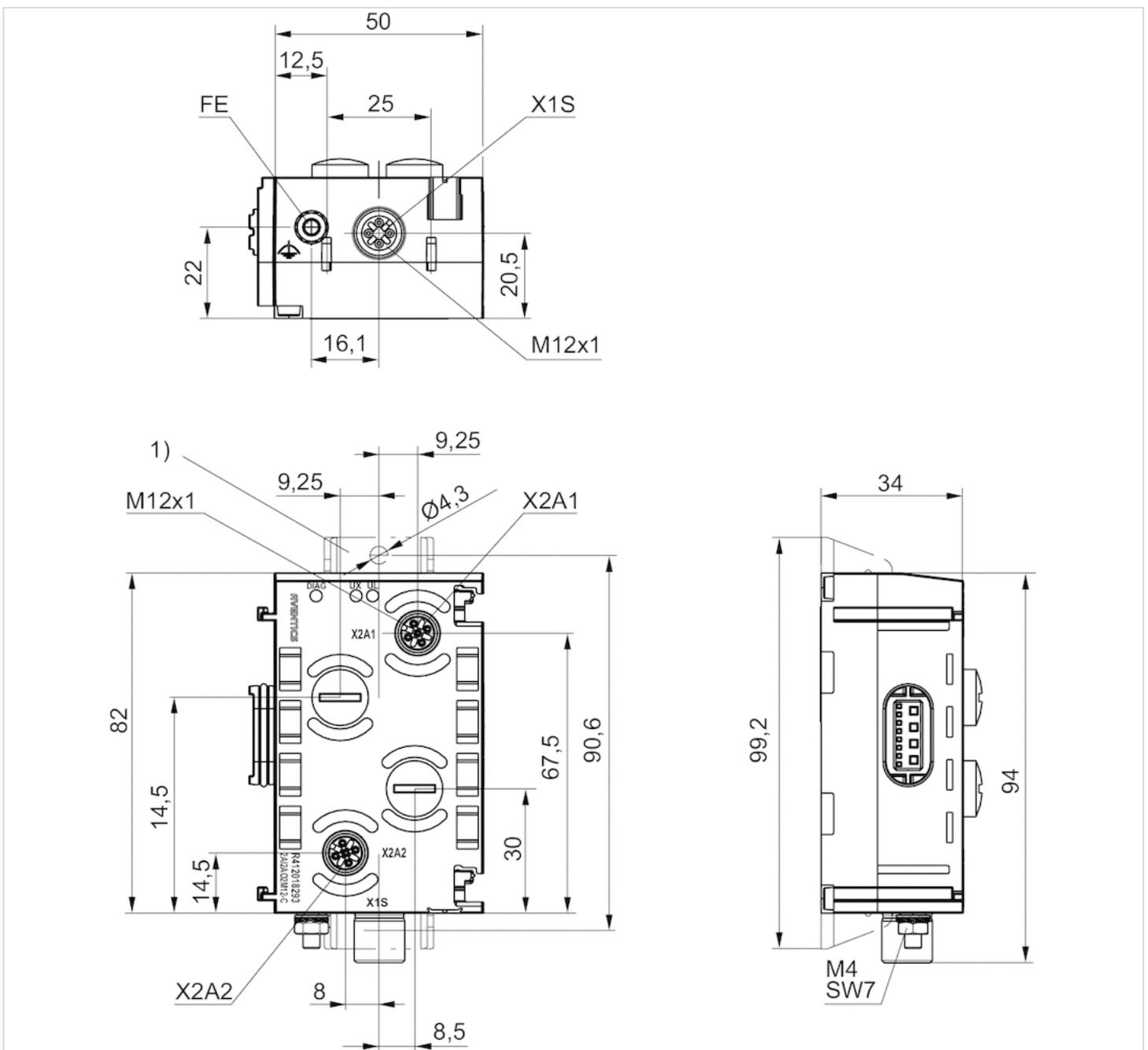
Material

Housing

Polyamide fiber-glass reinforced

Dimensions

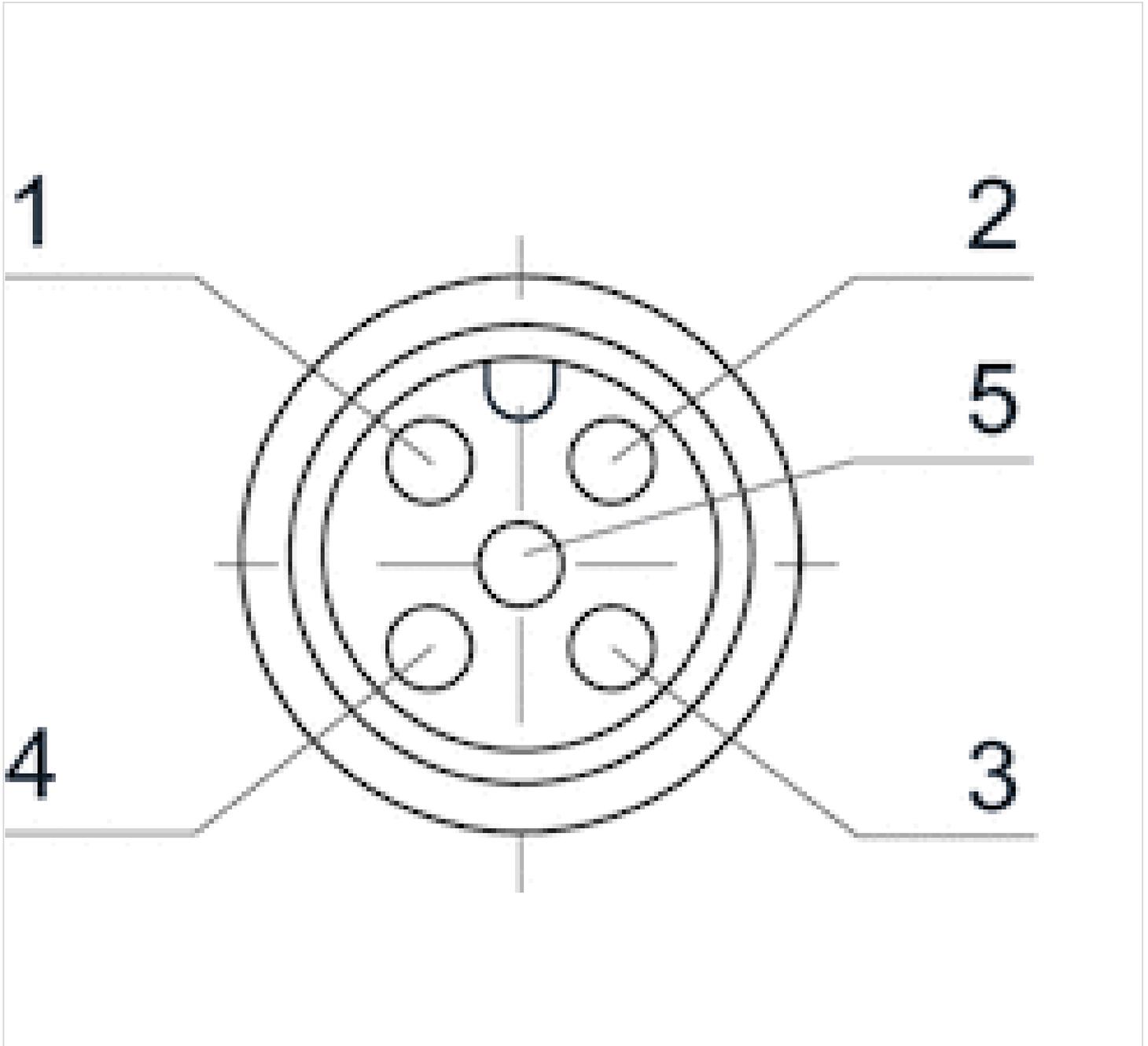
Dimensions



1) Retaining bracket (optional)

Pin assignments

Pin assignments, Socket (female)



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

Series AES

- power supply 7/8", 5-pin
- Power module
- Plug, 7/8"-16UNF, 5-pin



Version	Power module
Ambient temperature min./max.	14 ... 140 °F
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	0.331 lbs

Technical data

Part No.	Port	Port	Power supply direction
	1	2	
R412018272	Plug, 7/8"-16UNF, 5-pin	Socket, 7/8"-16UNF, 5-pin	left, right
R412018273	Plug, 7/8"-16UNF, 5-pin	Socket, 7/8"-16UNF, 5-pin	-
R412018274	Plug, 7/8"-16UNF, 5-pin	Socket, 7/8"-16UNF, 5-pin	left

Part No.	Power supply direction	
	UA	UL
R412018272	left, right	1)
R412018273	left	2)
R412018274	-	2)

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.

- 1) Power plug X1S on the bus coupler must be closed with sealing cap R412024837.
- 2) The supply voltage is galvanically isolated from the right-hand module.

Technical information

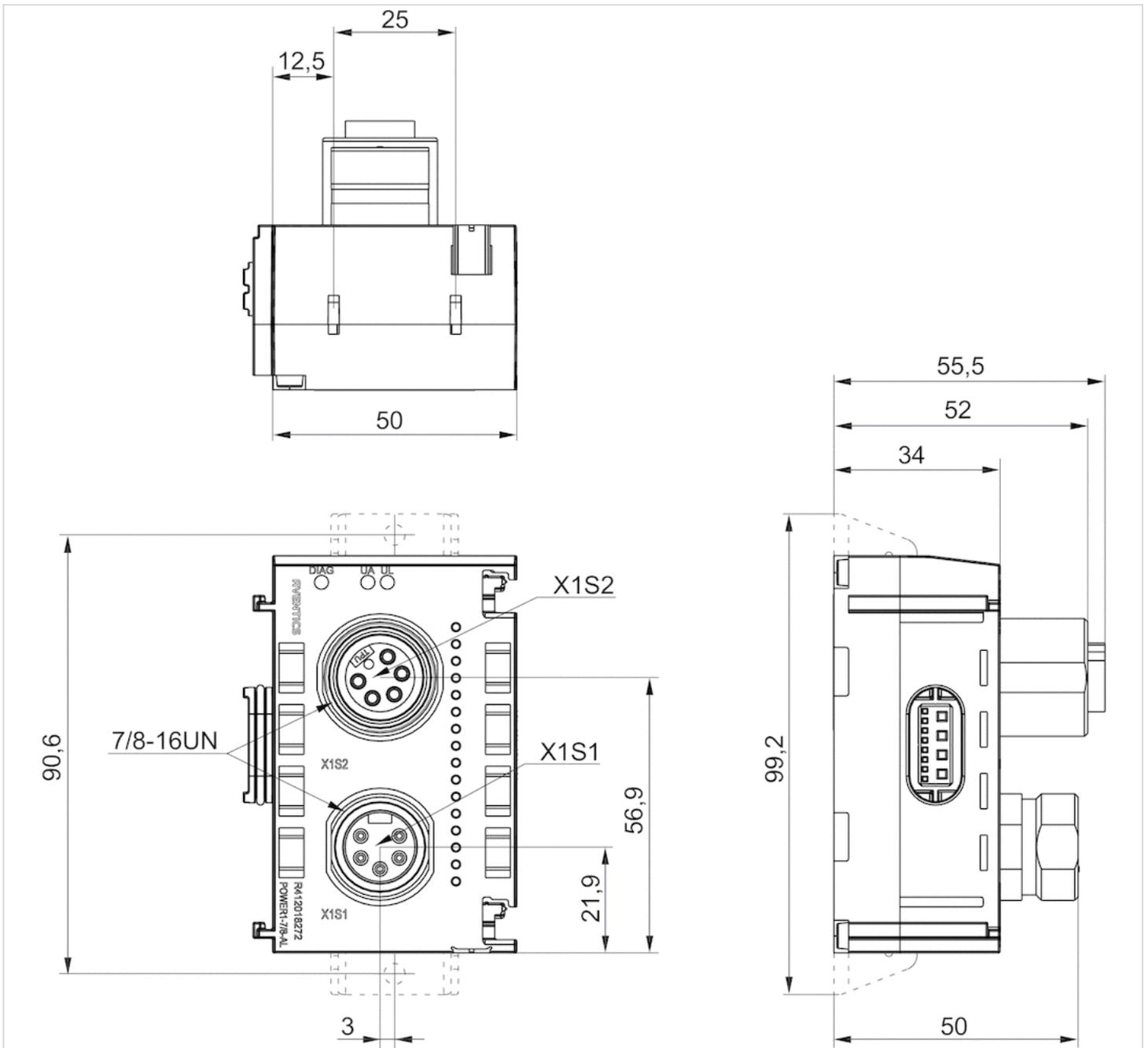
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office. The supply voltage from X1S1 is available at X1S2 (without modification) The total internal current (UA or UL) and consumption at X1S2 must not exceed 8A at X1S1.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

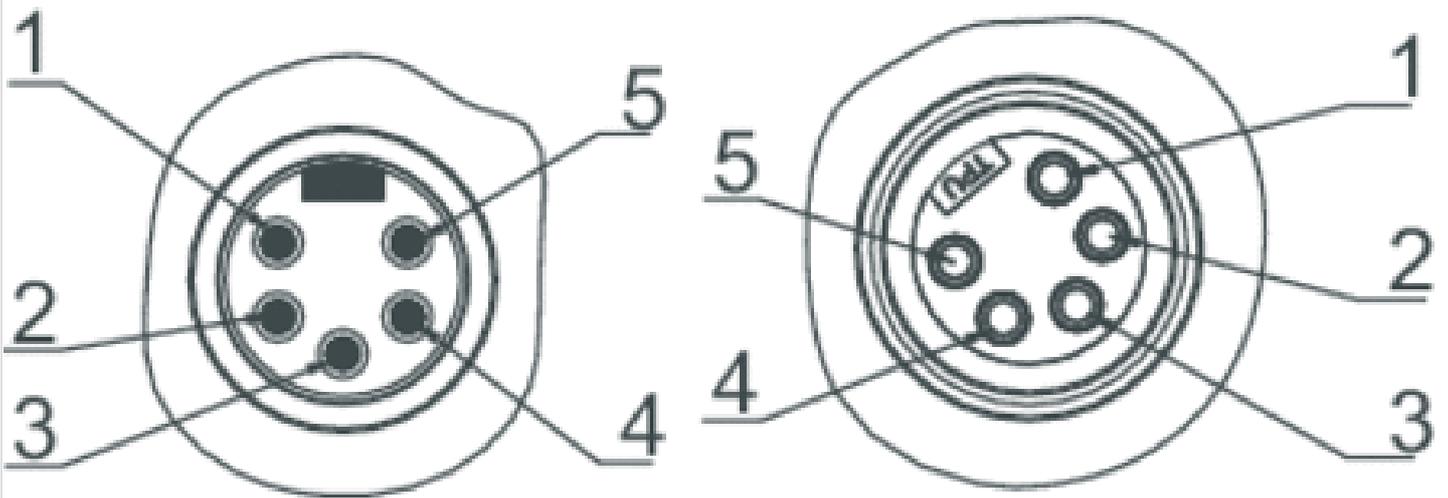
Dimensions



Port 1, X1S1
 Port 2, X1S2

Pin assignments

Pin assignments, PNP



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

Series AES

- power supply, M12 plug, 4-pin
- Power module
- Plug, M12x1, 4-pin



Version	Power module
Ambient temperature min./max.	14 ... 140 °F
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	0.331 lbs

Technical data

Part No.	Port	Power supply direction	Power supply direction
	1	UL	UA
R412018267	Plug, M12x1, 4-pin	-	left
R412018268	Plug, M12x1, 4-pin	left	-

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.

Technical information

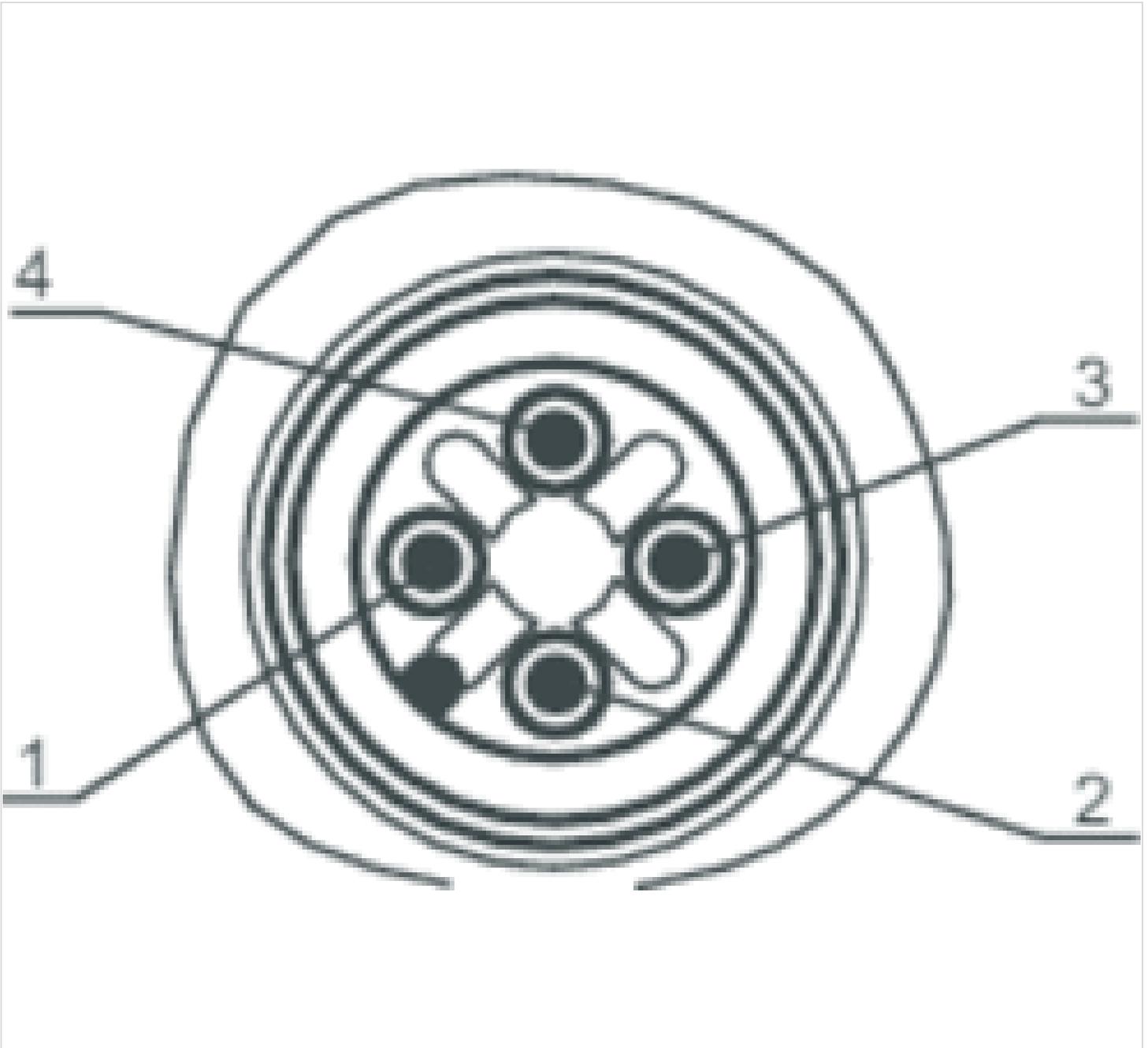
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Pin assignments

Pin assignments, PNP



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

Blanking plate

- Base plate principle, multiple
- Reversed pressure supply permissible
- With collective pilot air exhaust
- for AV05



Working pressure min./max.	-13 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
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	0.37 ft./lbs.
Weight	0.066 lbs

Technical data

Part No.	Delivery unit
R422102526	1 piece

Delivery includes sealing kit and 1x mounting screw

Technical information

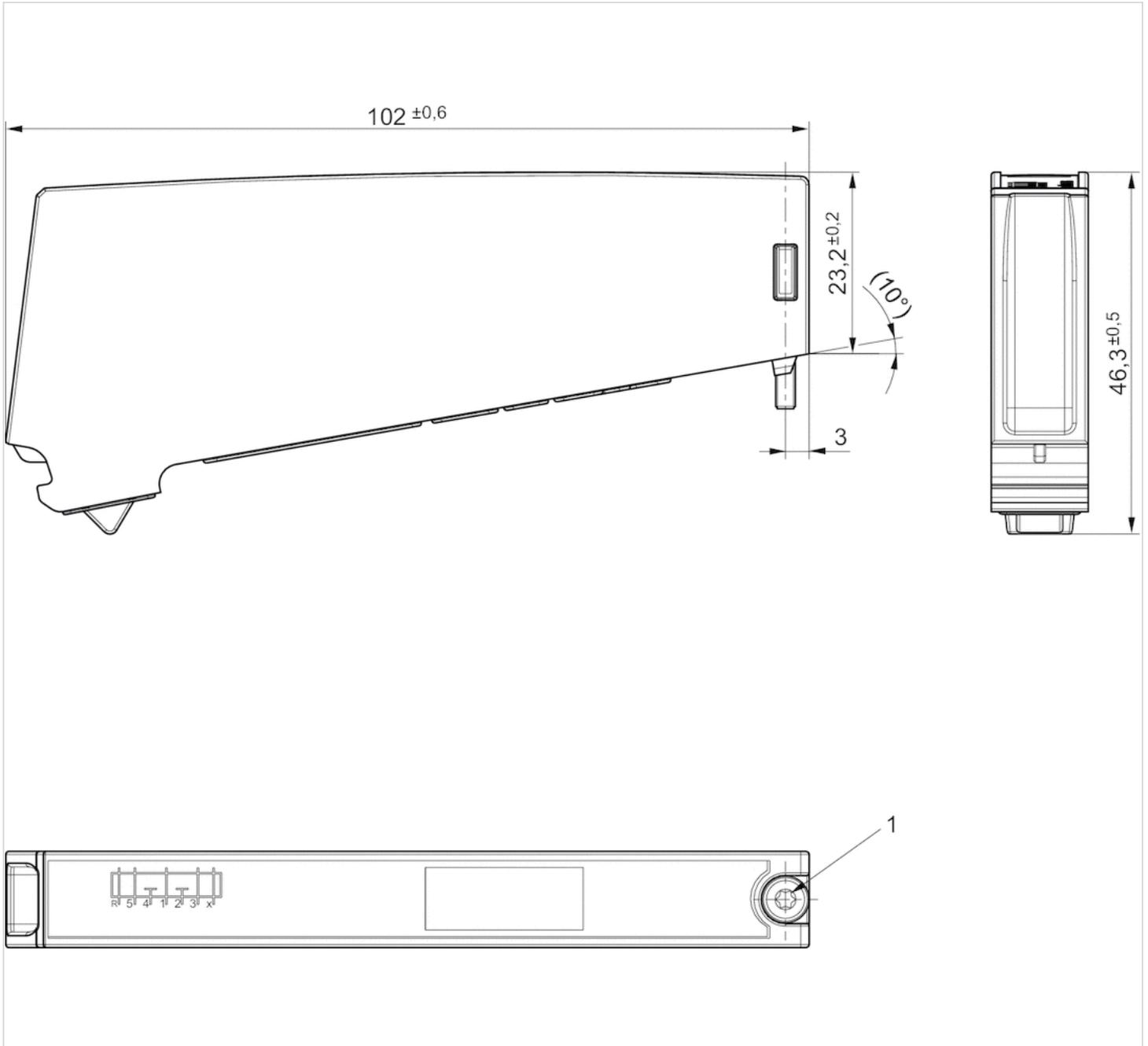
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 The oil content of compressed air must remain constant during the life cycle.
 Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Screws	Steel, galvanized

Dimensions

Dimensions



1) Mounting screw

Pressure regulator, Series AV

- push-in fitting

- Controlled port 2, 4



Adjustment range min./max.

8 ... 145 psi

Ambient temperature min./max.

14 ... 140 °F

Medium temperature min./max.

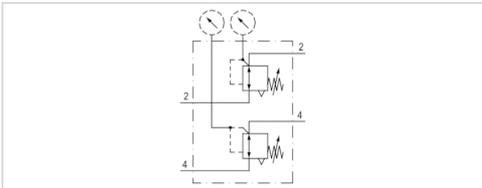
14 ... 140 °F

Medium

Compressed air

Weight

0.044 lbs



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

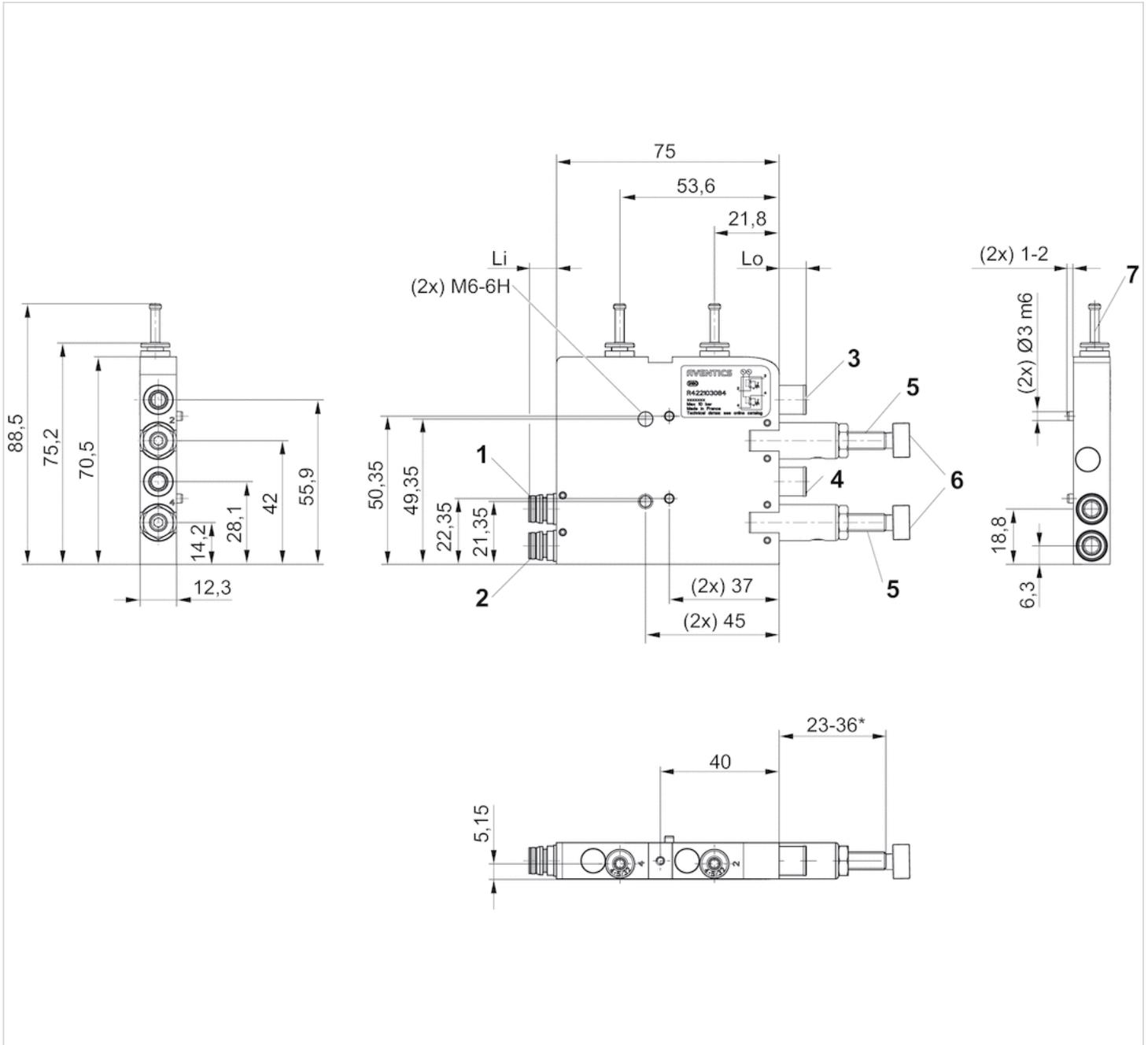
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

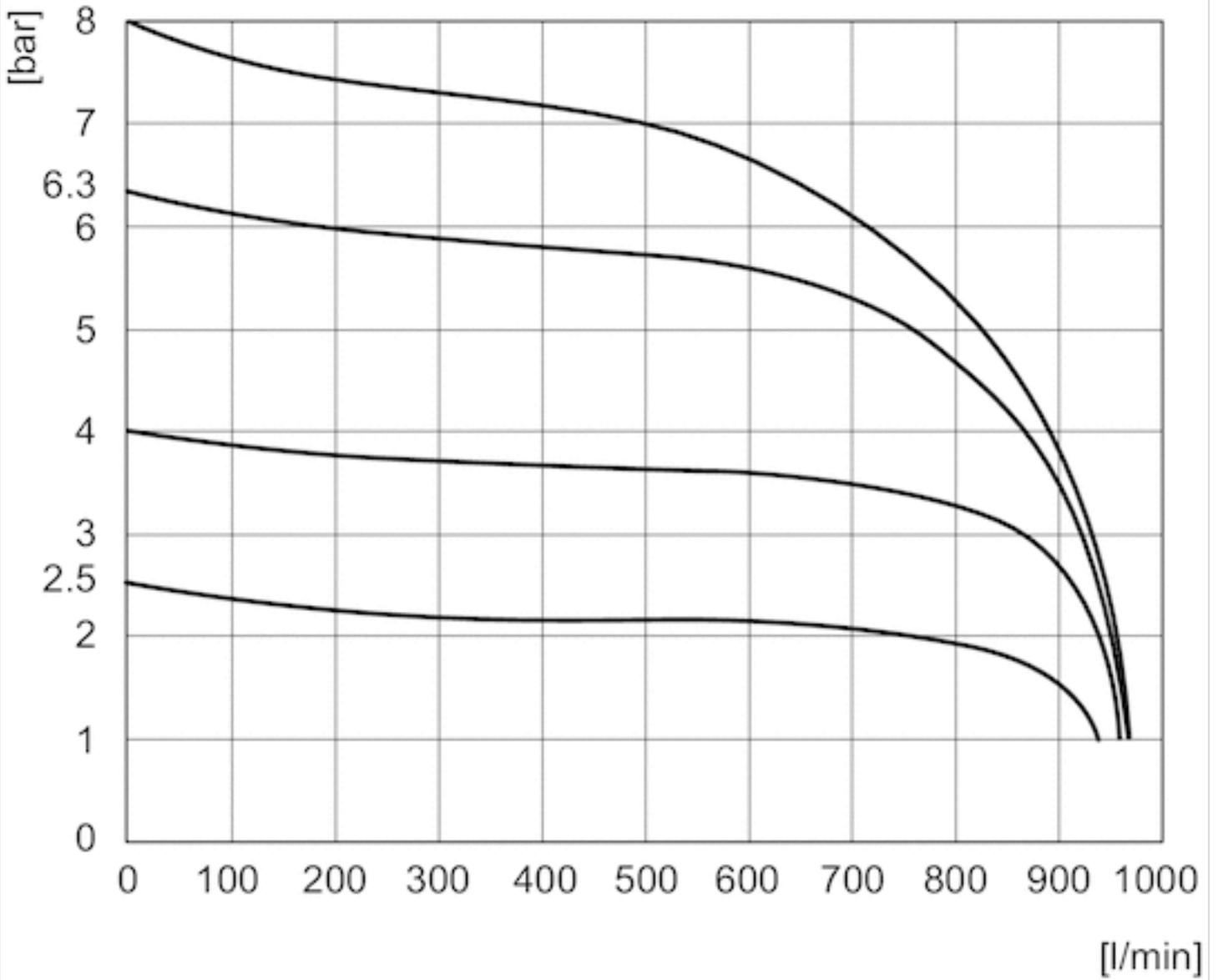
Dimensions



- 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

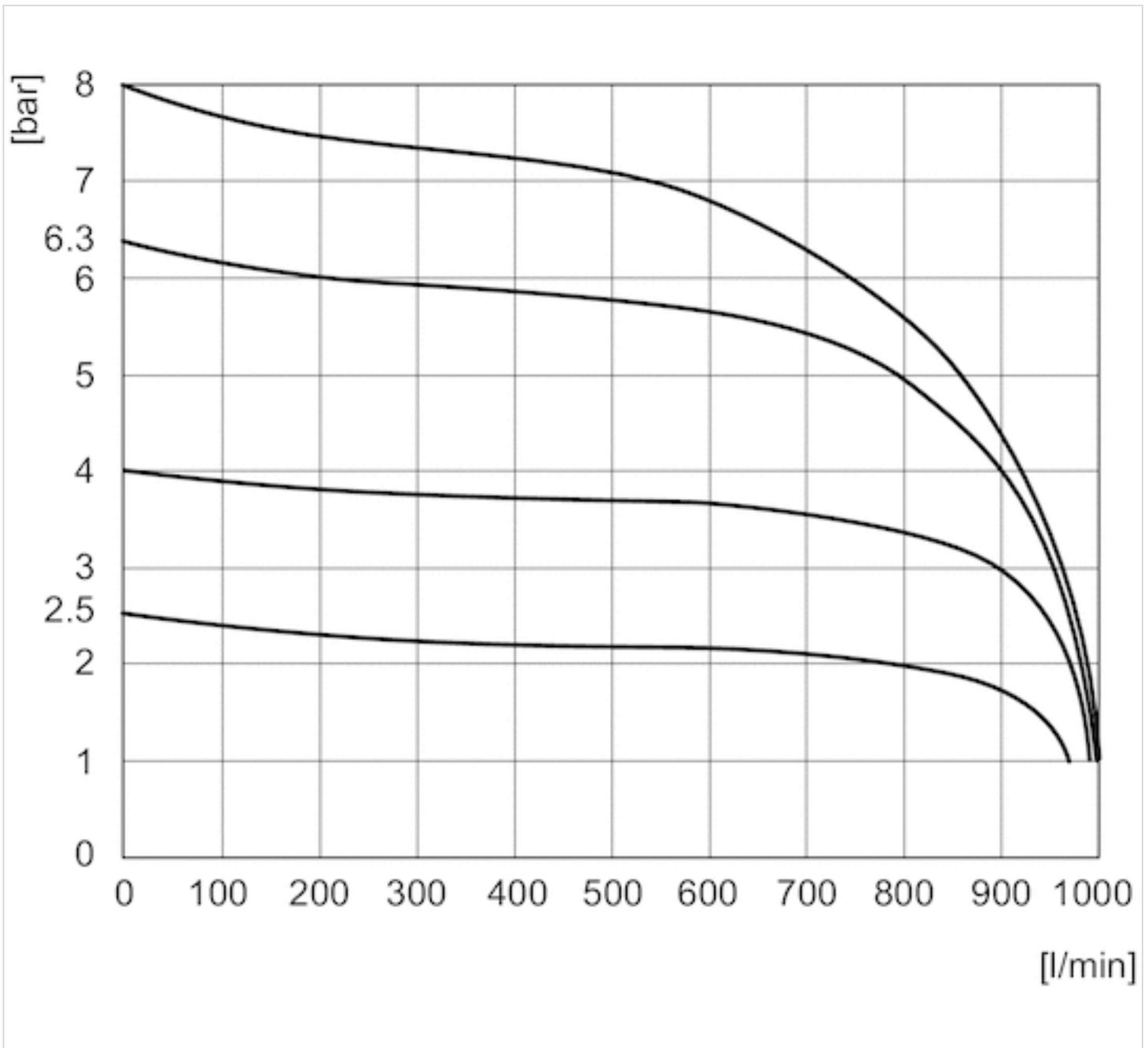
Diagrams

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.	8 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	0.441 lbs

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

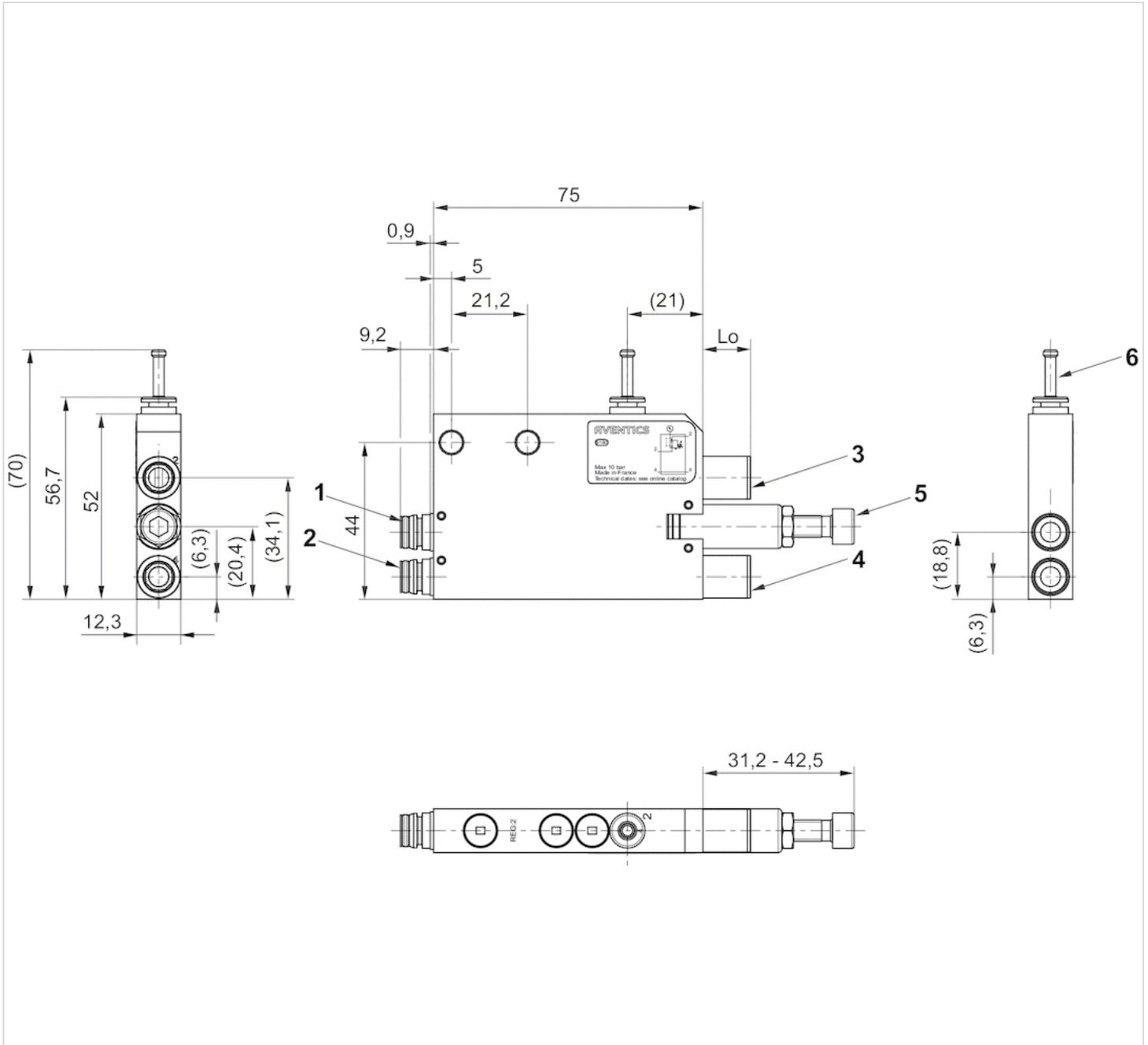
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

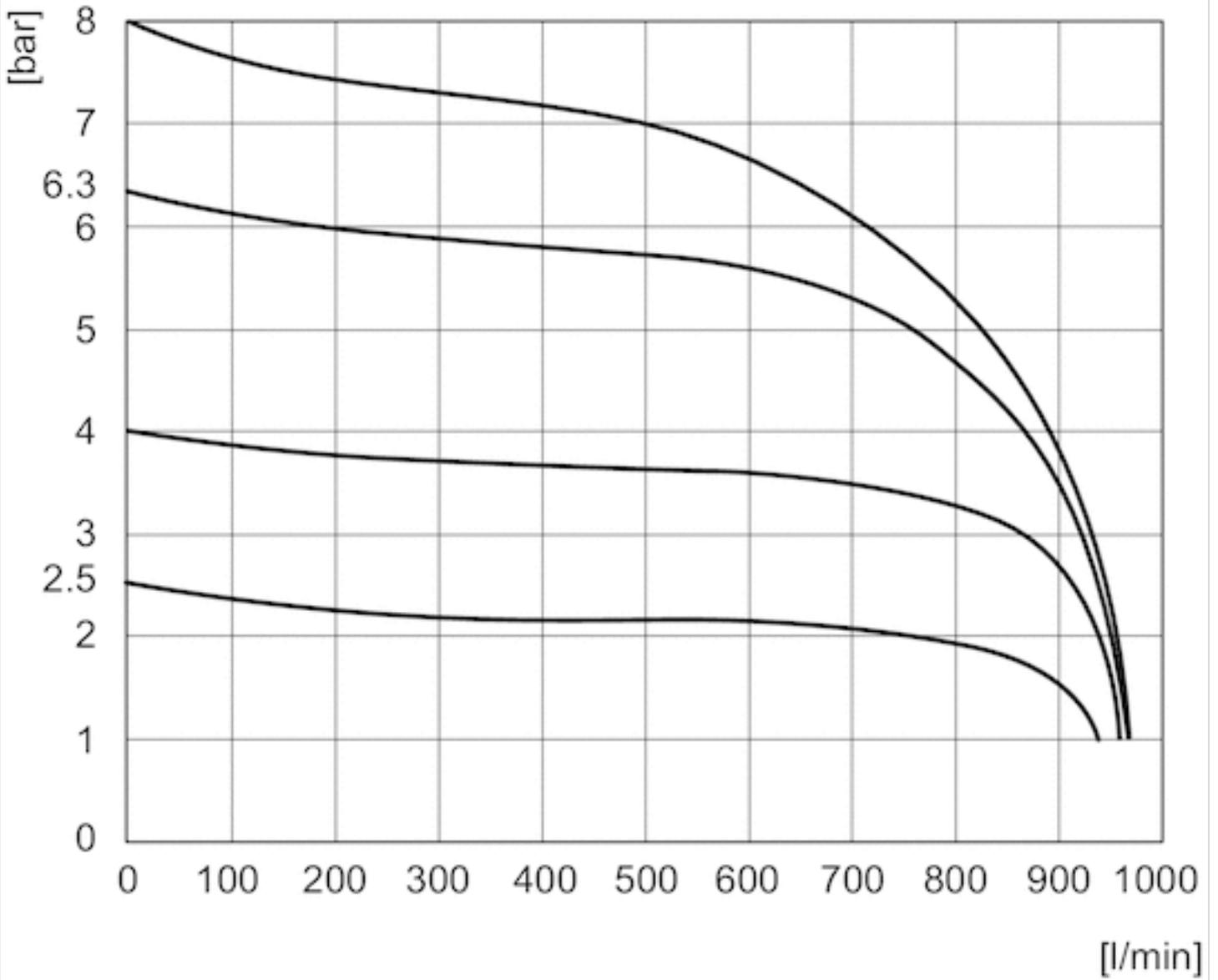
Dimensions



- 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

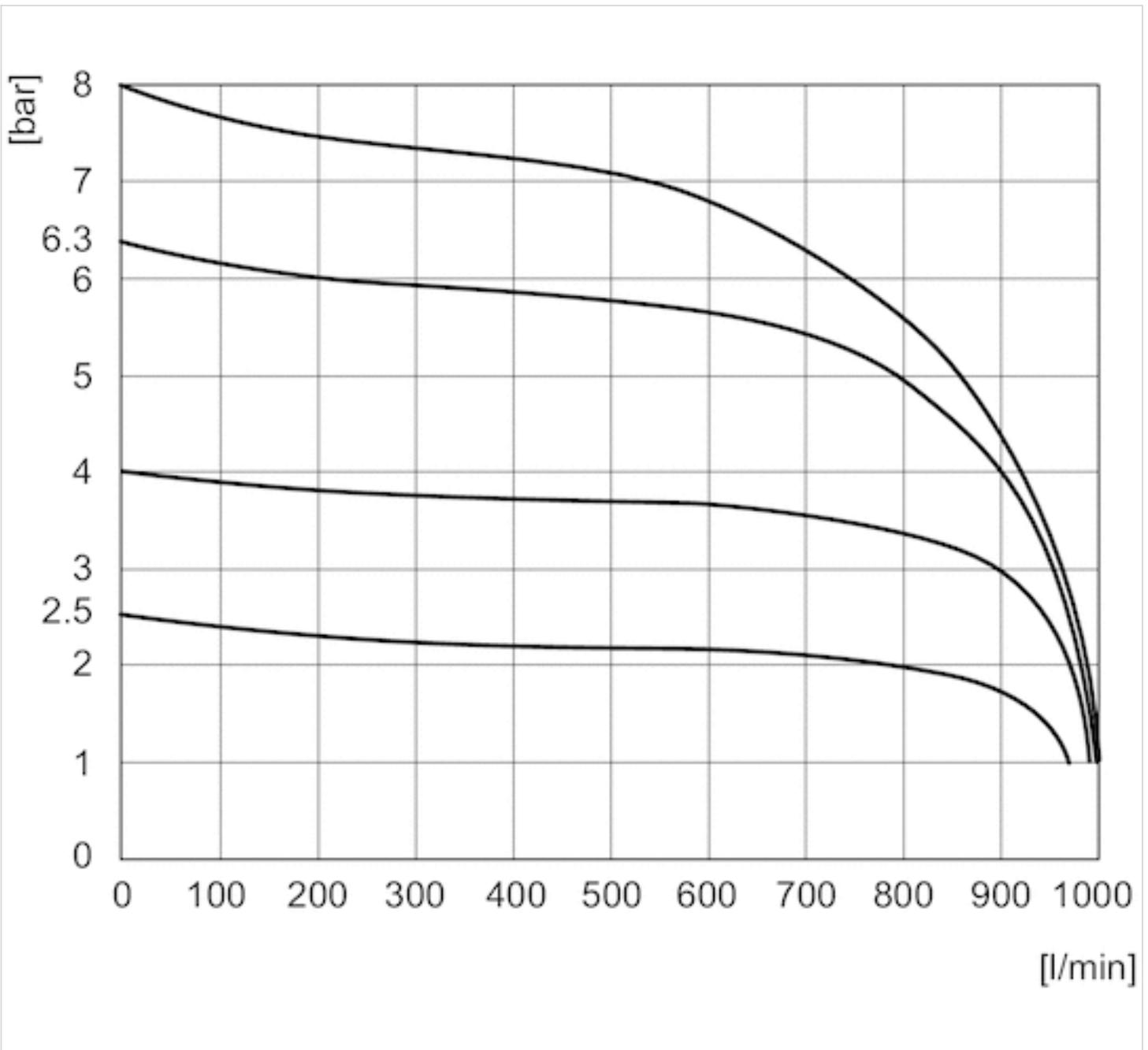
Diagrams

Flow diagram, Port 2



Pv = 9 bar

Flow diagram, Port 4



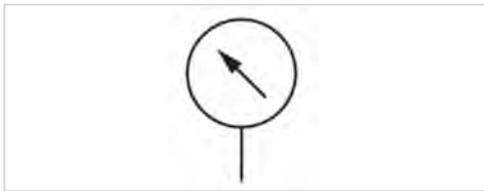
Pv = 9 bar

Pressure gauge, Series PG1-ROB

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



Type	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	0.022 lbs



Technical data

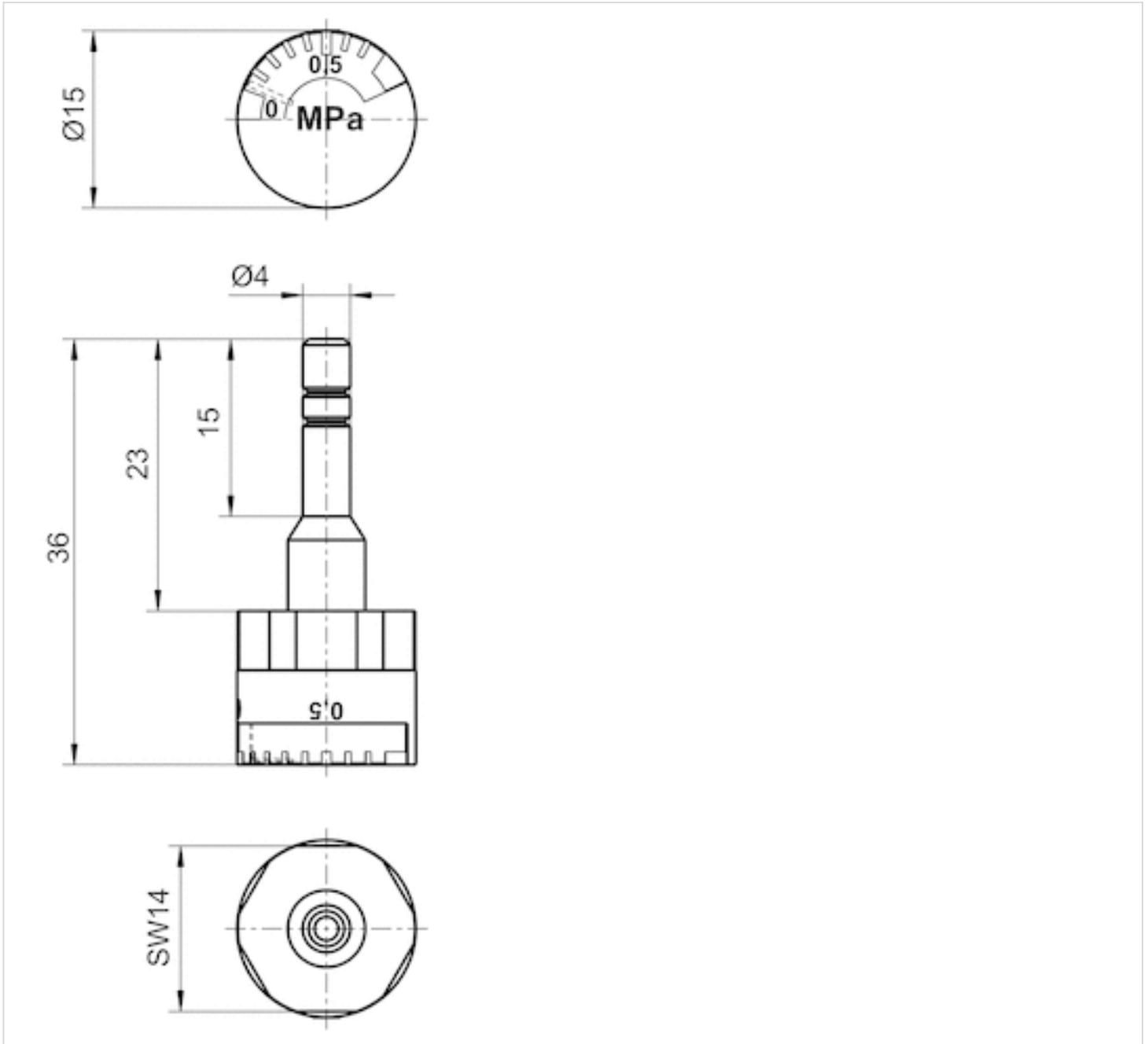
Part No.	Compressed air connection	Nominal diameter	Range of application	Display range
R412009413	Ø 4	0.59 inch	0 ... 10 bar	0 ... 10 bar

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.	-13 ... 145 psi
Ambient temperature min./max.	32 ... 140 °F
Weight per piece	0.004 lbs

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.

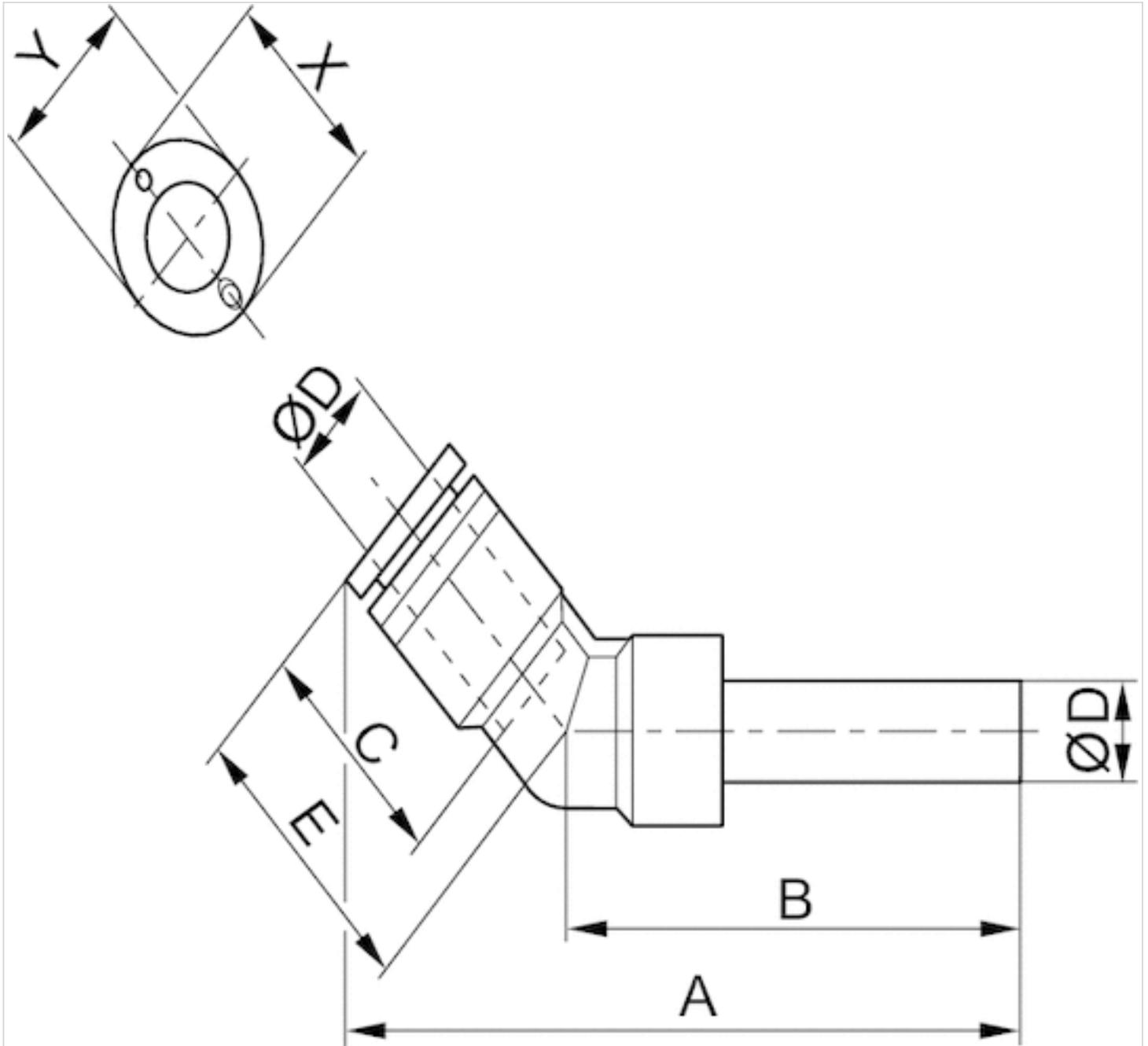
For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

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



Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	0.254 lbs

Technical data

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

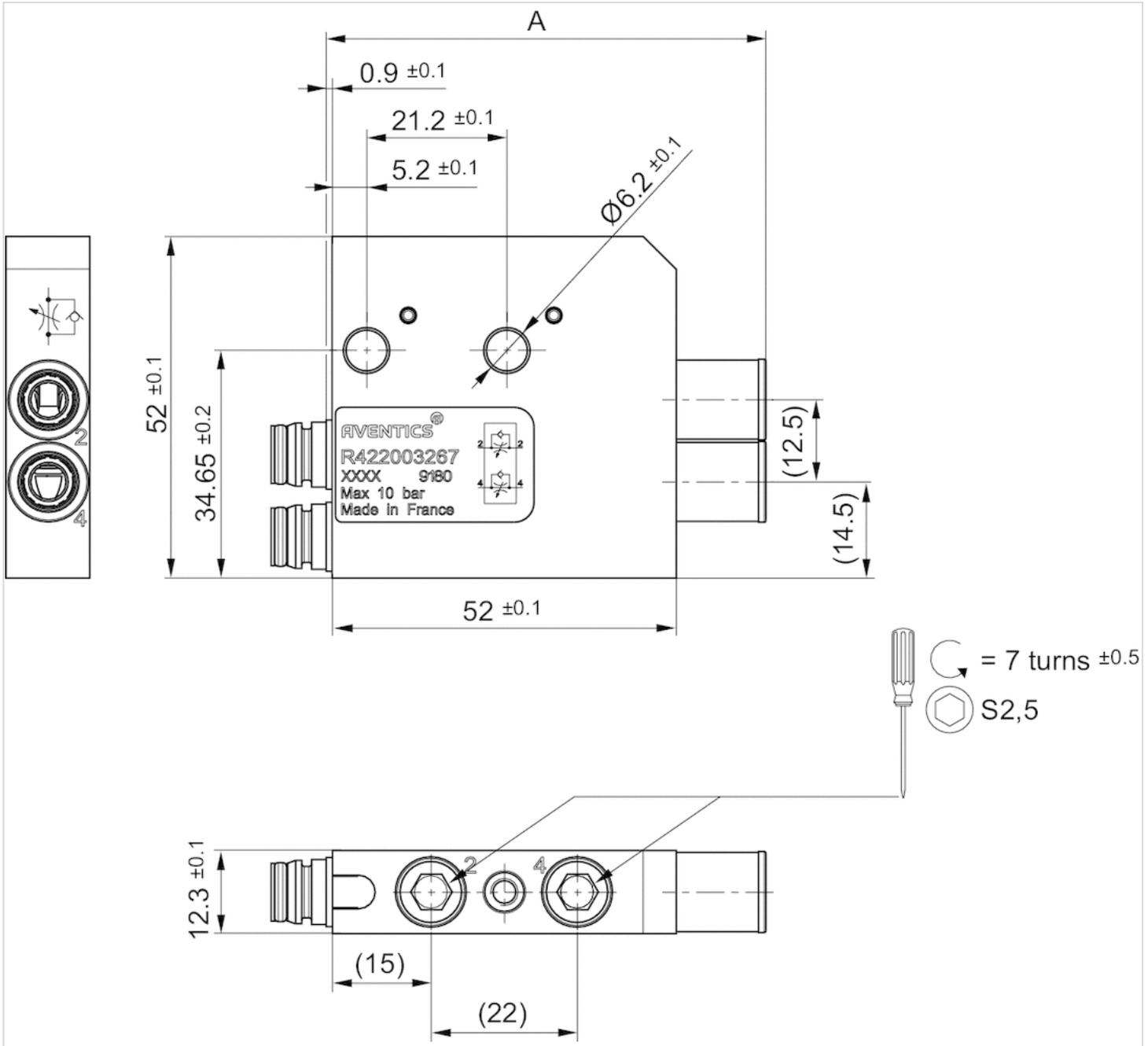
Part No.	Compressed air connection type Input	Compressed air connection Output	Fig.
R422003311	push-in fitting	Ø 6	Fig. 1
R422003267	push-in fitting	Ø 8	Fig. 1
R422003666	push-in fitting	Ø 1/4"	Fig. 1
R422003577	push-in fitting	Ø 6	Fig. 2
R422003578	push-in fitting	Ø 8	Fig. 2
R422003667	push-in fitting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

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

Dimensions

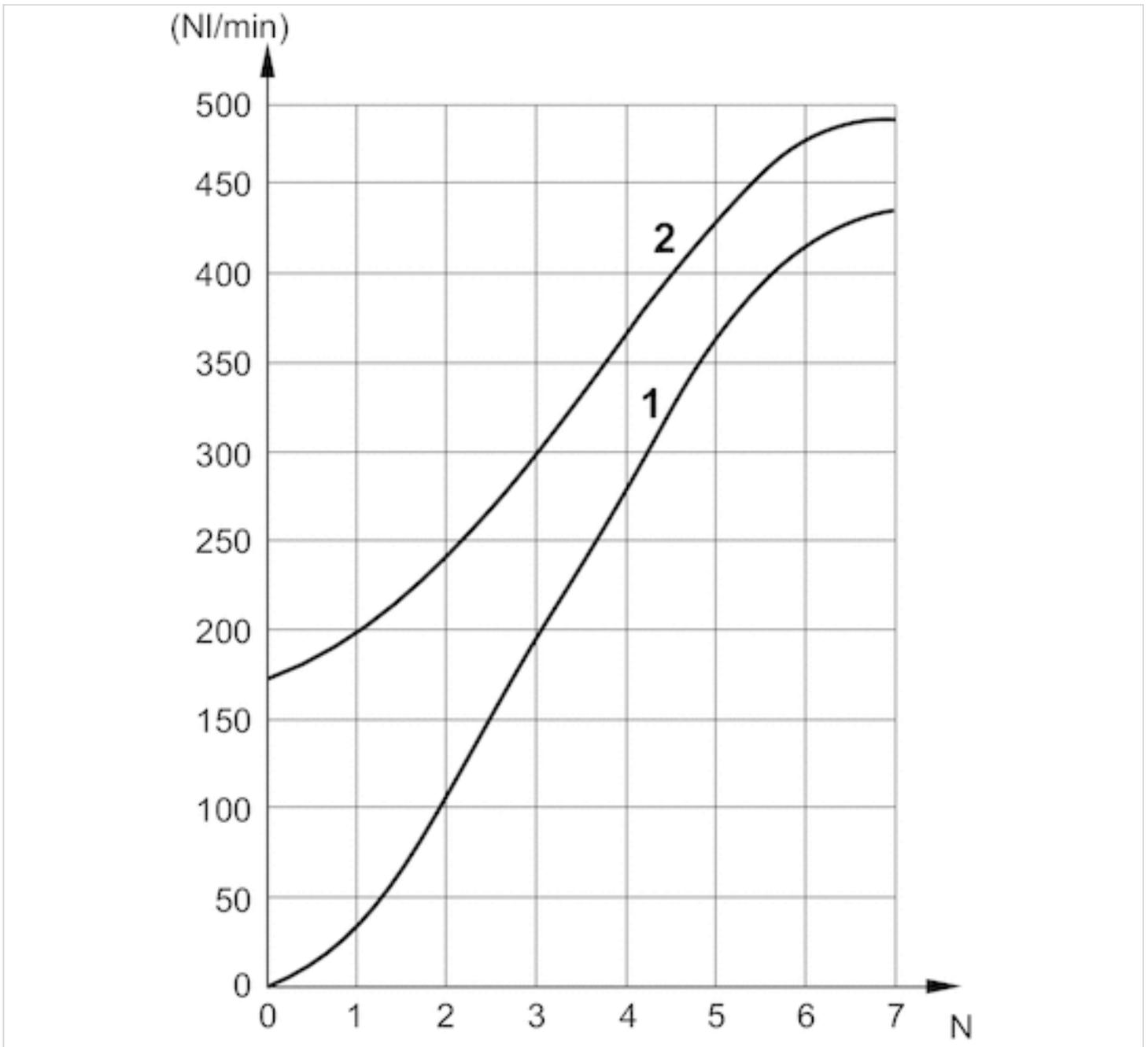


Dimensions

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

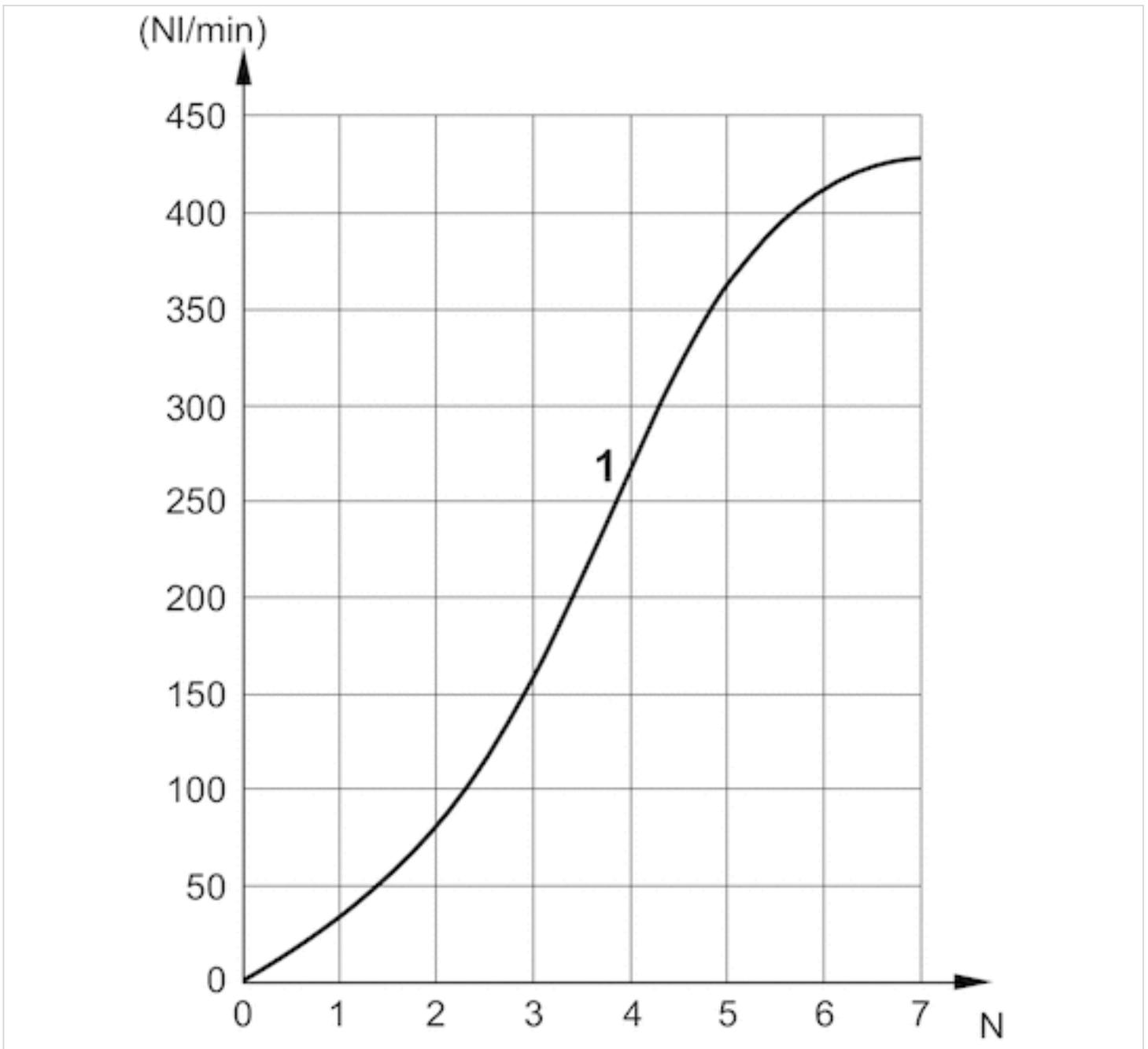
Diagrams

Fig. 1, single solenoid



- 1) Controlled flow
- 2) Uncontrolled flow

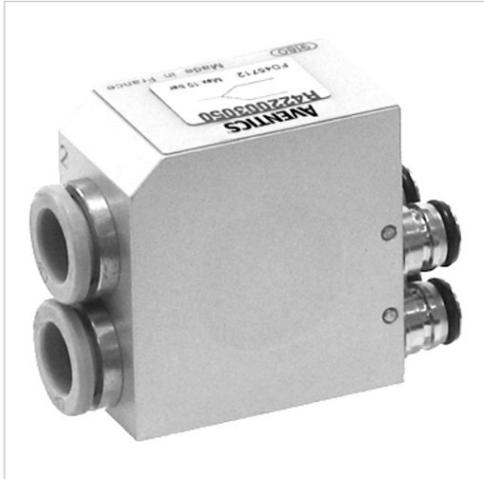
Fig. 2, double solenoid



1) Controlled flow

Flow rate coupler Series AV

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



Working pressure min./max.	-13 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	0.254 lbs

Technical data

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

Technical information

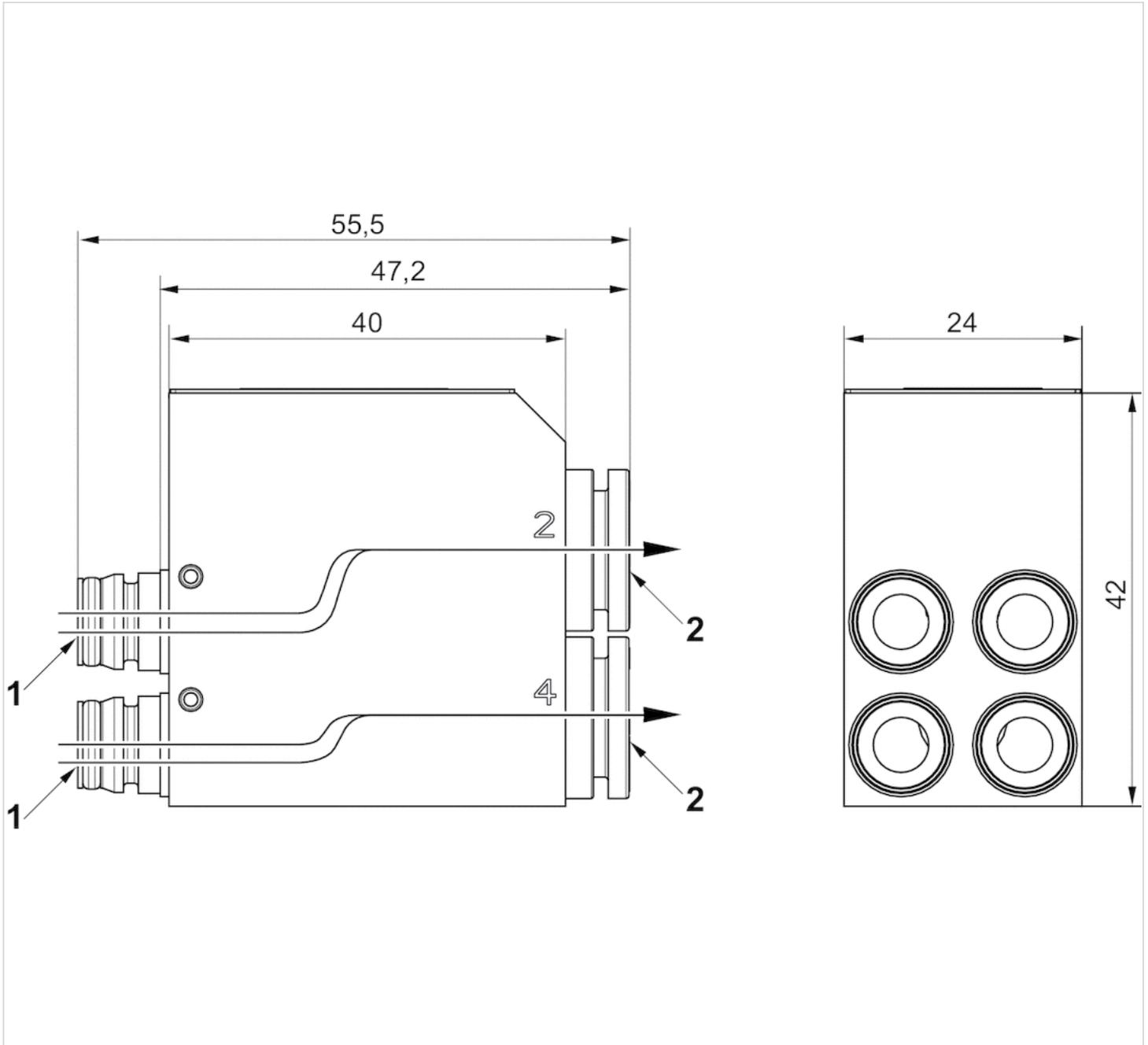
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
 Doubling of flow rate performance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



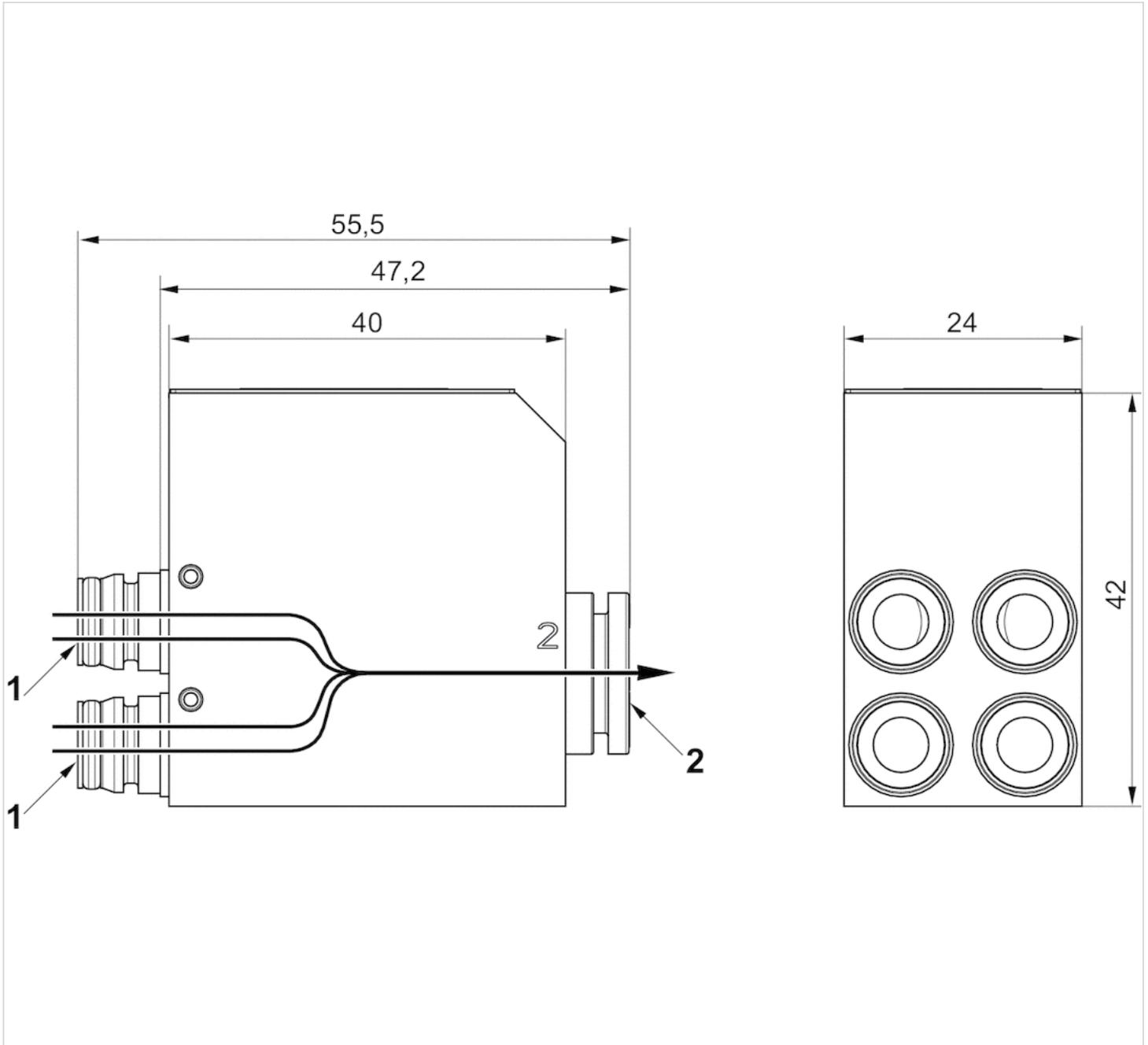
- 1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
- 2) 2 x Ø 10

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]	570	520	500	1070	1030	1050

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]	730	1400

Extension kit for base plate 2x

- for series AV05



Working pressure min./max. -13 ... 145 psi
 Ambient temperature min./max. 14 ... 140 °F
 Medium Compressed air

Technical data

Part No.	Type
R412020064	Base plate 2x for single solenoid valves for multipole plug
R412020065	Base plate 2x for double solenoid valves for multipole plug
R412020068	Base plate 2x for bus coupler

Part No.	Housing material
R412020064	Polyamide fiber-glass reinforced
R412020065	Polyamide fiber-glass reinforced
R412020068	Polyarylamide, fiber-glass reinforced

Part No.	Scope of delivery
R412020064	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 2 tie rod extensions (6), and 1 extension circuit board (7)
R412020065	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 2 tie rod extensions (6), and 1 extension circuit board (7)
R412020068	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 2 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.

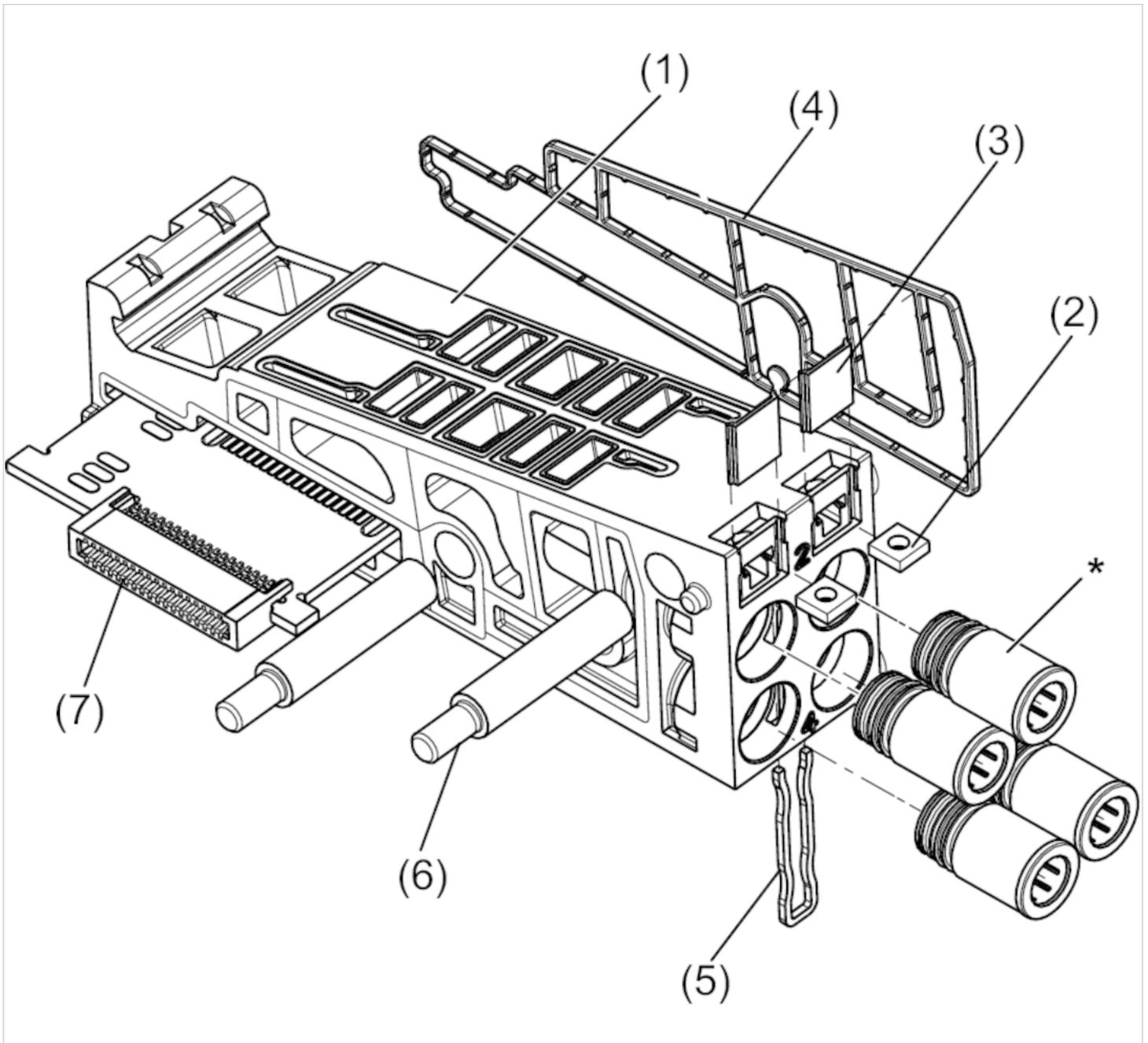
Technical information

Material

Housing	Polyamide fiber-glass reinforced Polyarylamide, 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 3x

- for series AV05



Working pressure min./max. -13 ... 145 psi
 Ambient temperature min./max. 14 ... 140 °F
 Medium Compressed air

Technical data

Part No.	Type
R412020069	Base plate 3x for bus coupler
R412020066	Base plate 3x for single solenoid valves for multipole plug
R412020067	Base plate 3x for double solenoid valves for multipole plug

Part No.	Scope of delivery
R412020069	Base plate (1), incl. 3 nuts (2), 3 labels (3), 1 seal (4), 2 retaining clips (5), 2 tie rod extensions (6), and 1 extension circuit board (7)
R412020066	Base plate (1), incl. 3 nuts (2), 3 labels (3), 1 seal (4), 2 retaining clips (5), 2 tie rod extensions (6), and 1 extension circuit board (7)
R412020067	Base plate (1), incl. 3 nuts (2), 3 labels (3), 1 seal (4), 2 retaining clips (5), 2 tie rod extensions (6), and 1 extension circuit board (7)

Technical information

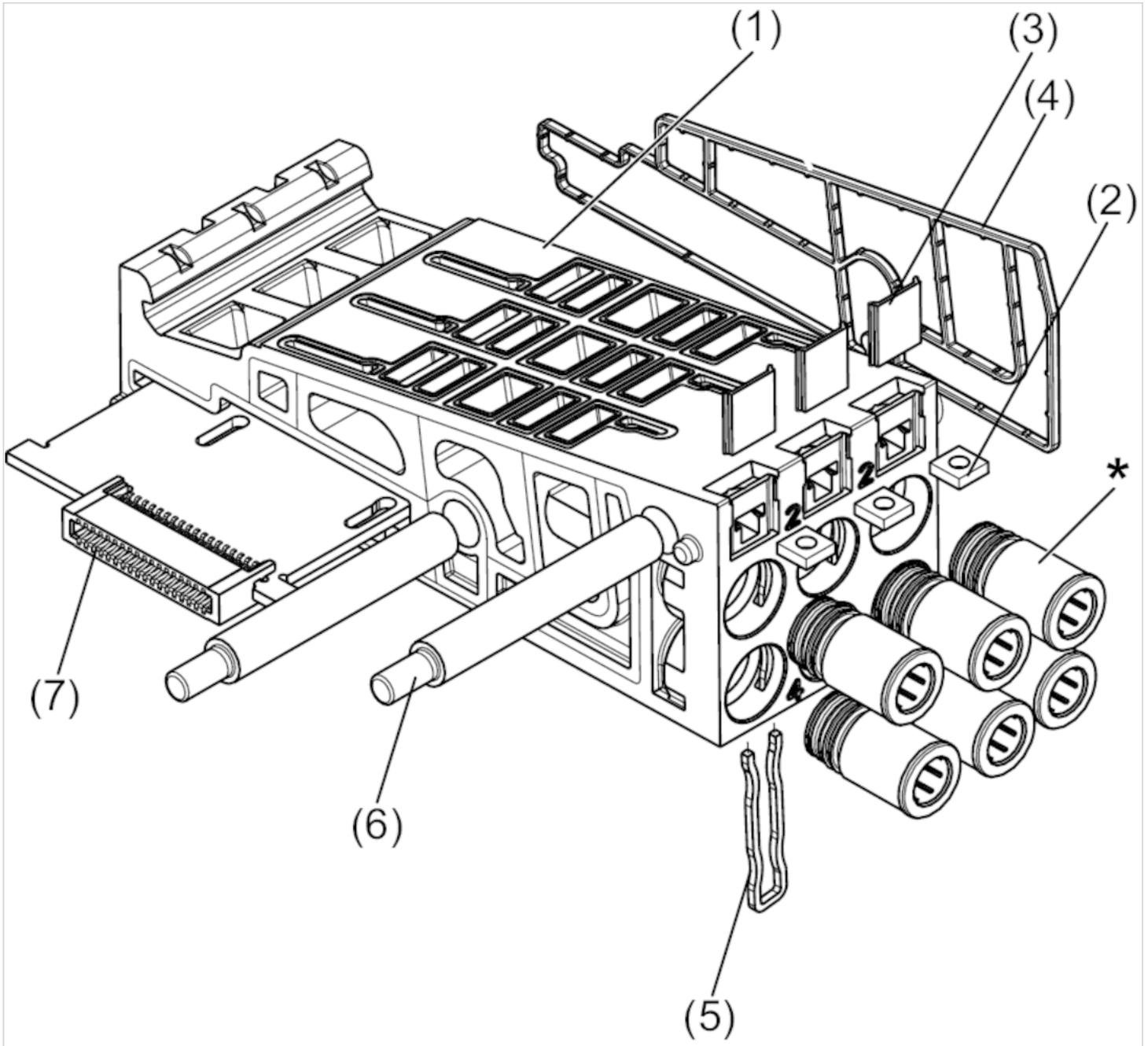
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 After three I/O modules or 8 valves, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface.

Technical information

Material	
Housing	Polyamide 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 4x

- for series AV05



Working pressure min./max. -13 ... 145 psi
 Ambient temperature min./max. 14 ... 140 °F
 Medium Compressed air

Technical data

Part No.	Type
R412022824	Base plate 4x for bus coupler

Part No.	Scope of delivery
R412022824	2 base plates (1), incl. 4 nuts (2), 4 labels (3), 2 seals (4), 2 retaining clips (5), 2 tie rod extensions (6), and 1 extension circuit board (7)

Technical information

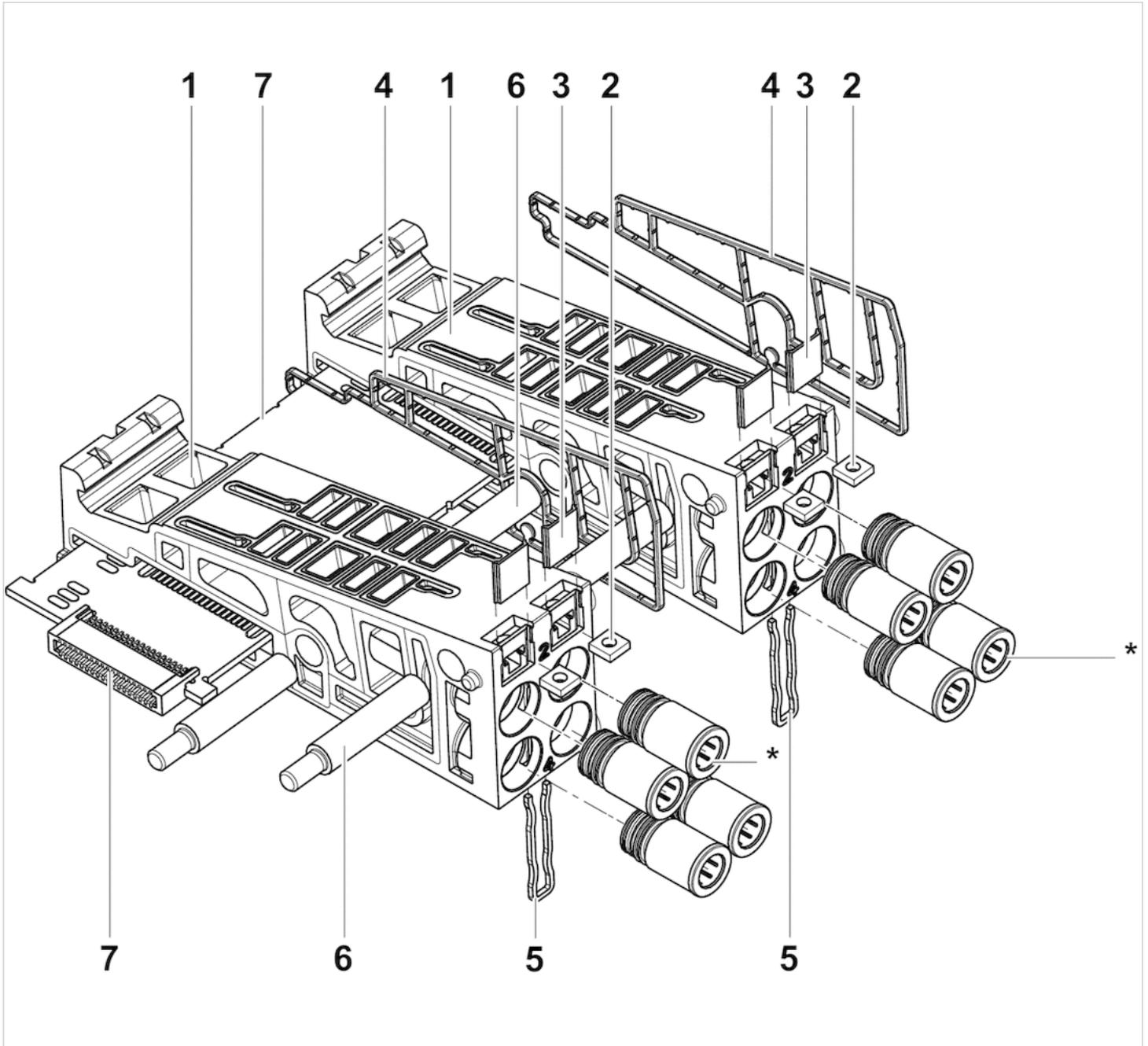
After three I/O modules or 8 valves, mount a retaining bracket (R412018339) to fasten the entire unit to the mounting surface.

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 AV05-EP



Working pressure min./max.	0 ... 159 psi
Ambient temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	See table below

Technical data

Part No.	Type
R414007182	Base plate for single pressure control for multipole connection
R414007535	Base plate for single pressure control for fieldbus connection
R414007183	Base plate for pressure zone control for multipole connection
R414007536	Base plate for pressure zone control for fieldbus connection

Part No.	Scope of delivery	Weight
R414007182	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 2 tie rod extensions (6), and 1 extension circuit board (7)	0.353 lbs
R414007535	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 2 tie rod extensions (6), and 1 extension circuit board (7)	0.357 lbs
R414007183	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 2 tie rod extensions (5), and 1 extension circuit board (6)	0.333 lbs
R414007536	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 2 tie rod extensions (5), and 1 extension circuit board (6)	0.337 lbs

Technical information

The base plate can only be used in conjunction with an AV05-EP. 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.

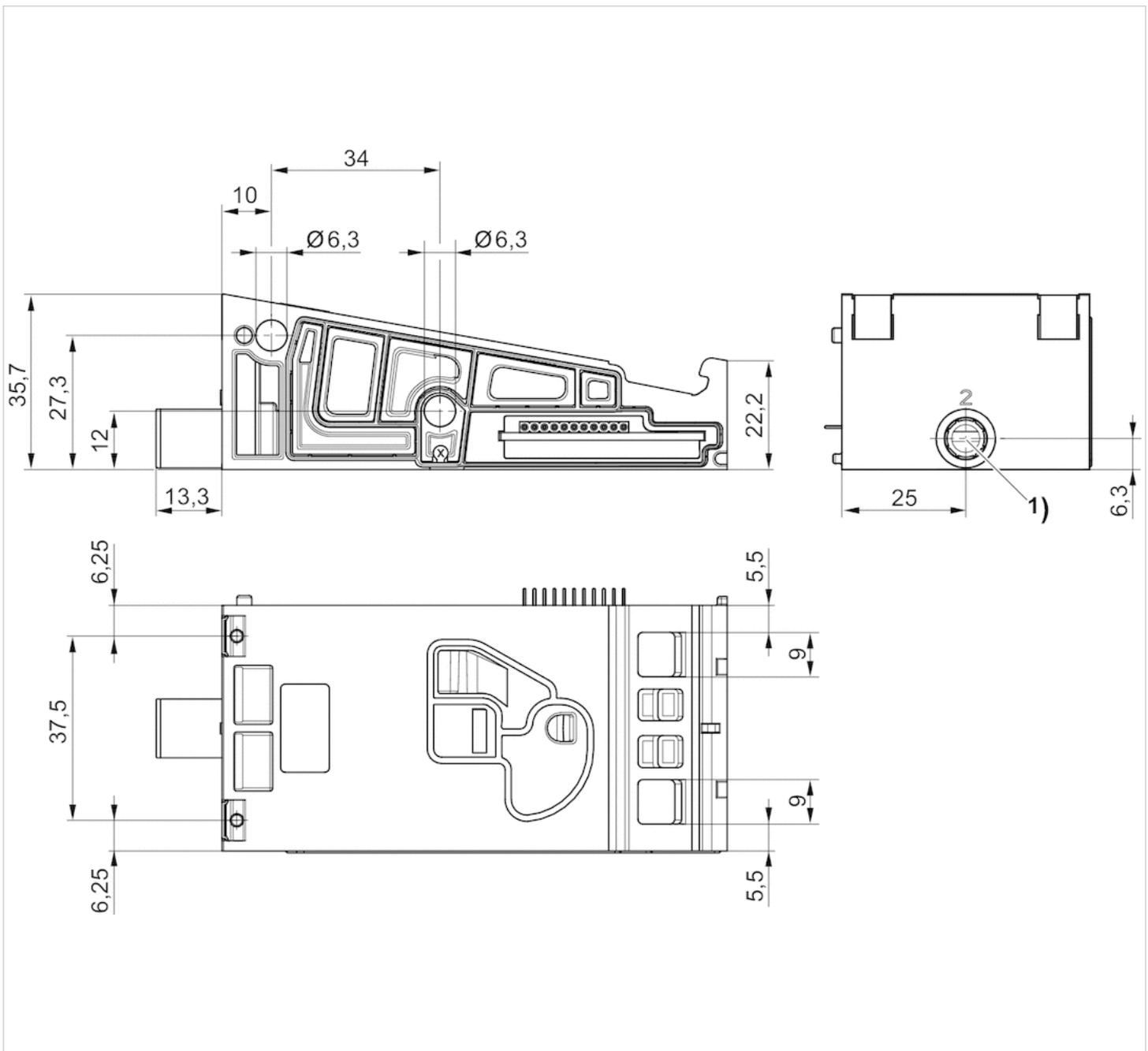
Technical information

Material

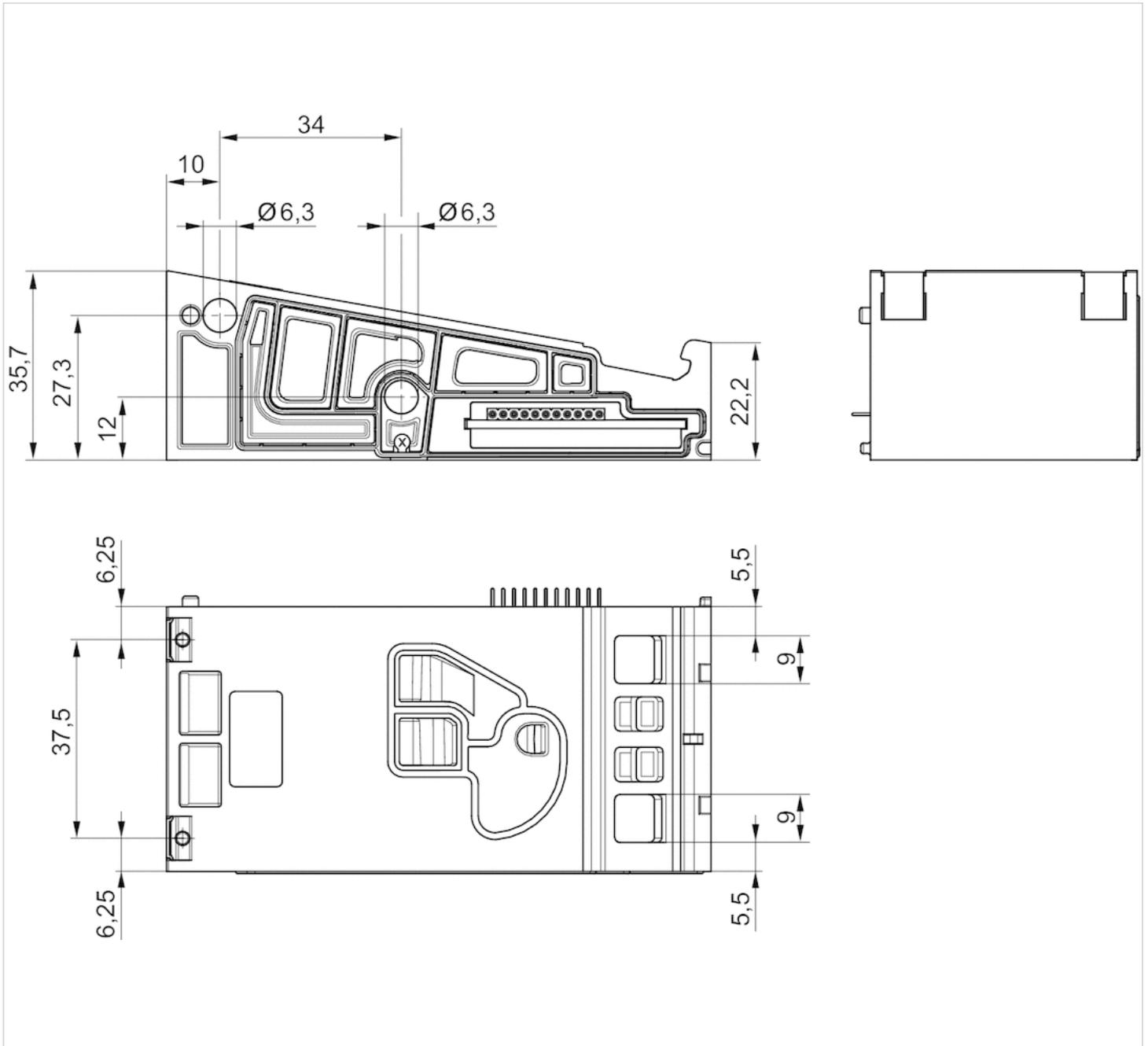
Housing	Polyamide
Seals	Nitrile butadiene rubber

Dimensions

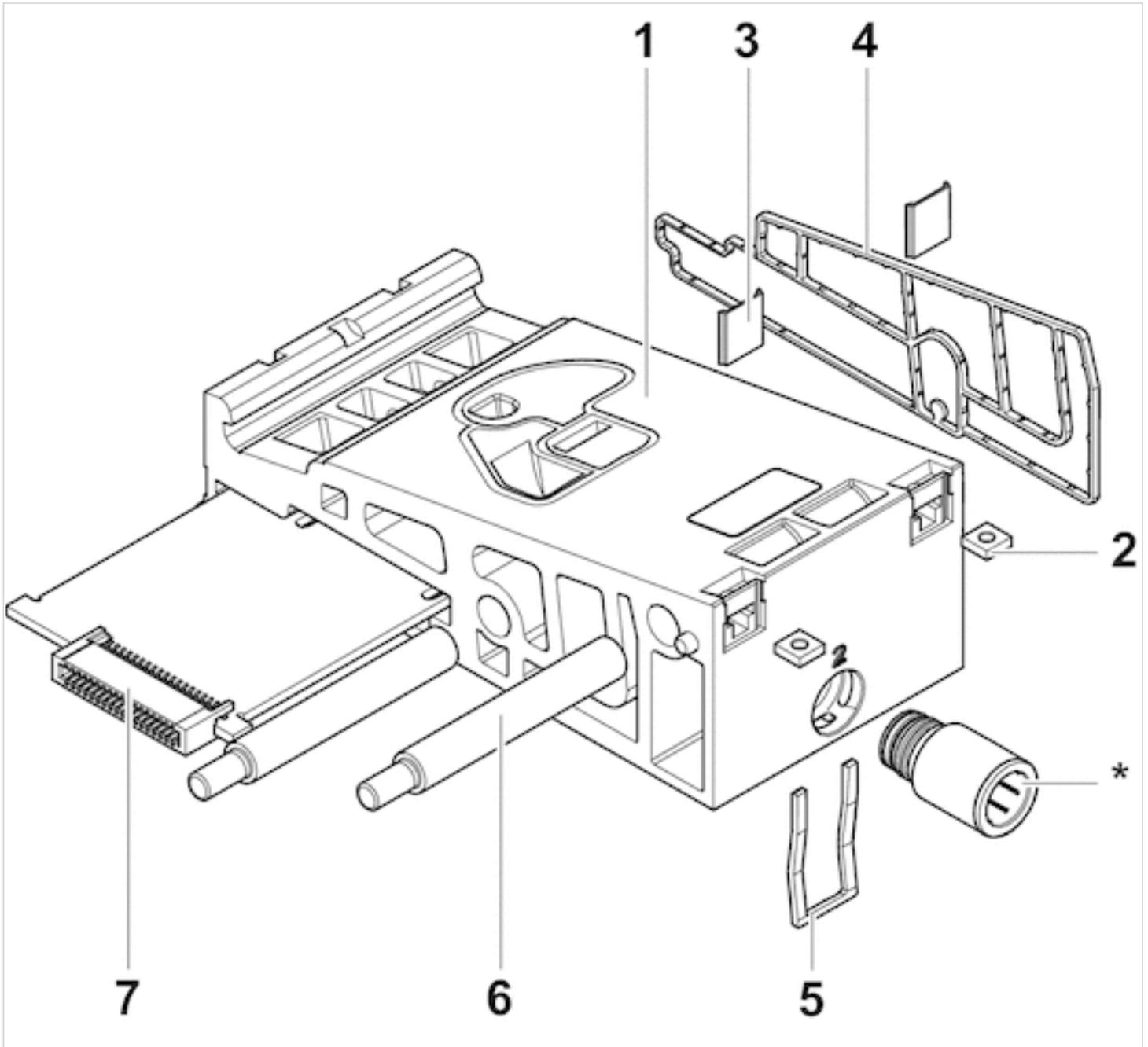
Dimensions, single pressure control



Dimensions



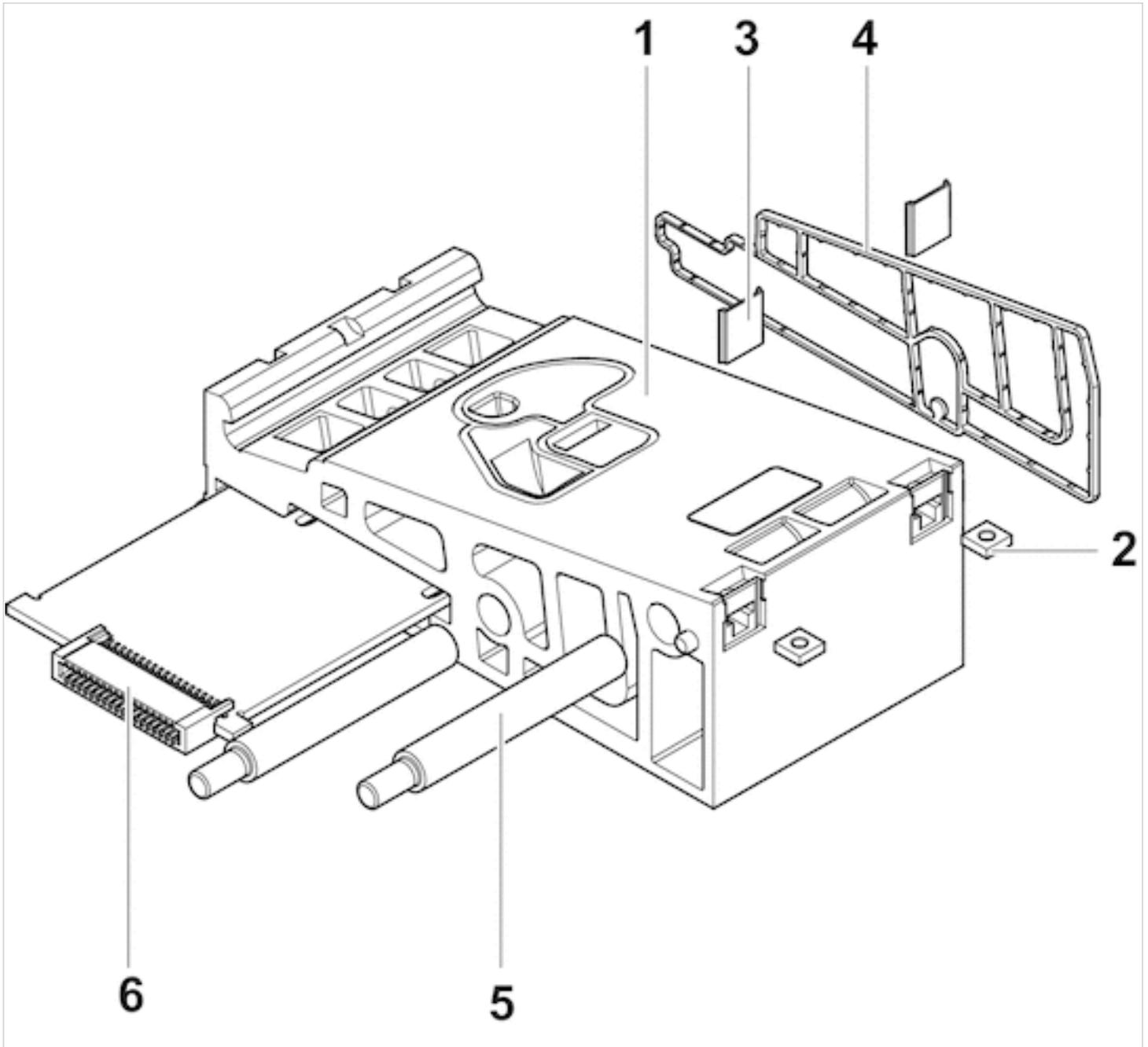
Overview drawing, Single pressure control



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

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

Overview drawing, Pressure zone control



Extension kit for base plate

- for series AV05-BP



Working pressure min./max.	-13 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	See table below

Technical data

Part No.	Type
R412026456	Base plate 2x for double solenoid valves for fieldbus
R412026457	Base plate 4x for double solenoid valves for fieldbus
R412026458	Base plate 2x for double solenoid valves for multipole plug
R412026459	Base plate 2x for single solenoid valves for multipole plug

Part No.	Scope of delivery	Weight	Fig.
R412026456	1 base plate (1) incl. 2 labels (2), 1 seal (3), 2 nuts (4), 2 tie rod extensions (5), 2 cable markers (6), and 1 extension circuit board (7)	0.441 lbs	Fig. 1
R412026457	2 base plates (1) incl. 4 labels (2), 2 seals (3), 4 nuts (4), 4 tie rod extensions (5), 4 cable markers (6), and 1 extension circuit board (7)	0.22 lbs	Fig. 2
R412026458	1 base plate (1) incl. 2 labels (2), 1 seal (3), 2 nuts (4), 2 tie rod extensions (5), 2 cable markers (6), and 1 extension circuit board (7)	0.441 lbs	Fig. 1
R412026459	1 base plate (1) incl. 2 labels (2), 1 seal (3), 2 nuts (4), 2 tie rod extensions (5), 2 cable markers (6), and 1 extension circuit board (7)	0.441 lbs	Fig. 1

Technical information

When using push-in fittings, observe the maximum permissible external diameters. These can be found in the operating instructions. The base plate can only be used in conjunction with an AV05-BP.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Seals	Nitrile rubber

Dimensions

Fig. 1

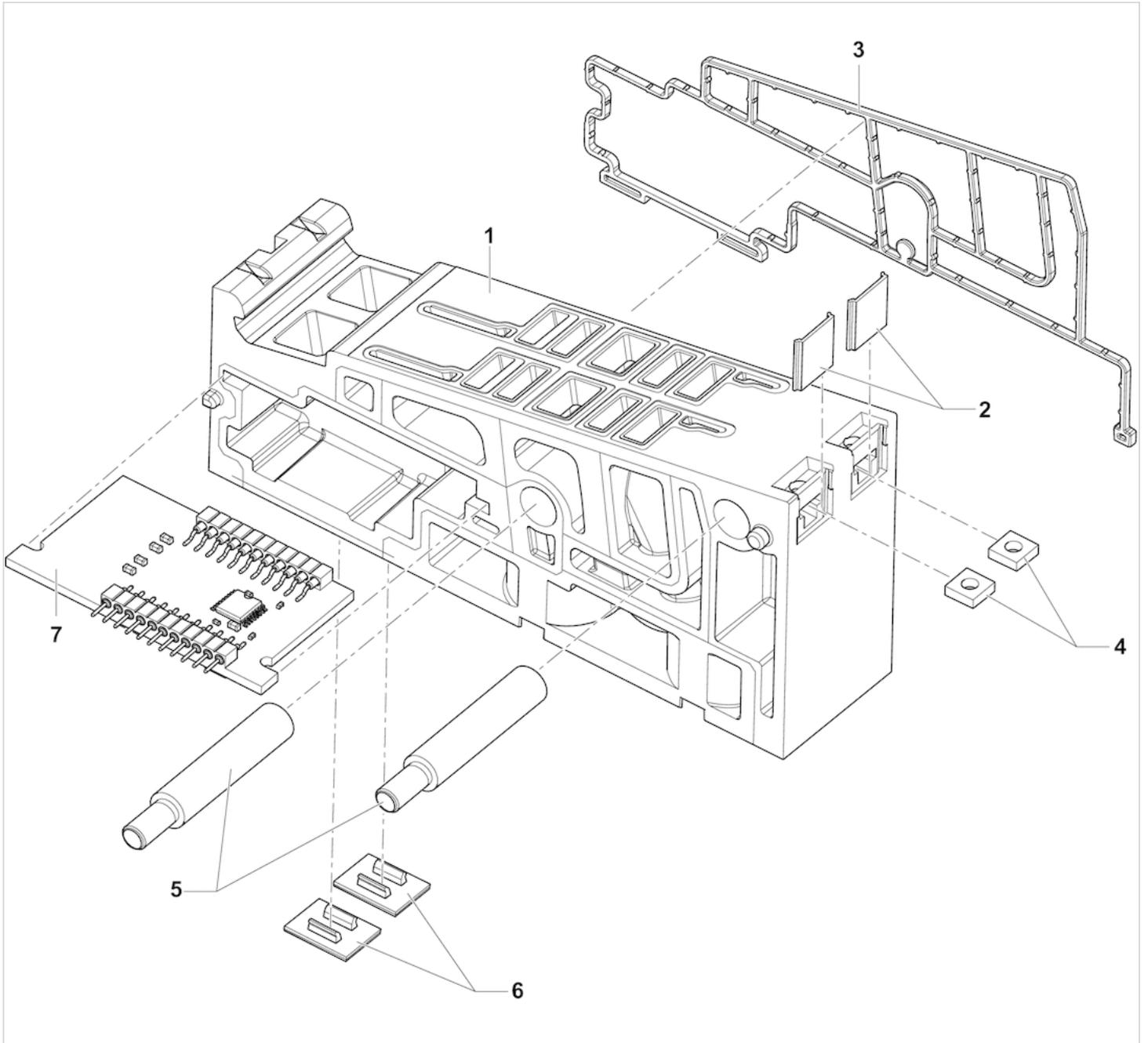
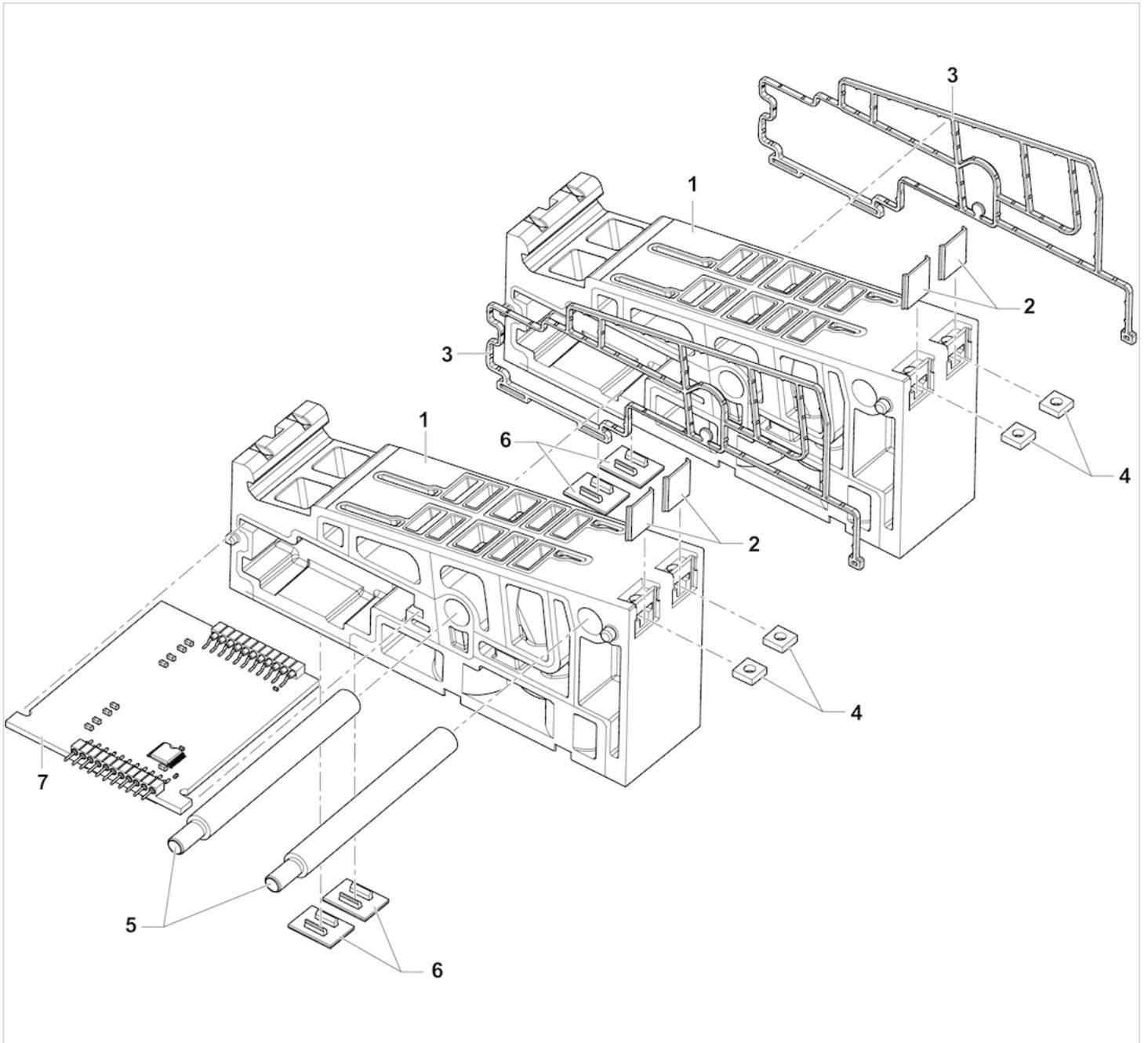


Fig. 2



Extension kit, supply plate

- for series AV05



Working pressure min./max.

-13 ... 145 psi

Ambient temperature min./max.

14 ... 140 °F

Medium

Compressed air

Technical data

Part No.		Valve system version	Position
R412020070		Fieldbus	1
R412022579		Multipole	1
R412020071		Fieldbus	1
R412022580		Multipole	1
R412020072		Fieldbus	1
R412022581		Multipole	1
R412020073		Fieldbus	1
R412022582		Multipole	1
R412023849		Fieldbus	1
R412023847		Multipole	1
R412023851		Fieldbus	1
R412023848		Multipole	1

Part No.	Type
R412020070	Supply plate, connection 1, no pressure zones
R412022579	Supply plate, connection 1, no pressure zones
R412020071	Supply plate, connection 1, separate pressure zones in channels 1/3/5
R412022580	Supply plate, connection 1, separate pressure zones in channels 1/3/5
R412020072	Supply plate, connection 1, separate pressure zone in channel 1
R412022581	Supply plate, connection 1, separate pressure zone in channel 1
R412020073	Supply plate, connection 1, separate pressure zones in channels 3/5
R412022582	Supply plate, connection 1, separate pressure zones in channels 3/5
R412023849	Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X

Part No.	Type
R412023847	Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X
R412023851	Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X
R412023848	Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X

Part No.	Scope of delivery	Fig.
R412020070	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 1
R412022579	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 1
R412020071	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 1
R412022580	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 1
R412020072	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 1
R412022581	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 1
R412020073	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 1
R412022582	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 1
R412023849	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 1
R412023847	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 1
R412023851	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board	Fig. 2
R412023848	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, 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.

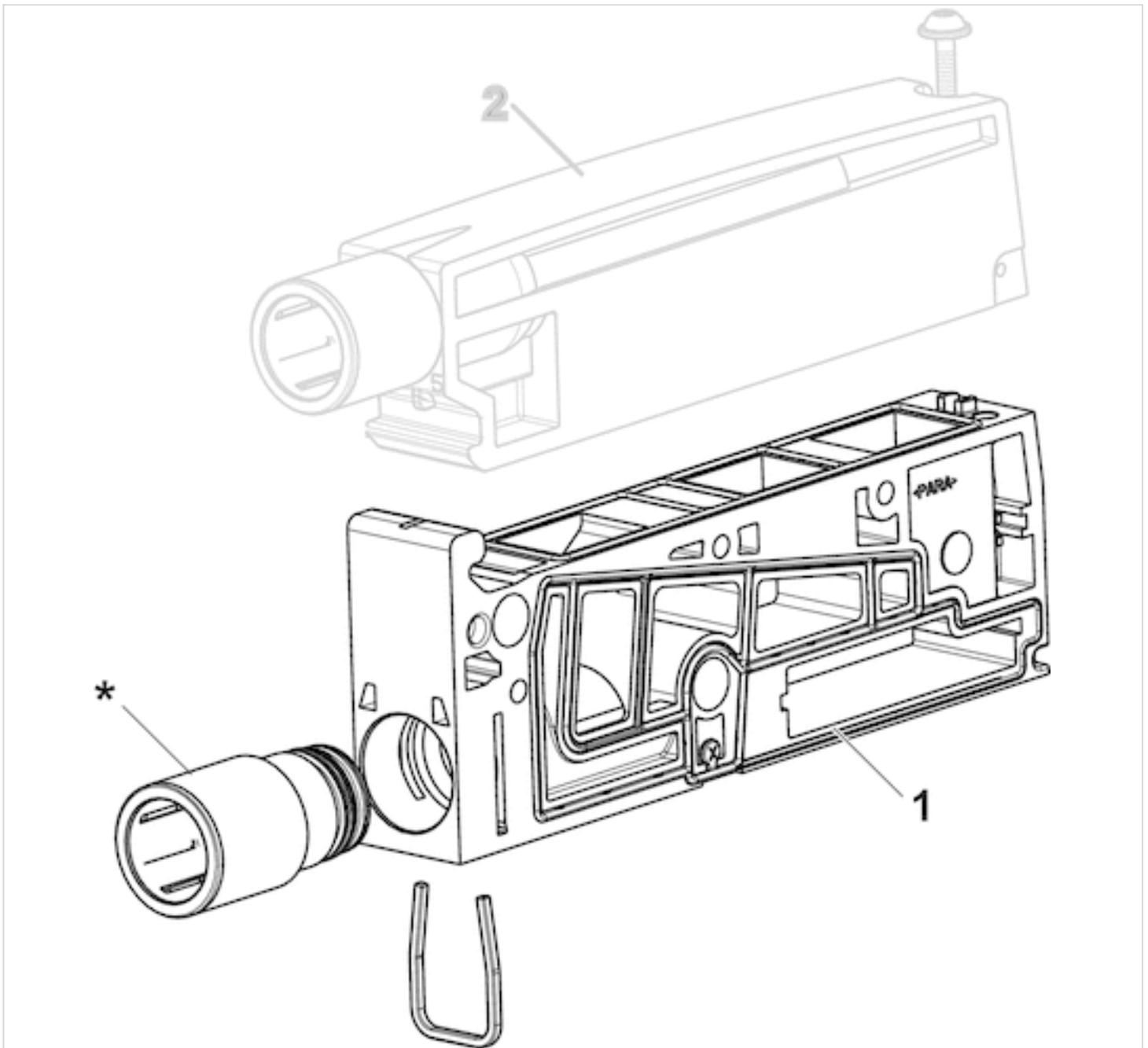
Technical information

Material

Seals	Nitrile rubber
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Dimensions

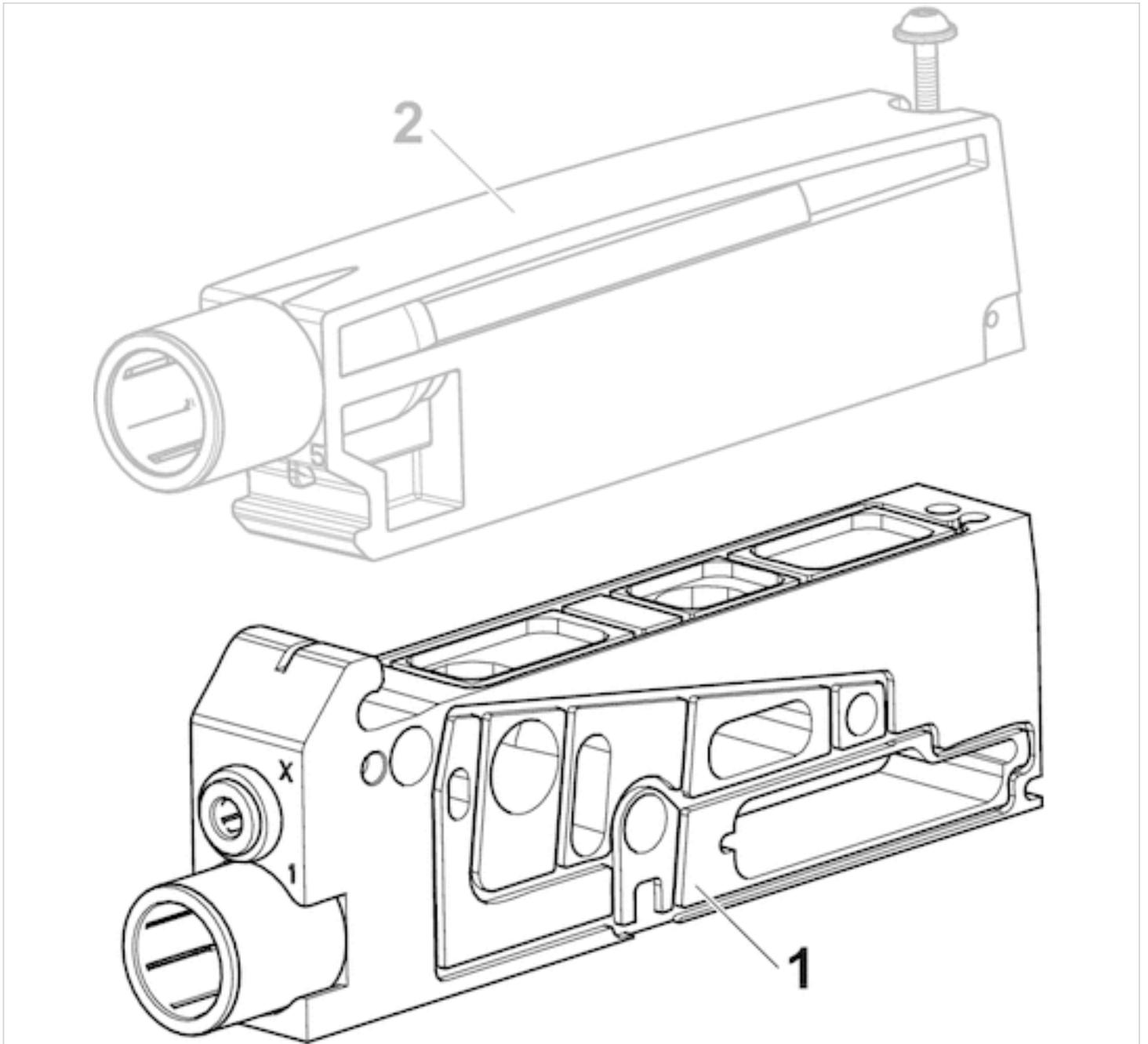
Fig. 1



material: housing: Polyamide, fiber-glass reinforced

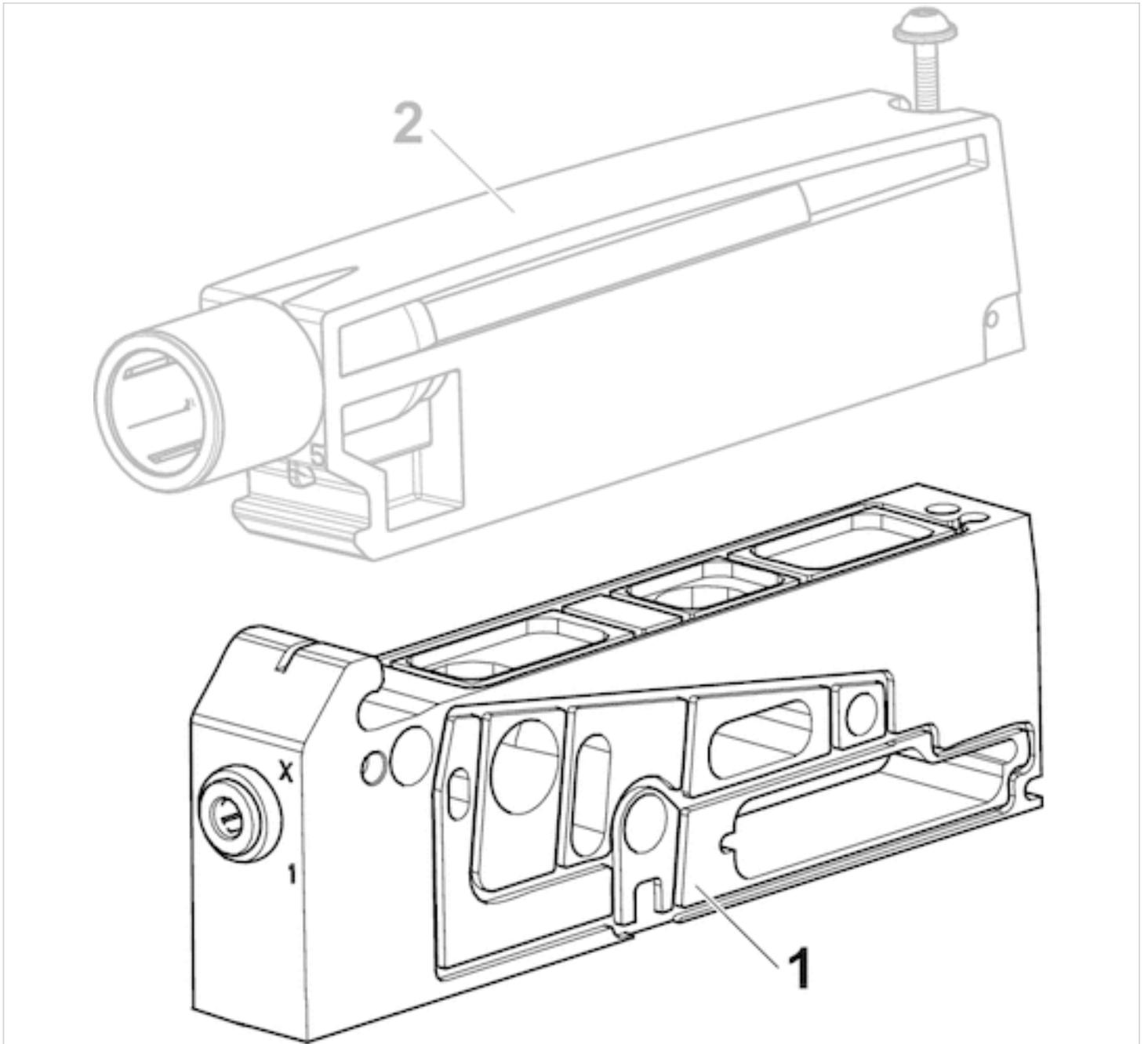
* For more information on push-in fittings, see the "Push-in fittings" page for the AV series in the catalog.

Fig. 2



material housing: aluminum

Fig. 3



material housing: aluminum

Extension kit, supply plate with switch-off voltage monitoring

- for series AV05



Working pressure min./max.	-13 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium	Compressed air
Max. particle size	40 µm
Oil content of compressed air	0 ... 5 mg/m ³

Technical data

Part No.		Valve system version
R412025072		Fieldbus
R412025073		Fieldbus
R412025074		Fieldbus
R412025075		Fieldbus
R412025076		Fieldbus
R412025077		Fieldbus

Part No.	Type
R412025072	Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X
R412025073	Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X
R412025074	Supply plate, connection 1, no pressure zones
R412025075	Supply plate, connection 1, separate pressure zones in channels 1/3/5
R412025076	Supply plate, connection 1, separate pressure zone in channel 1
R412025077	Supply plate, connection 1, separate pressure zones in channels 3/5

Part No.	Housing material
R412025072	Polyarylamide, fiber-glass reinforced
R412025073	Aluminum
R412025074	Polyarylamide, fiber-glass reinforced
R412025075	Polyarylamide, fiber-glass reinforced
R412025076	Polyarylamide, fiber-glass reinforced
R412025077	Polyarylamide, fiber-glass reinforced

Part No.	Scope of delivery
R412025072	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board
R412025073	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board
R412025074	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board
R412025075	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board
R412025076	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board
R412025077	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 2 screws, 2 tie rod extensions, 1 push-in fitting Ø 12 mm, straight, and 1 extension circuit board

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.

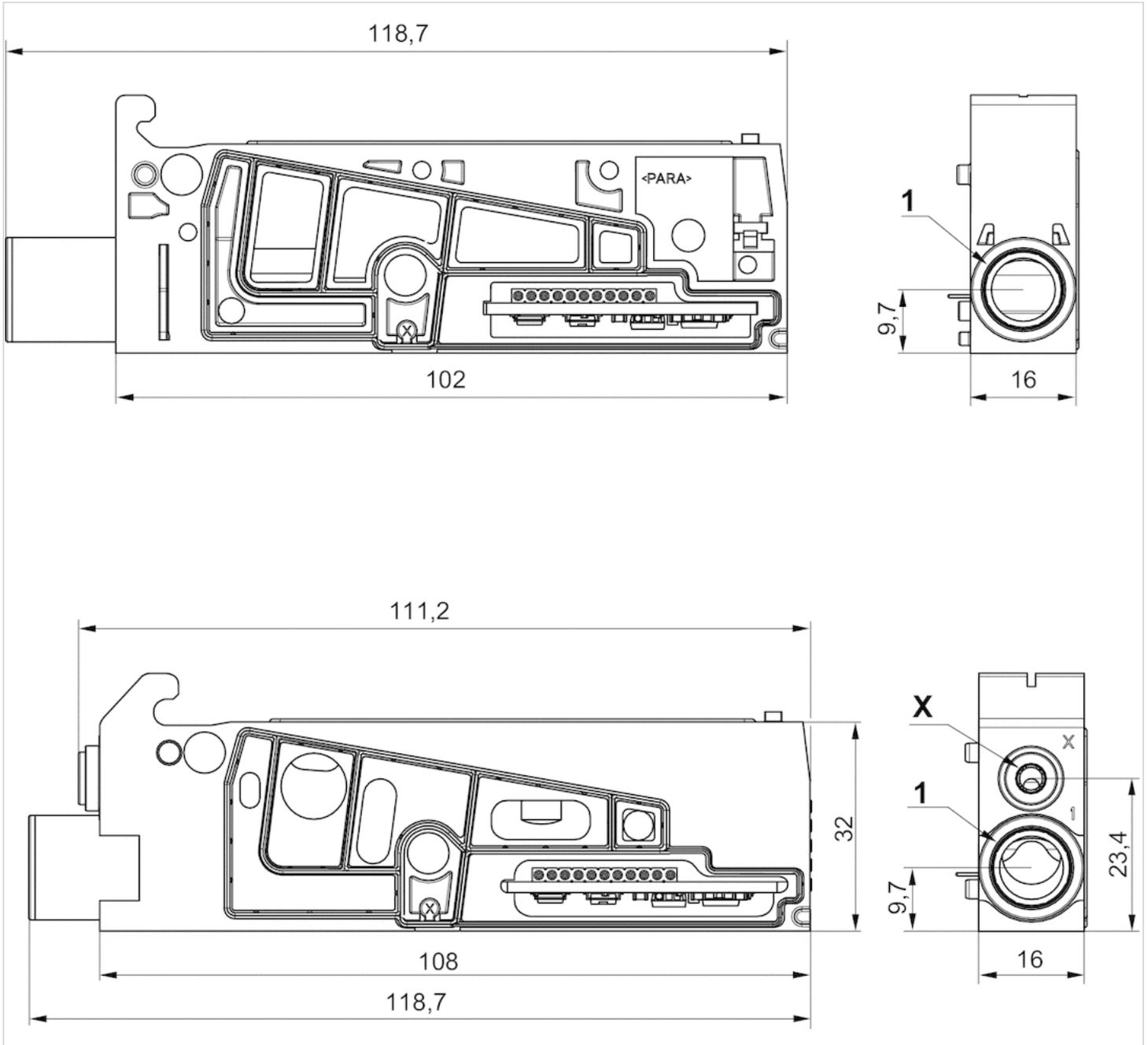
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

Material	
Housing	Polyarylamide, fiber-glass reinforced Aluminum
Seals	Nitrile rubber

Dimensions

Dimensions



1) Push-in connector, Ø 12 mm

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 AV05-BP



Working pressure min./max.	-1 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	0.992 lbs

Technical data

Part No.		Valve system version
R412026442		Fieldbus
R412026446		Multipole
R412026443		Fieldbus
R412026447		Multipole
R412026444		Fieldbus
R412026448		Multipole
R412026445		Fieldbus
R412026449		Multipole

Part No.	Type
R412026442	Supply plate, connection 1, 3, 5, no pressure zones
R412026446	Supply plate, connection 1, 3, 5, no pressure zones
R412026443	Supply plate, connection 1, 3, 5 separate pressure zones in channels 1/3/5
R412026447	Supply plate, connection 1, 3, 5 separate pressure zones in channels 1/3/5
R412026444	Supply plate, connection 1, 3, 5 separate pressure zones in channels 1
R412026448	Supply plate, connection 1, 3, 5 separate pressure zones in channels 1
R412026445	Supply plate, connection 1, 3, 5 separate pressure zones in channels 3/5
R412026449	Supply plate, connection 1, 3, 5 separate pressure zones in channels 3/5

Part No.	Scope of delivery
R412026442	Supply plate (2) incl. 1 seal (1), 2 tie rod extensions (3) and 2 extension circuit boards (4)
R412026446	Supply plate (2) incl. 1 seal (1), 2 tie rod extensions (3) and 2 extension circuit boards (4)
R412026443	Supply plate (2) incl. 1 seal (1), 2 tie rod extensions (3) and 2 extension circuit boards (4)

Part No.	Scope of delivery
R412026447	Supply plate (2) incl. 1 seal (1), 2 tie rod extensions (3) and 2 extension circuit boards (4)
R412026444	Supply plate (2) incl. 1 seal (1), 2 tie rod extensions (3) and 2 extension circuit boards (4)
R412026448	Supply plate (2) incl. 1 seal (1), 2 tie rod extensions (3) and 2 extension circuit boards (4)
R412026445	Supply plate (2) incl. 1 seal (1), 2 tie rod extensions (3) and 2 extension circuit boards (4)
R412026449	Supply plate (2) incl. 1 seal (1), 2 tie rod extensions (3) and 2 extension circuit boards (4)

Technical information

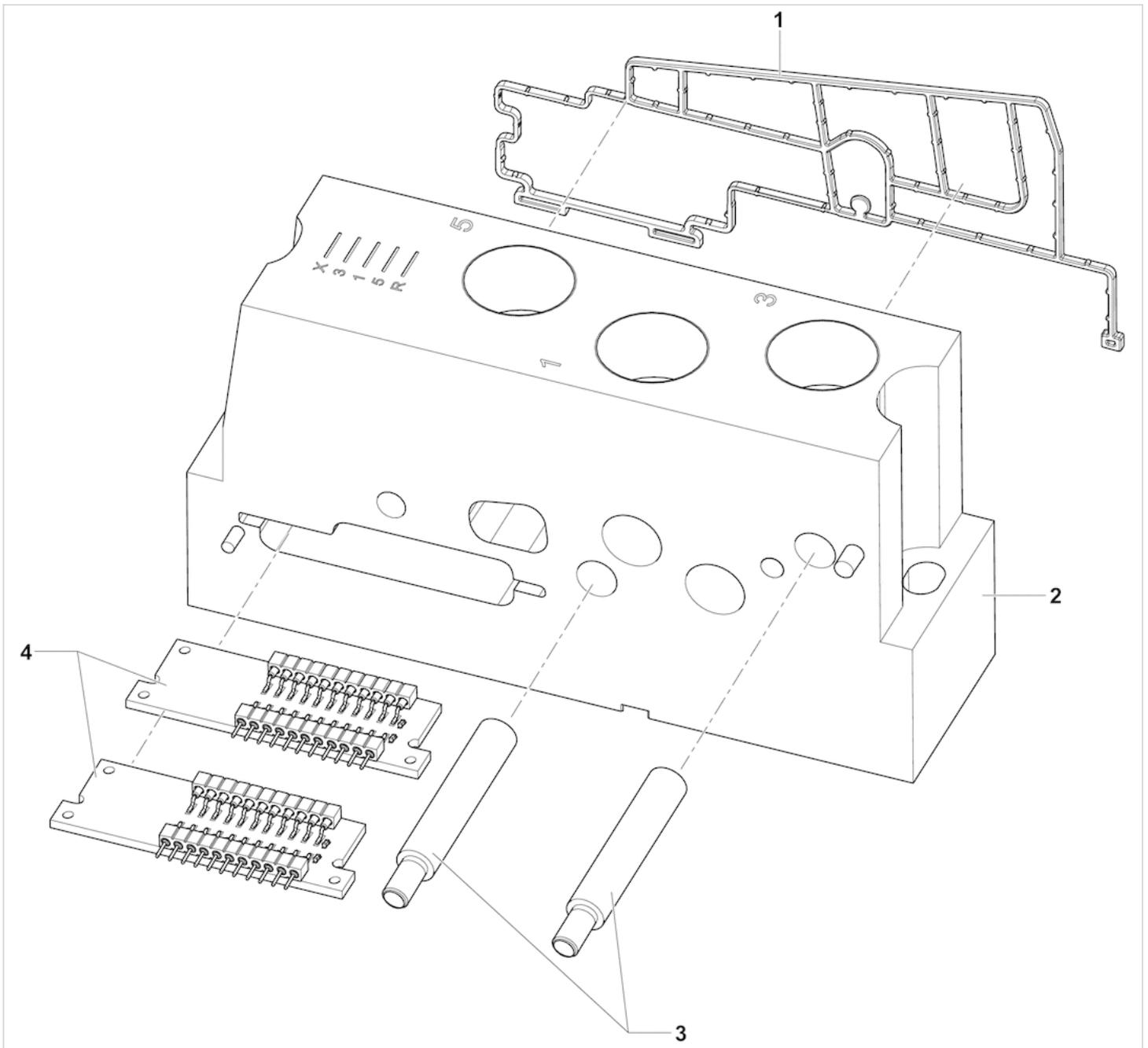
The top and bottom connections of the AV-BP supply plates are connected internally. Make sure the top and bottom connections on the supply plates are connected, and that unused connections are sealed.

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

Dimensions



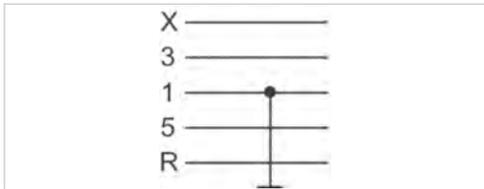
- 1) Seal
- 2) Housing
- 3) Tie rod extension, 2 piece
- 5) Extension circuit board

Extension kit, electrical supply plate

- for AV05, AES



Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Max. power consumption	2 A
Protection class	IP65
Weight	0.346 lbs



Technical data

Part No.	Scope of delivery
R412021778	Supply plate, incl. 1 seal, 2 tie rods, and 2 screws for extension

Part No.	electrical connections	DC operating voltage	Voltage tolerance DC
R412021778	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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 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).

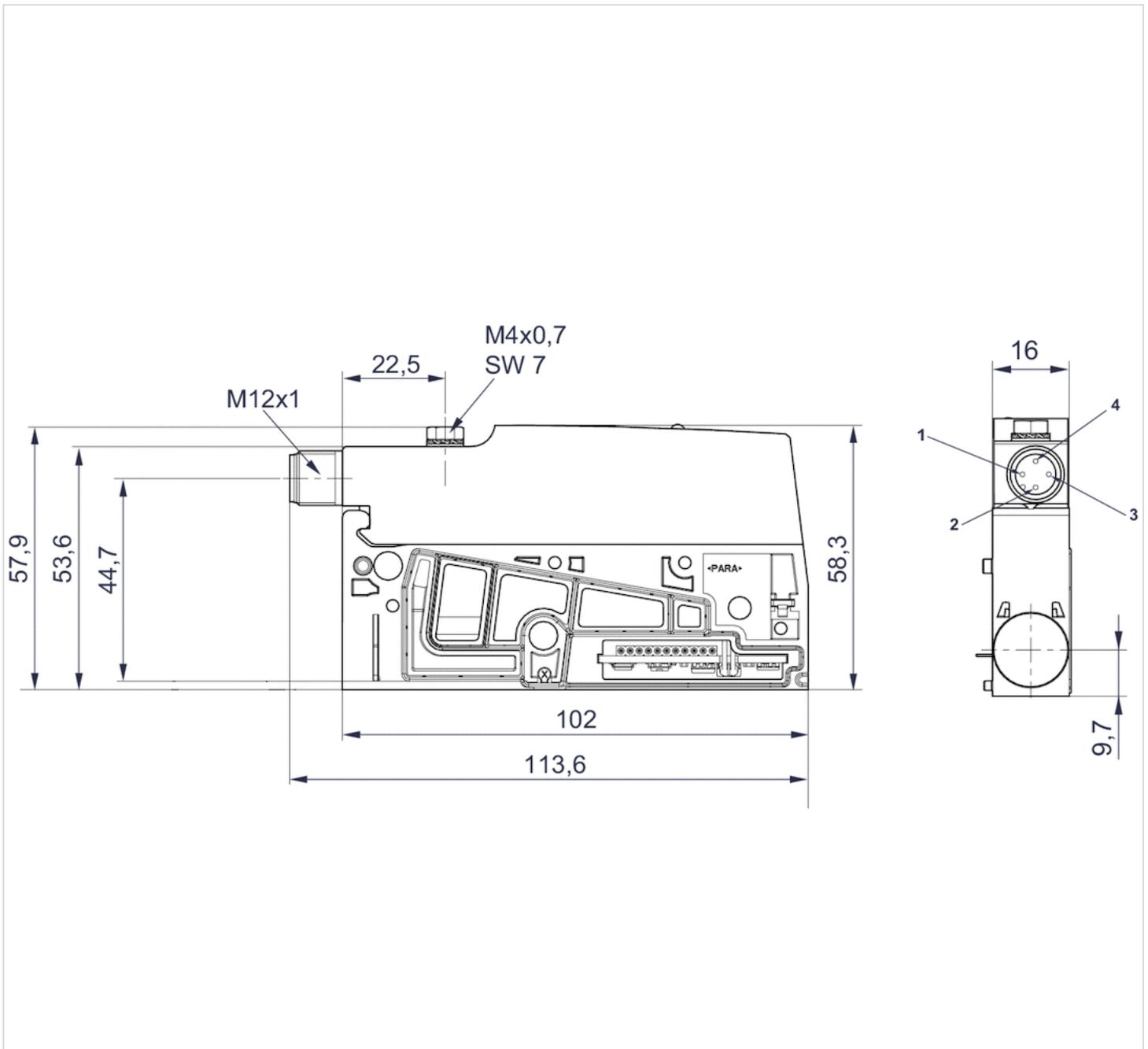
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 Please note that the supply plate may only be used in conjunction with AES series fieldbus modules.

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 AV05



Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Max. power consumption	1 A
Protection class	IP65
Weight	0.353 lbs

X
3
1
5
R

Technical data

Part No.	Scope of delivery
R412022744	M12 control module (incl. base plate for 2 valve positions incl. 2 nuts, 2 labels), 2 tie rod extensions 16 mm, 2 tie rod extensions 25 mm, 2 retaining clips, and 2 seals

Part No.	electrical connections	DC operating voltage	Voltage tolerance AC 50 Hz
R412022744	M12, 5-pin, A-coded	24 V	-10% / +10%

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 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).

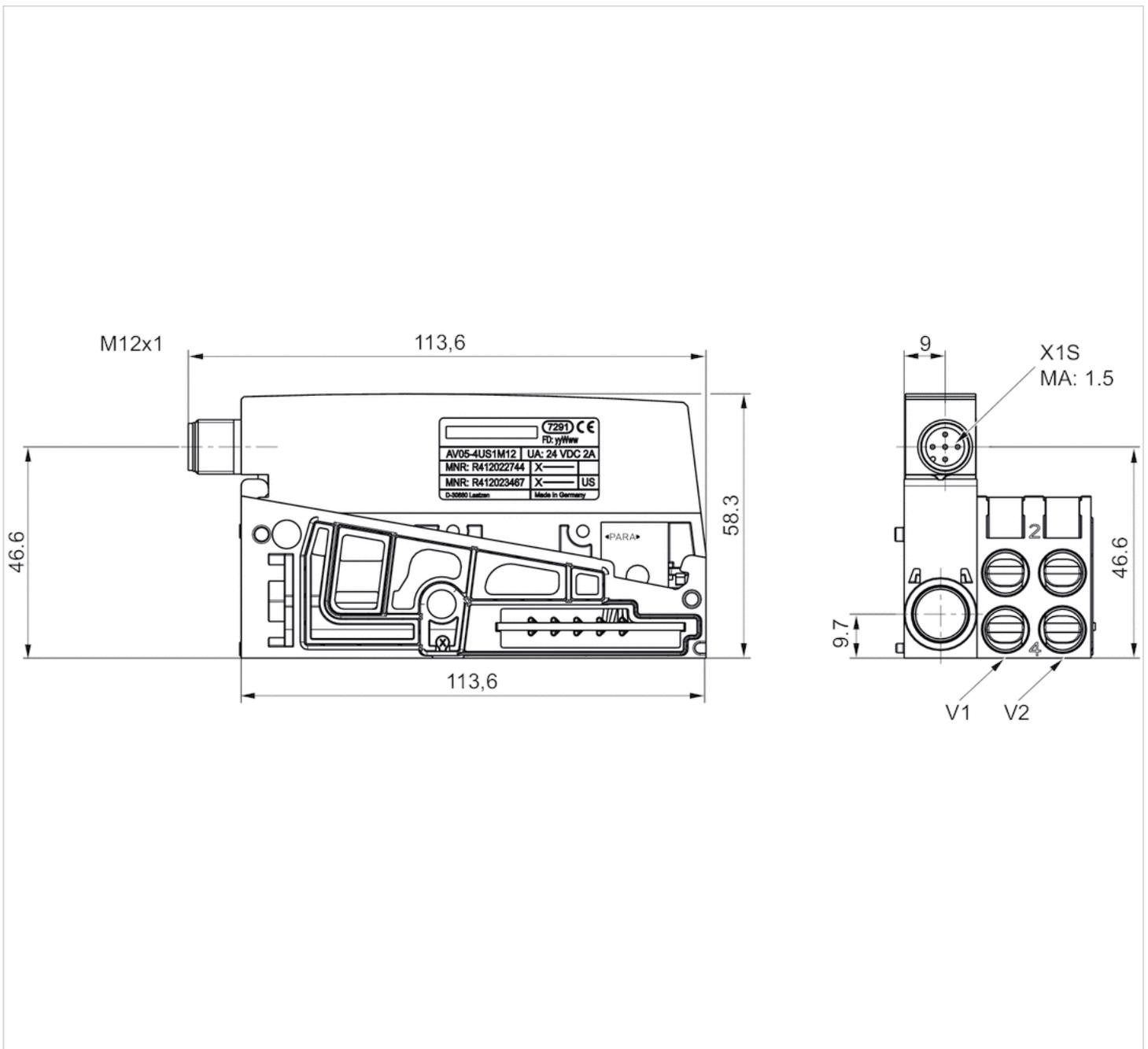
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

Material	
Housing	Polyamide Aluminum
Seal	Nitrile rubber

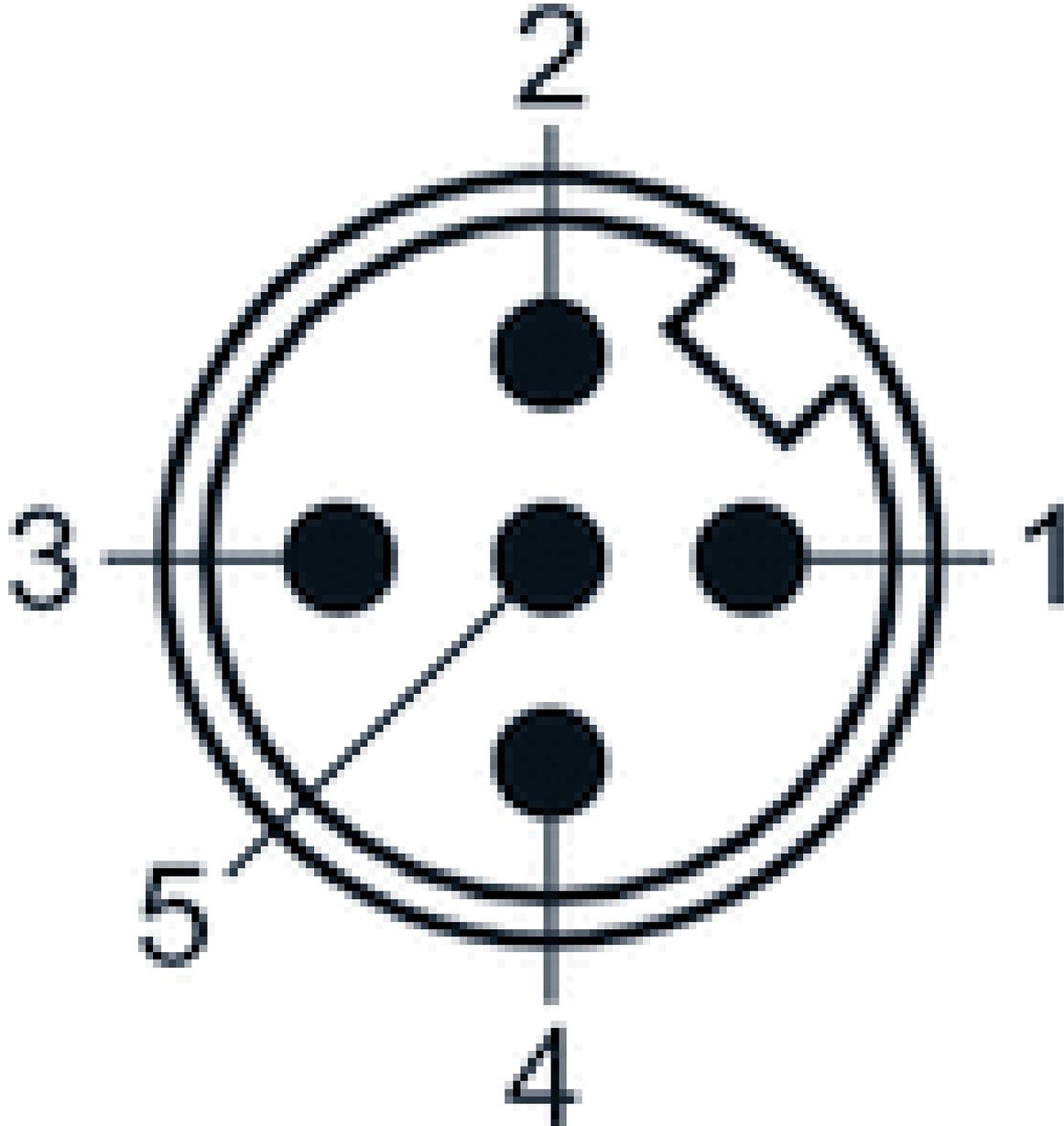
Dimensions

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



Working pressure min./max.

-13 ... 145 psi

Ambient temperature min./max.

14 ... 140 °F

Medium

Compressed air

Technical data

Part No.		Position	Type
R412021780		1	Supply plate, connection 1, no pressure zones
R412022594		1	Supply plate, connection 1, no pressure zones
R412021777		1	Supply plate, connection 1, no pressure zones
R412022592		1	Supply plate, connection 1, no pressure zones
R412021779		1	Supply plate, connection 1, separate pressure zones in channels 1/3/5
R412022593		1	Supply plate, connection 1, separate pressure zones in channels 1/3/5
R412021776		1	Supply plate, connection 1, separate pressure zones in channels 1/3/5
R412022591		1	Supply plate, connection 1, separate pressure zones in channels 1/3/5

Part No.	Scope of delivery	Pilot connection
R412021780	Combination module, connection 1, no pressure zones	Ø 12
R412022594	Combination module, connection 1, no pressure zones	3/8"
R412021777	Combination module, connection 1, no pressure zones	Ø 12
R412022592	Combination module, connection 1, no pressure zones	3/8"
R412021779	Combination module, connection 1, separate pressure zones in channels 1/3/5	Ø 12
R412022593	Combination module, connection 1, separate pressure zones in channels 1/3/5	3/8"
R412021776	Combination module, connection 1, separate pressure zones in channels 1/3/5	Ø 12
R412022591	Combination module, connection 1, separate pressure zones in channels 1/3/5	3/8"

Part No.	Valve system version
R412021780	Fieldbus

Part No.	Valve system version
R412022594	Fieldbus
R412021777	Multipole
R412022592	Multipole
R412021779	Fieldbus
R412022593	Fieldbus
R412021776	Multipole
R412022591	Multipole

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 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).

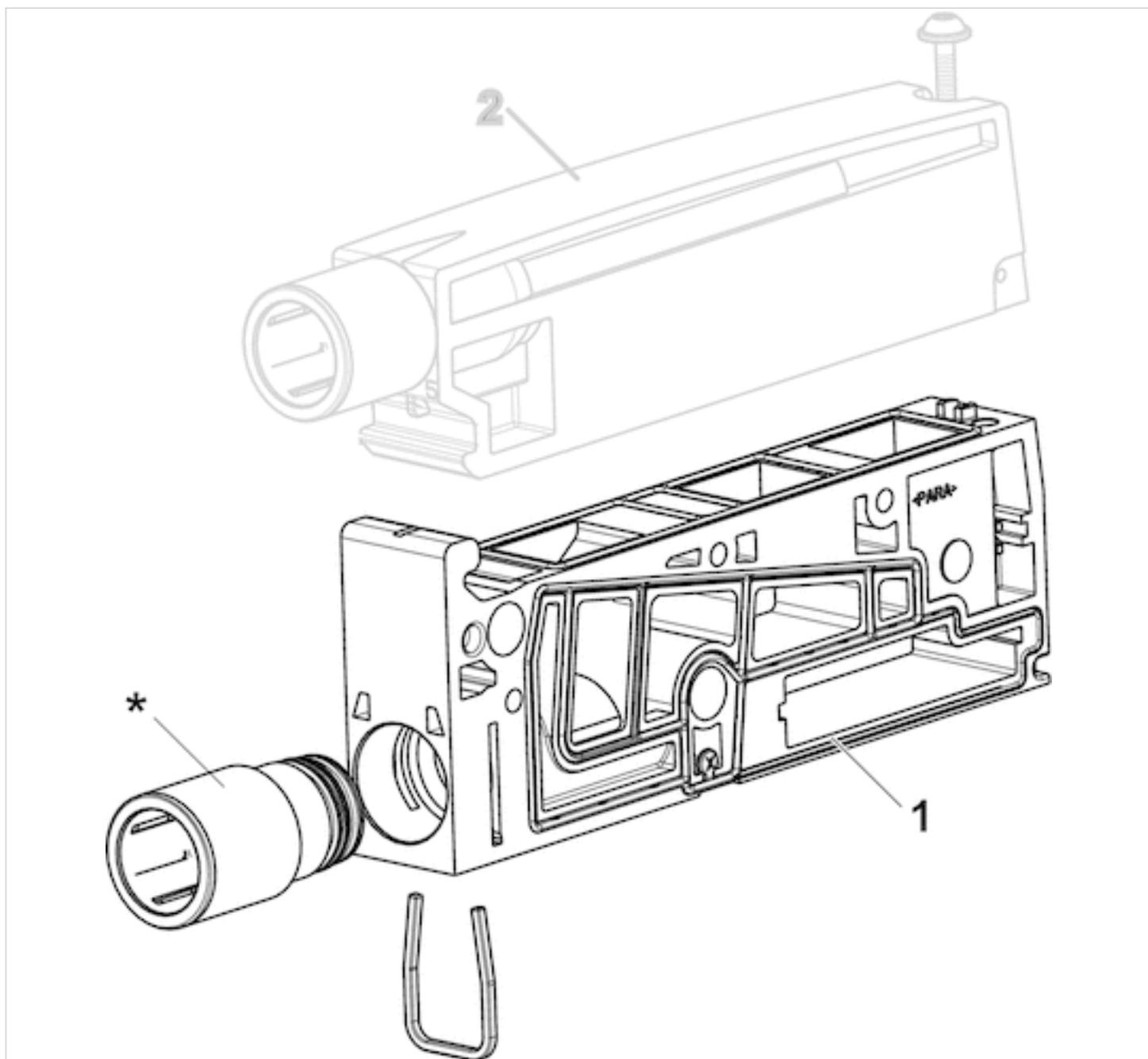
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Seal	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, combination plate

- for series AV03, AV05, HF02-LG



Ambient temperature min./max. 14 ... 140 °F
 Weight 0.463 lbs

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

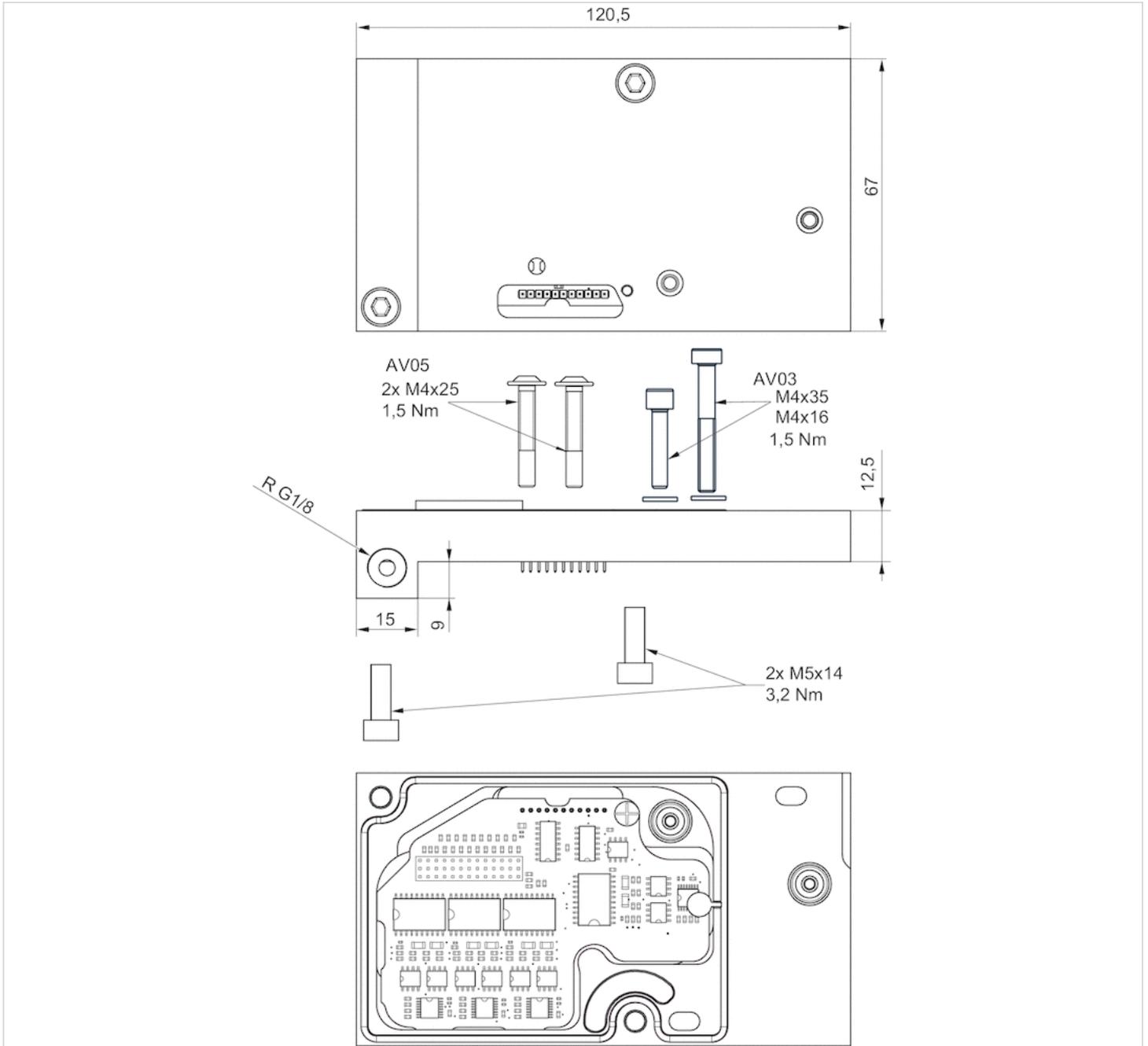
The multipole combination plate can transmit up to 30 signals and is suitable for use with AV variants with 25-pin D-Sub plug as well as 44-pin D-Sub plug.

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

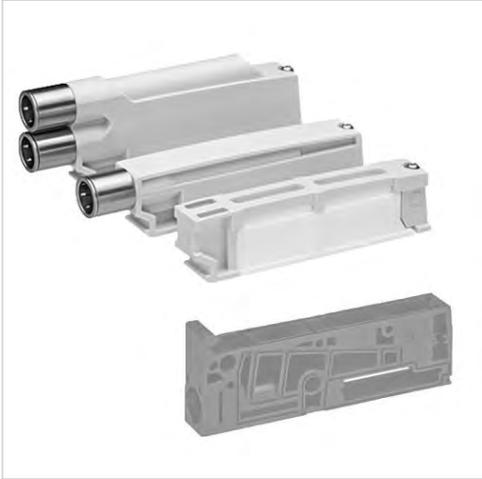
Material	
Housing	Aluminum
Seals	Nitrile rubber

Dimensions



Extension kit, exhaust module for supply plate

- for series AV05



Working pressure min./max.

-13 ... 145 psi

Ambient temperature min./max.

14 ... 140 °F

Medium

Compressed air

Technical data

Part No.	Type
R412020087	Exhaust module 3, 5, and R with flat silencer
R412020088	Exhaust module with combined collected exhaust 3 and 5
R412020089	Exhaust module with separate collected exhaust 3 and 5

Part No.	Scope of delivery
R412020087	Exhaust module, including 1 seal, 1 mounting screw
R412020088	Exhaust module: incl. 1 mounting screw, push-in fitting Ø 12 mm
R412020089	Exhaust module: incl. 1 mounting screw, push-in fitting Ø 12 mm

Technical information

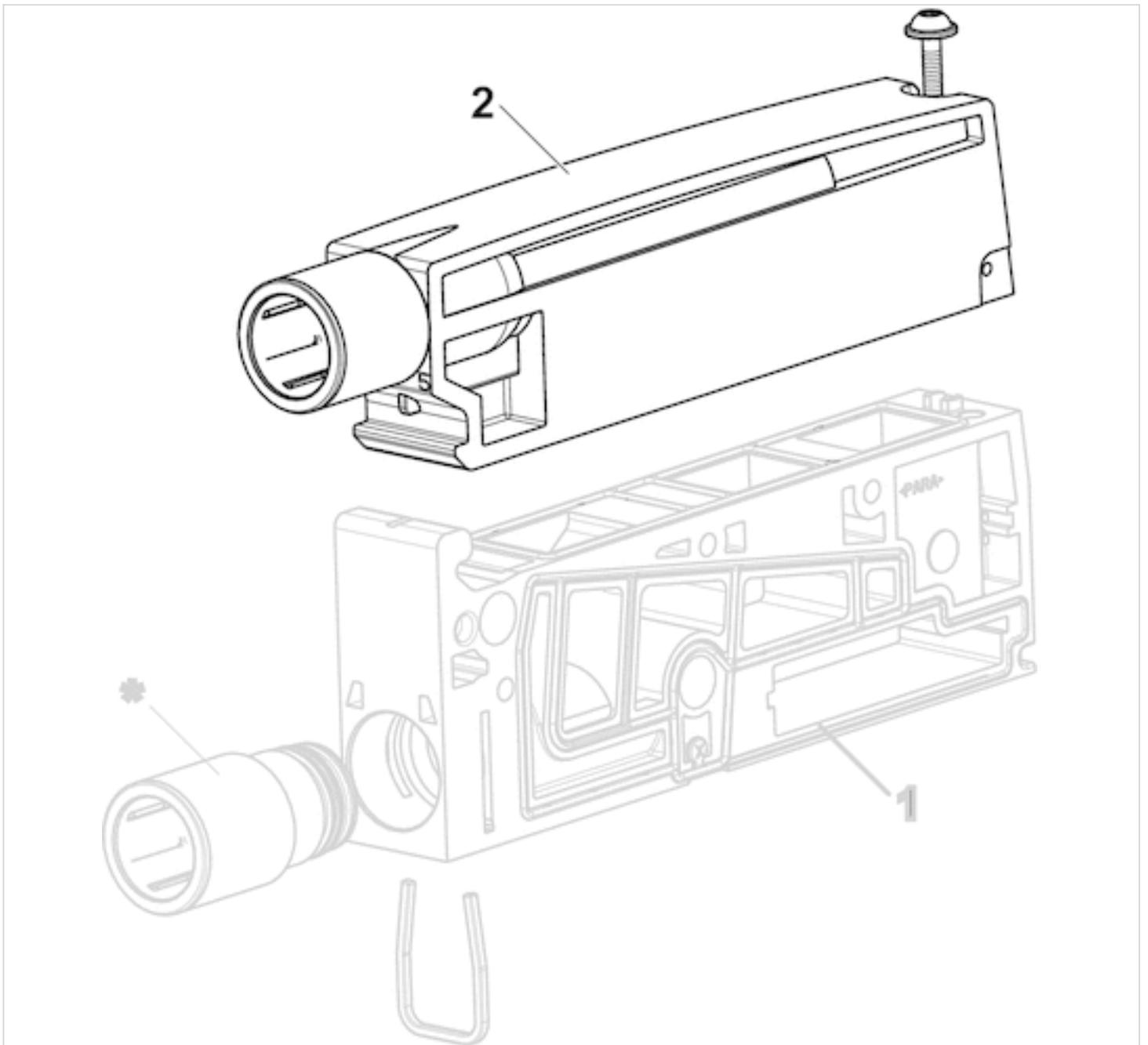
When using polyurethane tubing, we recommend using additional stiffener sleeves.
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Seals	Nitrile rubber

Dimensions

Overview drawing

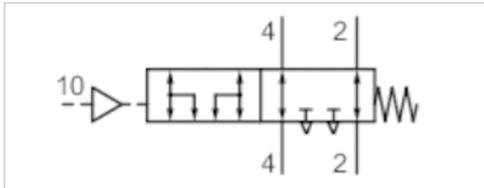


Exhaust module, Series AV

- Pneumatically operated, for port channels 2, 4
- push-in fitting



Working pressure min./max.	0 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	0.154 lbs



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	1.1 Cv
R422003185	push-in fitting	Ø 6	Ø 4	0.732 Cv
R422003187	push-in fitting	Ø 4	Ø 4	0.284 Cv

Technical information

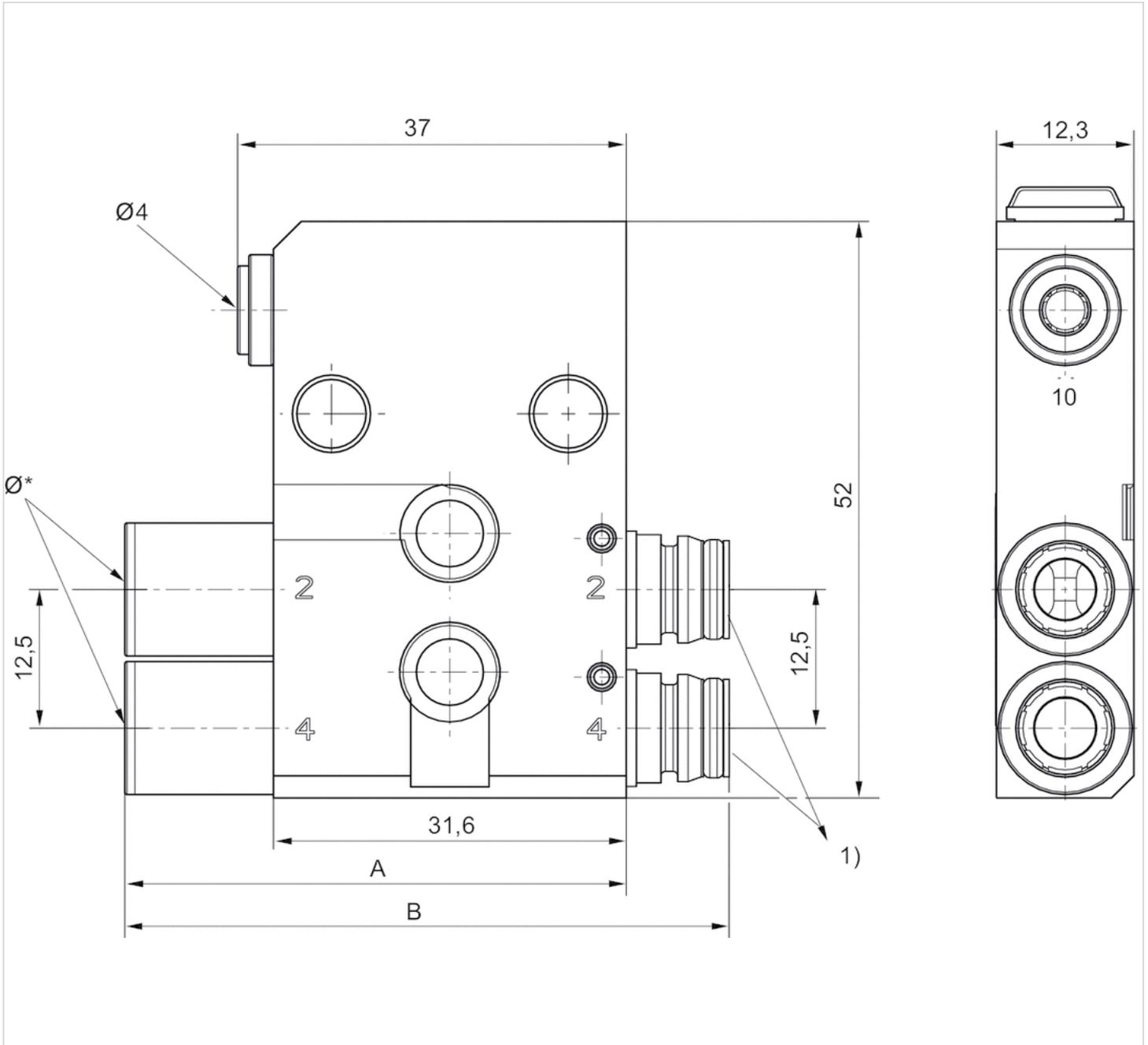
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
 Particularly suitable for 5/3 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



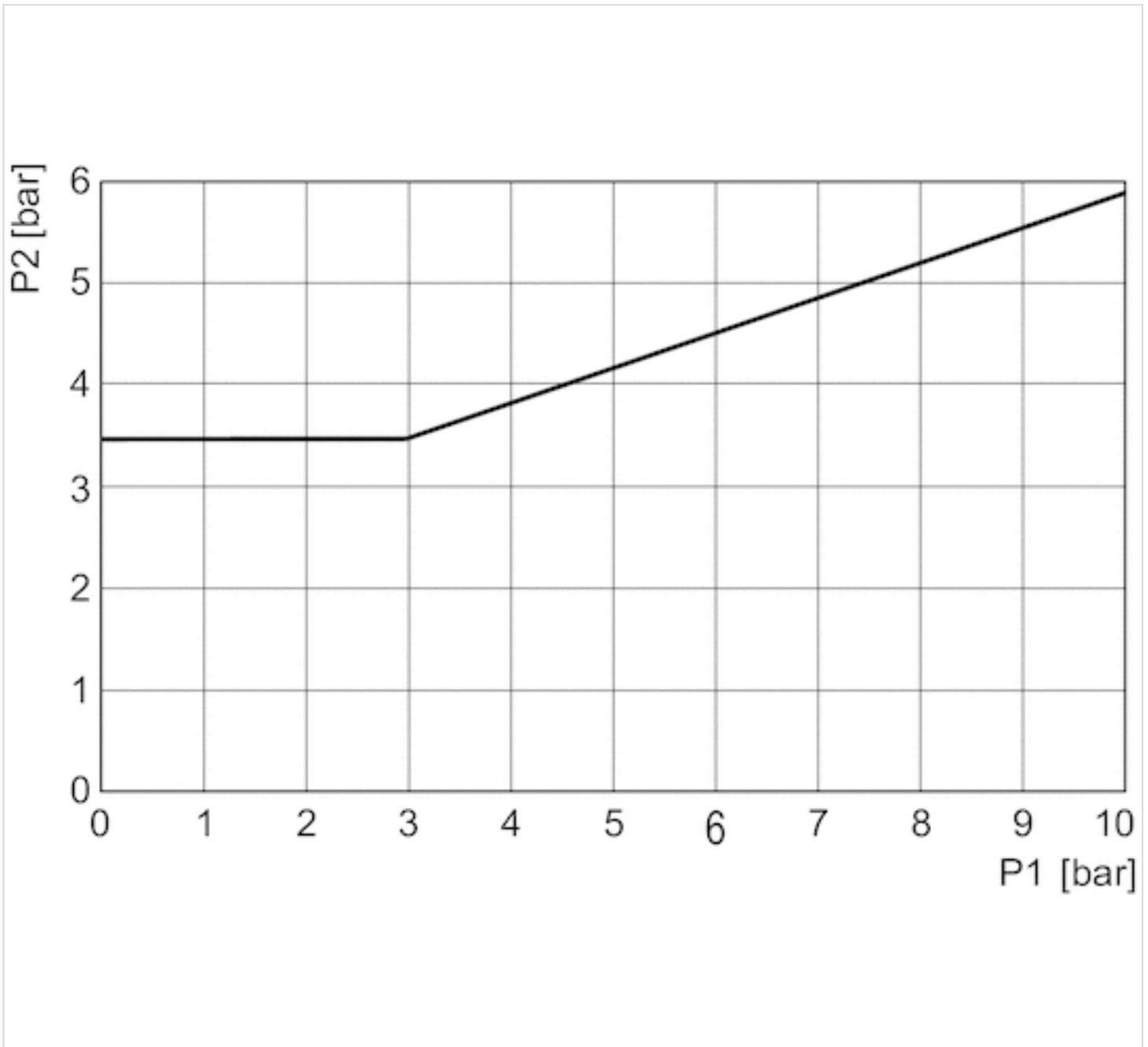
1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

Dimensions

Part No.	\varnothing^*	A	B
R422003046	8	46	54
R422003185	6	42	50
R422003187	4	38	46

Diagrams

Minimum control pressure (depending on operating pressure)



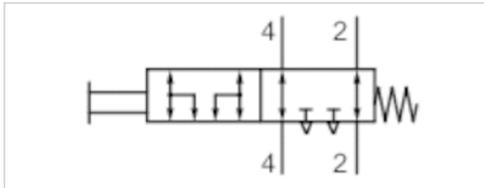
p1 = pressure on connections 2 and 4, p2 = control pressure

Exhaust module, Series AV

- Manually operated, Connections 2, 4
- push-in fitting



Working pressure min./max.	0 ... 145 psi
Ambient temperature min./max.	50 ... -76 °F
Medium temperature min./max.	50 ... -76 °F
Medium	Compressed air
Weight	0.176 lbs



Technical data

Part No.	Type Port 1	Compressed air connection Output
R422003913	push-in fitting	Ø 6
R422003915	push-in fitting	Ø 8

Technical information

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

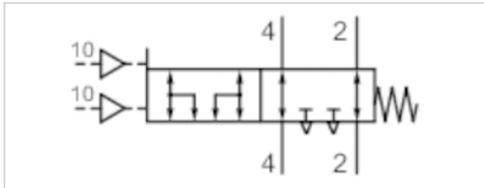
Material	
Housing	Aluminum
Seals	Nitrile rubber

Exhaust module, Series AV

- Pneumatically operated, Connections 2, 4
- push-in fitting



Working pressure min./max.	0 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	0.165 lbs



Technical data

Part No.	Type Port 1	Compressed air connection Output	Compressed air connection pilot air
R422003807	push-in fitting	Ø 6	Ø 4
R422003805	push-in fitting	Ø 8	Ø 4

Technical information

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

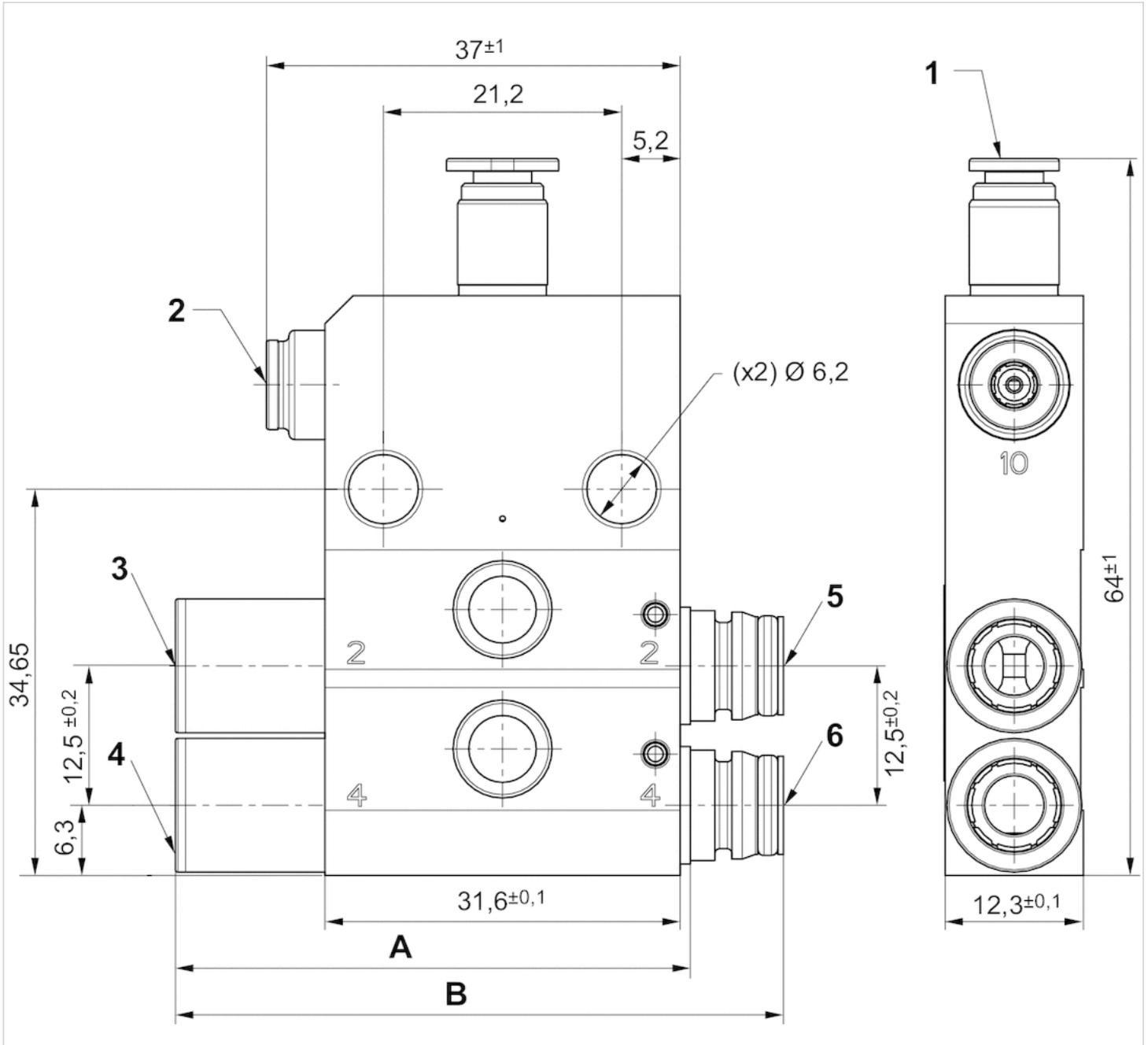
Applications with vertical actuators with exhaust or pressure throttles and a maximum load of 15 kg as well as up to a speed of Vmax 33 mm/s .

Technical information

Material	
Housing	Aluminum
Seals	Nitrile rubber

Dimensions

Dimensions



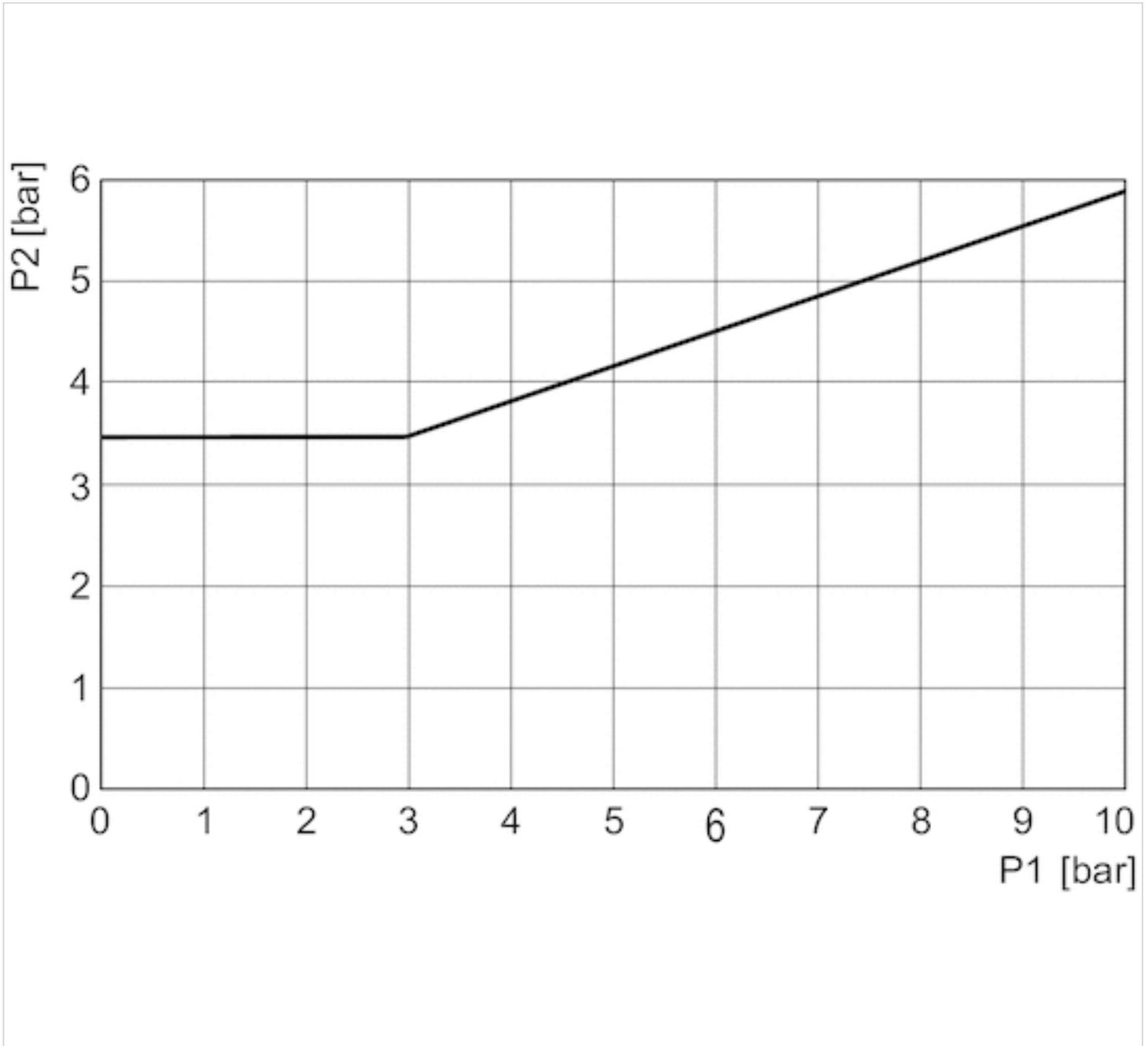
- 1) Port 10 $\varnothing 4$
- 2) Port 10 $\varnothing 4$
- 3) Operating line 2
- 4) Operating line 4
- 5) Connection 2, valve side
- 6) Connection 4, valve side

Dimensions

Part No.	A	B
R422003807	42 ± 1	50 ± 1
R422003805	46 ± 1	54 ± 1

Diagrams

Minimum control pressure (depending on operating pressure)



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

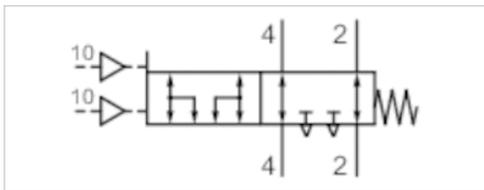
Diagrams

p1	0	3	10
p2	3.5	3.5	5.8

Exhaust module, Stand-Alone



Type	Spool valve, negative overlapping
Working pressure min./max.	0 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	0.176 lbs



Technical data

Part No.	Port 1 Input	Compressed air connection Output	Compressed air connection pilot air
R422003808	Ø 6	Ø 6	Ø 4
R422003806	Ø 8	Ø 8	Ø 4

Technical information

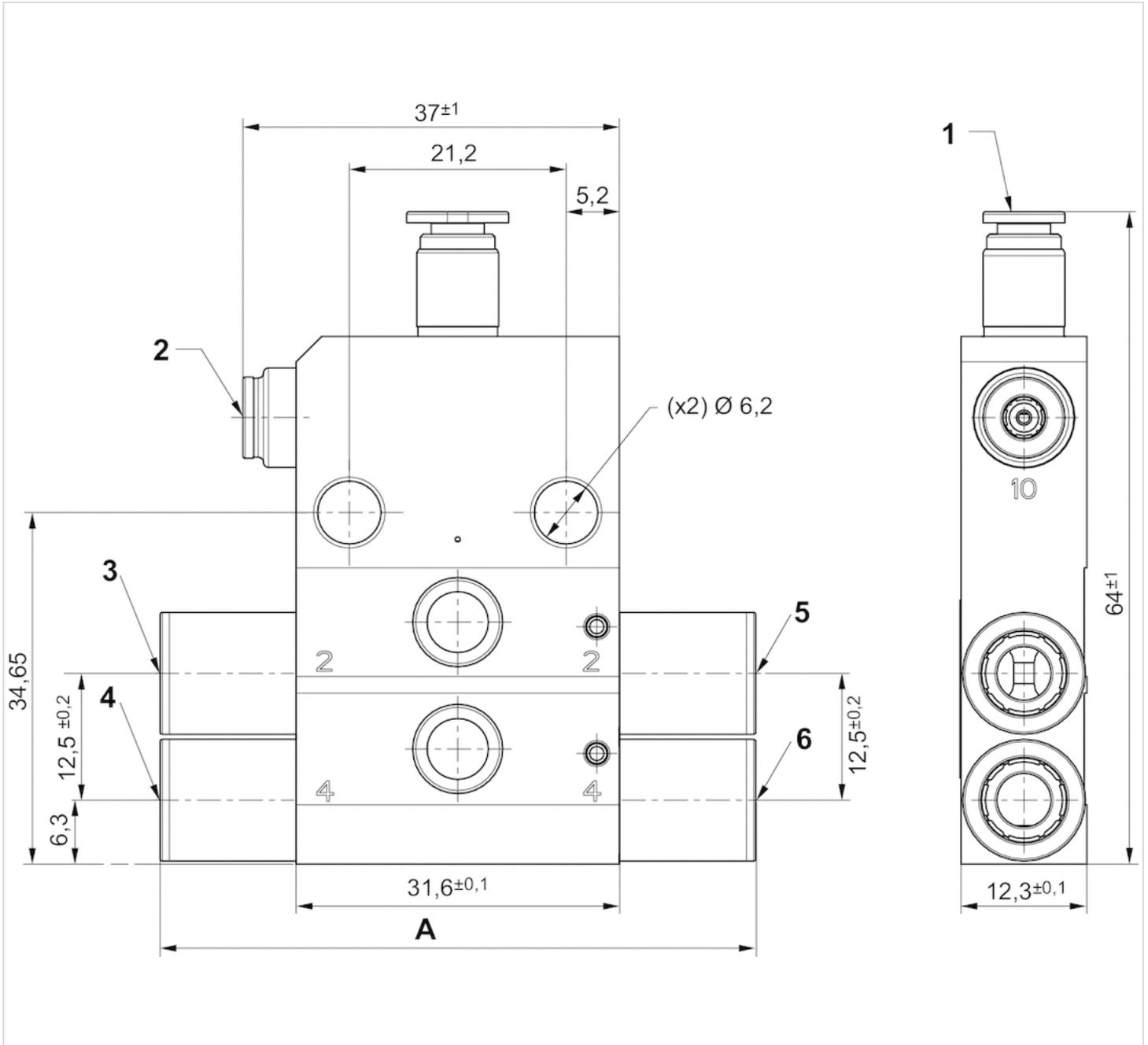
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
 Particularly suitable for 5/3 CC valves, since the remaining pressure in the actuator can be exhausted when the control pressure 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



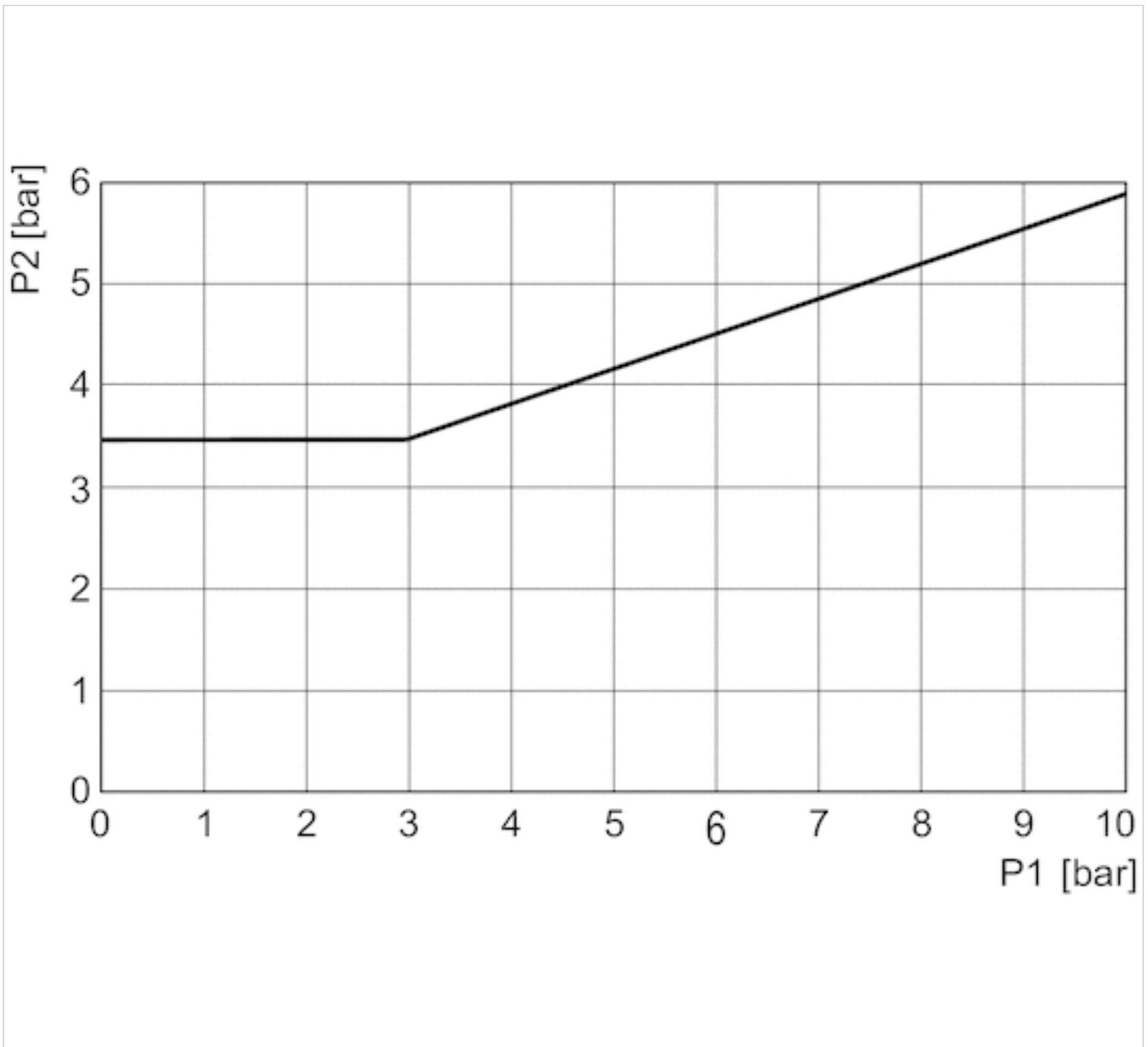
- 1) Port 10 Ø4
 - 2) Port 10 Ø4
 - 3) Operating line 2
 - 4) Operating line 4
 - 5) Connection 2, Input-side
 - 6) Connection 4, Input-side
- Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

Dimensions

Part No.	A
R422003808	50±1
R422003806	58±1

Diagrams

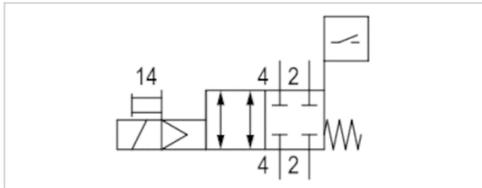
Minimum control pressure (depending on operating pressure)



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

Shut-off module, Series AV

- Electrically operated, with sensor connection
- push-in fitting



Type	Spool valve, positive overlapping
Activation	Electrically
Working pressure min./max.	0 ... 145 psi
Control pressure min./max.	51 ... 101 psi
Ambient temperature min./max.	32 ... 122 °F
Medium temperature min./max.	32 ... 122 °F
Medium	Compressed air
Operating voltage DC, min.	10 V DC
Operating voltage DC, max.	30 V DC
Sensor Type	PNP
Sensor connection	M8x1
Voltage drop sensor U at I _{max}	≤ 2,5 V
Sensor Protection class	IP65
Pilot valve Operational voltage	24 V DC
Voltage tolerance DC	-10% / +10%
Power consumption	1.3 W
Display: LED	Yellow
Pilot valve Protection class	IP67
Weight	0.245 lbs

Technical data

Part No.	Compressed air connection type Input	Compressed air connection Output	Compressed air connection pilot air
R422101518	push-in fitting	Ø 6	Ø 4
R422101517	push-in fitting	Ø 8	Ø 4
R422101520	push-in fitting	Ø 1/4"	Ø 4

Technical information

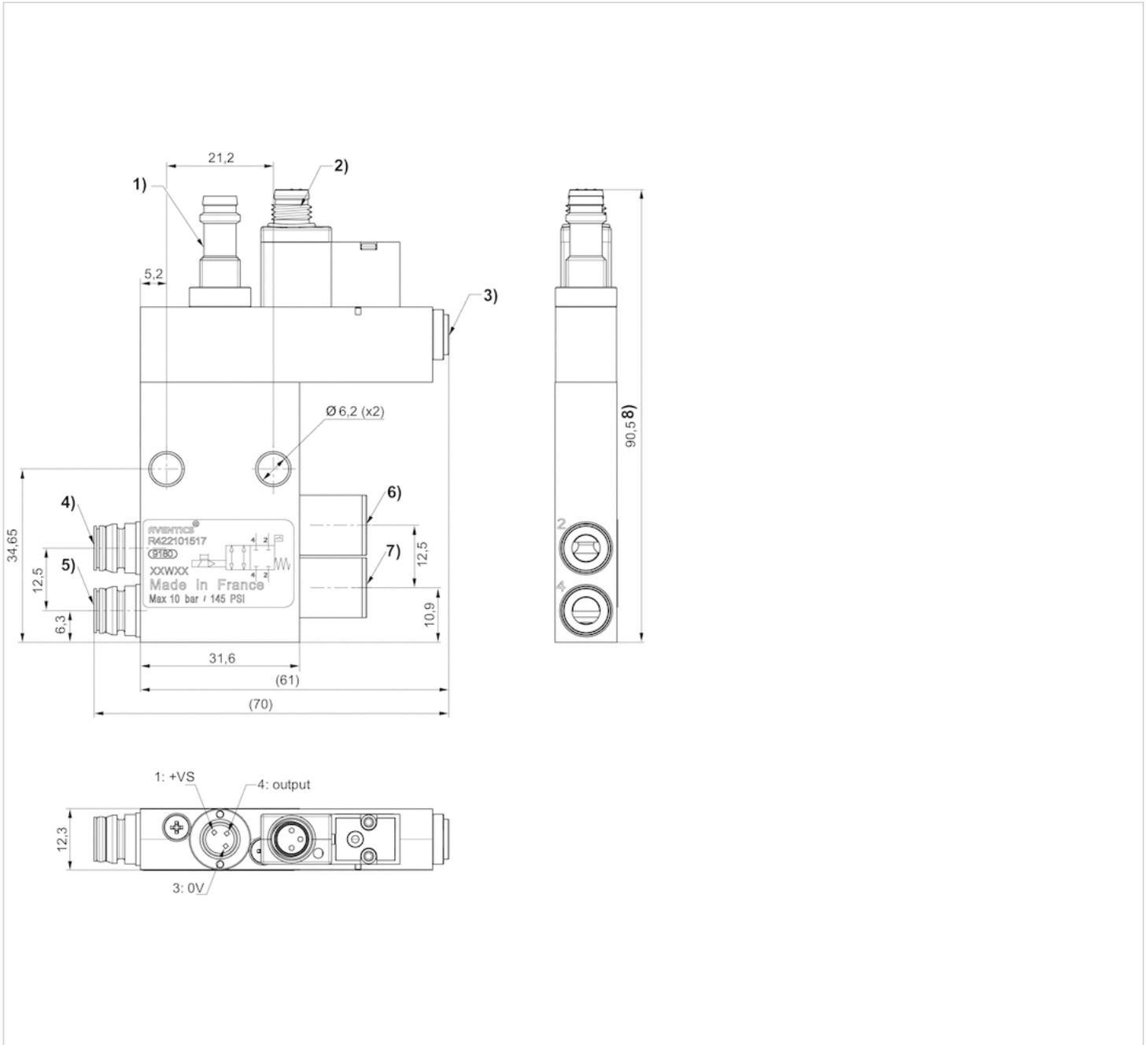
A duty cycle of 100% is only valid for valves mounted separately.

Technical information

Material	
Housing	Aluminum
Seals	Nitrile butadiene rubber

Dimensions

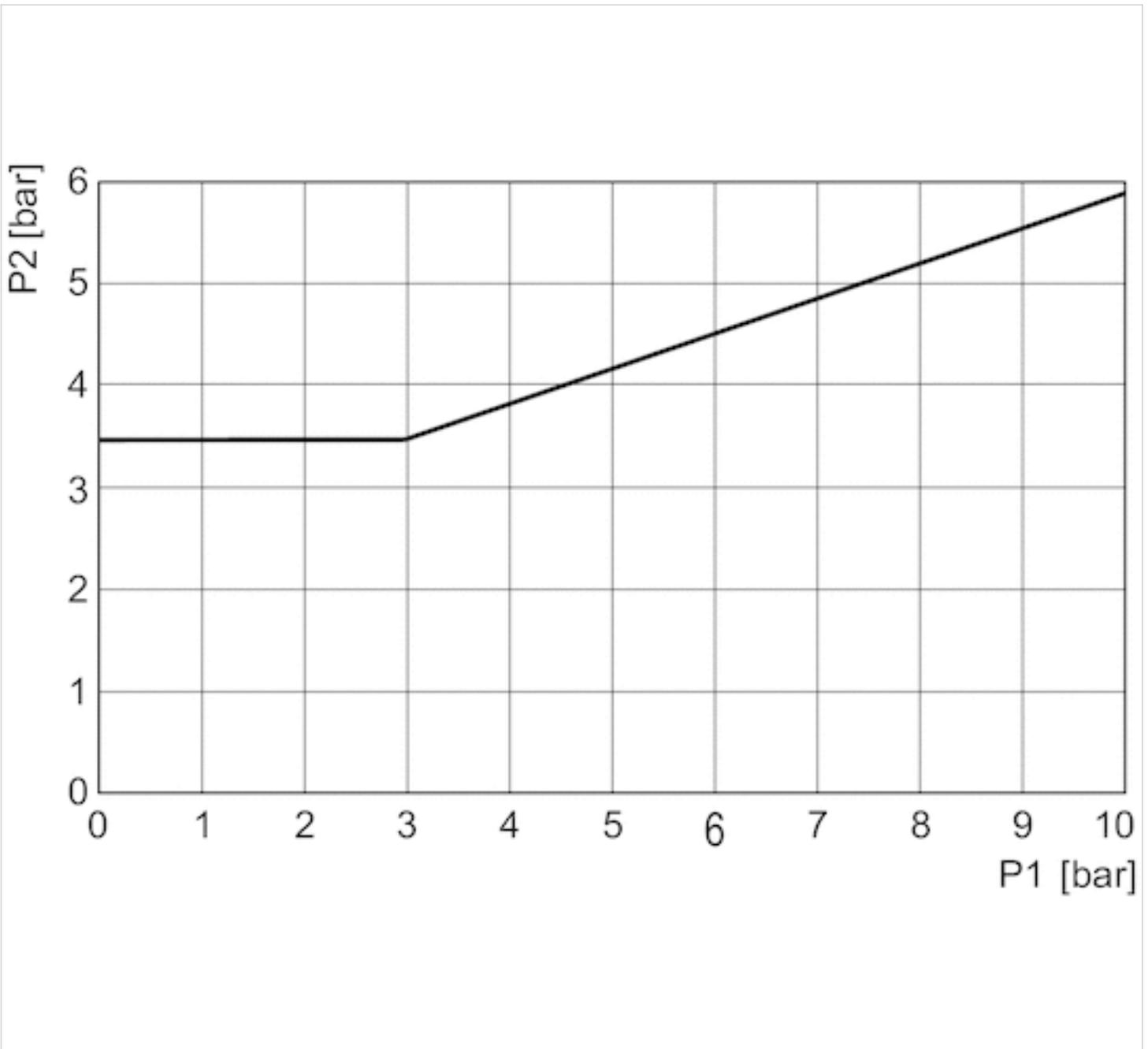
Dimensions



- 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) Pilot air supply
 - 3) Pilot air supply
 - 4) Connection 2, valve side
 - 5) Connection 4, valve side
 - 6) Operating line 2
 - 7) Operating line 4
- Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

Diagrams

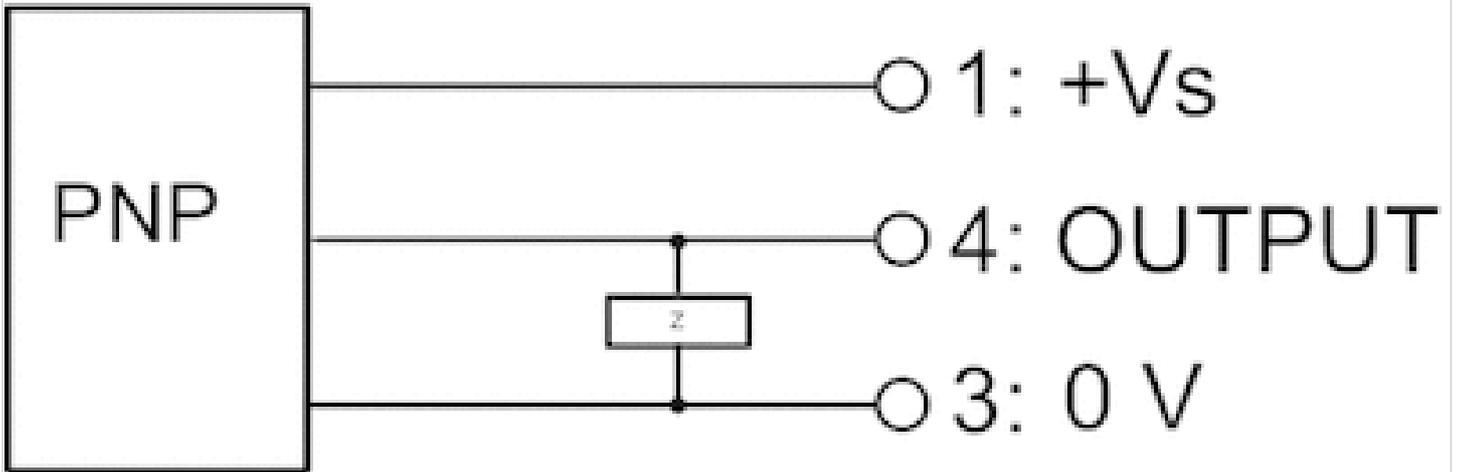
Minimum control pressure (depending on operating pressure)



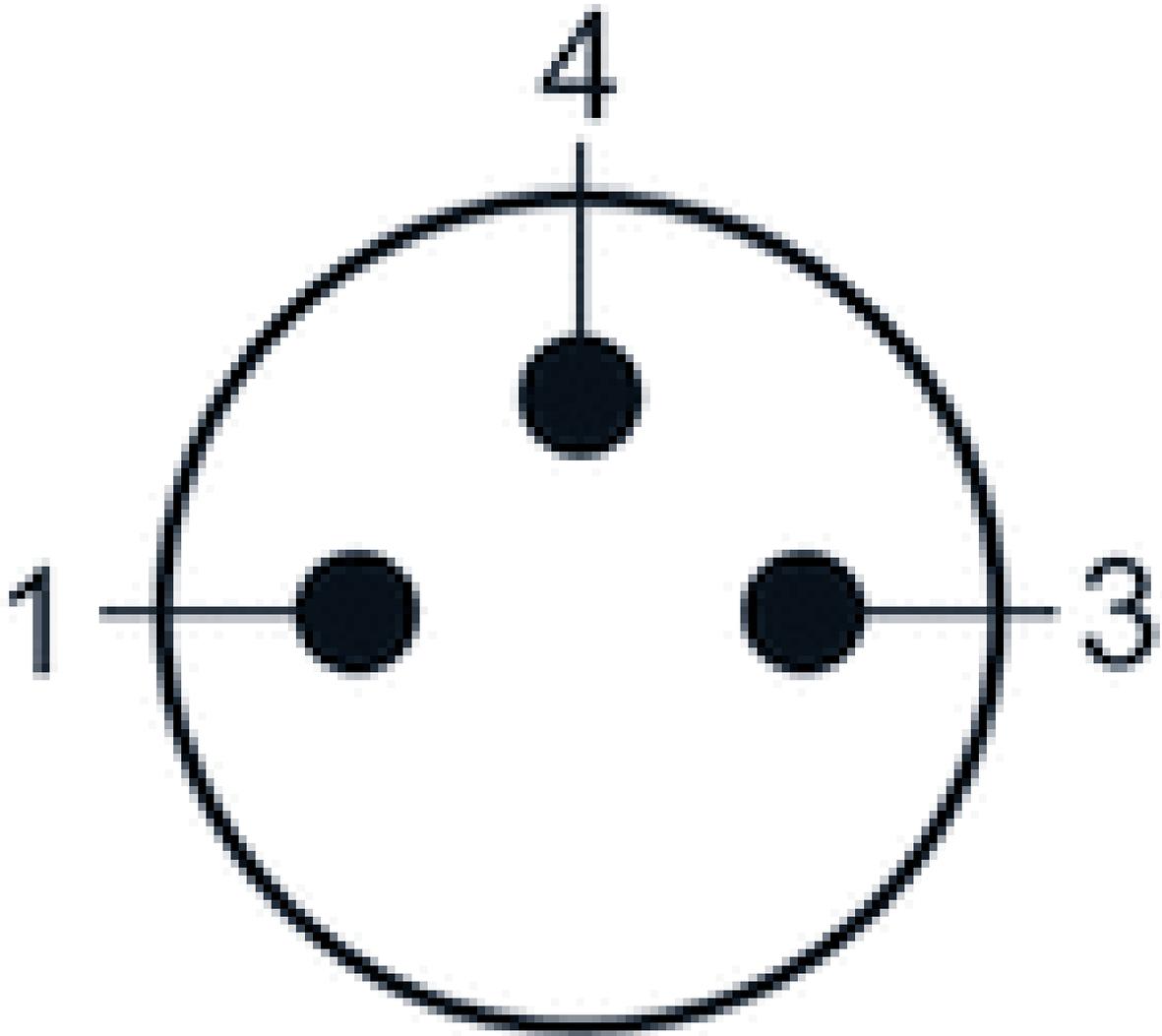
p1 = pressure on connections 2 and 4, p2 = control pressure

Pin assignments

sensor circuit diagram



Pilot valve pin assignment M8x1 (3-pin)



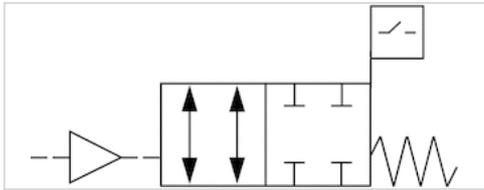
- 1) 24V DC +/-
- 3) nc
- 4) 24V DC +/-

Shut-off module, Series AV

- Pneumatically operated, With position detection
- push-in fitting



Activation	pneumatically
Working pressure min./max.	0 ... 145 psi
Ambient temperature min./max.	32 ... 140 °F
Medium temperature min./max.	32 ... 140 °F
Medium	Compressed air
Operating voltage DC, min.	10 V DC
Operating voltage DC, max.	30 V DC
Sensor Type	PNP
Max. power consumption	15 A
Voltage drop sensor U at I _{max}	≤ 2,5 V
Sensor Protection class	IP67
Weight	0.22 lbs



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

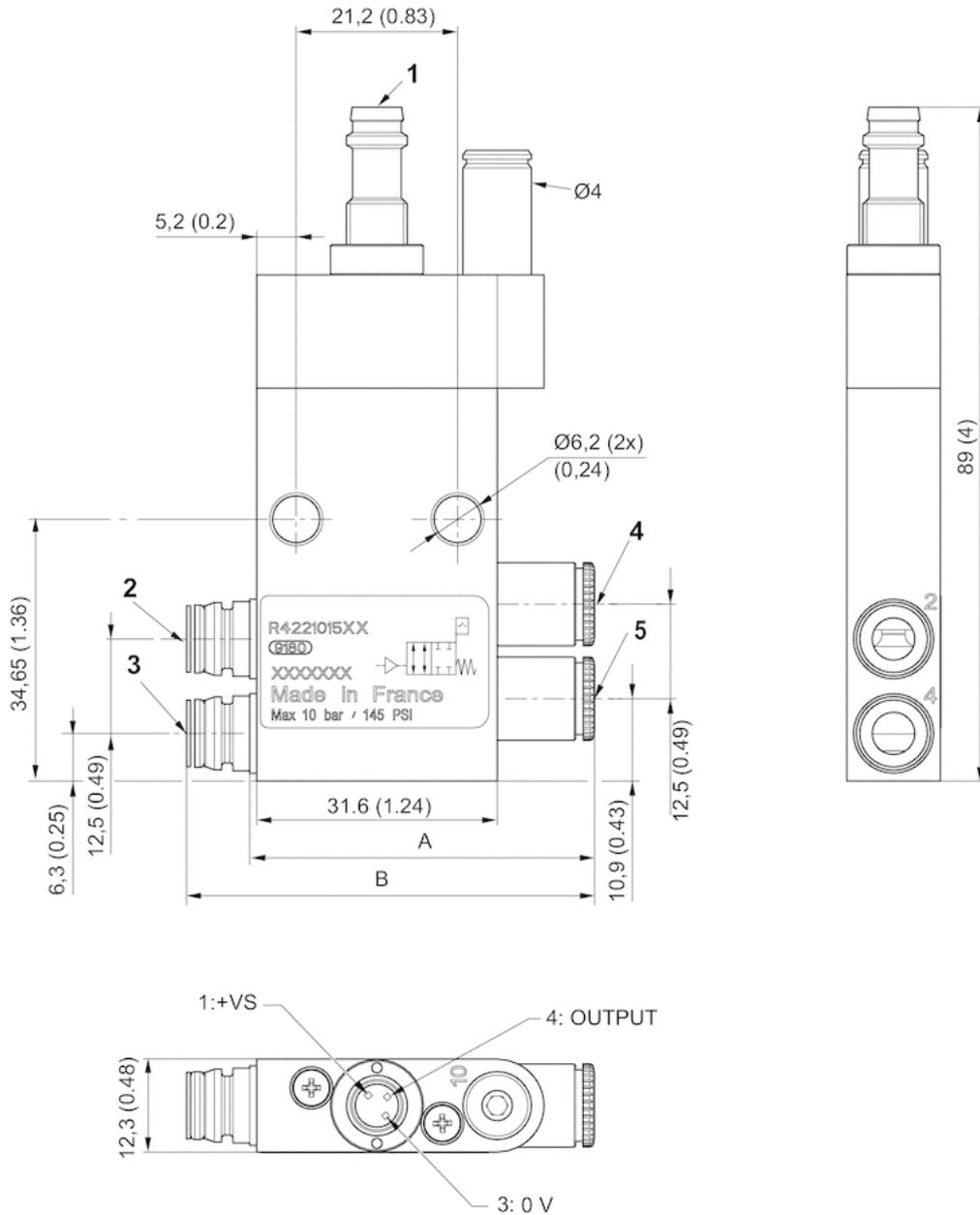
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 A duty cycle of 100% is only valid for valves mounted separately.
 In the non-actuated state, the sensor signal is "high"

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

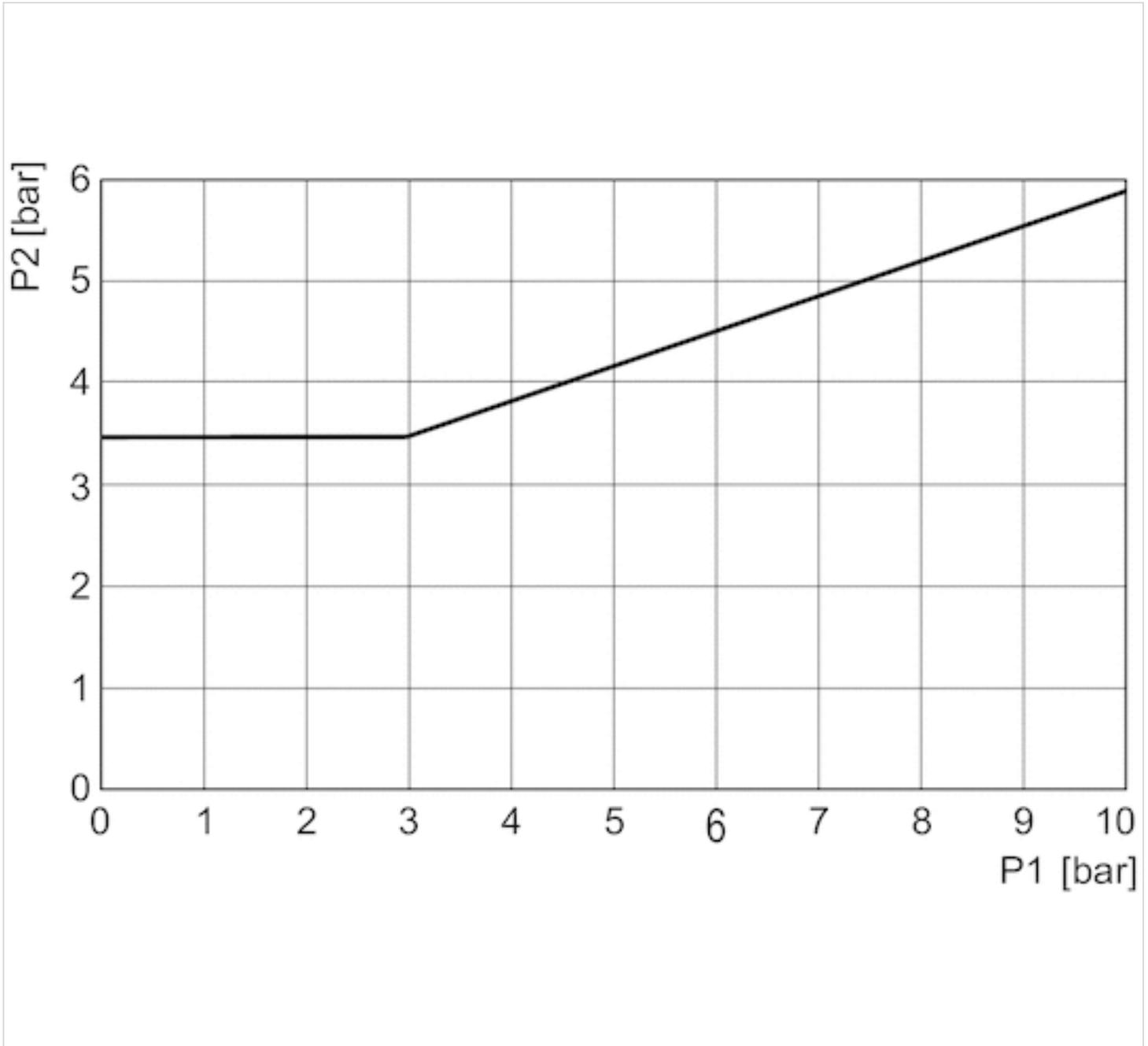
Dimensions

Part No.	A	B
R422101511	42±1	50±1

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

Diagrams

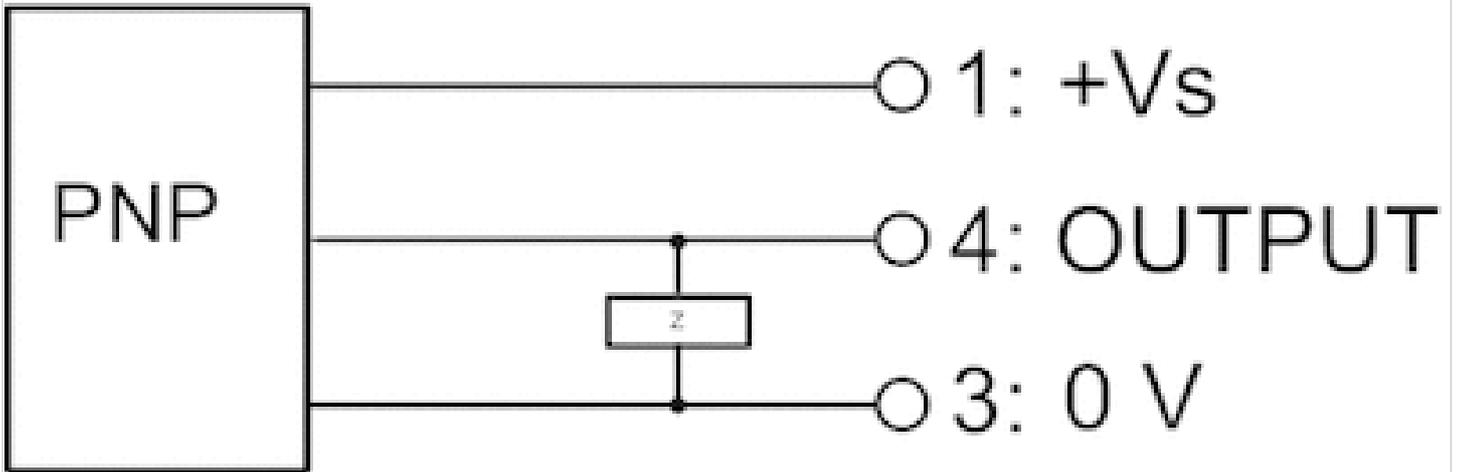
Minimum control pressure (depending on operating pressure)



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

Pin assignments

sensor circuit diagram

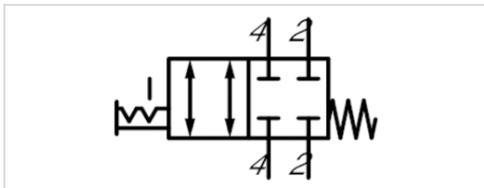


Shut-off module, Series AV

- For port channels 2, 4
- Qn = 0.254-0.762 Cv
- Compressed air connection output Ø 1/4" Ø 8 Ø 6 Ø 4



Activation	Mechanical
Working pressure min./max.	0 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	0.176 lbs



Technical data

Part No.	Compressed air connection type	Compressed air connection Output	Flow rate value
			Qn
R422102699	push-in fitting	Ø 1/4"	0.559 Cv
R422102704	push-in fitting	Ø 8	0.762 Cv
R422102705	push-in fitting	Ø 6	0.559 Cv
R422102706	push-in fitting	Ø 4	0.254 Cv

Technical information

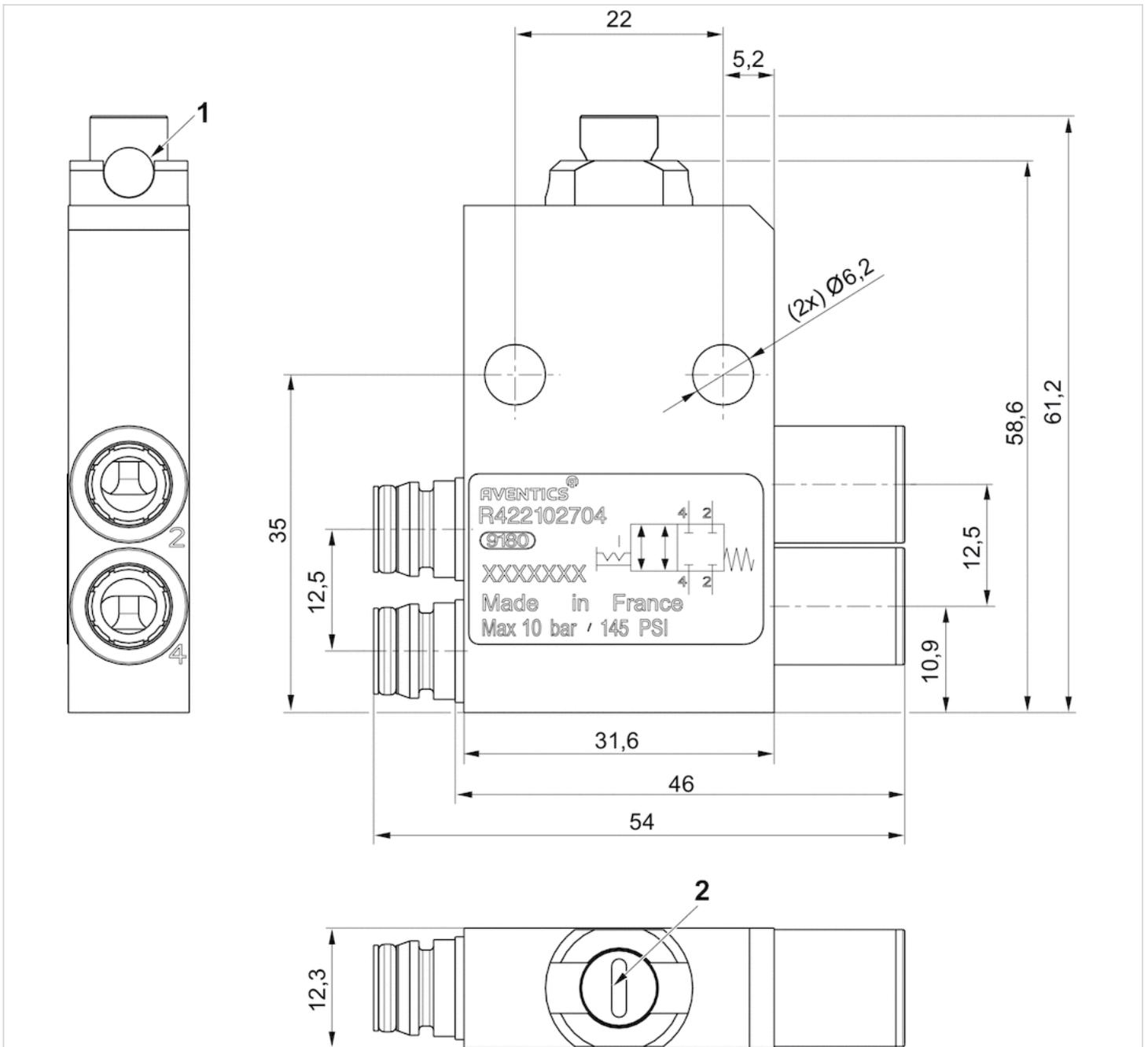
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.

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

Pressure regulator, Series AV

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



Adjustment range min./max.	8 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	0.441 lbs

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

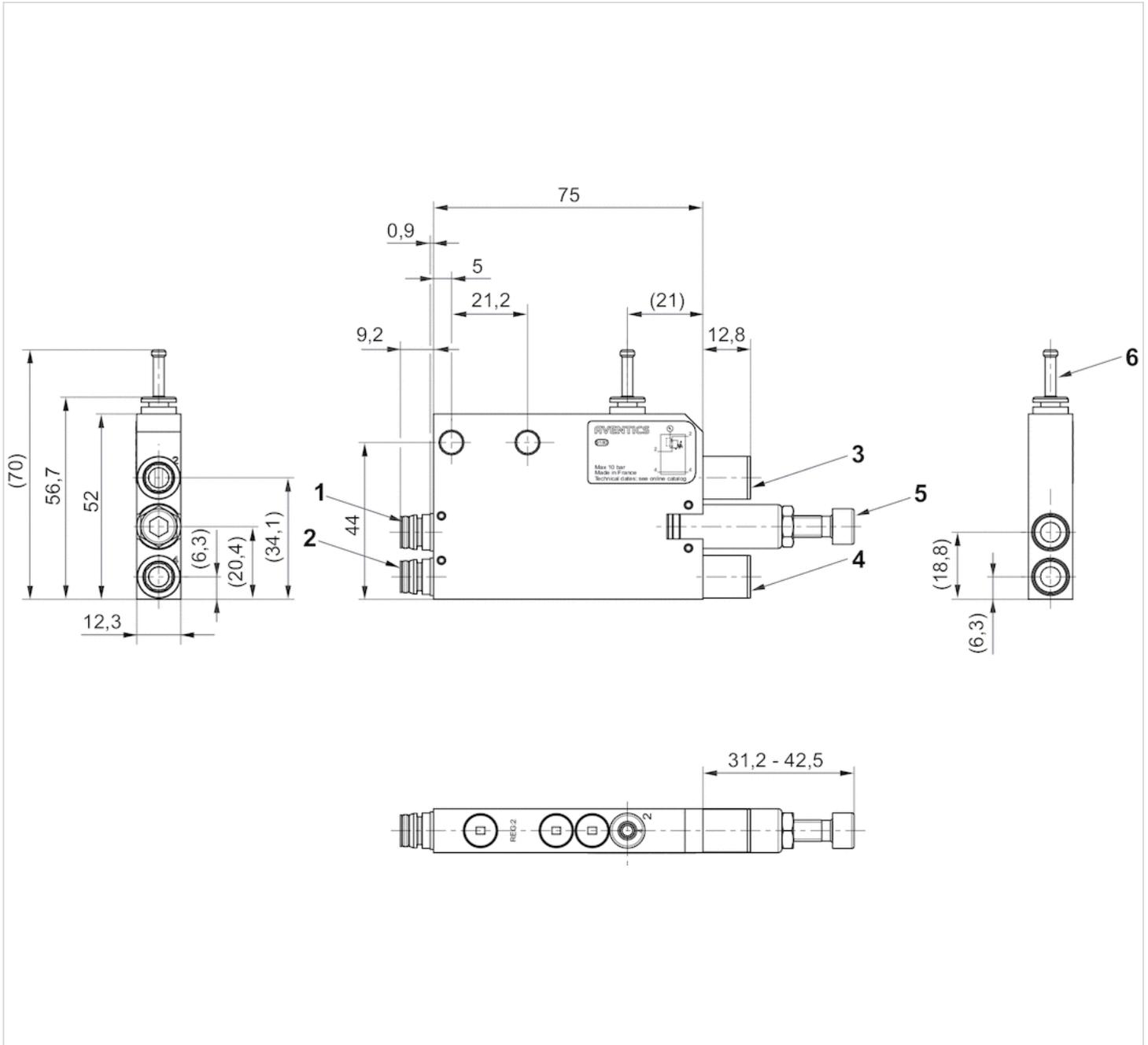
Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
 Mounting bracket (2x) for mounting to the mounting plate: R422103091
 For 2 or more AV pressure regulators assembled into blocks with pressure gauges, use of push-in fitting R412005046 is recommended for every second pressure gauge

Technical information

Material	
Housing	Aluminum
Seals	Acrylonitrile butadiene rubber

Dimensions

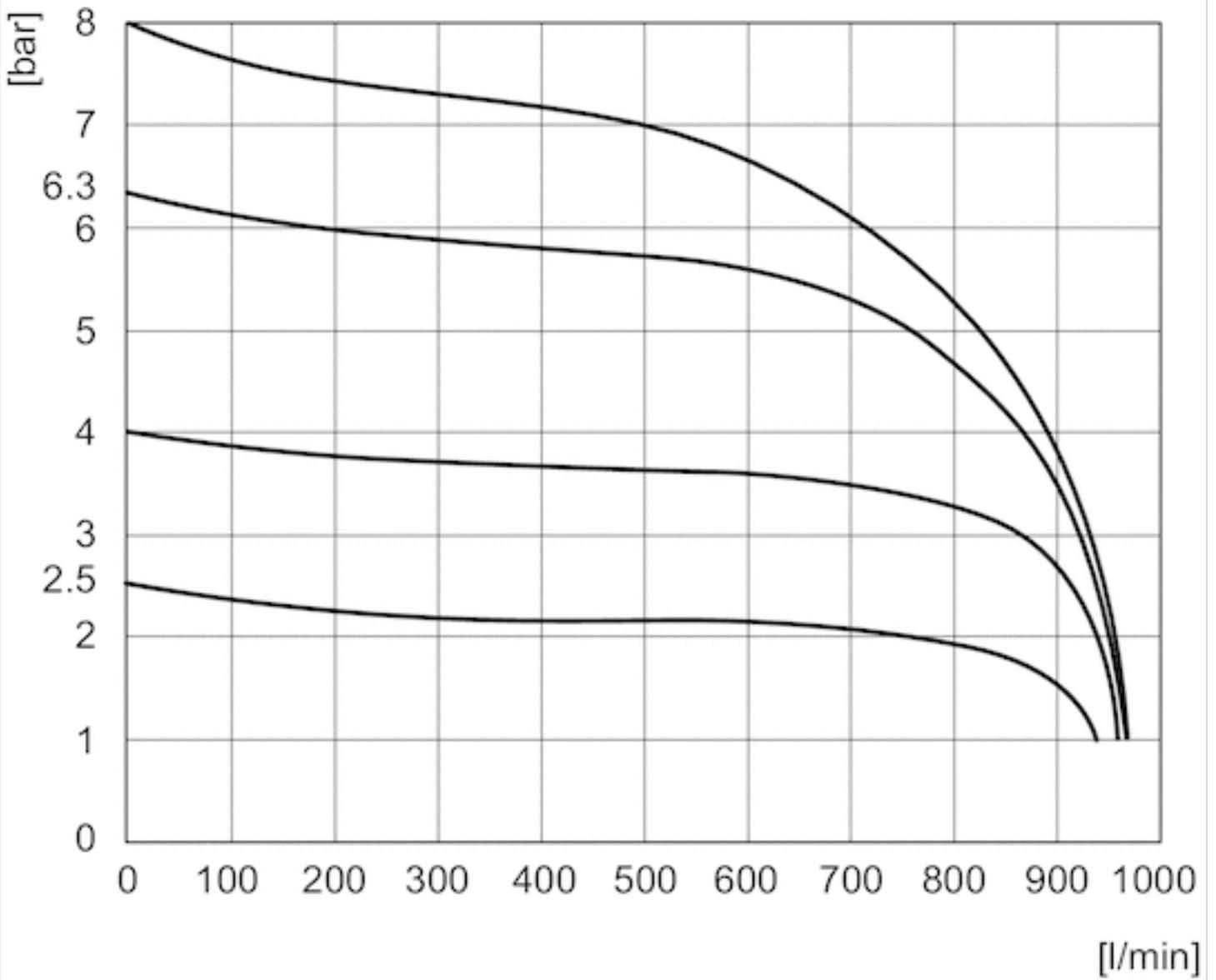
Dimensions



- 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

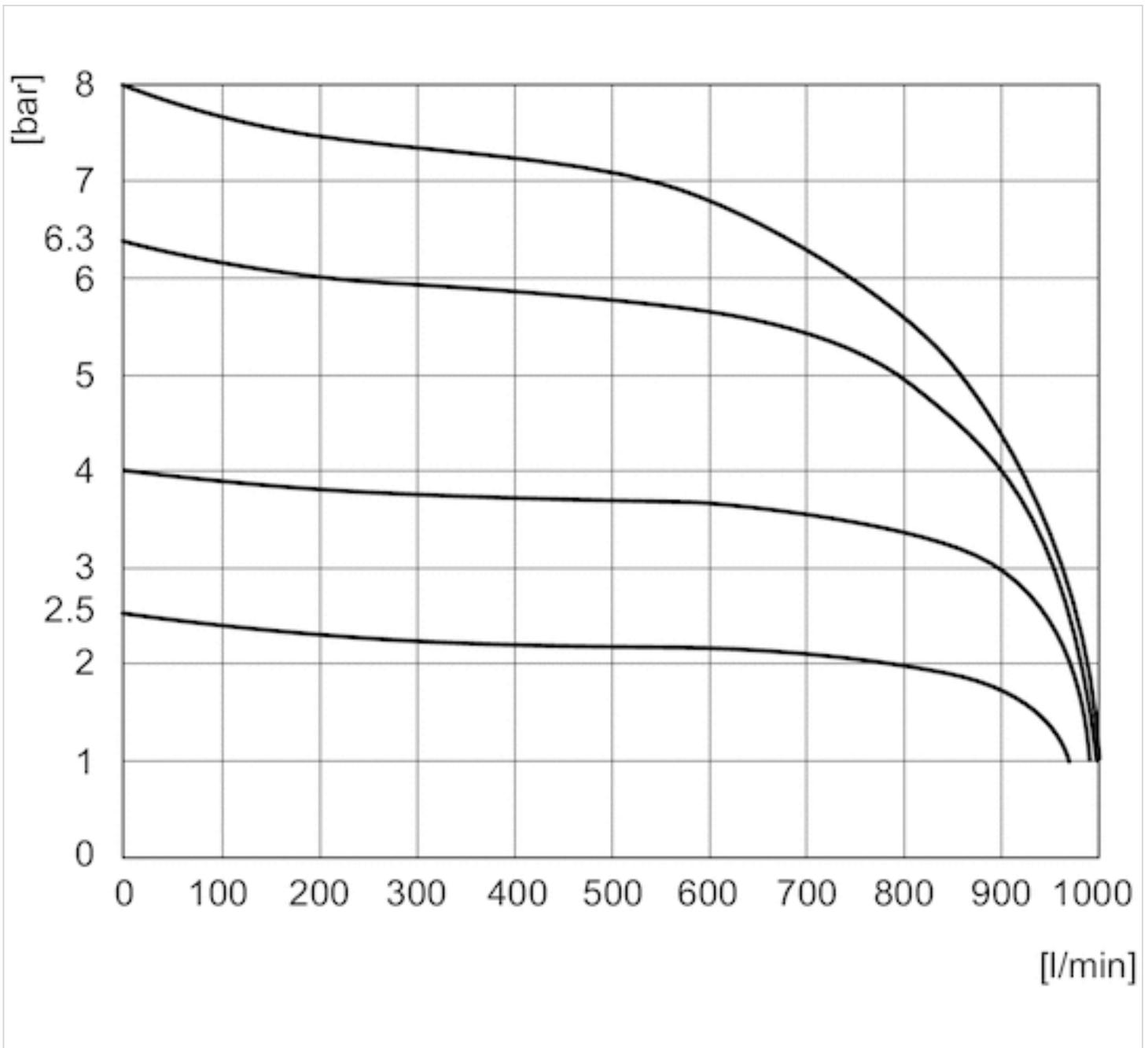
Diagrams

Flow diagram, Port 2



Pv = 9 bar

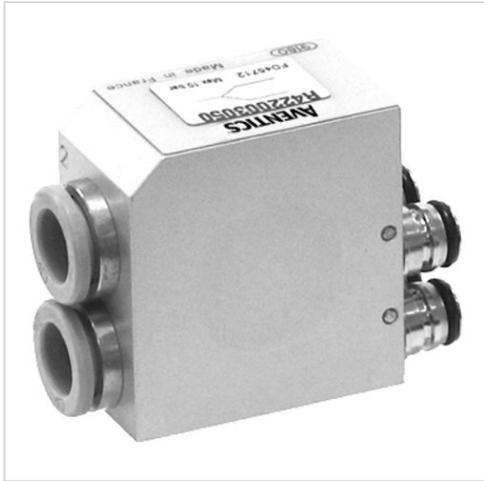
Flow diagram, Port 4



Pv = 9 bar

Flow rate coupler, Series AV Inch version

- For port channels 2, 4



Working pressure min./max.	-13 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium	Compressed air
Weight	0.264 lbs

Technical data

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

Technical information

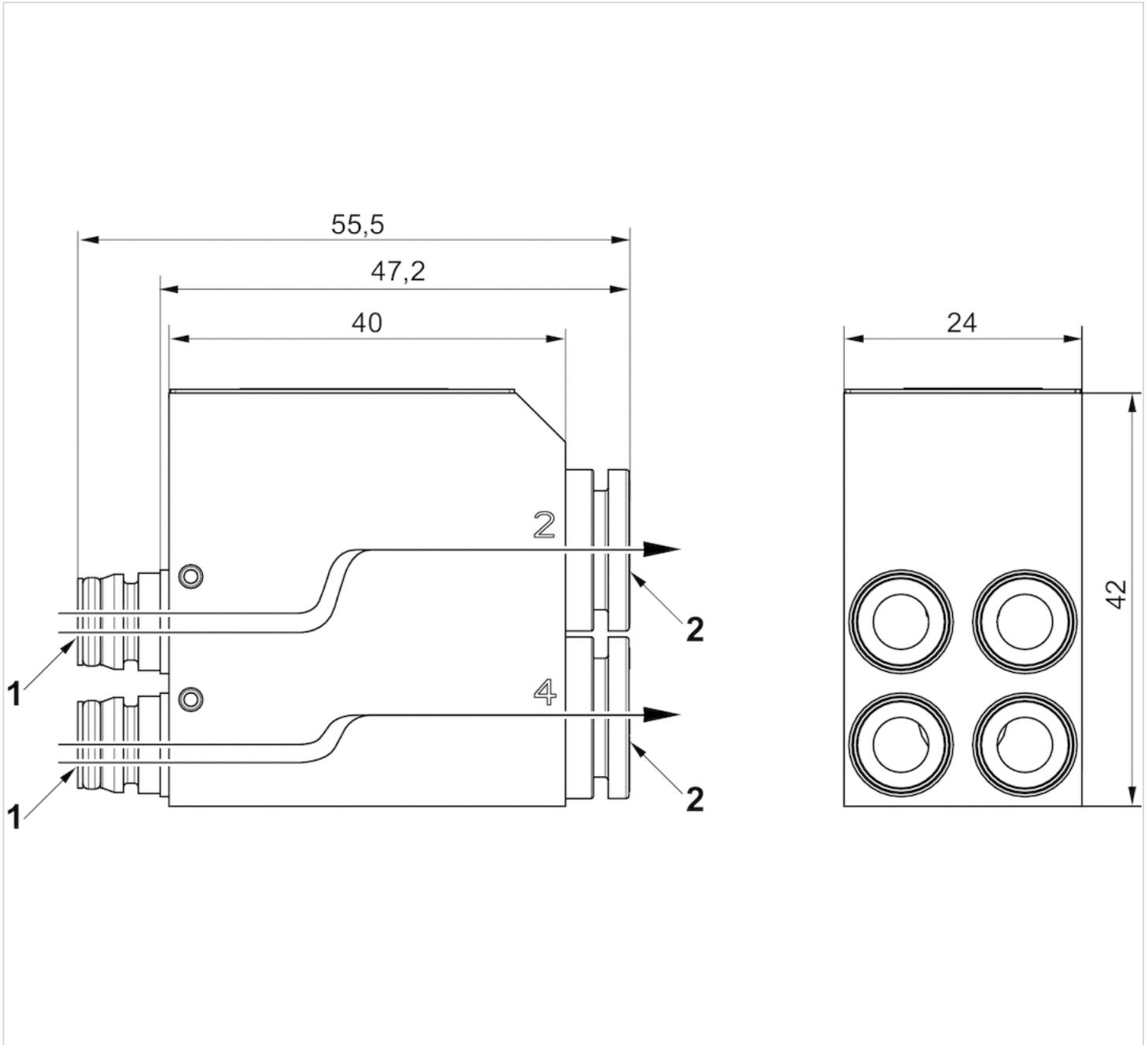
When using polyurethane tubing, we recommend using additional stiffener sleeves.
 For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
 Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series
 Doubling of flow rate performance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

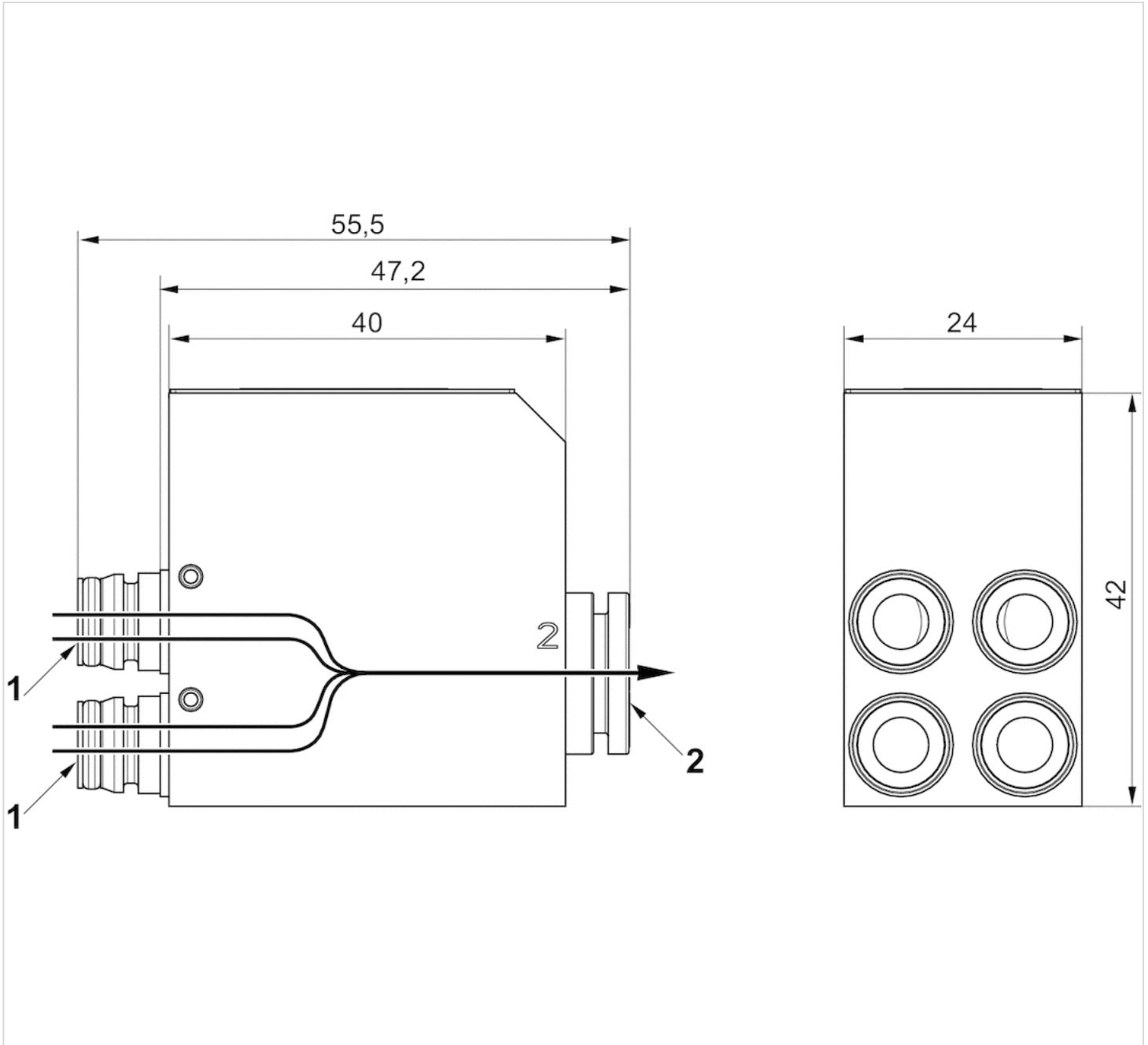
2) 2 x Ø 10

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]	570	520	500	1070	1030	1050

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]	730	1400

Transition plate

- for control cabinet mounting
- Compressed air connection output G 1/4
- for AV05-BP



Working pressure min./max.	-13 ... 145 psi
Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
Medium	Compressed air

Technical data

Part No.	Type	Scope of delivery
R412026481	Internal assembly	Transition plate, sealing kit, mounting screws, sealing tape
R412026482	Internal assembly	Transition plate, sealing kit, mounting screws, sealing tape
R412026483	Internal assembly	Transition plate, sealing kit, mounting screws, sealing tape
R412026484	Internal assembly	Transition plate, sealing kit, mounting screws, sealing tape
R412026485	External assembly	Transition plate, sealing kit, mounting screws, gasket
R412026486	External assembly	Transition plate, sealing kit, mounting screws, gasket
R412026487	External assembly	Transition plate, sealing kit, mounting screws, gasket
R412026488	External assembly	Transition plate, sealing kit, mounting screws, gasket

Part No.	Compressed air connection	
	Input [1]	Output [2 / 4]
R412026481	G 3/8	G 1/4
R412026482	G 3/8	G 1/4
R412026483	G 3/8	G 1/4
R412026484	G 3/8	G 1/4
R412026485	G 3/8	G 1/4
R412026486	G 3/8	G 1/4
R412026487	G 3/8	G 1/4
R412026488	G 3/8	G 1/4

Part No.	Compressed air connection	
	Exhaust [3 / 5]	Pilot connection [12]
R412026481	G 3/8	M5
R412026482	G 3/8	M5
R412026483	G 3/8	M5
R412026484	G 3/8	M5

Part No.	Compressed air connection Exhaust [3 / 5]	Compressed air connection Pilot connection [12]
R412026485	G 3/8	M5
R412026486	G 3/8	M5
R412026487	G 3/8	M5
R412026488	G 3/8	M5

Part No.	Compressed air connection Pilot control exhaust [R]	Number of valve positions	Material
R412026481	G 1/8	4	Aluminum anodized
R412026482	G 1/8	8	Aluminum anodized
R412026483	G 1/8	12	Aluminum anodized
R412026484	G 1/8	16	Aluminum anodized
R412026485	G 1/8	4	Stainless steel
R412026486	G 1/8	8	Stainless steel
R412026487	G 1/8	12	Stainless steel
R412026488	G 1/8	16	Stainless steel

Part No.	Fig.	
R412026481	Fig. 1	-
R412026482	Fig. 1	-
R412026483	Fig. 1	1)
R412026484	Fig. 1	1)
R412026485	Fig. 2	-
R412026486	Fig. 2	-
R412026487	Fig. 2	1)
R412026488	Fig. 2	1)

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

Technical information

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

Further information about assembling of fittings and tolerances of adaptable tubing can be found in the "Technical information" document (available in the Media Centre).

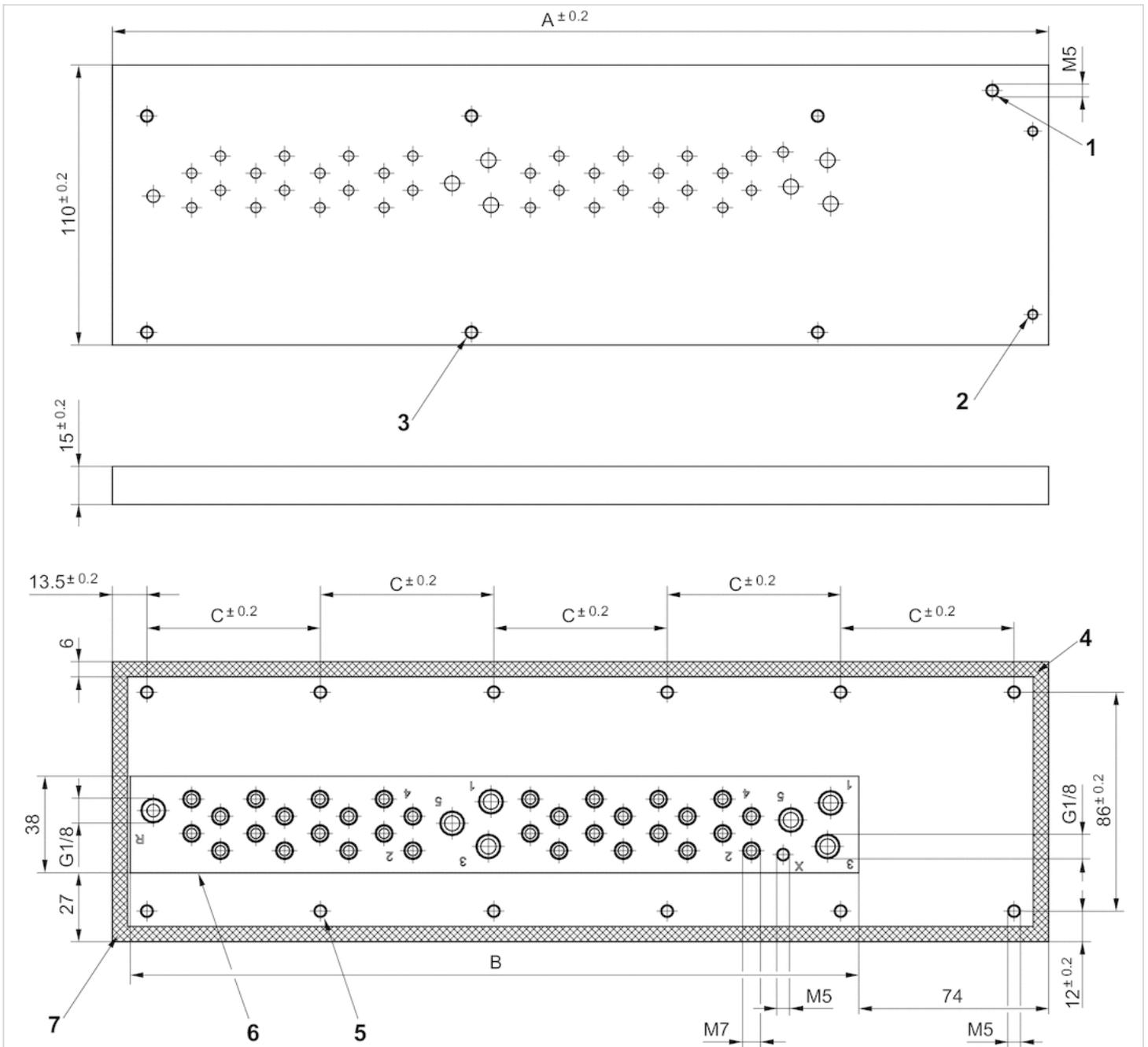
Technical information

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

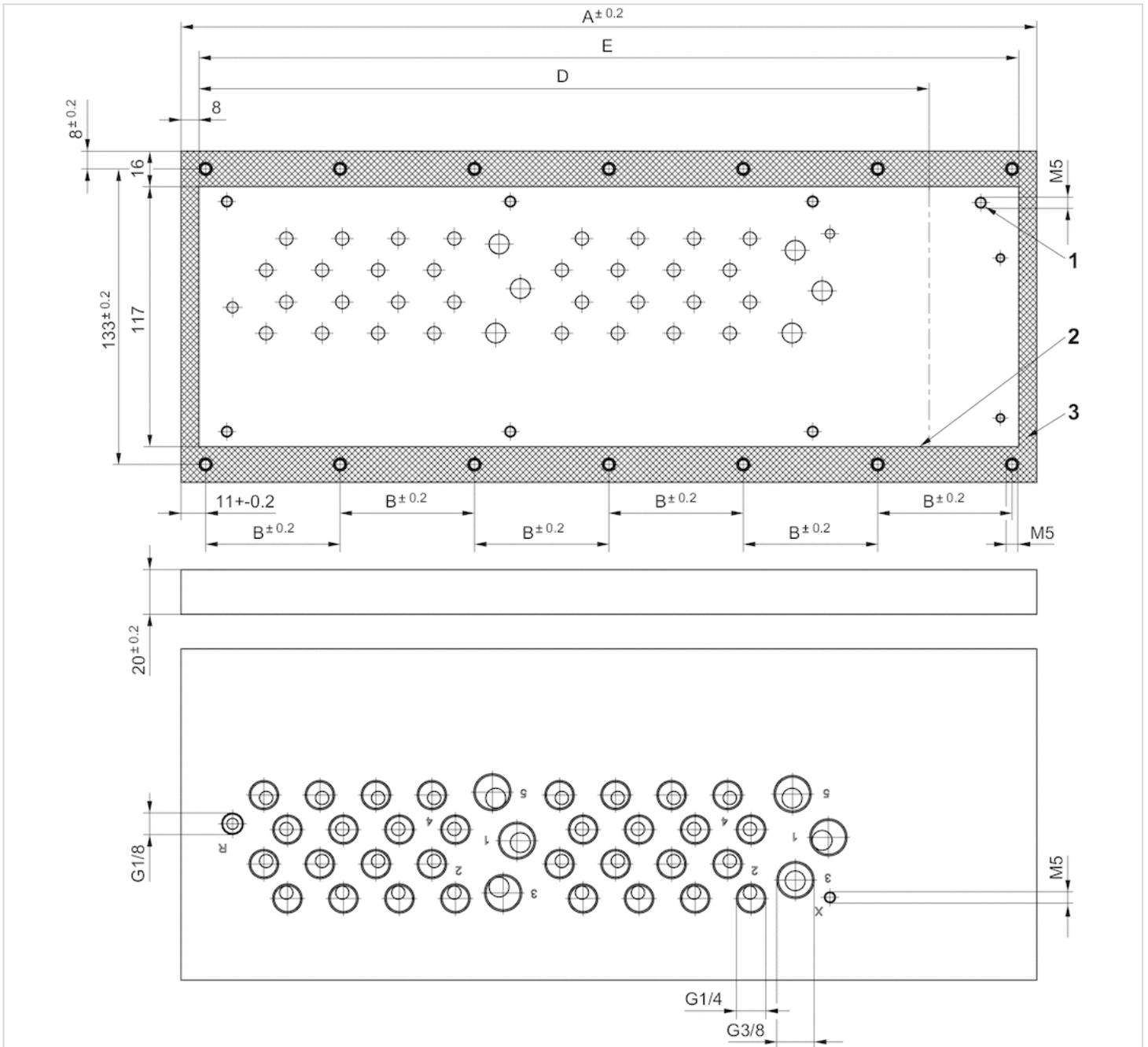
Dimensions

Part No.	A	B	C
R412026481	183	109	52

Part No.	A	B	C
R412026482	233	159	51.5
R412026483	315	241	57.6
R412026484	365	291	67.6

Dimensions

Fig. 2



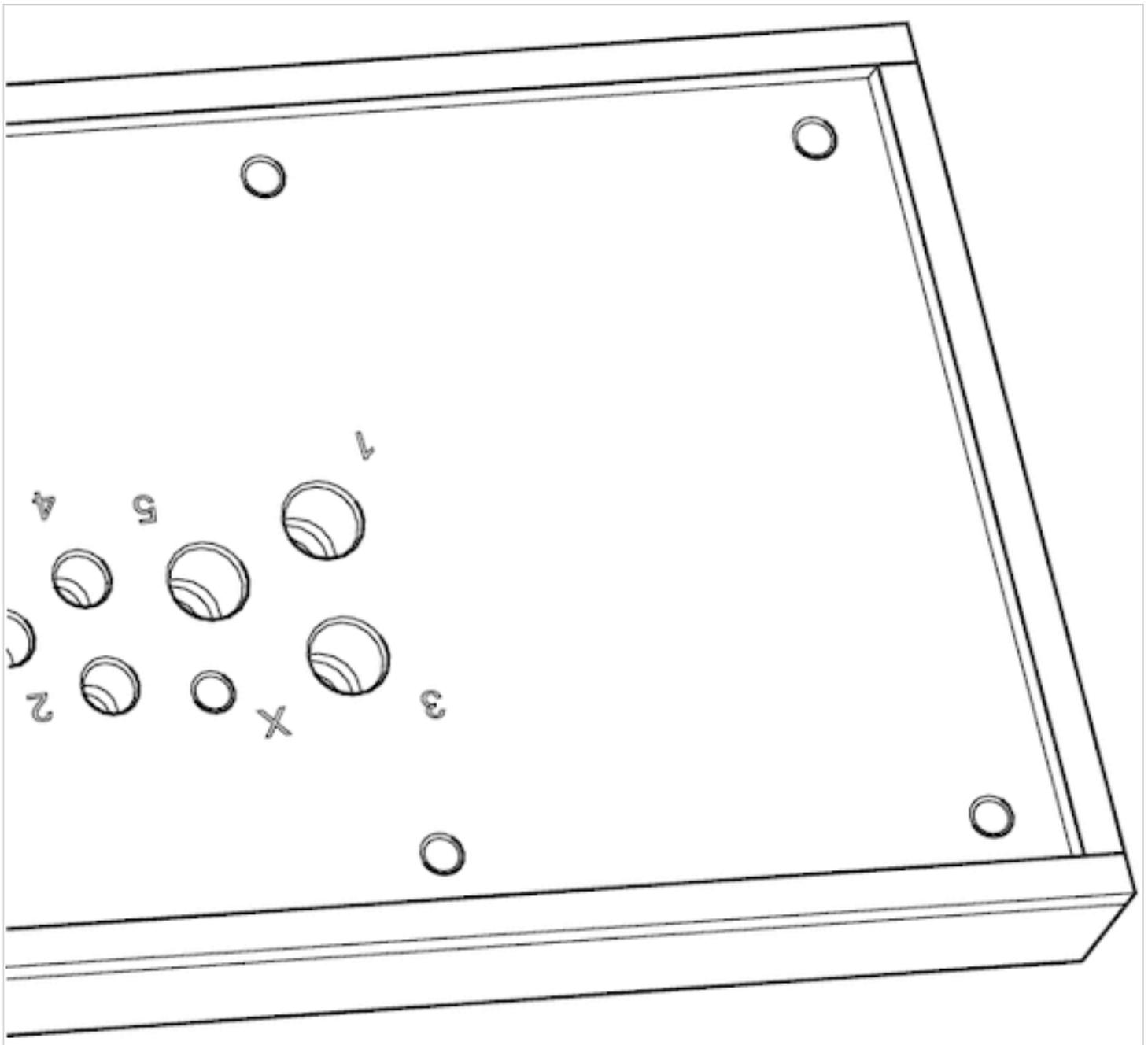
- 1) Thread for ground screw
- 2) Control cabinet cut-out
- 3) sealing surface

Dimensions

Part No.	A	B	D - Control cabinet cut-out Multipole	E - Control cabinet cut-out Fieldbus
R412026485	200	59.33	144	184
R412026486	250	57	194	234
R412026487	332	62	276	316
R412026488	382	60	326	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 (top, bottom)
Connection thread	G 1/4	G 3/8	M5
Max. external diameter	19	24,75	10,9

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

Sealing kit

- Transition plate
- for AV-BP



Ambient temperature min./max. 14 ... 140 °F

Technical data

Part No.	Type	Scope of delivery
R412026466	Sealing kit sealing tape 1.25 m	5 Piece

Technical information

Material	
Housing	Ethylene propylene diene monomer rubber

End plate right

- for AV05



Ambient temperature min./max. 14 ... 140 °F
 Medium temperature min./max. 14 ... 140 °F
 Weight 0.176 lbs

Technical data

Part No.	Compressed air connection Pilot connection [12]	Compressed air connection Pilot control exhaust [R]	Delivery unit	Fig.
R412020078	Ø 6	Ø 6	1 piece	Fig. 1
R412025508	-	Ø 6	1 piece	Fig. 2

Part No.	
R412020078	1)
R412025508	2)

1) Pilot air supply changable: internal/external

2) Pilot air supply only via supply plates

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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 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 fiber-glass reinforced
Screws	Steel

Dimensions

Fig. 1

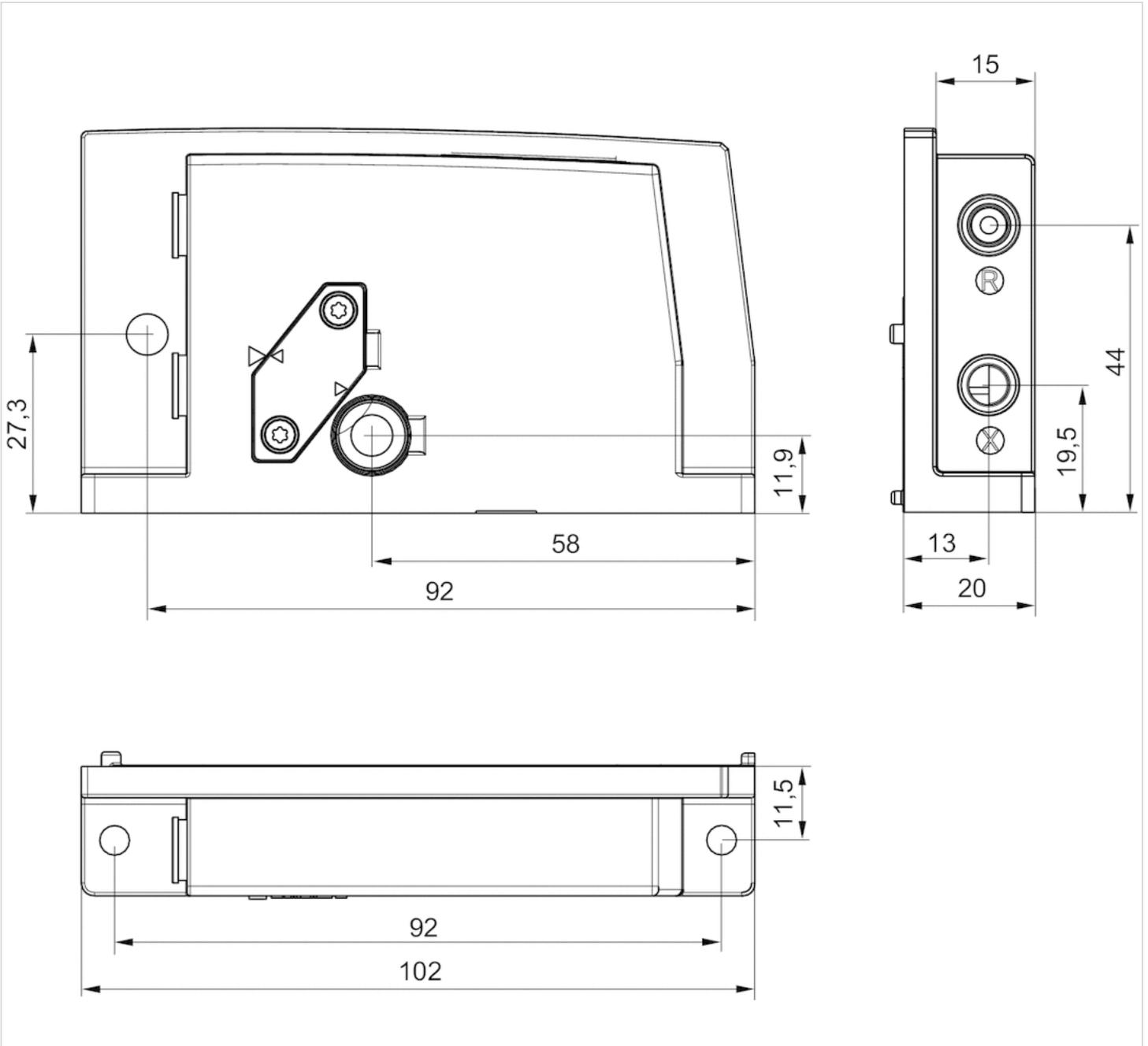
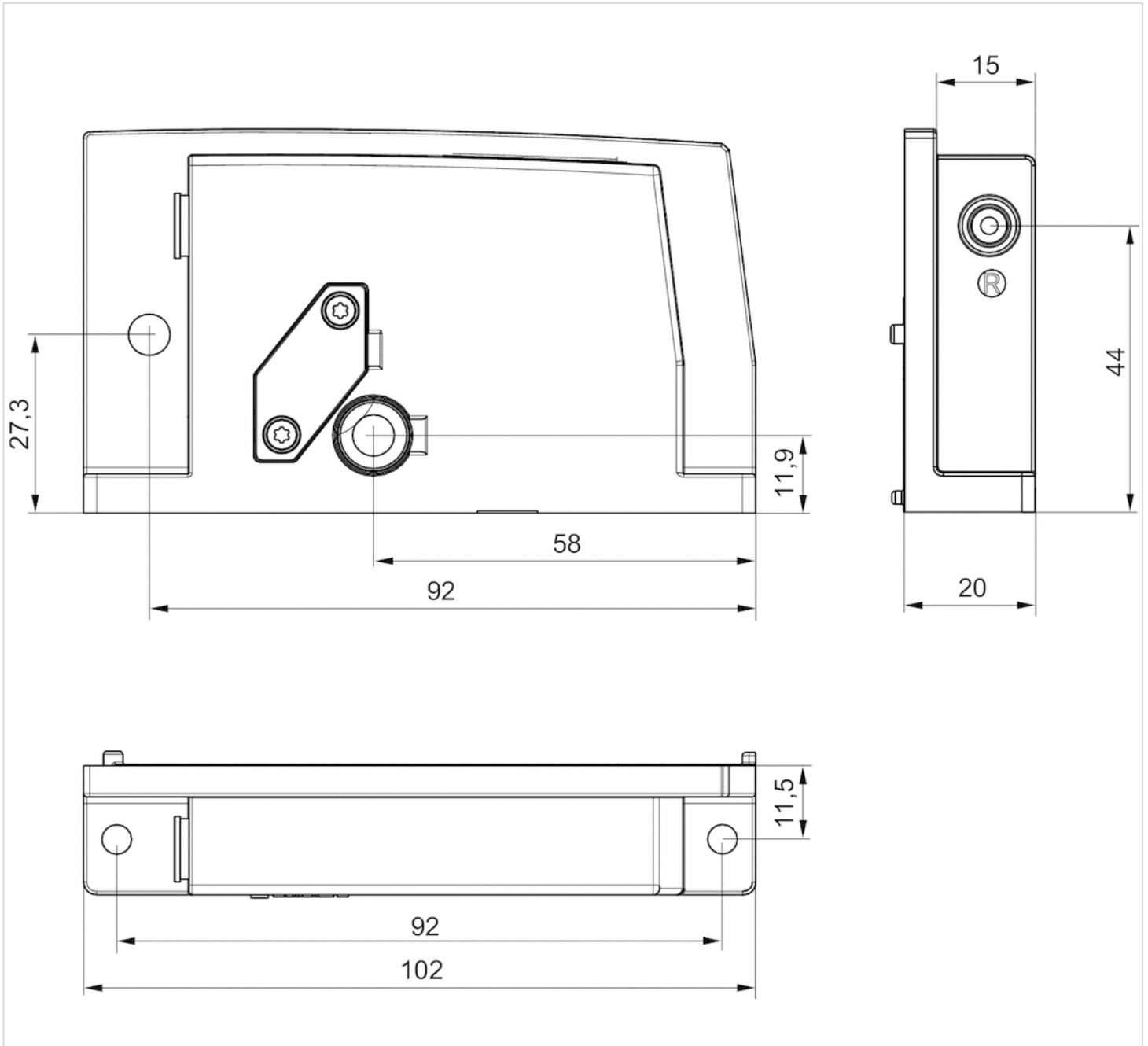


Fig. 2



Push-in fittings

- for AV



Working pressure min./max.

-13 ... 145 psi

Ambient temperature min./max.

14 ... 140 °F

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

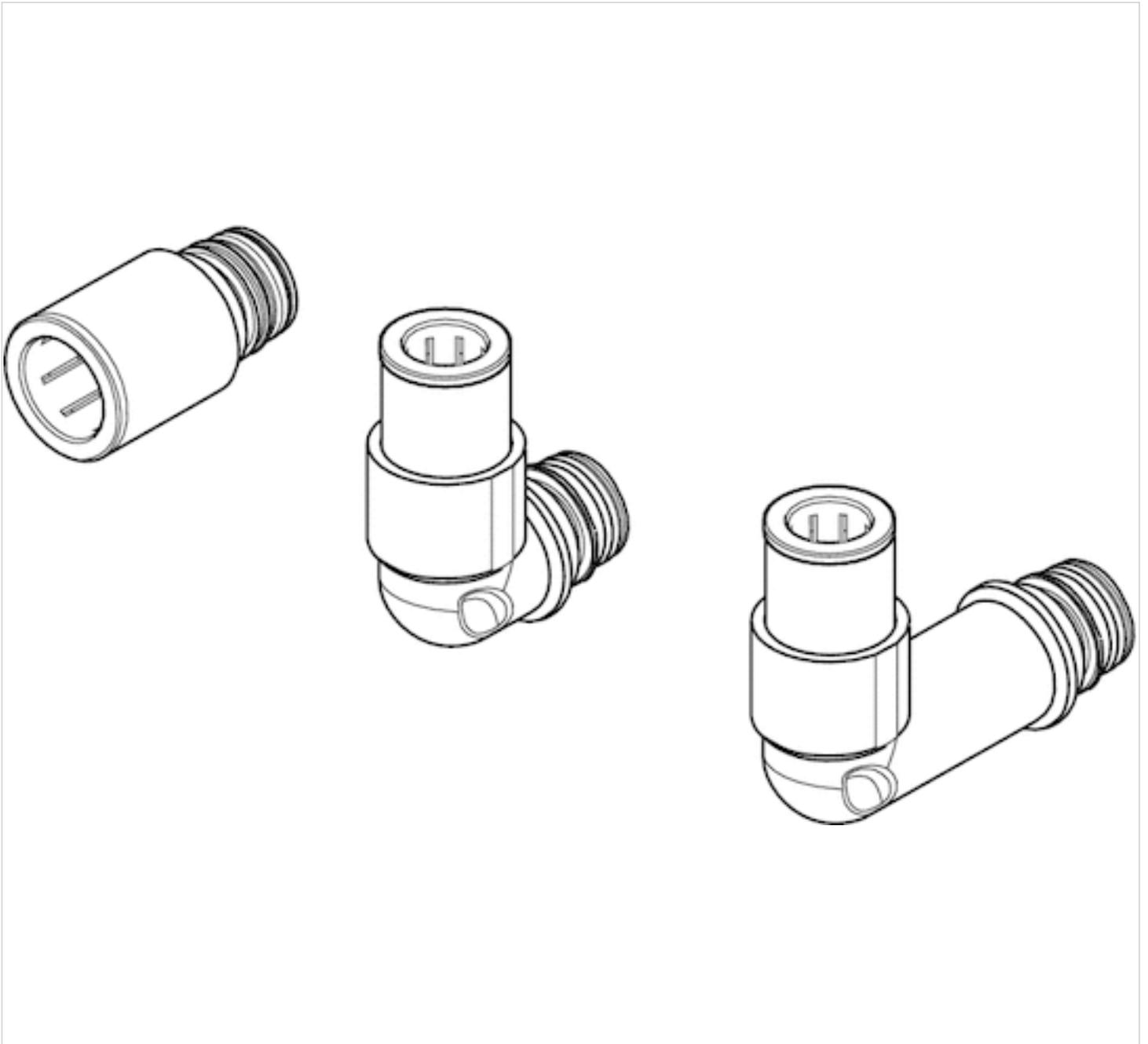
Technical information

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

- D-Sub plug, 25-pin, top, D-Sub plug, 44-pin, top
- for AV05



Ambient temperature min./max.	14 ... 140 °F
Medium temperature min./max.	14 ... 140 °F
electr. connection	D-Sub plug, 25-pin, top, D-Sub plug, 44-pin, top
Weight	See table below

Technical data

Part No.	Type	Delivery unit	Weight	Fig.
R412020076	Top connection	1 piece	0.099 lbs	Fig. 1
R412020077	Side connection	1 piece	0.11 lbs	Fig. 2

Scope of delivery: incl. 1 seal and 2 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 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 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
Screws	Steel

Dimensions

Fig. 1

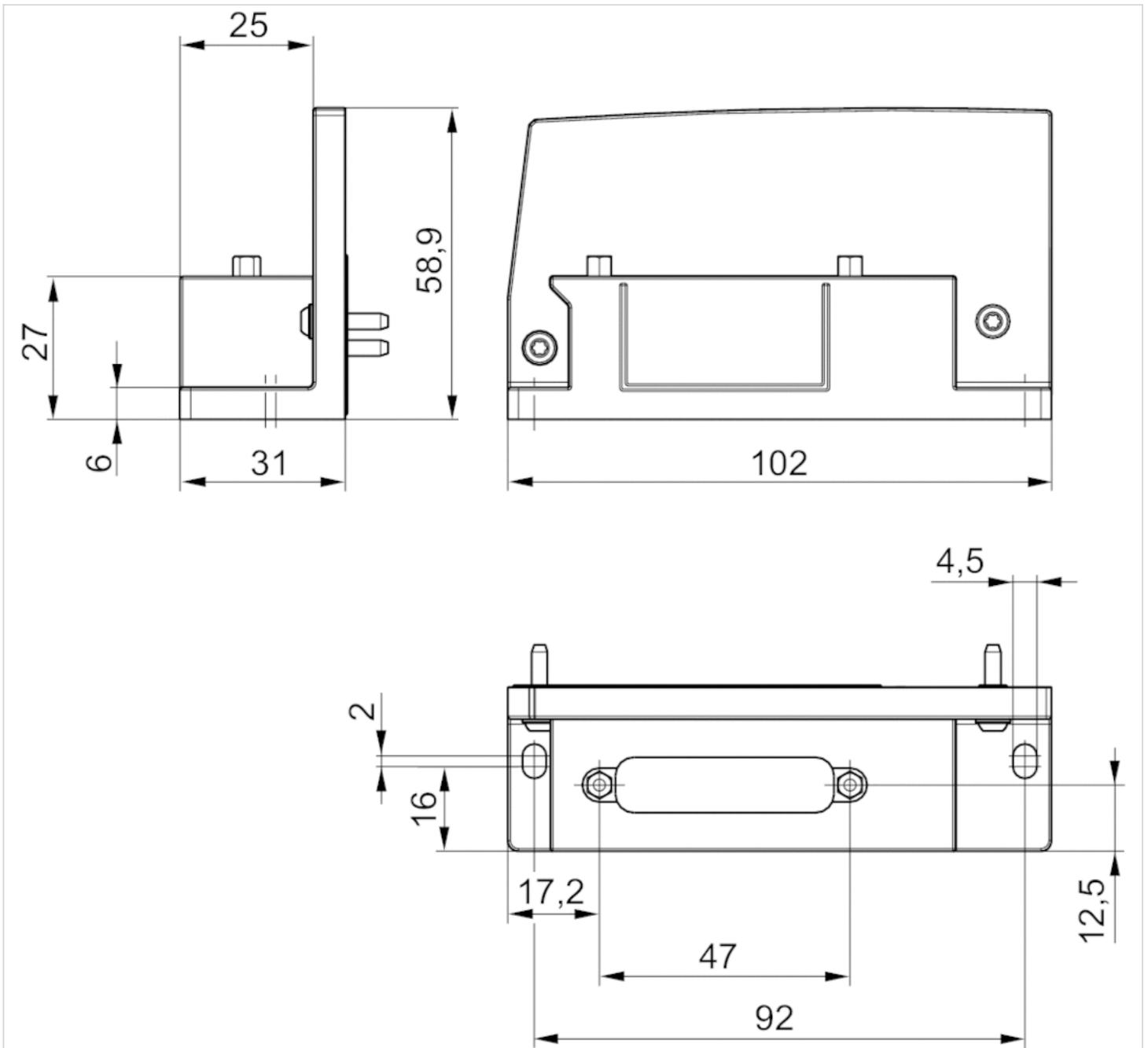
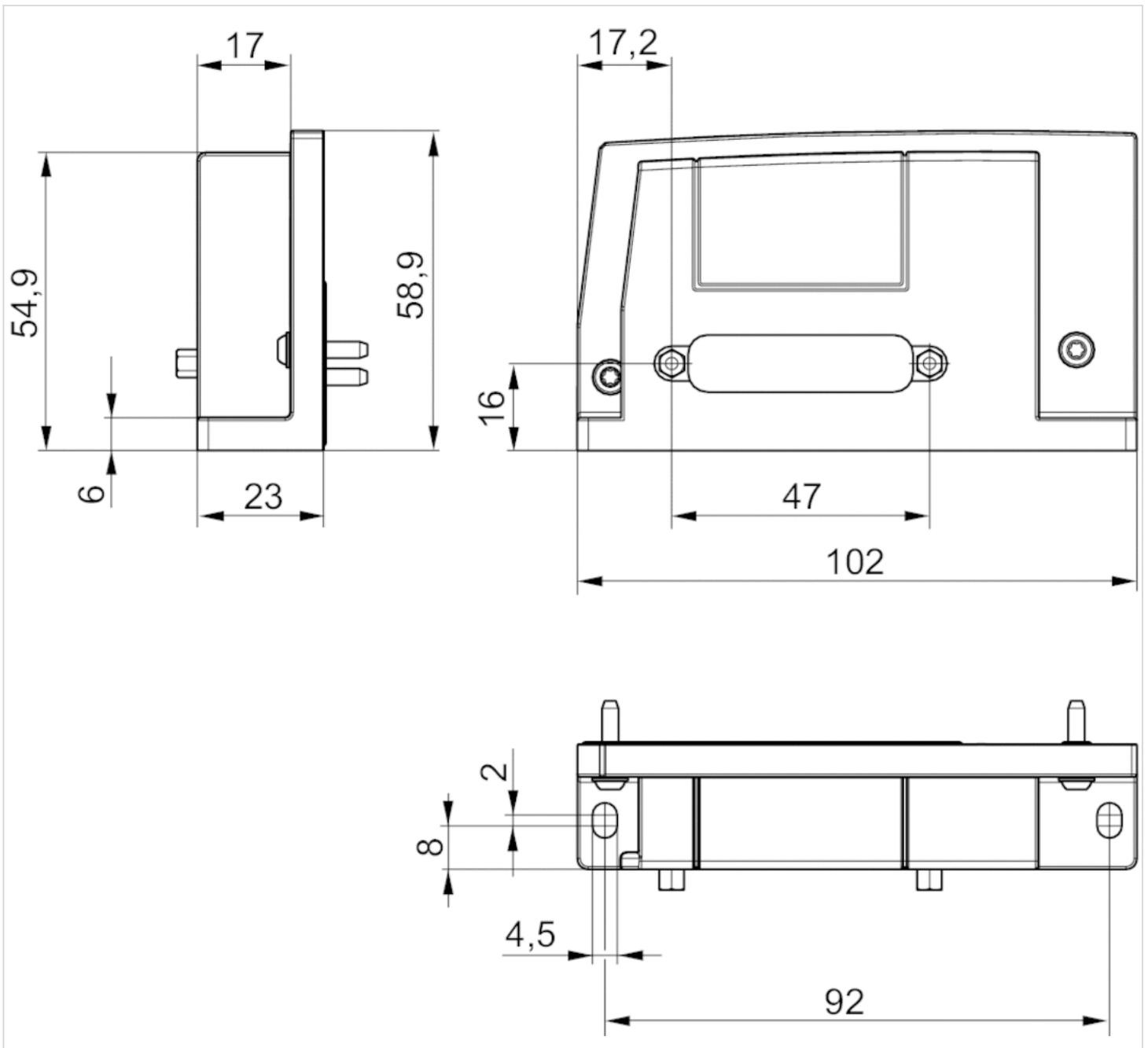
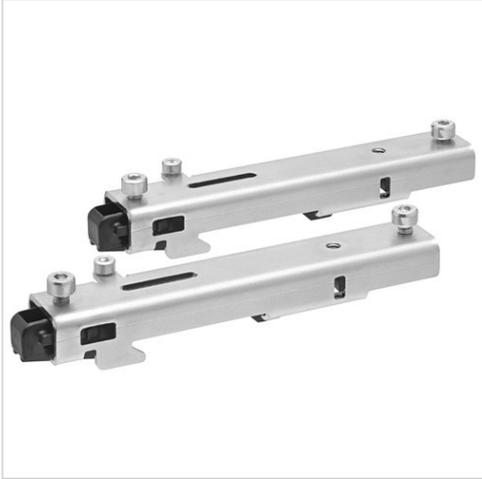


Fig. 2



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

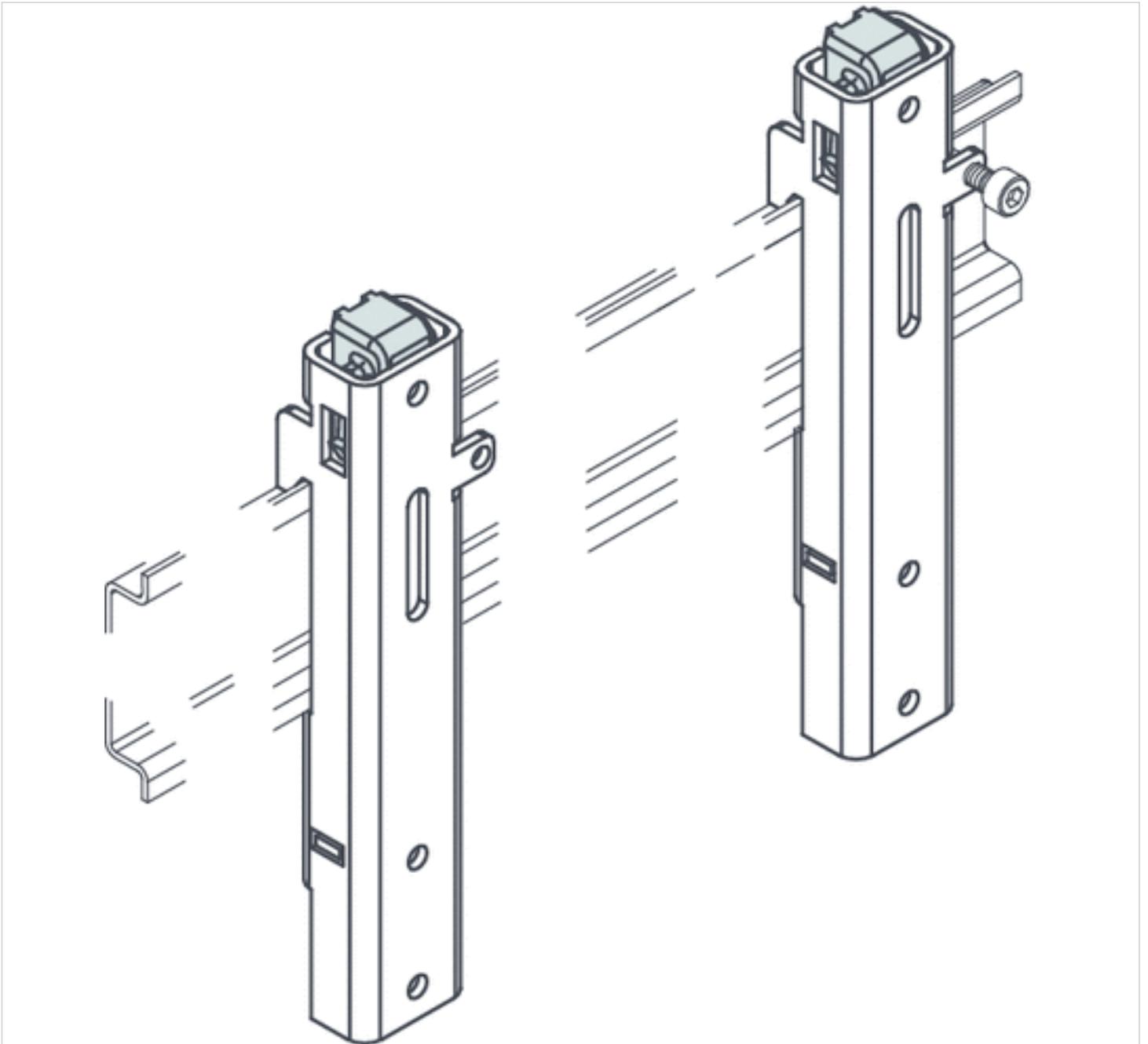
Material

Housing

Steel, chrome-plated

Dimensions

Dimensions



Assembly kit

- for AV



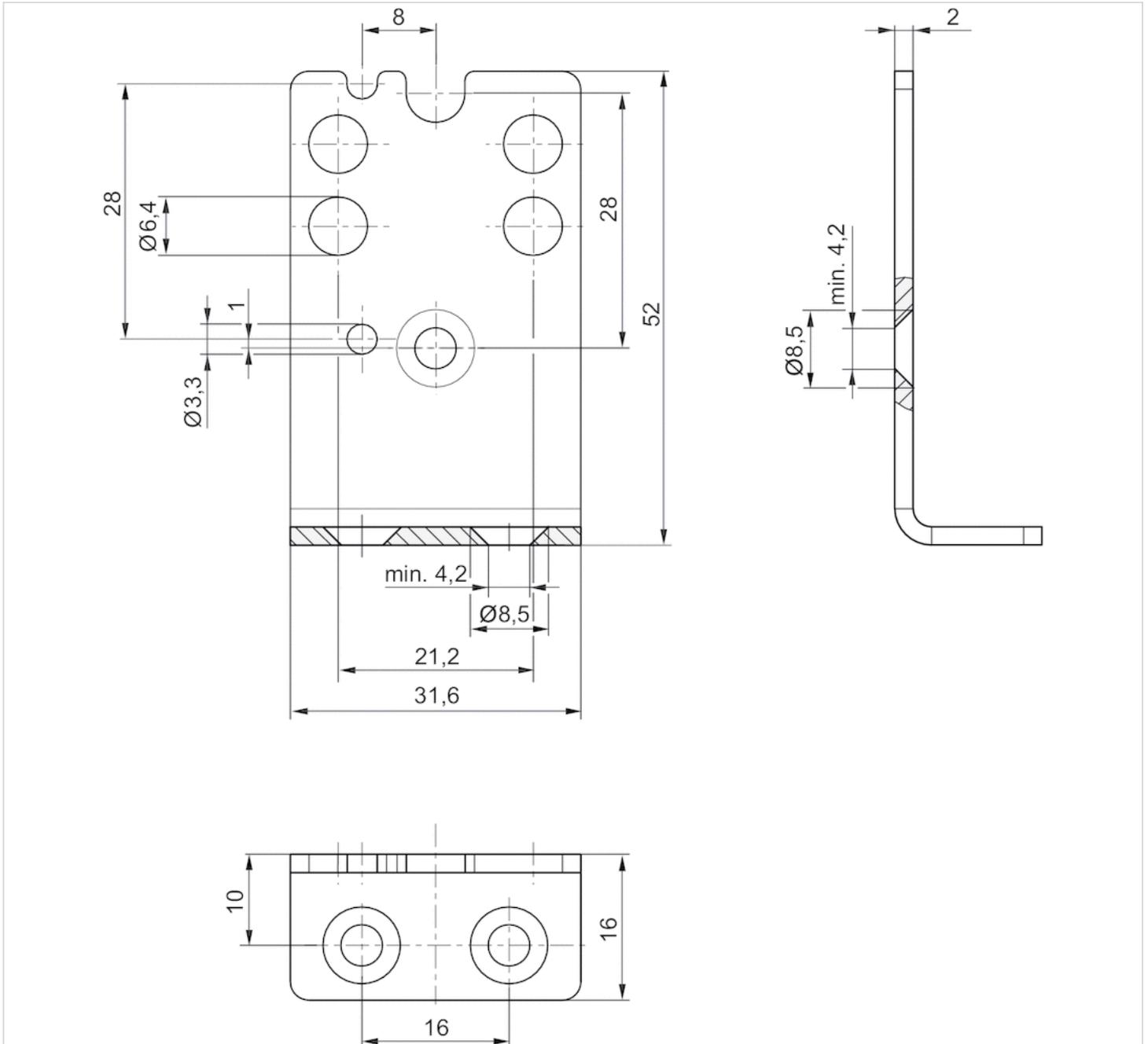
Technical data

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

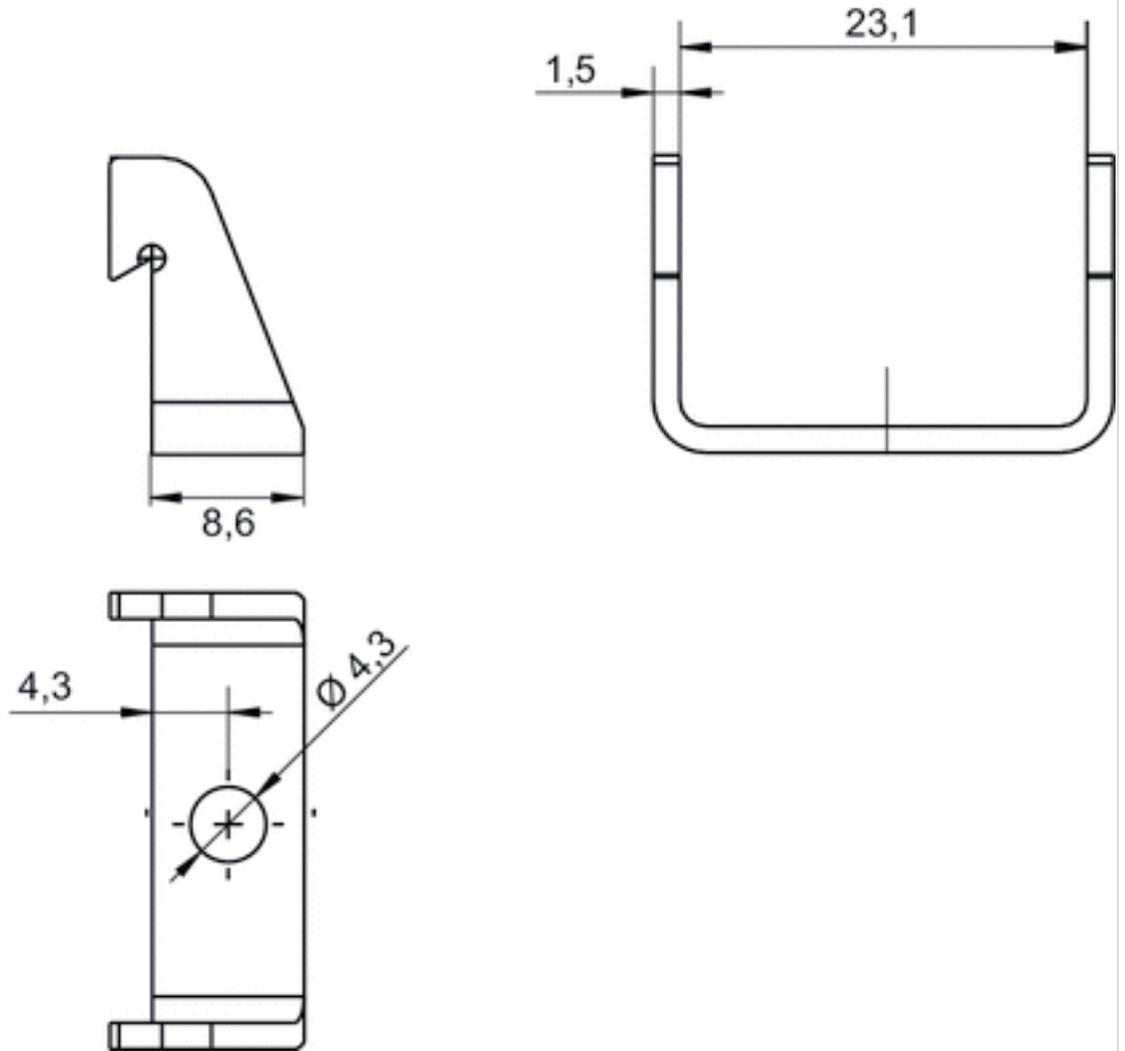
Part No.	Type	Delivery unit
R412018339	Retaining brackets	10 piece

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 5.906 in .

Technical information

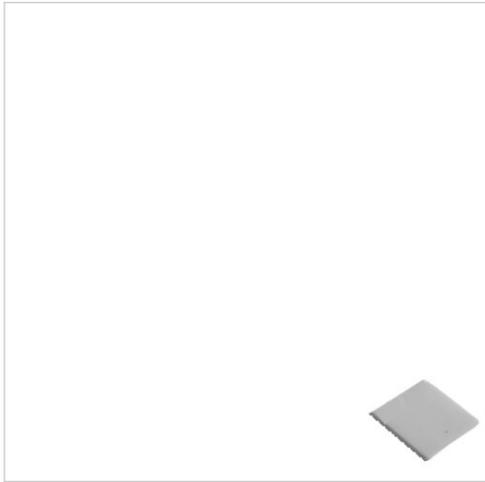
Material	
Housing	Stainless steel

Dimensions



Name plates, front

- for AV03, AV05, AES



Weight

0.031 lbs

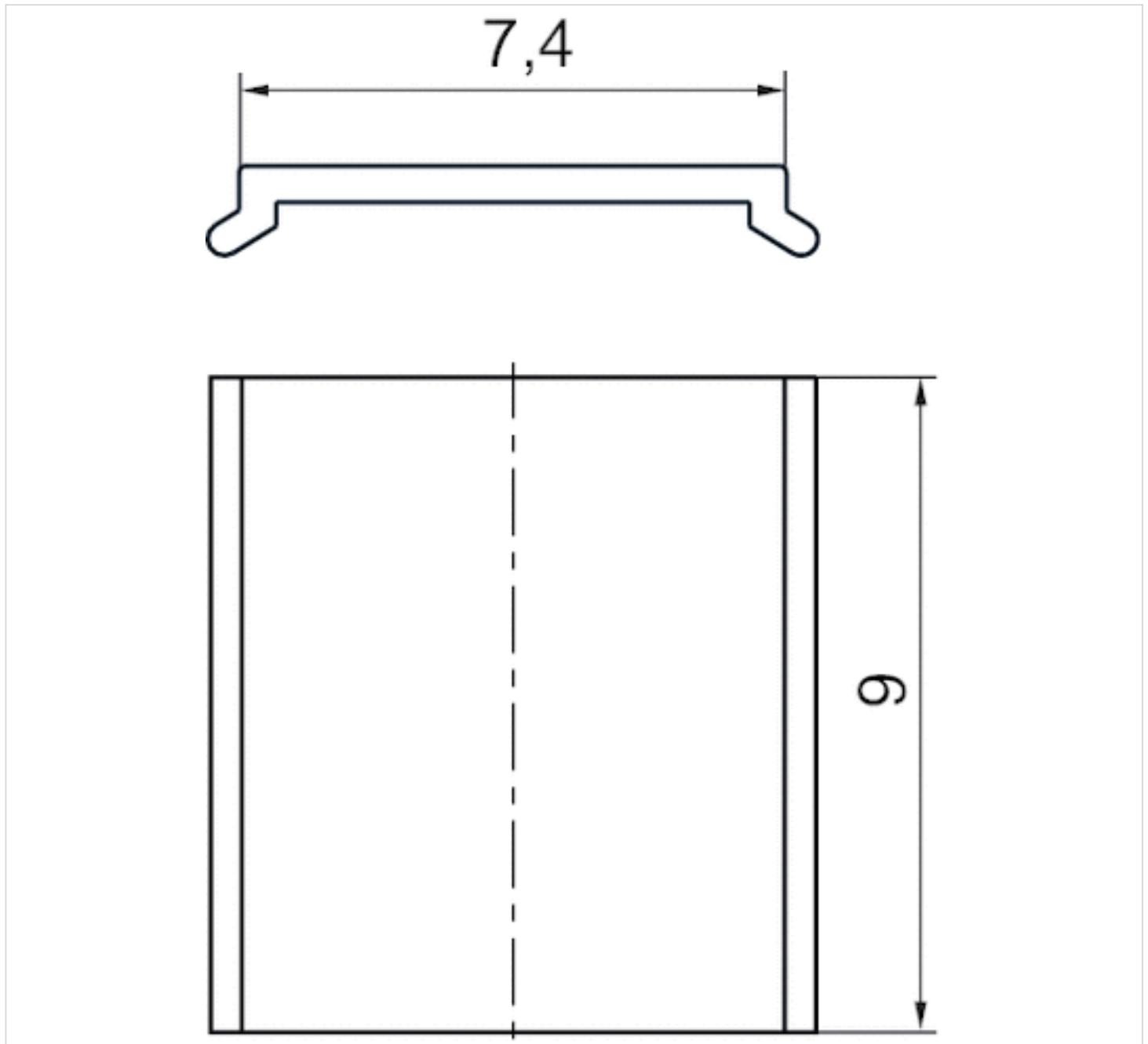
Technical data

Part No.	Type	Delivery unit
R412019552	Name plates	150 piece

Technical information

Material	
Housing	Polyamide

Dimensions



Name plates

- for AV03, AV05, AES



Weight

0.031 lbs

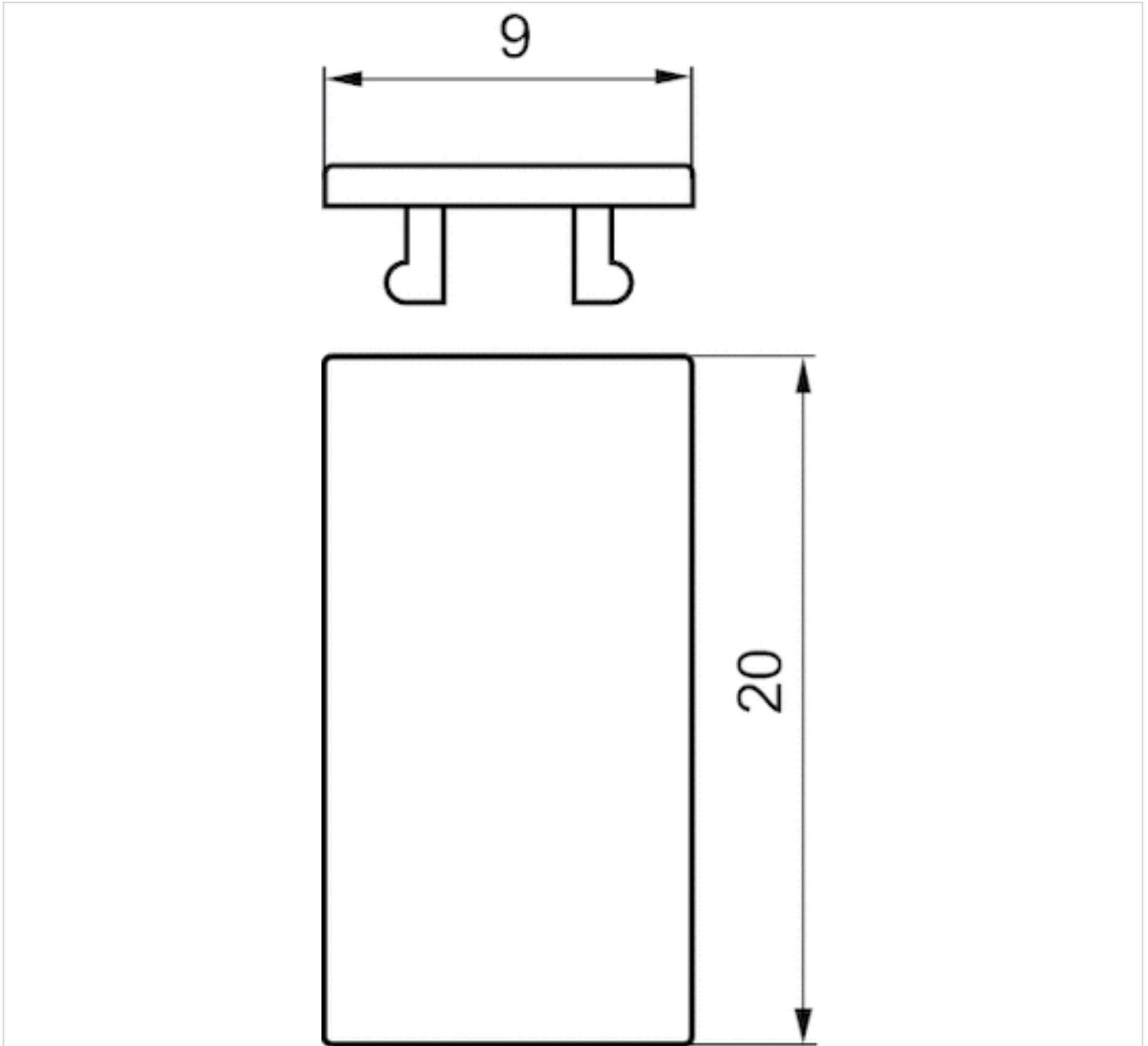
Technical data

Part No.	Type	Delivery unit
R422100889	Name plates	20 piece

Technical information

Material	
Housing	Polyamide

Dimensions



Name plates

- for AV03-BP, AV05-BP



Weight

0.031 lbs

Technical data

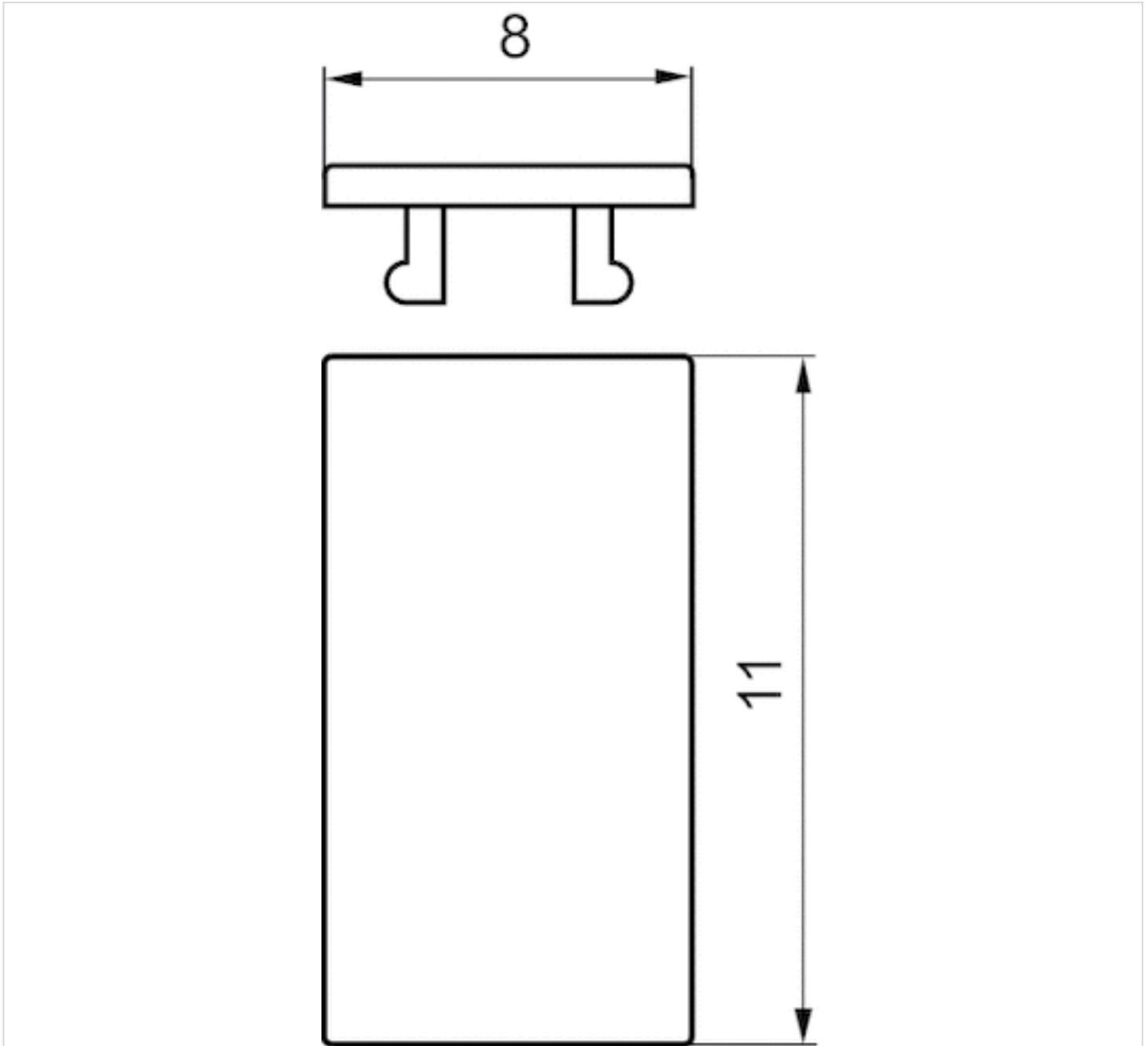
Part No.	Type	Scope of delivery
R412026461	Name plates	20 Piece

Technical information

Material	
Housing	Polyamide

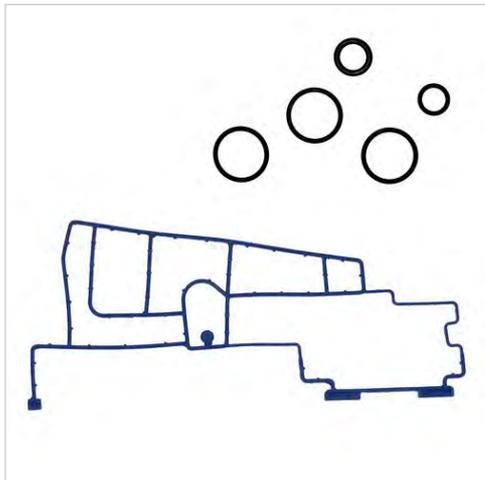
Dimensions

Dimensions



Sealing kit

- for AV05-BP



Ambient temperature min./max.

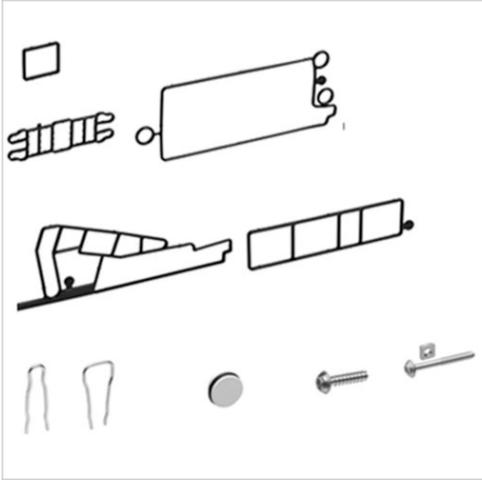
14 ... 140 °F

Technical data

Part No.	Type
R412026463	sealing kit: Connections "2" and "4"
R412026465	5x Sealing kit: Connections "1" , "3" , "5" , "X" and "R"
R412026468	Sealing kit for base plate

Part No.	Sealing material	Scope of delivery
R412026463	Nitrile butadiene rubber	20 Piece
R412026465	Nitrile butadiene rubber	5 Piece
R412026468	Hydrogenated nitrile butadiene rubber	10 Piece

Accessories



Ambient temperature min./max.
Medium

14 ... 140 °F
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)

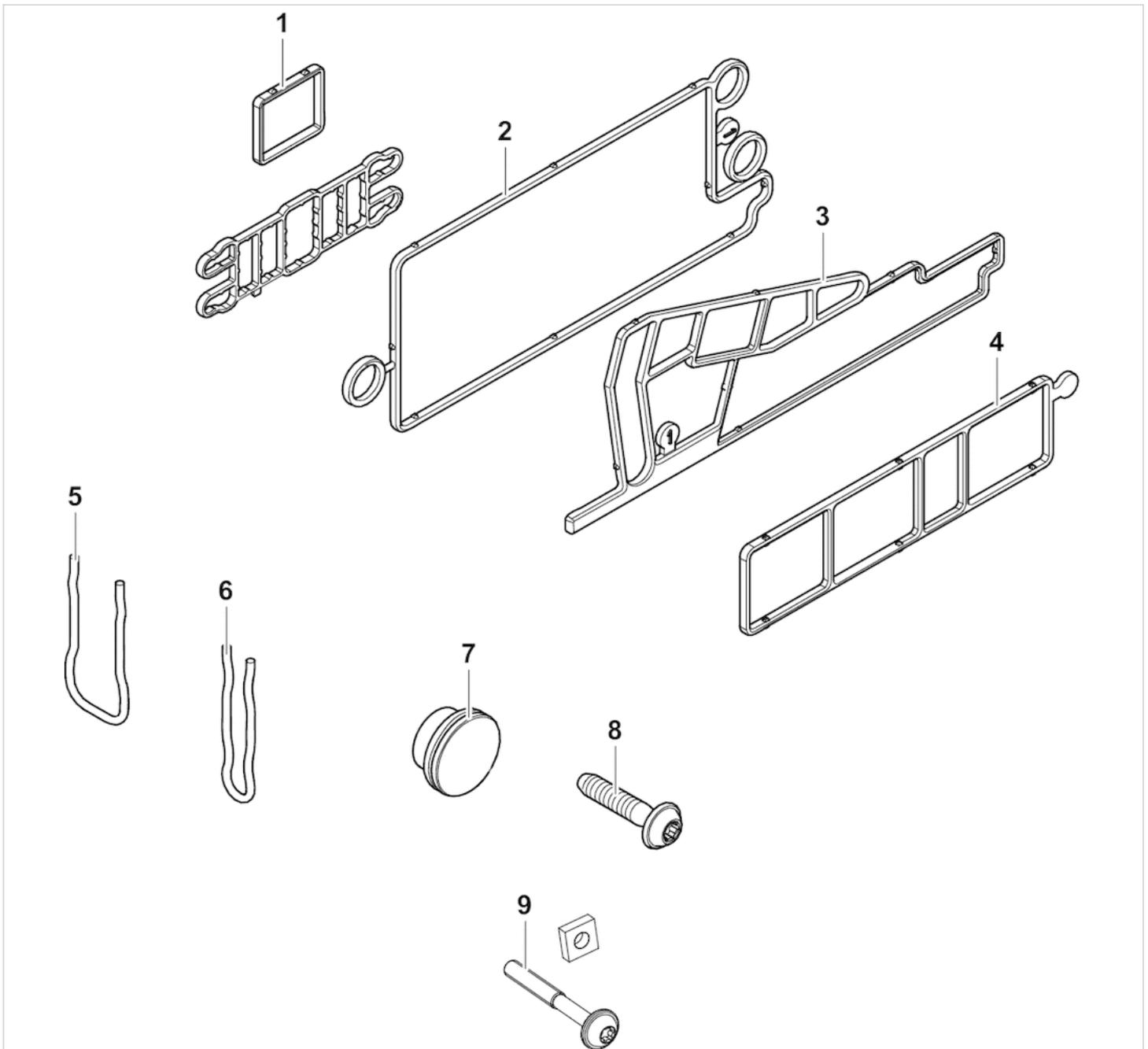
1) AV03

2) AV05

3) AV03 / AV05

Dimensions

Overview drawing



Name plates

- for AES



Weight

0.031 lbs

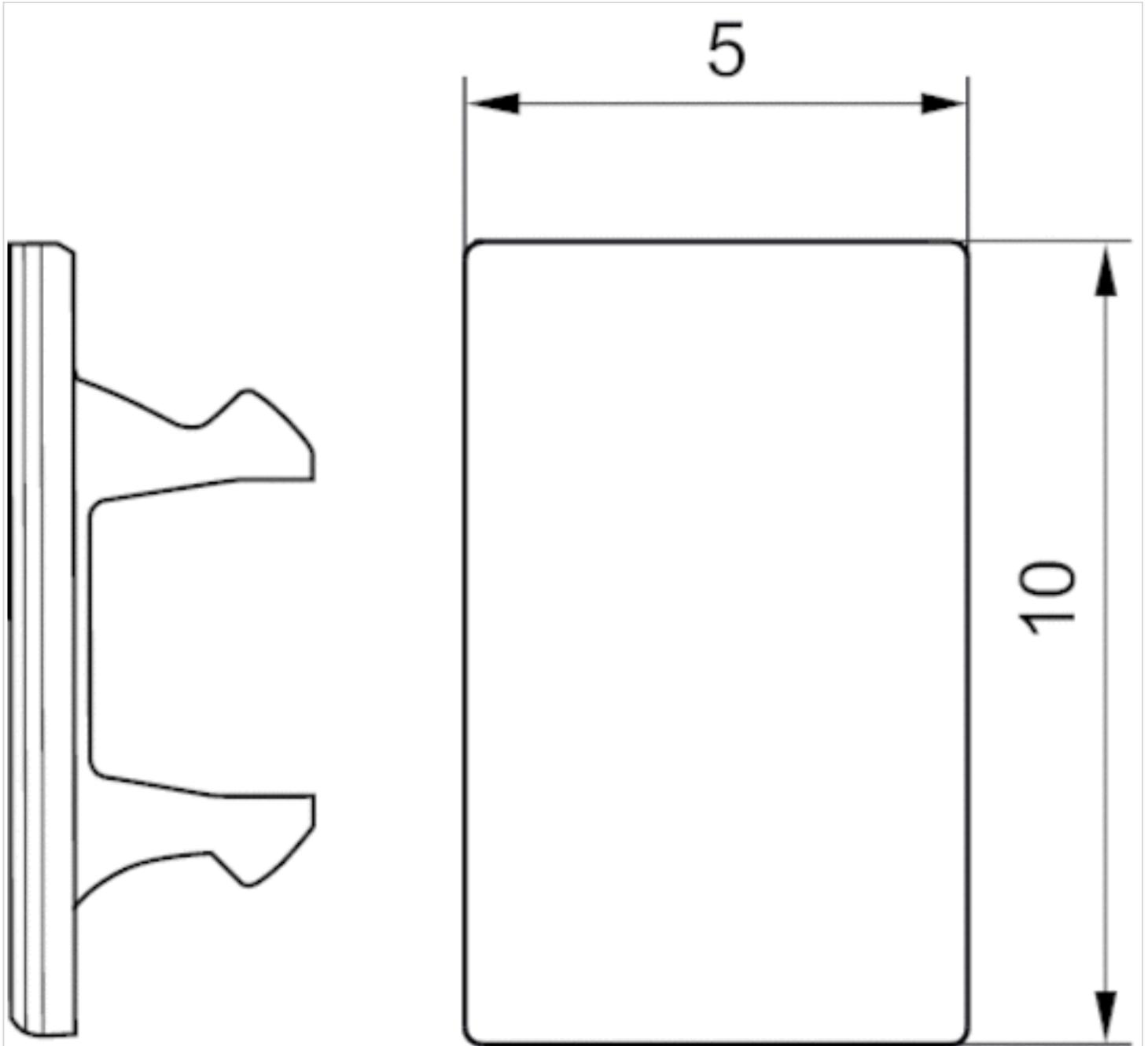
Technical data

Part No.	Type	Delivery unit
R412018192	Name plates	60 piece

Technical information

Material	
Housing	Polyamide

Dimensions



Protective cap, series CON-RD

- M8x1



Protection class
Weight

IP67
0.031 lbs

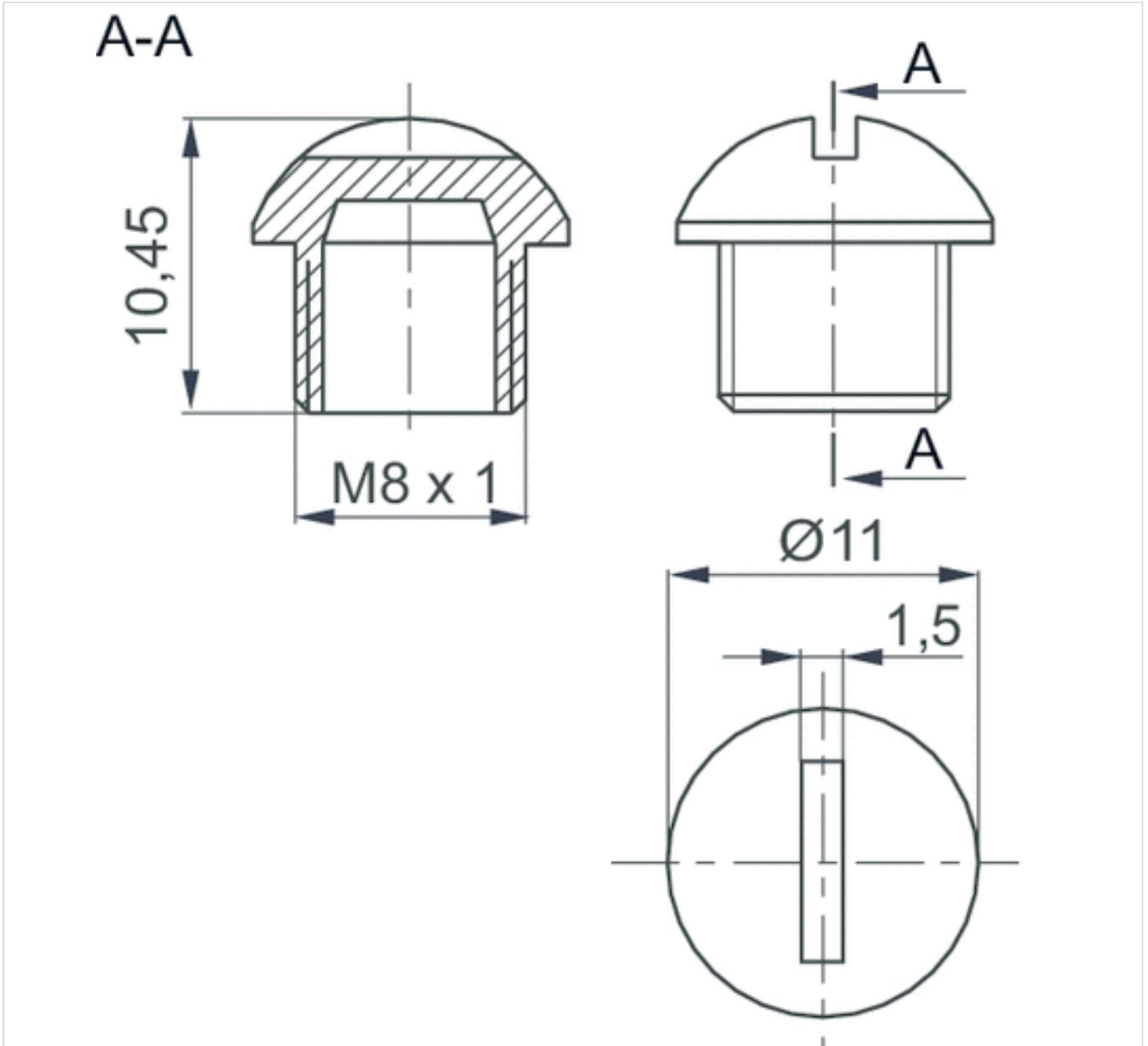
Technical data

Part No.	Type	Scope of delivery
R412003493	M8x1	25

Technical information

Material	
Housing	Polyamide

Dimensions



Protective cap, series CON-RD

- M12x1



Protection class
Weight

IP67
0.002 lbs

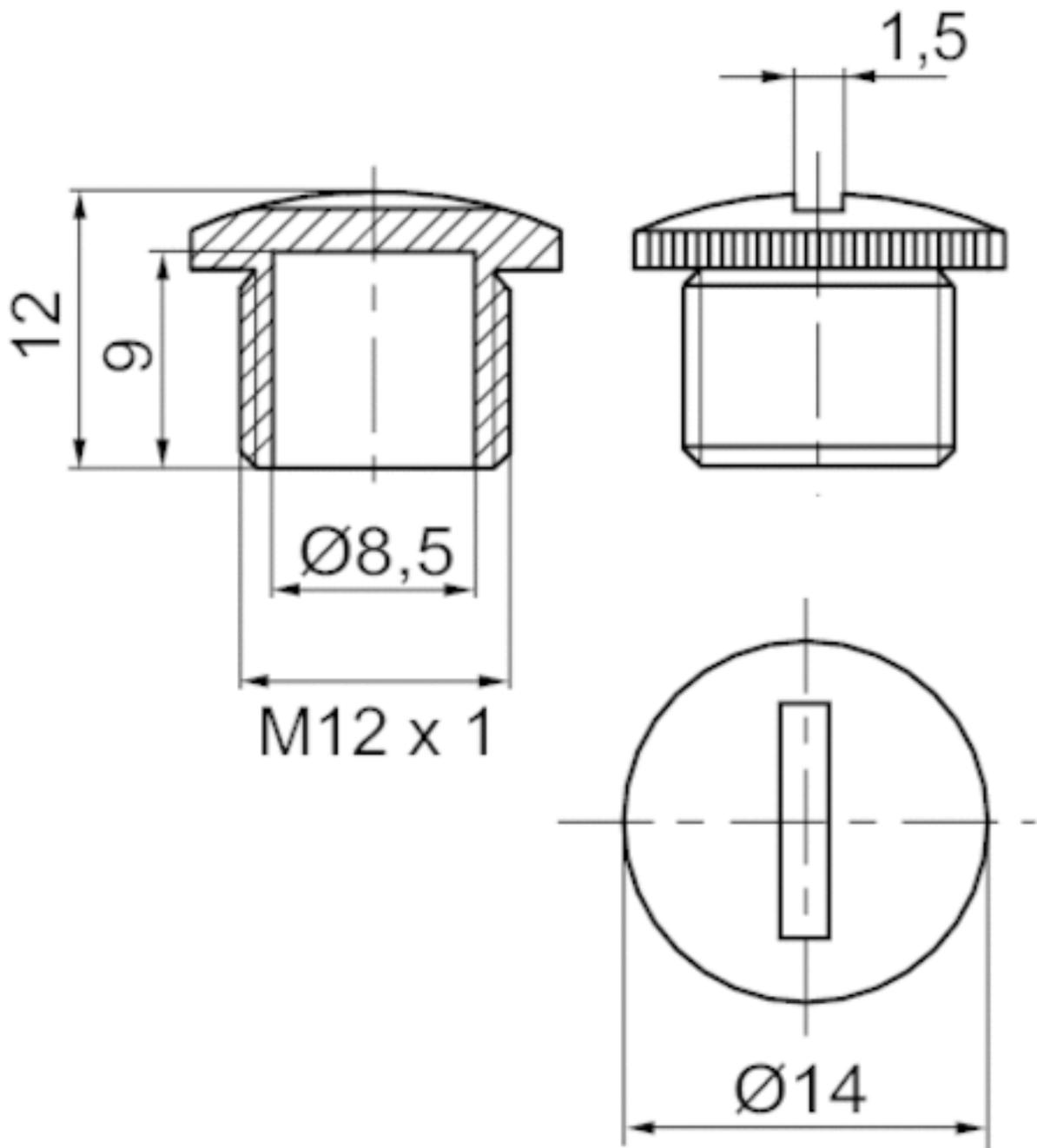
Technical data

Part No.	Type	Delivery unit
1823312001	M12x1	50 piece

Technical information

Material	
Housing	Polyamide

Dimensions



End plate left

- for AES



Ambient temperature min./max. 14 ... 140 °F
 Weight 0.073 lbs

Technical data

Part No.	Type
R412015398	End plate left

Delivery contents: incl. 2 spring clamp elements

Technical information

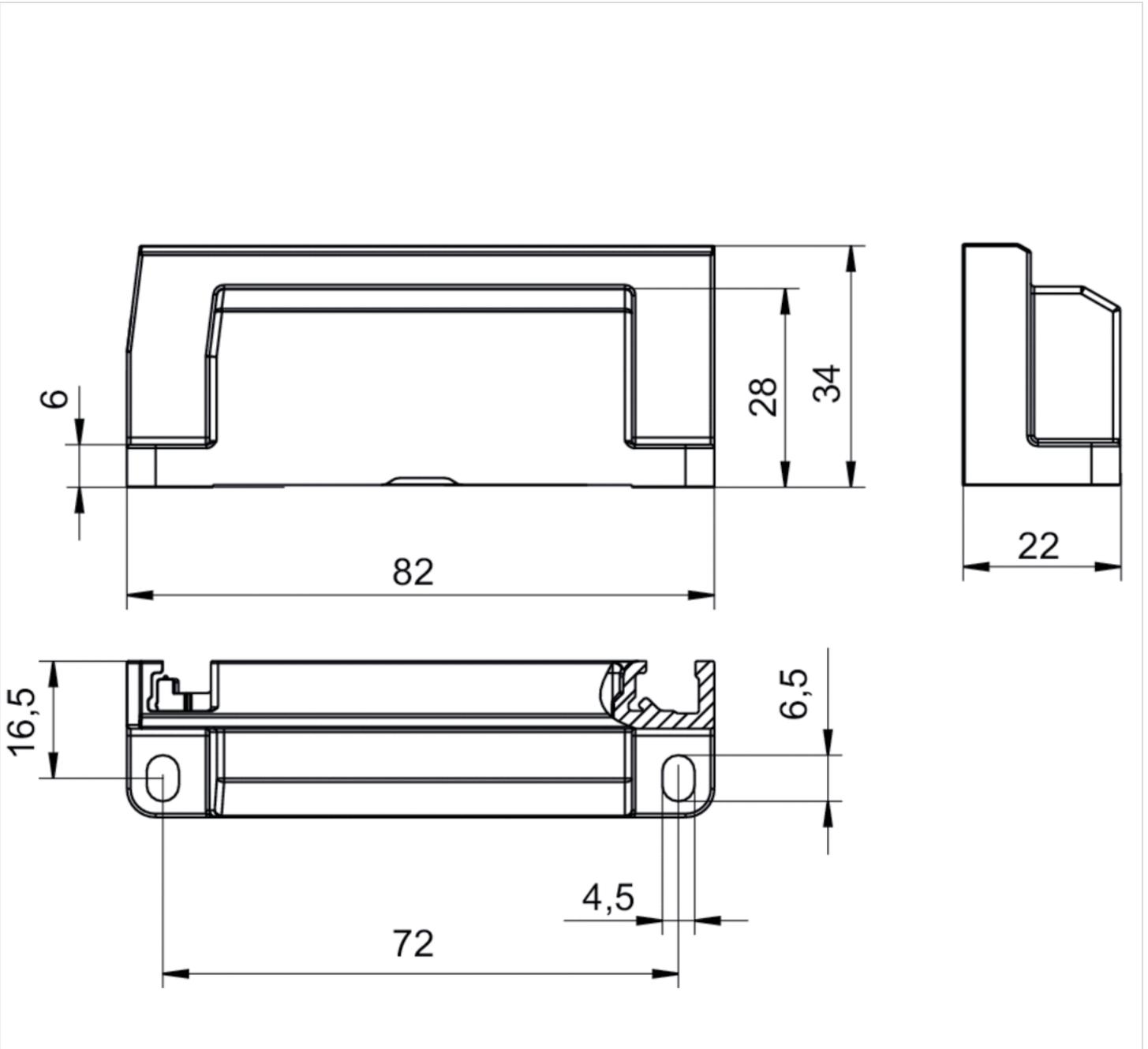
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 The oil content of compressed air must remain constant during the life cycle.
 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. 14 ... 140 °F
 Weight 0.086 lbs

Technical data

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

Scope of delivery incl. seal and mounting screws

Technical information

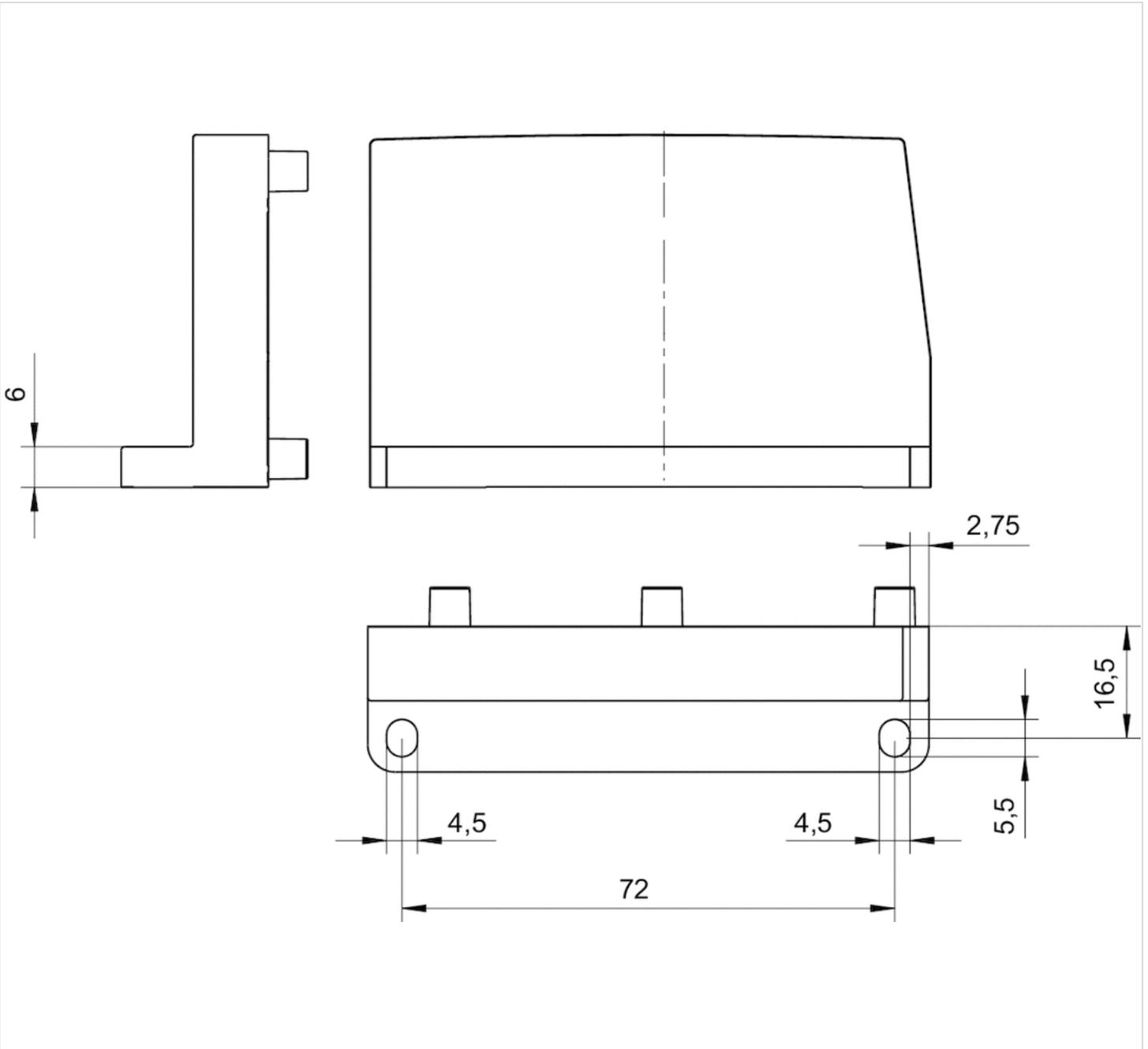
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
 The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
 The oil content of compressed air must remain constant during the life cycle.
 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

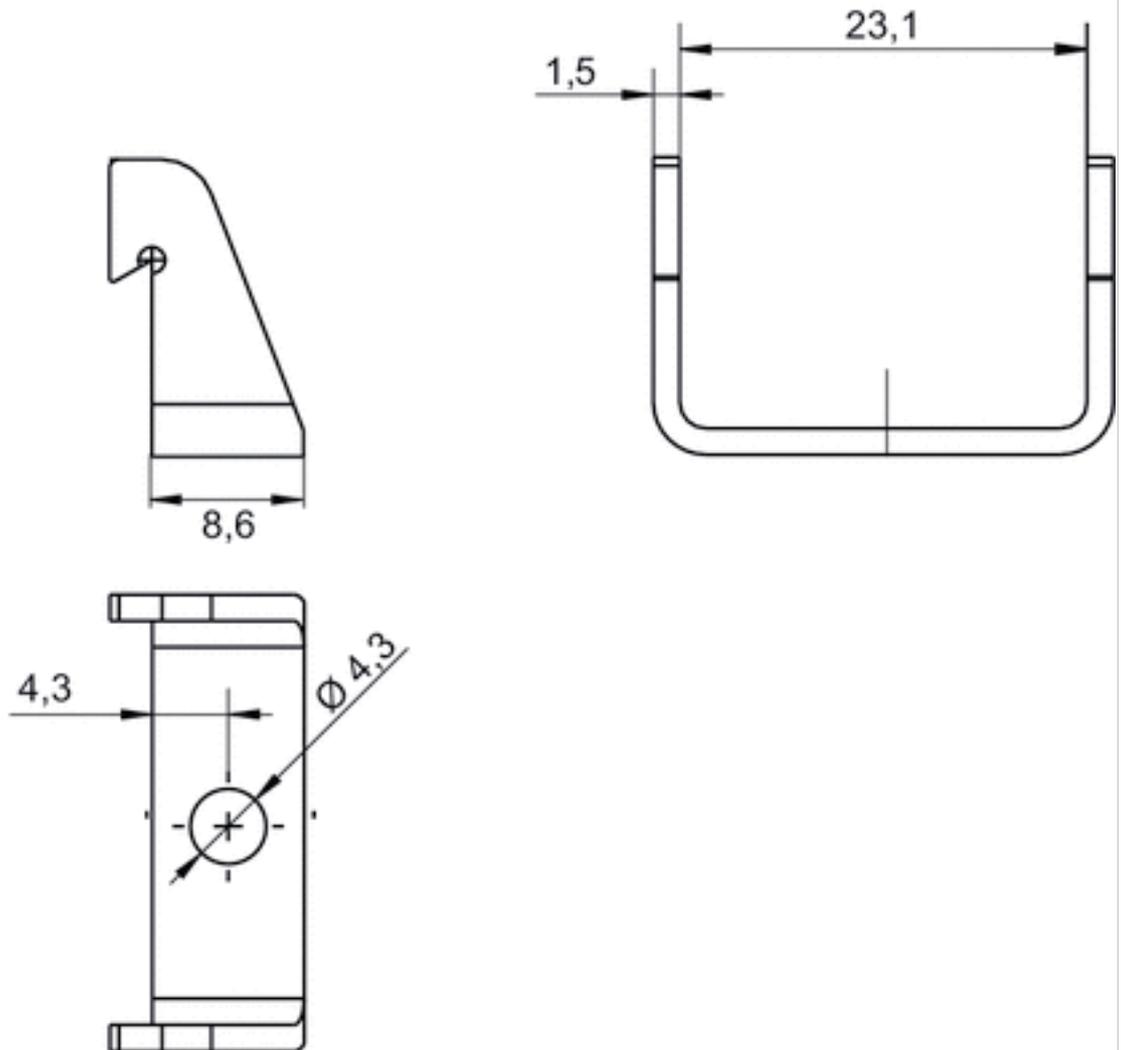
Part No.	Type	Delivery unit
R412018339	Retaining brackets	10 piece

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 5.906 in .

Technical information

Material	
Housing	Stainless steel

Dimensions



Spring clamp element

- for AES



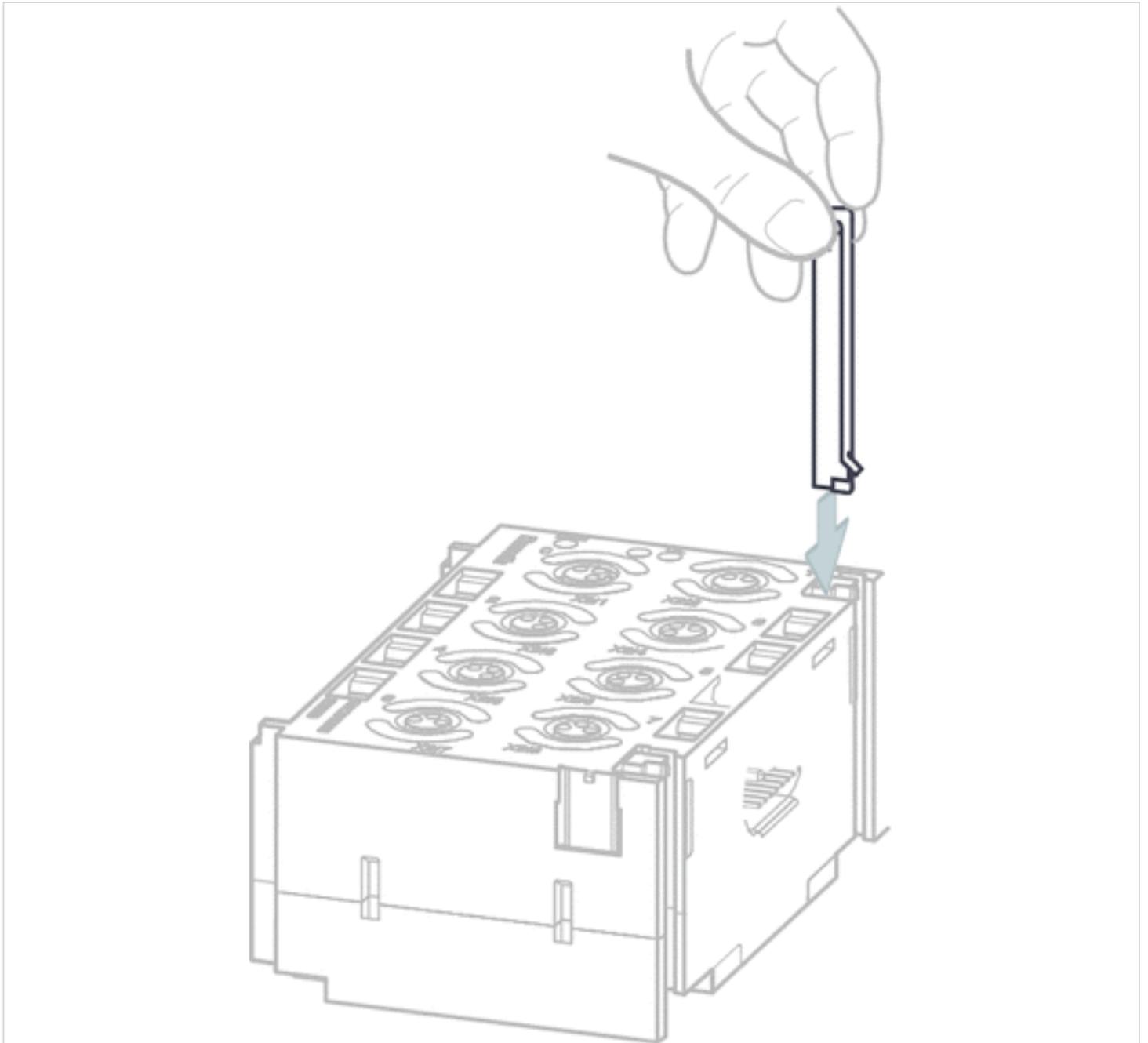
Technical data

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

Technical information

Material	
Housing	Steel

Dimensions

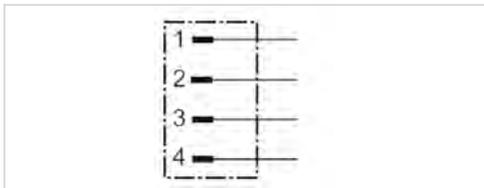


Round plug connector, Series CON-RD

- 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.	-13 ... 185 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.904 lbs



Technical data

Part No.	Max. current	suitable cable-Ø min./max
R419801401	4 A	0.236 / 0.315 inch

Technical information

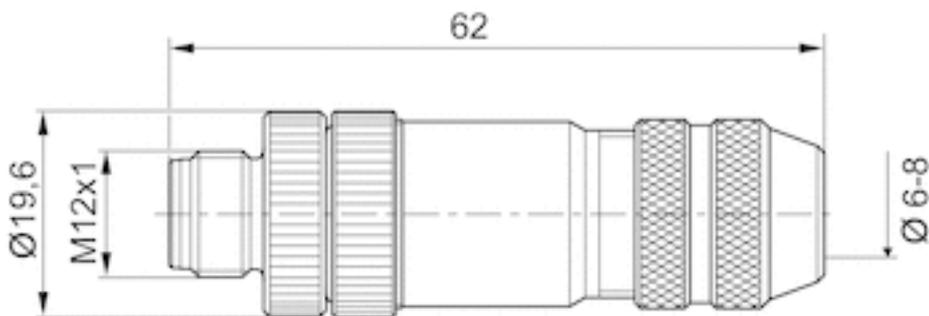
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

Dimensions

Dimensions

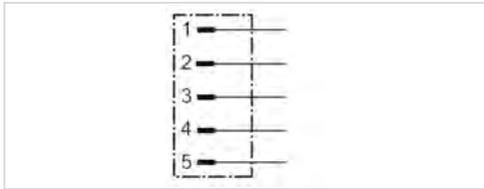


Round plug connector, Series CON-RD

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



Connection type	Screws
Ambient temperature min./max.	-40 ... 185 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.106 lbs



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8942051612	4 A	0.24 / 0.31 inch

Technical information

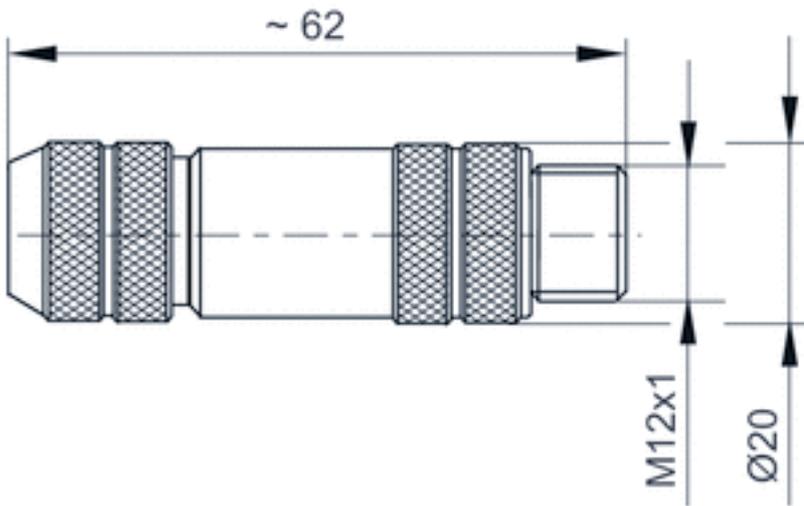
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

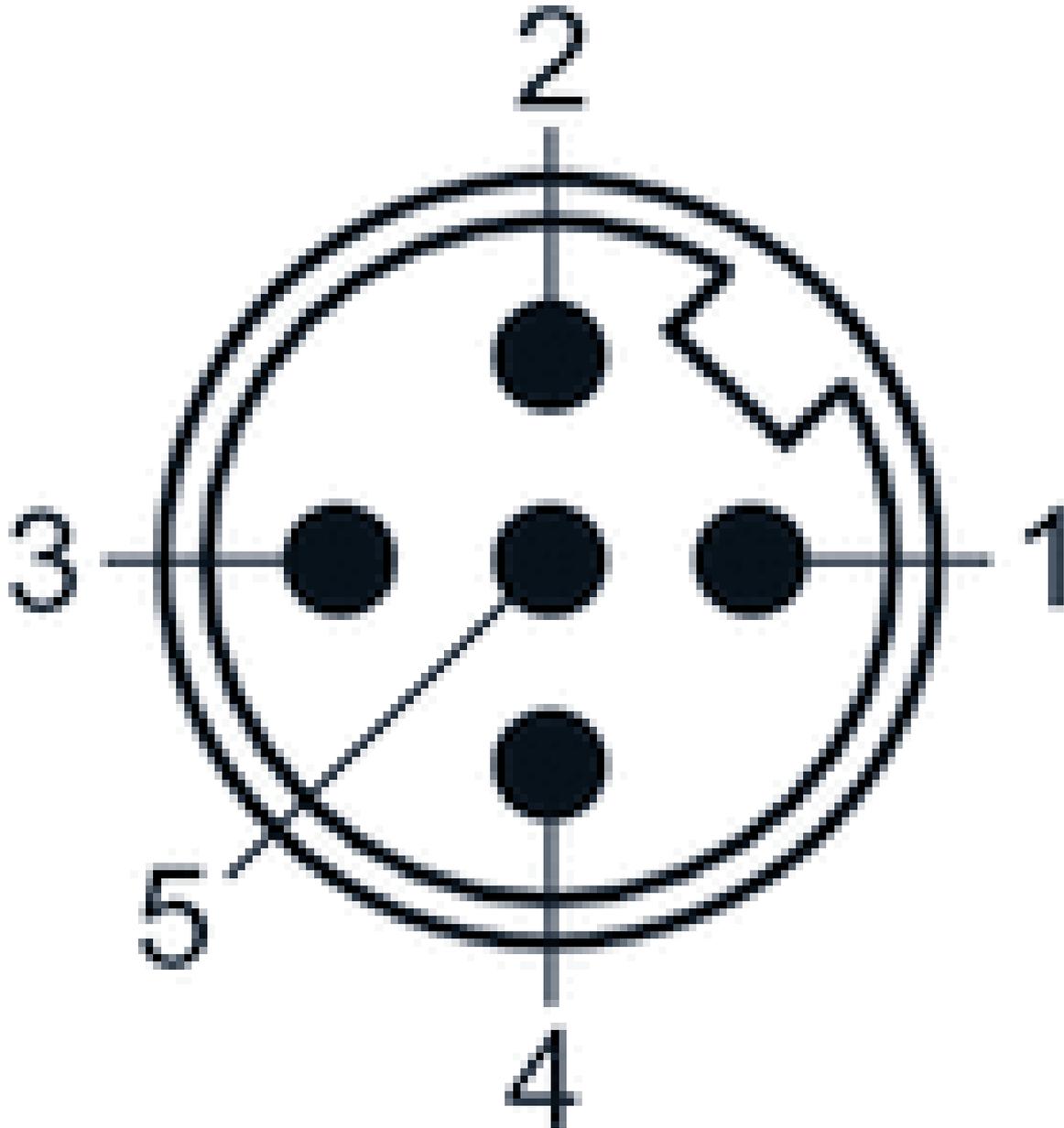
Dimensions

Dimensions



Pin assignments

Plug pin assignment

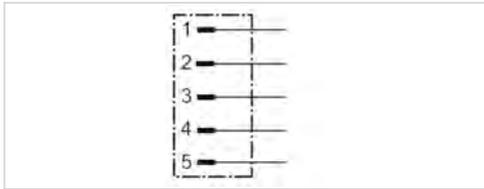


Round plug connector, Series CON-RD

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



Connection type	Screws
Ambient temperature min./max.	-13 ... 194 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.132 lbs



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8941054054	4 A	0.16 / 0.35 inch

Technical information

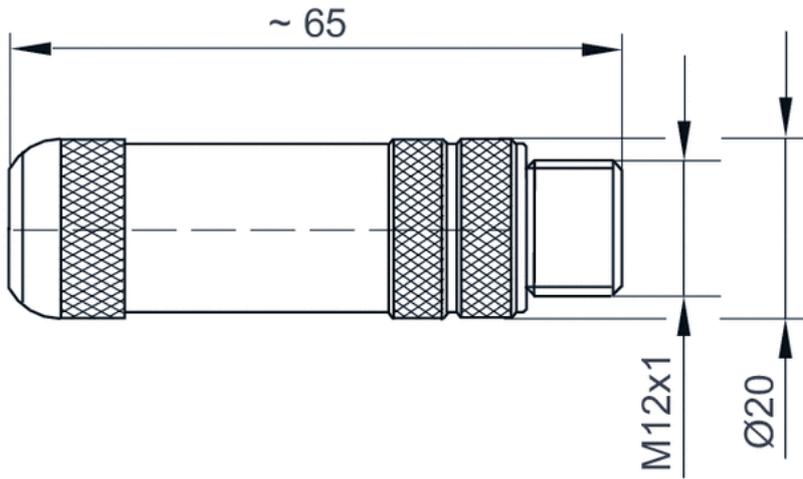
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated
Seals	Fluorocarbon caoutchouc

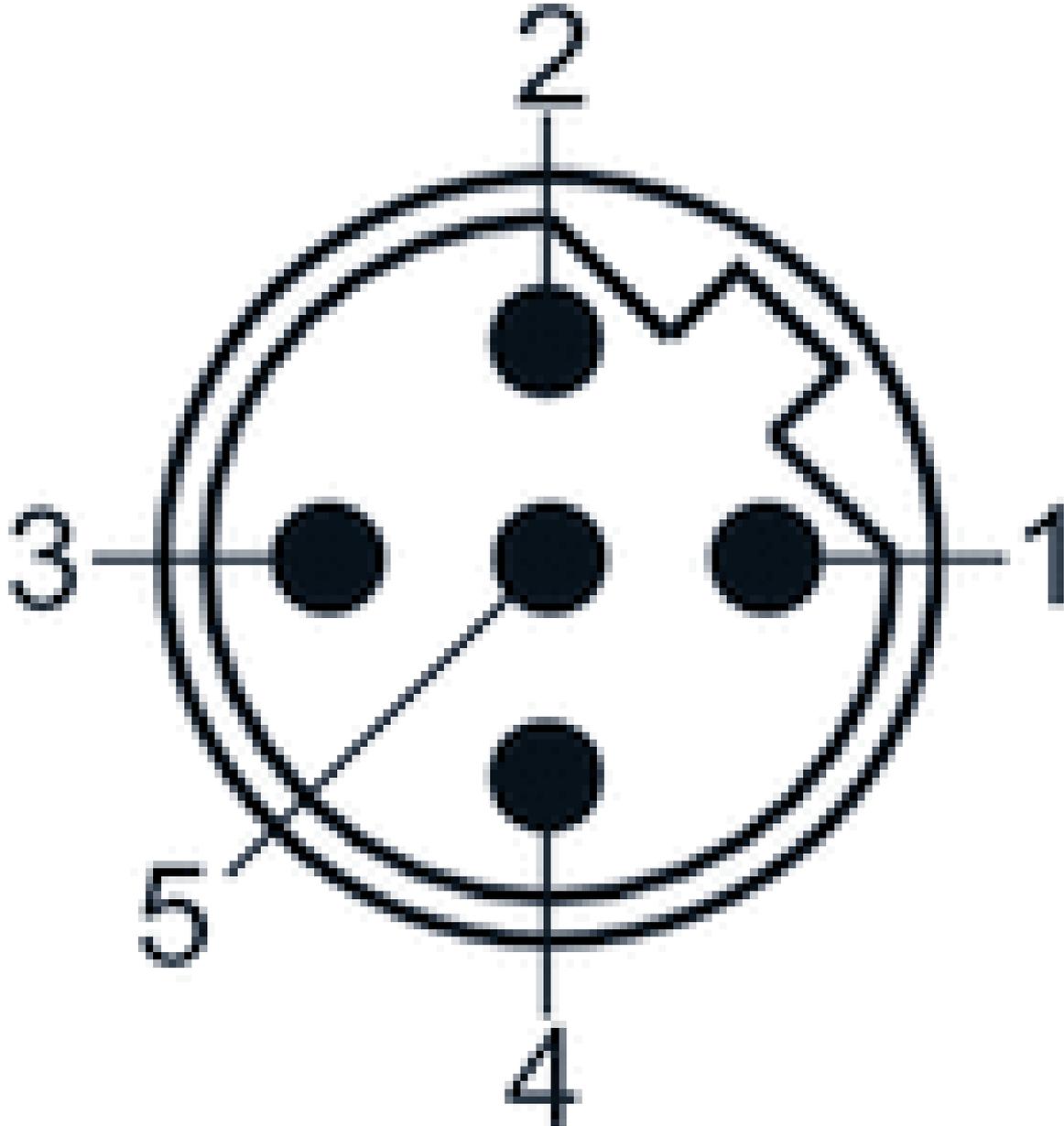
Dimensions

Dimensions



Pin assignments

Plug pin assignment



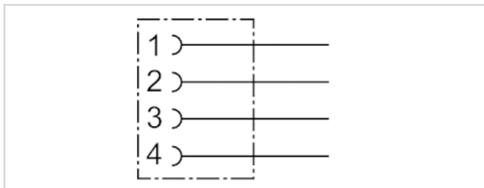
Round plug connector, Series CON-RD

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



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

Screws
 -13 ... 194 °F
 48 V AC/DC
 IP67
 0.062 lbs
 The delivered product may vary from that in the illustration.



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8941054324	4 A	0.16 inch

Technical information

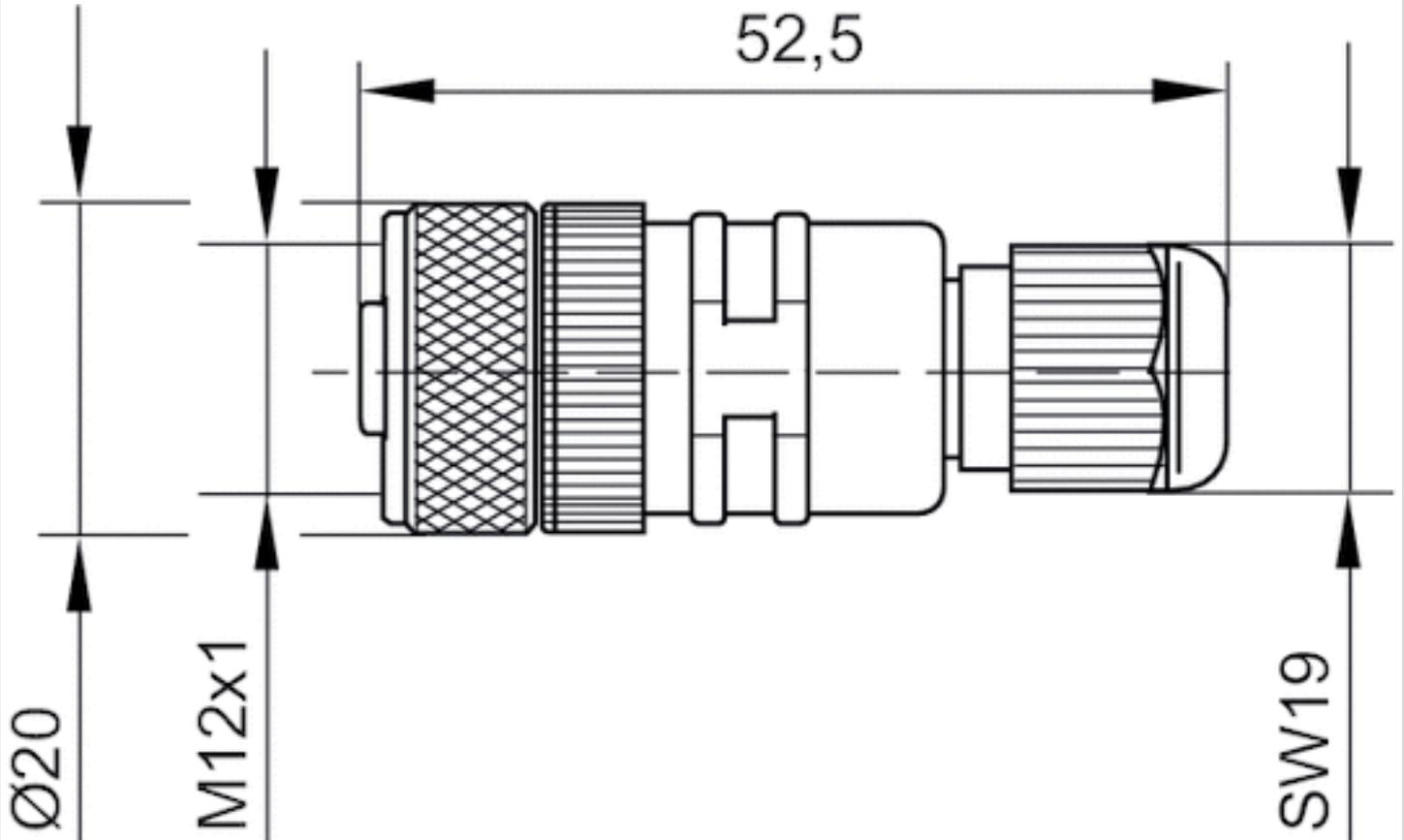
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polybutyleneterephthalate
Seals	Fluorocarbon caoutchouc

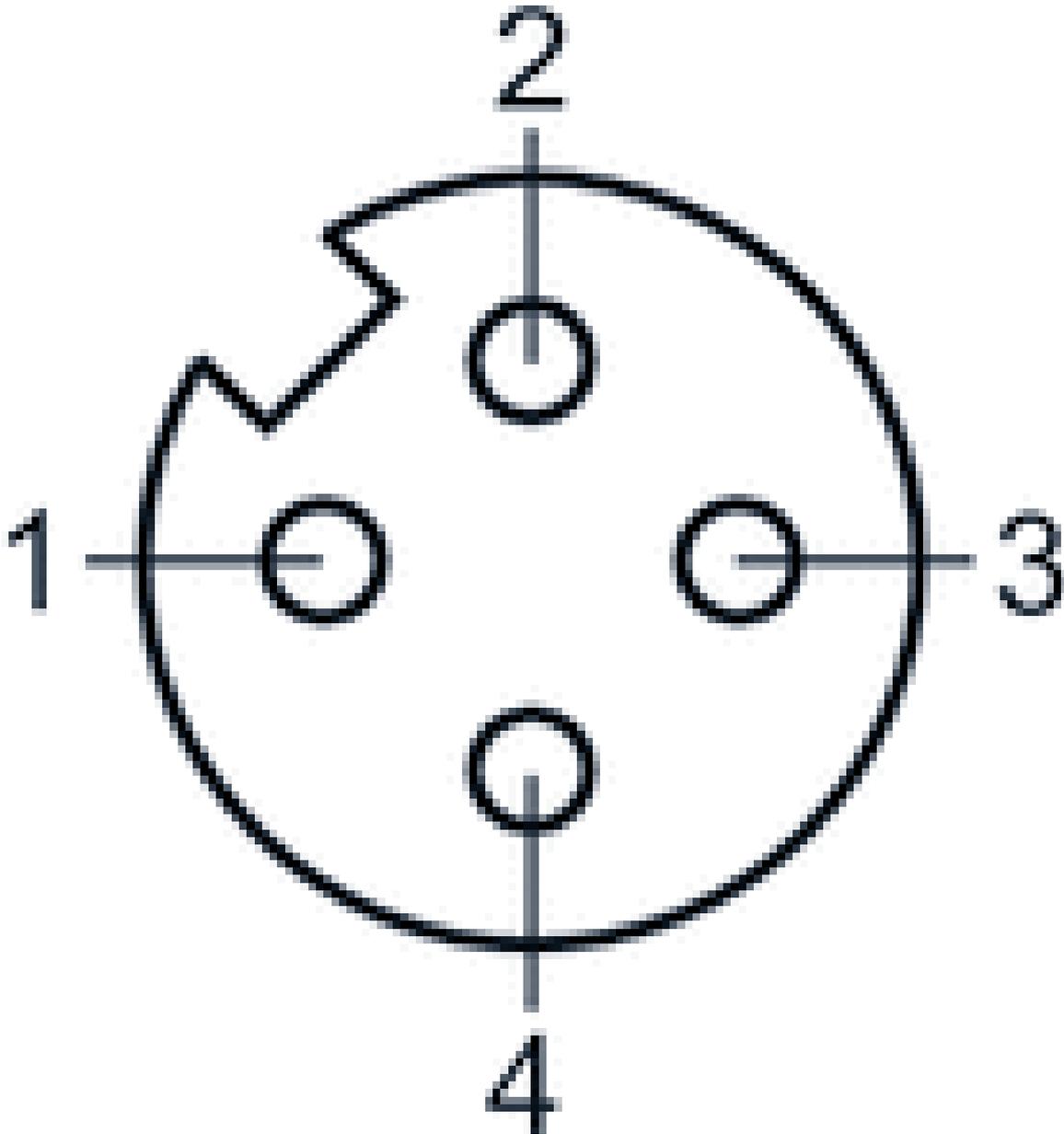
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

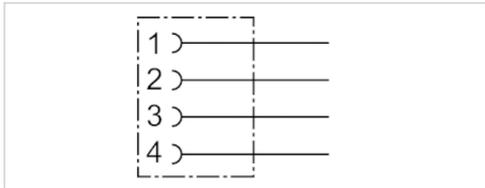


Round plug connector, Series CON-RD

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



Connection type	Screws
Ambient temperature min./max.	-13 ... 194 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.06 lbs



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8941054424	4 A	0.16 inch

Technical information

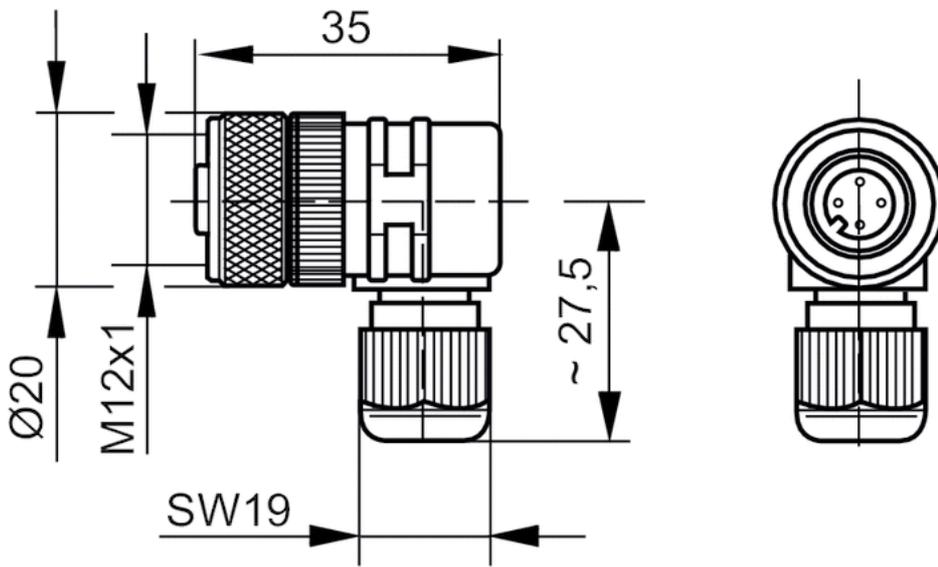
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polybutyleneterephthalate
Seals	Fluorocarbon caoutchouc

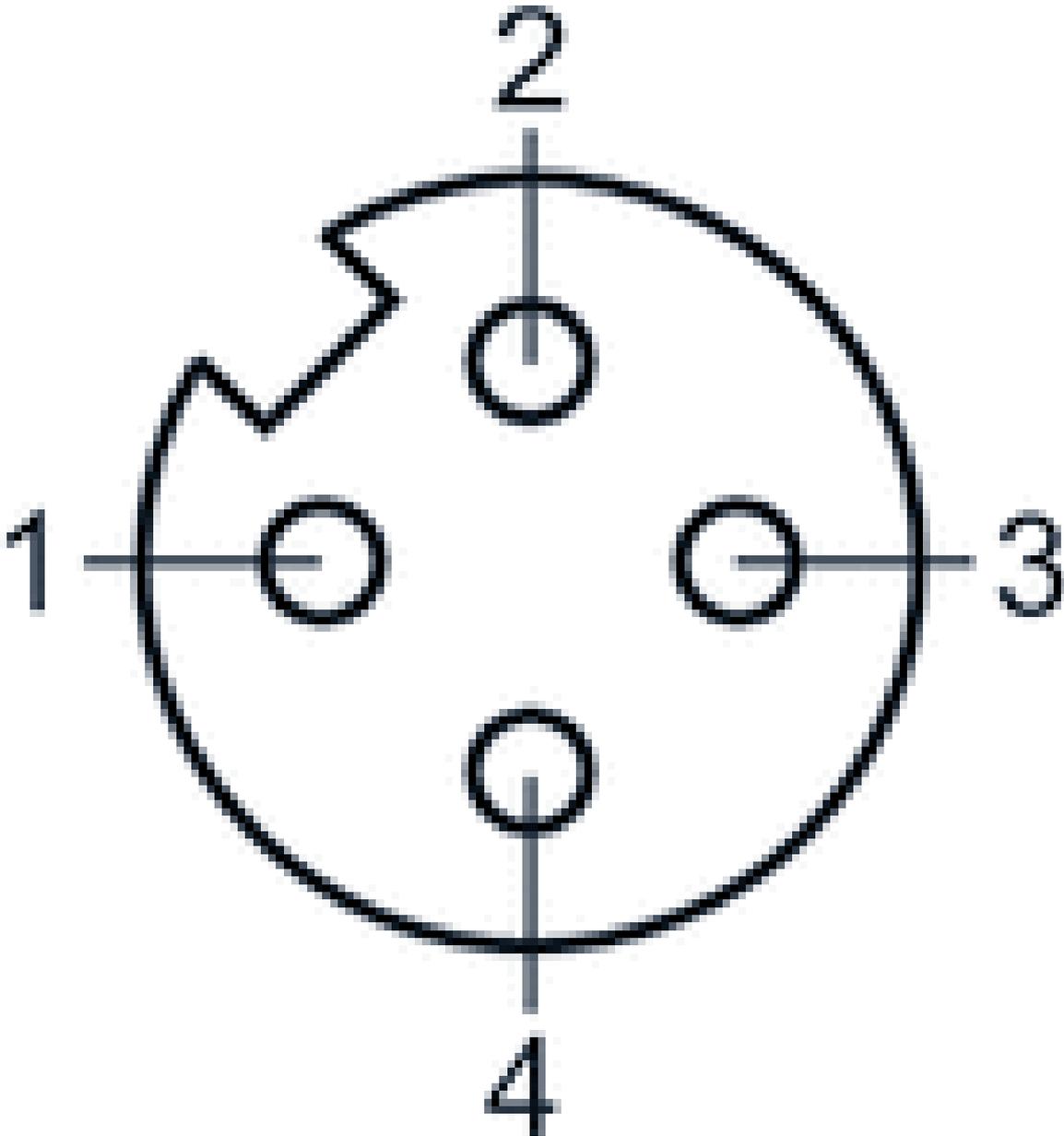
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

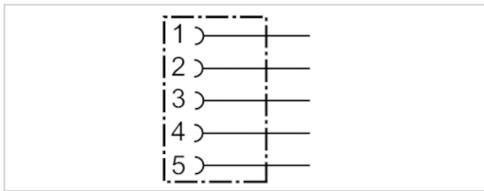


Round plug connector, Series CON-RD

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



Connection type	Screws
Ambient temperature min./max.	-40 ... 185 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.112 lbs



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8942051602	4 A	0.24 inch

Technical information

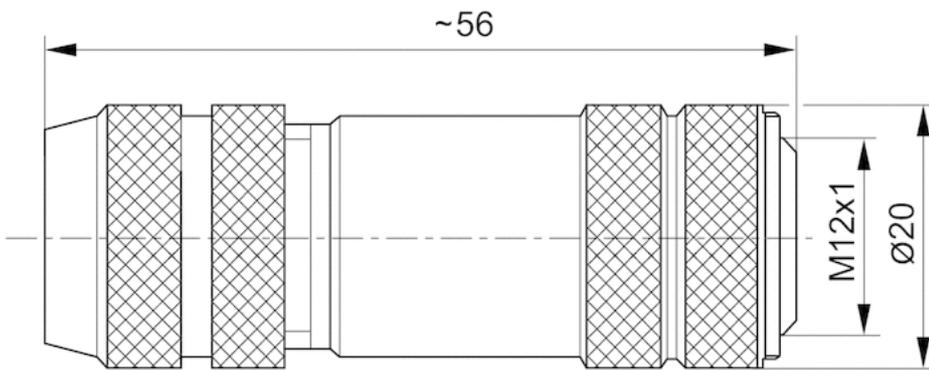
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

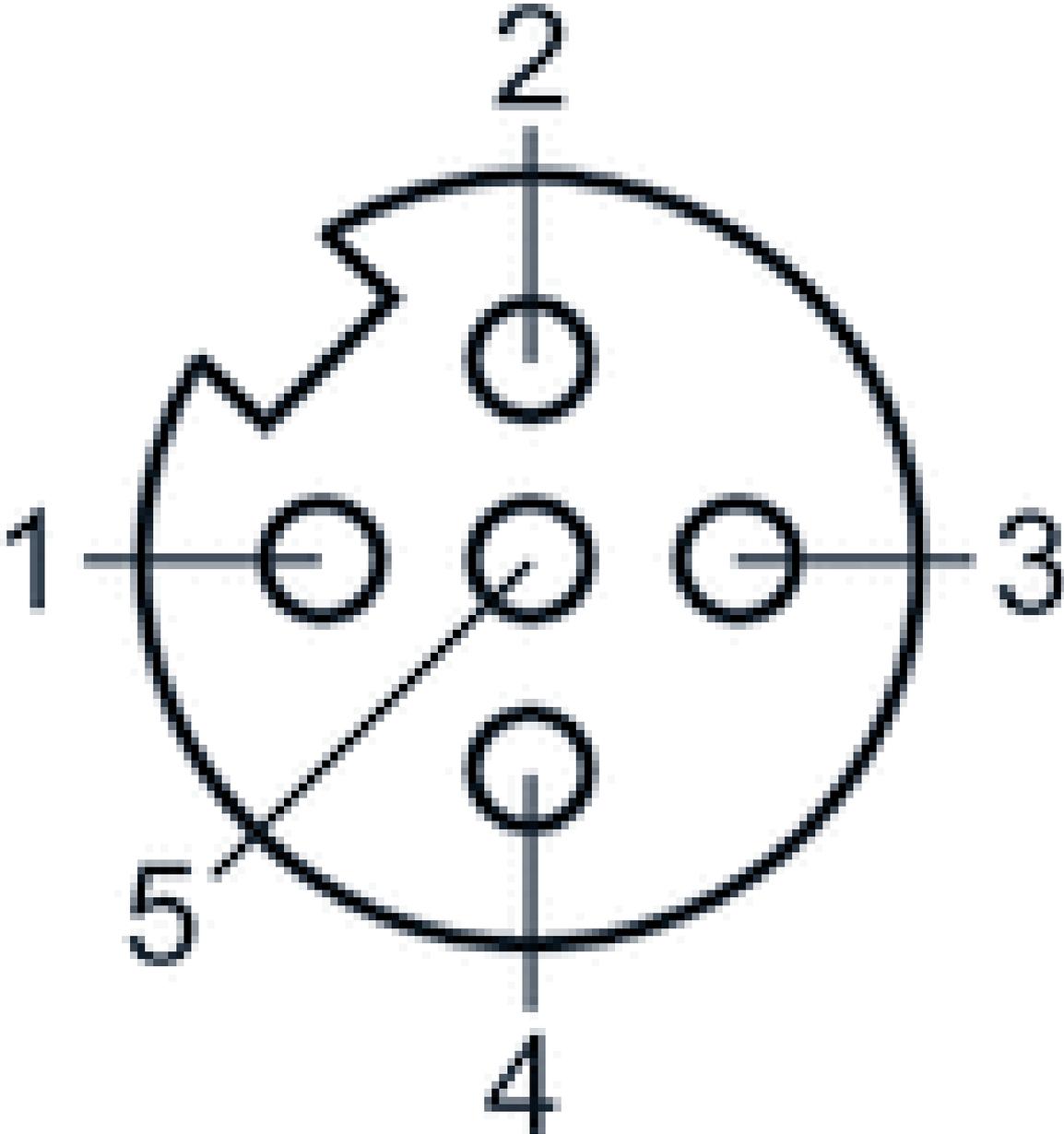
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

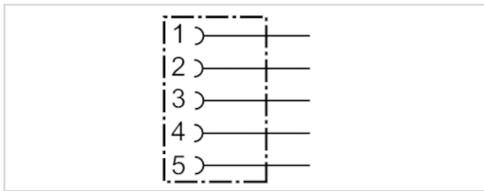


Round plug connector, Series CON-RD

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



Connection type	Screws
Ambient temperature min./max.	-13 ... 194 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.132 lbs



Technical data

Part No.	Max. current	suitable cable-Ø min./max
8941054044	4 A	0.16 / 0.35 inch

Technical information

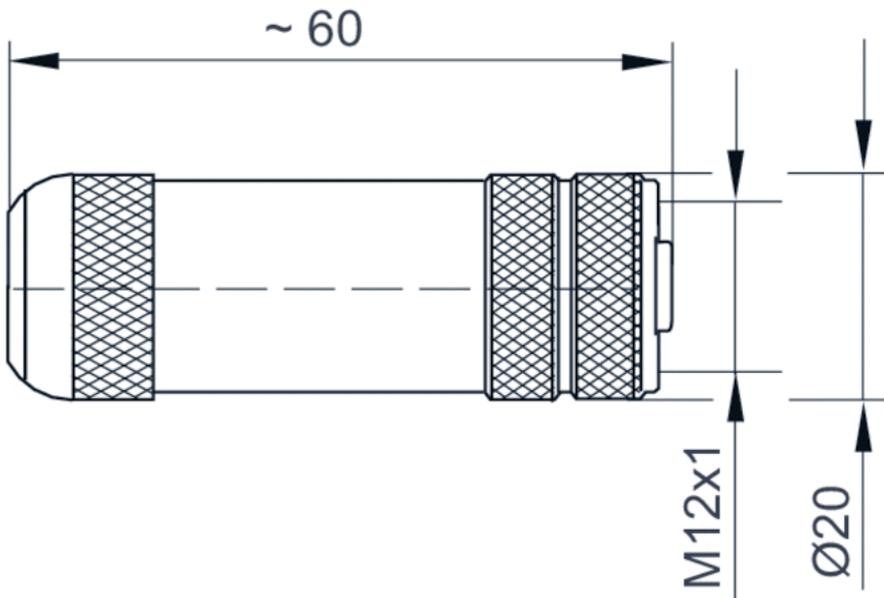
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated
Seals	Fluorocarbon caoutchouc

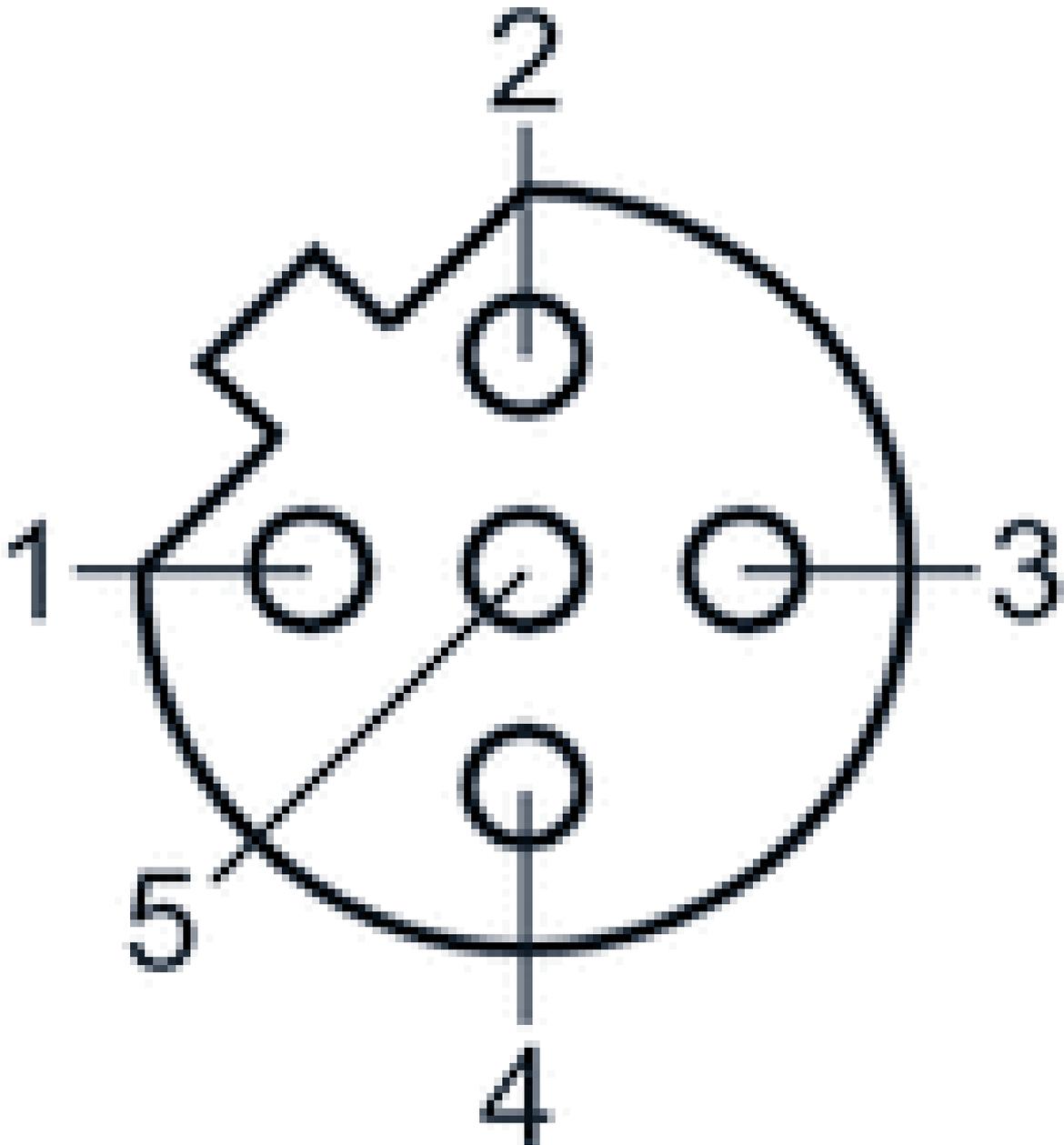
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

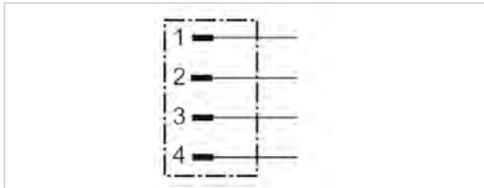


Data final plug, Series CON-RD

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



Ambient temperature min./max.	-13 ... 176 °F
Protection class	IP67
Weight	0.029 lbs



Technical data

Part No.
8941054064

Technical information

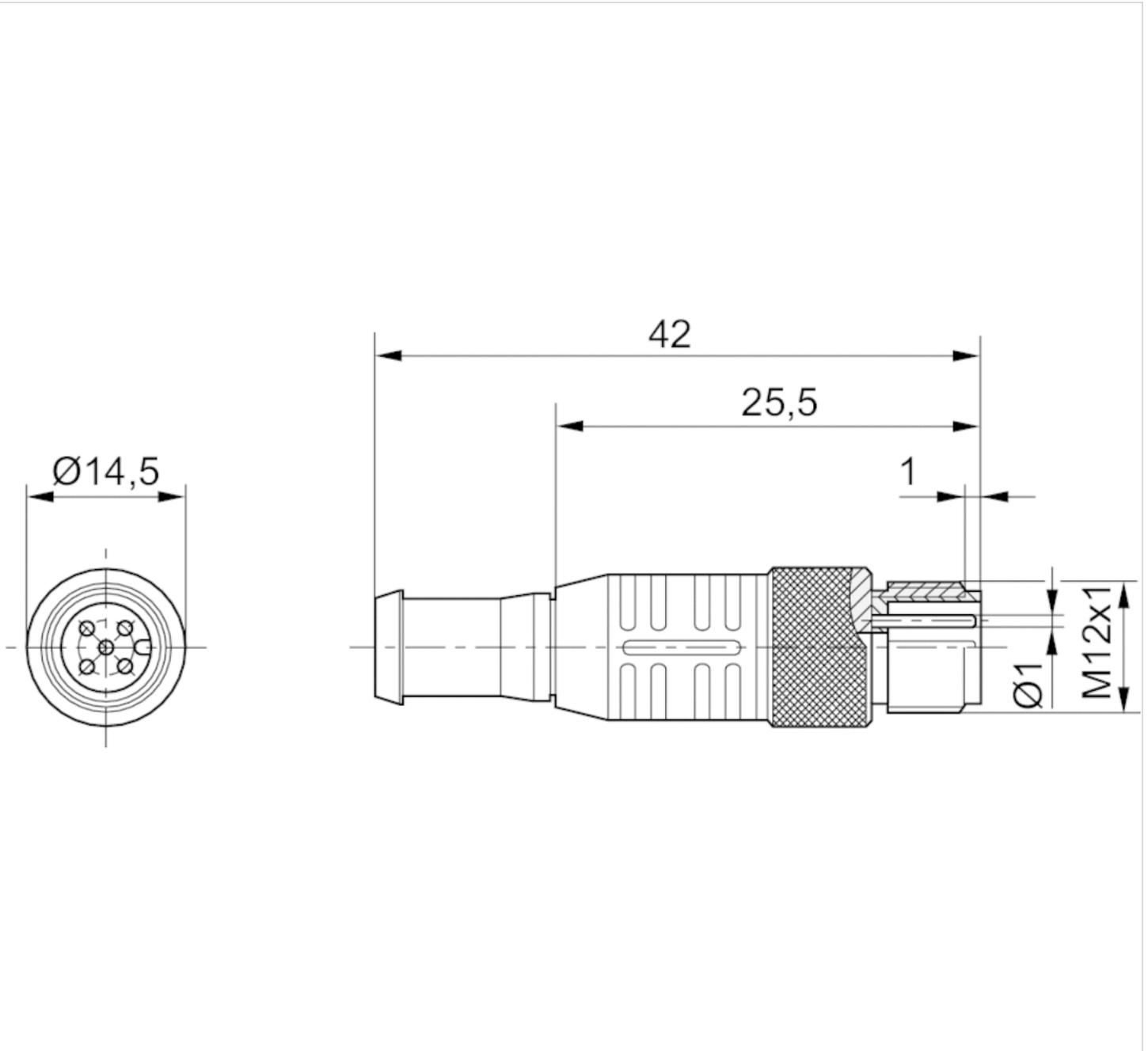
The specified protection class is only valid in assembled and tested state.
 PROFIBUS DP bus termination plug

Technical information

Material	
Housing	Thermoplastic elastomer

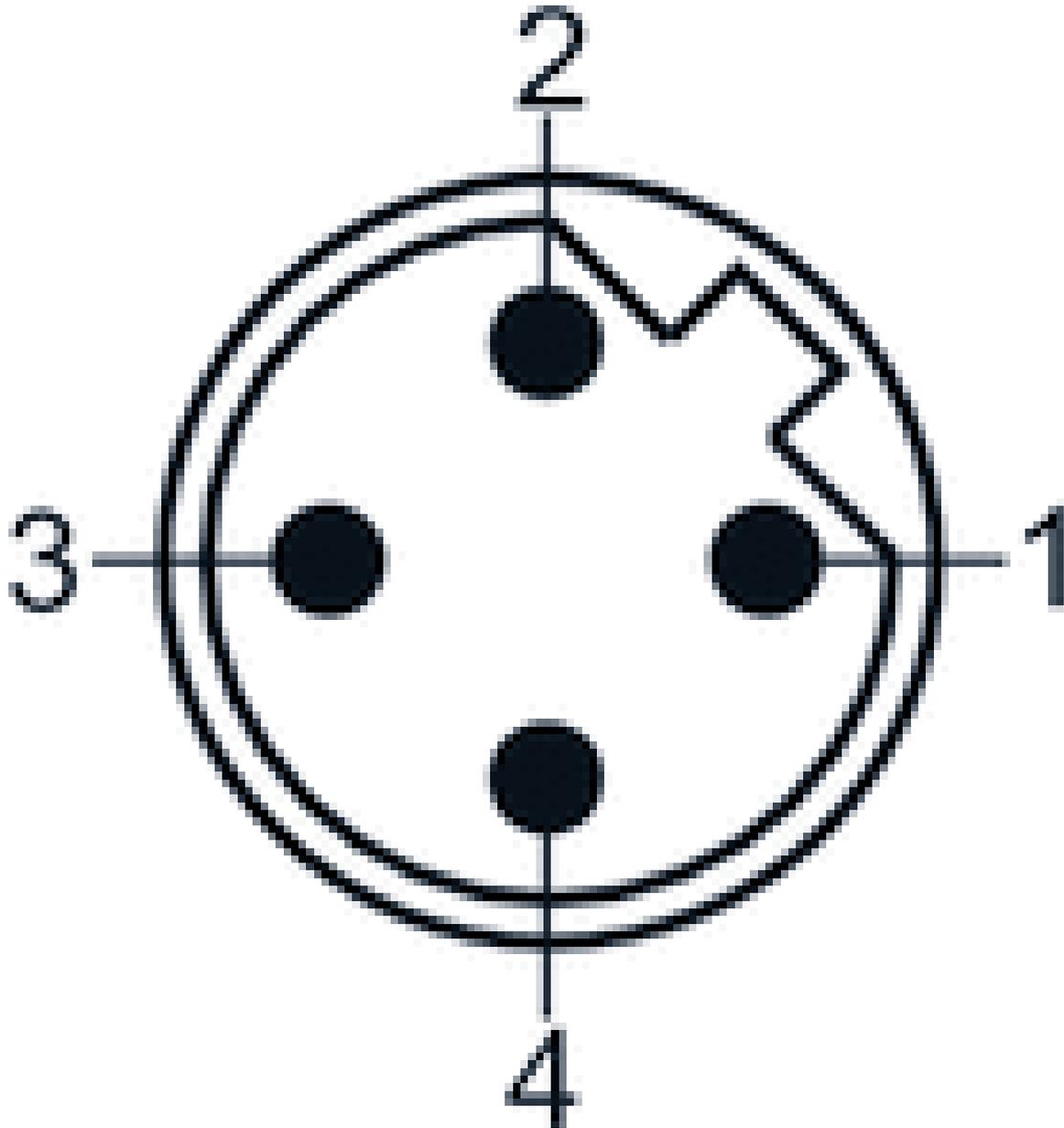
Dimensions

Dimensions



Pin assignments

Plug pin assignment

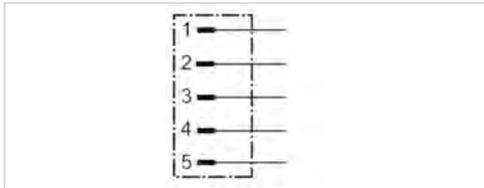


Data final plug, Series CON-RD

- Plug, M12x1, 5-pin, A-coded, straight, 180°
- for CANopen, DeviceNet



Ambient temperature min./max.	32 ... 140 °F
Protection class	IP67
Weight	0.024 lbs



Technical data

Part No.
8941054264

Technical information

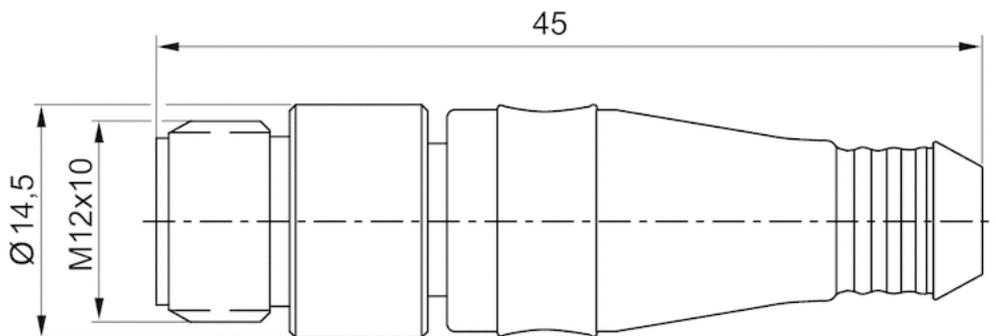
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer

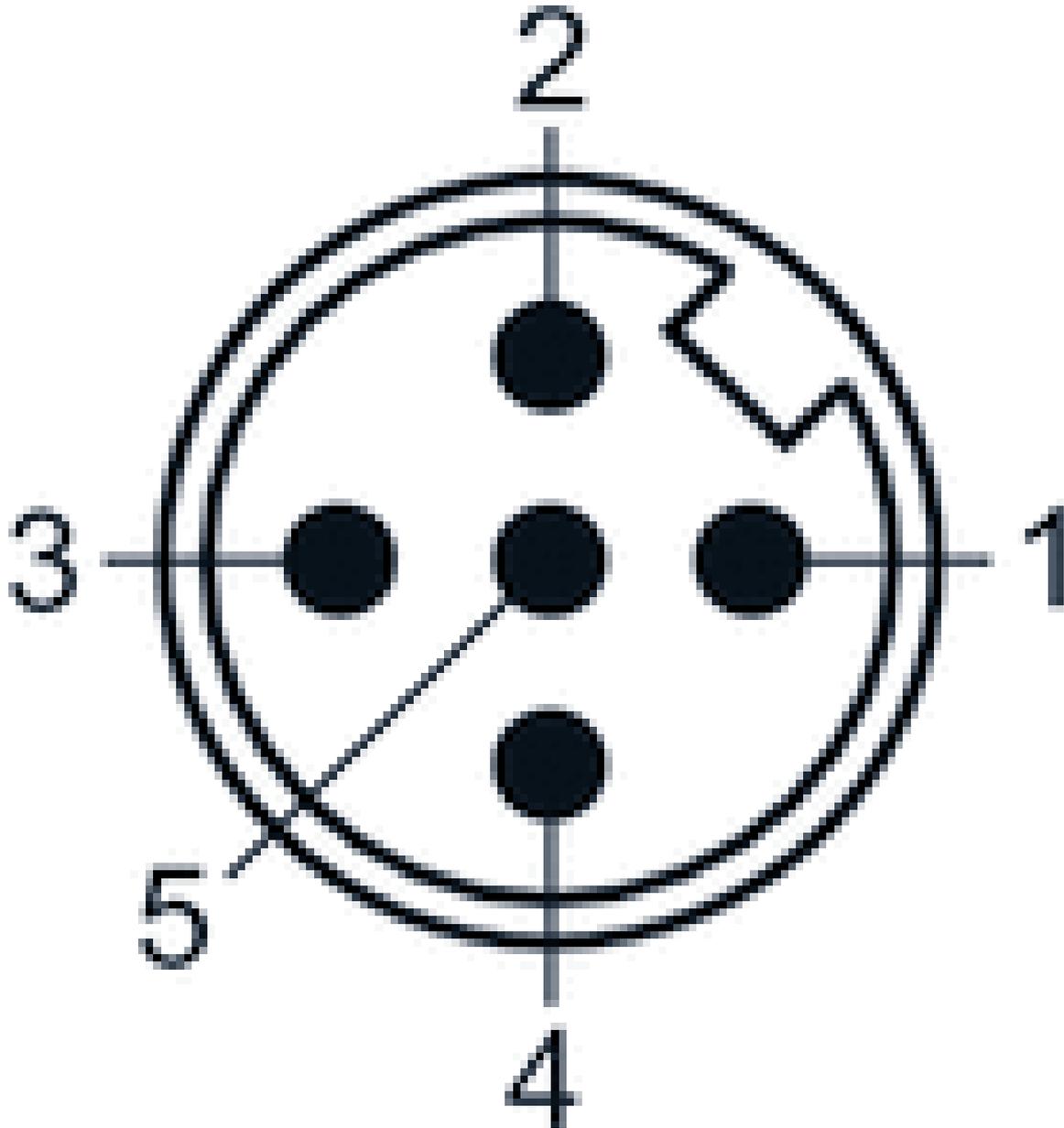
Dimensions

Dimensions



Pin assignments

Plug pin assignment

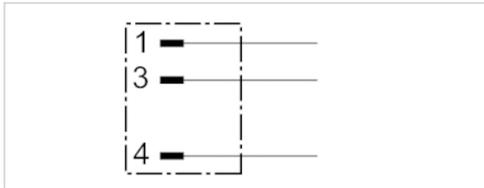


Round plug connector, Series CON-RD

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



Connection type	Screws
Ambient temperature min./max.	-40 ... 185 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.018 lbs



Technical data

Part No.	Max. current	Contact assignment	suitable cable-Ø min./max
R412021676	4 A	3	0.14 / 0.19 inch

Technical information

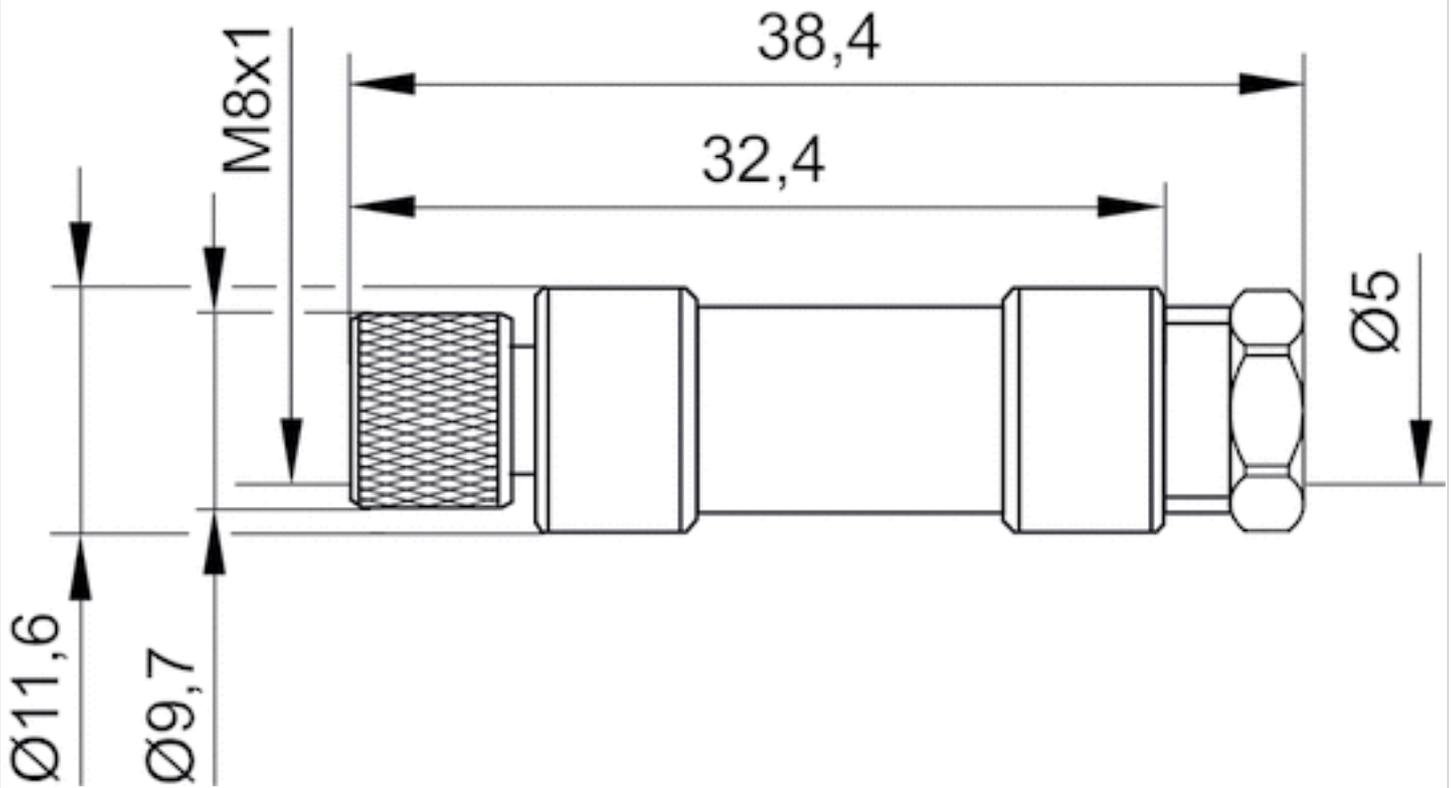
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

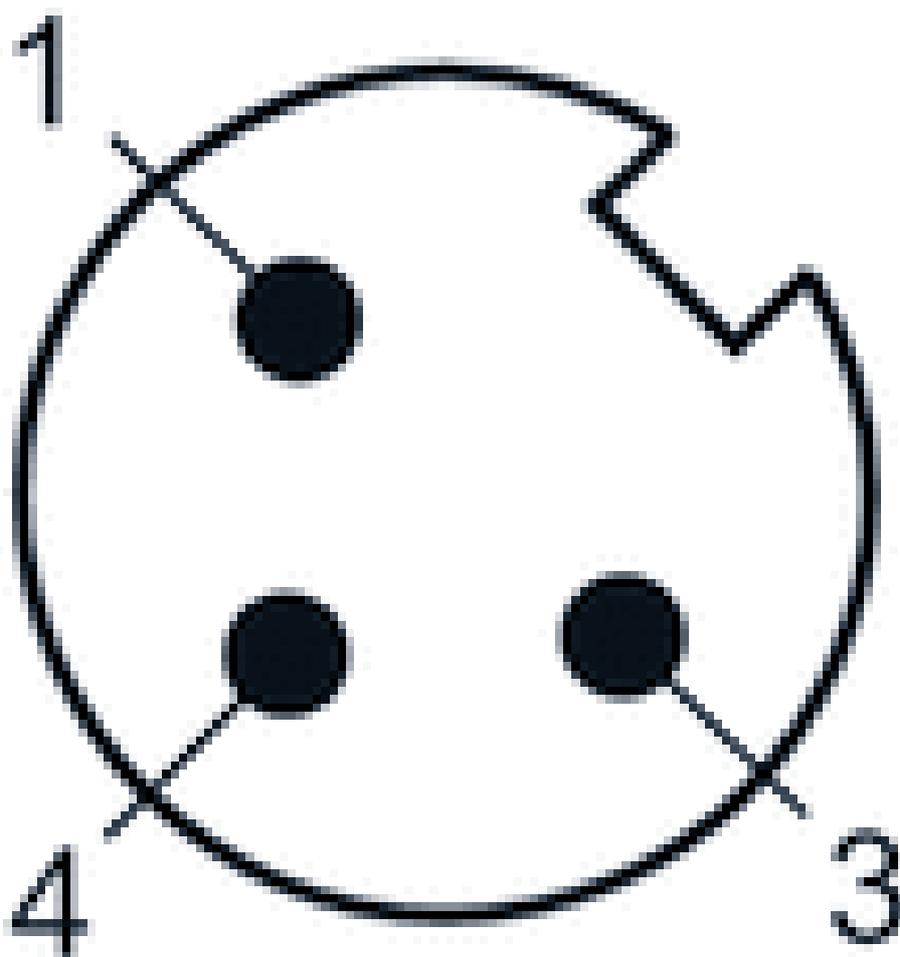
Dimensions

Dimensions



Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

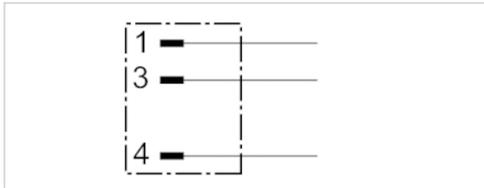
- Plug, M8x1, 3-pin, A-coded, angled, 90°
- unshielded



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

Screws
 -13 ... 185 °F
 48 V AC/DC
 IP67
 0.018 lbs

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	0.14 / 0.19 inch

Technical information

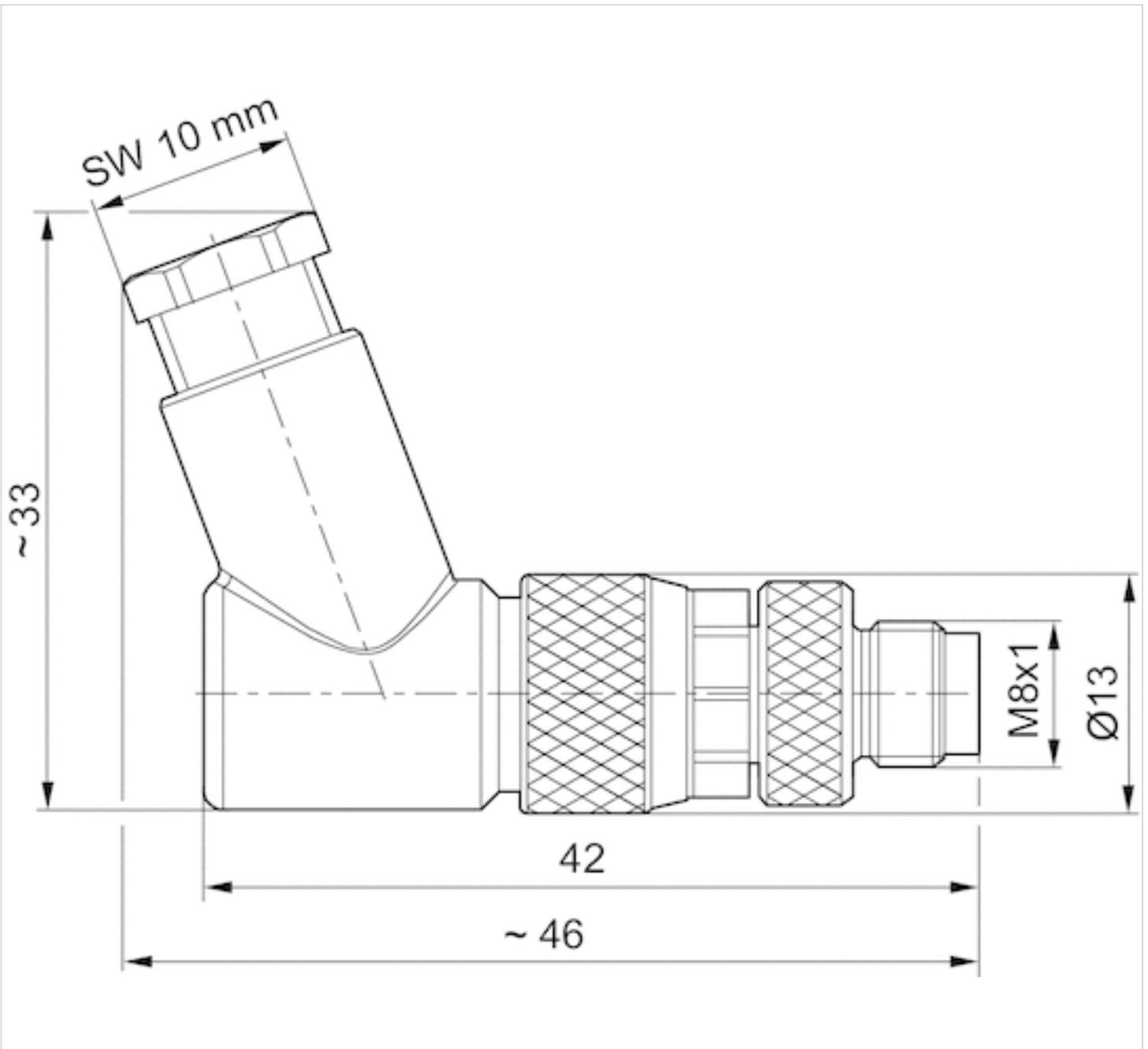
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

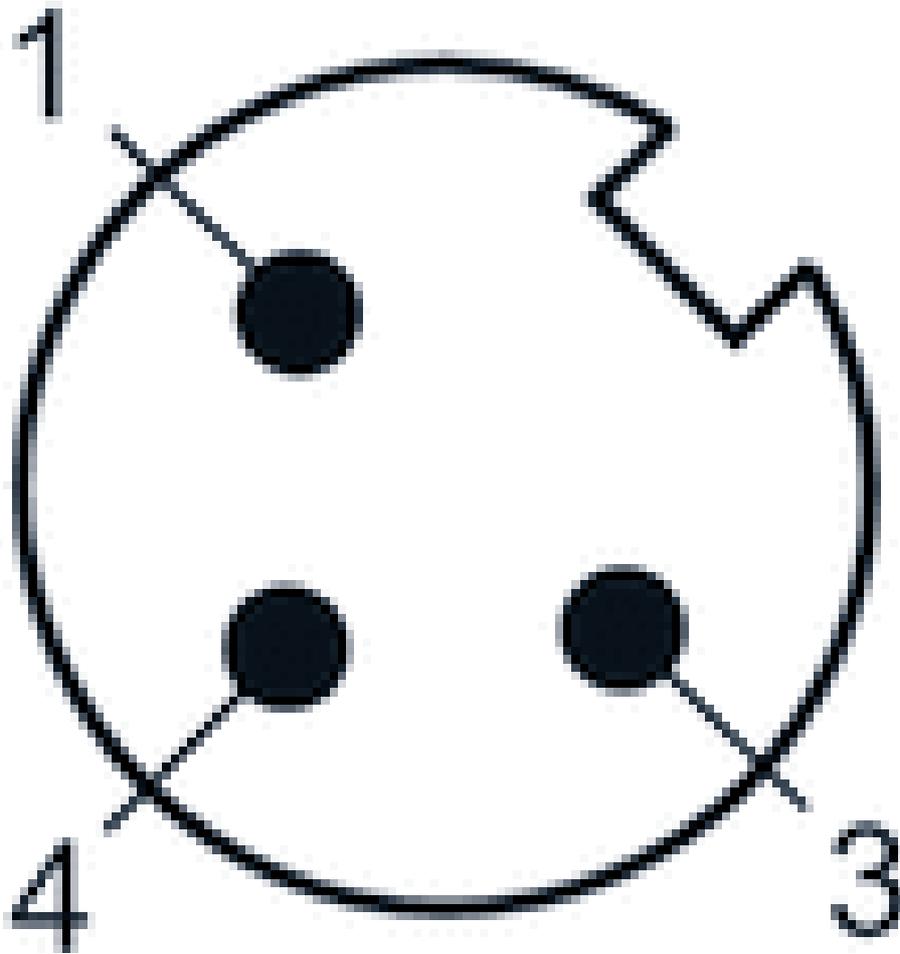
Dimensions

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.	-13 ... 185 °F
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0 in ²
Weight	See table below

Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable length	Weight
R412021678	4 A	3	1.61 inch	6.56 ft.	0.132 lbs
R412021679	4 A	3	1.61 inch	16.4 ft.	-
R412021680	4 A	3	1.61 inch	32.81 ft.	-

suitable for dynamic laying

Technical information

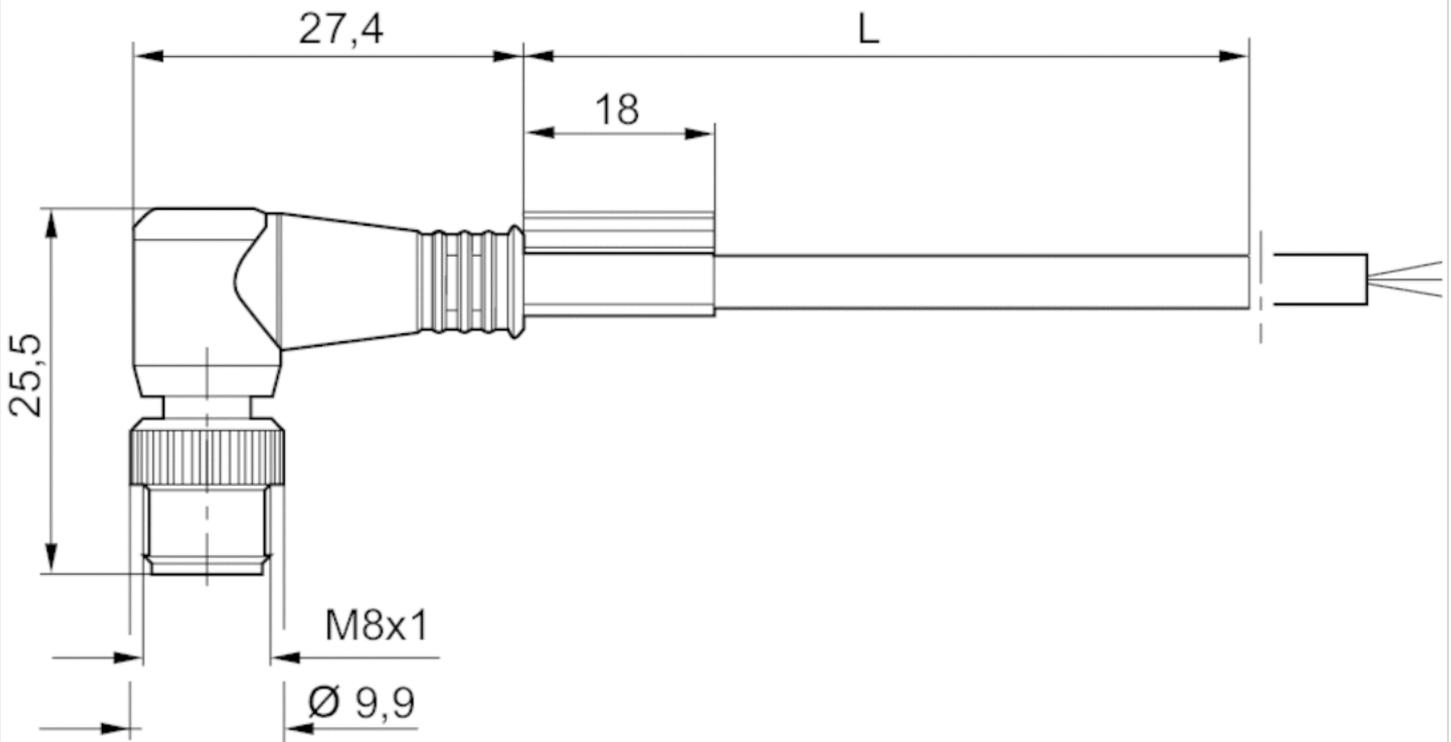
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

Dimensions



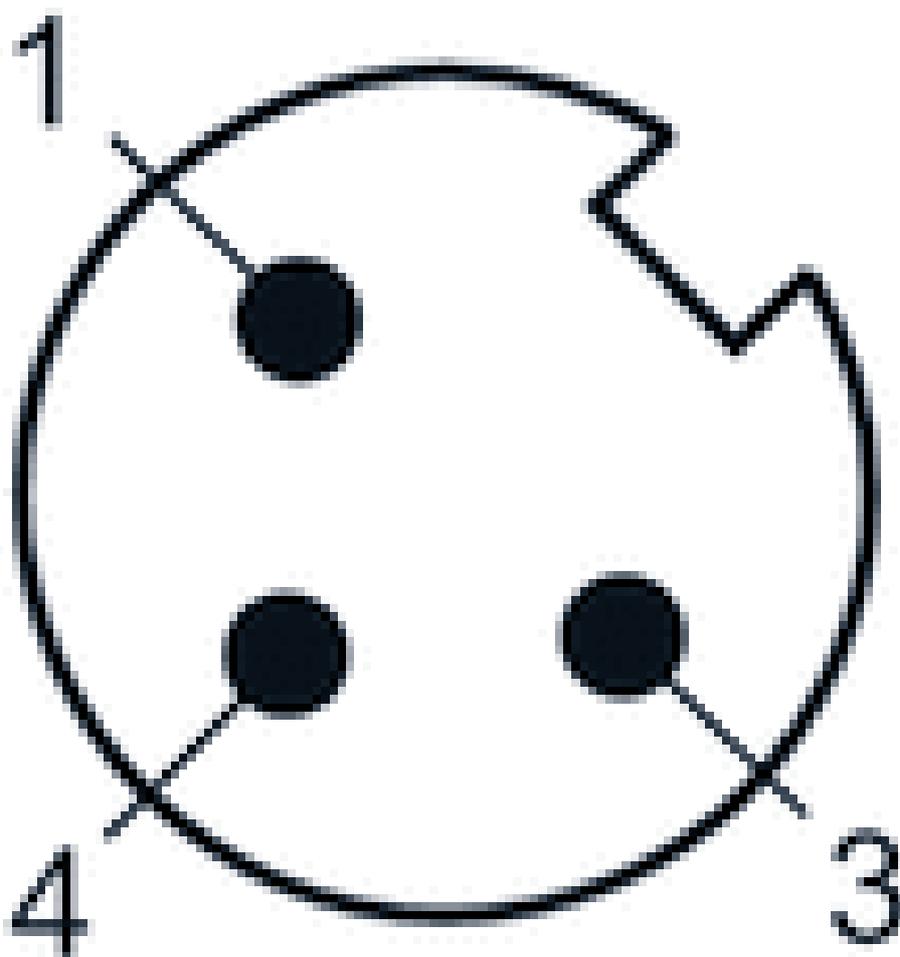
L = length

Circuit diagram



Pin assignments

Plug pin assignment



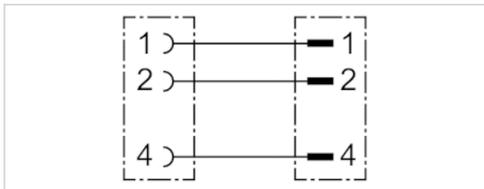
- (1) BN=brown
- (3) BU=blue
- (4) BK=black

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.	-13 ... 185 °F
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0 in ²



Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable length
R412021681	4 A	3	1.61 inch	3.28 ft.
R412021682	4 A	3	1.61 inch	6.56 ft.
R412021683	4 A	3	1.61 inch	16.4 ft.

suitable for dynamic laying

Technical information

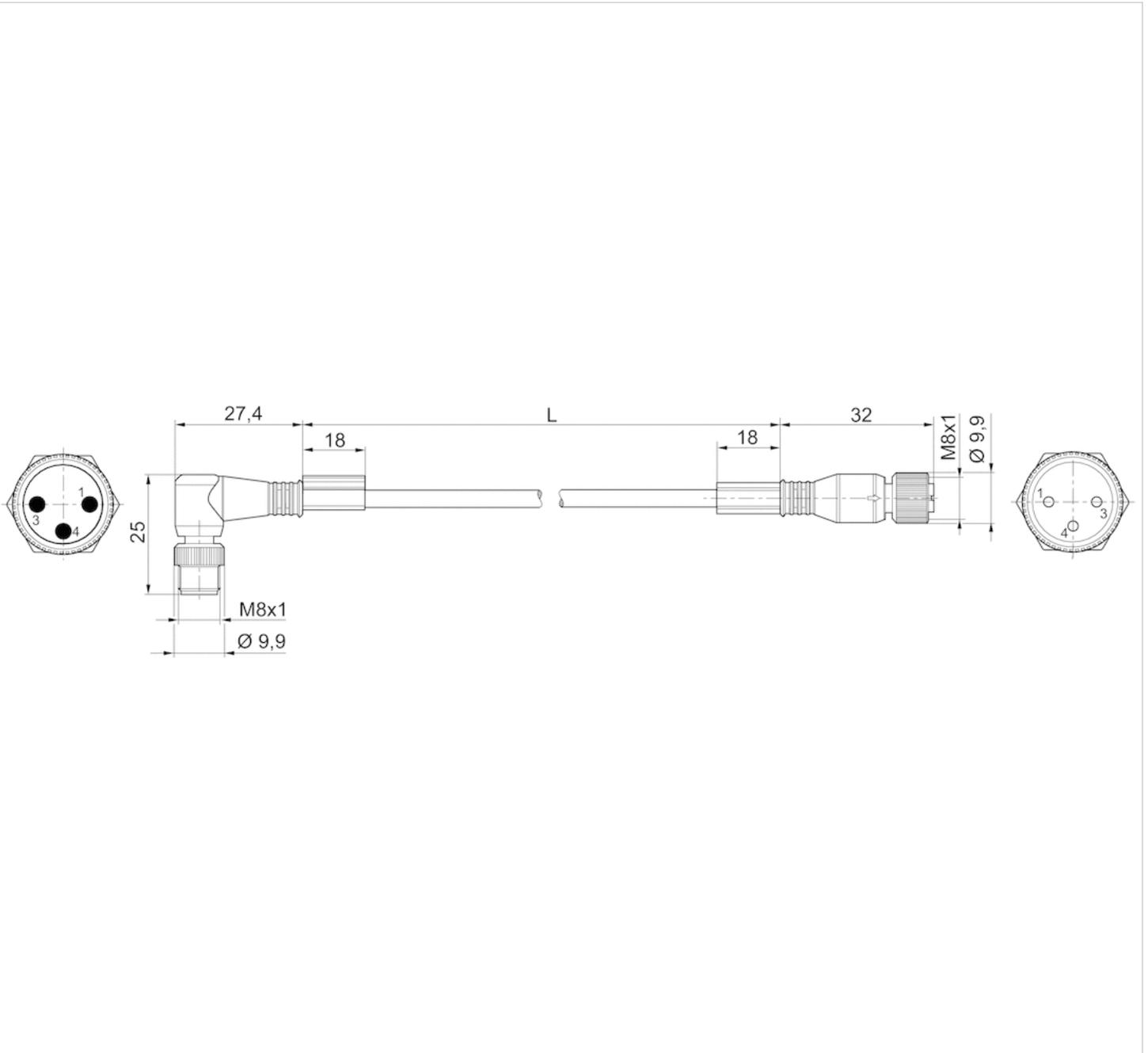
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

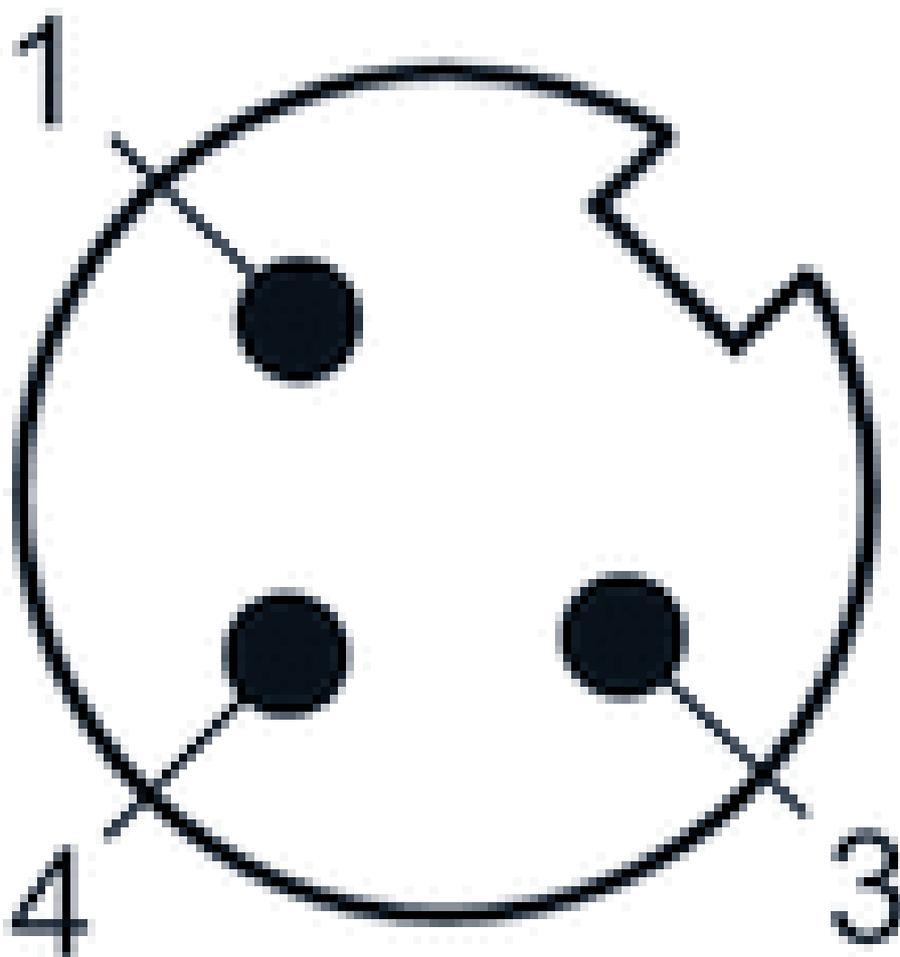
Dimensions



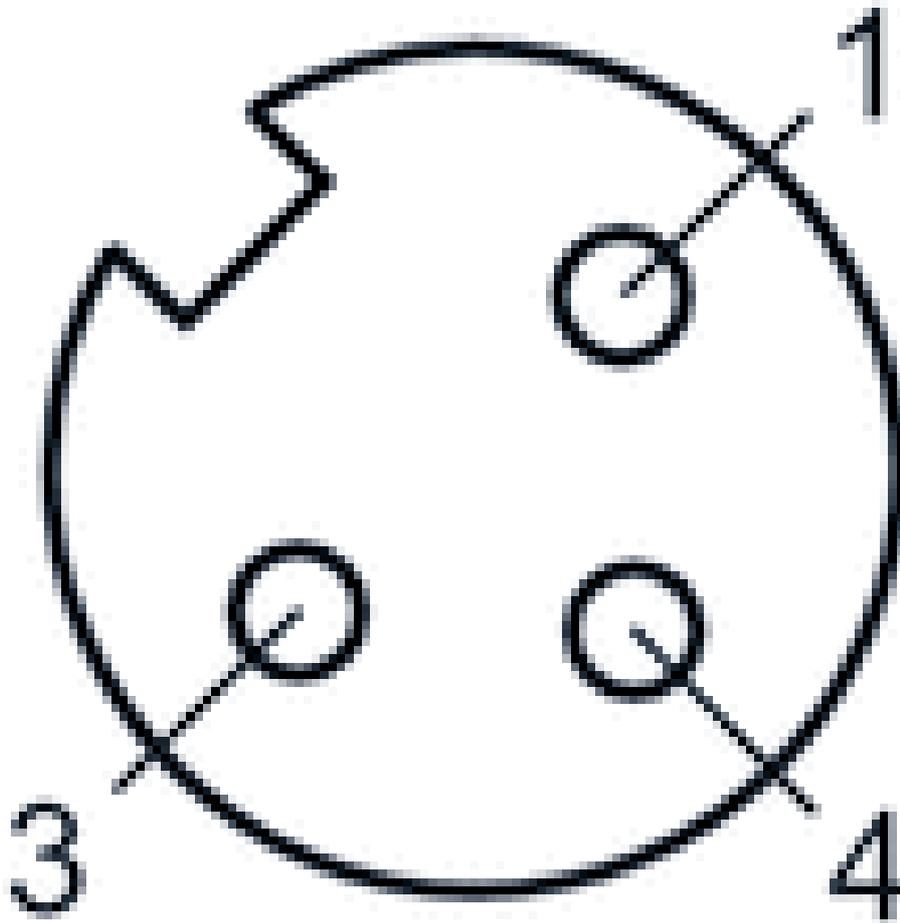
L = length

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



Operational voltage	30 V AC/DC
Protection class	IP67
Weight	See table below

Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
8946203602	3 A	3	0.18 inch	6.56 ft.	0.121 lbs
8946203612	3 A	3	0.18 inch	16.4 ft.	0.282 lbs
8946203622	3 A	3	0.18 inch	32.81 ft.	0.551 lbs

Technical information

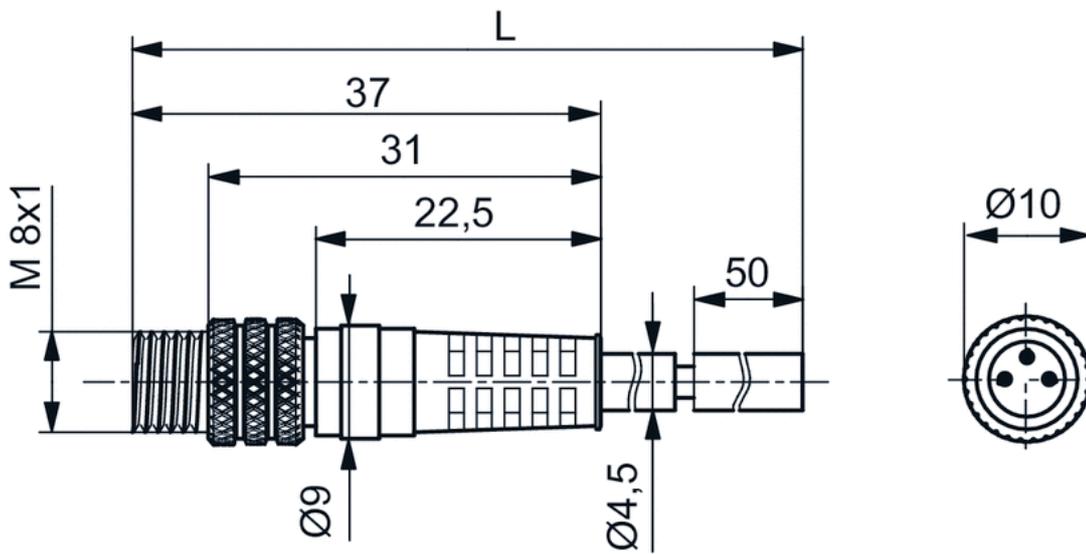
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyvinyl chloride

Dimensions

Dimensions



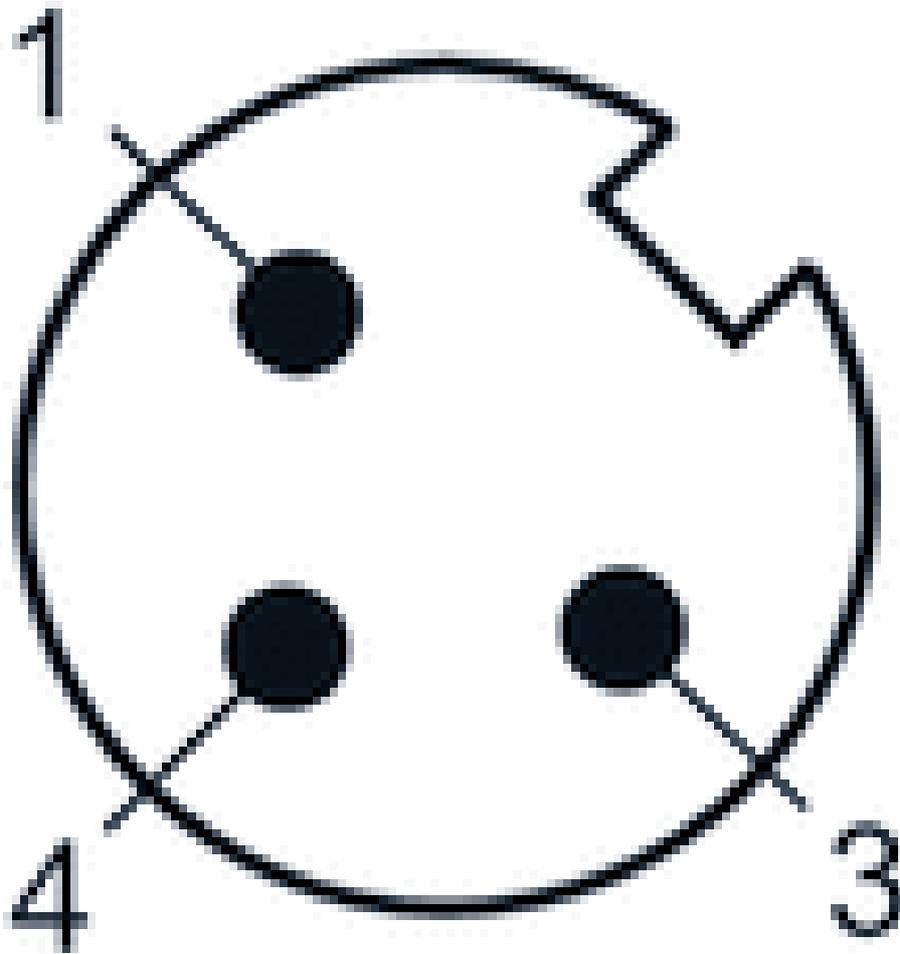
L = length

Circuit diagram



Pin assignments

Plug pin assignment



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

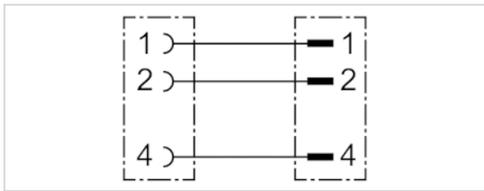
Round plug connector, Series CON-RD

- 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 length	Weight
8946203702	3	3.28 ft.	0.077 lbs
8946203712	3	6.561 ft.	0.132 lbs
8946203722	3	16.404 ft.	0.3 lbs

Technical information

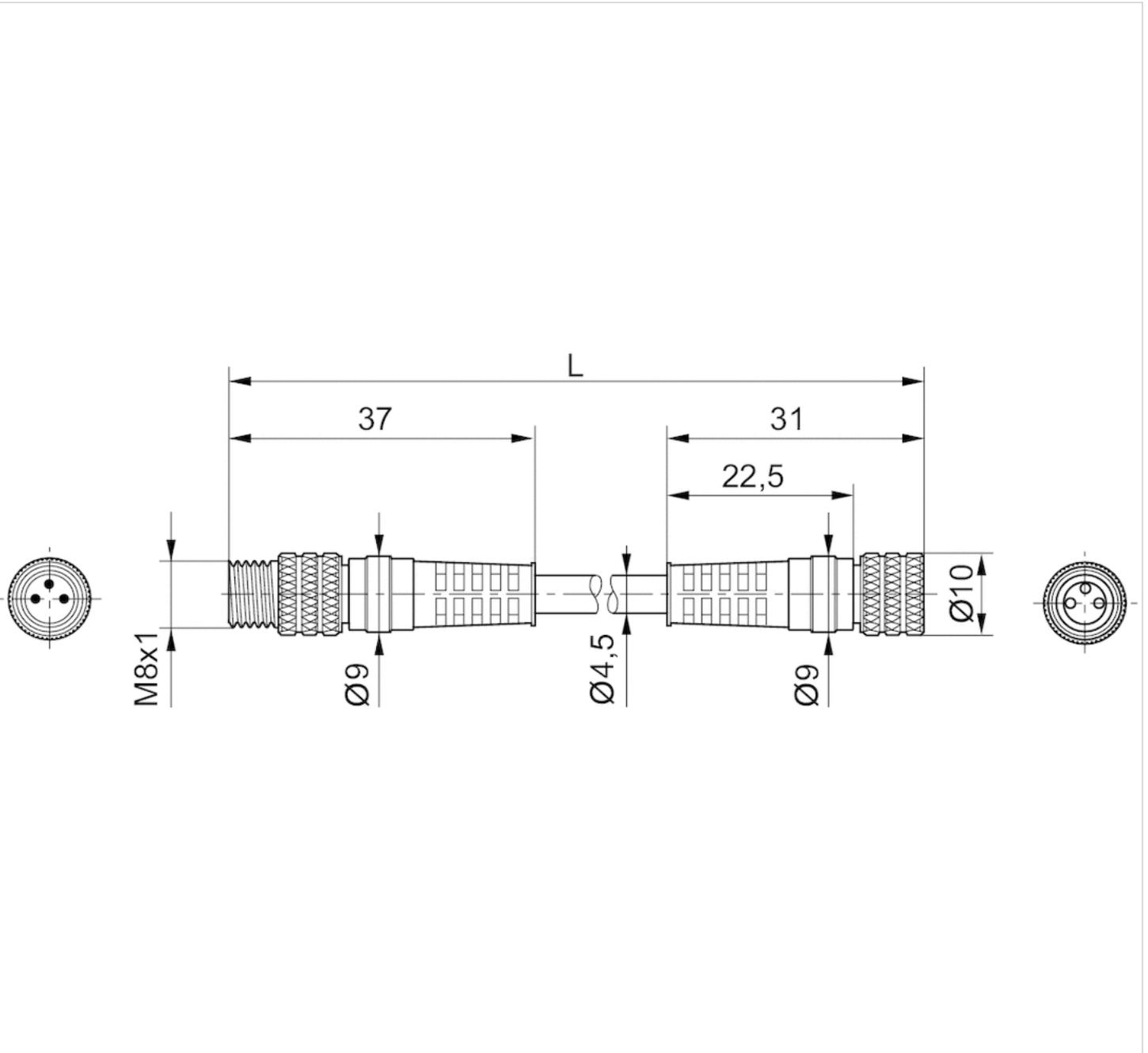
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

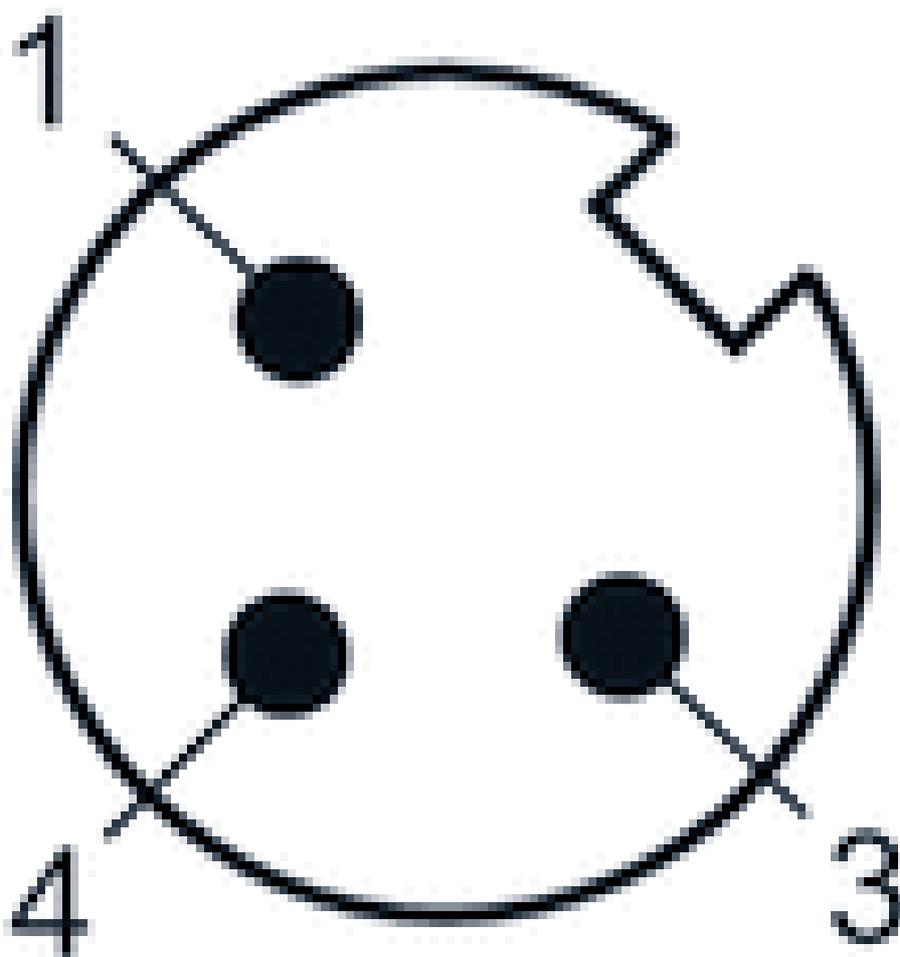
Dimensions



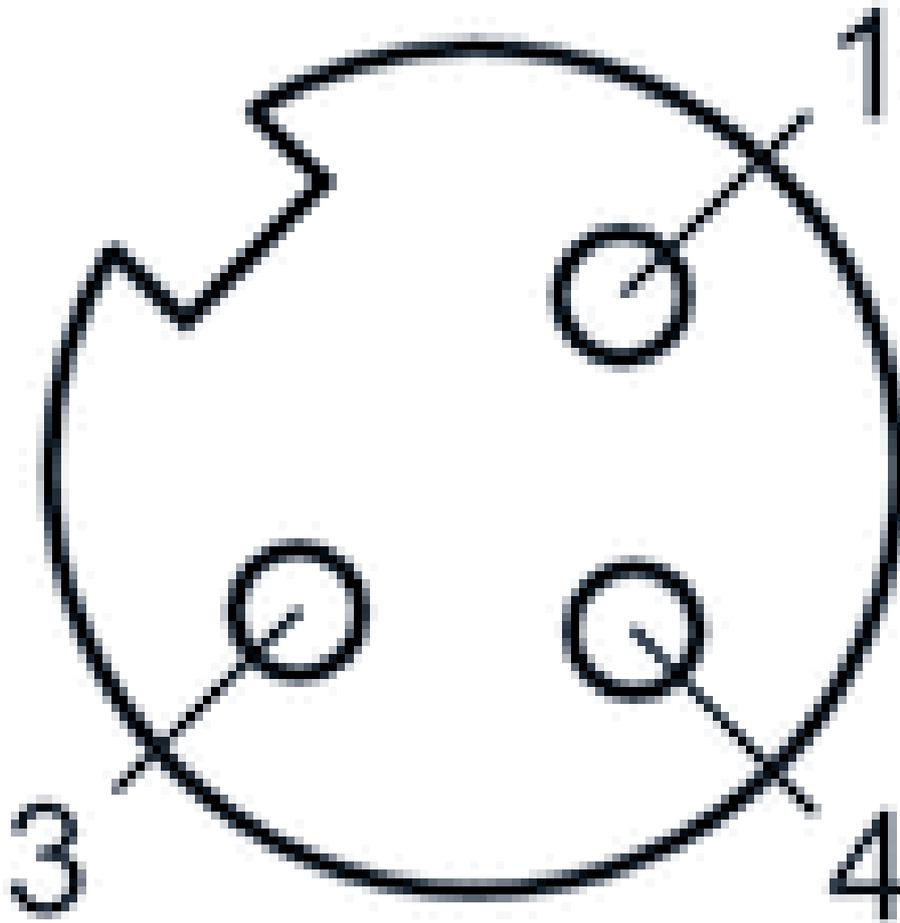
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket

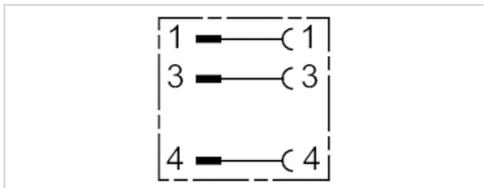


Adapter, Series CON-AP

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



Ambient temperature min./max.	-13 ... 185 °F
Operational voltage	48 V AC/DC
Protection class	IP67



Technical data

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

Technical information

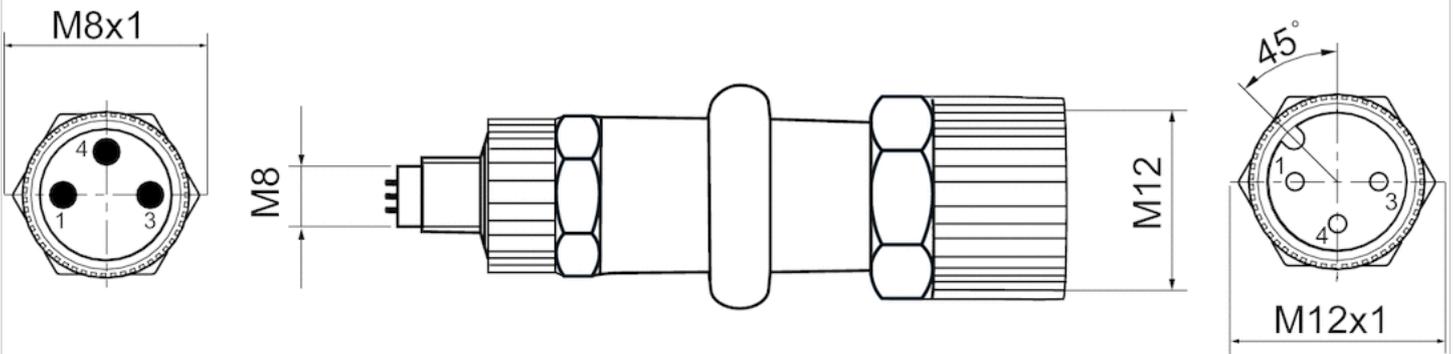
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane

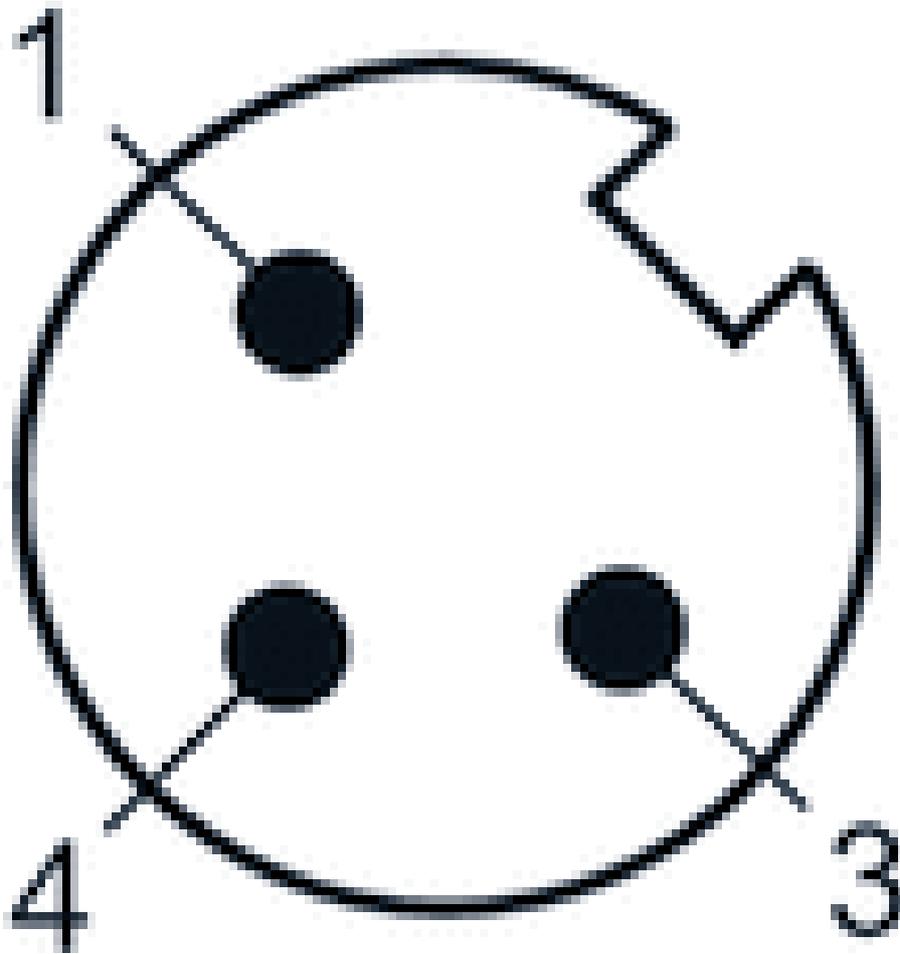
Dimensions

Dimensions

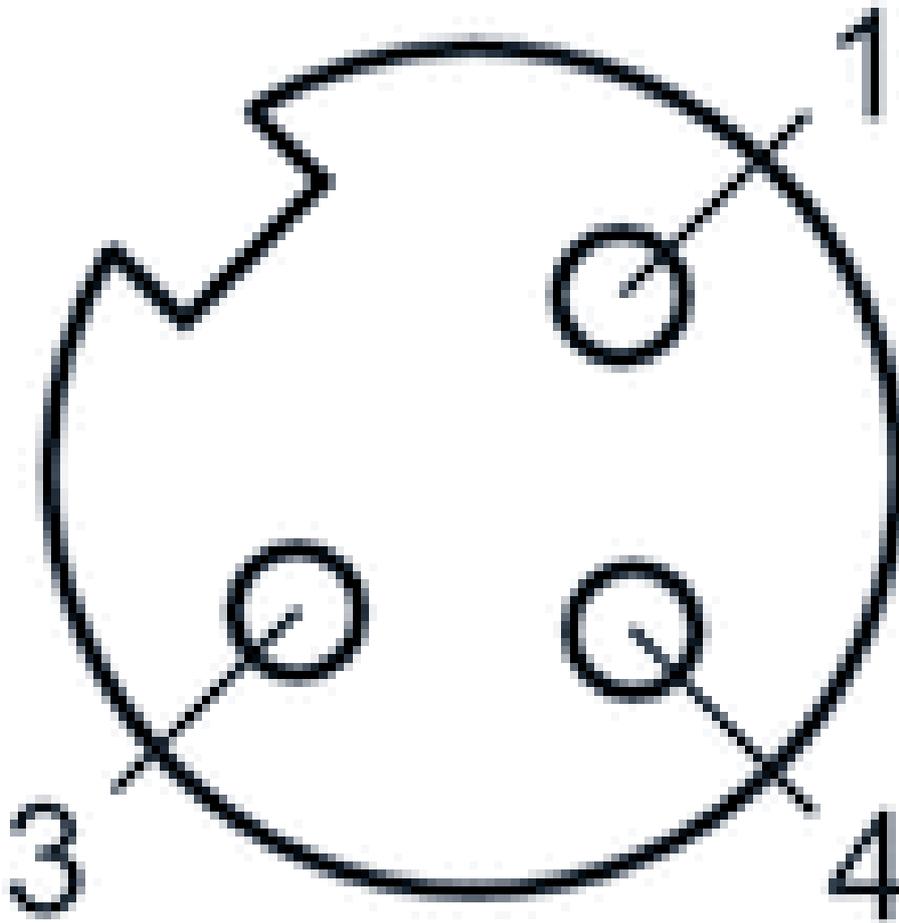


Pin assignments

Plug pin assignment



Pin assignment, socket



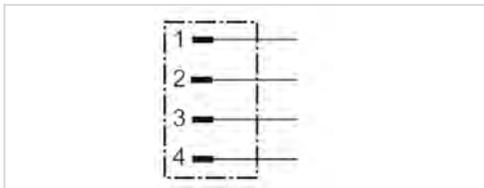
Round plug connector, Series CON-RD

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



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

Screws
 -40 ... 185 °F
 48 V AC/DC
 IP67
 0.044 lbs
 The delivered product may vary from that in the illustration.



Technical data

Part No.	Electrical connection	Max. current	suitable cable-Ø min./max	Fig.
	1			
1834484223	Plug M12x1 4-pin A-coded angled 90°	4 A	0.16 / 0.23 inch	Fig. 1
1834484246	Plug M12x1 4-pin A-coded straight 180°	4 A	0.16 / 0.23 inch	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 0.083 in ... 0.118 in and Ø 0.157 in ... 0.197 in .

Technical information

Material	
Housing	Polyamide

Dimensions

Fig. 1

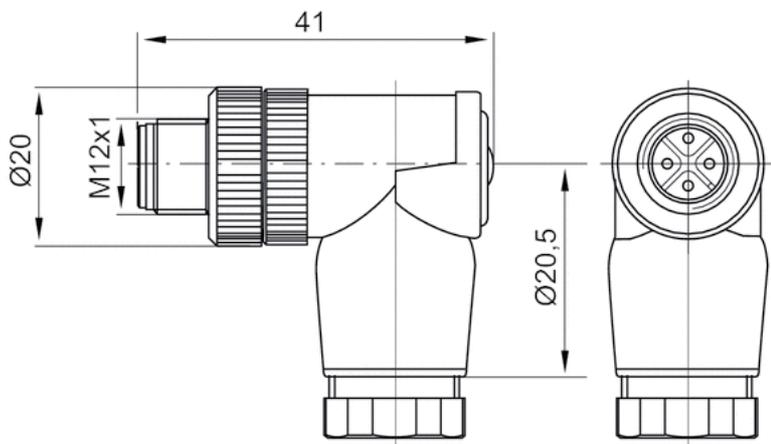
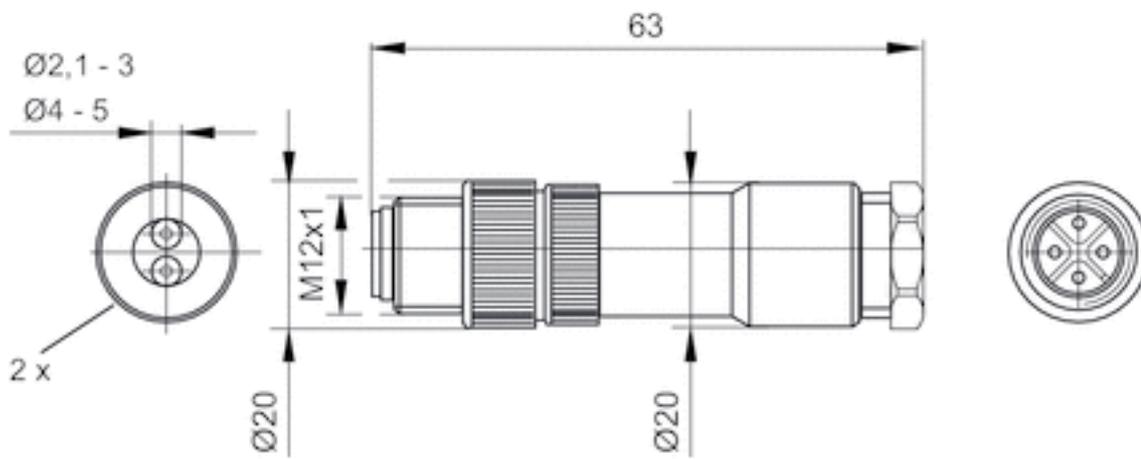


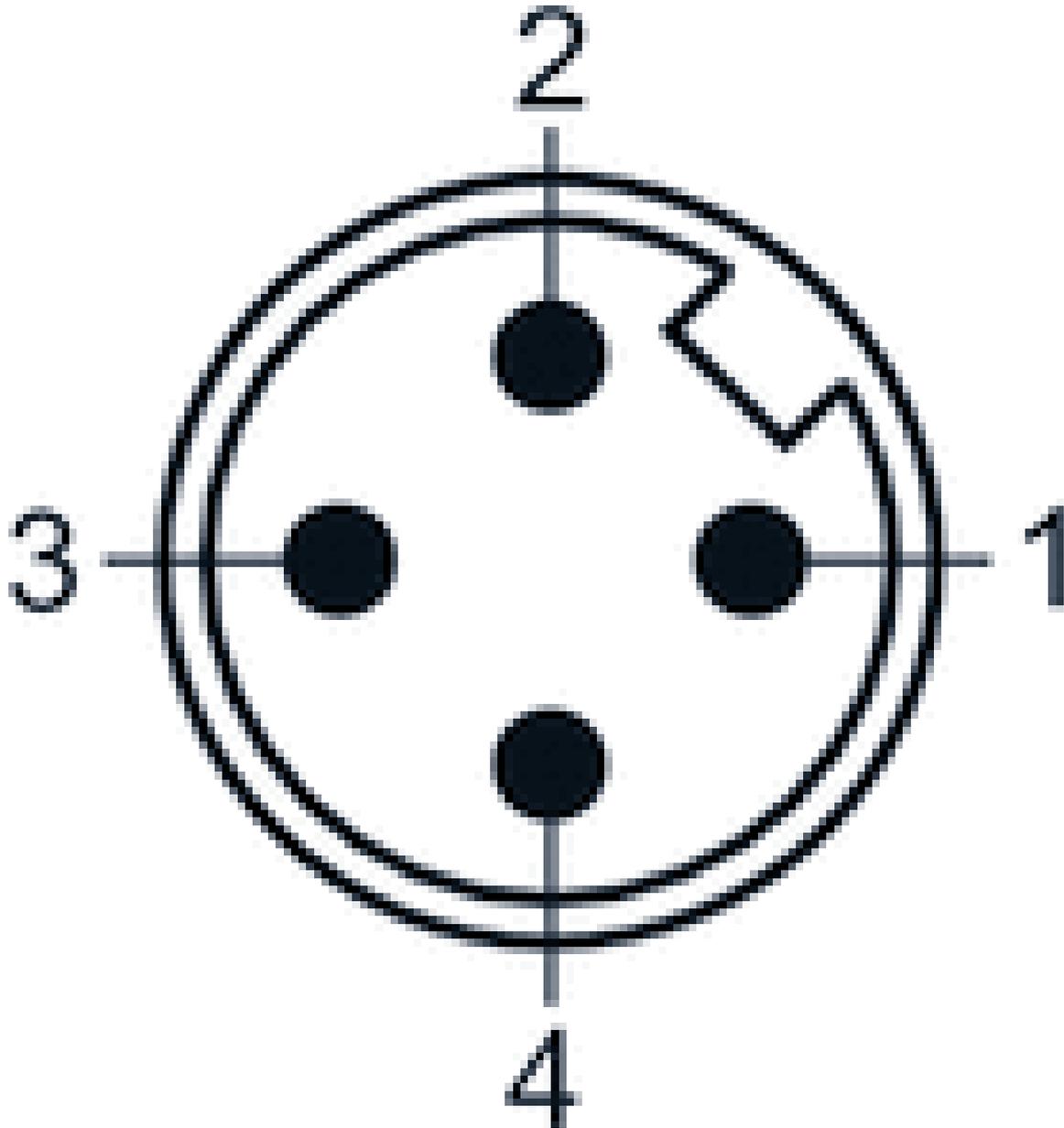
Fig. 2



duo plug

Pin assignments

Plug pin assignment

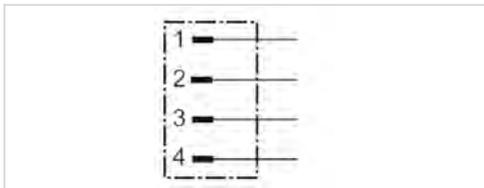


Round plug connector, Series CON-RD

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



Connection type	Screws
Ambient temperature min./max.	-40 ... 185 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.035 lbs



Technical data

Part No.	Max. current	suitable cable-Ø min./max
1834484222	4 A	0.16 / 0.23 inch

Technical information

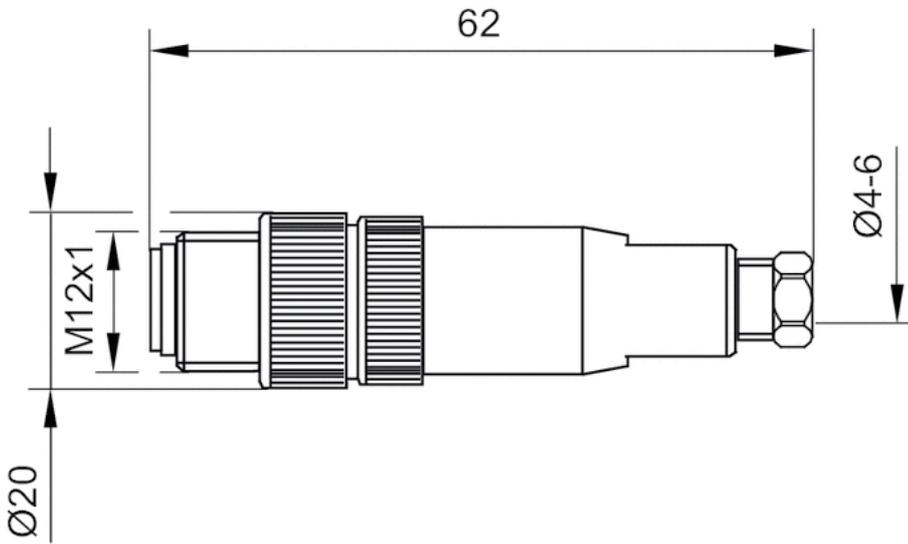
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

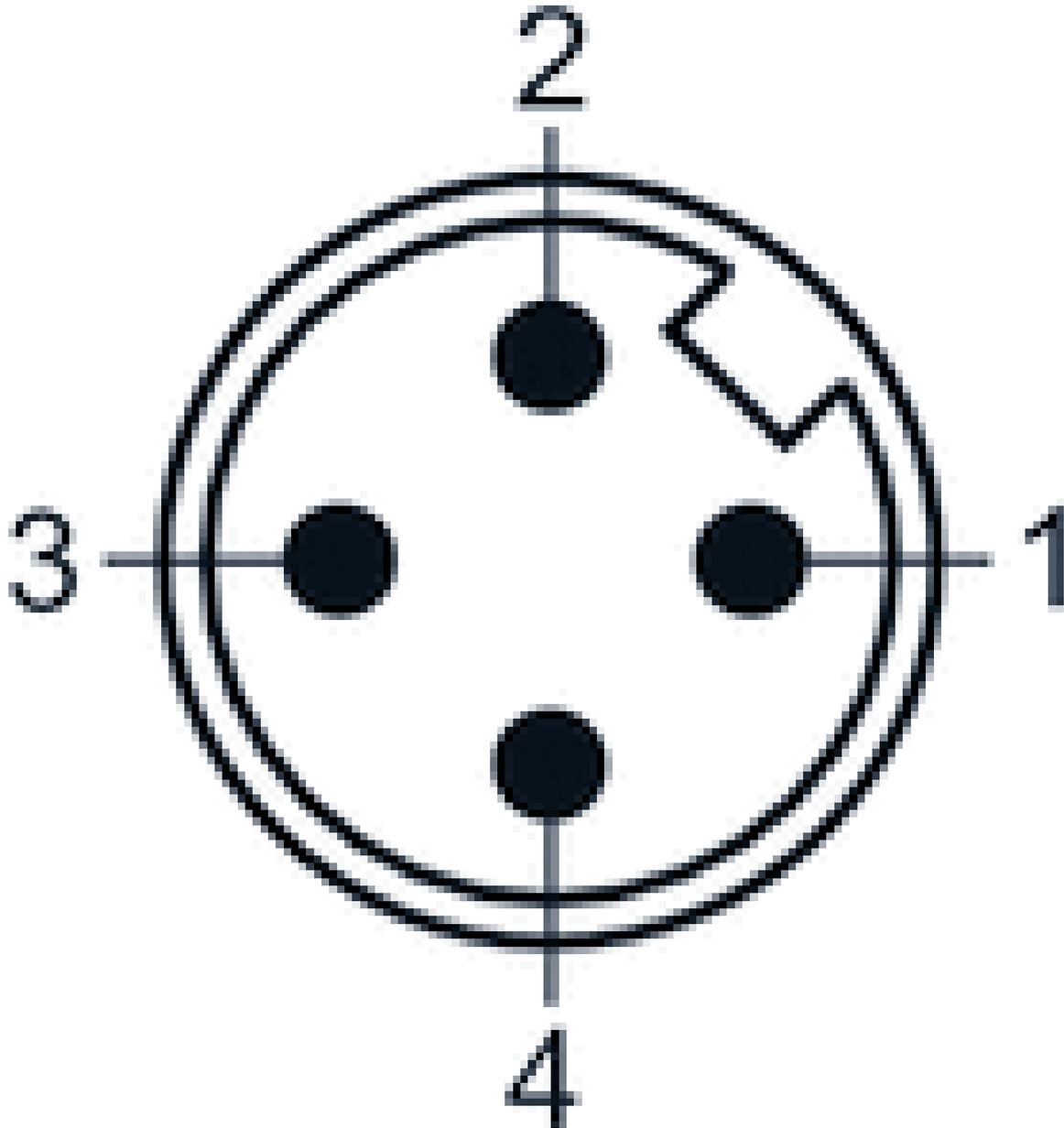
Dimensions

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

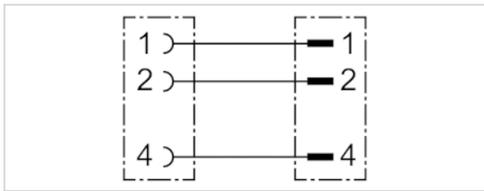


Protection class
Weight

IP68

0.143 lbs

The delivered product may vary from that in the illustration.



Technical data

Part No.	Number of wires	Cable length
8946203462	3	6.561 ft.

Technical information

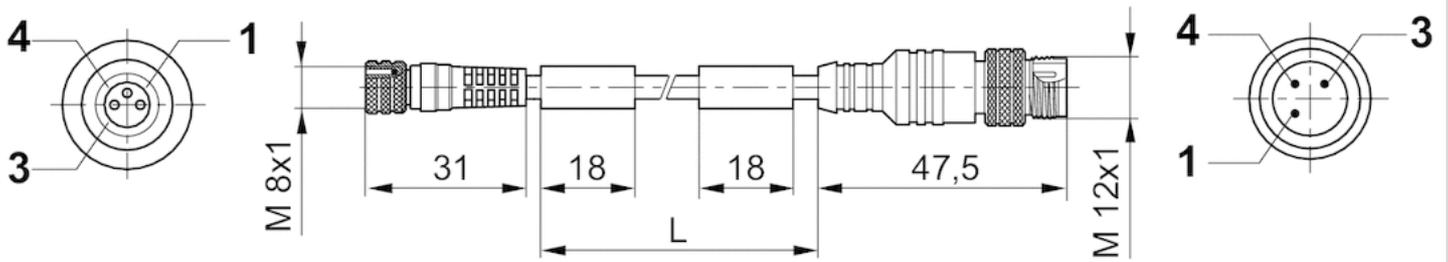
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

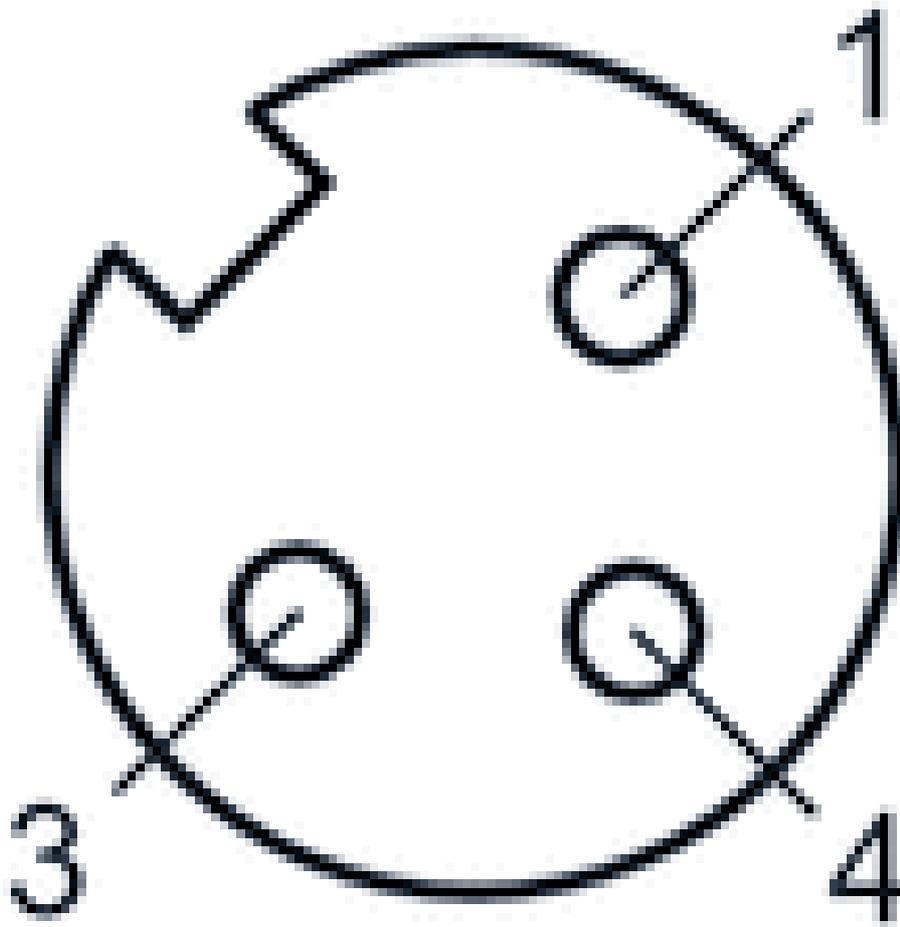
Dimensions



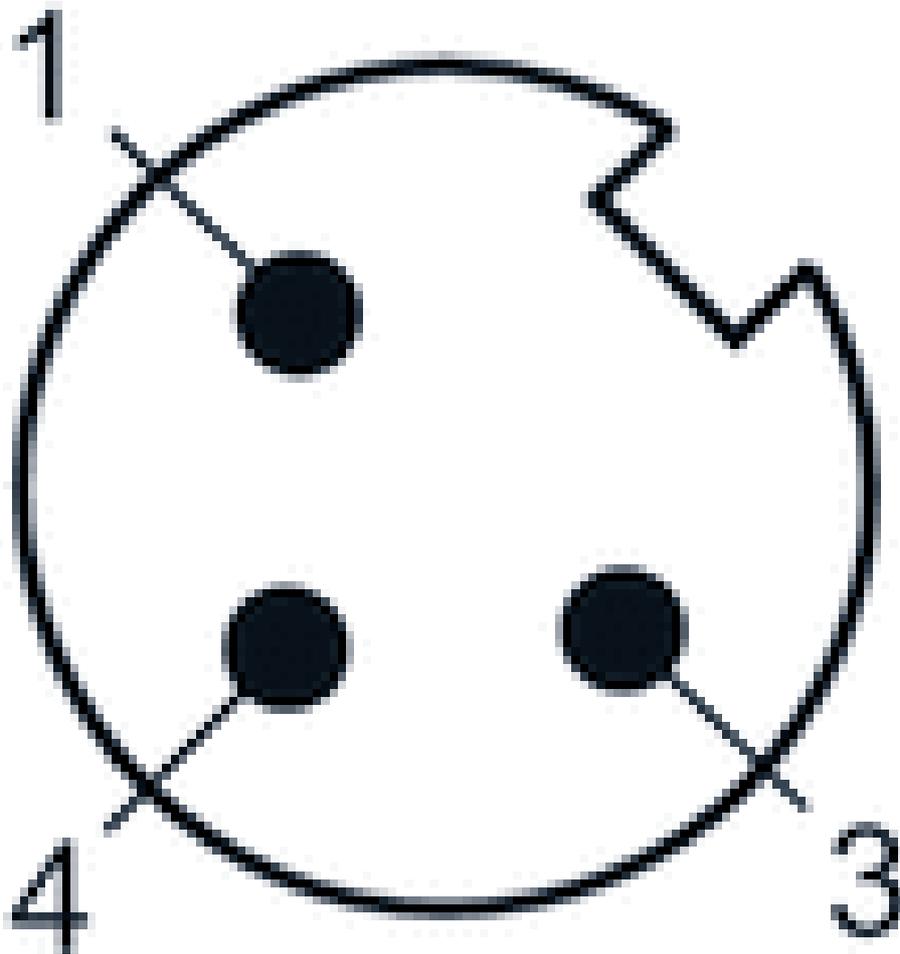
L = length

Pin assignments

Pin assignment, socket



Plug pin assignment

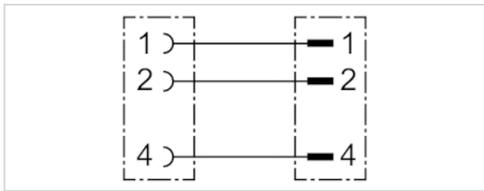


Round plug connector, Series CON-RD

- 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 in ²
Mounting screw tightening torque	0.37 ft./lbs.
	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	-13 ... 176 °F	4 A	3	0.81 inch	0.16 inch	6.56 ft.
R412021697	-13 ... 185 °F	4 A	3	0.81 inch	0.16 inch	16.4 ft.

suitable for dynamic laying

Technical information

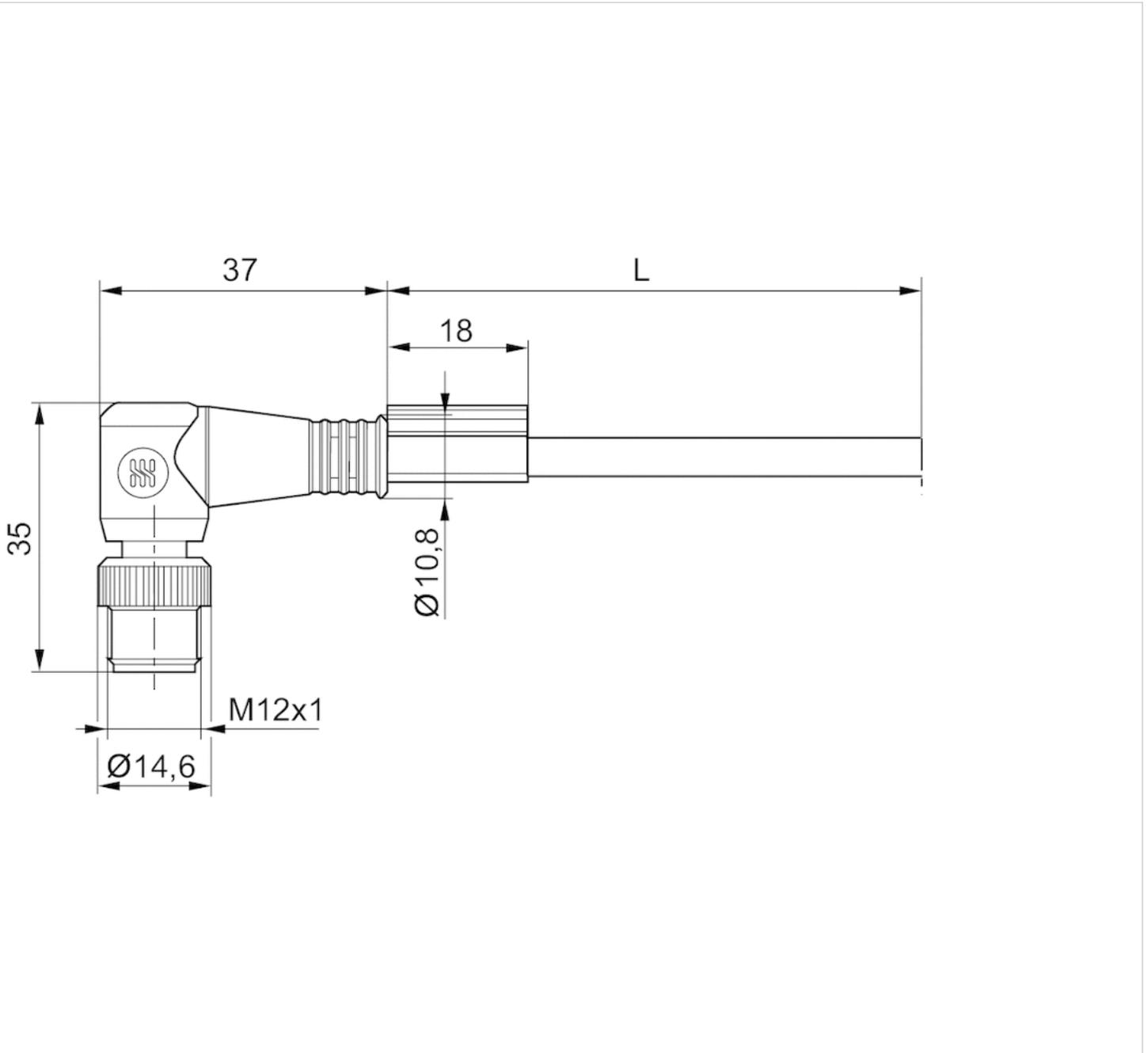
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

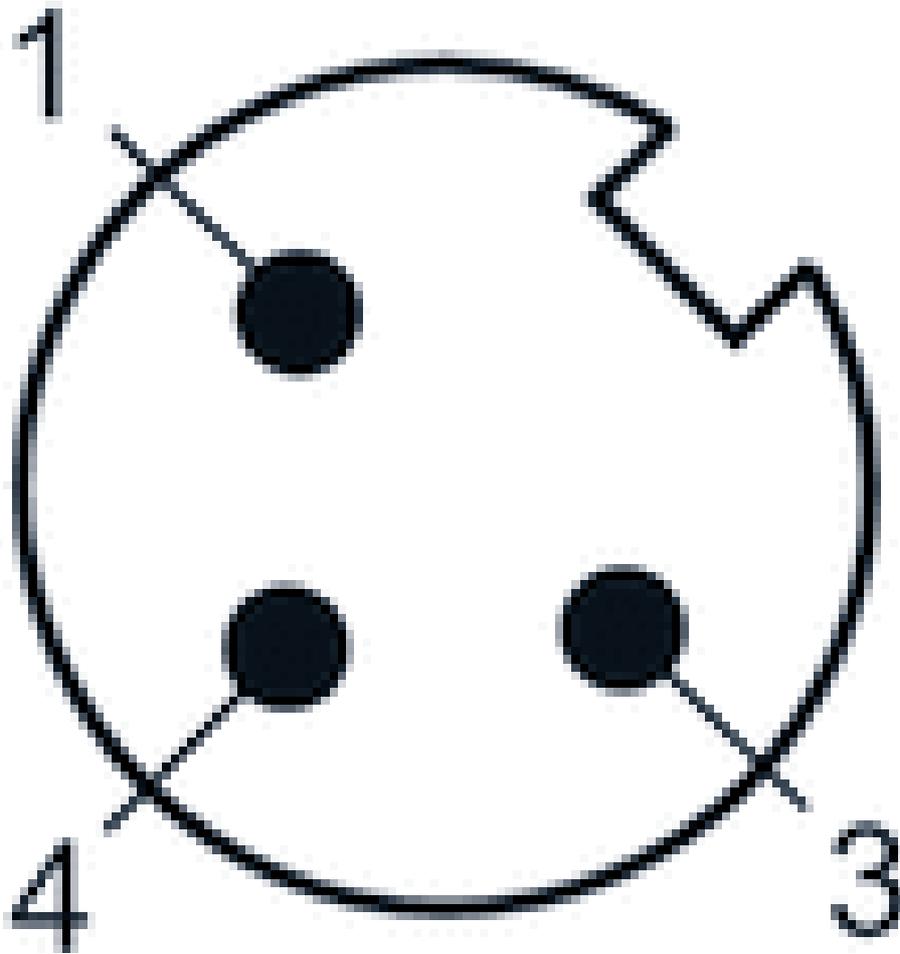
Dimensions



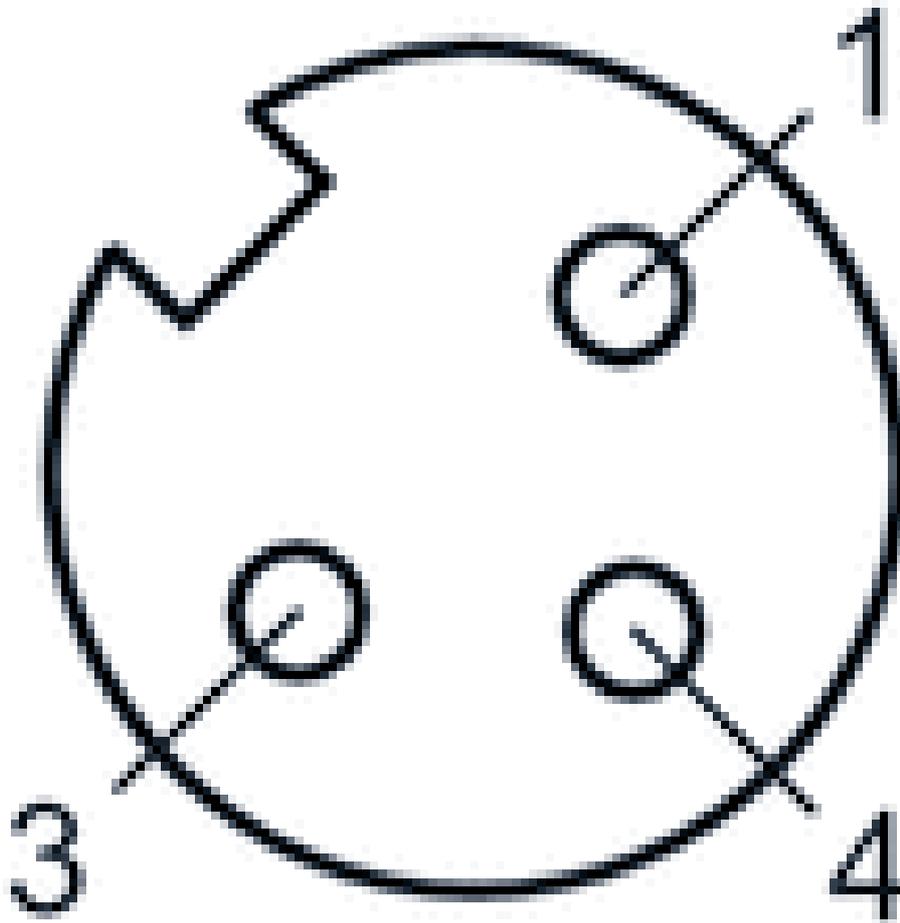
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket

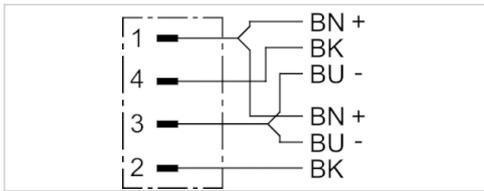


Y-Plug connector, series CON-RD

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



Ambient temperature min./max.	-13 ... 176 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0 in ²
Mounting screw tightening torque	0.59 ft./lbs.



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length
R412021688	4 A	4	0.17 inch	6.56 ft.

with self-clinching screw

Technical information

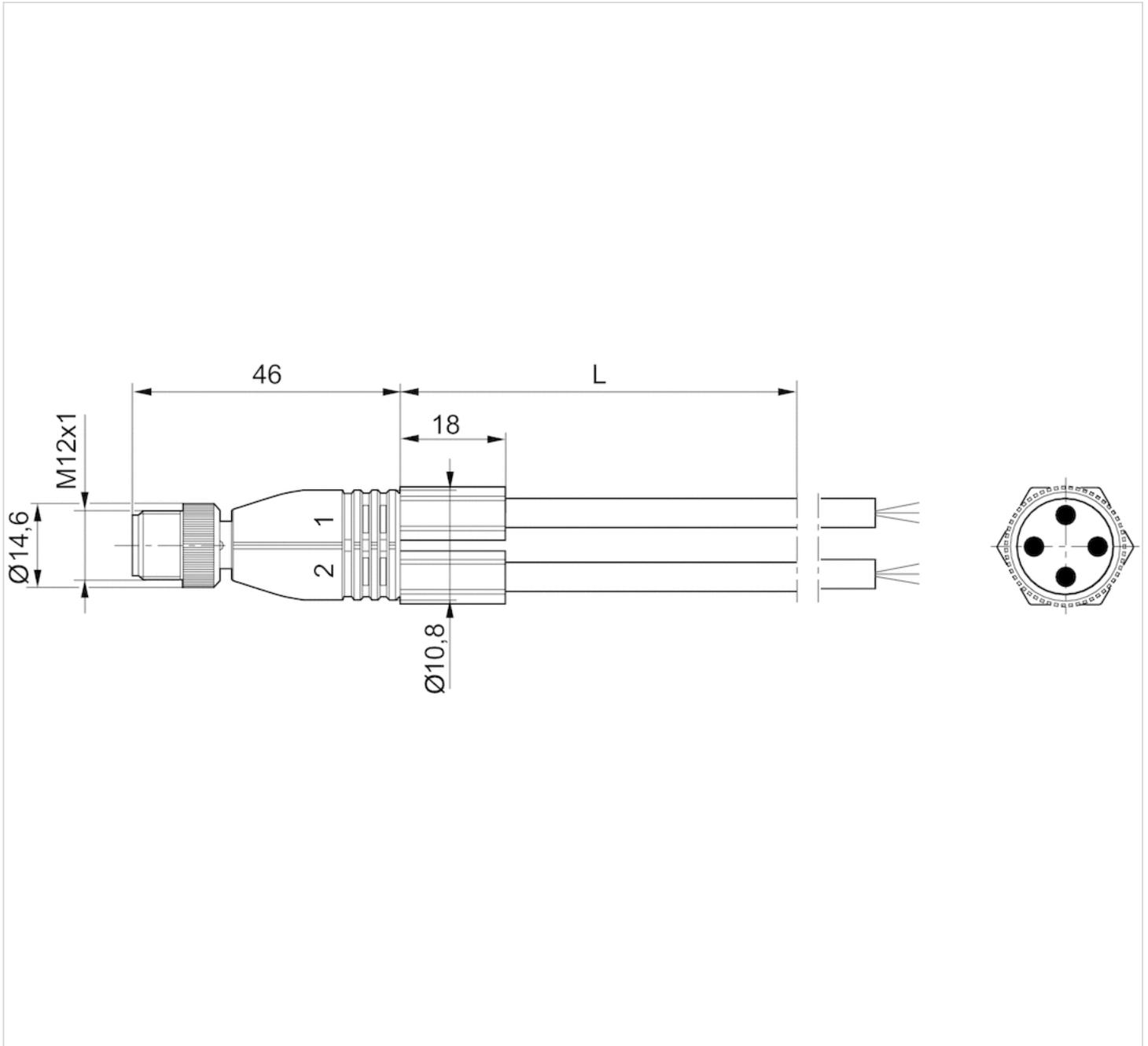
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

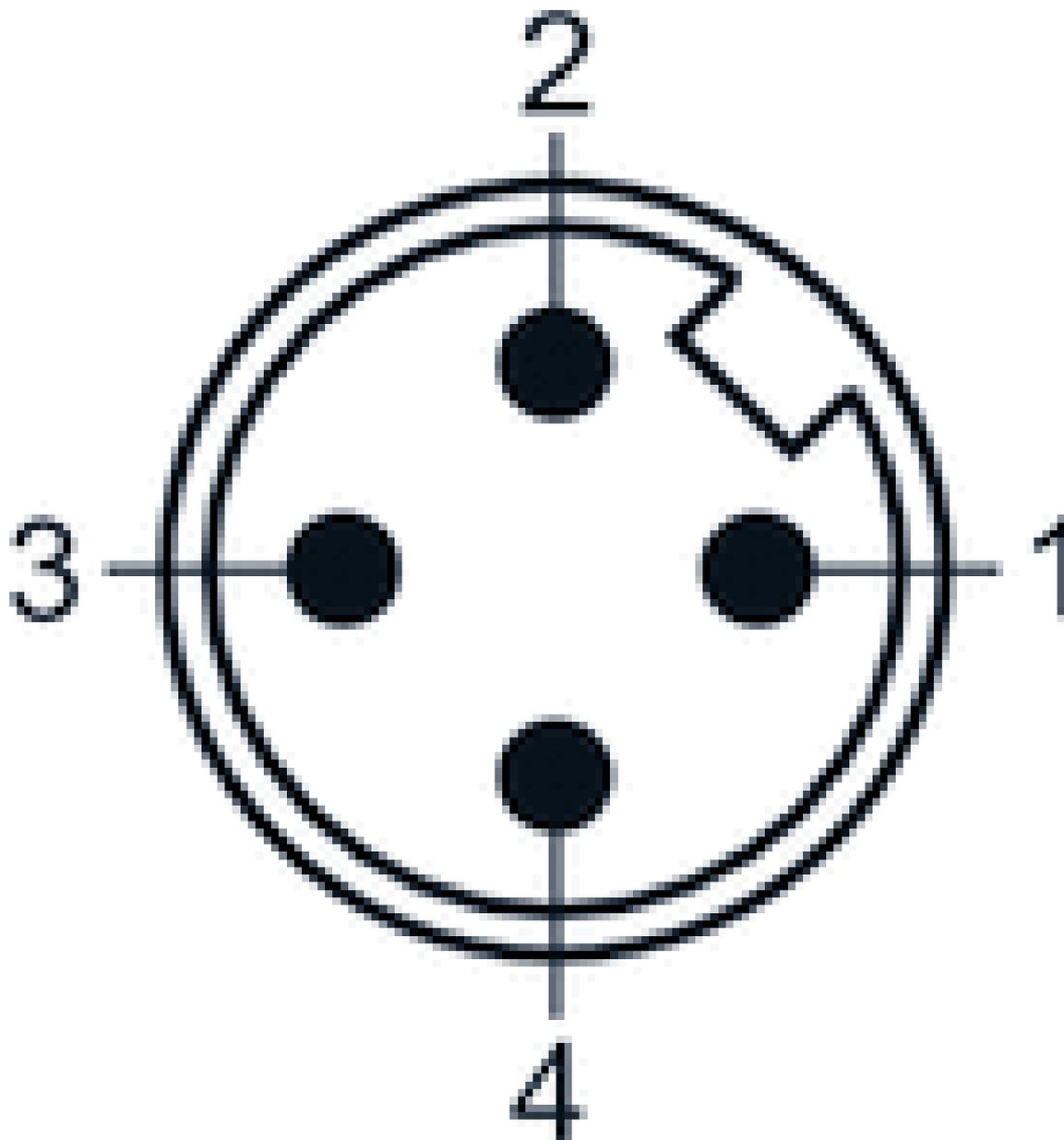
Dimensions



L = length

Pin assignments

Plug pin assignment



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

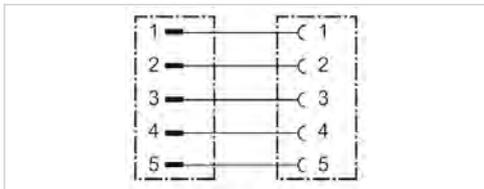
Line 2: (1) BN = brown, (3) BU =blue, (2) BK = black

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.	-13 ... 176 °F
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0 in ²
Mounting screw tightening torque	0.59 ft./lbs.



Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length
R412021694	4 A	5	0.98 inch	0.2 inch	6.56 ft.
R412021695	4 A	5	0.98 inch	0.2 inch	16.4 ft.

suitable for dynamic laying

Technical information

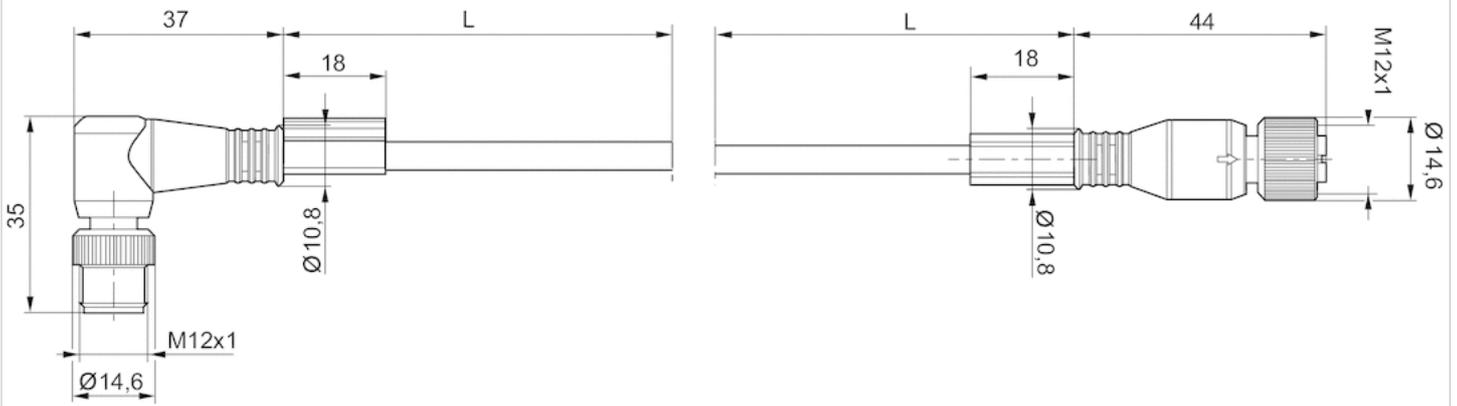
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

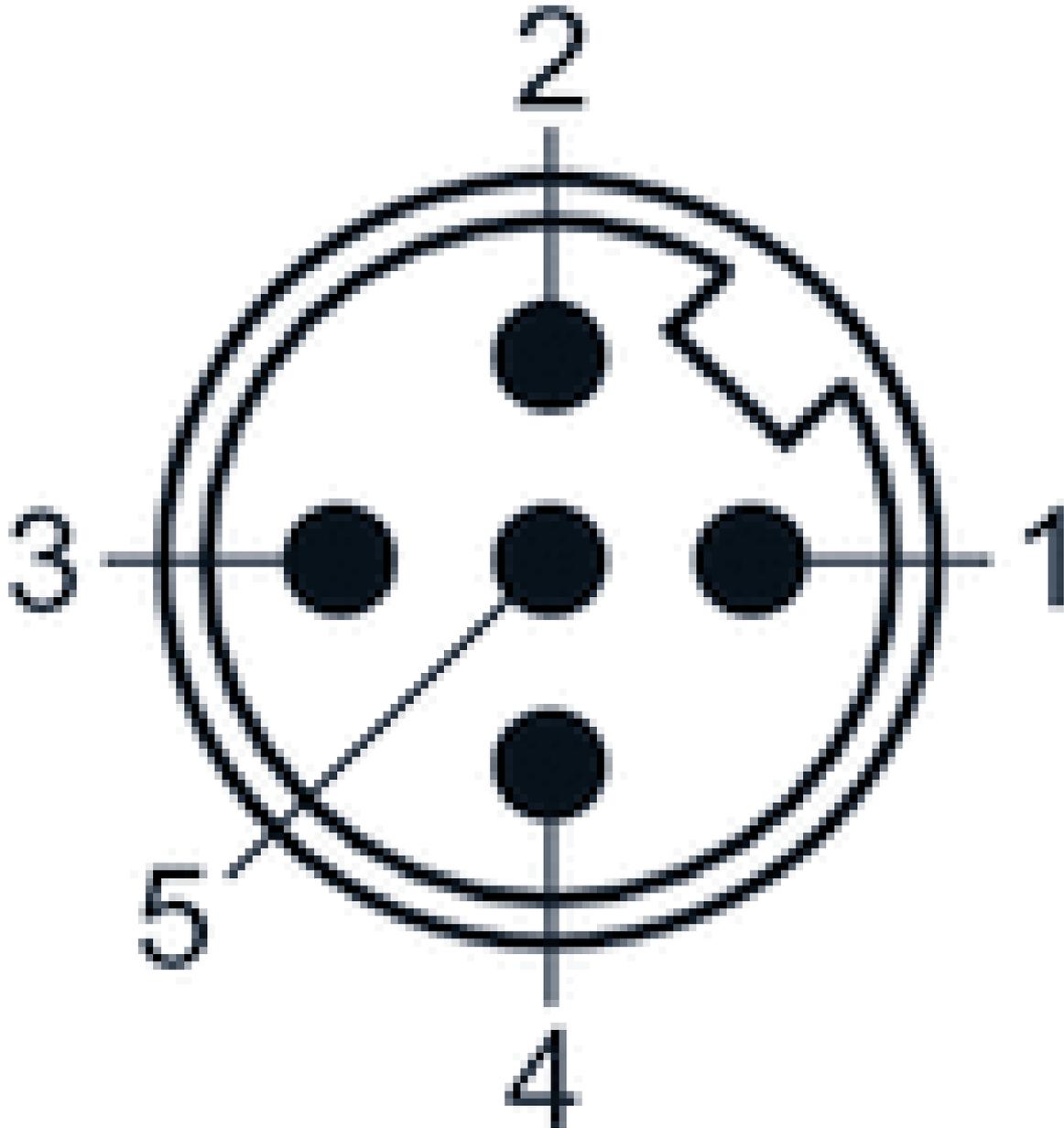
Dimensions



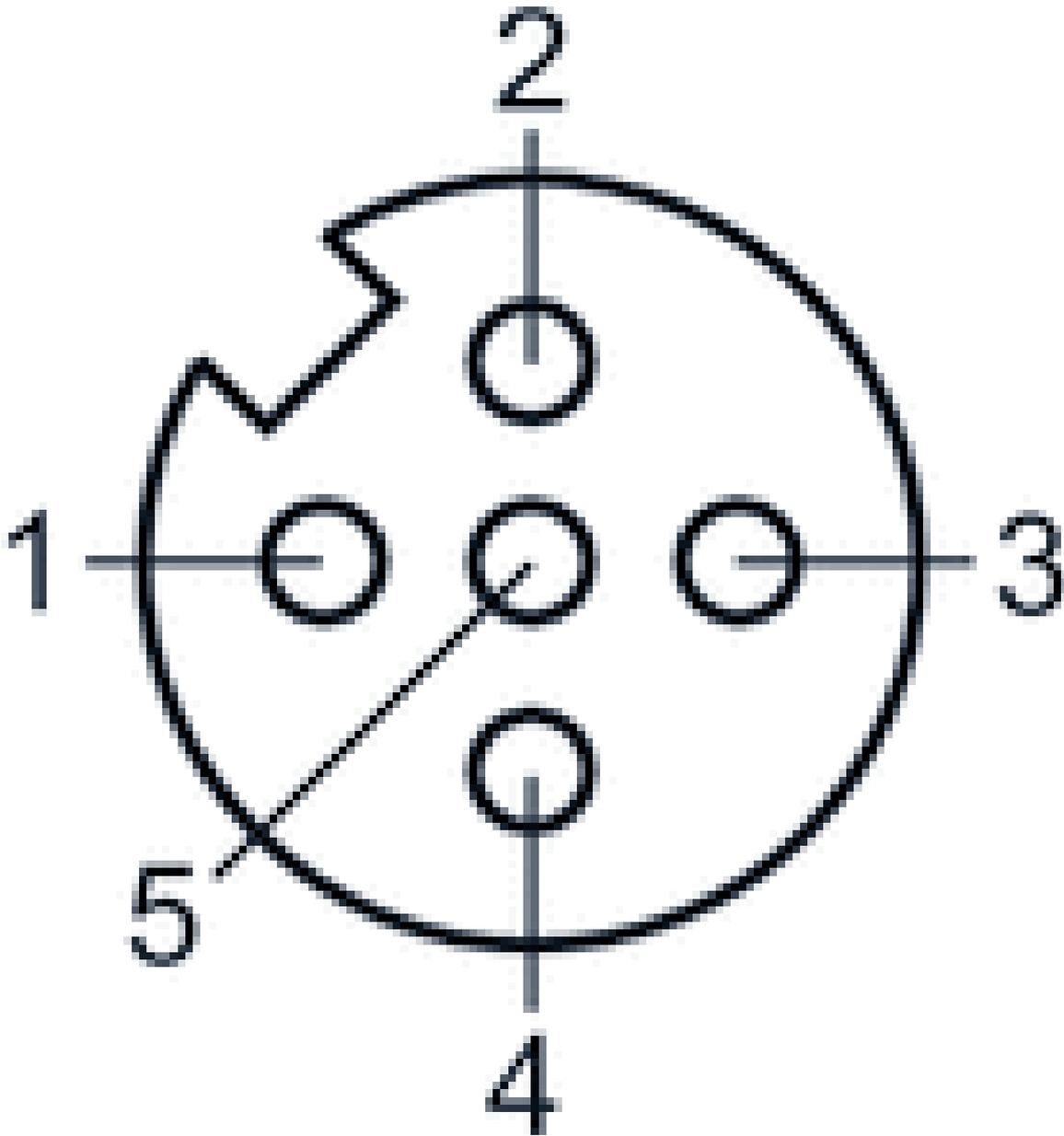
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket



Round plug connector, Series CON-RD

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

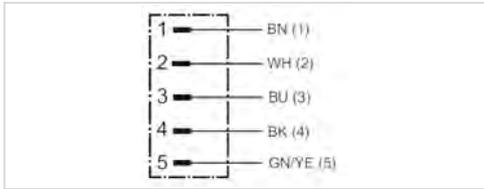


Protection class
Weight

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	6.56 ft.	0.214 lbs
8946203442	5	16.4 ft.	0.503 lbs

with self-clinching screw

Technical information

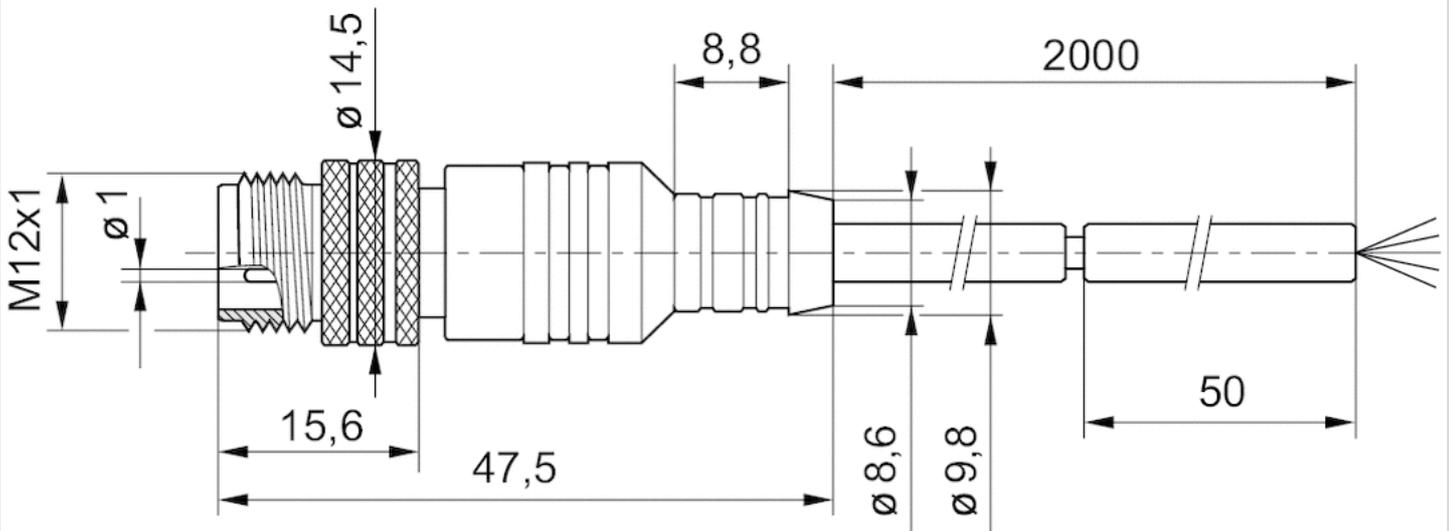
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

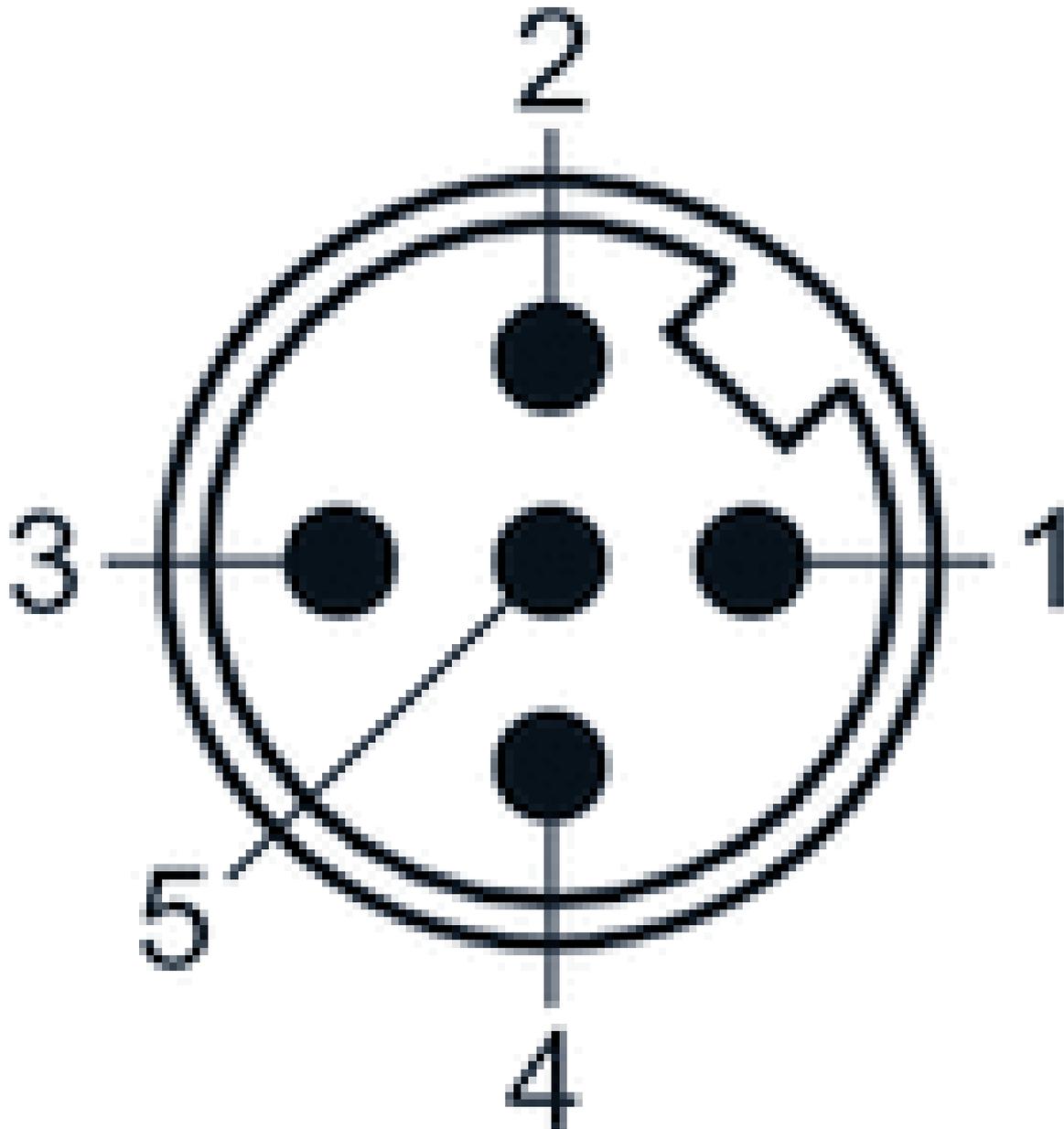
Dimensions



L = length

Pin assignments

Plug pin assignment



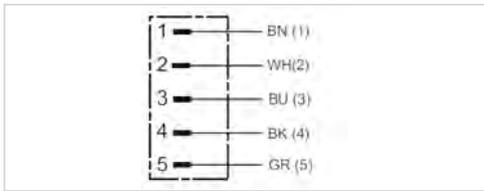
- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=green-yellow

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.	-13 ... 176 °F
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0 in ²
Mounting screw tightening torque	0.59 ft./lbs.



Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length
R412021691	4 A	5	0.98 inch	0.2 inch	6.56 ft.
R412021692	4 A	5	0.98 inch	0.2 inch	16.4 ft.
R412021693	4 A	5	0.98 inch	0.2 inch	32.81 ft.

suitable for dynamic laying

Technical information

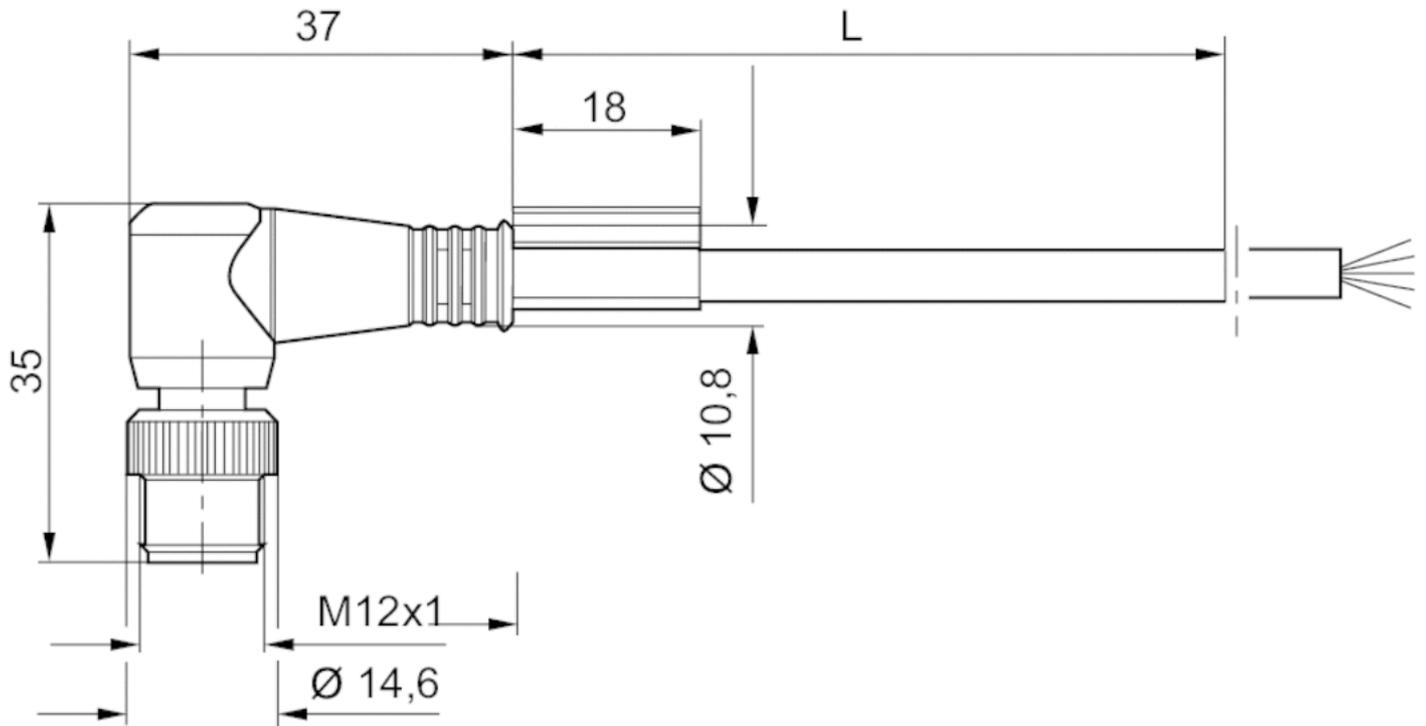
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

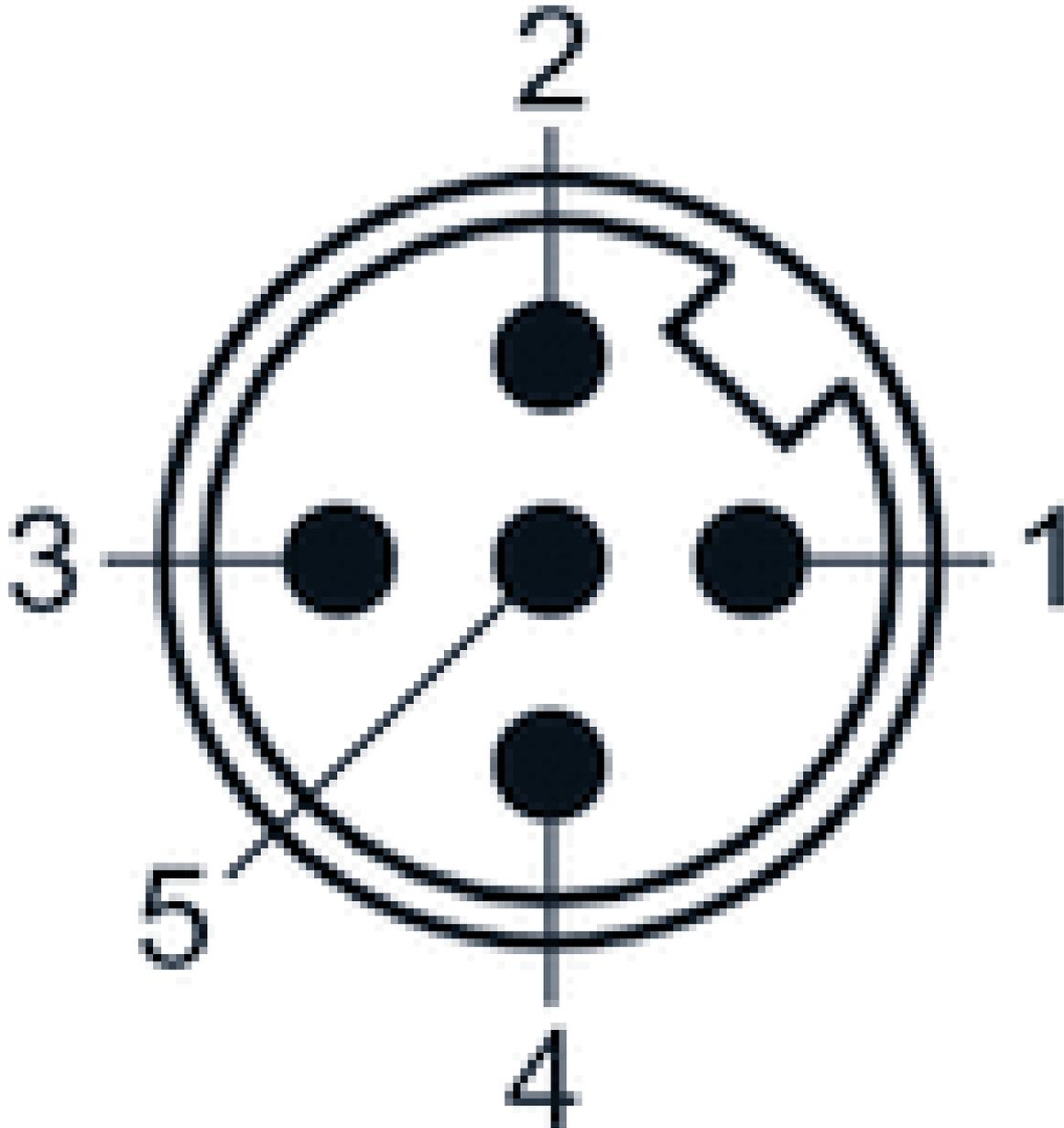
Dimensions



L = length

Pin assignments

Plug pin assignment



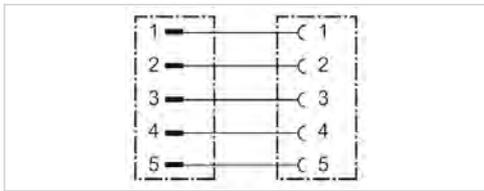
- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=grey

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.	-13 ... 176 °F
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0 in ²
Mounting screw tightening torque	0.59 ft./lbs.



Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length
R412021694	4 A	5	0.98 inch	0.2 inch	6.56 ft.
R412021695	4 A	5	0.98 inch	0.2 inch	16.4 ft.

suitable for dynamic laying

Technical information

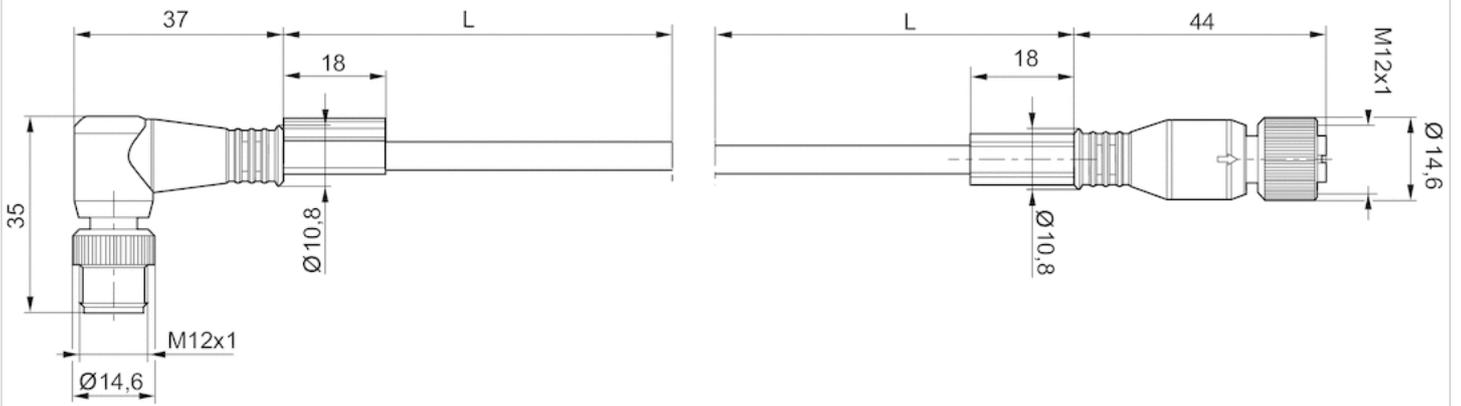
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

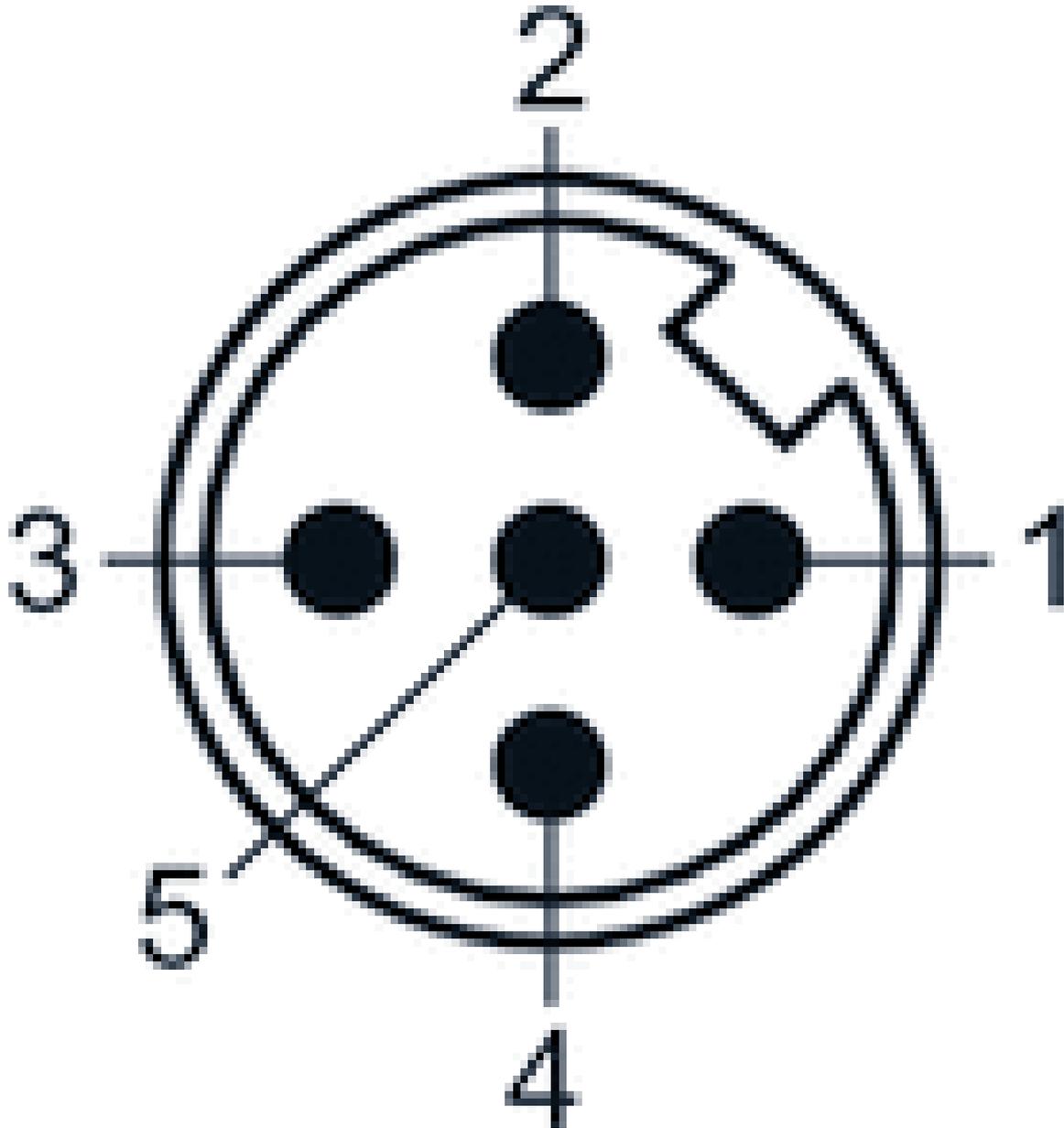
Dimensions



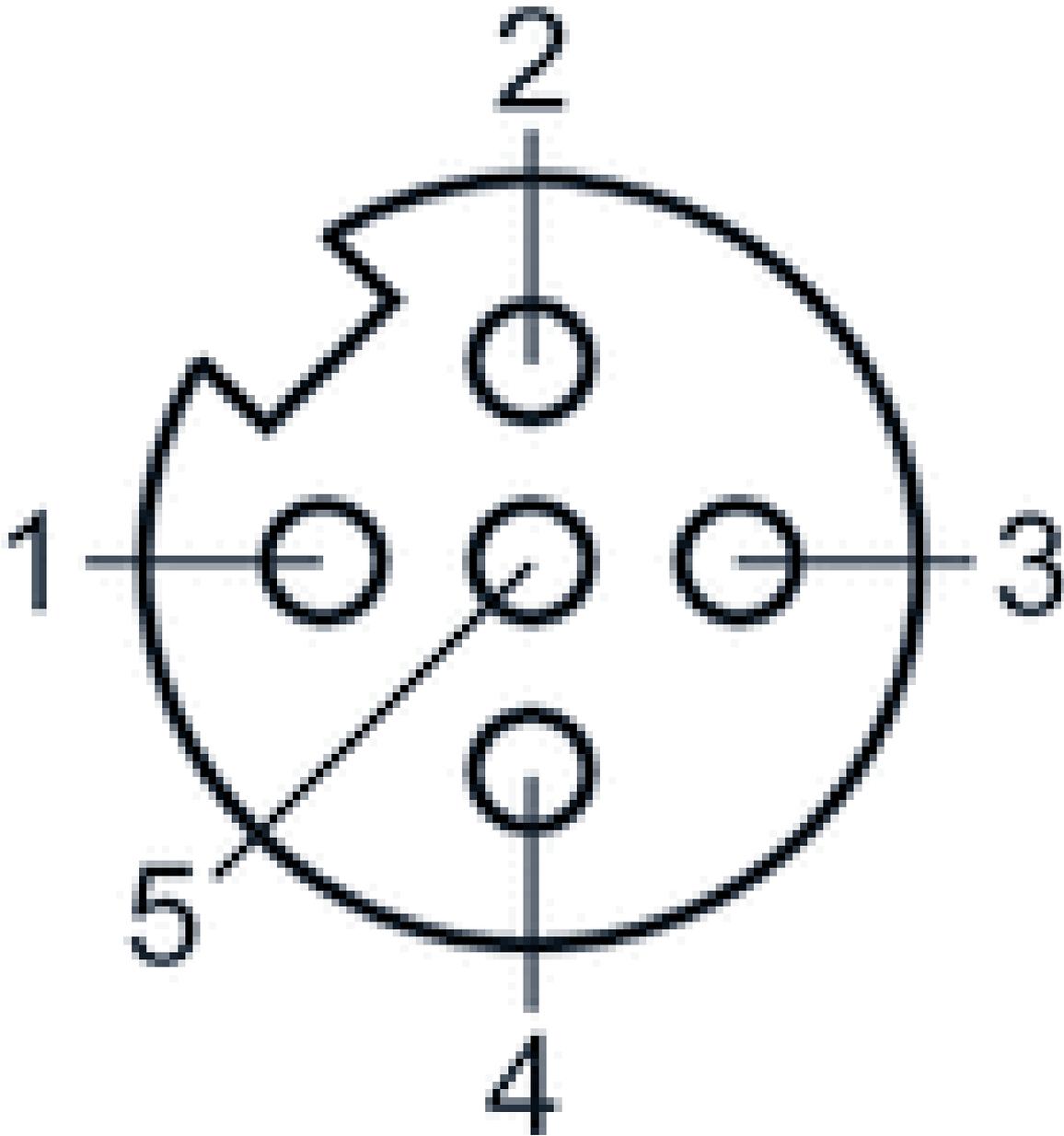
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket

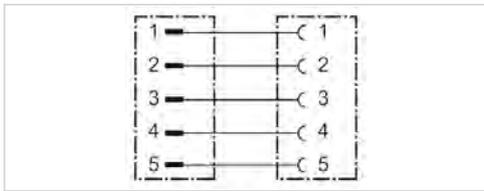


Round plug connector, Series CON-RD

- 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.	-13 ... 176 °F
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0 in ²
Mounting screw tightening torque	0.59 ft./lbs.



Technical data

Part No.	Max. current	Number of wires	Bending radius min.	Cable-Ø	Cable length
R412022193	4 A	4	2.13 inch	0.21 inch	6.56 ft.

suitable for dynamic laying

Technical information

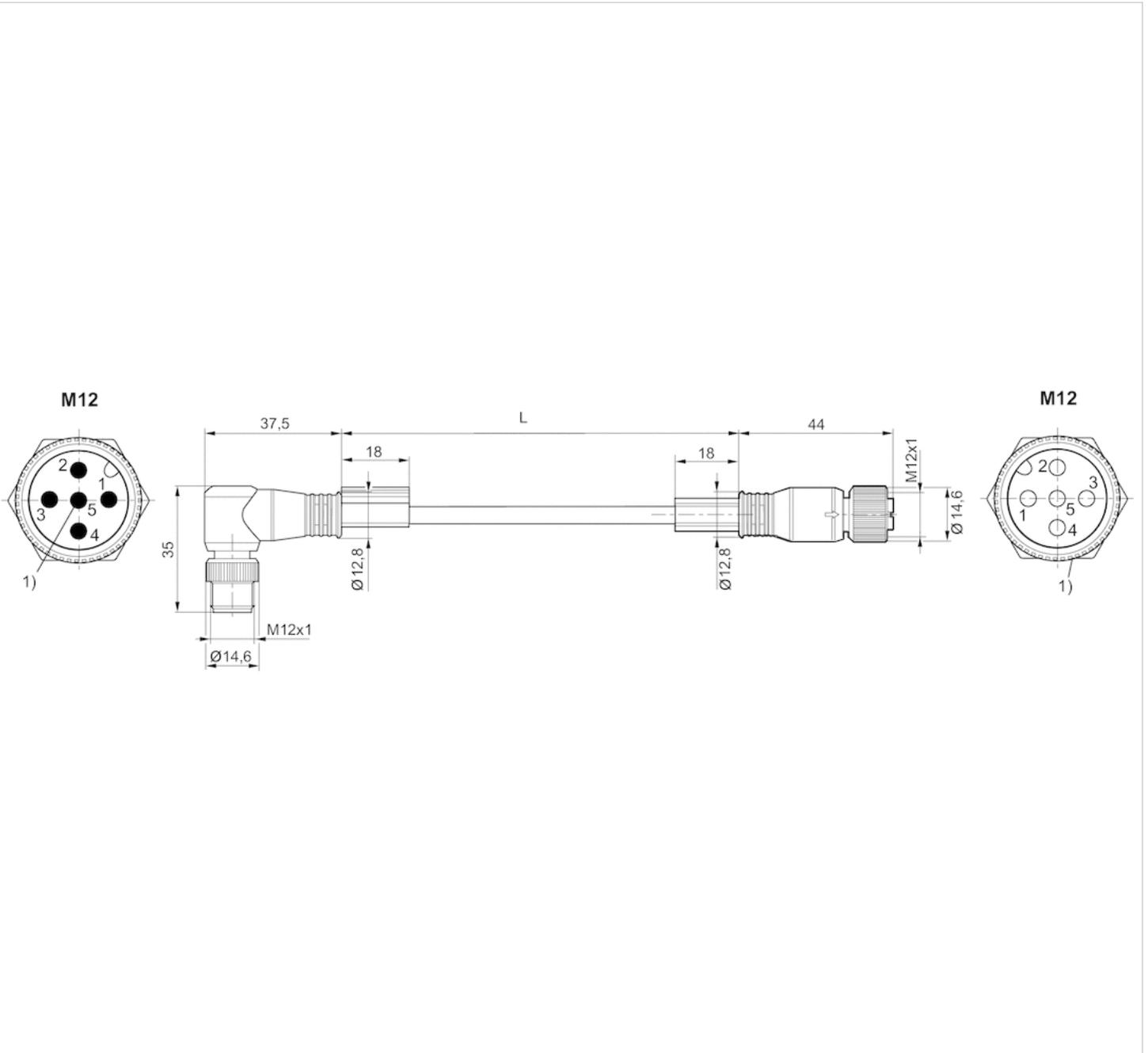
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

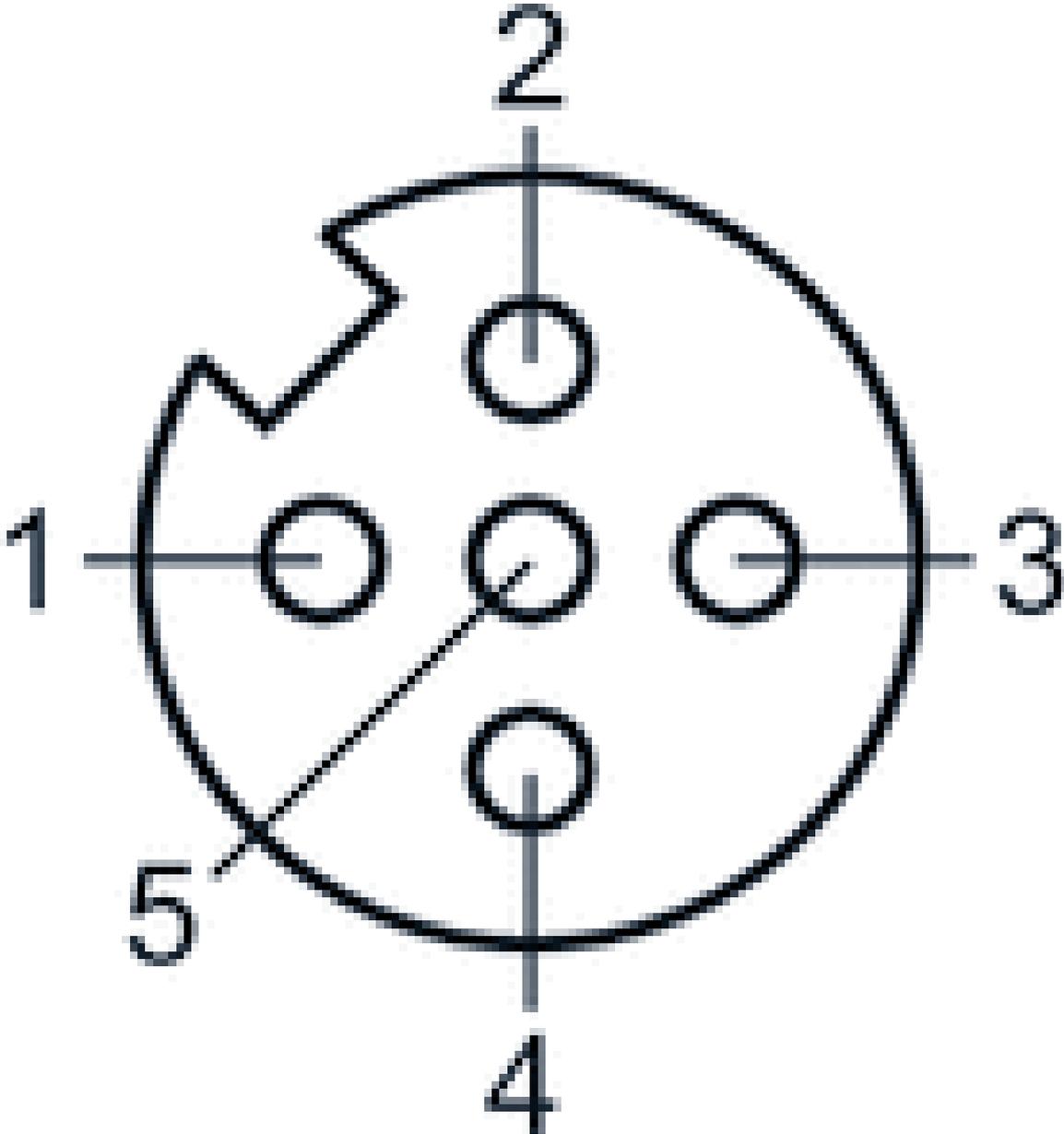
Dimensions



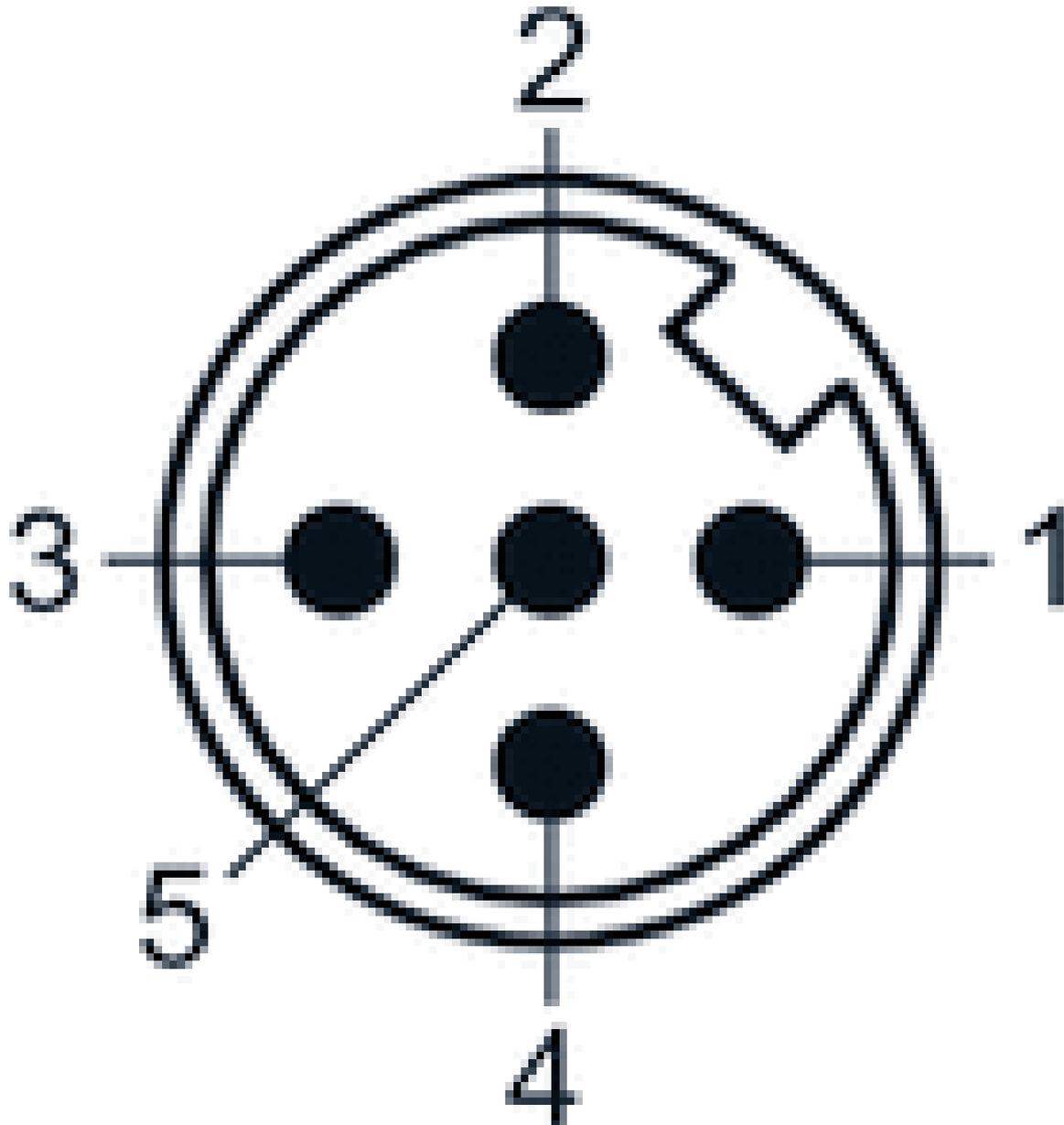
L = length
 PIN assignment 1:1
 1) Shield is connected to pin 5 of the plug and the knurled screw of the socket.

Pin assignments

Pin assignment, socket



Plug pin assignment

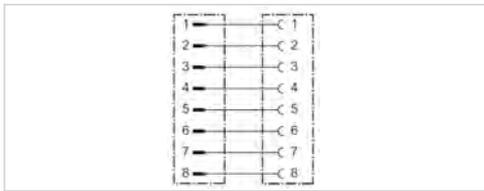


Round plug connector, Series CON-RD

- 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.	-13 ... 176 °F
Operational voltage	30 / 36 V AC/DC
Protection class	IP67



Technical data

Part No.	Max. current	Number of wires	Cable length
8946202802	1.5 A	8	1.64 ft.
8946202812	1.5 A	8	3.28 ft.
8946202822	1.5 A	8	6.56 ft.
8946202832	1.5 A	8	16.4 ft.
8946202842	1.5 A	8	32.81 ft.

suitable for dynamic laying

Technical information

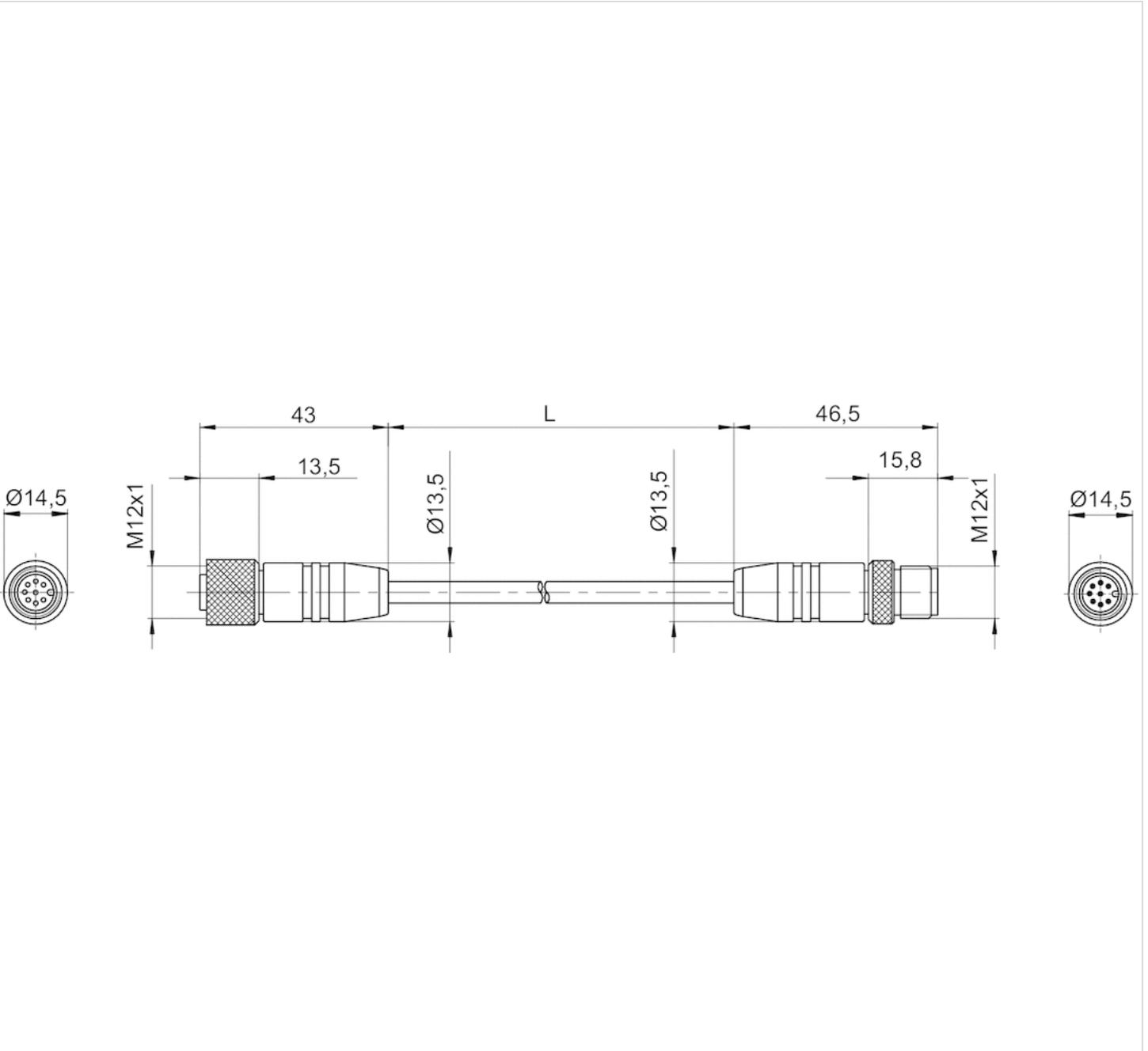
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc
Cable sheath	Polyurethane

Dimensions

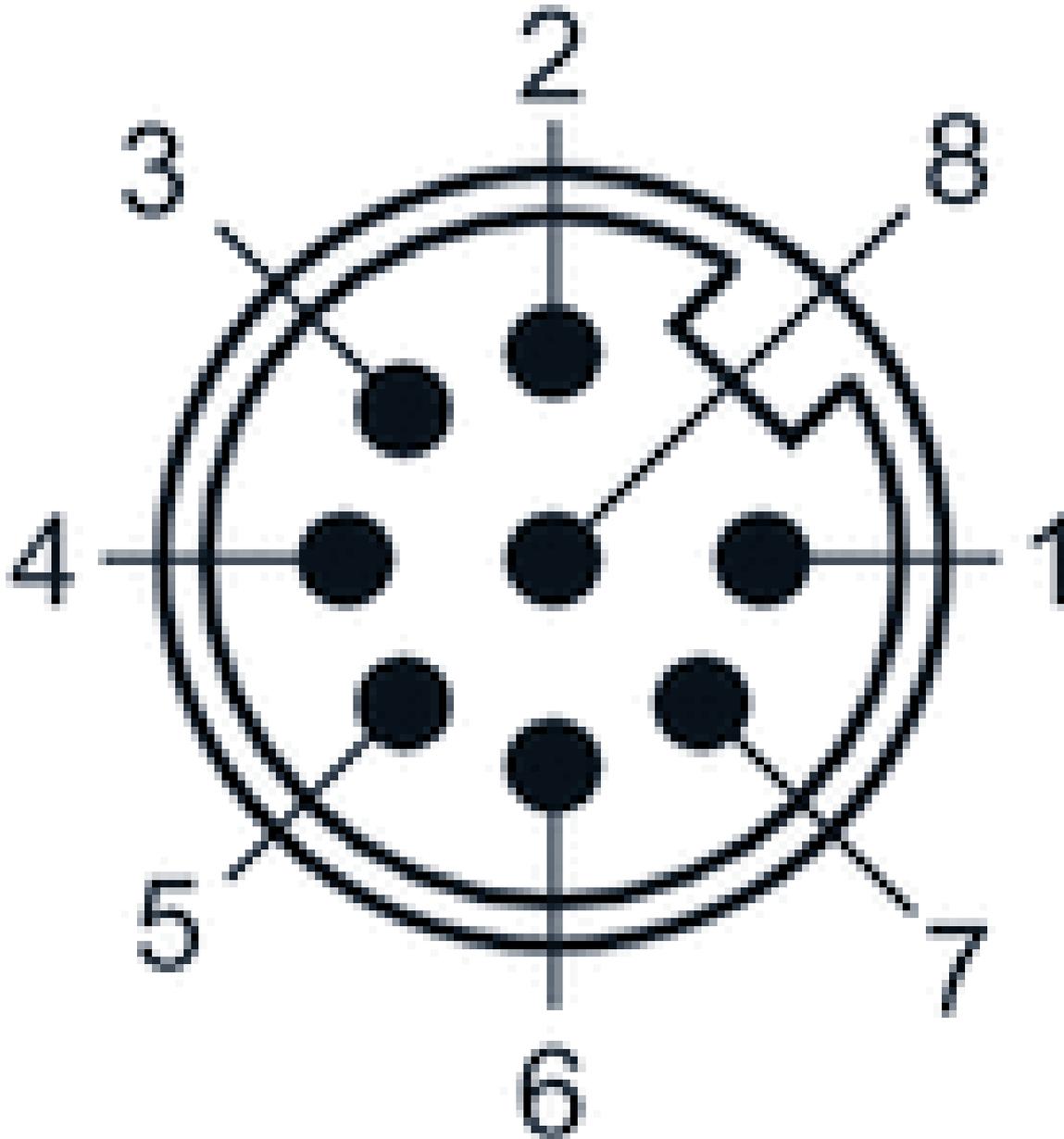
Dimensions



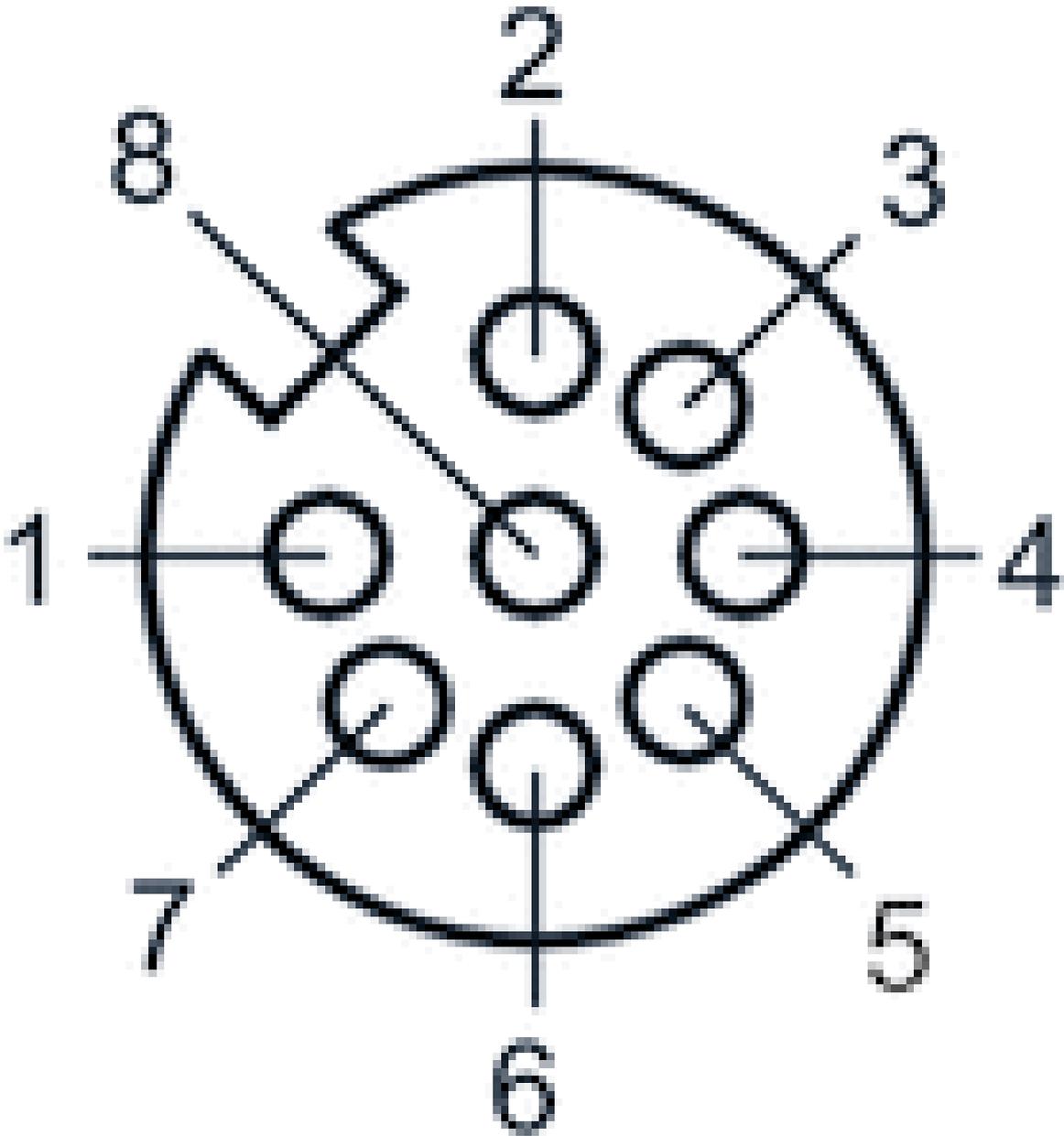
L = length

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.	-22 ... 176 °F
Operational voltage electronics	24 V DC
Power consumption electronics	2 A
Protection class	IP67
Weight	0.154 lbs

Technical data

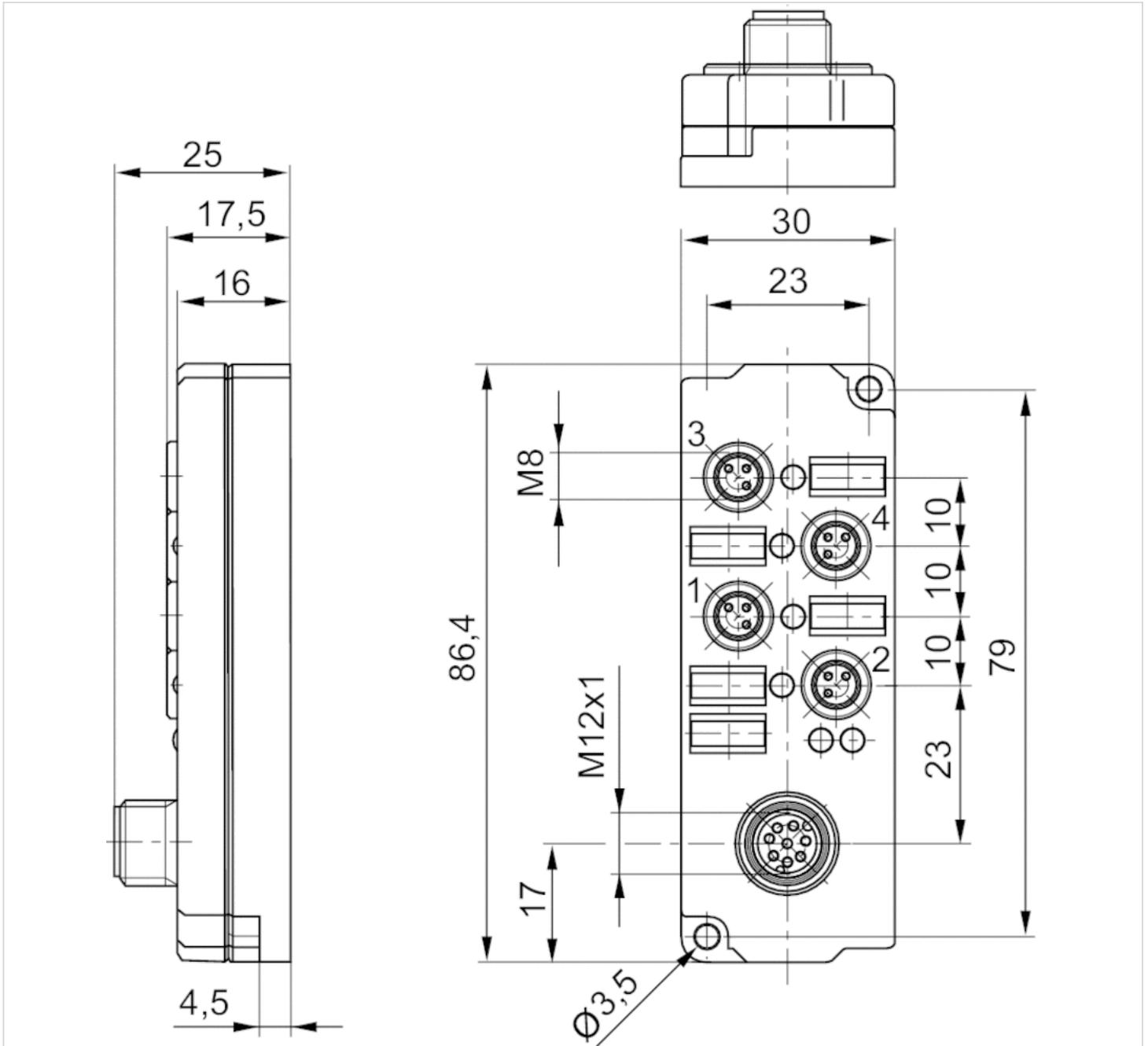
Part No.	Type	Port	
		1	2
R402001810	16DI4M12 16DI8M8	Plug (male), M12x1, 8-pin	Socket (female), M8x1, 3-pin

Technical information

Material	
Housing	Polyamide

Dimensions

Dimensions

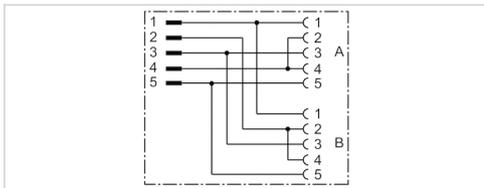


Y-Plug connector, series CON-AP

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



Ambient temperature min./max.	-13 ... 194 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.064 lbs
	The delivered product may vary from that in the illustration.



Technical data

Part No.	Max. current
8941002392	4 A

Technical information

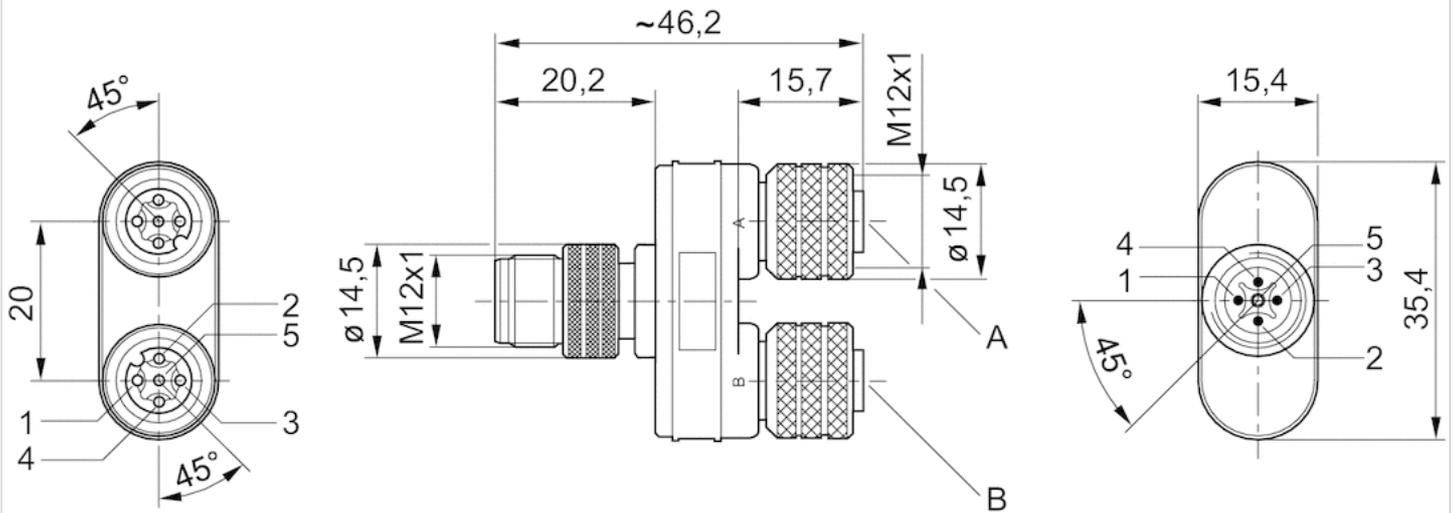
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc

Dimensions

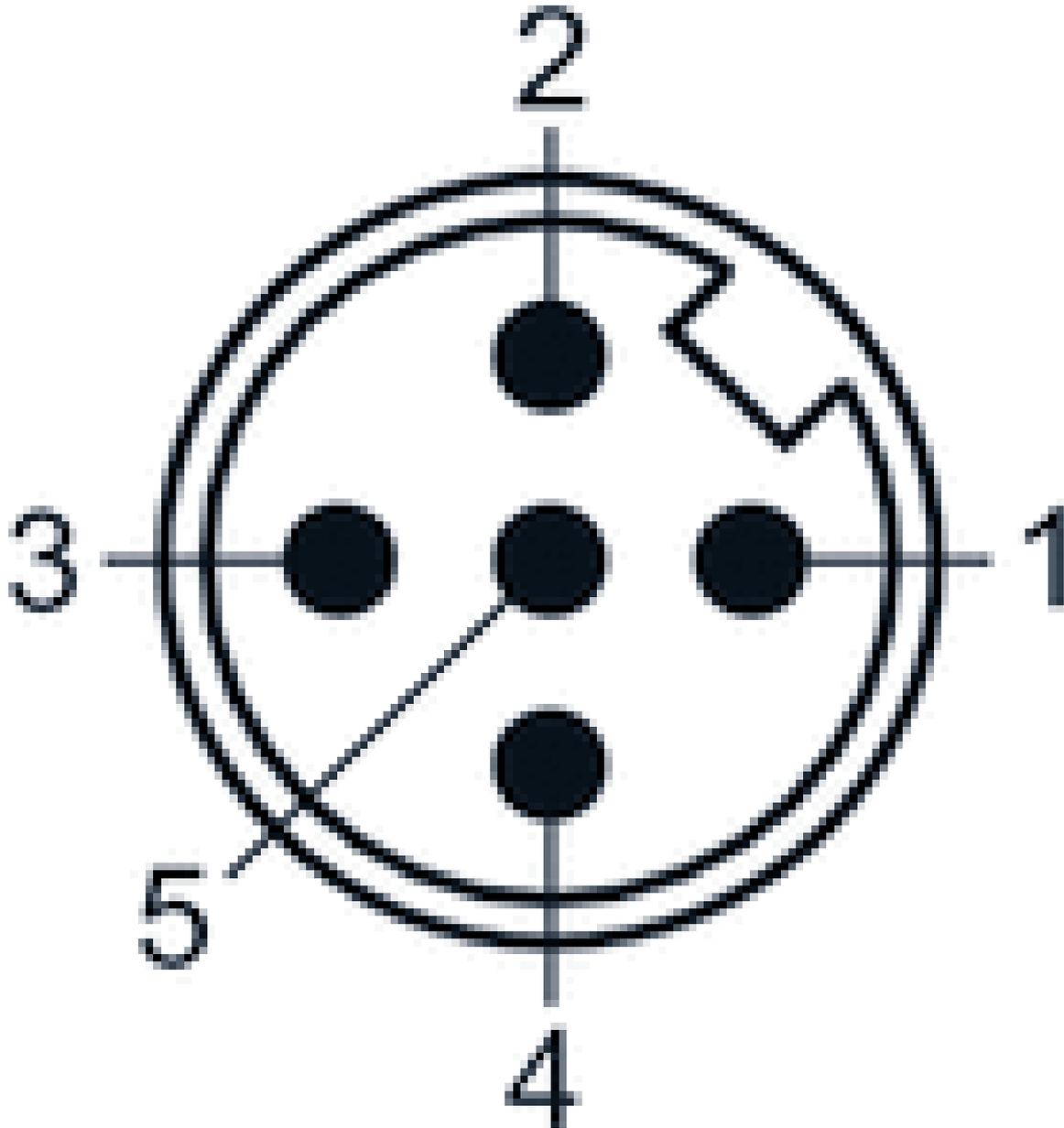
Dimensions



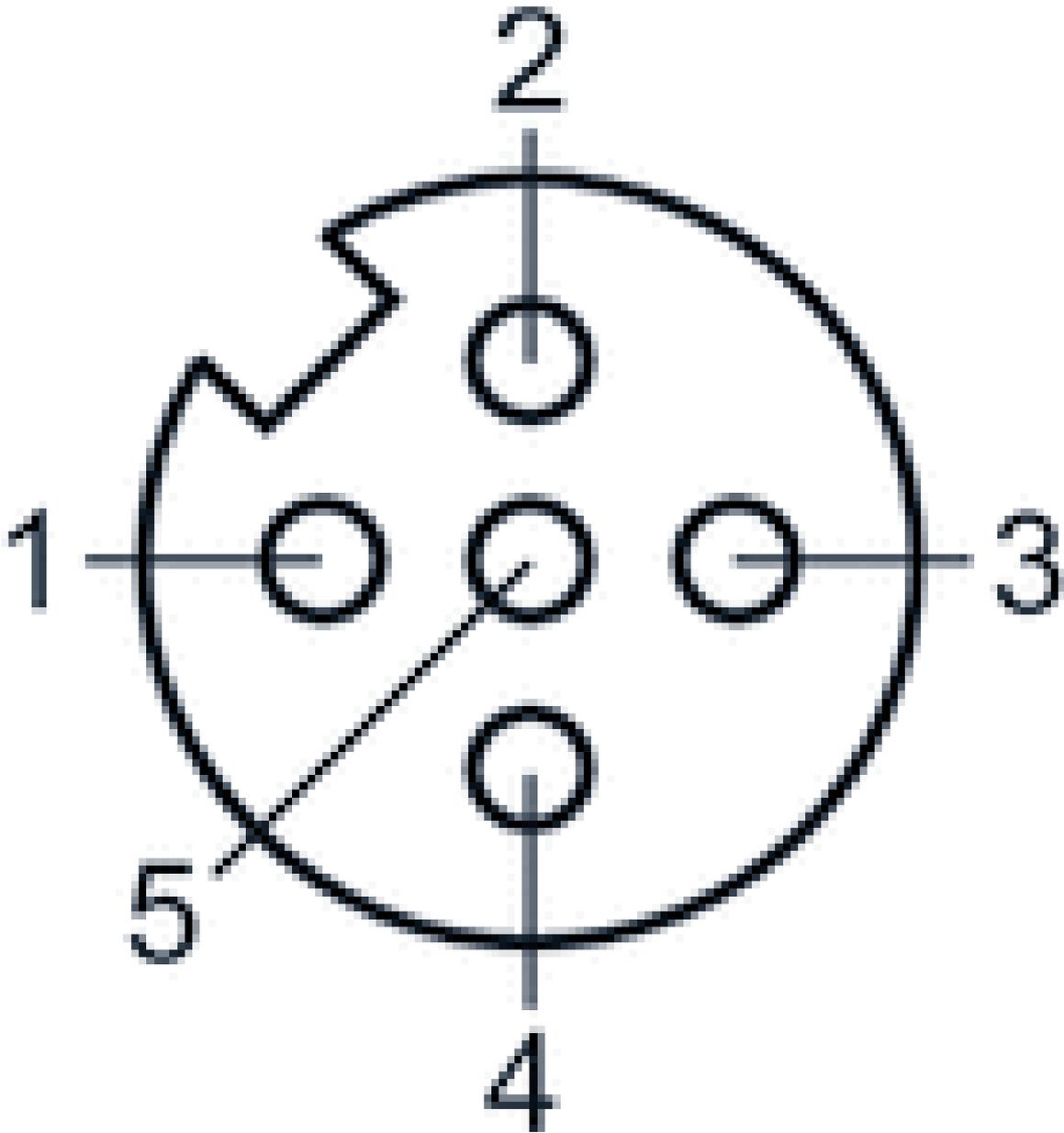
Sockets: Pin 2 and 4 bridged.

Pin assignments

Plug pin assignment



Pin assignment, socket

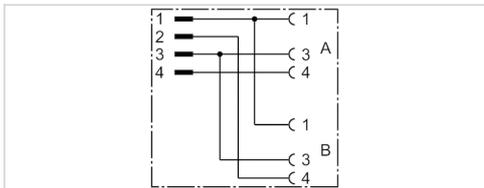


Y-Plug connector, series CON-AP

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



Ambient temperature min./max.	-13 ... 194 °F
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.044 lbs
	The delivered product may vary from that in the illustration.



Technical data

Part No.	Max. current
8941002382	4 A

Technical information

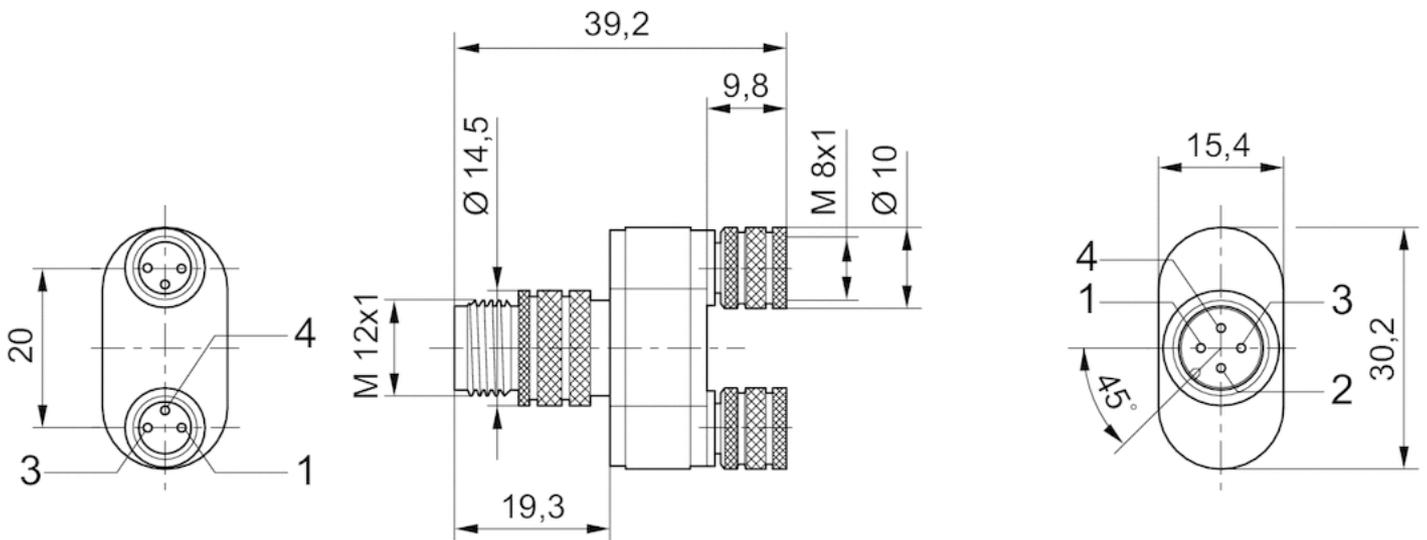
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc

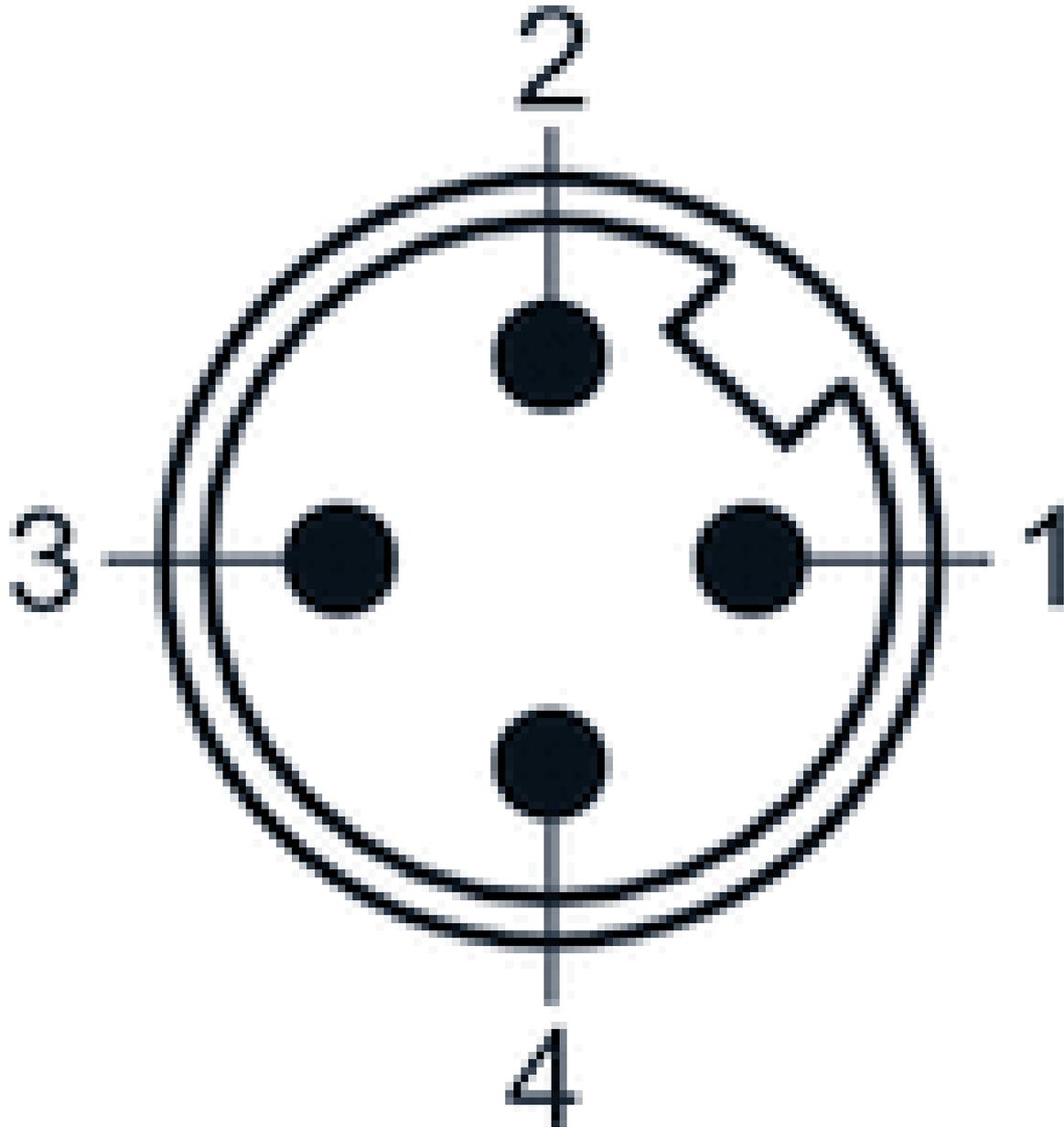
Dimensions

Dimensions

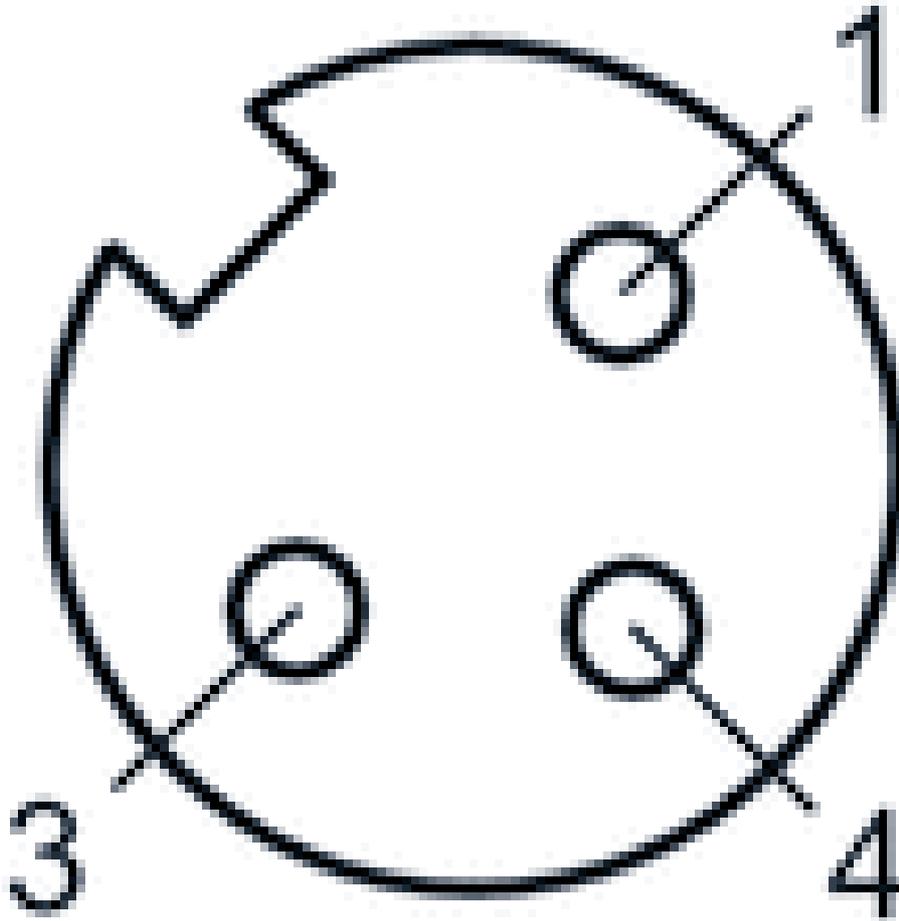


Pin assignments

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.	23 ... 122 °F
Operational voltage	24 V DC
Protection class	IP67
Wire cross-section	0 in ²

Technical data

Part No.	Max. current	Number of wires	Cable length	Certification
R412020635	3 A	25	1.64 ft.	UL (Underwriters Laboratories)
R412020636	3 A	25	3.28 ft.	UL (Underwriters Laboratories)
R412020637	3 A	25	6.56 ft.	UL (Underwriters Laboratories)
R412020638	3 A	25	16.4 ft.	UL (Underwriters Laboratories)
R412020639	3 A	25	32.81 ft.	UL (Underwriters Laboratories)

Technical information

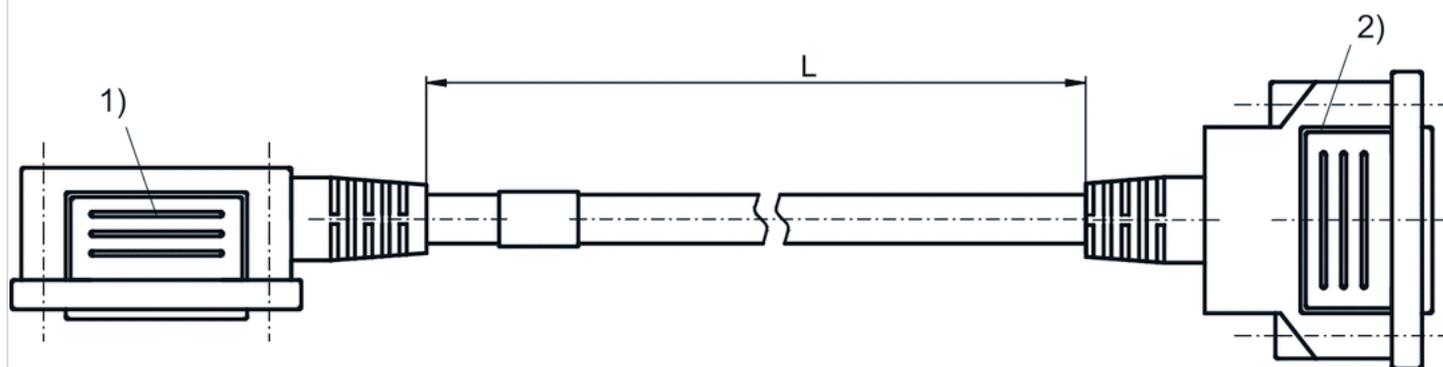
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyvinyl chloride

Dimensions

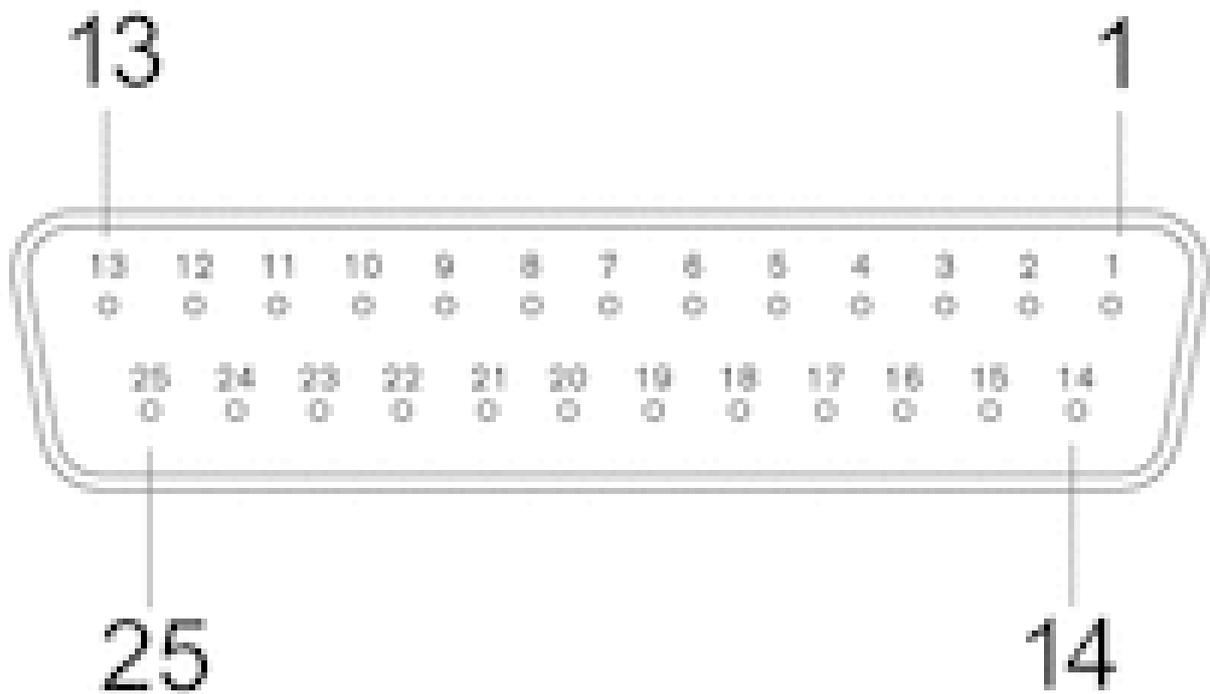
Dimensions



- 1) Port 1 (Plug)
- 2) Port 2 (Socket)

Pin assignments

PIN assignment and cable colors, cable identification as per DIN 47100

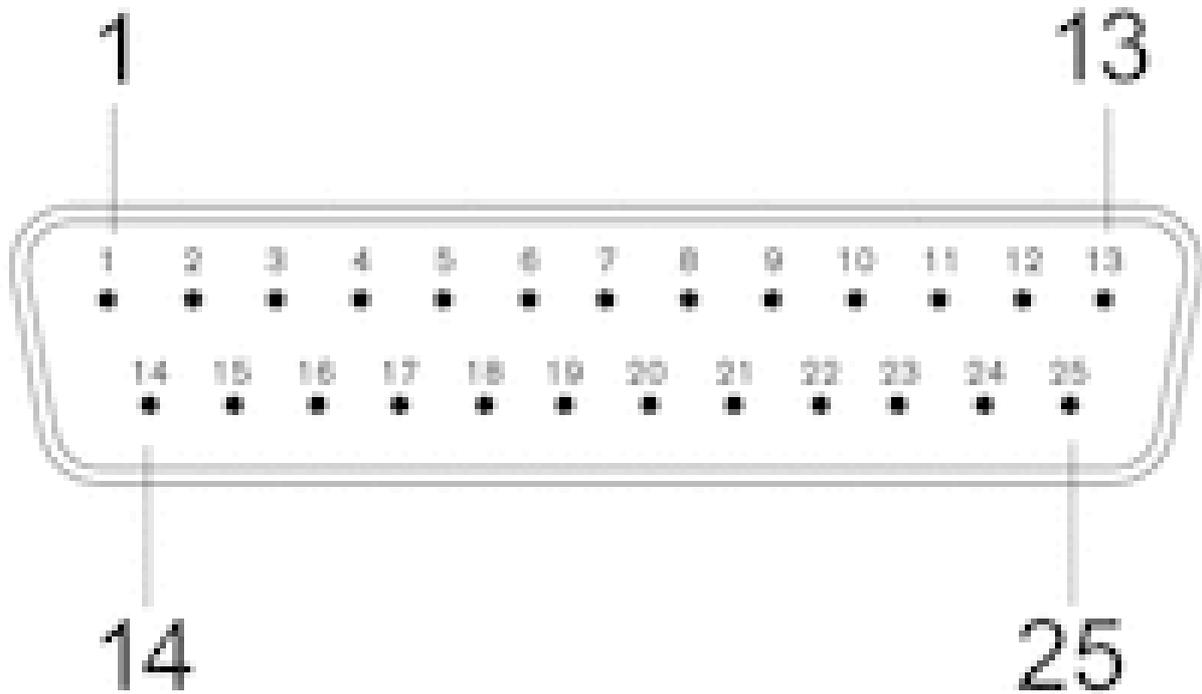


Socket

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.	23 ... 122 °F
Operational voltage	24 V DC
Protection class	IP67
Wire cross-section	0 in ²
	The delivered product may vary from that in the illustration.

Technical data

Part No.	Max. current	Number of wires	Cable length	Certification
R412020630	3 A	25	1.64 ft.	UL (Underwriters Laboratories)
R412020631	3 A	25	3.28 ft.	UL (Underwriters Laboratories)
R412020632	3 A	25	6.56 ft.	UL (Underwriters Laboratories)
R412020633	3 A	25	16.4 ft.	UL (Underwriters Laboratories)
R412020634	3 A	25	32.8 ft.	UL (Underwriters Laboratories)

Technical information

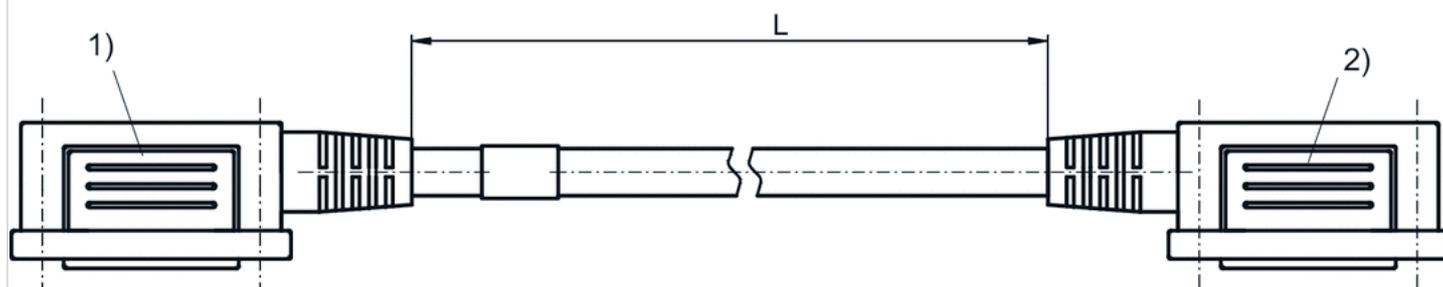
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyvinyl chloride

Dimensions

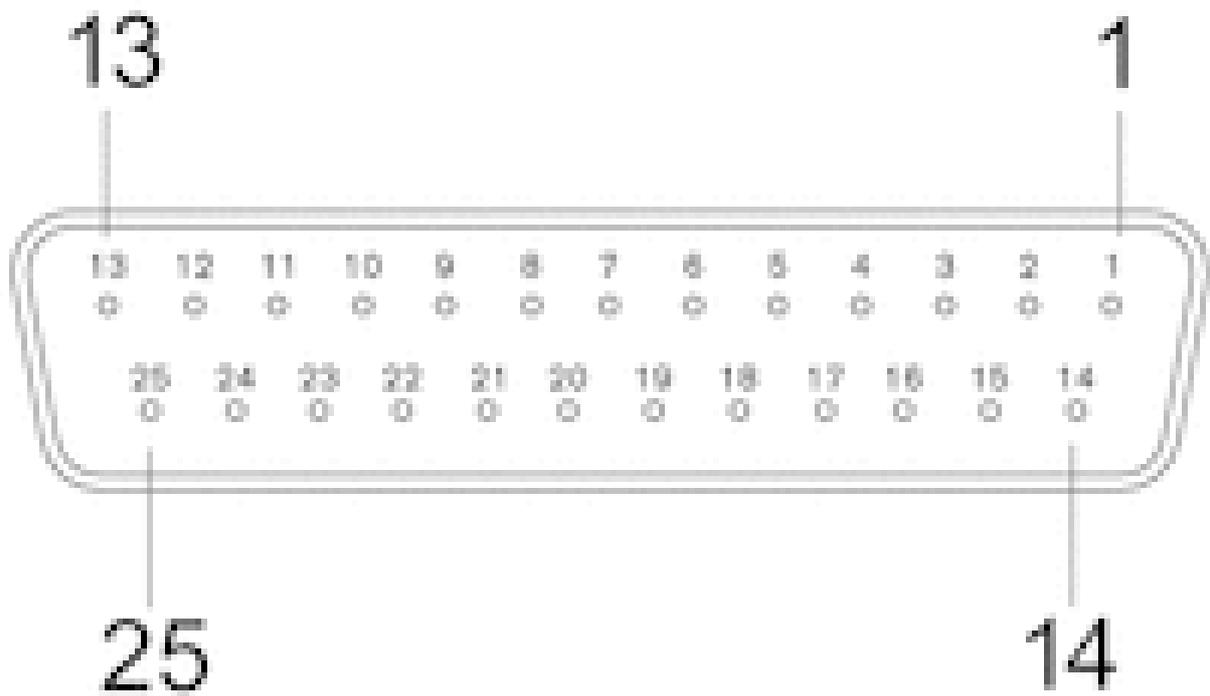
Dimensions



- 1) Port 1 (Plug)
- 2) Port 2 (Socket)

Pin assignments

PIN assignment and cable colors, cable identification as per DIN 47100

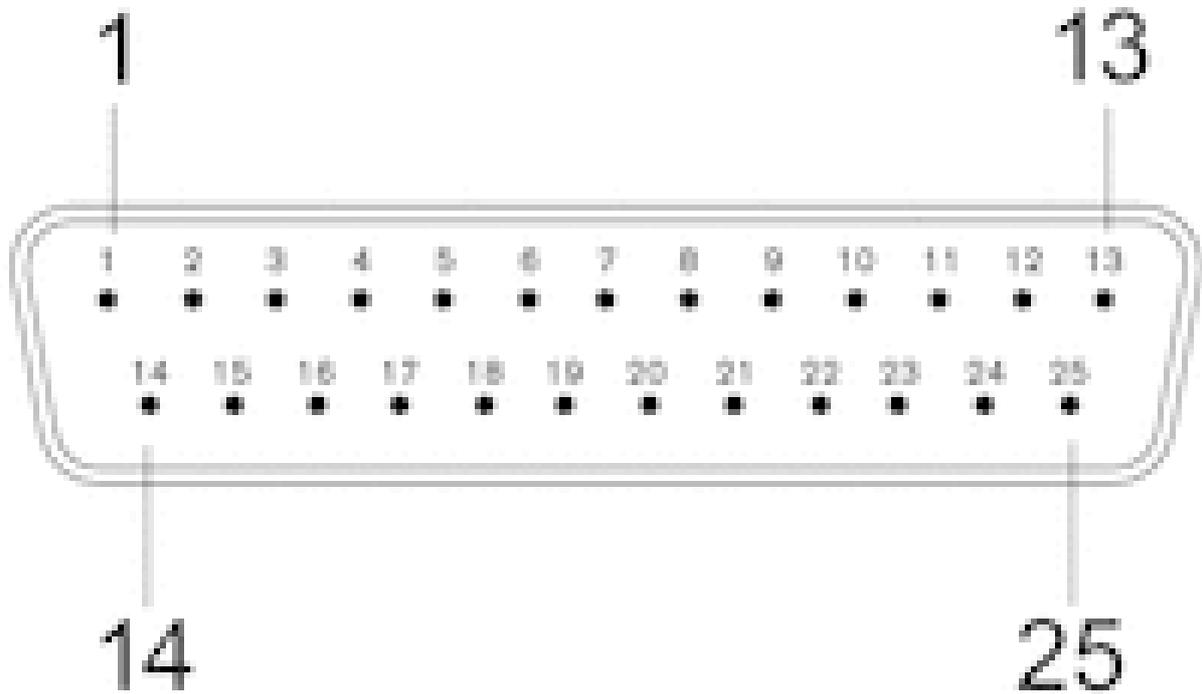


Socket

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.	-4 ... 176 °F
Operational voltage	24 V DC
Protection class	IP65
Wire cross-section	0 in ²

Technical data

Part No.	Electrical connection	Max. current	Number of wires	Cable sheath
	1			
R419500466	Socket D-Sub 44-pin straight 180°	3 A	44	Polyvinyl chloride
R419500467	Socket D-Sub 44-pin straight 180°	3 A	44	Polyvinyl chloride
R419500468	Socket D-Sub 44-pin straight 180°	3 A	44	Polyvinyl chloride
R419500469	Socket D-Sub 44-pin straight 180°	3 A	44	Polyurethane
R419500470	Socket D-Sub 44-pin straight 180°	3 A	44	Polyurethane
R419500471	Socket D-Sub 44-pin straight 180°	3 A	44	Polyurethane
R419500472	Socket D-Sub 44-pin angled 90°	3 A	44	Polyvinyl chloride
R419500473	Socket D-Sub 44-pin angled 90°	3 A	44	Polyvinyl chloride
R419500474	Socket D-Sub 44-pin angled 90°	3 A	44	Polyvinyl chloride
R419500475	Socket D-Sub 44-pin angled 90°	3 A	44	Polyurethane
R419500476	Socket D-Sub 44-pin angled 90°	3 A	44	Polyurethane
R419500477	Socket D-Sub 44-pin angled 90°	3 A	44	Polyurethane

Part No.	Cable-Ø	Cable length		Fig.
R419500466	0.42 inch	9.84 ft.	-	Fig. 1
R419500467	0.42 inch	16.4 ft.	-	Fig. 1
R419500468	0.42 inch	32.81 ft.	-	Fig. 1
R419500469	0.51 inch	9.84 ft.	1)	Fig. 1
R419500470	0.51 inch	16.4 ft.	1)	Fig. 1
R419500471	0.51 inch	32.81 ft.	1)	Fig. 1
R419500472	0.42 inch	9.84 ft.	-	Fig. 2
R419500473	0.42 inch	16.4 ft.	-	Fig. 2
R419500474	0.42 inch	32.81 ft.	-	Fig. 2
R419500475	0.51 inch	9.84 ft.	1)	Fig. 2
R419500476	0.51 inch	16.4 ft.	1)	Fig. 2
R419500477	0.51 inch	32.81 ft.	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

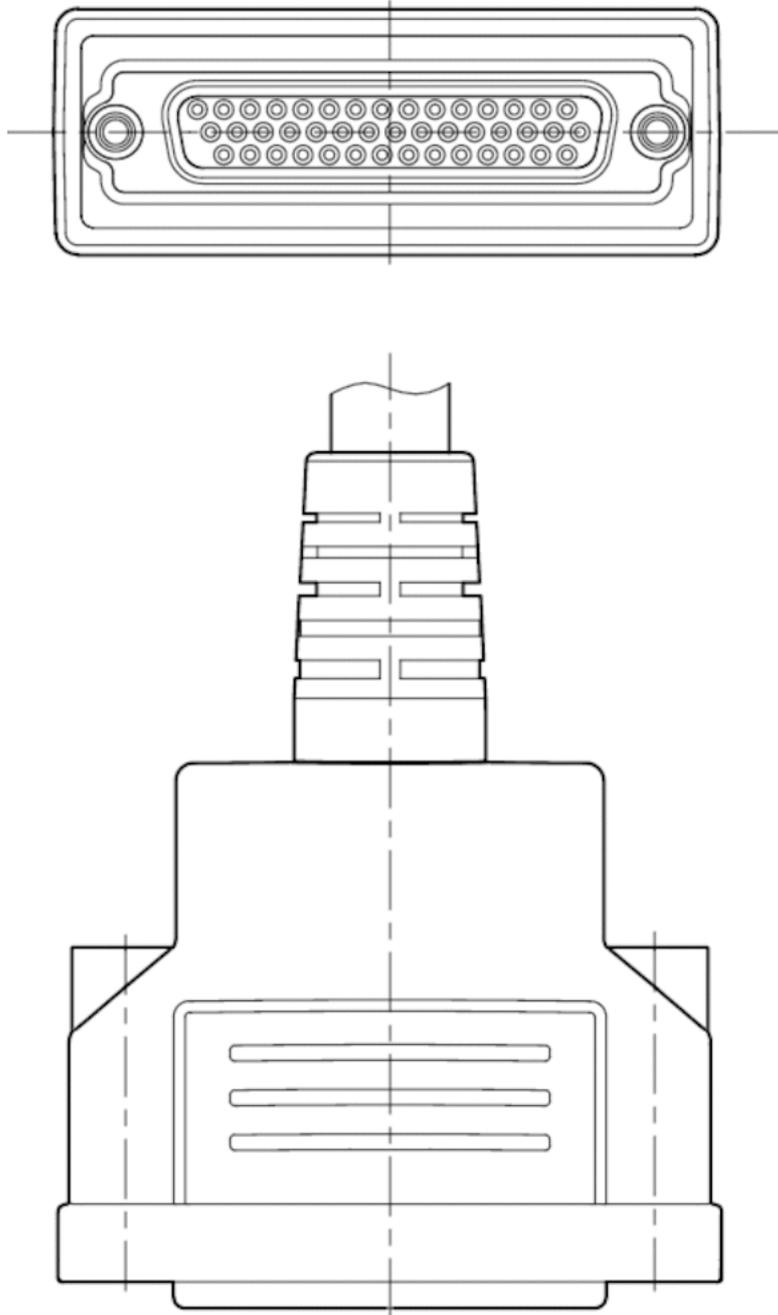
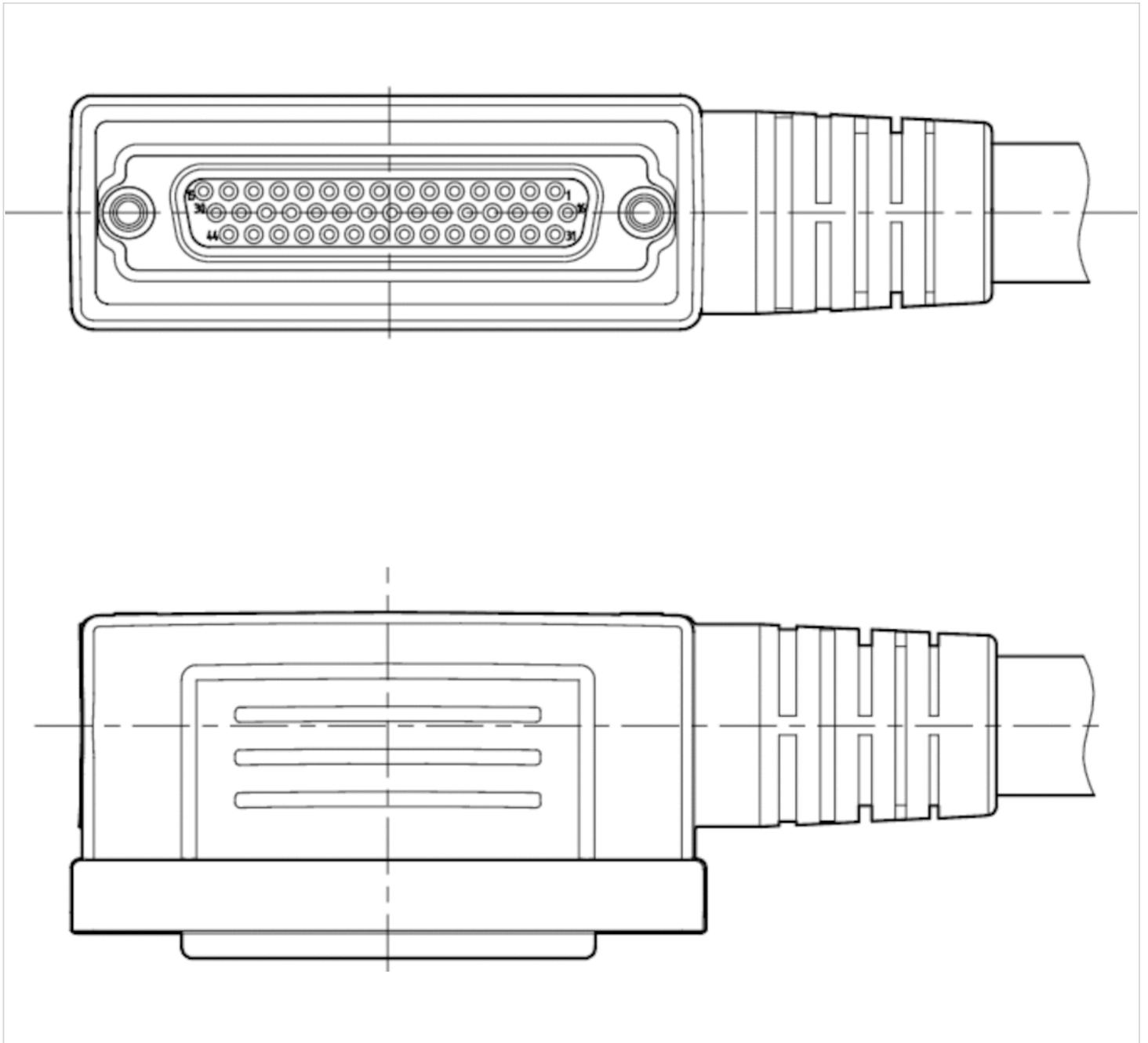
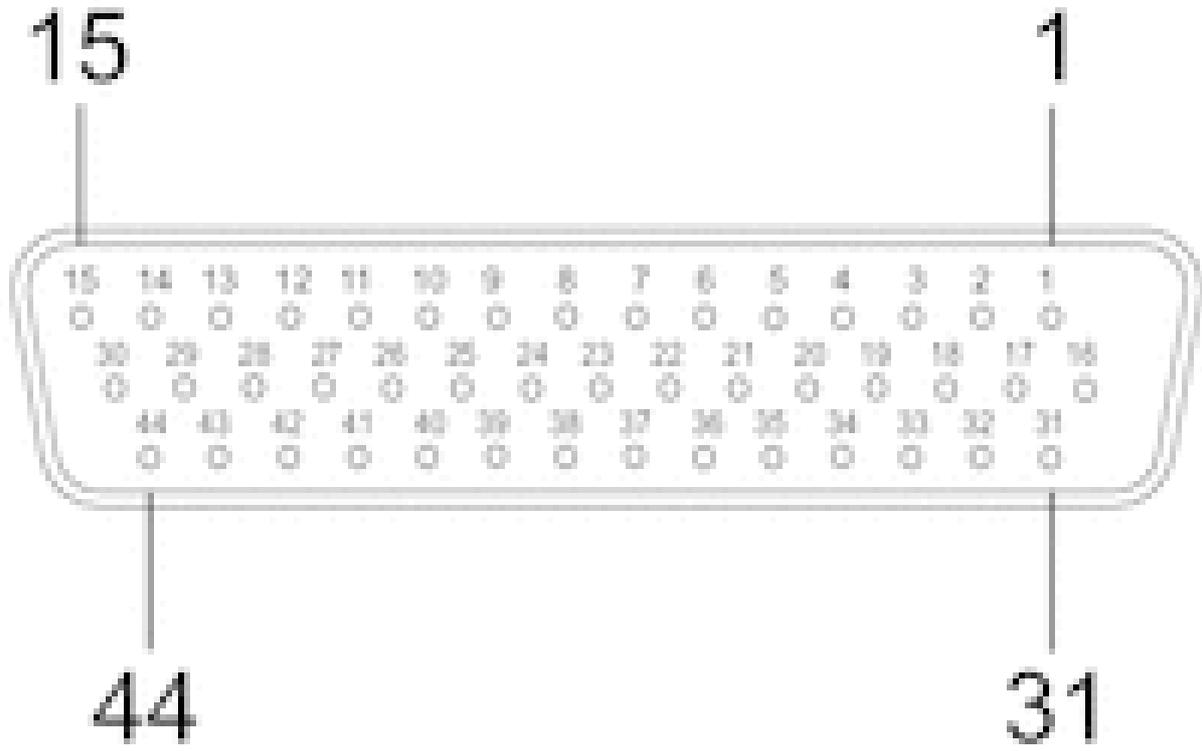


Fig. 2



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.	-4 ... 176 °F
Operational voltage	24 V DC
Protection class	IP67
Wire cross-section	0 in ²

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.	Cable-Ø	Cable length		Fig.
R419500454	0.33 inch	9.84 ft.	-	Fig. 1
R419500455	0.33 inch	16.4 ft.	-	Fig. 1
R419500456	0.33 inch	32.81 ft.	-	Fig. 1
R412022156	-	-	-	Fig. 1
R419500457	0.41 inch	9.84 ft.	1)	Fig. 1
R419500458	0.41 inch	16.4 ft.	1)	Fig. 1
R419500459	0.41 inch	32.81 ft.	1)	Fig. 1
R419500460	0.33 inch	9.84 ft.	-	Fig. 2
R419500461	0.33 inch	16.4 ft.	-	Fig. 2
R419500462	0.33 inch	32.81 ft.	-	Fig. 2
R412022352	-	-	-	Fig. 2

Part No.	Cable-Ø	Cable length		Fig.
R419500463	0.41 inch	9.84 ft.	1)	Fig. 2
R419500464	0.41 inch	16.4 ft.	1)	Fig. 2
R419500465	0.41 inch	32.81 ft.	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

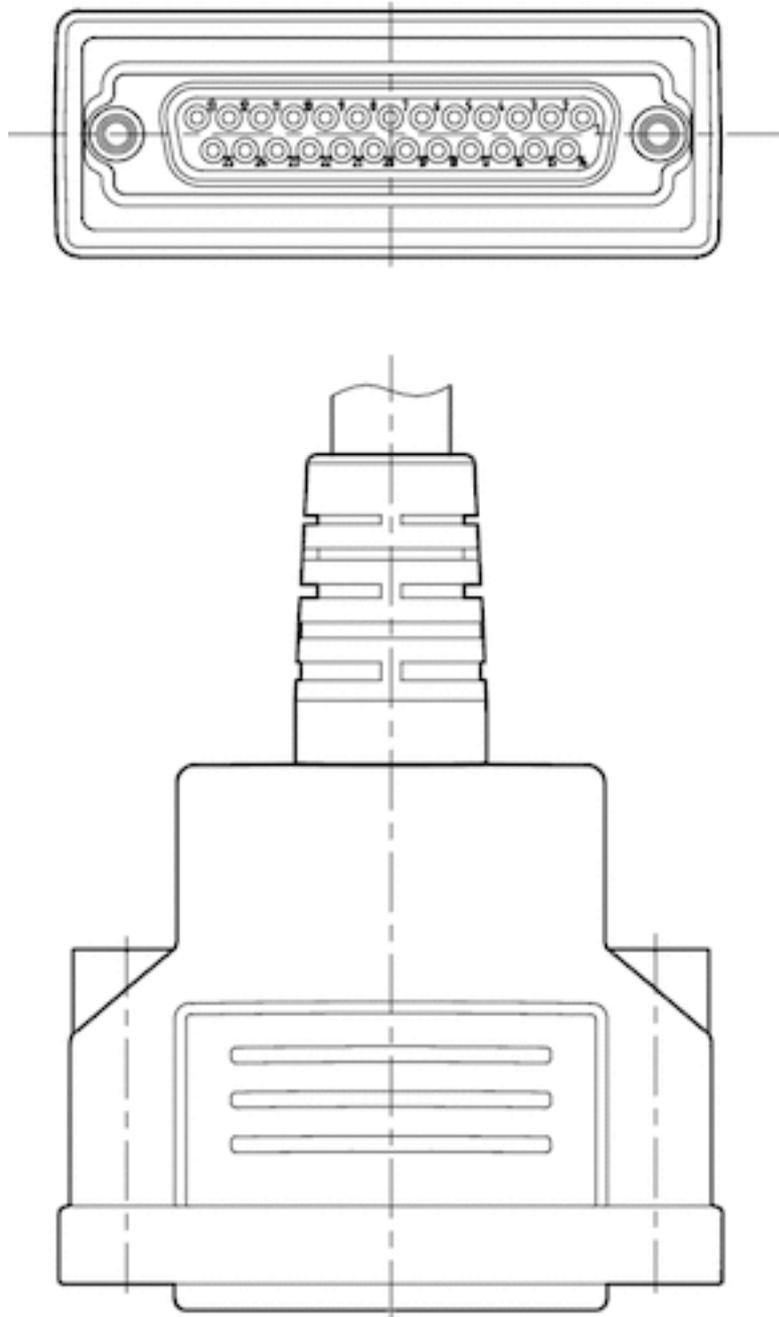
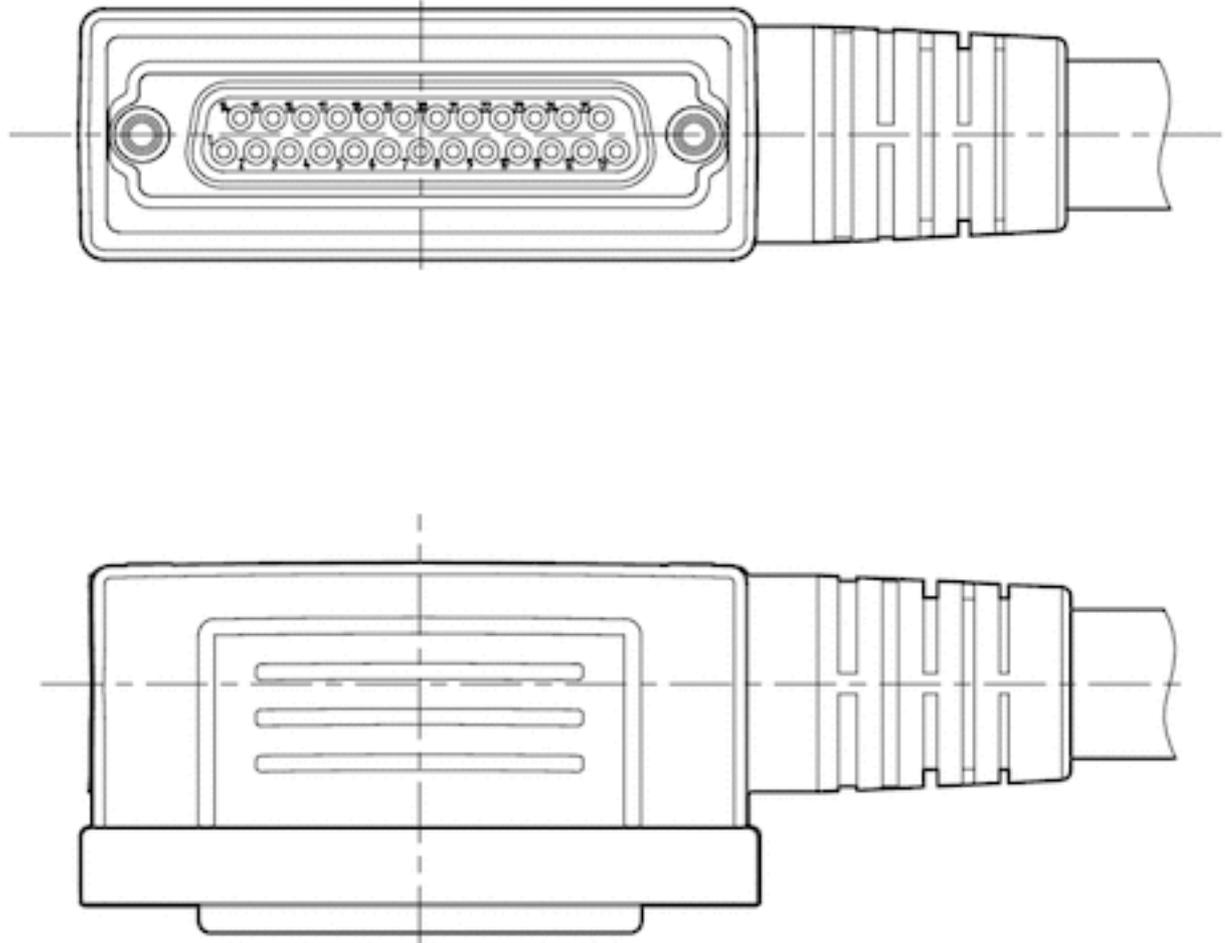
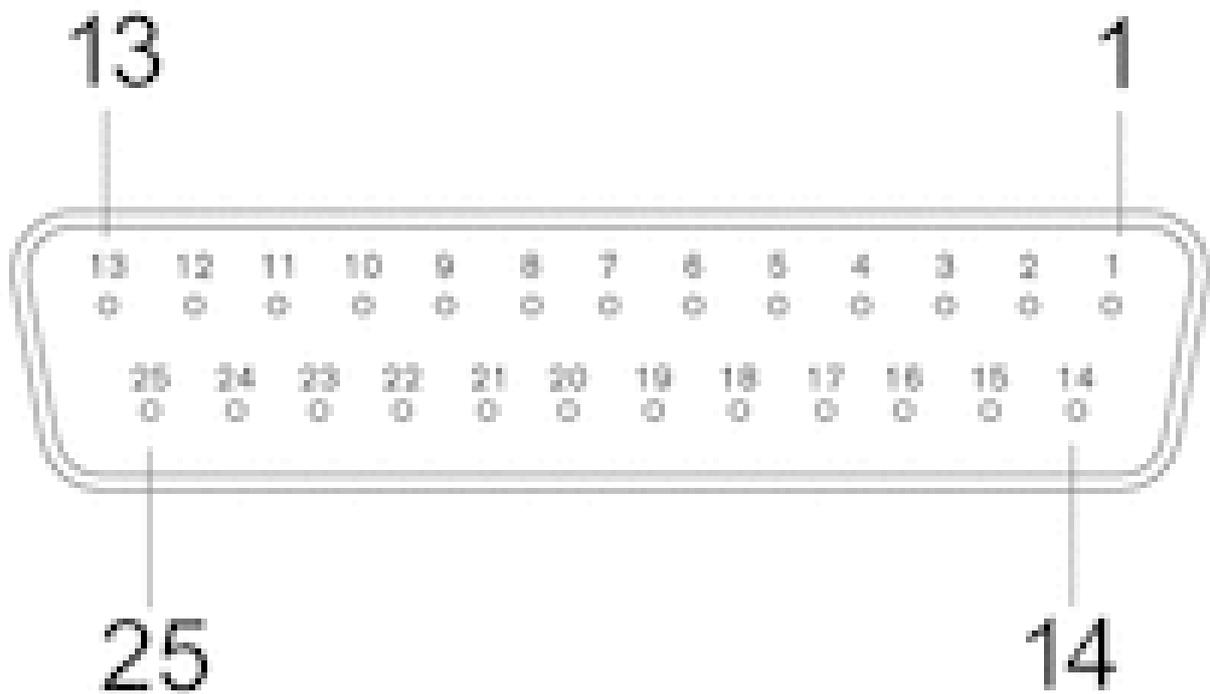


Fig. 2



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



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