

# Series AV03



## AVENTICS Series AV03 Valve Systems

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

- Modular concept
- Intelligent solutions for machine safety demands
- Suits compact handling systems and complex automation solutions
- High connectivity through Multipol or Fieldbus connection
- Integration of a wide range of I/O-modules
- Low weight
- Low energy consumption
- Covers requirements of global automation technology, even under UL specifications and in ATEX-areas
- The Series AV03/AV05-BP offers the possibility of assembly into cabinets
- Easy and flexible custom specific configurations via online configurator
- OPC UA integration allows for easy access to data and analytics without changing or touching the PLC
- The integrated Digital Twin improves your productivity and efficiency



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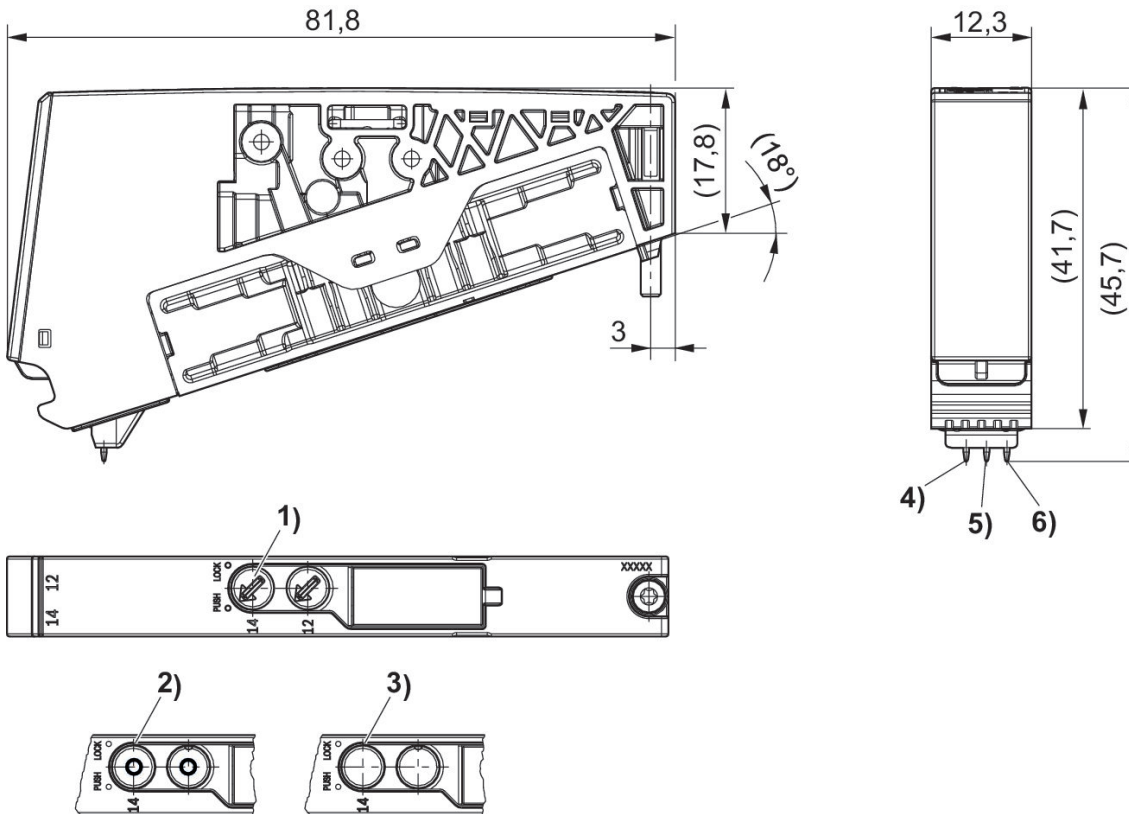
2x2/2-directional valve, Series AV03

Flow: 280 l/min  
 Activation: Electrically  
 Min. control pressure: 3 bar  
 Max. control pressure: 8 bar  
 Duty cycle: 100 %  
 Type: Spool valve, positive overlapping  
 Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C  
 Min. working pressure: -0.9 bar  
 Max. working pressure: 10 bar



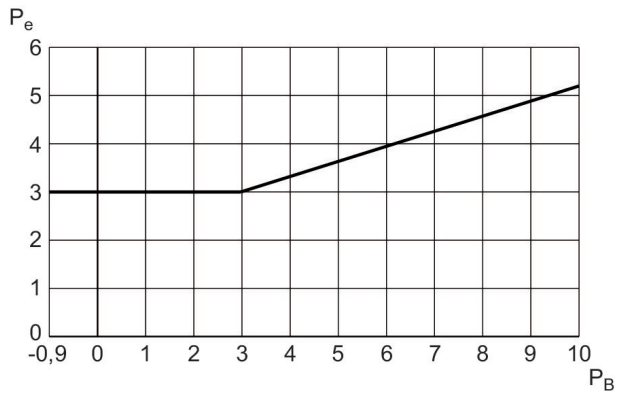
Valve function	Switching principle	Operational voltage	Pilot	Power consumption DC [W]	Manual override	Nominal flow Qn 1 to 2 [l/min]	Part No.
NC/NC	2x 2/2 NC/NC, with spring return	24 V DC	External	0.55	with detent	280	R422102436
NC/NC	2x 2/2 NC/NC, with spring return	24 V DC	External	0.55	without detent	280	R422102437

Dimensions



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

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



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



**2x3/2-directional valve, Series AV03**

Flow: 300 l/min

Activation: Electrically

Compressed air connection input: Base plate

Compressed air connection output: Base plate

Compressed air connection, exhaust: Base plate

Min. control pressure: 3 bar

Max. control pressure: 8 bar

Duty cycle: 100 %

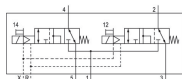
Type: Spool valve, negative overlapping

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

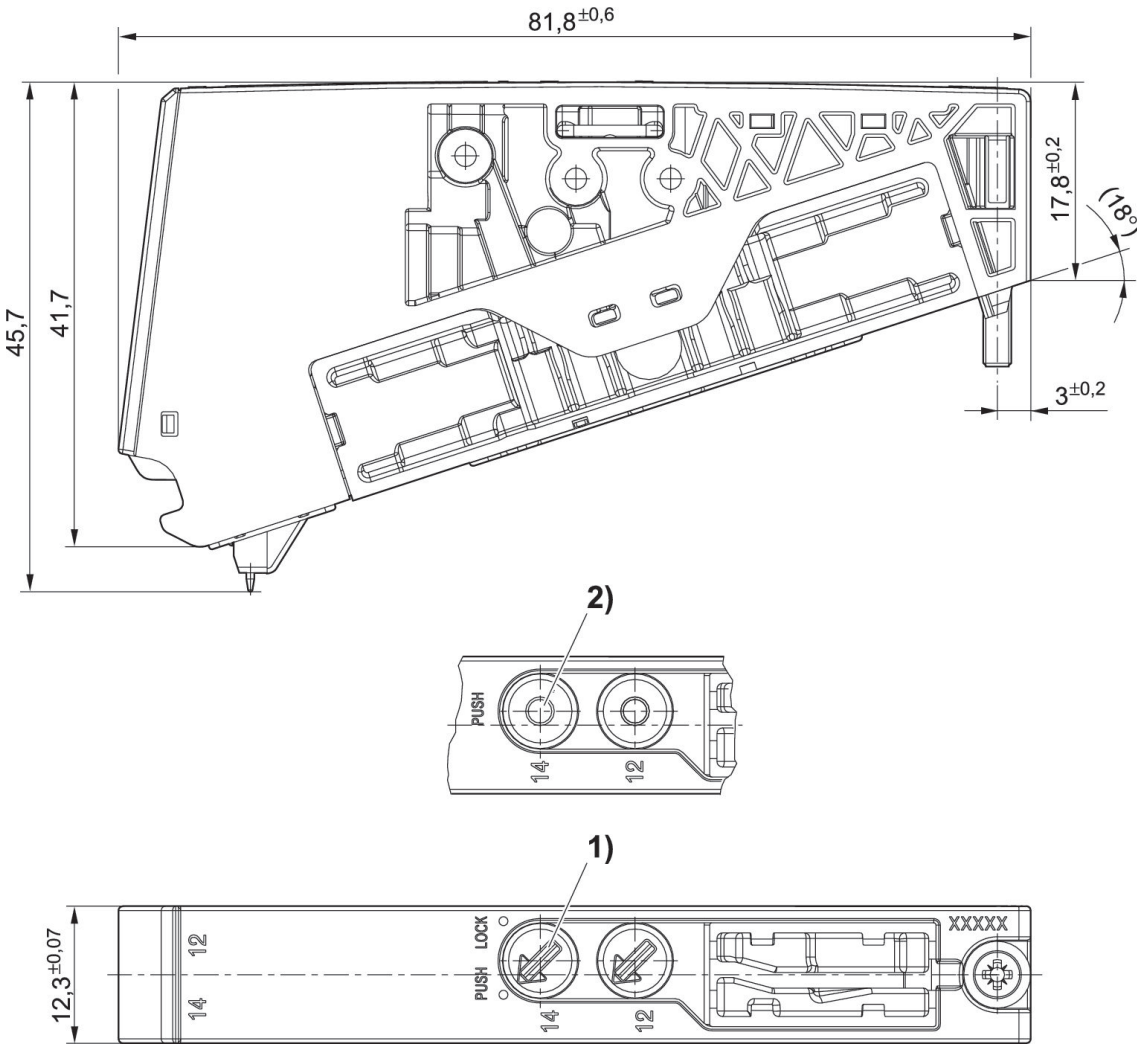
Min. working pressure: -0.9 bar

Max. working pressure: 10 bar



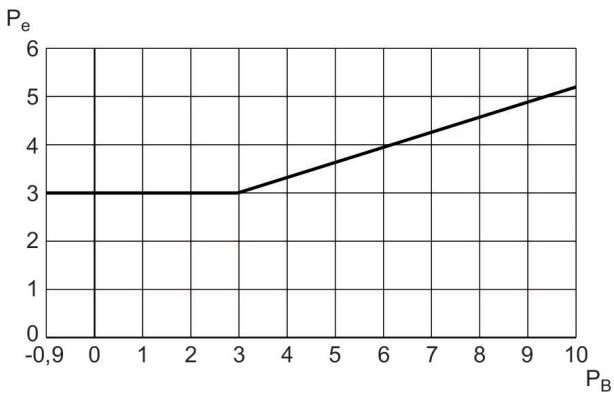
Switching principle	Operational voltage	Pilot	Power consumption DC [W]	Manual override	Nominal flow Qn 1 to 2 [l/min]	Part No.
2x 3/2 NC/NC, with spring return	24 V DC	External	0.55	without detent	300	R422102856

Dimensions



- 1) with detent
- 2) without detent

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



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

**2x3/2-directional valve, Series AV03**

Activation: Electrically

Min. control pressure: 3 bar

Max. control pressure: 8 bar

Duty cycle: 100 %

Type: Spool valve, positive overlapping

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

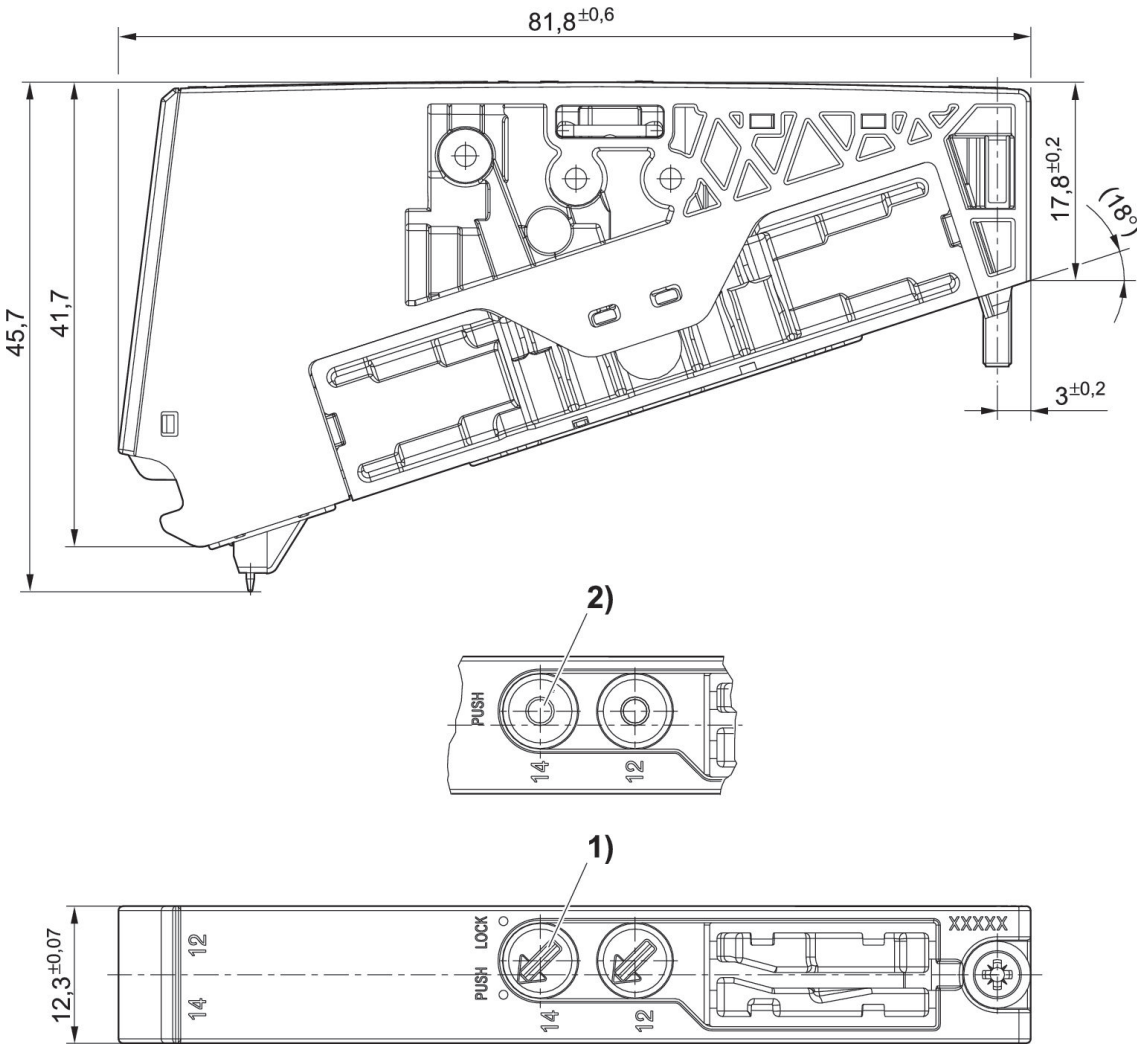
Min. working pressure: -0.9 bar

Max. working pressure: 10 bar



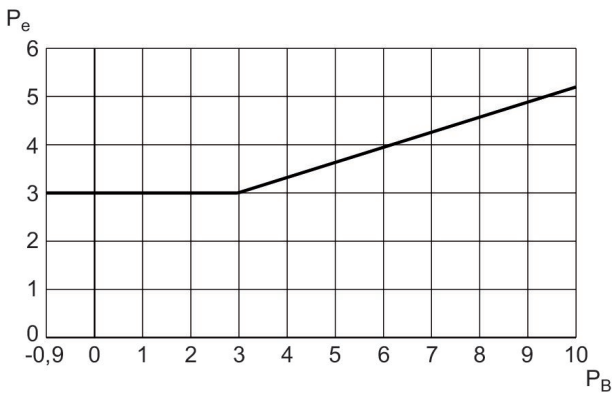
Valve function	Switching principle	Operational voltage	Pilot	Power consumption DC [W]	Manual override	Nominal flow Qn 1 to 2 [l/min]	Part No.
NC/NC	2x 3/2 NC/NC, with spring return	24 V DC	External	0.55	with detent	300	R422102430
NO/NO	2x 3/2 NO/NO, with spring return	24 V DC	External	0.55	with detent	250	R422102432
NC/NO	2x 3/2 NC/NO, with spring return	24 V DC	External	0.55	with detent	250	R422102434
NC/NC	2x 3/2 NC/NC, with spring return	24 V DC	External	0.55	without detent	300	R422102431
NO/NO	2x 3/2 NO/NO, with spring return	24 V DC	External	0.55	without detent	250	R422102433
NC/NO	2x 3/2 NC/NO, with spring return	24 V DC	External	0.55	without detent	250	R422102435

Dimensions



- 1) with detent
- 2) without detent

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



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

**5/2-directional valve, Series AV03**

Flow: 300 l/min

Activation: Electrically

Min. control pressure: 3 bar

Max. control pressure: 8 bar

Duty cycle: 100 %

Type: Spool valve, positive overlapping

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

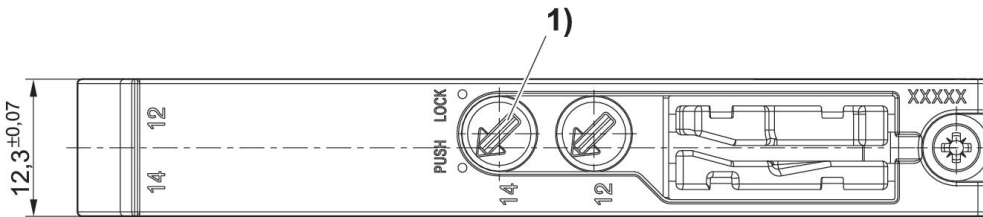
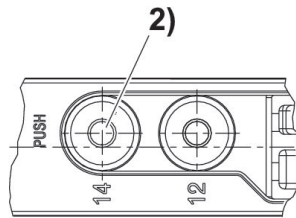
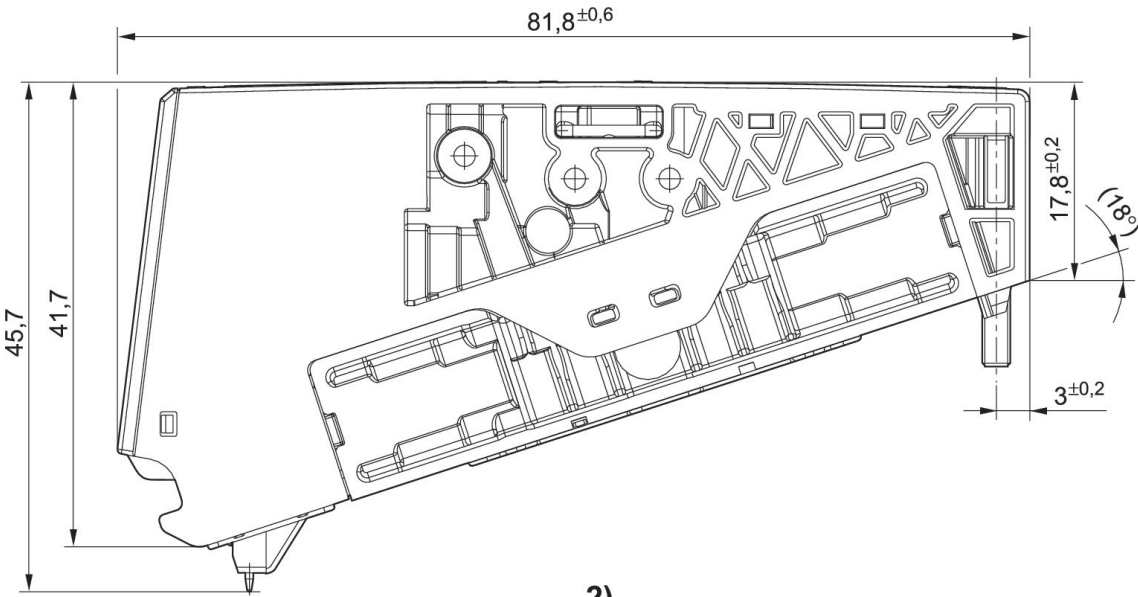
Min. working pressure: -0.9 bar

Max. working pressure: 10 bar



Switching principle	Operational voltage	Pilot	Power consumption DC [W]	Manual override	Nominal flow Qn 1 to 2 [l/min]	Part No.
5/2, with air spring return	24 V DC	External	0.55	with detent	300	R422102503
5/2, with air spring return	24 V DC	External	0.55	without detent	300	R422102504
5/2, double solenoid	24 V DC	External	0.55	with detent	300	R422102426
2/2, with spring/air spring return	24 V DC	External	0.55	with detent	300	R422102424
5/2, double solenoid	24 V DC	External	0.55	without detent	300	R422102427
2/2, with spring/air spring return	24 V DC	External	0.55	without detent	300	R422102425

Dimensions



- 1) with detent
- 2) without detent

**5/3-directional valve, Series AV03**

Flow: 240 l/min

Activation: Electrically

Min. control pressure: 3 bar

Max. control pressure: 8 bar

Duty cycle: 100 %

Type: Spool valve, positive overlapping

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

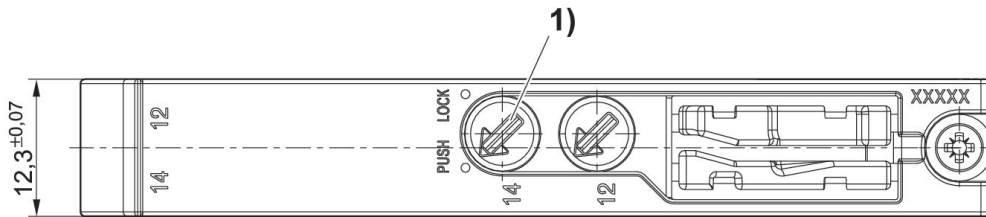
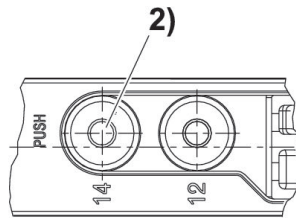
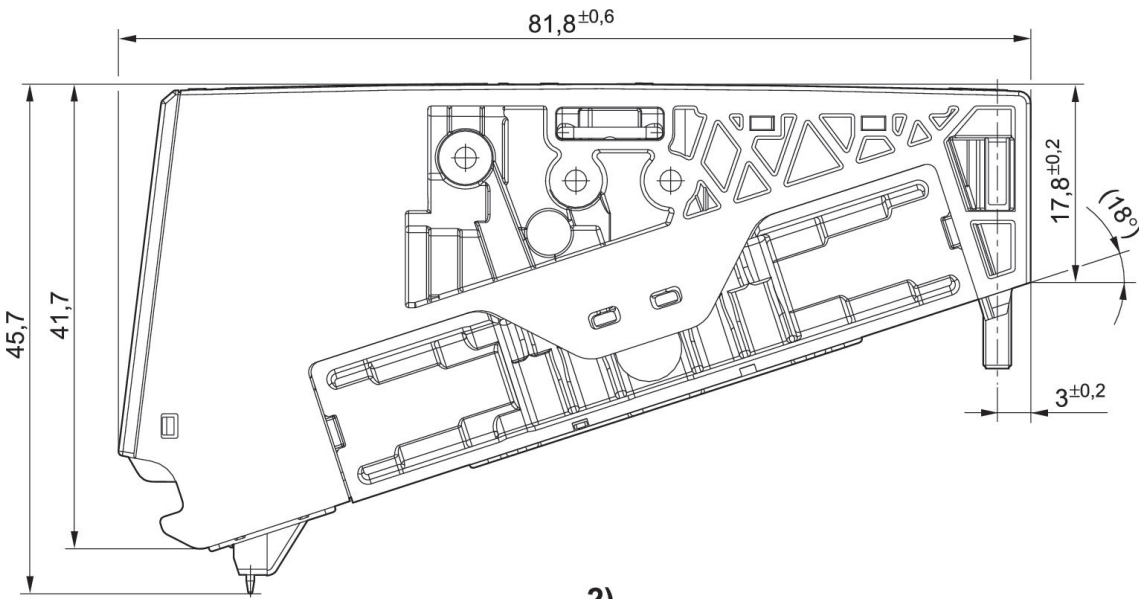
Min. working pressure: -0.9 bar

Max. working pressure: 10 bar



Valve function	Switching principle	Operational voltage	Pilot	Power consumption DC [W]	Manual override	Nominal flow Qn 1 to 2 [l/min]	Part No.
Closed Center	5/3, closed center	24 V DC	External	0.55	with detent	240	R422102428
Closed Center	5/3, closed center	24 V DC	External	0.55	without detent	240	R422102429
Exhausted Center	5/3, exhausted center	24 V DC	External	0.55	without detent	240	R422102875
Exhausted Center	5/3, exhausted center	24 V DC	External	0.55	with detent	240	R422102876

Dimensions



- 1) with detent
- 2) without detent



**I/O modules, series AES**

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

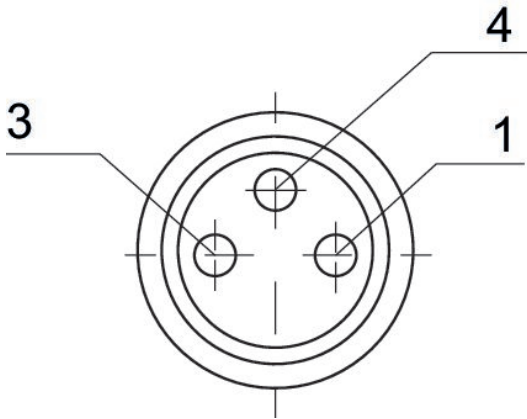


Type	Power plug IN, Type	E/A capable	Number of I/O connections	Part No.
8DIDO8M8	Internal	connection with I/O	8 inputs / 8 outputs	R412018269
8DI8M8	Internal	connection with I/O	8 inputs	R412018233
8DO8M8	Internal	connection with I/O	8 outputs	R412018248
16DI8M8	Internal	connection with I/O	16 inputs	R412018234



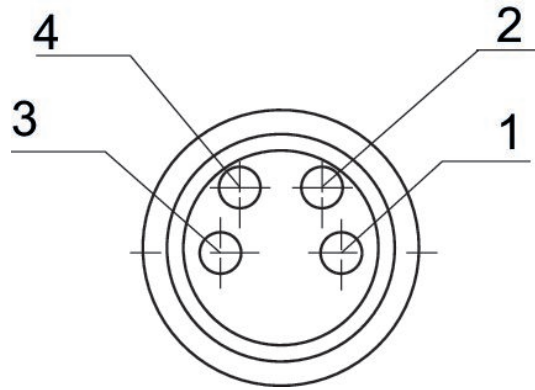
**R412018269, R412018233, R412018248**

Pin assignments



**R412018234**

Pin assignments

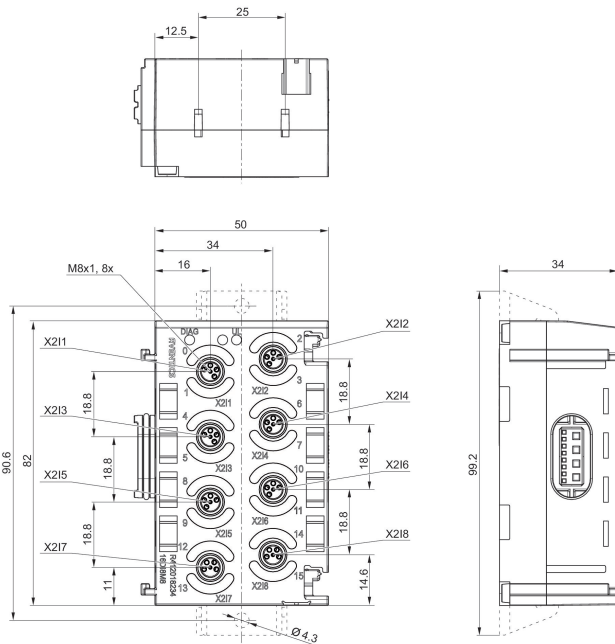


PNP

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

**R412018234**

Dimensions



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

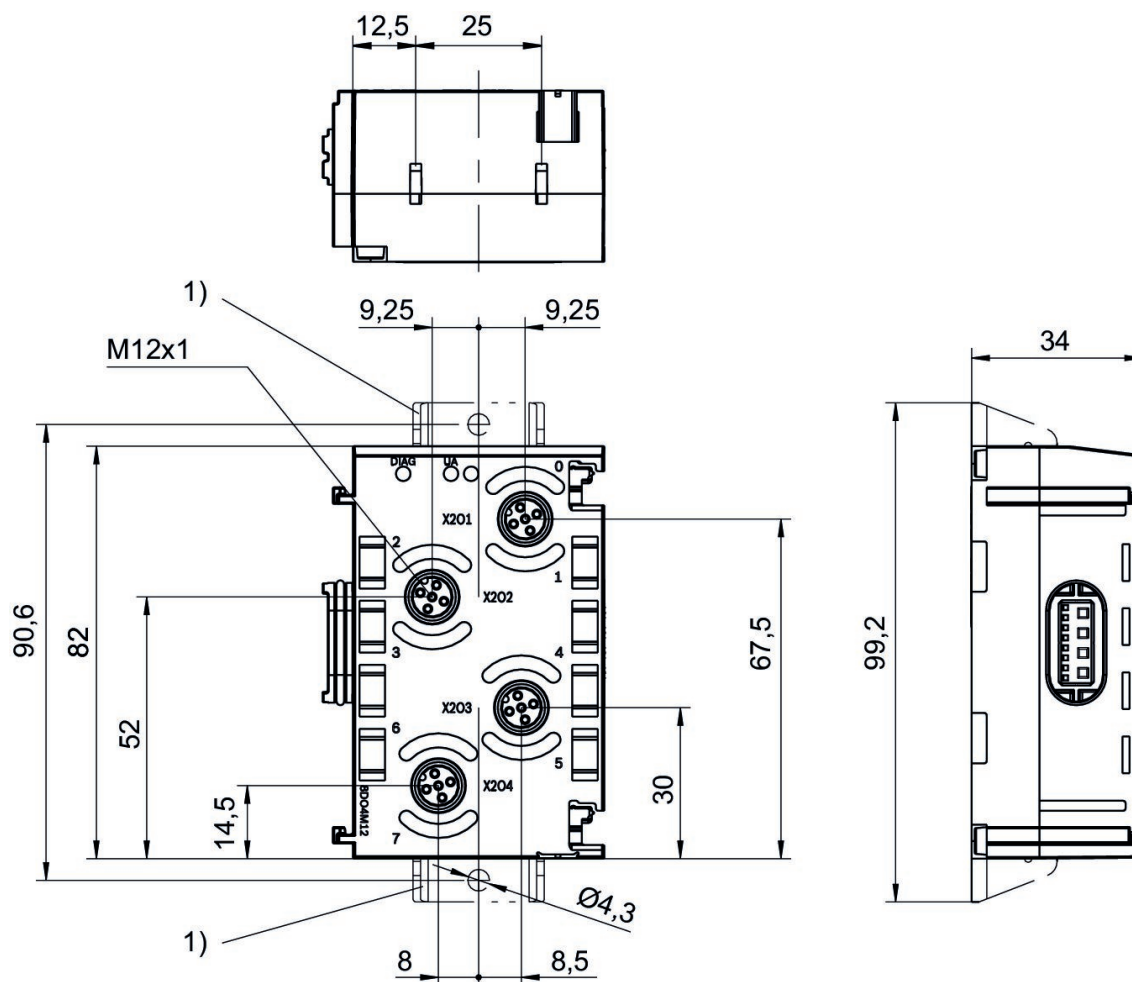
### I/O modules, series AES

Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C



Type	Power plug IN, Type	E/A capable	Number of I/O connections	Part No.
8DI4M12	Internal	connection with I/O	8 inputs	R412018235
8DO4M12	Internal	connection with I/O	8 outputs	R412018250
8DIDO4M12	Internal	connection with I/O	8 inputs / 8 outputs	R412018270

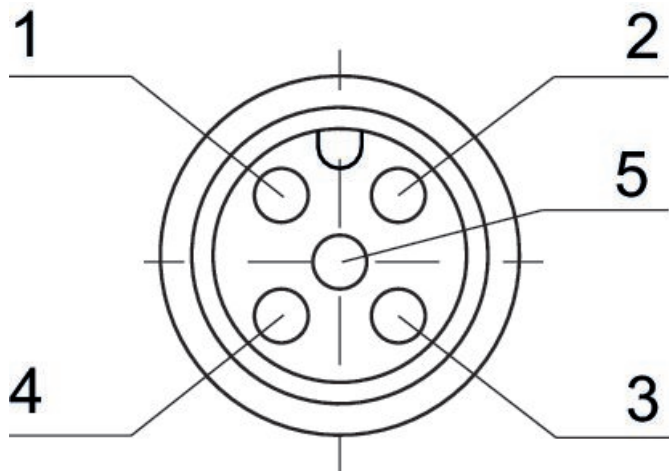
#### Dimensions



1) Retaining bracket (optional)

**R412018235, R412018250, R412018270**

Pin assignments



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

X = bit value

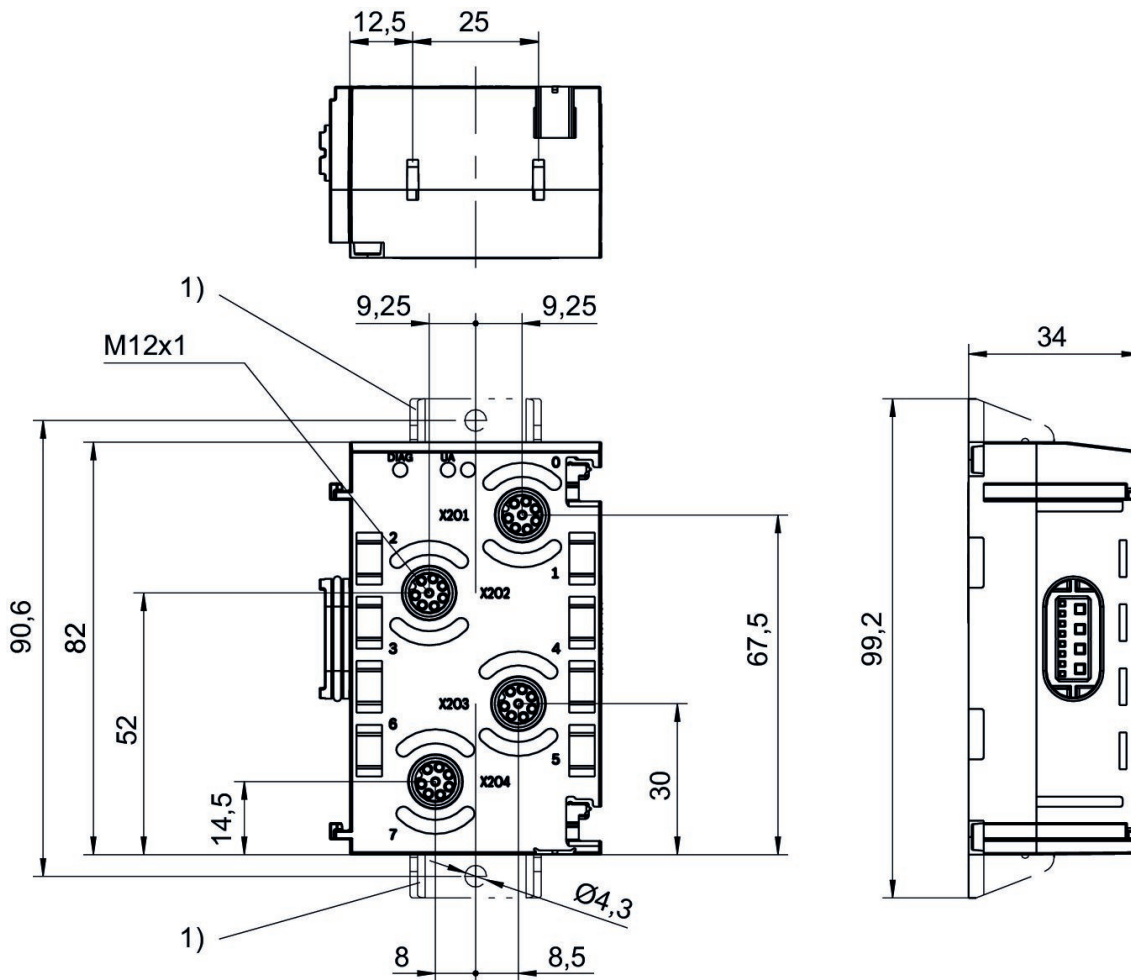
**I/O modules, series AES**

Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C



Type	Power plug IN, Type	E/A capable	Number of I/O connections	Part No.
16DI4M12	Internal	connection with I/O	16 inputs	R412018243
16DO4M12	Internal	connection with I/O	16 outputs	R412018263

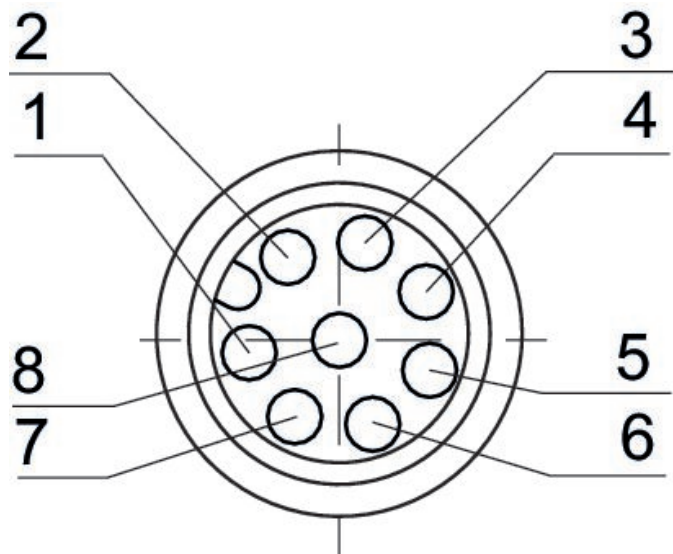
Dimensions



1) Retaining bracket (optional)

**R412018243, R412018263**

Pin assignments



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

X = bit value

**I/O modules, series AES**

Min. ambient temperature: -10 °C

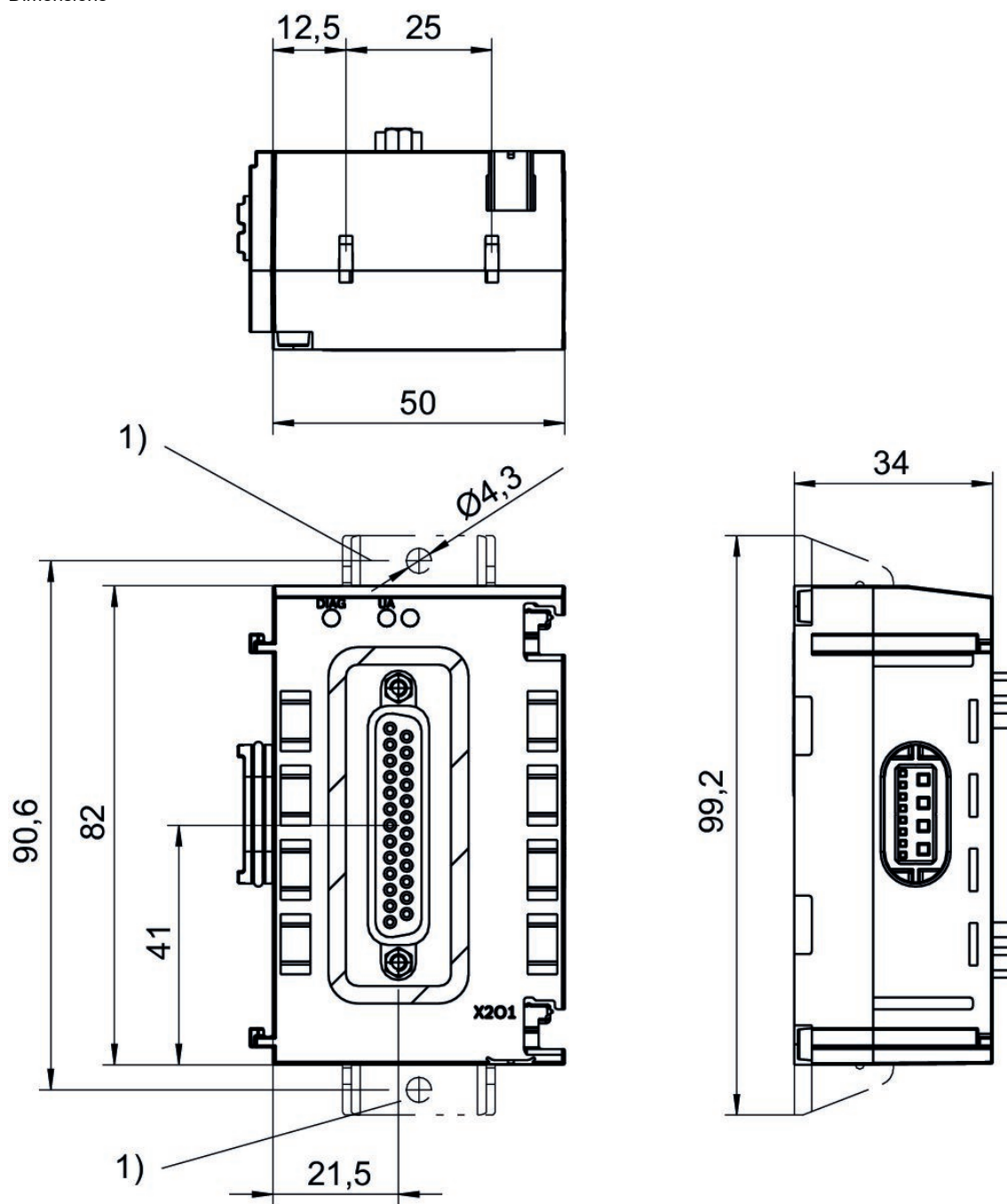
Max. ambient temperature: 60 °C



Type	Power plug IN, Type	E/A capable	Number of I/O connections	Part No.
24DO1DSUB25	Internal	connection with I/O	24 outputs	R412018254



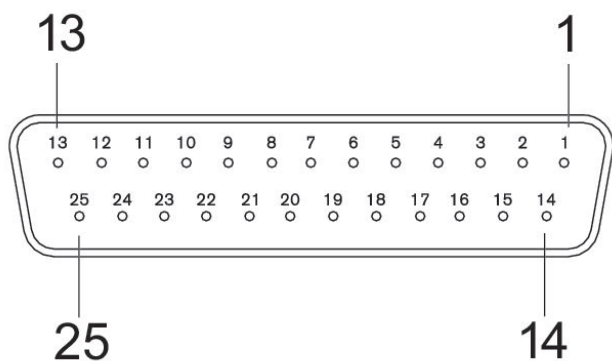
Dimensions



1) Retaining bracket (optional)

**R412018254**

PIN assignment and cable colors



Socket

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

X = bit value

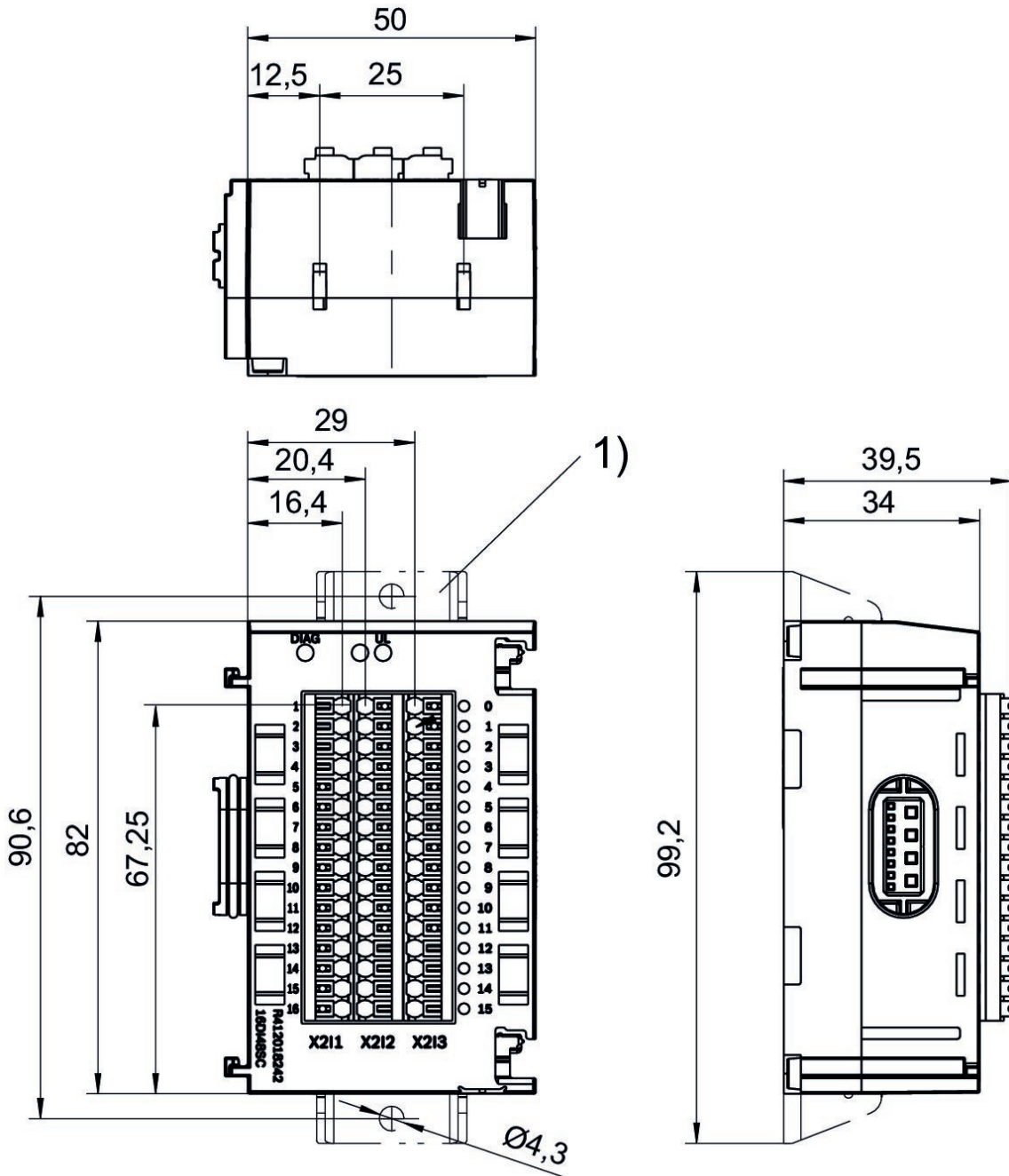
### I/O modules, series AES

Electrical connection 2, thread size: Internal  
 Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C



Type	Power plug IN, Type	E/A capable	Number of I/O connections	Part No.
16DI48SC	Internal	connection with I/O	16 inputs	R412018242

Dimensions



1) Retaining bracket (optional)

**I/O modules, series AES**

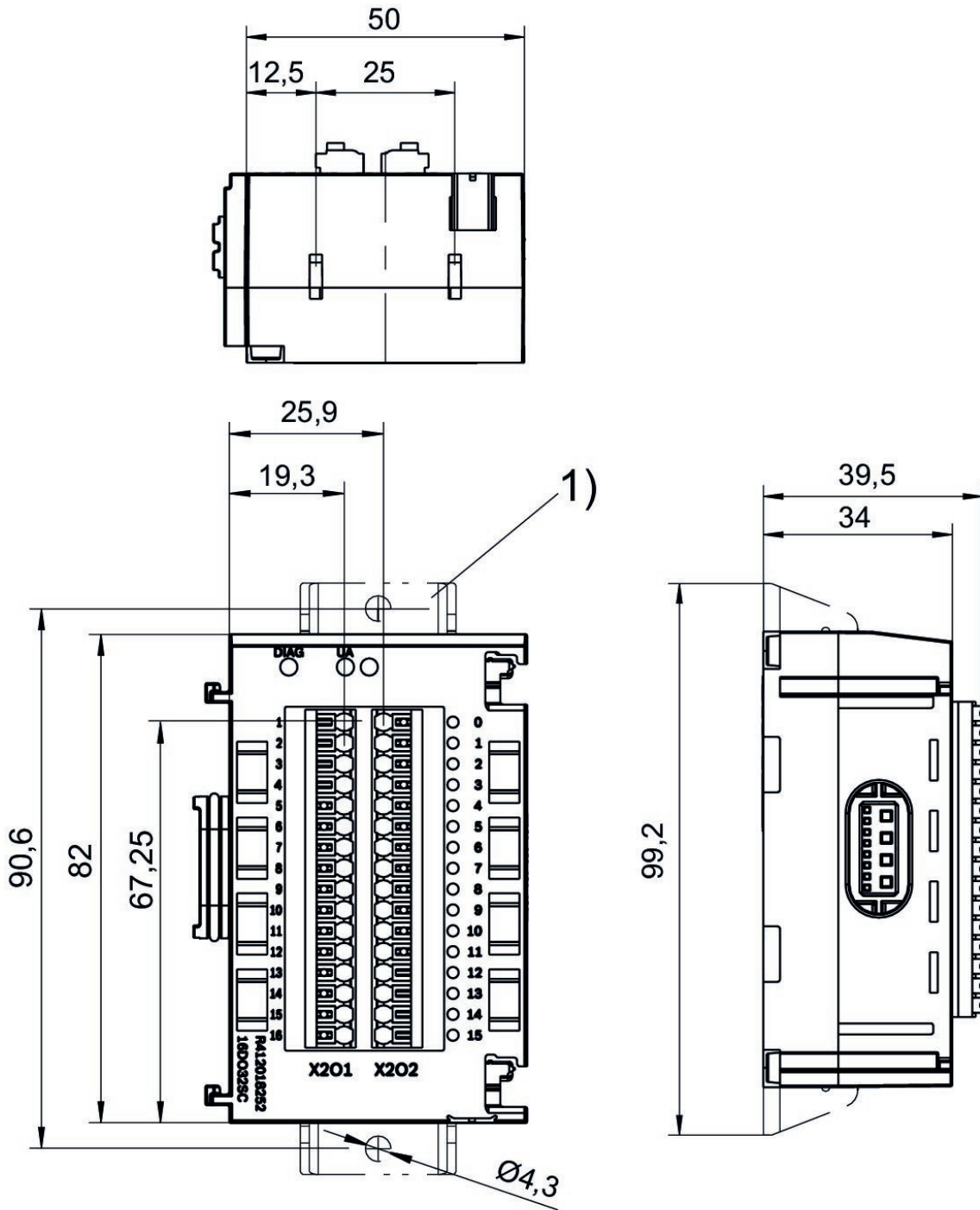
Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C



Type	Power plug IN, Type	E/A capable	Number of I/O connections	Part No.
16DO32SC	Internal	connection with I/O	16 outputs	R412018252

Dimensions



1) Retaining bracket (optional)

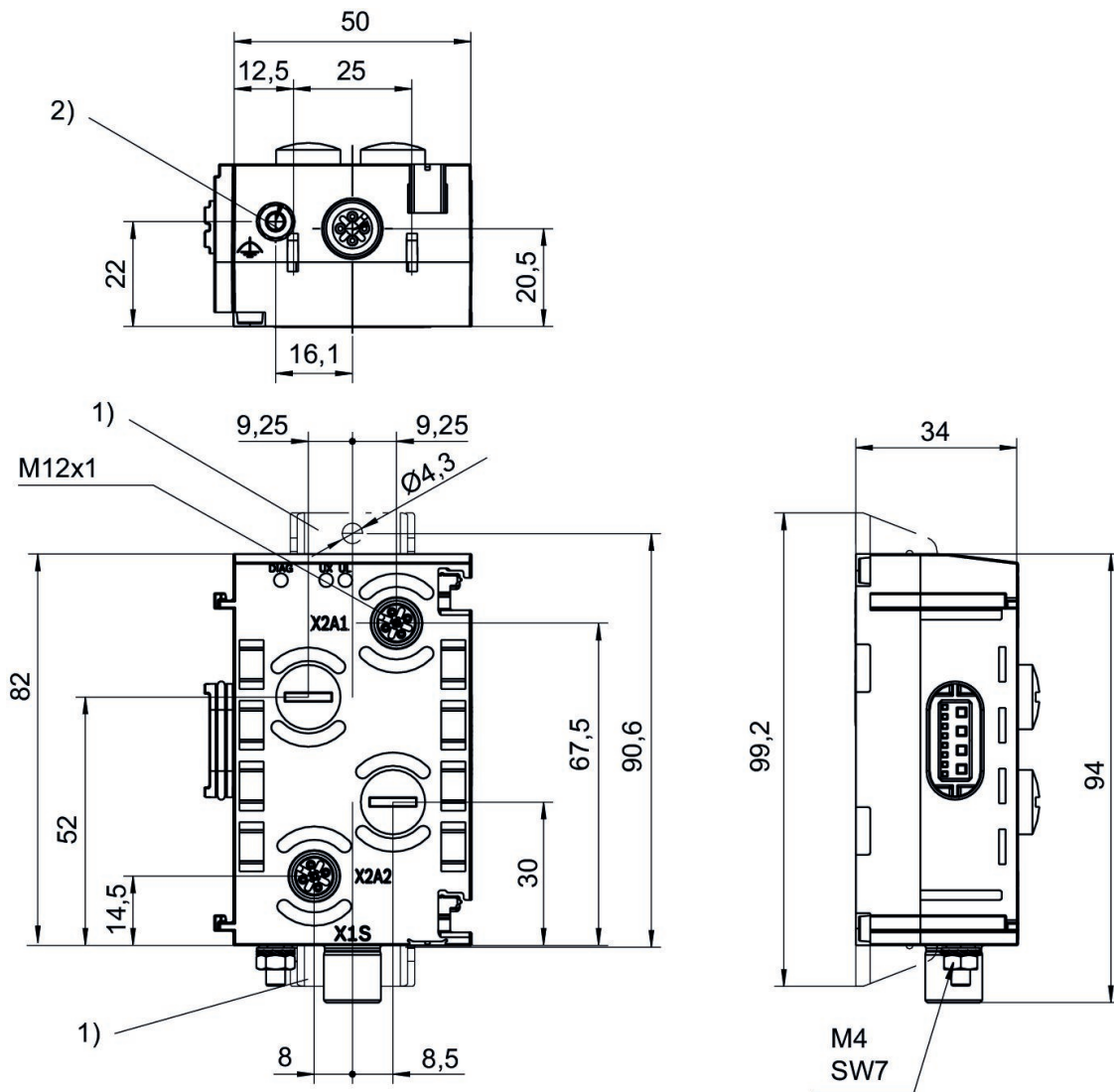
I/O modules, series AES

Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C



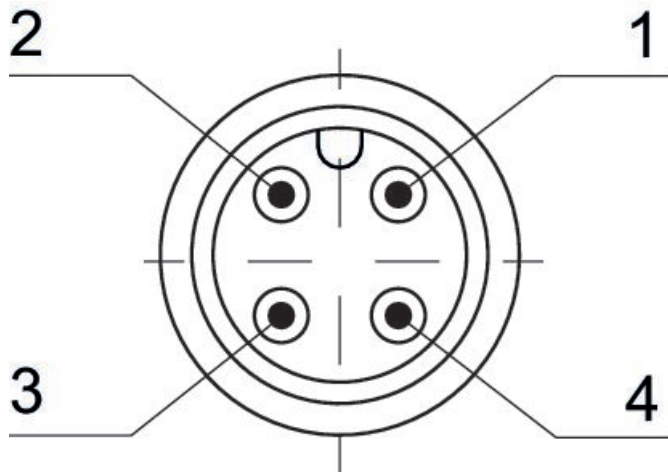
Type	Power plug IN, Type	Power plug IN size, Thread size	Power plug IN, Number of poles	E/A capable	Number of I/O connections	Part No.
2AI2AO2M12-AE	Plug	M12x1	4-pin	connection with I/O	2 inputs / 2 outputs	R412018287

Dimensions



1) Retaining bracket (optional)  
2) Ground

R412018287



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



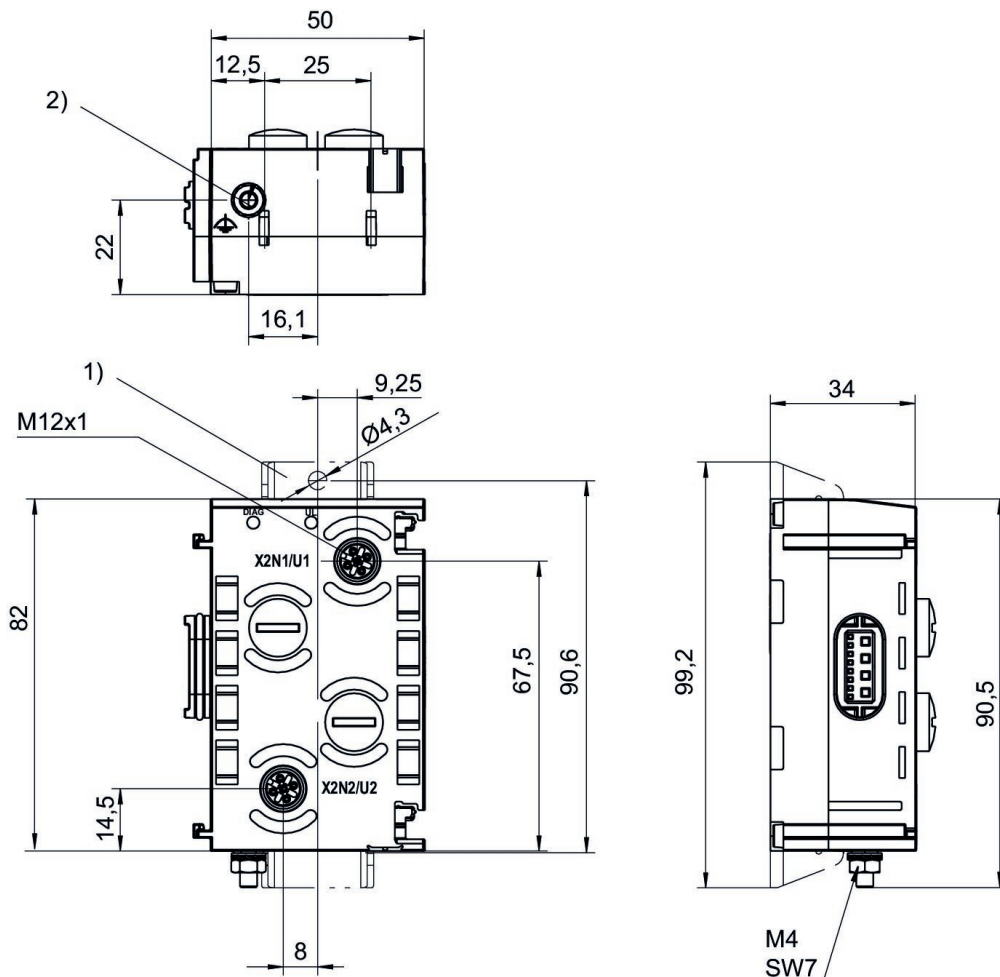
**I/O modules, series AES**

Electrical connection 2, thread size: Internal  
Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C



Type	Power plug IN, Type	E/A capable	Number of I/O connections	Part No.
2AI2M12-E	Internal	connection with I/O	2 inputs	R412018277
4AI4M12-E	Internal	connection with I/O	4 inputs	R412018278
2AO2M12-E	Internal	connection with I/O	2 outputs	R412018281

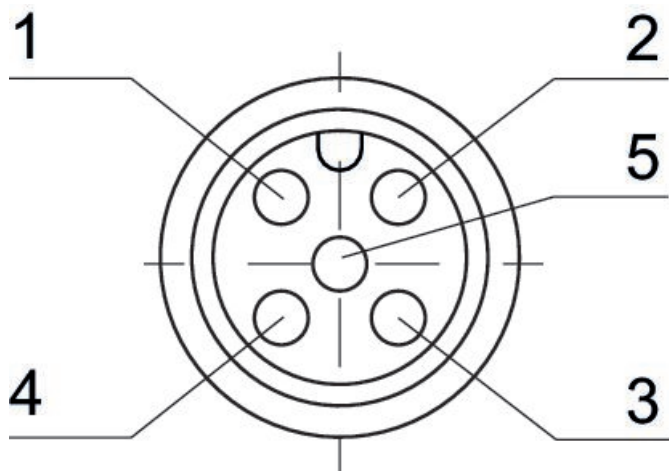
Dimensions



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

**R412018277, R412018278, R412018281**

Pin assignments



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

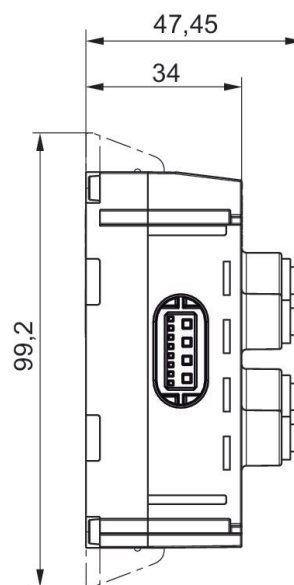
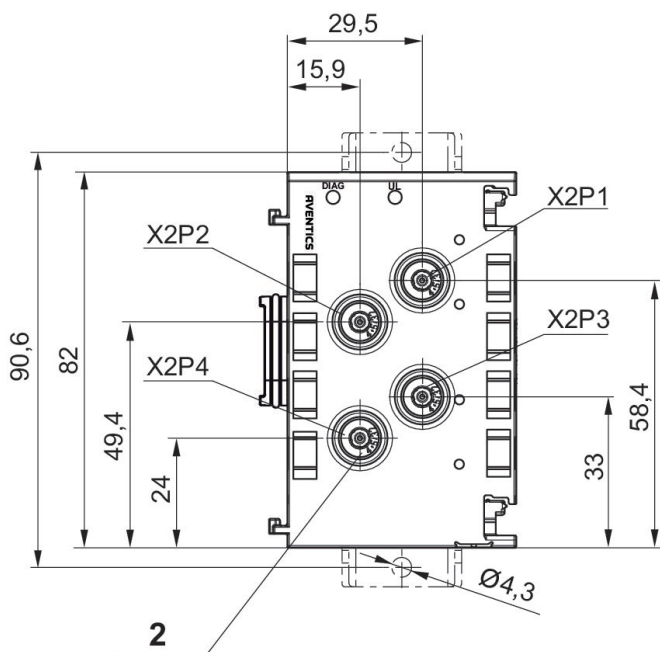
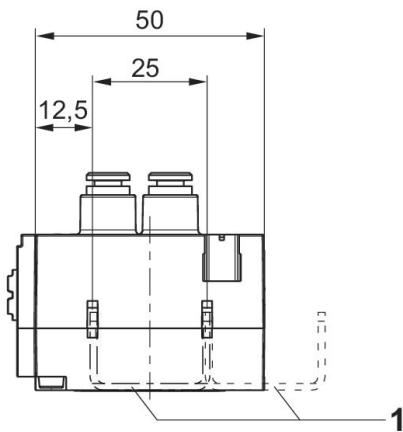
I/O modules, series AES

Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C



Type	Power plug IN, Type	E/A capable	Number of I/O connections	Part No.
4P4D4	Internal	connection with I/O	4 inputs	R412018291
4VP4D4	Internal	connection with I/O	4 inputs	R412018292

Dimensions



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

**I/O modules, series AES**

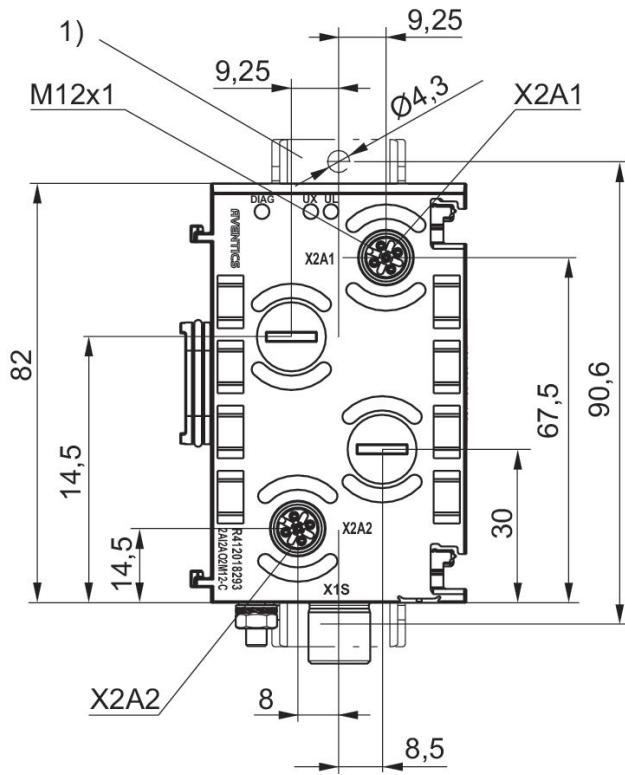
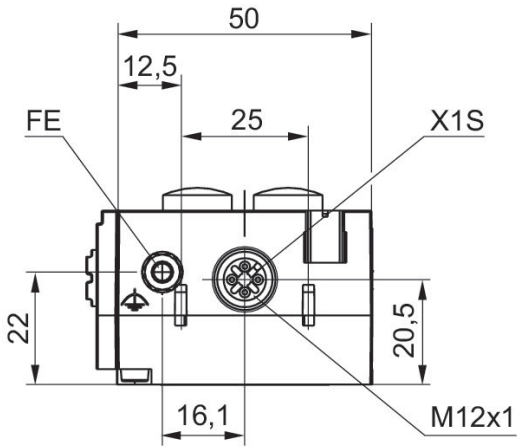
Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

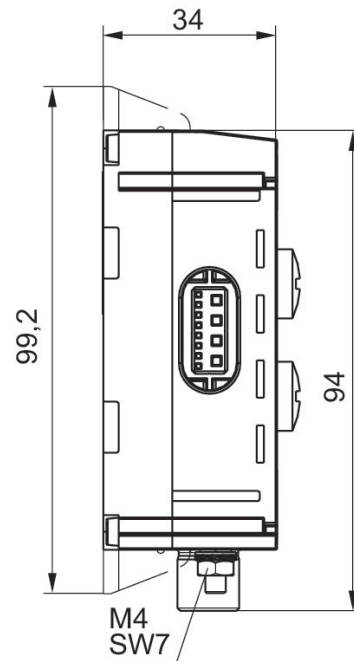


Type	Power plug IN, Type	Power plug IN size , Thread size	Power plug IN, Number of poles	E/A capable	Number of I/O connections	Part No.
2AI2AO2M12-C	Plug	M12x1	4-pin	connection with I/O	2 inputs / 2 outputs	R412018293

Dimensions

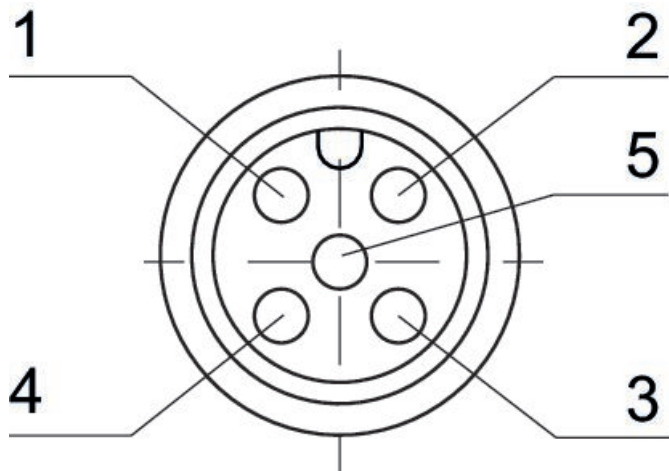


1) Retaining bracket (optional)



**R412018293**

Pin assignments



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

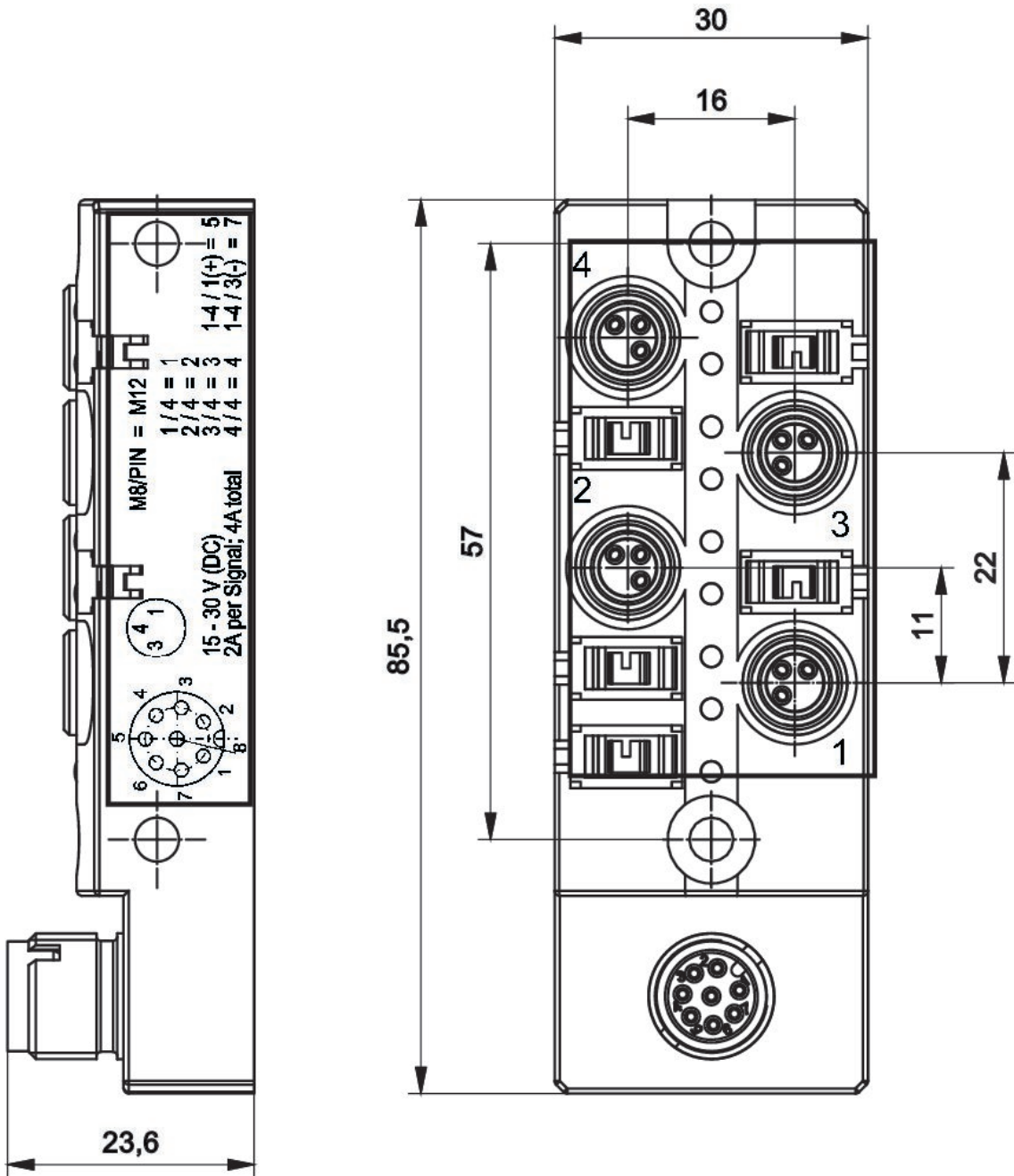
### Passive distributor, Series AES

Min. ambient temperature: -25 °C  
Max. ambient temperature: 80 °C



E/A capable	Number of I/O connections	Part No.
connection with I/O	4 inputs / 4 outputs	R412028732

Dimensions





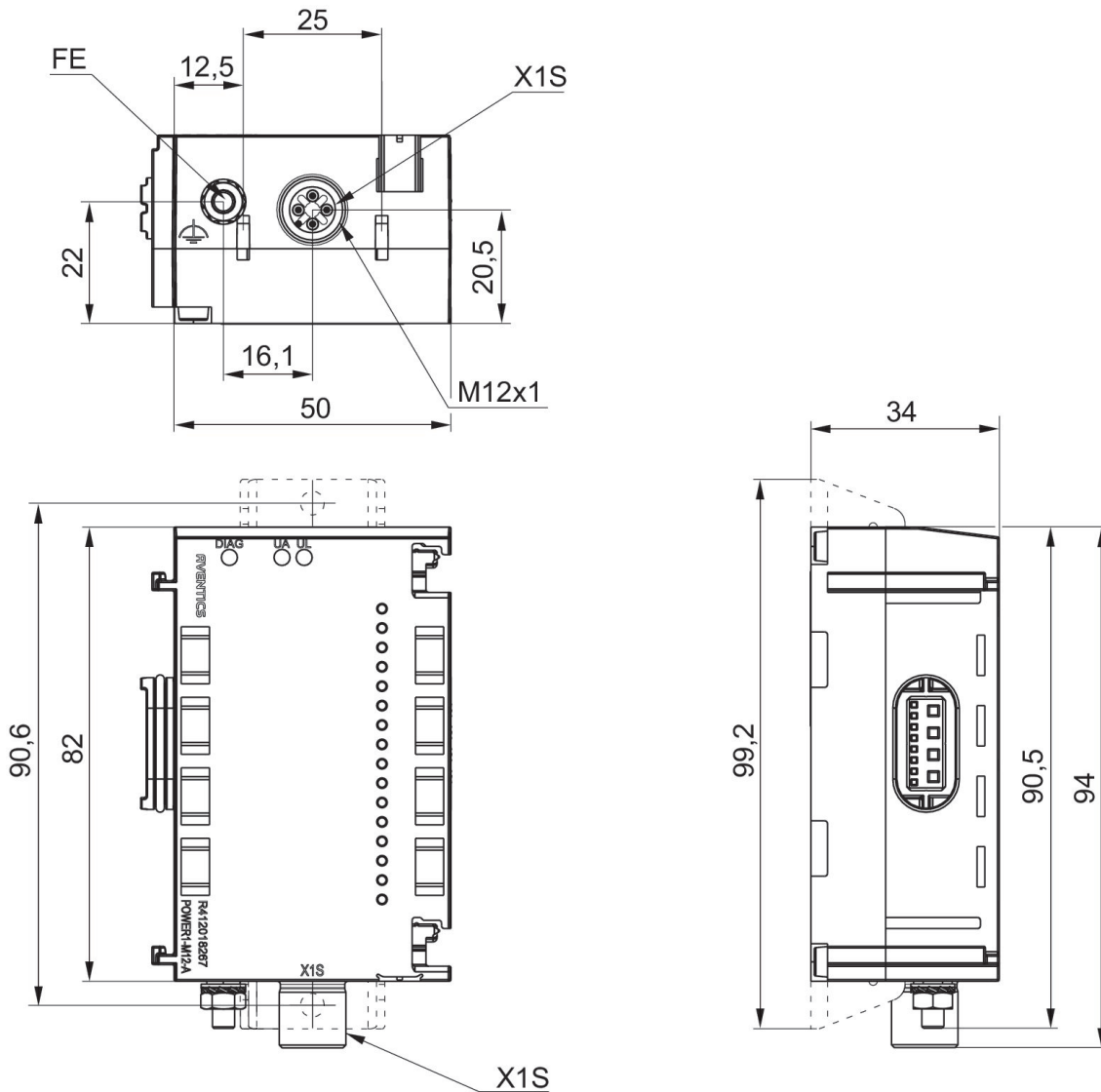
### Power module Series AES, M12x1 (4-pin)

Electrical connection 2, thread size: Internal  
Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C



Power plug IN, Type	Power plug IN size, Thread size	Power plug IN, Number of poles	E/A capable	Power supply direction UA	Power supply direction UL	Part No.
Plug	M12x1	4-pin	connection with I/O	left		R412018267
Plug	M12x1	4-pin	connection with I/O		left	R412018268

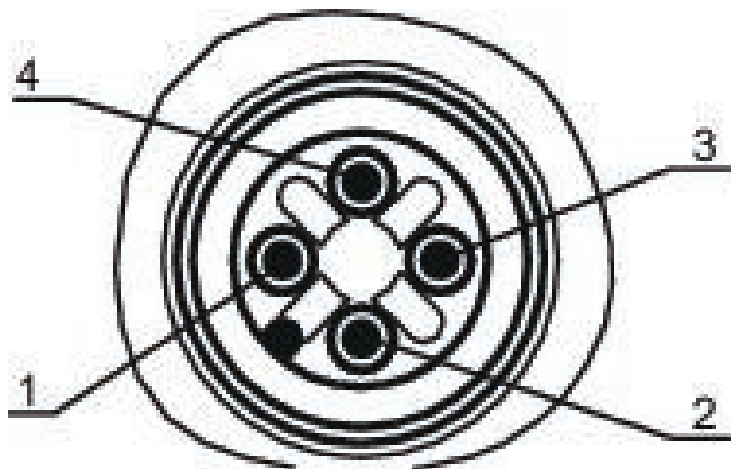
Dimensions



Port 1, X1S

**R412018267, R412018268**

Pin assignments



Pin	R412018267 (UA)	R412018268 (UL)
1	-	24 V DC power supply (UL) input
2	24 V DC power supply (UA) input	-
3	-	0 V DC (UL)
4	0 V DC (UA)	-

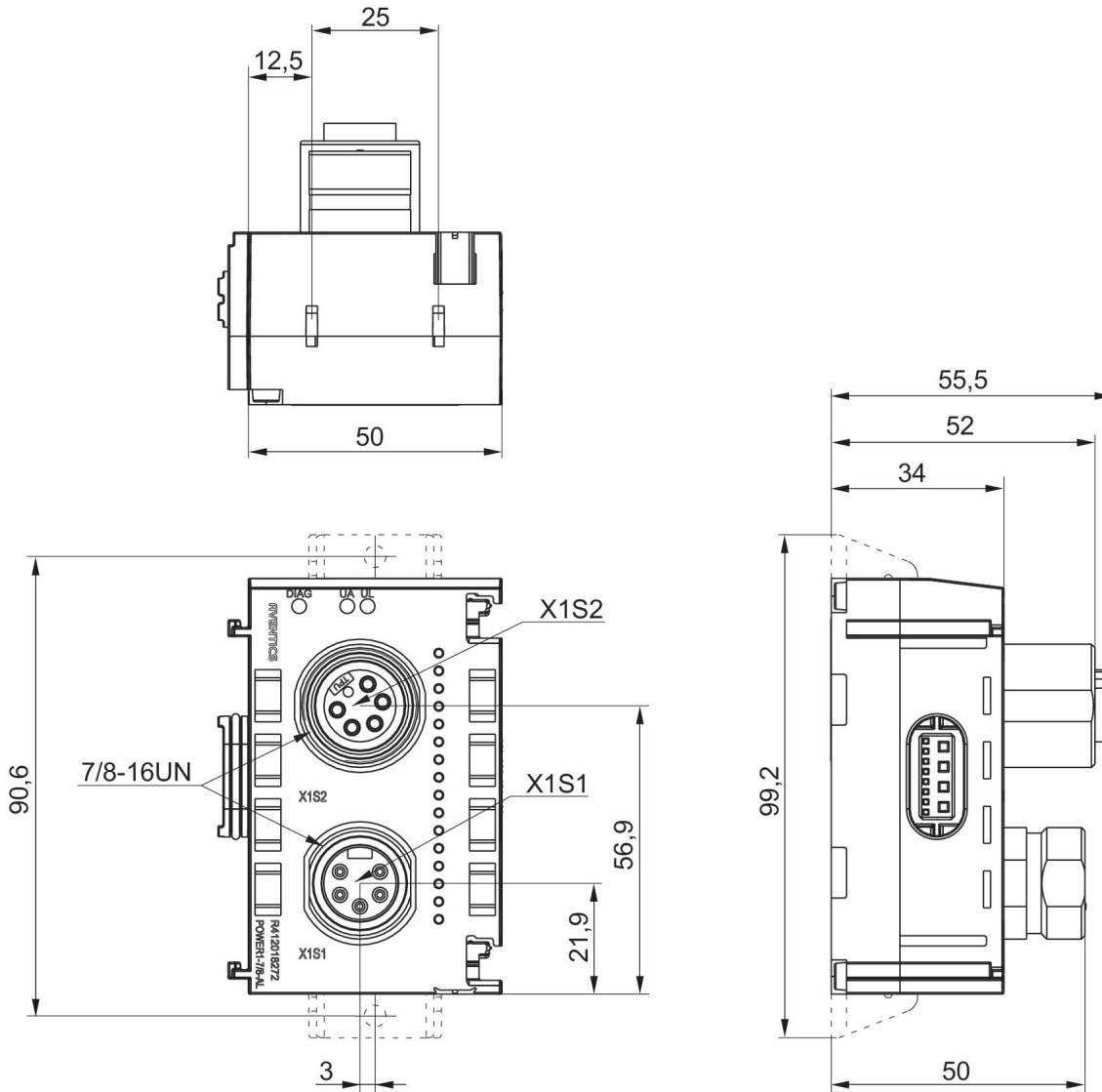
**Power module Series AES, 7/8", 5-pin**

Electrical connection 2, thread size: Internal  
 Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C



Power plug IN, Type	Power plug IN size , Thread size	Power plug IN, Number of poles	Power plug OUT, Type	Power plug OUT size , Thread size	Power plug OUT, Number of poles	E/A capable	Part No.
Plug	7/8"-16UNF	5-pin	Socket	7/8"-16UNF	5-pin	connection with I/O	R412018272

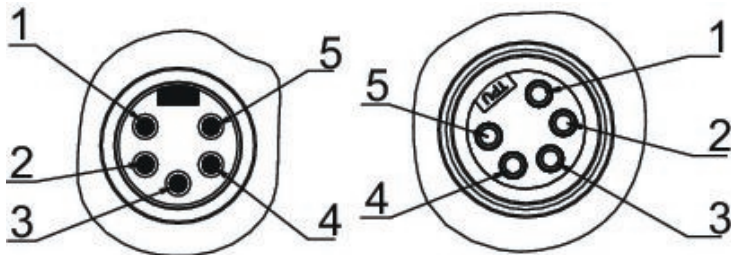
Dimensions



Port 1, X1S1  
Port 2, X1S2

**R412018272**

Pin assignments



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

**Bus coupler, series AES**

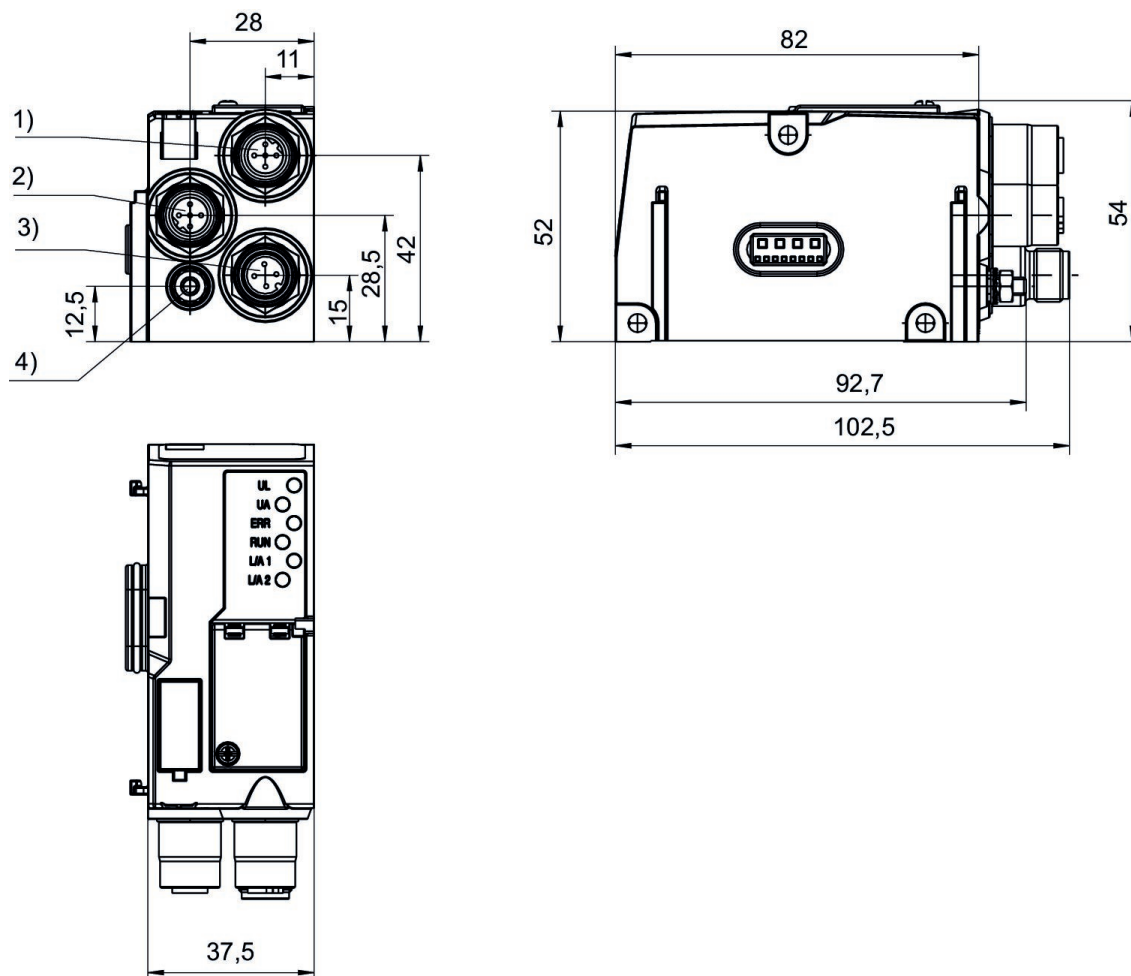
Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C



Type	Fieldbus protocol	Power plug IN, Type	Power plug IN size , Thread size	Power plug IN, Number of poles	E/A capable	Number of I/O connections	Part No.
	PROFIBUS DP	Plug	M12x1	4-pin	connection with I/O	512 inputs / 512 outputs	R412018218
	CANopen	Plug	M12x1	4-pin	connection with I/O	512 inputs / 512 outputs	R412018220
	DeviceNet	Plug	M12x1	4-pin	connection with I/O	512 inputs / 512 outputs	R412018221
	EtherNet/IP	Plug	M12x1	4-pin	connection with I/O	512 inputs / 512 outputs	R412018222
	PROFINET IO	Plug	M12x1	4-pin	connection with I/O	512 inputs / 512 outputs	R412018223
Generation 2, Notice: supports MRP and IRT (RT_CLASS 3)	PROFINET IO	Plug	M12x1	4-pin	connection with I/O	512 inputs / 512 outputs	R412088223
	EtherCAT	Plug	M12x1	4-pin	connection with I/O	512 inputs / 512 outputs	R412018225
Generation 2	EtherCAT	Plug	M12x1	4-pin	connection with I/O	512 inputs / 512 outputs	R412088225
	POWERLINK	Plug	M12x1	4-pin	connection with I/O	512 inputs / 512 outputs	R412018226

Dimensions



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

**E/P pressure regulator, Series AV03-EP**

Electrical connection 2, thread size: M12

Electrical connection 2, number of poles: 5-pin

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

Min. working pressure: 0 bar

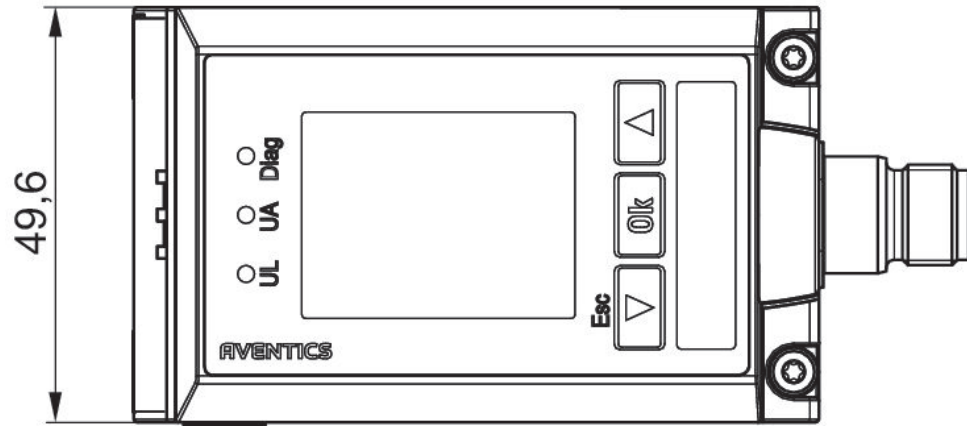
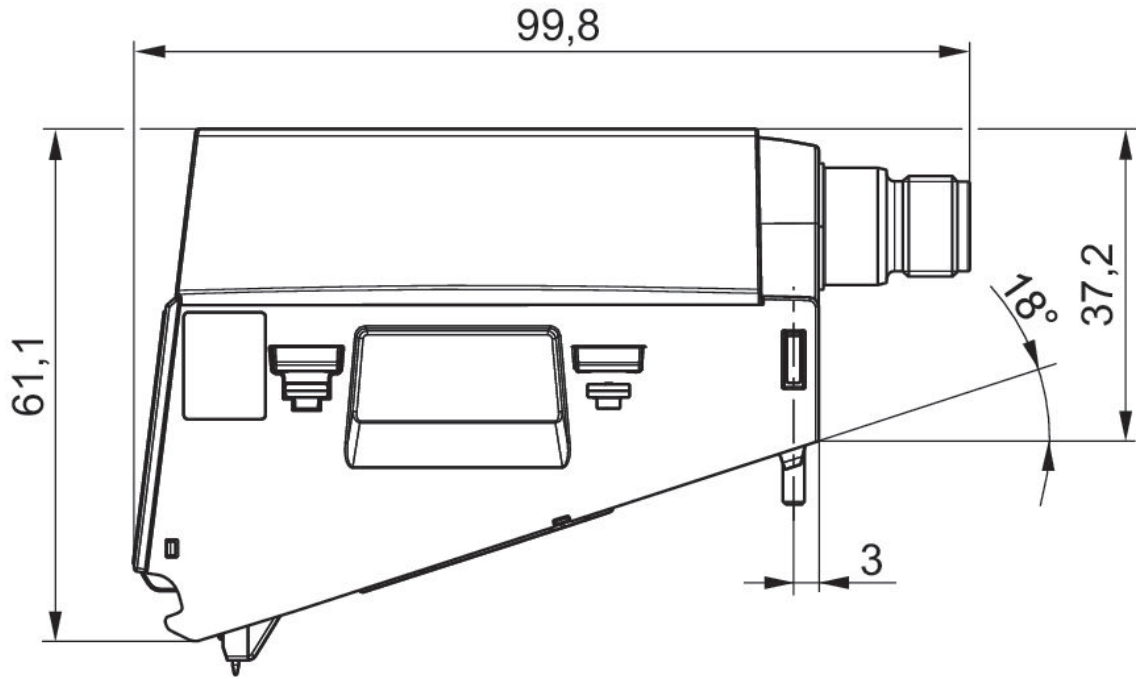
Max. working pressure: 11 bar



Actual output value	Nominal input value	Max. current consumption [mA]	Min. regulation range [bar]	Max. regulation range [bar]	Hysteresis	Part No.
0 ... 10 V	0 ... 10 V	220	0.5	6	< 0,05 bar	R414007364
4 ... 20 mA	4 ... 20 mA	220	0.5	6	< 0,05 bar	R414007369
0 ... 10 V	0 ... 10 V	220	0.5	10	< 0,05 bar	R414007375
4 ... 20 mA	4 ... 20 mA	220	0.5	10	< 0,05 bar	R414007380
0 ... 10 V	0 ... 10 V	160	0.5	6	< 0,05 bar	R414007365
4 ... 20 mA	4 ... 20 mA	160	0.5	6	< 0,05 bar	R414007370
0 ... 10 V	0 ... 10 V	160	0.5	10	< 0,05 bar	R414007376
4 ... 20 mA	4 ... 20 mA	160	0.5	10	< 0,05 bar	R414007381
0 ... 10 V	0 ... 10 V	160	0.5	10	< 0,2 bar	R414007354
4 ... 20 mA	4 ... 20 mA	160	0.5	10	< 0,2 bar	R414007358

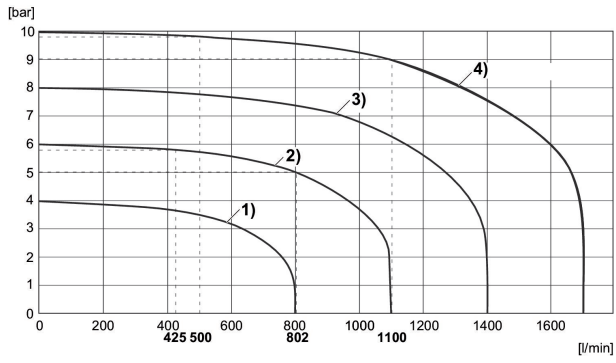


Dimensions



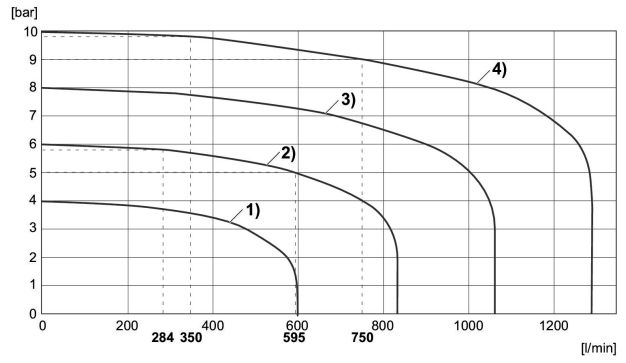
Port for plug M12x1

Flow characteristic curve



- 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



- 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]

**E/P pressure regulator, Series AV03-EP**

Electrical connection 2, thread size: M12

Electrical connection 2, number of poles: 4-pin

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

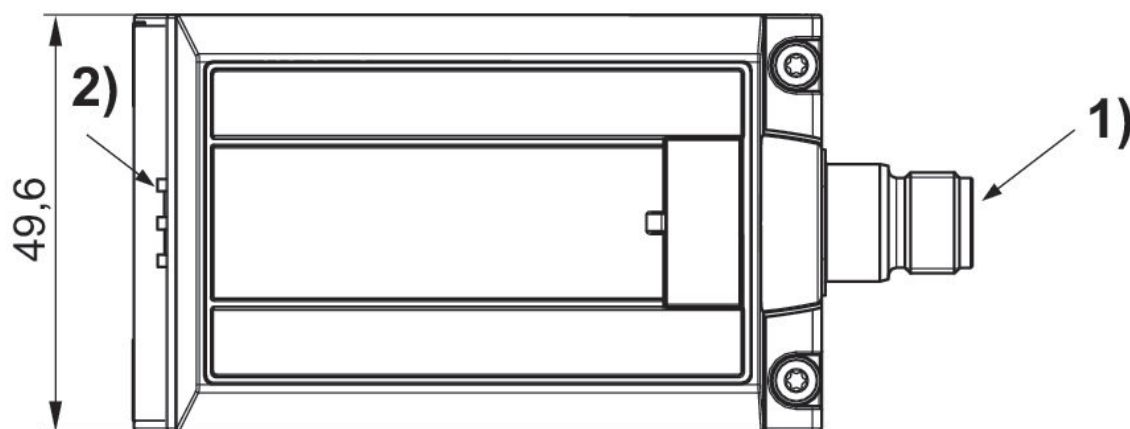
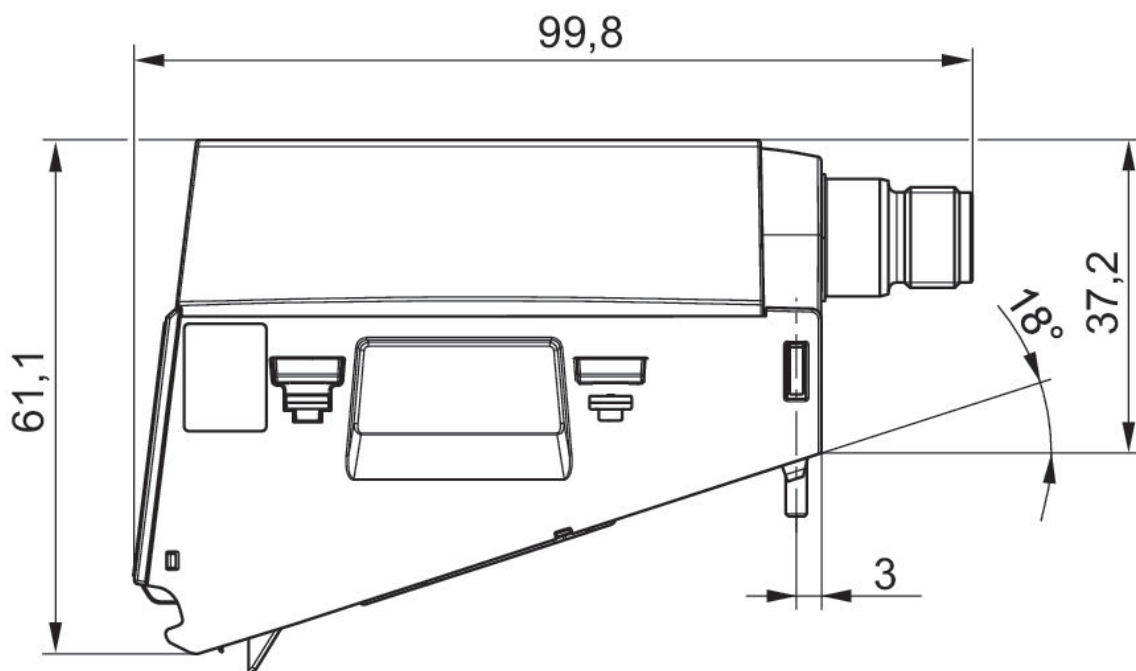
Min. working pressure: 0 bar

Max. working pressure: 11 bar



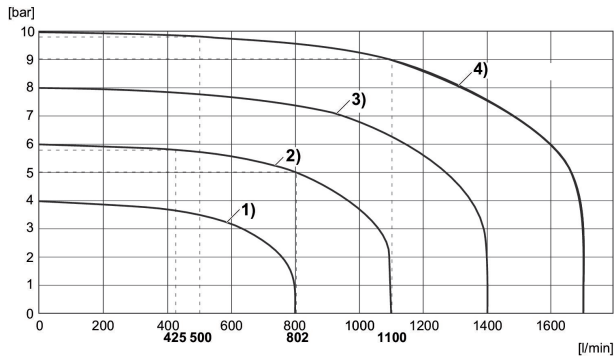
Actual output value	Nominal input value	Max. current consumption [mA]	Min. regulation range [bar]	Max. regulation range [bar]	Hysteresis	Part No.
0 ... 10 V	0 ... 10 V	180	0.5	6	< 0,05 bar	R414007361
4 ... 20 mA	4 ... 20 mA	180	0.5	6	< 0,05 bar	R414007366
0 ... 10 V	0 ... 10 V	180	0.5	10	< 0,05 bar	R414007372
4 ... 20 mA	4 ... 20 mA	180	0.5	10	< 0,05 bar	R414007377
0 ... 10 V	0 ... 10 V	120	0.5	6	< 0,05 bar	R414007362
4 ... 20 mA	4 ... 20 mA	120	0.5	6	< 0,05 bar	R414007367
0 ... 10 V	0 ... 10 V	120	0.5	10	< 0,05 bar	R414007373
4 ... 20 mA	4 ... 20 mA	120	0.5	10	< 0,05 bar	R414007378
0 ... 10 V	0 ... 10 V	120	0.5	10	< 0,2 bar	R414007352
4 ... 20 mA	4 ... 20 mA	120	0.5	10	< 0,2 bar	R414007356

Dimensions



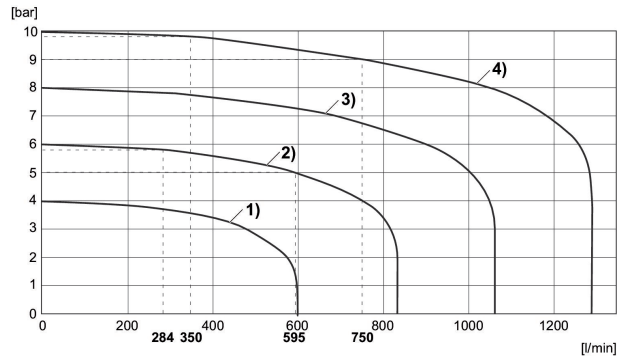
- 1) Port for plug M12x1
- 2) LED status display

Flow characteristic curve



- 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



- 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]

**E/P pressure regulator, Series AV03-EP**

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

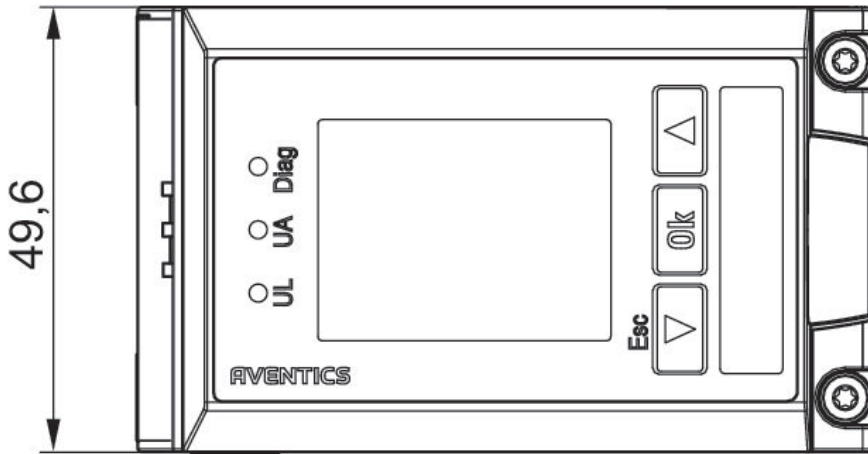
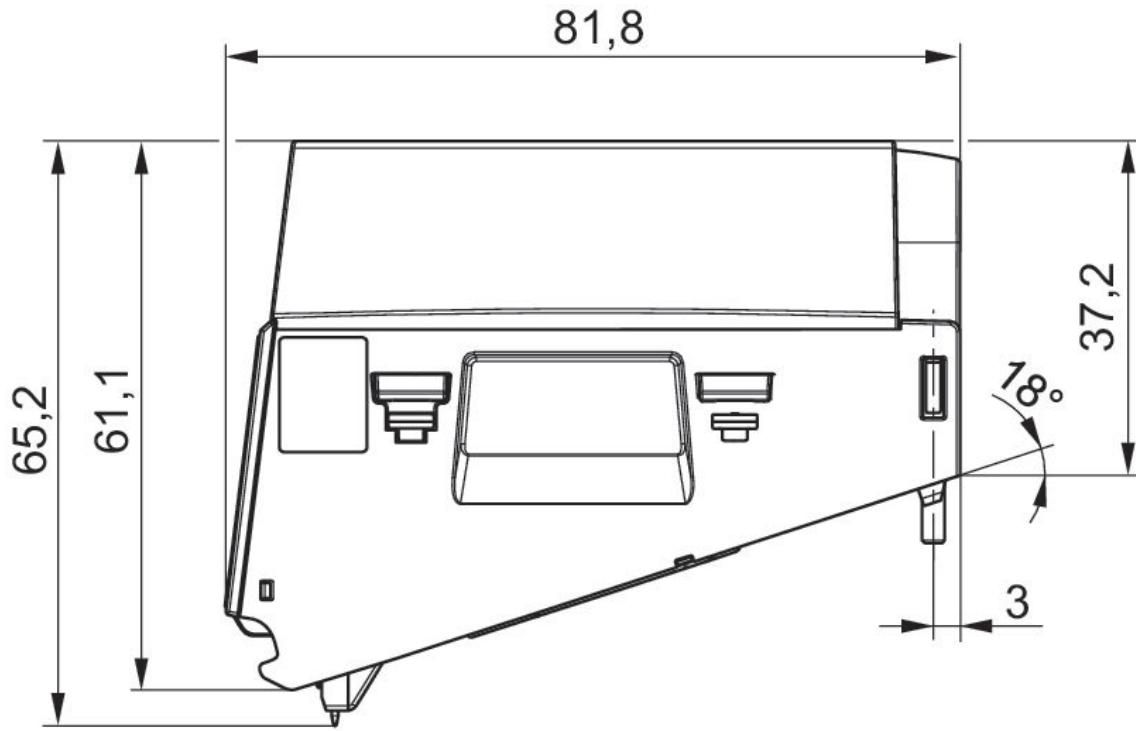
Min. working pressure: 0 bar

Max. working pressure: 11 bar

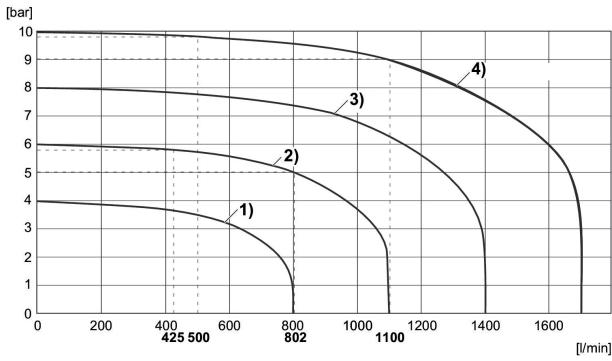


Max. current consumption [mA]	Min. regulation range [bar]	Max. regulation range [bar]	Hysteresis	Part No.
220	0.5	10	< 0,05 bar	R414007915
160	0.5	10	< 0,05 bar	R414007916
160	0.5	10	< 0,2 bar	R414007360

Dimensions

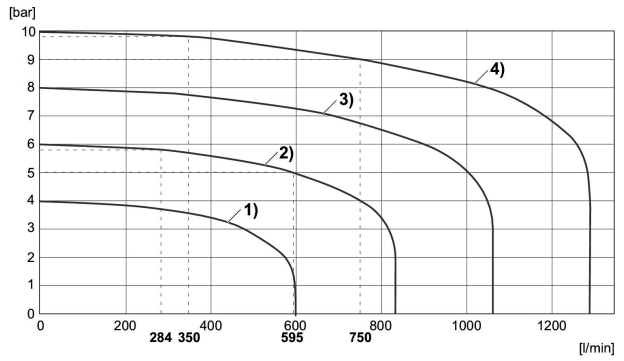


Flow characteristic curve



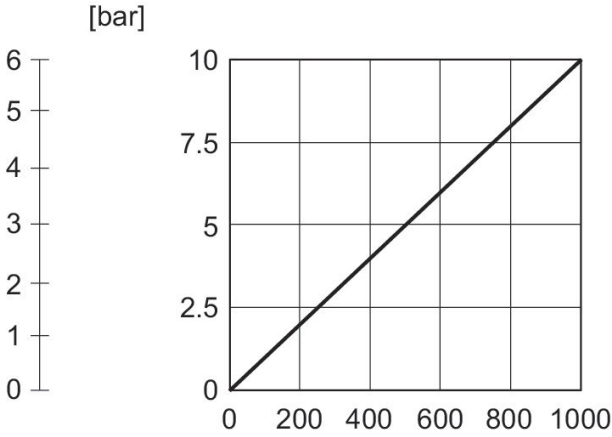
- 1) Pv = [[5] bar], controlled: [[4] bar]
- 2) Pv = [[7] bar], controlled: [[6] bar]
- 3) Pv = [[9] bar], controlled: [[8] bar]
- 4) Pv = [[11] bar], controlled: [[10] bar]

Flow characteristic curve



- 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]

Characteristics



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



**E/P pressure regulator, Series AV03-EP**

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

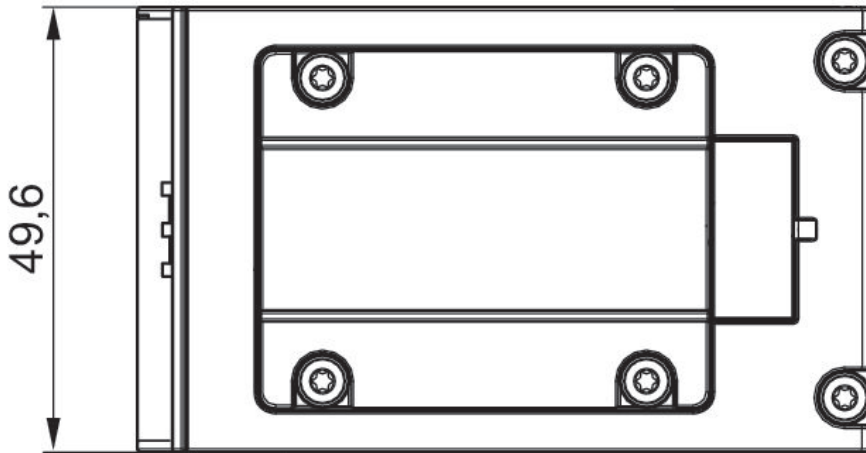
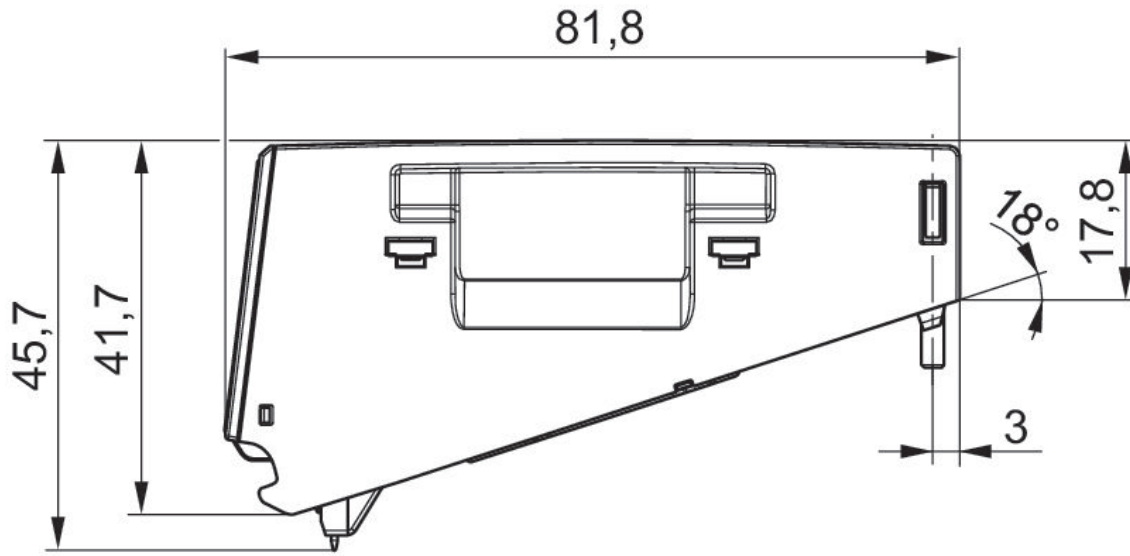
Min. working pressure: 0 bar

Max. working pressure: 11 bar

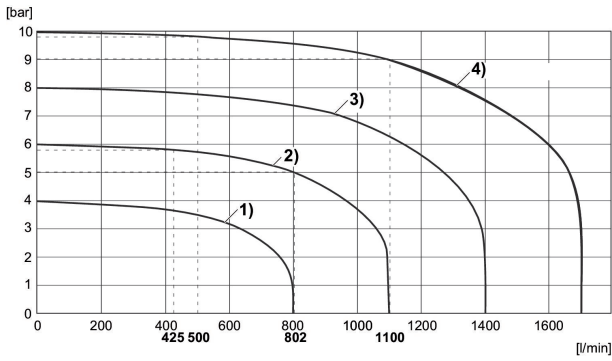


Max. current consumption [mA]	Min. regulation range [bar]	Max. regulation range [bar]	Hysteresis	Part No.
180	0.5	10	< 0,05 bar	R414007914
120	0.5	10	< 0,05 bar	R414007383
120	0.5	10	< 0,2 bar	R414007359

Dimensions

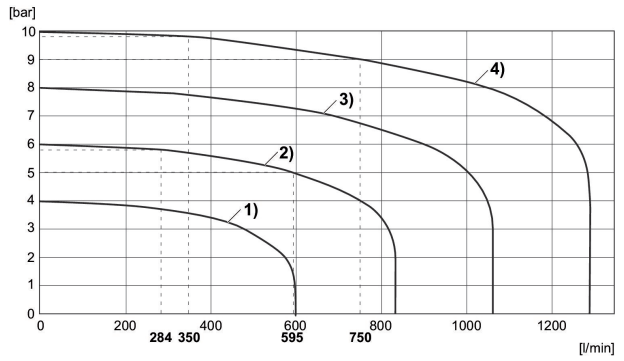


Flow characteristic curve



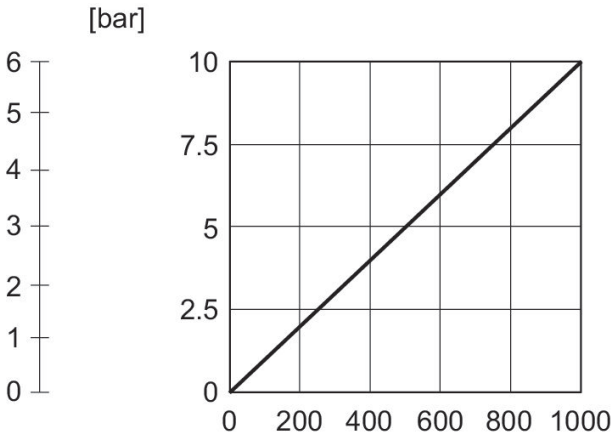
- 1) Pv = [[5] bar], controlled: [[4] bar]
- 2) Pv = [[7] bar], controlled: [[6] bar]
- 3) Pv = [[9] bar], controlled: [[8] bar]
- 4) Pv = [[11] bar], controlled: [[10] bar]

Flow characteristic curve



- 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]

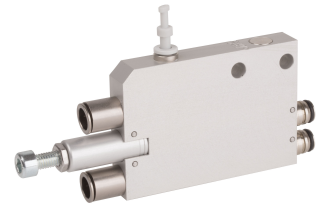
Characteristics



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.

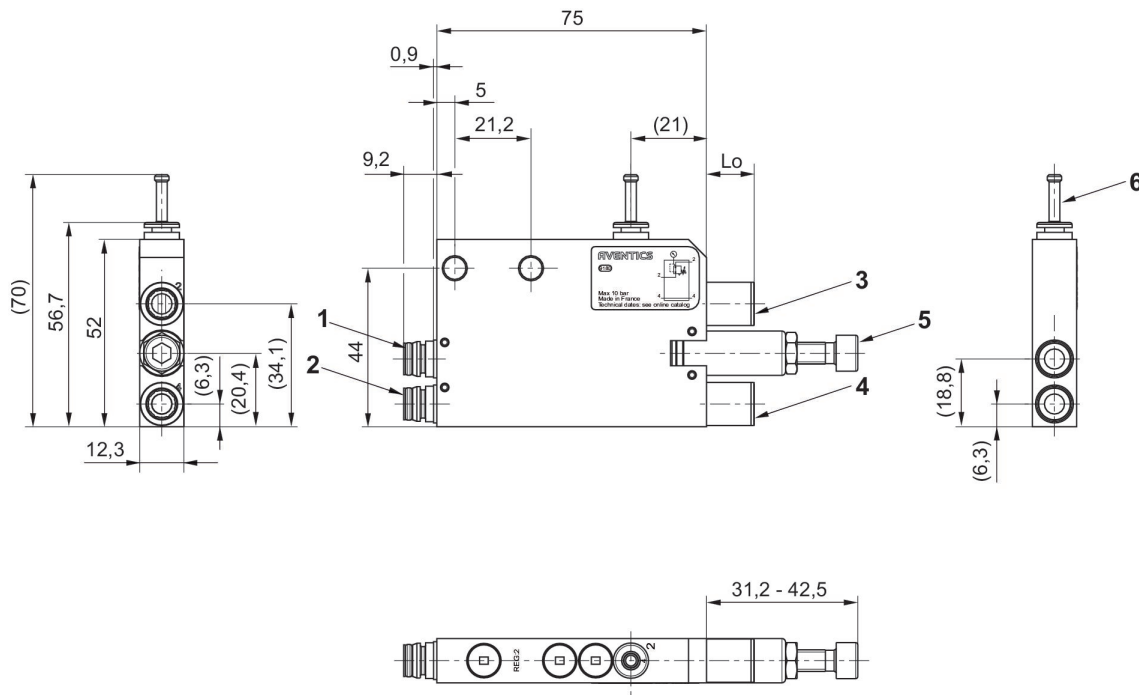
### Pressure regulator, Series AV, 1 adjustment screw

For series: AV03 AV05  
 Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C  
 Max. working pressure: 10 bar



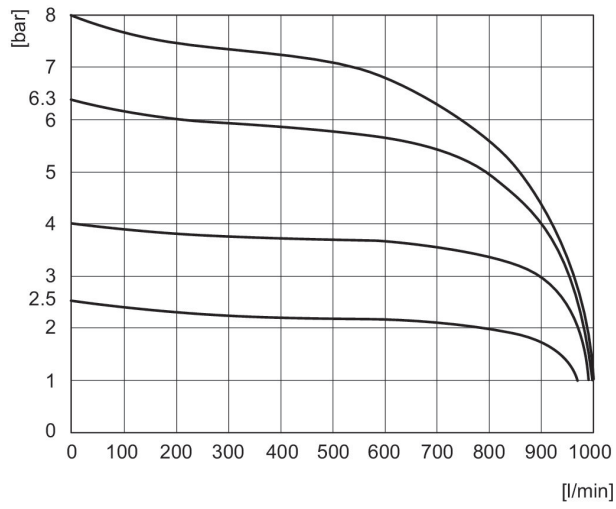
Compressed air connection output	Controlled port	Min. regulation range [bar]	Max. regulation range [bar]	Part No.
Ø 8	2	0.5	10	R422003560
Ø 6	2	0.5	10	R422003561
Ø 8	4	0.5	10	R422003568
Ø 6	4	0.5	10	R422003569

Dimensions



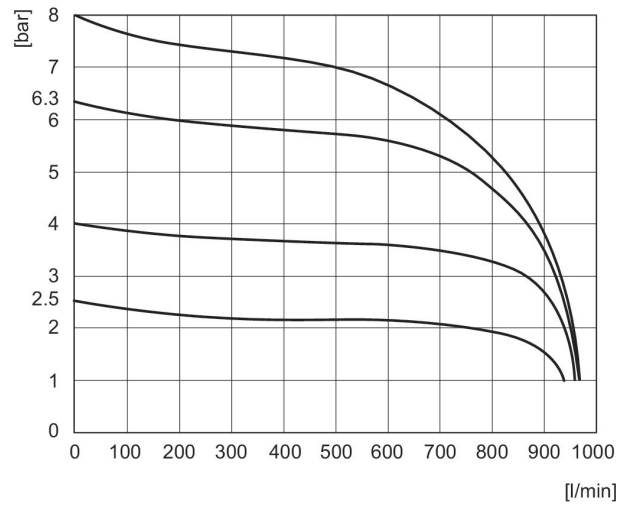
- 1) Connection 2, valve side
- 2) Connection 4, valve side
- 3) Operating line 2
- 4) Operating line 4
- 5) adjustment screw, Port 2, 4
- 6) Orifice plugs

Flow diagram R412024742, R412024749, R412010090



Pv = [[9] bar]

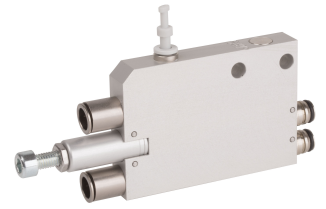
Flow diagram R412024742, R412024749, R412010090



Pv = [[9] bar]

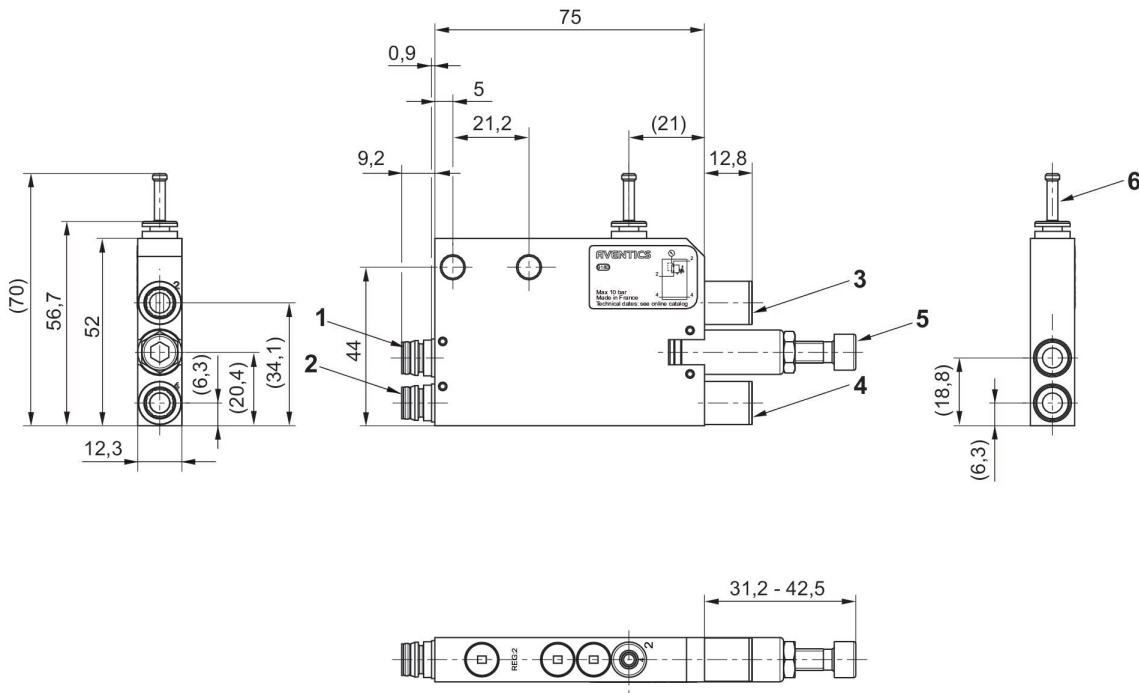
### Pressure regulator, Series AV, 1 adjustment screw Inch

For series: AV03 AV05  
 Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C  
 Max. working pressure: 10 bar



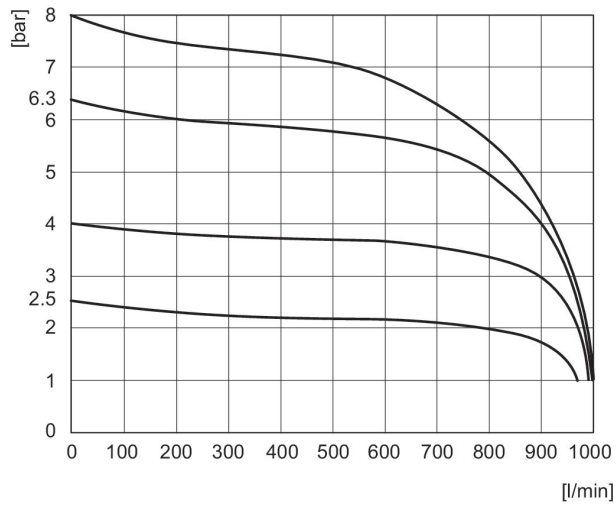
Compressed air connection output	Controlled port	Min. regulation range [bar]	Max. regulation range [bar]	Part No.
Ø 1/4"	2	0.5	10	R422003563
Ø 1/4"	4	0.5	10	R422003571

Dimensions



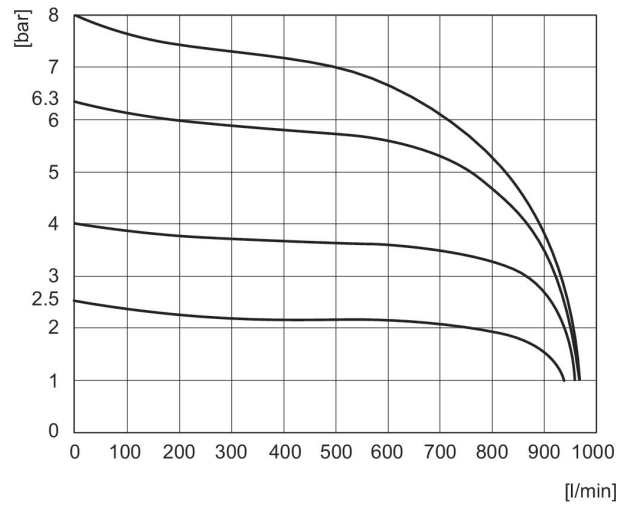
- 1) Connection 2, valve side
- 2) Connection 4, valve side
- 3) Operating line 2
- 4) Operating line 4
- 5) adjustment screw, Port 2, 4
- 6) Orifice plugs
- 7) Logic valves

Flow diagram R412024742, R412024749, R412010090



Pv = [[9] bar]

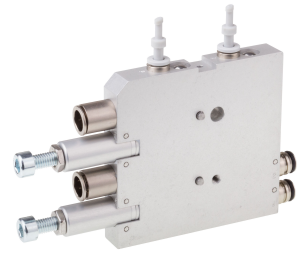
Flow diagram R412024742, R412024749, R412010090



Pv = [[9] bar]

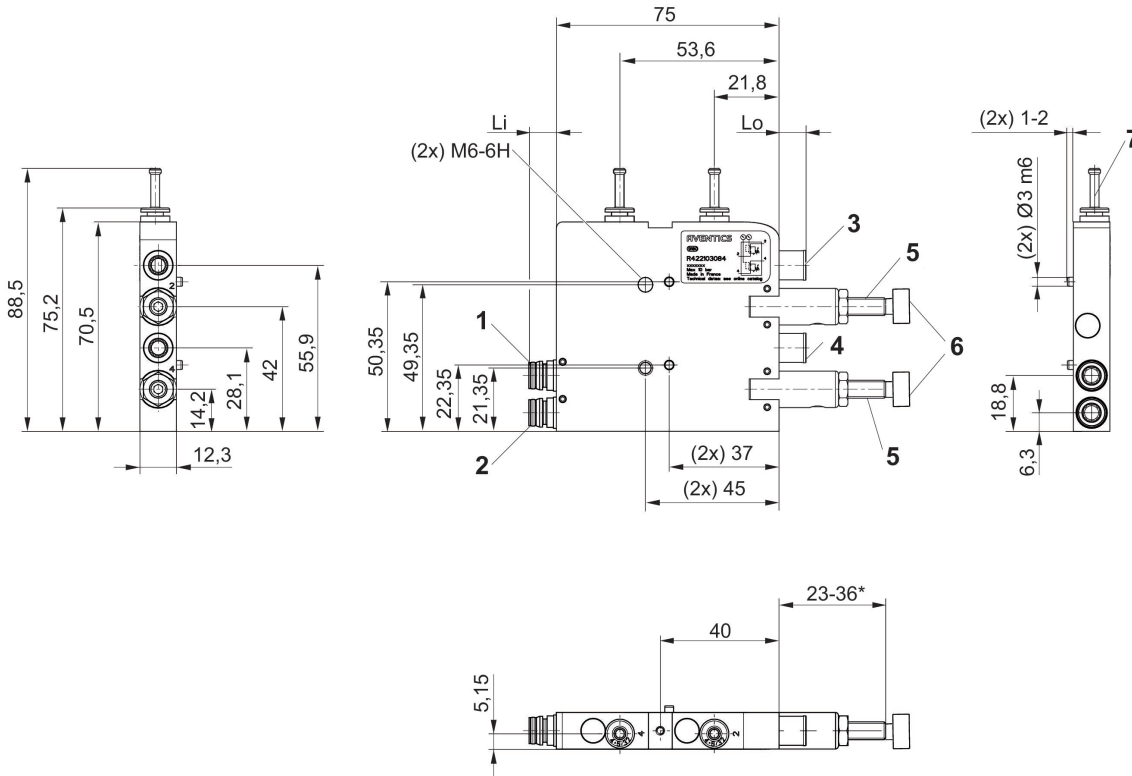
**Pressure regulator, Series AV, 2 adjustment screws**

For series: AV03 AV05  
 Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C  
 Max. working pressure: 10 bar



Compressed air connection output	Controlled port	Min. regulation range [bar]	Max. regulation range [bar]	Part No.
Ø 6	2, 4	0.5	10	R422103084
Ø 8	2, 4	0.5	10	R422103085
Ø 1/4"	2, 4	0.5	10	R422103086

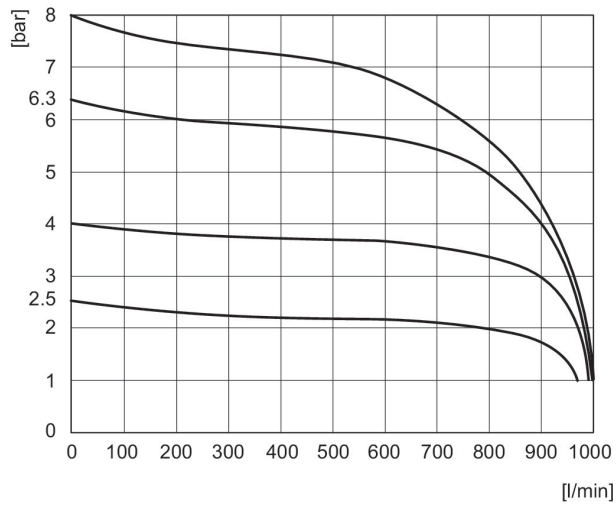
Dimensions



- 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

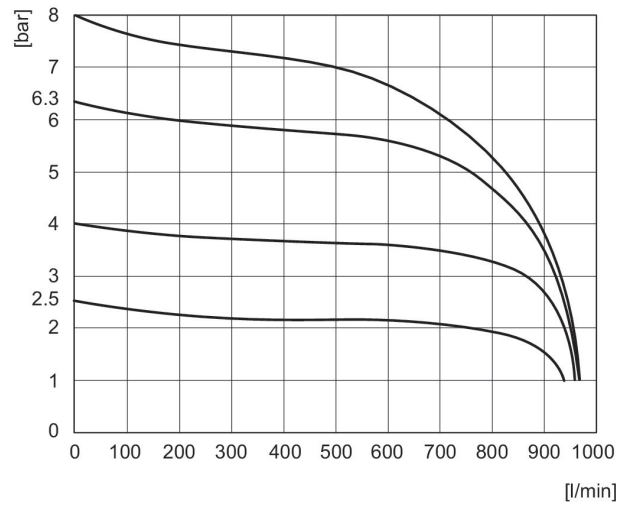


Flow diagram R412024742, R412024749, R412010090



Pv = [[9] bar]

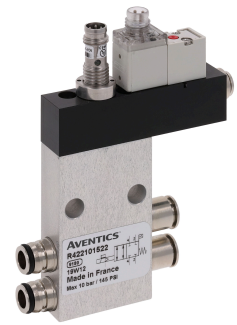
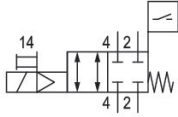
Flow diagram R412024742, R412024749, R412010090



Pv = [[9] bar]

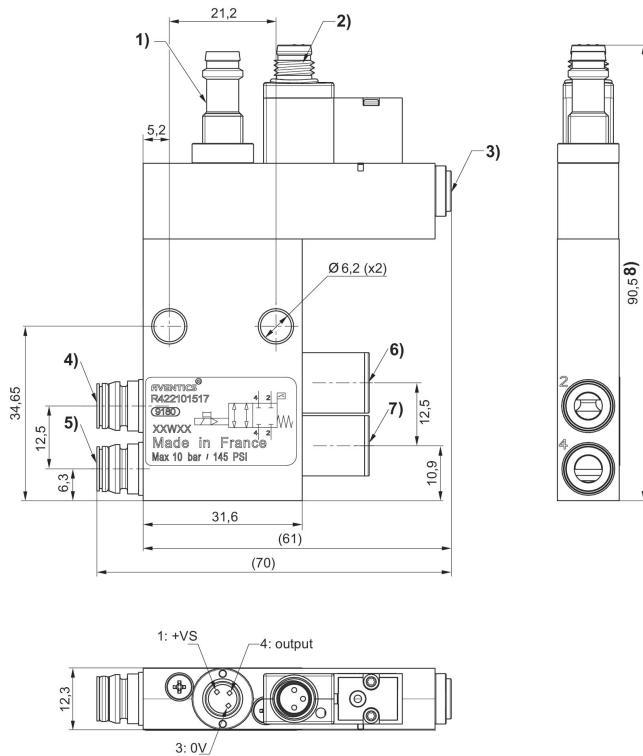
### Shut-off module, Series AV

Activation: Electrically  
 Qn 1 > 2: 400 l/min  
 Min. control pressure: 3.5 bar  
 Max. control pressure: 7 bar  
 Min. ambient temperature: 0 °C  
 Max. ambient temperature: 50 °C  
 Min. working pressure: 0 bar  
 Max. working pressure: 10 bar



Compressed air connection output	Part No.
Ø 6	R422101518
Ø 8	R422101517
Ø 1/4"	R422101520

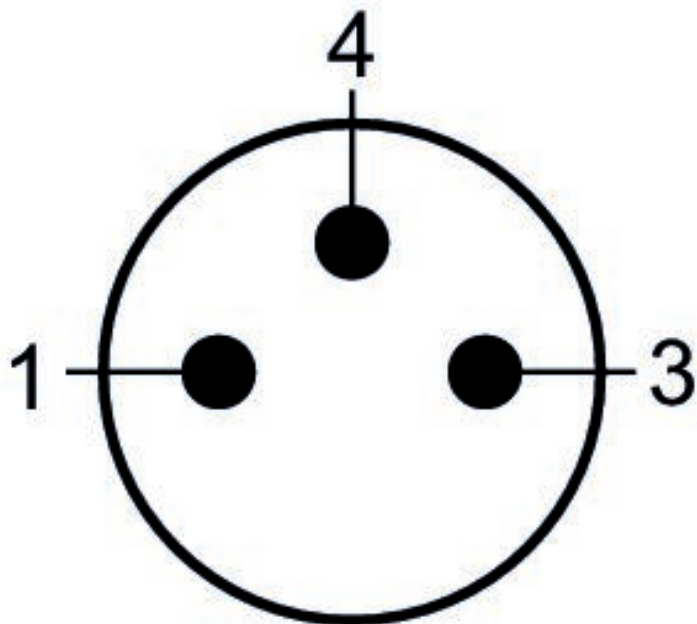
#### Dimensions



- 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 valve connection
  - 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

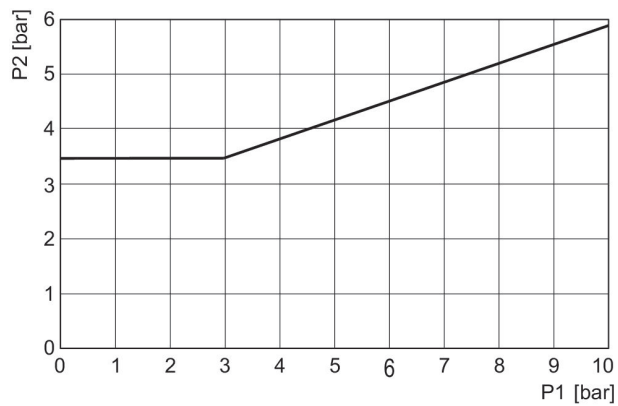
**R422101518, R422101517, R422101520**

Pilot valve pin assignment M8x1 (3-pin)



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

**Minimum control pressure (depending on operating pressure)**

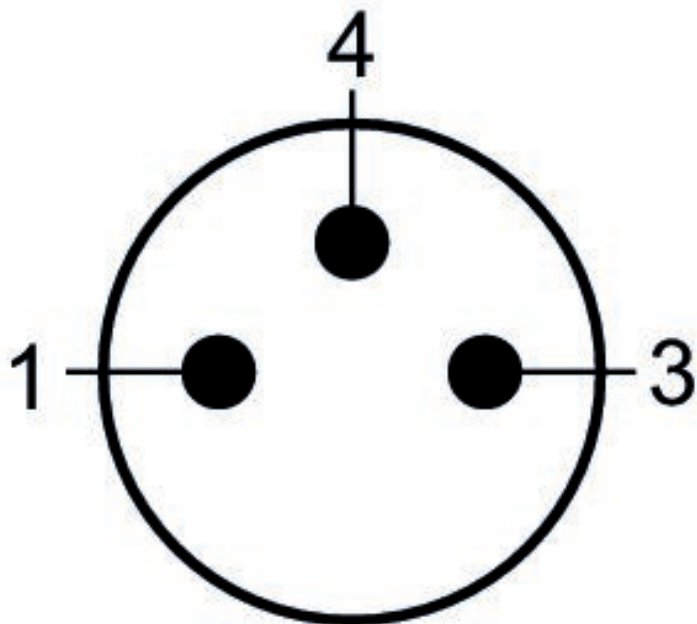


p1 = pressure on connections 2 and 4, p2 = control pressure



R422101522, R422101521, R422101523, R422101524

Pilot valve pin assignment M8x1 (3-pin)



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

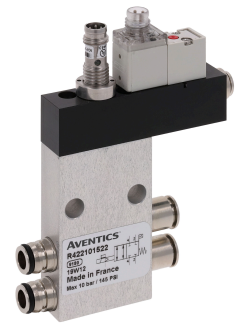
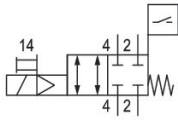
**Minimum control pressure (depending on operating pressure)**



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

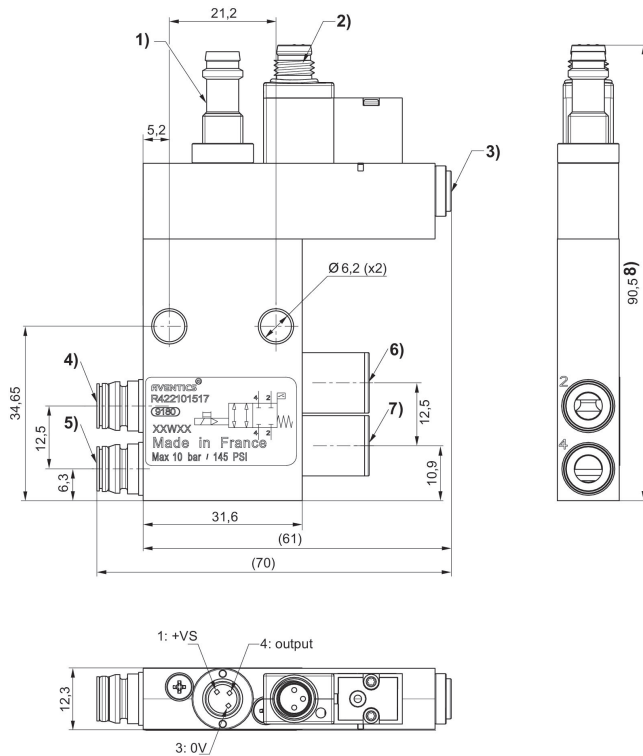
### Shut-off module, Series AV

Activation: Electrically  
 Qn 1 > 2: 400 l/min  
 Min. control pressure: 3.5 bar  
 Max. control pressure: 7 bar  
 Min. ambient temperature: 0 °C  
 Max. ambient temperature: 50 °C  
 Min. working pressure: 0 bar  
 Max. working pressure: 10 bar



Compressed air connection output	Part No.
Ø 6	R422101518
Ø 8	R422101517
Ø 1/4"	R422101520

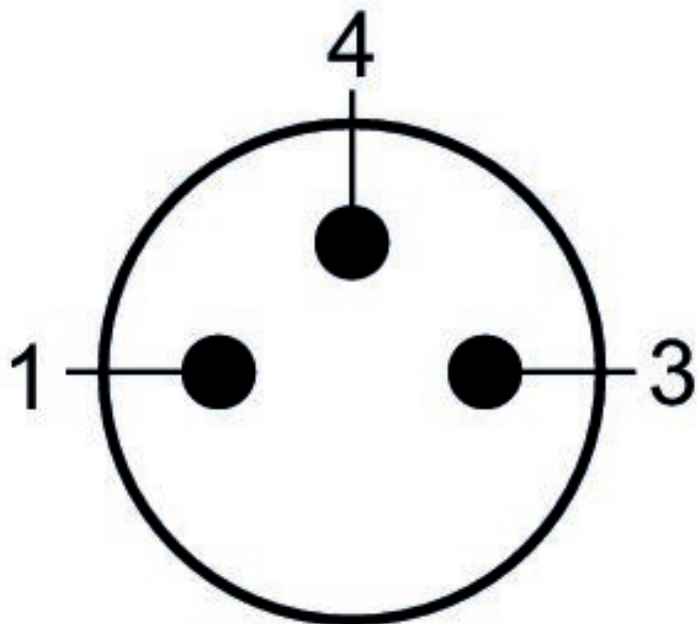
#### Dimensions



- 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 valve connection
  - 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

**R422101518, R422101517, R422101520**

Pilot valve pin assignment M8x1 (3-pin)



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

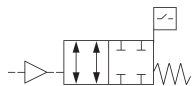
**Minimum control pressure (depending on operating pressure)**



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

## Shut-off module, Series AV

Activation: Pneumatically  
Qn 1 > 2: 400 l/min  
Compressed air connection type: Internal thread  
Min. ambient temperature: 0 °C  
Max. ambient temperature: 60 °C  
Min. working pressure: 0 bar  
Max. working pressure: 10 bar



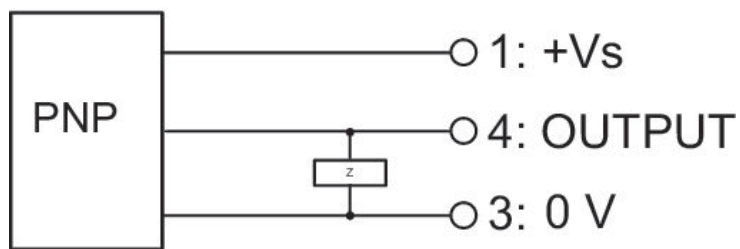
Compressed air connection output	Part No.
Ø 6	R422101511
Ø 8	R422101510
Ø 1/4"	R422101509



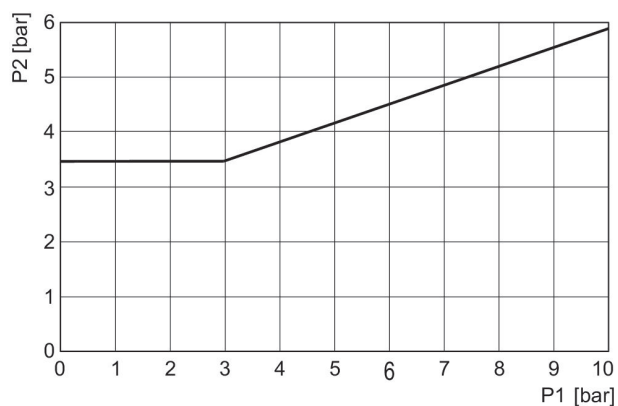


**R422101511, R422101510, R422101509**

Sensor circuit diagram



**Minimum control pressure (depending on operating pressure)**



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

**Shut-off module, Series AV**

Activation: Mechanical

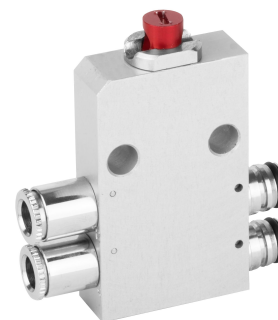
Compressed air connection type: Internal thread

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

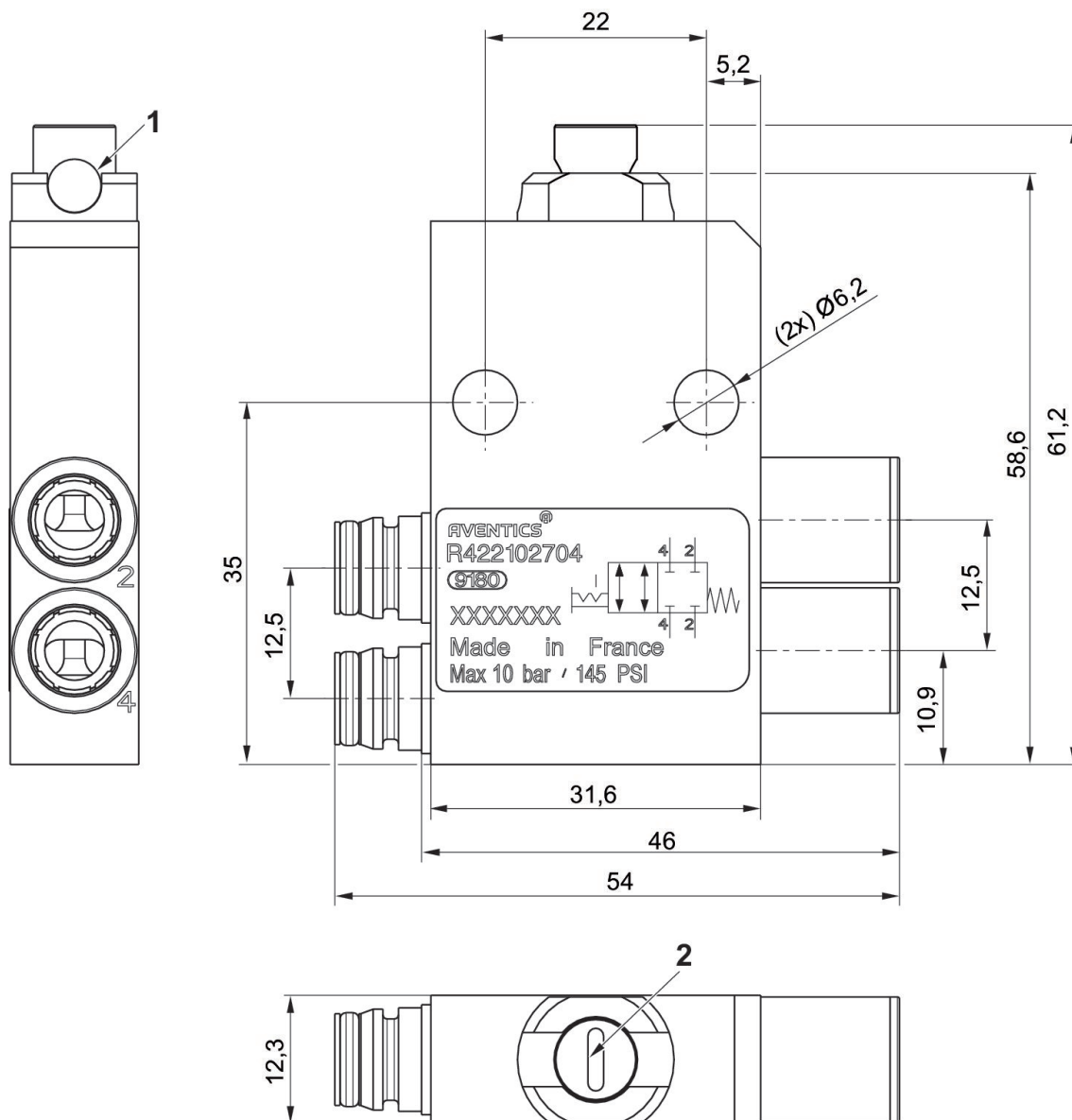
Min. working pressure: 0 bar

Max. working pressure: 10 bar



Housing material	Compressed air connection output	Part No.
Aluminum	Ø 1/4"	R422102699
Aluminum	Ø 8	R422102704
Aluminum	Ø 6	R422102705
Aluminum	Ø 4	R422102706

Dimensions

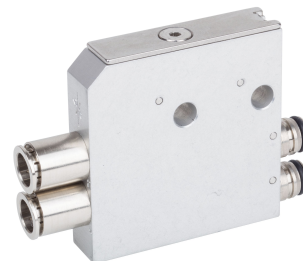


- 1) Through hole for cable lock  
Order cable lock 7472D02758 separately
- 2) Manual override lock

**Throttle module**

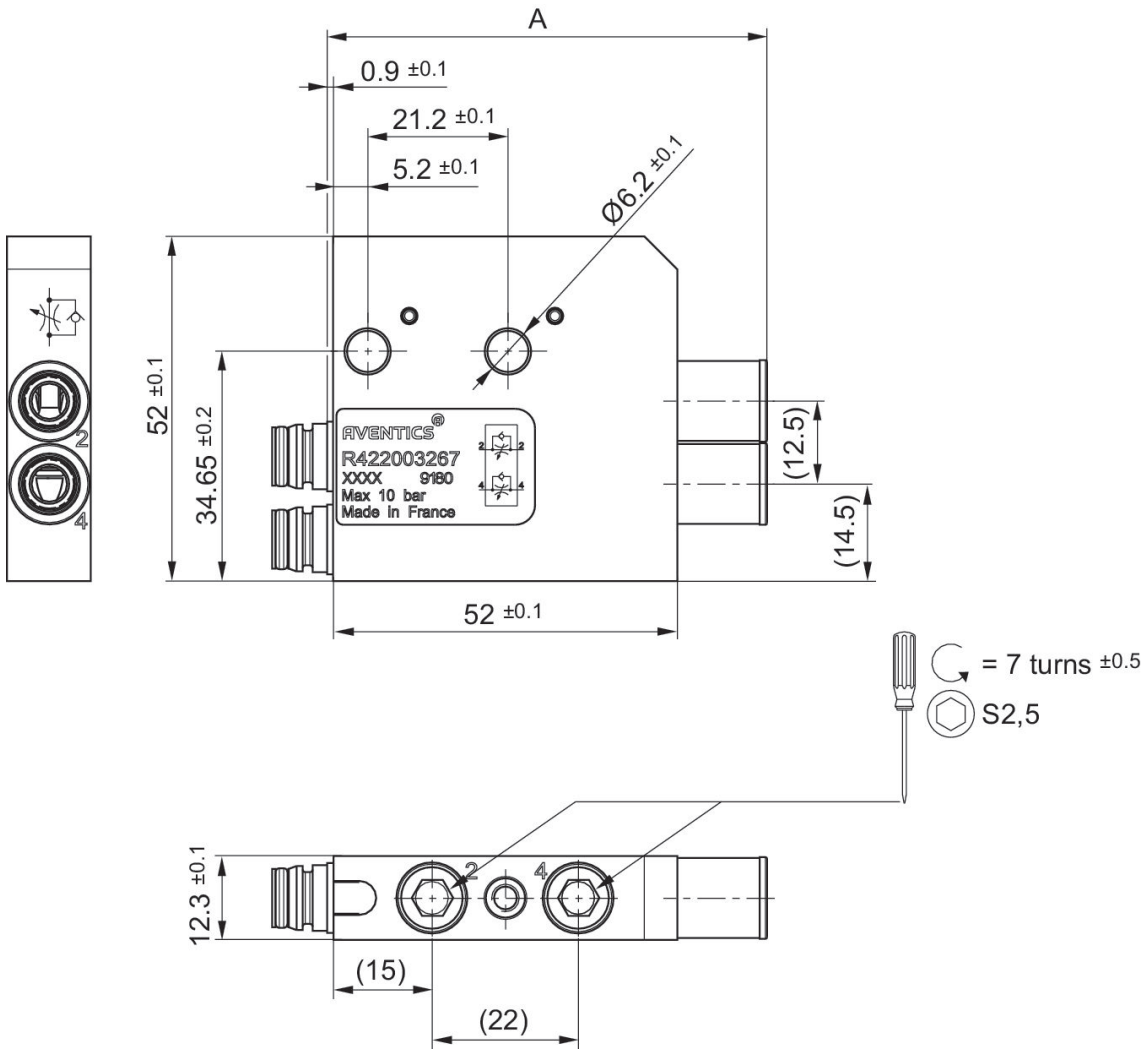
Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

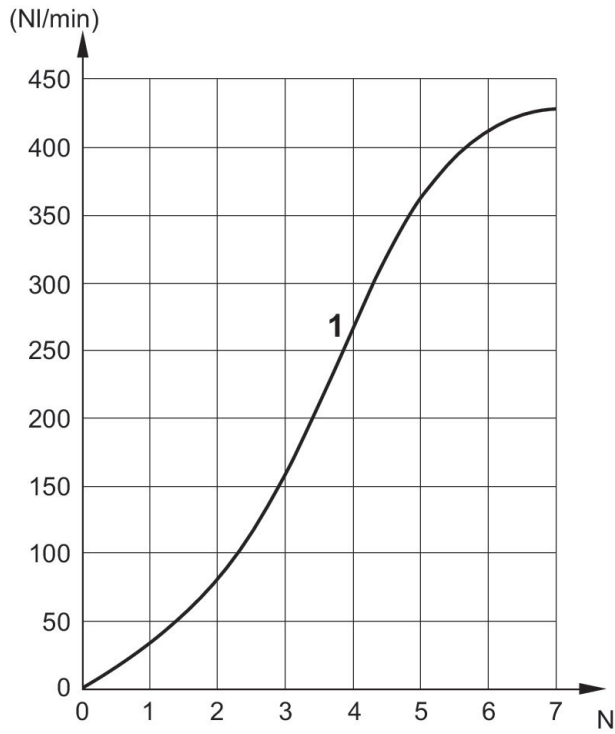


Compressed air connection output	Type	Part No.
Ø 6	direction of throttle 2 # 1	R422003311
Ø 8	direction of throttle 2 # 1	R422003267
Ø 1/4"	direction of throttle 2 # 1	R422003666
Ø 6	direction of throttle 2 # 1 direction of throttle 1 # 2	R422003577
Ø 8	direction of throttle 2 # 1 direction of throttle 1 # 2	R422003578
Ø 1/4"	direction of throttle 2 # 1 direction of throttle 1 # 2	R422003667

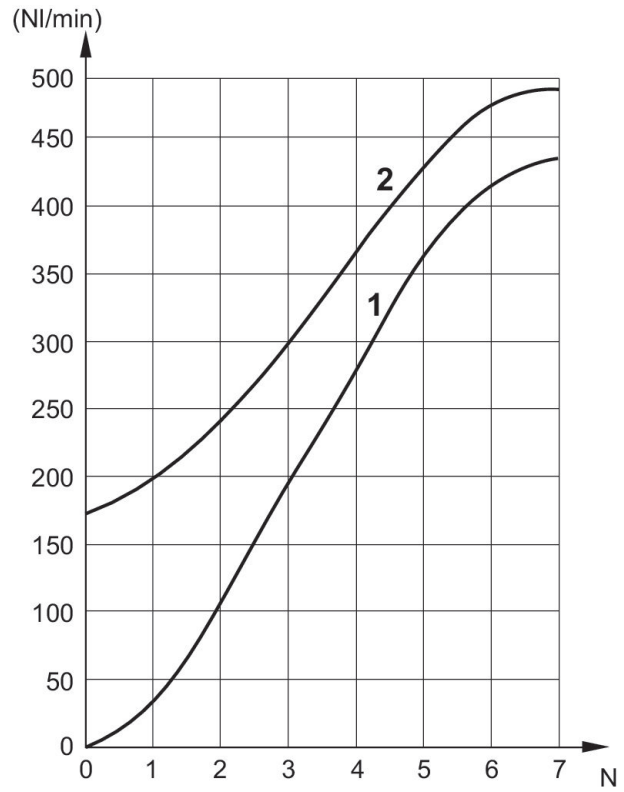
Dimensions



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



1) Controlled flow



1) Controlled flow  
2) Uncontrolled flow

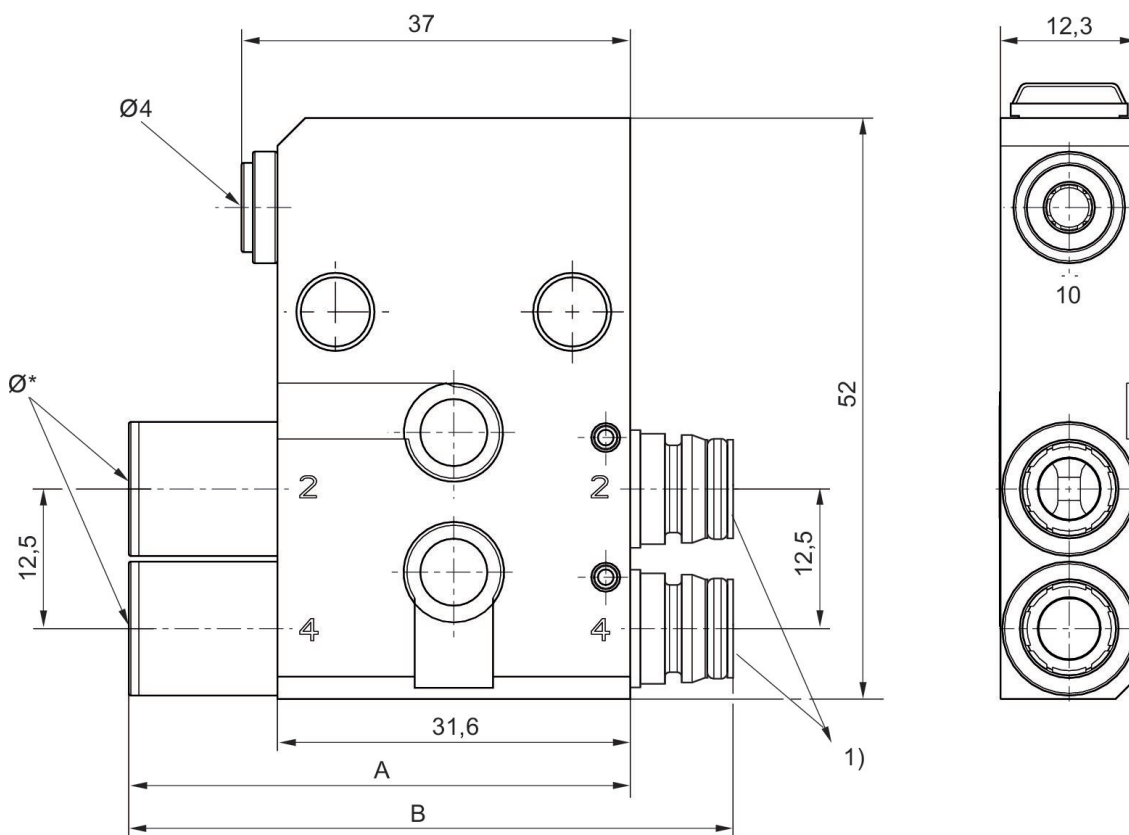
### Exhaust module, Series AV

Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C  
 Min. working pressure: 0 bar  
 Max. working pressure: 10 bar



Housing material	Part No.
Aluminum	R422003046
Aluminum	R422003185
Aluminum	R422003187

Dimensions

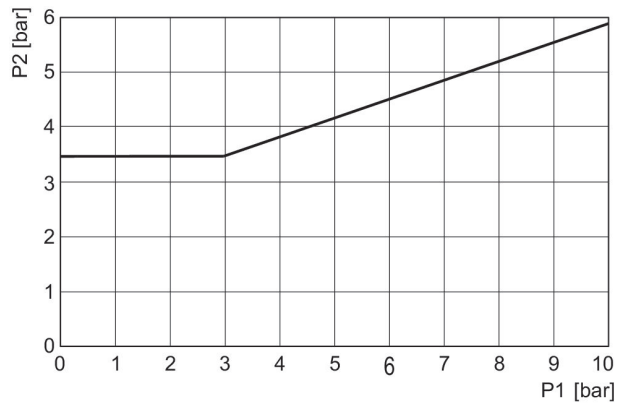


1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

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



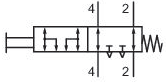
**Minimum control pressure (depending on operating pressure)**



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

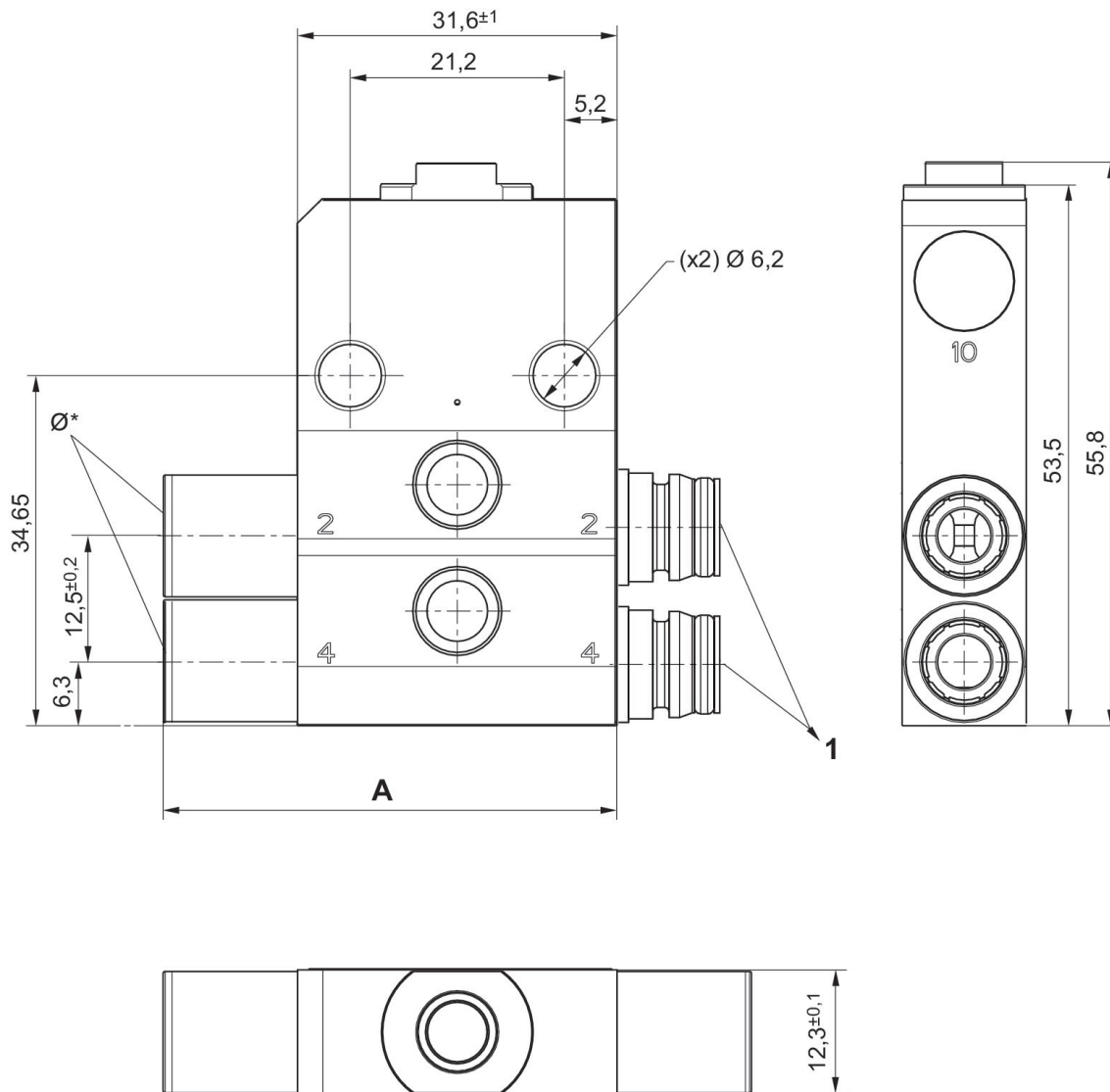
### Exhaust module, Series AV

Min. ambient temperature: 10 °C  
 Max. ambient temperature: -60 °C  
 Min. working pressure: 0 bar  
 Max. working pressure: 10 bar



Housing material	Part No.
Aluminum	R422003913
Aluminum	R422003915

Dimensions

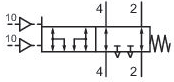


1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series

	Ø	A	B
R422003913	8	46±1	54±1
R422003915	6	42±1	50±1

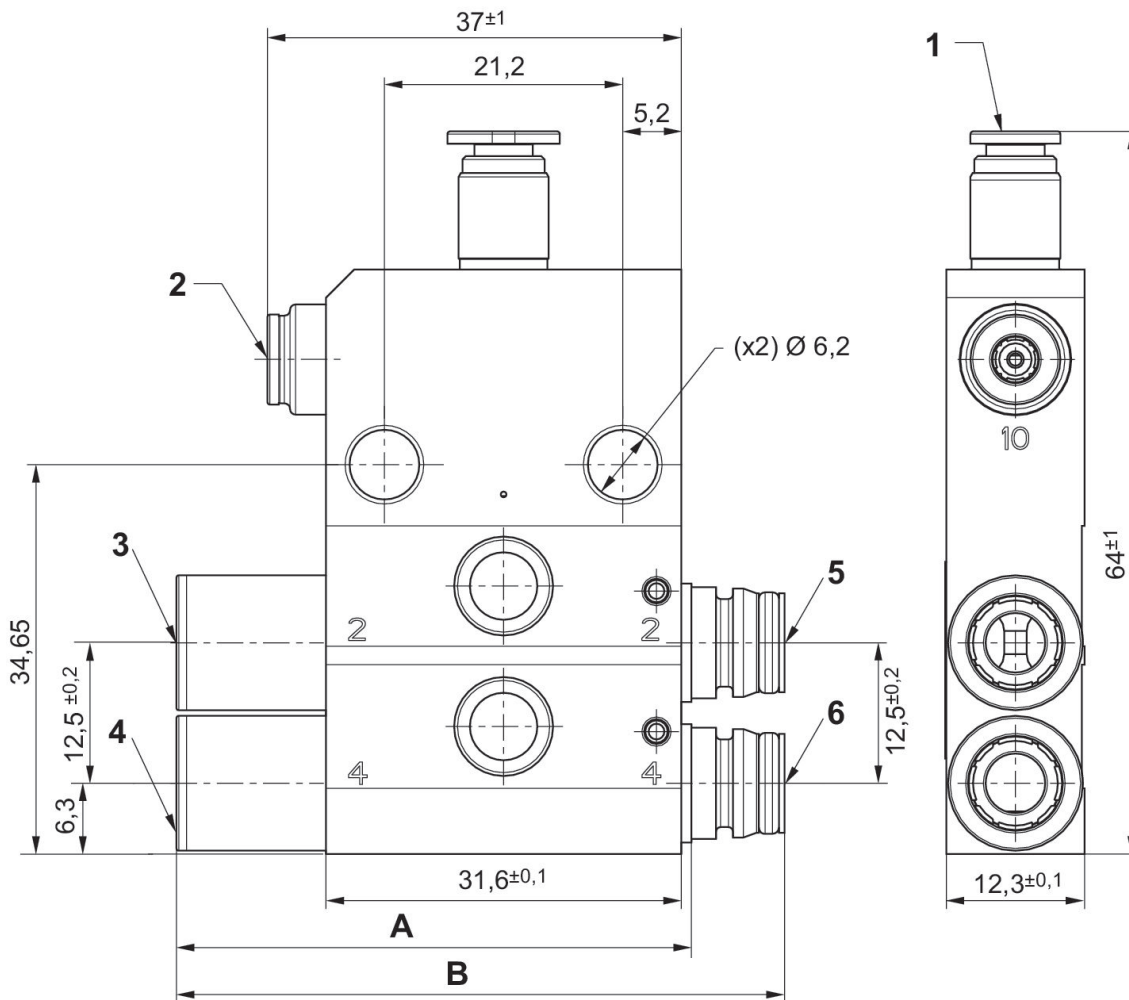
### Exhaust module, Series AV

Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C  
 Min. working pressure: 0 bar  
 Max. working pressure: 10 bar



Housing material	Part No.
Aluminum	R422003807
Aluminum	R422003805

Dimensions



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

	A	B
R422003805	46±1	54±1
R422003807	42±1	50±1

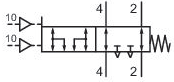
**Minimum control pressure (depending on operating pressure)**



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

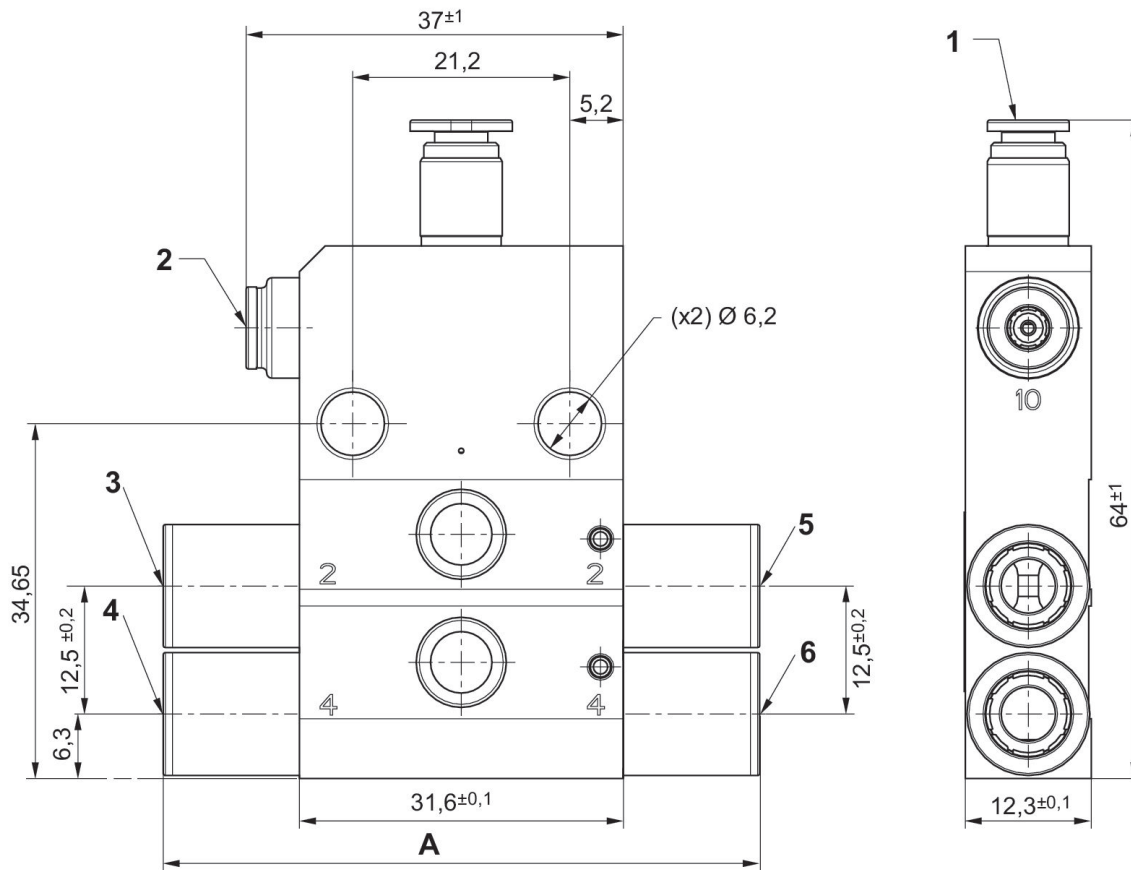
### Exhaust module, Stand-Alone

Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C  
 Min. working pressure: 0 bar  
 Max. working pressure: 10 bar



Compressed air connection 1	Housing material	Part No.
Ø 6	Aluminum	R422003808
Ø 8	Aluminum	R422003806

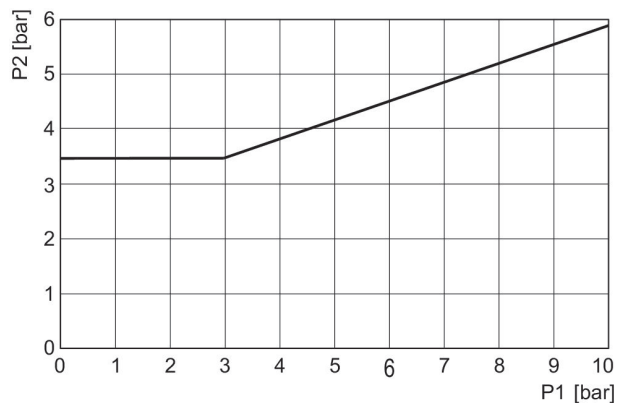
Dimensions



- 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

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

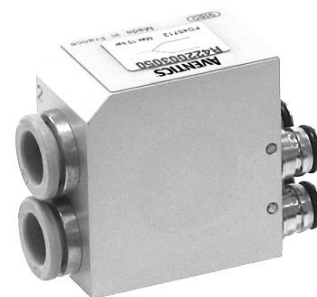
**Minimum control pressure (depending on operating pressure)**



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

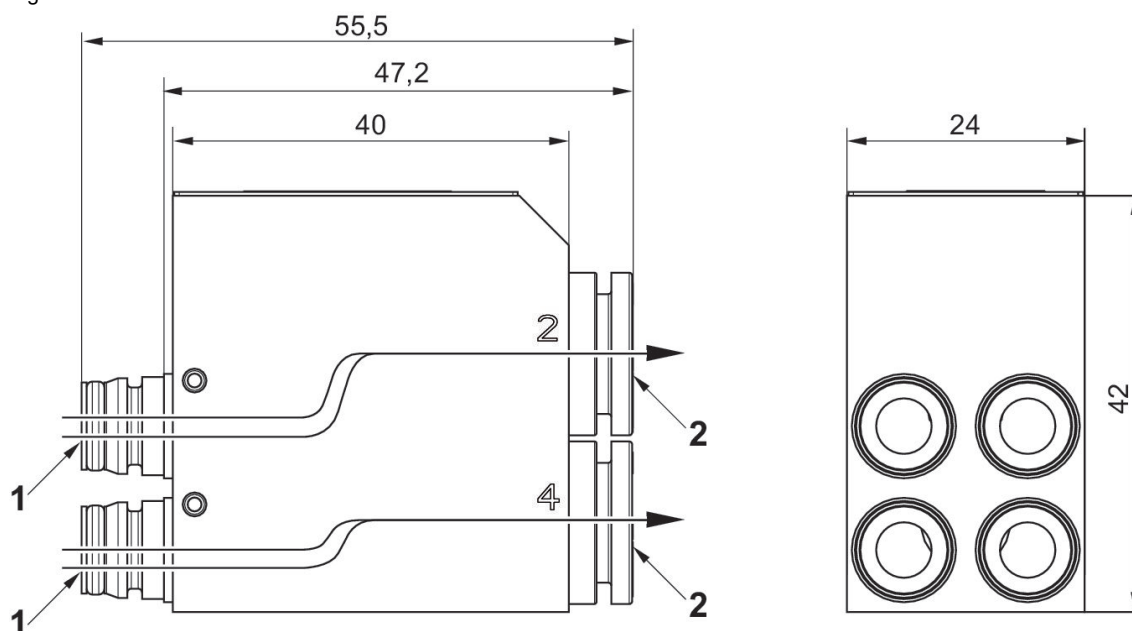
### Flow rate coupler Series AV

Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C  
 Min. working pressure: -0.95 bar  
 Max. working pressure: 10 bar



Housing material	Type	Part No.
Aluminum	2 x Ø 10	R422003050
Aluminum	1 x Ø 10	R422003060

Fig. 1



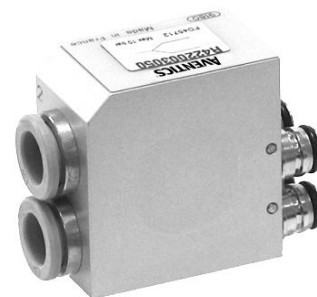
1) Pneumatic connection to base plate valves, suitable for all sizes in the AV03 and AV05 series  
 2) 2 x Ø 10

Number of valves	Valve function	Series	Flow [l/min]
2	2x3/2	AV03	730
2	2x3/2	AV05	1400



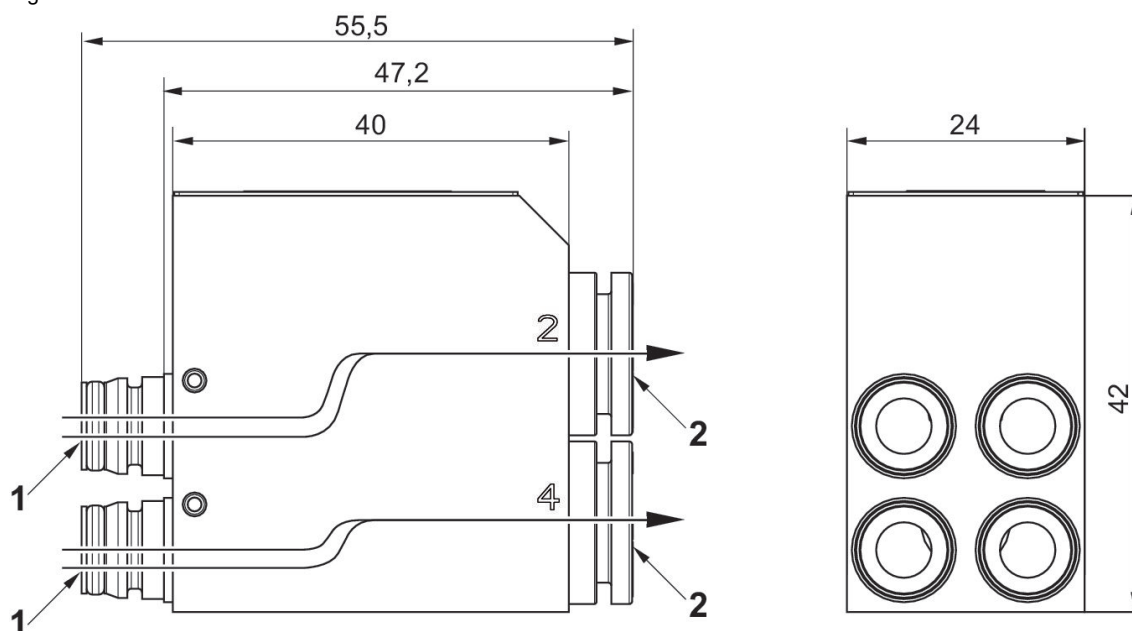
### Flow rate coupler, Series AV Inch version

Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C  
 Min. working pressure: -0.9 bar  
 Max. working pressure: 10 bar



Housing material	Type	Part No.
Aluminum	2 x 3/8"	R422102791
Aluminum	1 x 3/8"	R422102795

Fig. 1



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

Number of valves	Valve function	Series	Flow [l/min]
2	2x3/2	AV03	730
2	2x3/2	AV05	1400

## Blanking plate

For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

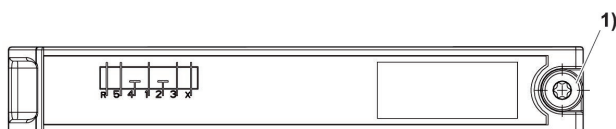
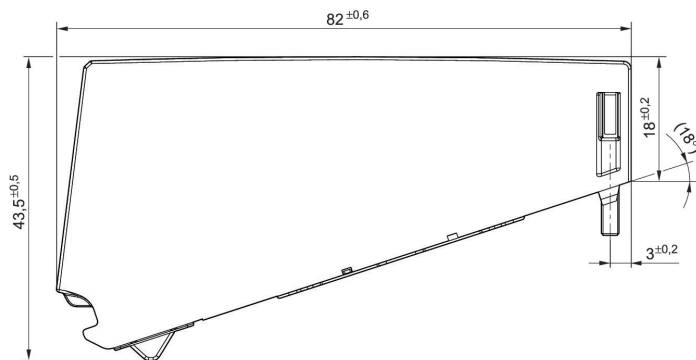
Min. working pressure: -0.9 bar

Max. working pressure: 10 bar



Type	Plate type	Part No.
Blanking plate	Blanking plate	R422102462

### Dimensions



1) Mounting screw

## Transition plate

For series: AV03-BP

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

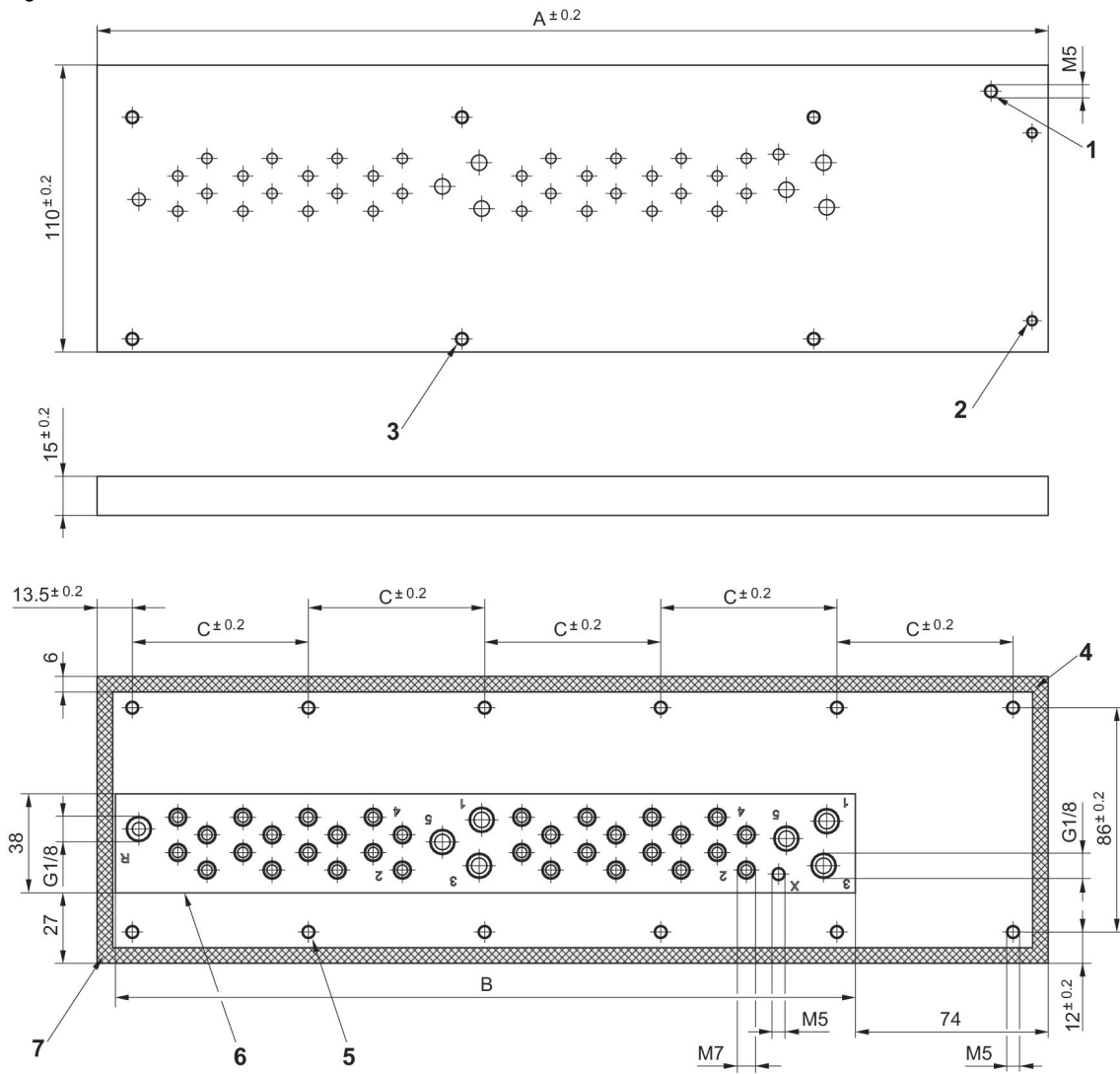
Min. working pressure: -0.95 bar

Max. working pressure: 10 bar



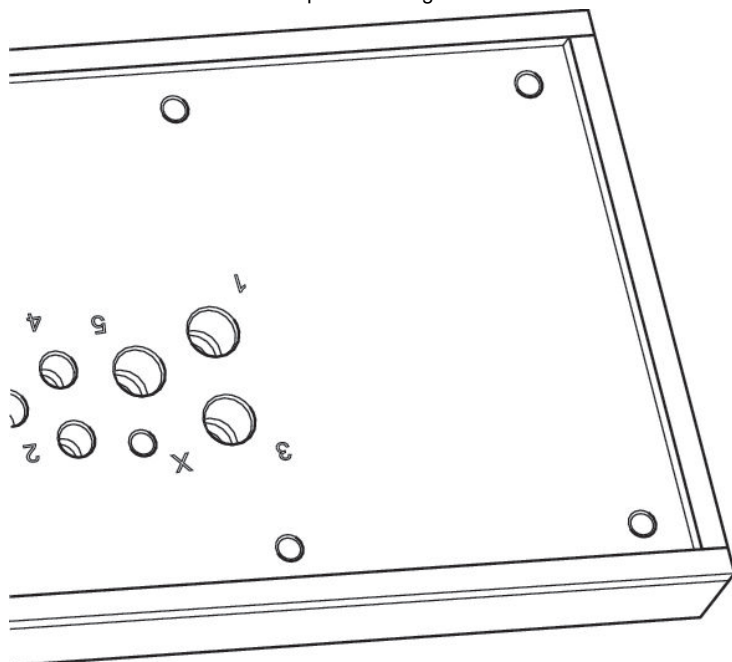
Type	Plate type	Port exhaust	Scope of delivery	Max. number of valve positions	Part No.
Internal assembly	Transition plate	G 1/8	Transition plate, sealing kit, mounting screws, sealing tape	4	R412026469
Internal assembly	Transition plate	G 1/8	Transition plate, sealing kit, mounting screws, sealing tape	8	R412026470
Internal assembly	Transition plate	G 1/8	Transition plate, sealing kit, mounting screws, sealing tape	12	R412026471
Internal assembly	Transition plate	G 1/8	Transition plate, sealing kit, mounting screws, sealing tape	16	R412026472
External assembly	Transition plate	G 1/8	Transition plate, sealing kit, mounting screws, gasket	4	R412026473
External assembly	Transition plate	G 1/8	Transition plate, sealing kit, mounting screws, gasket	8	R412026474
External assembly	Transition plate	G 1/8	Transition plate, sealing kit, mounting screws, gasket	12	R412026475
External assembly	Transition plate	G 1/8	Transition plate, sealing kit, mounting screws, gasket	16	R412026476

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

Maximum outer dimensions for push-in fitting



Glue sealing strip at the joint

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

Part No.	A	B	C
R412026469	183	102	52
R412026470	233	152	51.5
R412026471	315	234	57.6
R412026472	365	284	67.6

Connection type	Conne- ction thread	Max. exter- nal diameter
2 , 4	M7	13
1, 3 and 5 (on bottom)	G 1/8	15,5
X (on bottom)	M5	10,9
R (top, bottom)	G 1/8	15,5

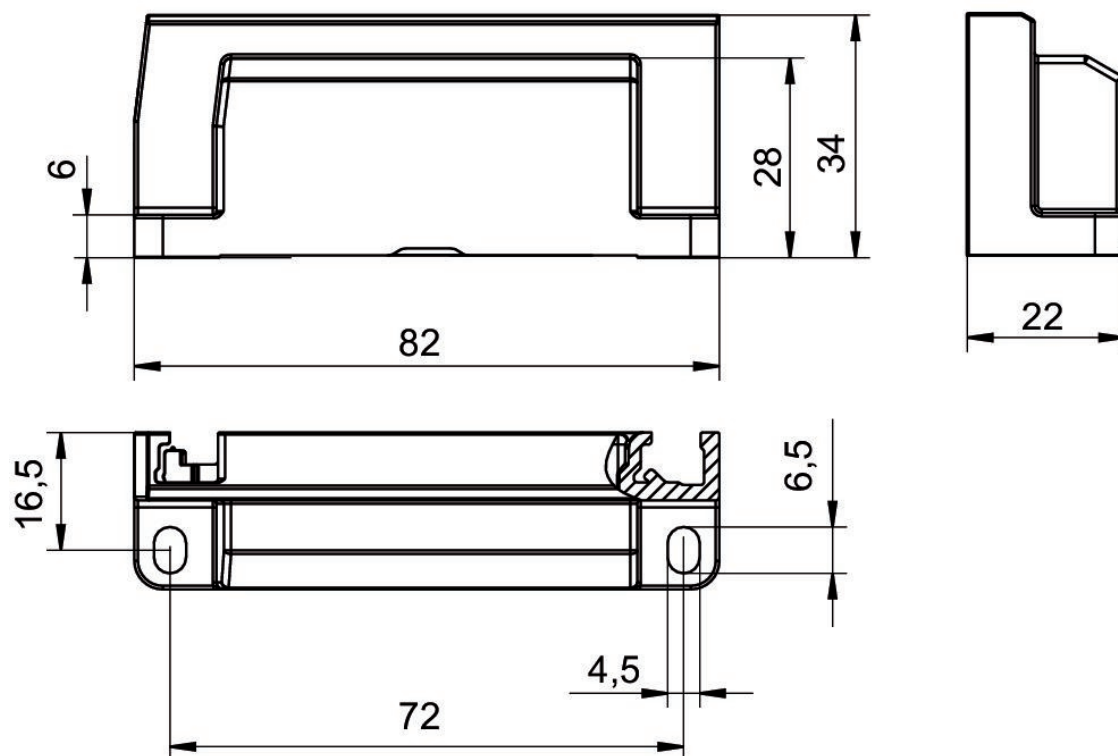
### End plate left

For series: AES  
Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C



Type	Plate type	Part No.
End plate left	End plate	R412015398

#### Dimensions



### End plate right

For series: AES  
Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C

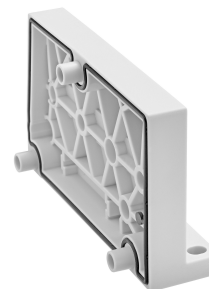
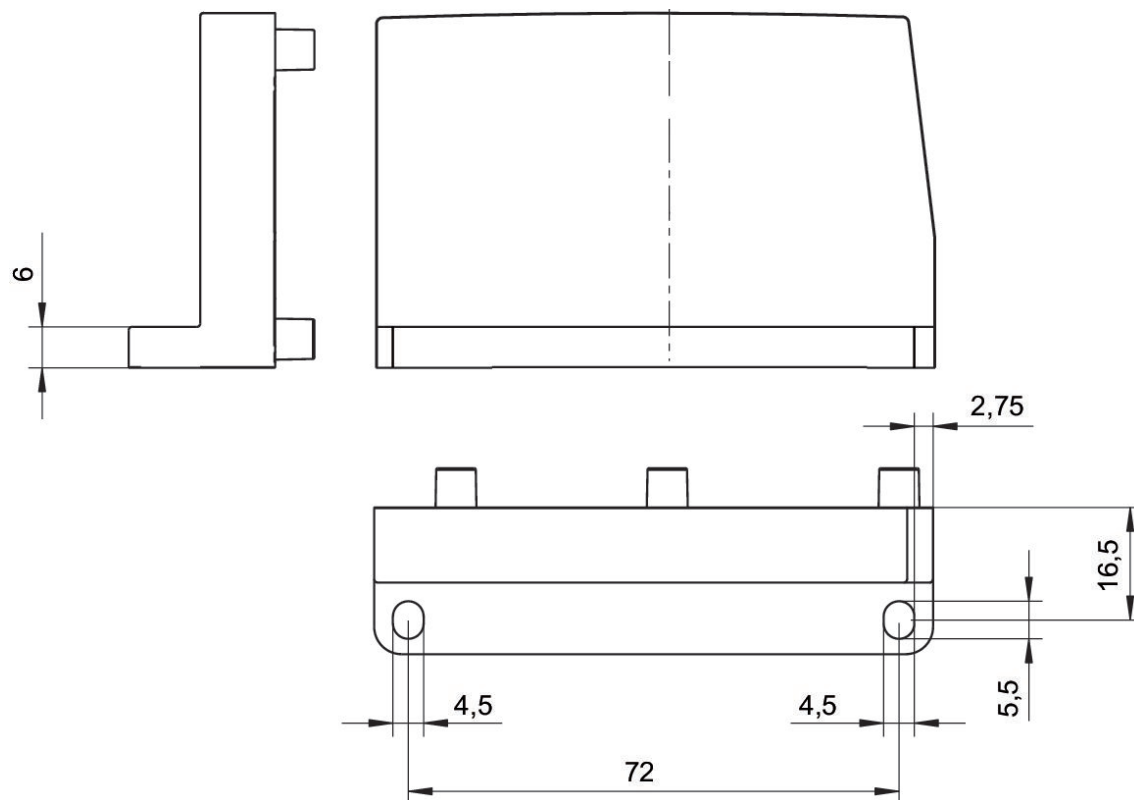


Plate type	Part No.
End plate	R412015741

#### Dimensions



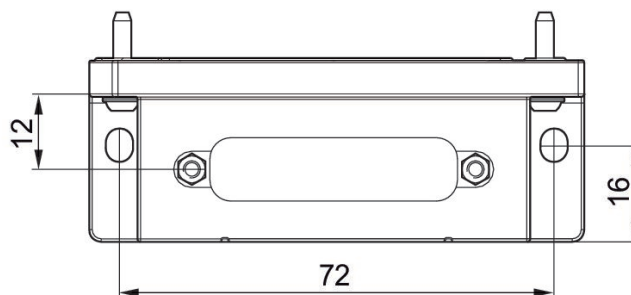
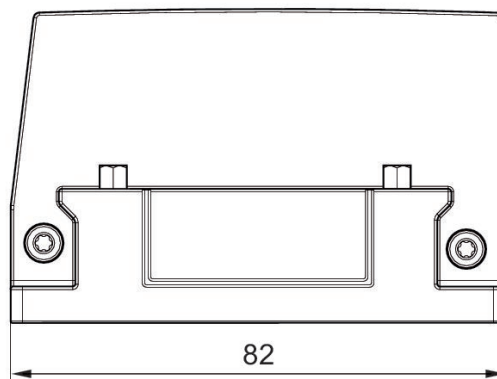
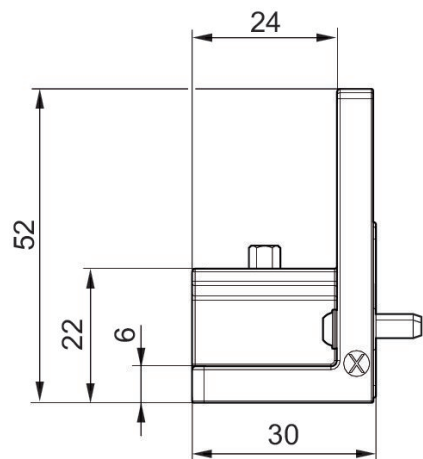
### End plate left

For series: AV03  
Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C



Type	Plate type	Part No.
Top connection	End plate	R412018334

Dimensions in mm





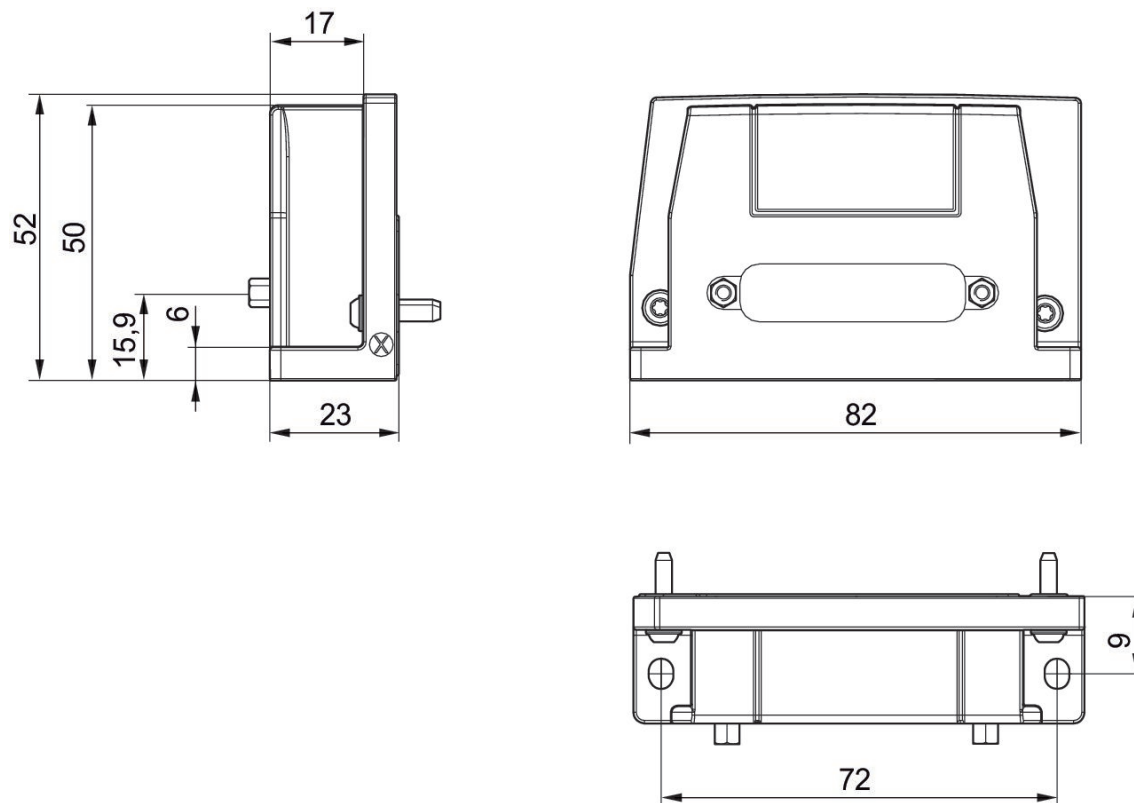
### End plate left

For series: AV03  
Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C



Type	Plate type	Part No.
Side connection	End plate	R412018335

Dimensions in mm



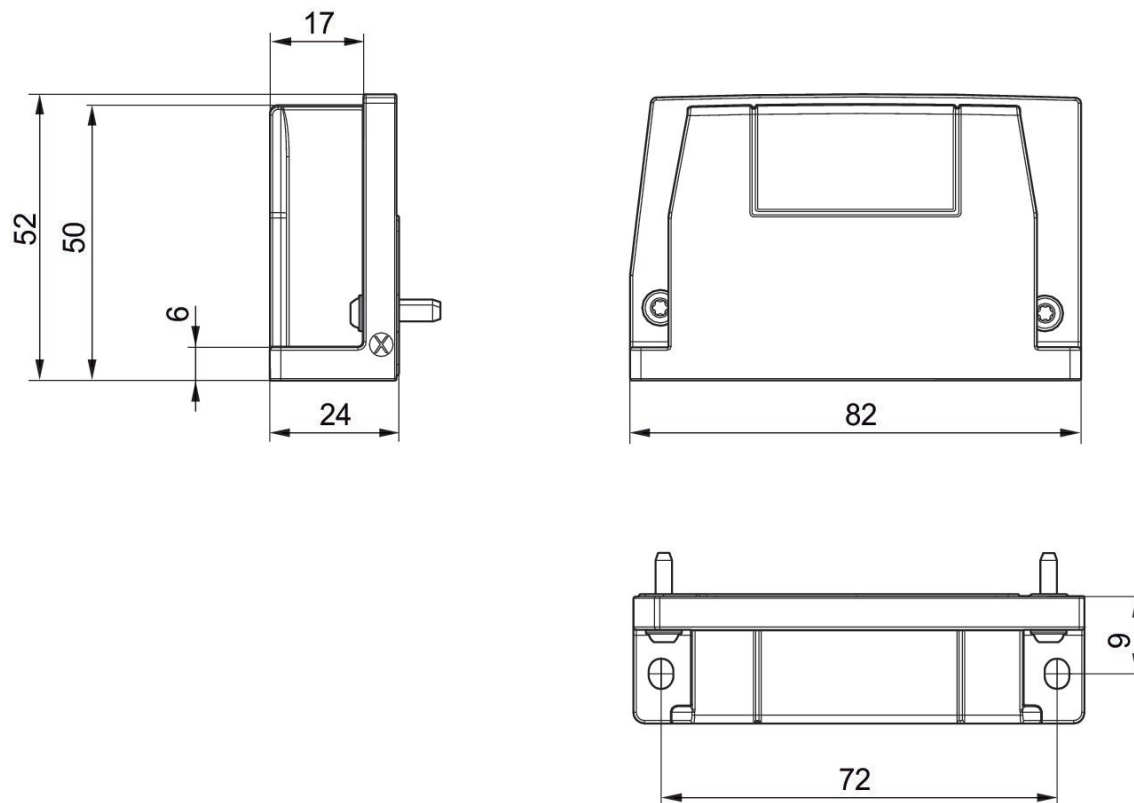
### End plate left

For series: AV03-SW  
Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C



Type	Plate type	Part No.
Single wiring	End plate	R412027731

Dimensions in mm



### End plate right

For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 50 °C

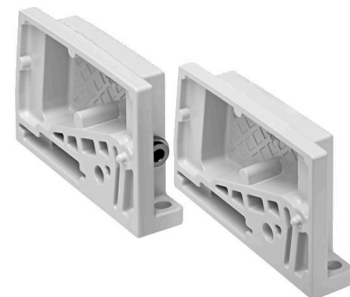
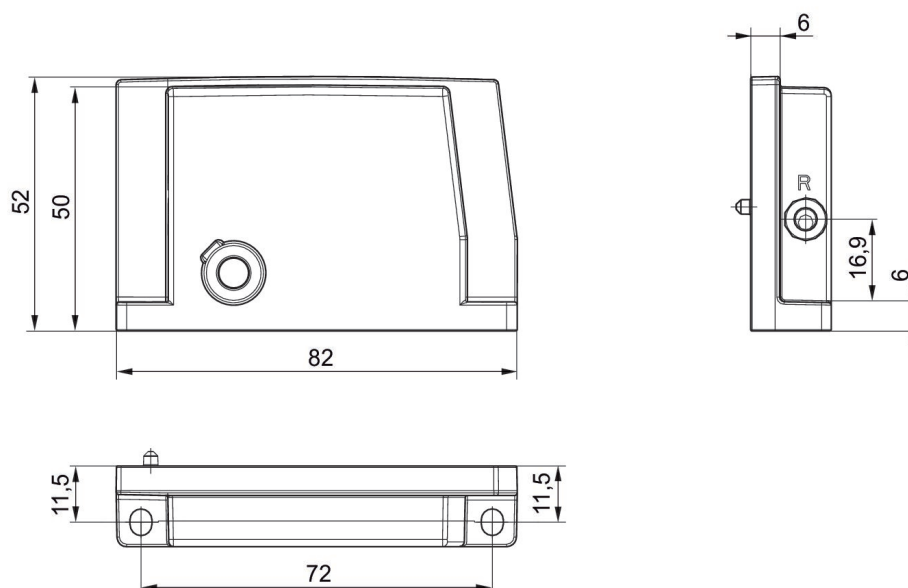


Plate type	Port exhaust	Part No.
End plate	Ø 4	R412018349
End plate		R412018350

Fig. 1

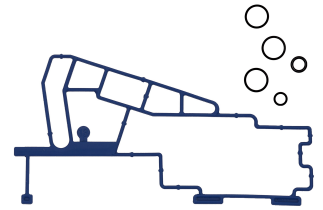


## Sealing kit

For series: AV03-BP

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C



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

### Sealing kit

For series: AV-BP  
Min. ambient temperature: -10 °C  
Max. ambient temperature: 60 °C

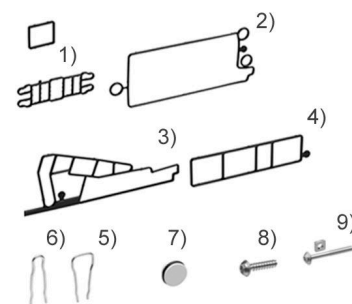


Type	Material	Part No.
Sealing kit sealing tape 1.25 m	Ethylene propylene di- ene monomer rubber	R412026466

## Accessories

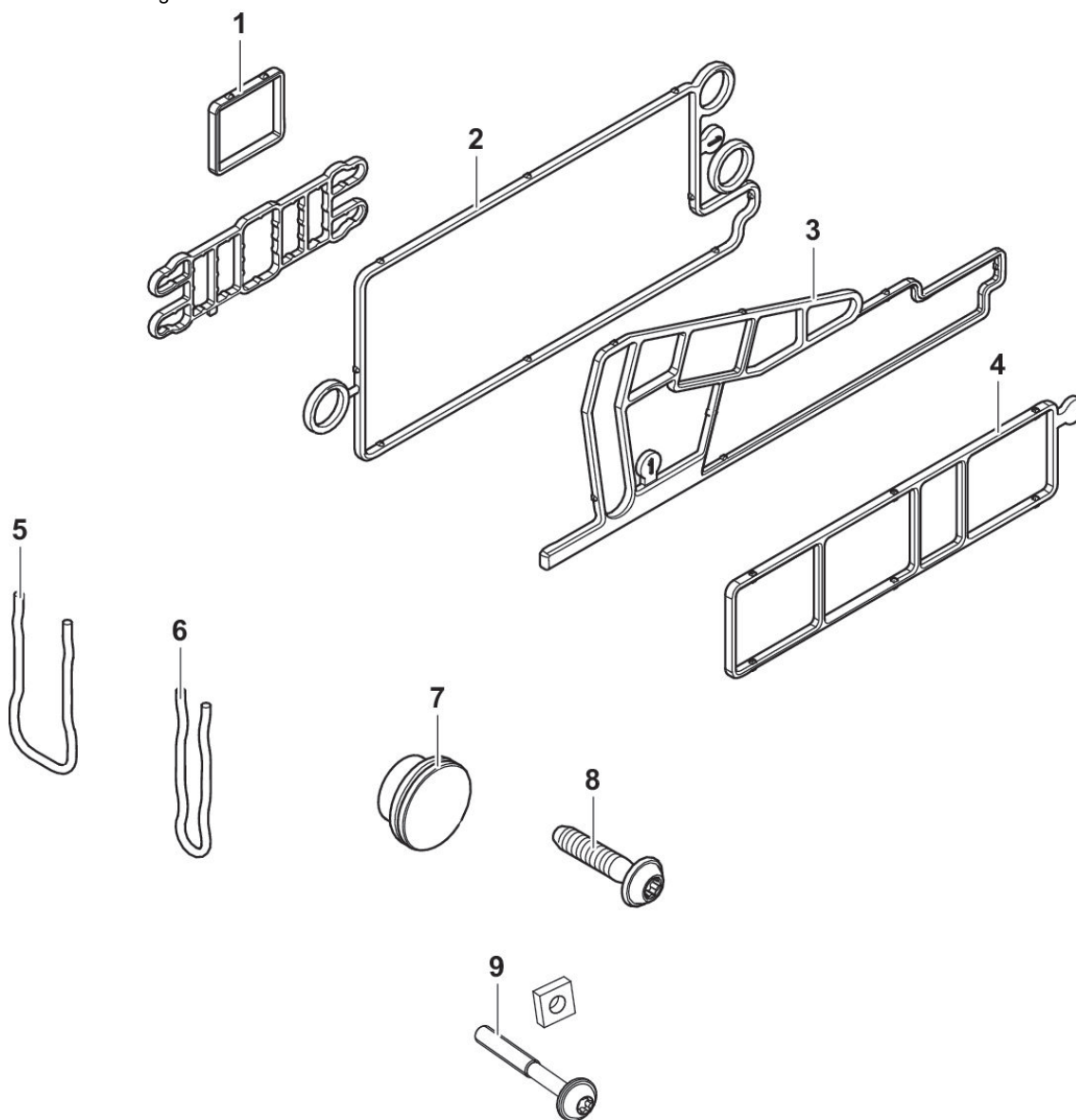
Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C



Type	Note	Part No.
AV03, Valve seals	AV03	R412018338
AV05, Valve seals	AV05	R412020084
AV03, Seals for left end plate	AV03	R412018344
AV05, Seals for left end plate	AV05	R412020080
AV03, Seals for base plate	AV03	R412018345
AV05, Seals for base plate	AV05	R412020082
AV03, Seals for function modules	AV03	R412018346
AV05, Seals for function modules	AV05	R412020081
AV03, Retaining clips for supply plate	AV03	R412018746
AV05, Retaining clips for supply plate	AV05	R412020075
AV03 / AV05, Retaining clips for base plate	AV03 / AV05	R412018747
AV03, Sealing cap for right end plate	AV03 / AV05	R412018351
AV03 / AV05, Screws for left end plate	AV03 / AV05	R412015467
AV03, Mounting screw for valve	AV03 / AV05	R412018336

Overview drawing



Position	Type	for series	Part No.
1	Valve seals	AV03	R412018338
1	Valve seals	AV05	R412020084
2	Seals for left end plate	AV03	R412018344
2	Seals for left end plate	AV05	R412020080
3	Seals for base plate	AV03	R412018345
3	Seals for base plate	AV05	R412020082
4	Seals for function modules	AV03	R412018346

Position	Type	for series	Part No.
4	Seals for function modules	AV05	R412020081
5	Retaining clips for supply plate	AV03 / AV05	R412018746
5	Retaining clips for supply plate	AV05	R412020075
6	Retaining clips for base plate	AV03 / AV05	R412018747
7	Sealing cap for right end plate	AV03	R412018351
8	Screws for left end plate	AV03 / AV05	R412015467
9	Mounting screw for valve	AV03	R412018336
tablefooter repeatColumn			



### Extension kit for base plate

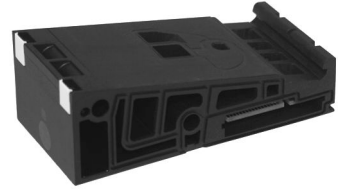
For series: AV03-EP

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

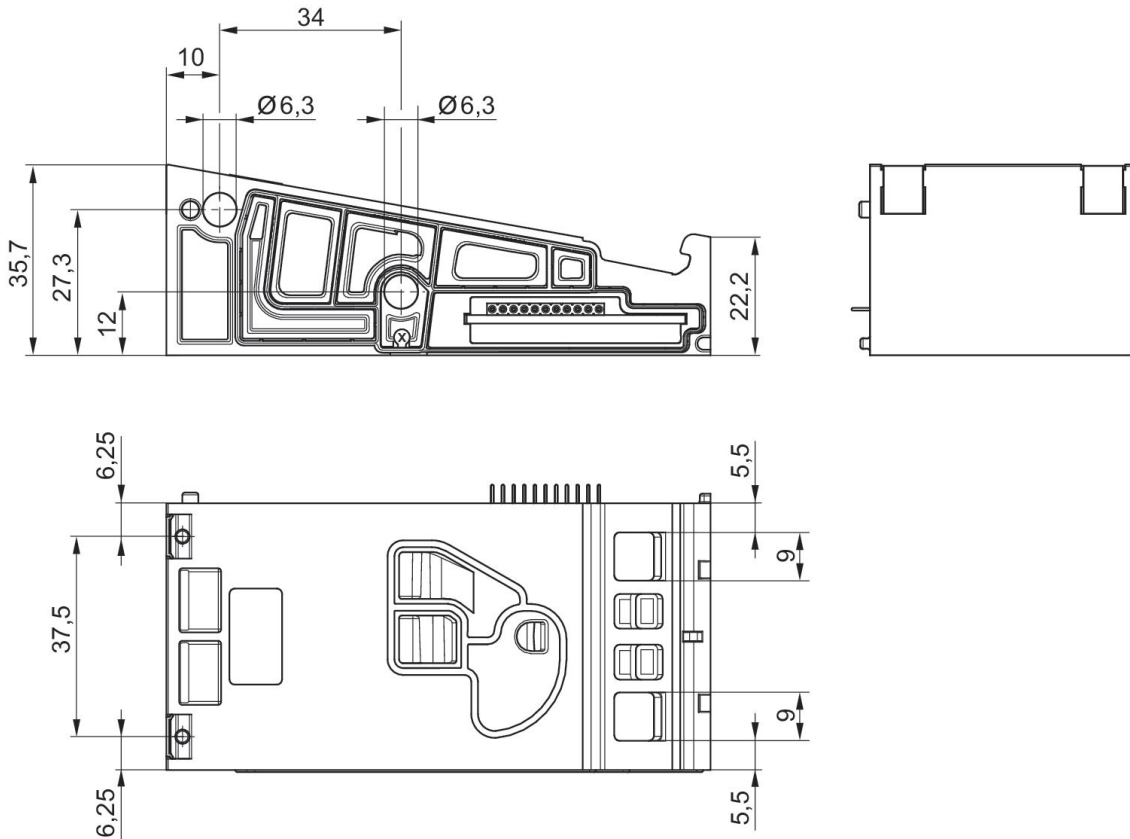
Min. working pressure: 0 bar

Max. working pressure: 11 bar

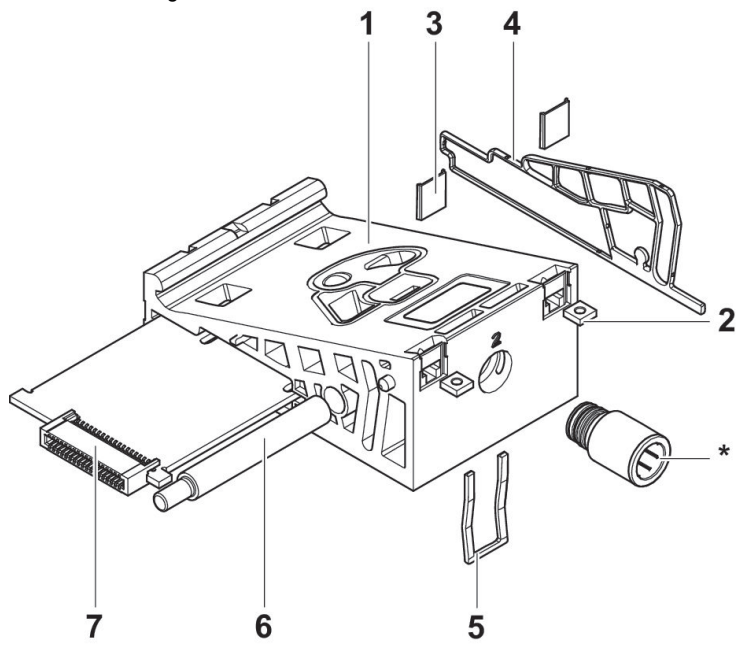


Type	Scope of delivery	Part No.
Base plate for single pressure control for multipole connection	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 extension circuit board (7)	R414007343
Base plate for pressure zone control for multipole connection	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 extension circuit board (7)	R414007344
Base plate for single pressure control for fieldbus connection	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 extension circuit board (7)	R414007533
Base plate for pressure zone control for fieldbus connection	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 extension circuit board (7)	R414007534

#### Dimensions



Overview drawing



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

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

**Extension kit for base plate**

For series: AV03-BP

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

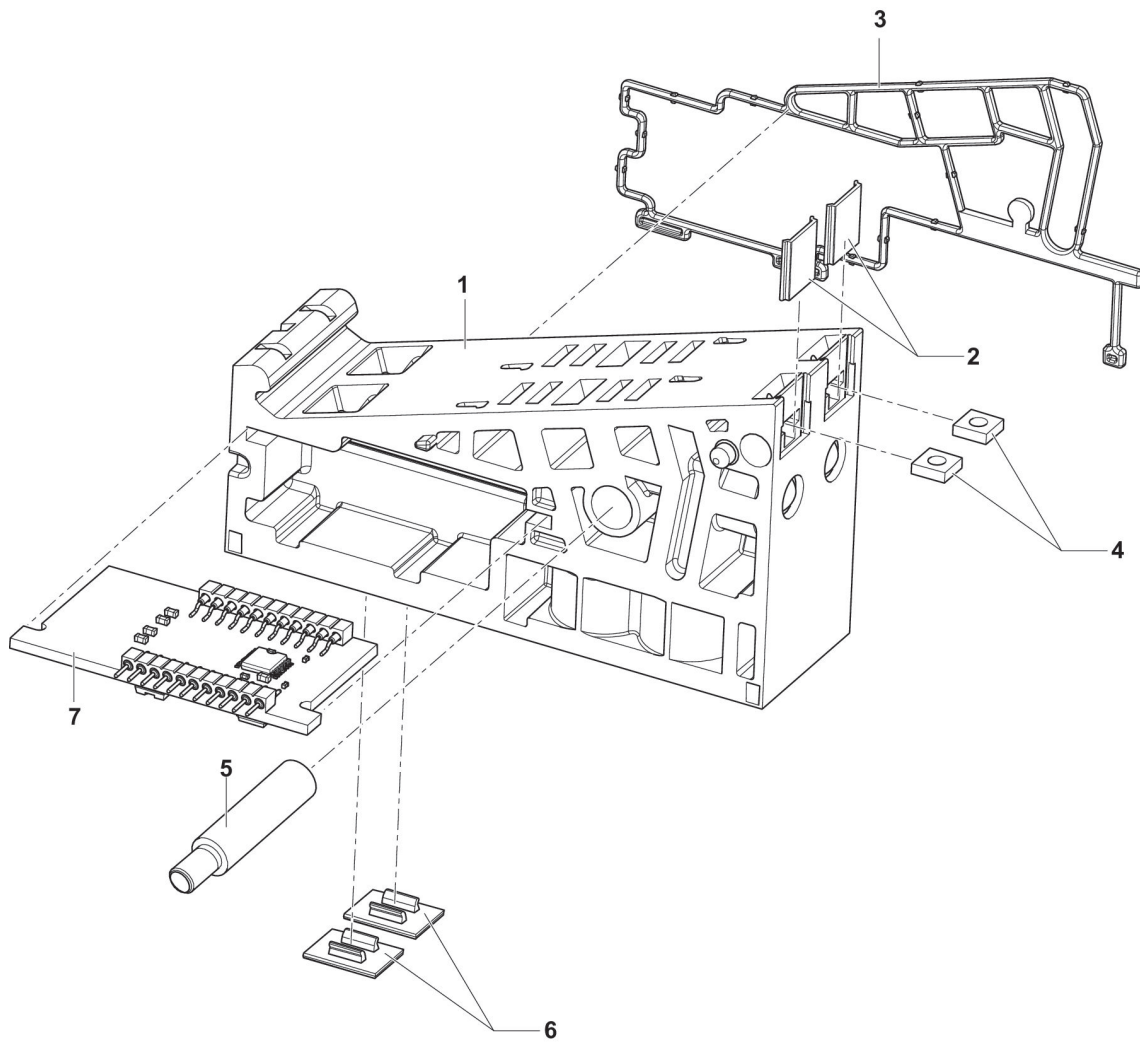
Min. working pressure: -10 bar

Max. working pressure: 60 bar



Type	Scope of delivery	Part No.
Base plate 2x for double solenoid valves for fieldbus	1 base plate (1) incl. 2 labels (2), 1 seal (3), 2 nuts (4), 2 tie rod extensions (5), 2 labels (6), and 1 extension circuit board (7)	R412026452
Base plate 4x for double solenoid valves for fieldbus	2 base plates (1) incl. 4 labels (2), 2 seals (3), 4 nuts (4), 4 tie rod extensions (5), 4 labels (6), and 1 extension circuit board (7)	R412026453
Base plate 2x for double solenoid valves for multipole plug	1 base plate (1) incl. 2 labels (2), 1 seal (3), 2 nuts (4), 2 tie rod extensions (5), 2 labels (6), and 1 extension circuit board (7)	R412026454
Base plate 2x for single solenoid valves for multipole plug	1 base plates (1) incl. 2 labels (2), 1 seals (3), 2 nuts (4), 2 tie rod extensions (5), 2 labels (6), and 1 extension circuit board (7)	R412026455

Dimensions



**Extension kit for base plate 2x**

For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

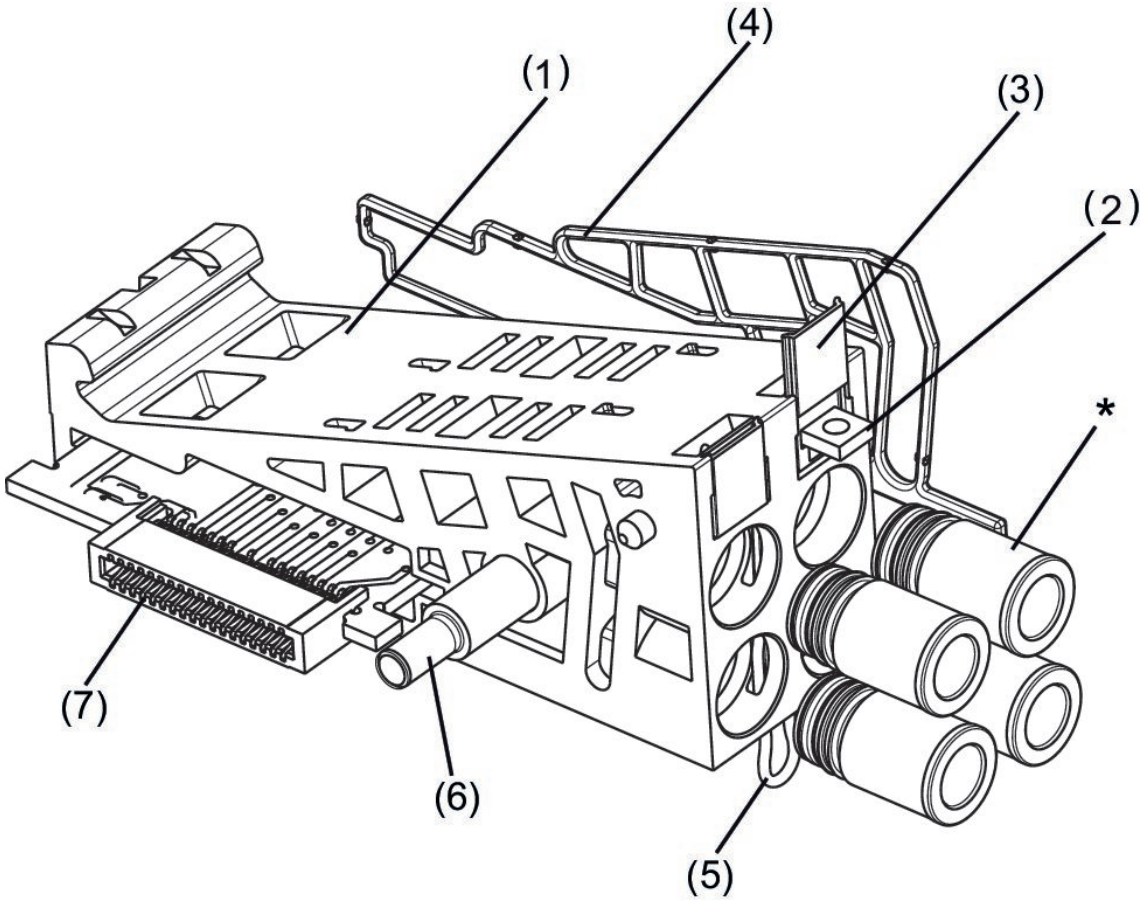
Min. working pressure: -0.95 bar

Max. working pressure: 10 bar



Type	Scope of delivery	Part No.
Base plate 2x for single solenoid valves for multipole plug	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 valve driver board, 2x (7)	R412015422
Base plate 2x for double solenoid valves for multipole plug	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 valve driver board, 2x (7)	R412015423
Base plate 2x for bus coupler	Base plate (1), incl. 2 nuts (2), 2 labels (3), 1 seal (4), 1 retaining clip (5), 1 tie rod extensions (6), and 1 valve driver board, 2x (7)	R412018088
Base plate 2x for double solenoid valves with single wiring	Base plate (1), 2x nuts (2), 2x labels (3), 1x seal (4), 1x retaining clip (5), 1x tie rod extension (6), 1x board connector (7)	R412027727
Base plate 2x for double solenoid valves with single wiring and supply plate on right	Base plate (1), 2x nuts (2), 2x labels (3), 1x seal (4), 1x retaining clip (5), 1x tie rod extension (6), 1x board connector (7)	R412027729

Overview drawing

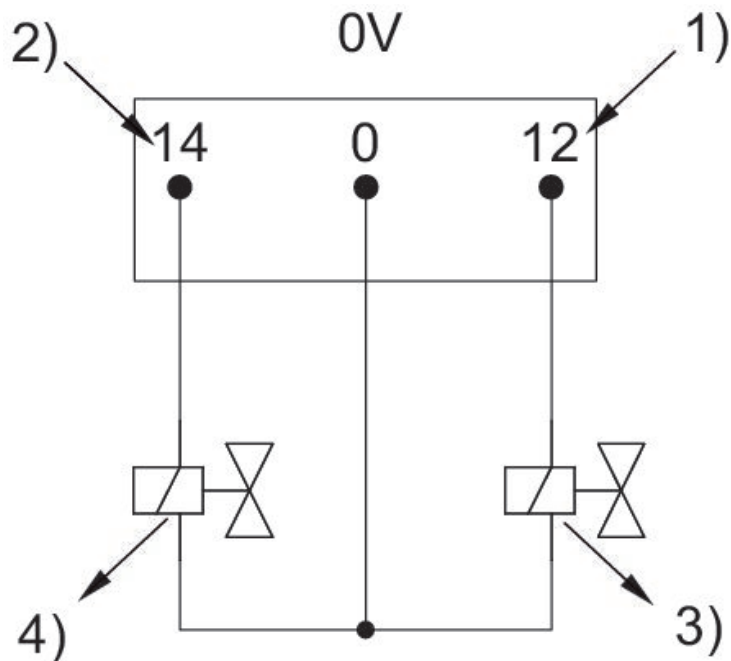


\* Push-in fittings not included in the scope of delivery.

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

R412015422, R412015423, R412018088, R412027727, R412027729

Pin assignments



- 1) Signal 12
- 2) Signal 14
- 3) Coil 12
- 4) Coil 14

**Extension kit for base plate 3x**

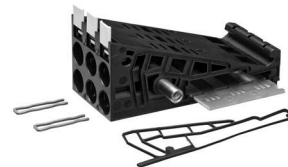
For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

Min. working pressure: -0.95 bar

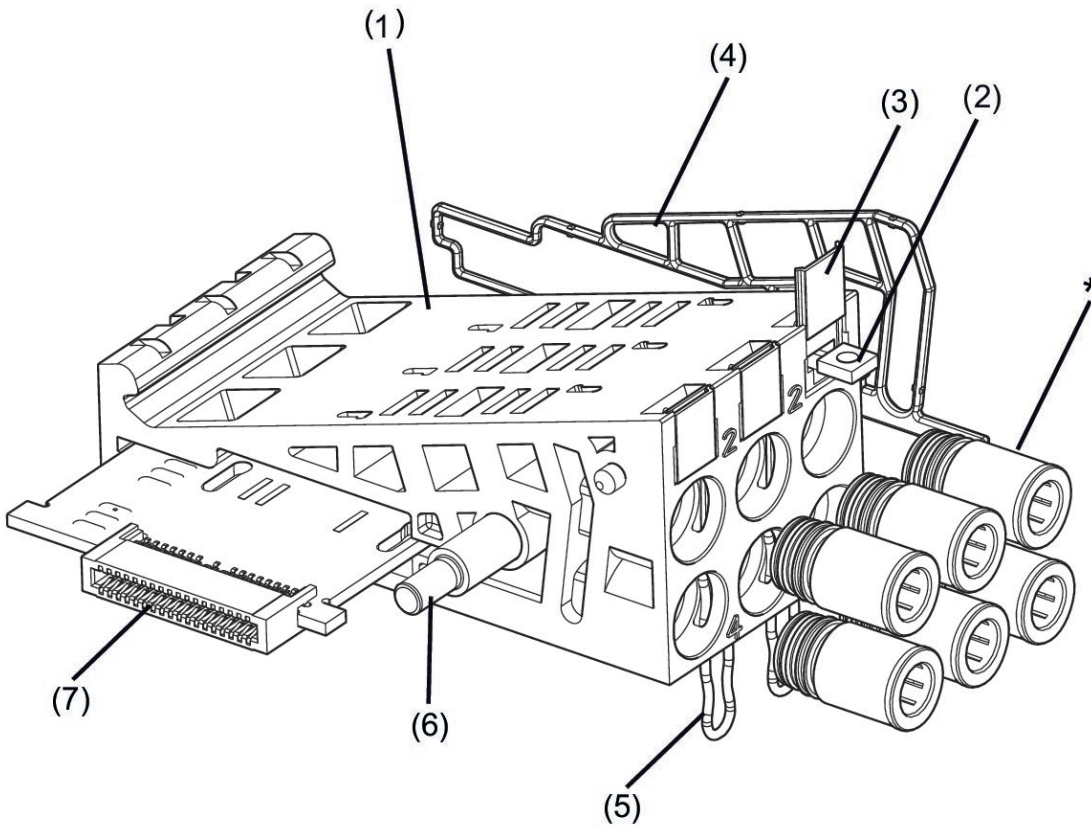
Max. working pressure: 10 bar



Type	Scope of delivery	Part No.
Base plate 3x for single solenoid valves for multipole plug	Base plate (1), incl. 3 nuts (2), 3 labels (3), 1 seal (4), 2 retaining clips (5), 1 tie rod extensions (6), and 1 extension circuit board (7)	R412018378
Base plate 3x for double solenoid valves for multipole plug	Base plate (1), incl. 3 nuts (2), 3 labels (3), 1 seal (4), 2 retaining clips (5), 1 tie rod extensions (6), and 1 extension circuit board (7)	R412018379
Base plate 3x for bus coupler	Base plate (1), incl. 3 nuts (2), 3 labels (3), 1 seal (4), 2 retaining clips (5), 1 tie rod extensions (6), and 1 extension circuit board (7)	R412018380
Base plate 3x for double solenoid valves with single wiring	Base plate (1), 2x nuts (2), 2x labels (3), 1x seal (4), 1x retaining clip (5), 1x tie rod extension (6), 1x board connector (7)	R412027728
Base plate 3x for double solenoid valves with single wiring and supply plate on right	Base plate (1), 2x nuts (2), 2x labels (3), 1x seal (4), 1x retaining clip (5), 1x tie rod extension (6), 1x board connector (7)	R412027730



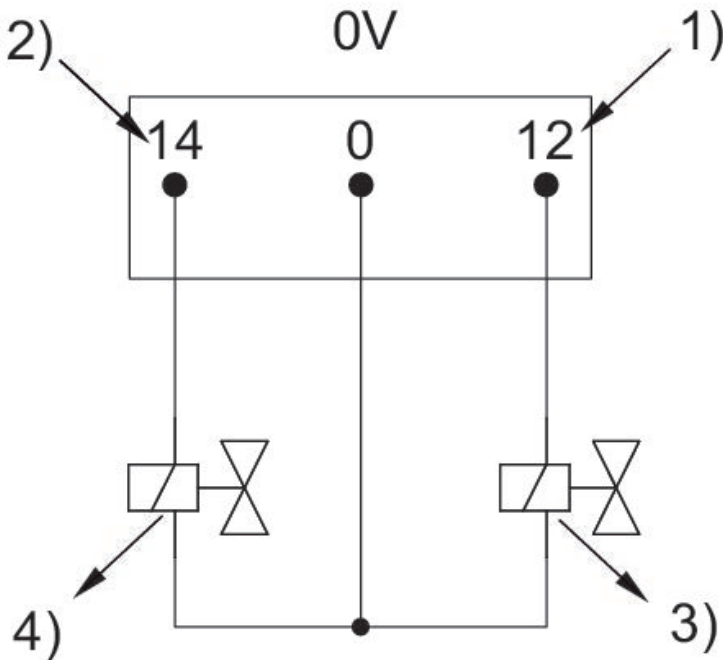
Overview drawing



\* 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.

**R412018378, R412018379, R412018380, R412027728, R412027730**

Pin assignments



1) Signal 12

- 2) Signal 14
- 3) Coil 12
- 4) Coil 14

### Extension kit for base plate 4x

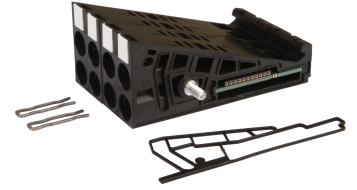
For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

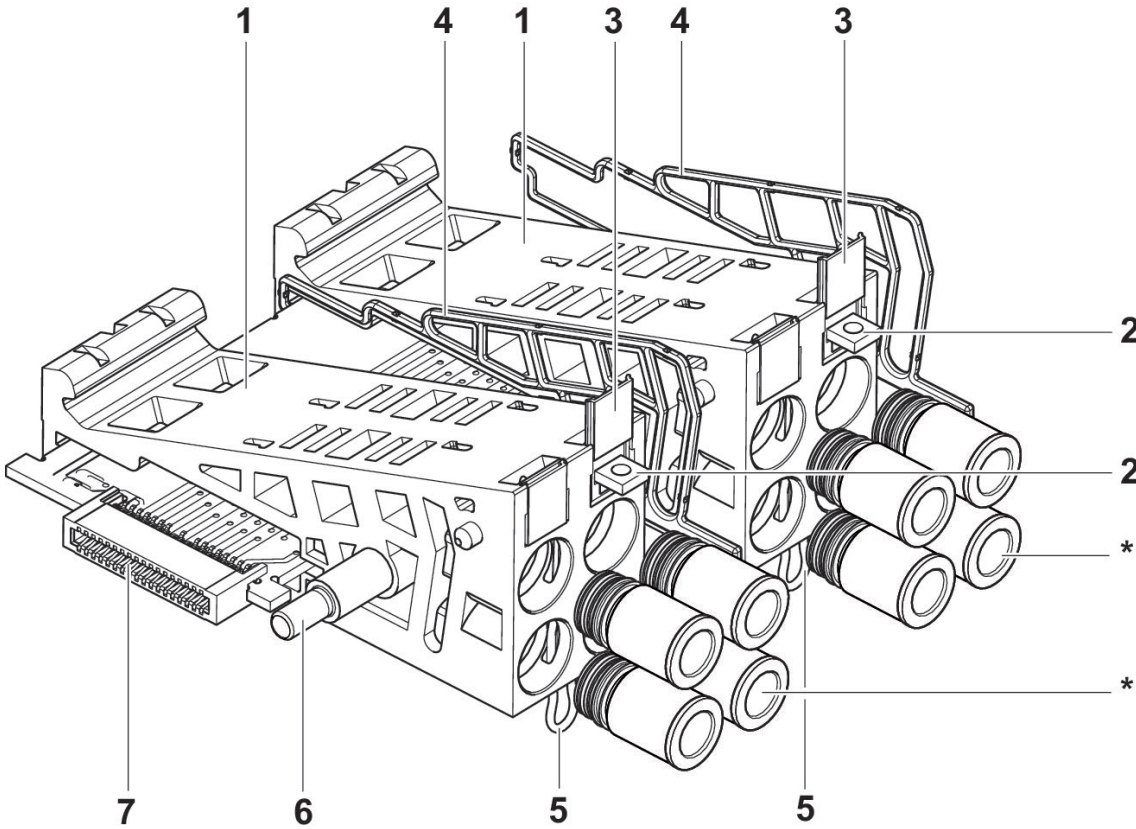
Min. working pressure: -0.95 bar

Max. working pressure: 10 bar



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

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 transition plate AES - AV03

For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

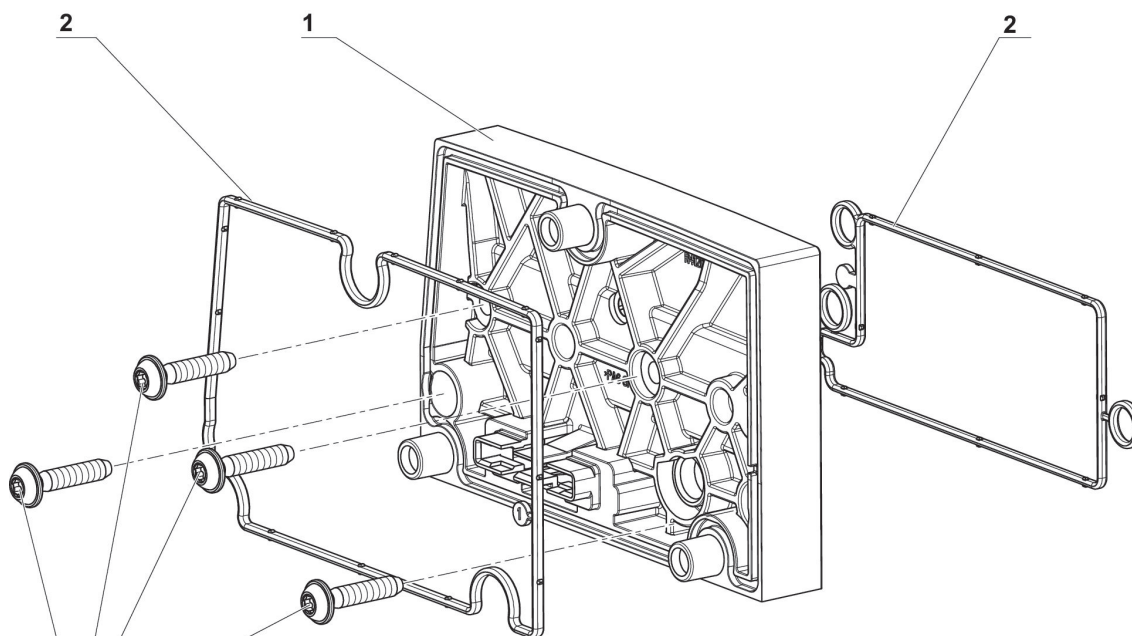
Min. working pressure: -0.95 bar

Max. working pressure: 10 bar



Scope of delivery	Part No.
Adapter plate incl. 2x sealings, 4x screws, 1x tie rod nut, 1x circuit board	R412015587

#### Dimensions



**3**  
MA: 0.95±0.1 Nm

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

### Extension kit, exhaust module for supply plate

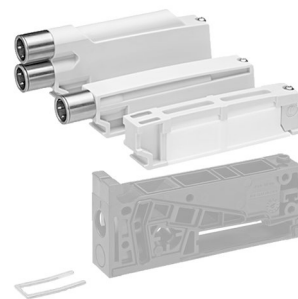
For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

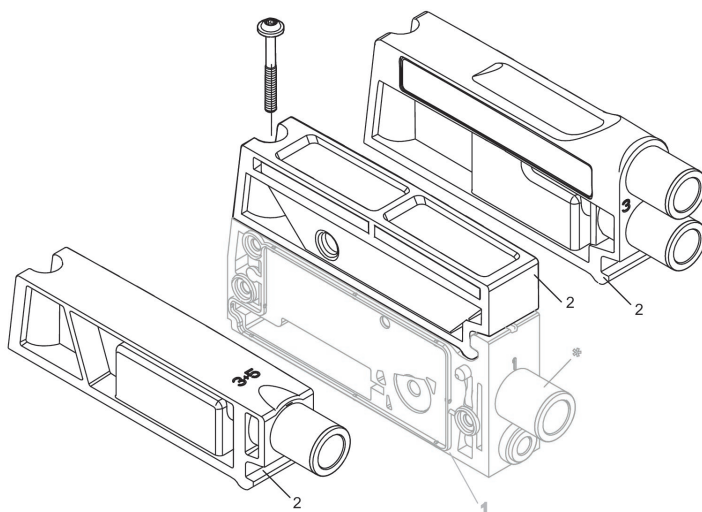
Min. working pressure: -0.95 bar

Max. working pressure: 10 bar



Type	Scope of delivery	Part No.
Exhaust module 3, 5, and R with flat silencer	Exhaust module, including 1 seal, 1 mounting screw	R412018331
Exhaust module with combined collected exhaust 3 and 5	Exhaust module, incl. 1 mounting screw, push-in fitting Ø 8 mm	R412018332
Exhaust module with separate collected exhaust 3 and 5	Exhaust module, incl. 1 mounting screw, push-in fitting Ø 8 mm	R412018333

Overview drawing



2) Exhaust module

### Extension kit, supply plate with switch-off voltage monitoring

For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

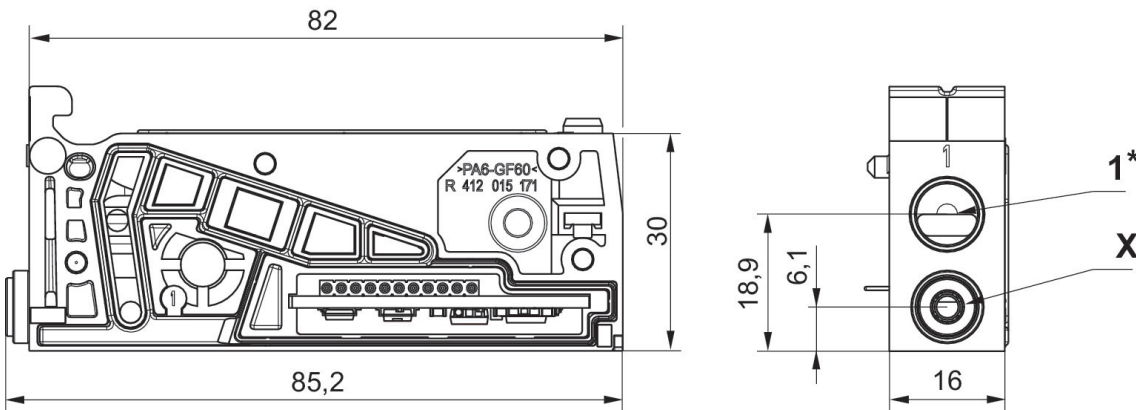
Min. working pressure: -0.95 bar

Max. working pressure: 10 bar



Type	Scope of delivery	Version	Part No.
Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412025065
Supply plate, connection 1, X, external pilot, separate pressure zones in channels 1/3/5/X	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412025066
Supply plate, connection 1, no pressure zones	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412025067
Supply plate, connection 1, separate pressure zones in channels 1/3/5	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412025068
Supply plate, connection 1, separate pressure zone in channel 1	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412025069
Supply plate, connection 1, separate pressure zones in channels 3/5	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412025070

Dimensions



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

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

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

**Extension kit, supply plate, center**

For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

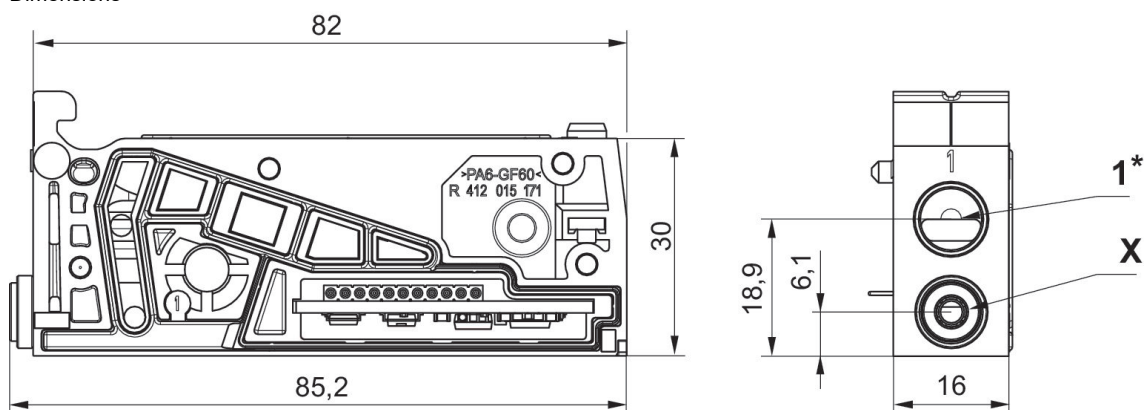
Min. working pressure: -0.95 bar

Max. working pressure: 10 bar



Type	Scope of delivery	Version	Part No.
Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412026822
Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Multipole	R412026824
Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412026821
Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Multipole	R412026823
Supply plate, connection 1, no pressure zones	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412018337
Supply plate, connection 1, no pressure zones	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Multipole	R412022575
Supply plate, connection 1, separate pressure zones in channels 1/3/5	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412018613
Supply plate, connection 1, separate pressure zones in channels 1/3/5	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Multipole	R412022576
Supply plate, connection 1, separate pressure zone in channel 1	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412018614
Supply plate, connection 1, separate pressure zone in channel 1	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Multipole	R412022577
Supply plate, connection 1, separate pressure zones in channels 3/5	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412018615
Supply plate, connection 1, separate pressure zones in channels 3/5	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Multipole	R412022578

Dimensions



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

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

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



### Extension kit, supply plate, left

For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

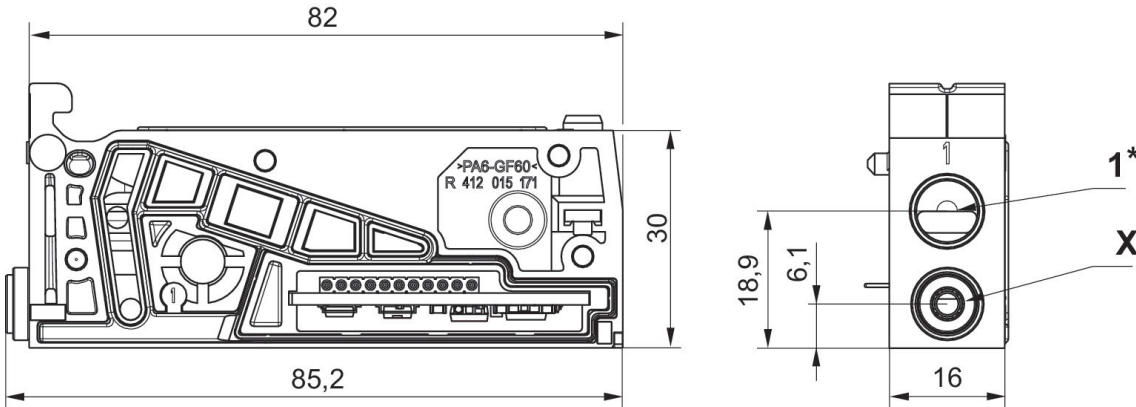
Min. working pressure: -0.95 bar

Max. working pressure: 10 bar



Type	Scope of delivery	Version	Part No.
Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X/R	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412018347
Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X/R	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Multipole	R412022573
Supply plate, connection 1, internal pilot, separate pressure zones in channels 1/3/5/X/R	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Single wiring	R412028232
Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X/R	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Fieldbus	R412018348
Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X/R	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Multipole	R412022574
Supply plate, connection 1, external pilot, separate pressure zones in channels 1/3/5/X/R	Supply plate incl. 1 nut, 2 seals, 1 retaining clip, 1 screw, 1 tie rod extension, and 1 extension circuit board	Single wiring	R412028231

Dimensions



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

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

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

**Extension kit, supply plate**

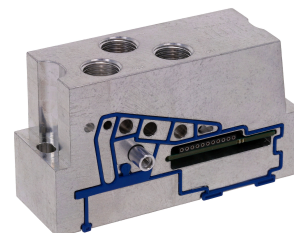
For series: AV03-BP

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

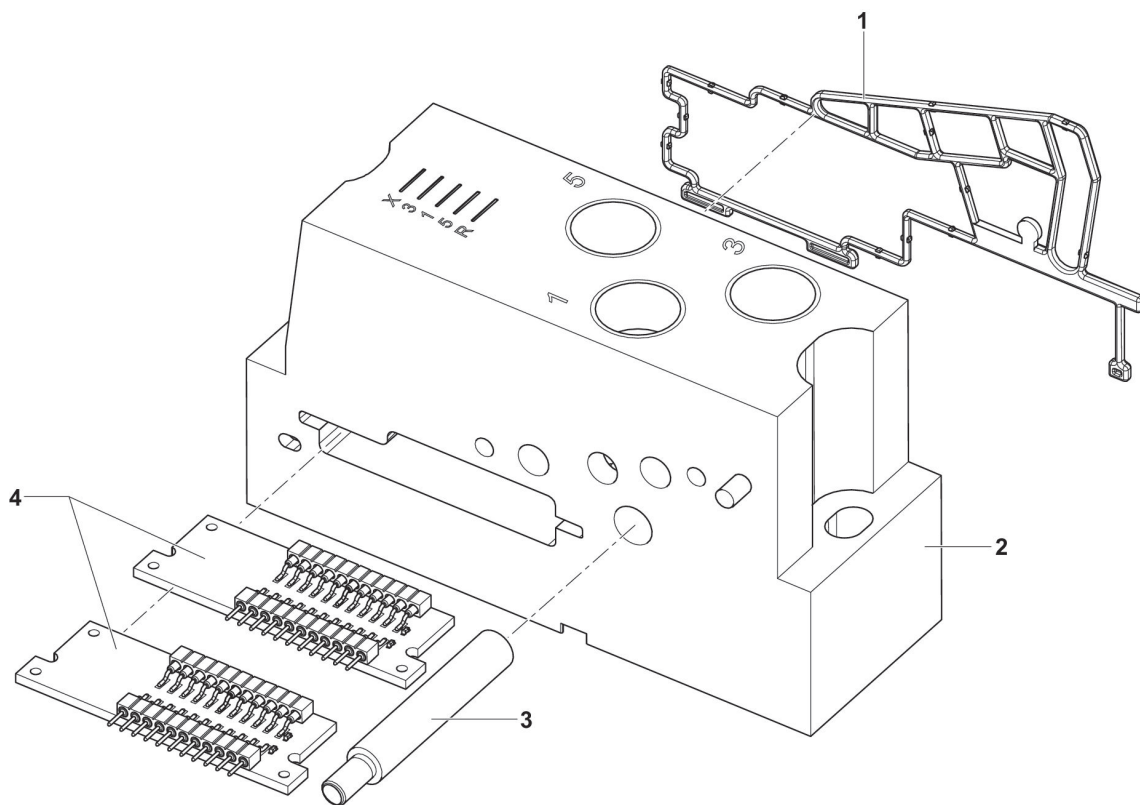
Min. working pressure: -0.95 bar

Max. working pressure: 10 bar



Type	Scope of delivery	Version	Part No.
Supply plate, connection 1, 3, 5, no pressure zones	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)	Fieldbus	R412026434
Supply plate, connection 1, 3, 5, no pressure zones	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)	Multipole	R412026438
Supply plate, connection 1, 3, 5 separate pressure zones in channels 1/3/5	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)	Fieldbus	R412026435
Supply plate, connection 1, 3, 5 separate pressure zones in channels 1/3/5	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)	Multipole	R412026439
Supply plate, connection 1, 3, 5 separate pressure zones in channels 1	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)	Fieldbus	R412026436
Supply plate, connection 1, 3, 5 separate pressure zones in channels 1	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)	Multipole	R412026440
Supply plate, connection 1, 3, 5 separate pressure zones in channels 3/5	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)	Fieldbus	R412026437
Supply plate, connection 1, 3, 5 separate pressure zones in channels 3/5	Supply plate (2) incl. 1 seal (1), 1 tie rod extension (3) and 2 extension circuit boards (4)	Multipole	R412026441

Dimensions



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

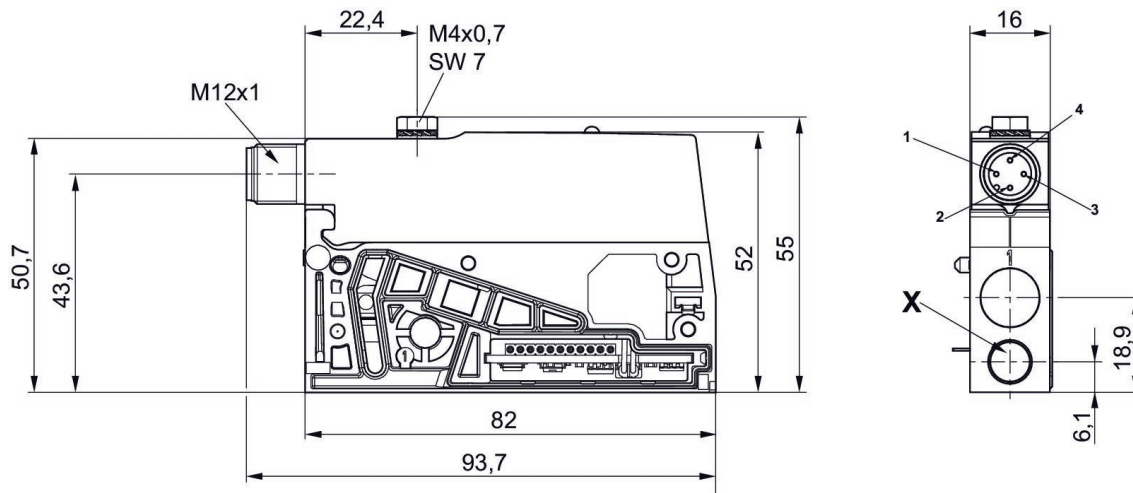
### Extension kit, electrical supply plate

For series: AV03 AES  
 Electrical connection 2, thread size: M12  
 Electrical connection 2, number of poles: 4-pin  
 Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C



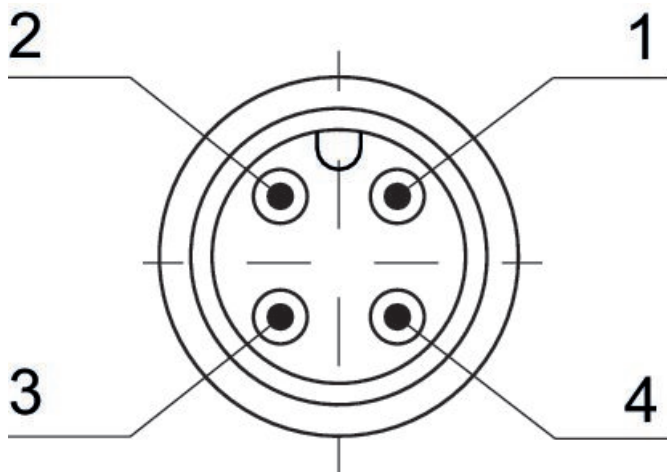
Plate type	Scope of delivery	Part No.
Assembly kit	Supply plate, incl. 1 seal, 1 tie rod, and 1 screw for extension	R412021748
Assembly kit	Supply plate, incl. 1 seal, 1 tie rod, and 1 screw for extension	R412021752

Dimensions



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

R412021748, R412021752



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

### Extension kit, Electrical valve control module

For series: AV03

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

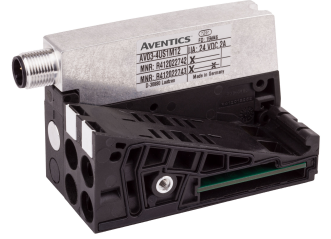
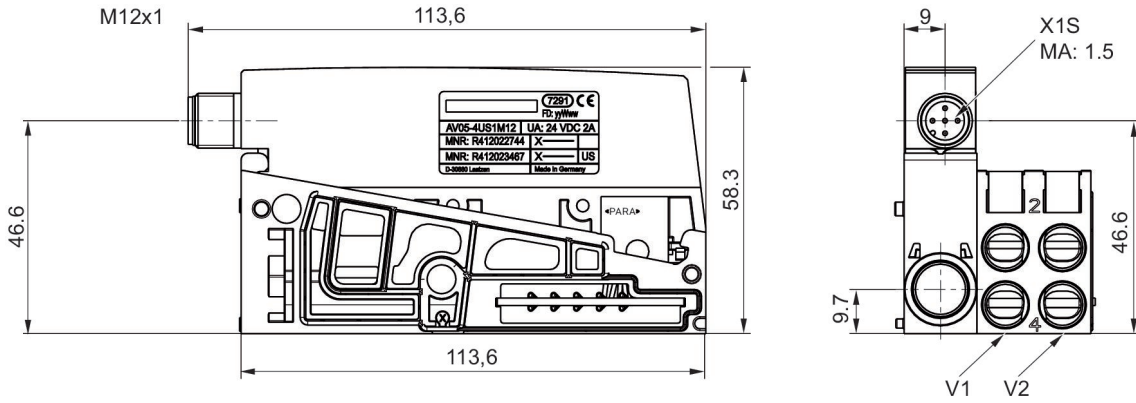


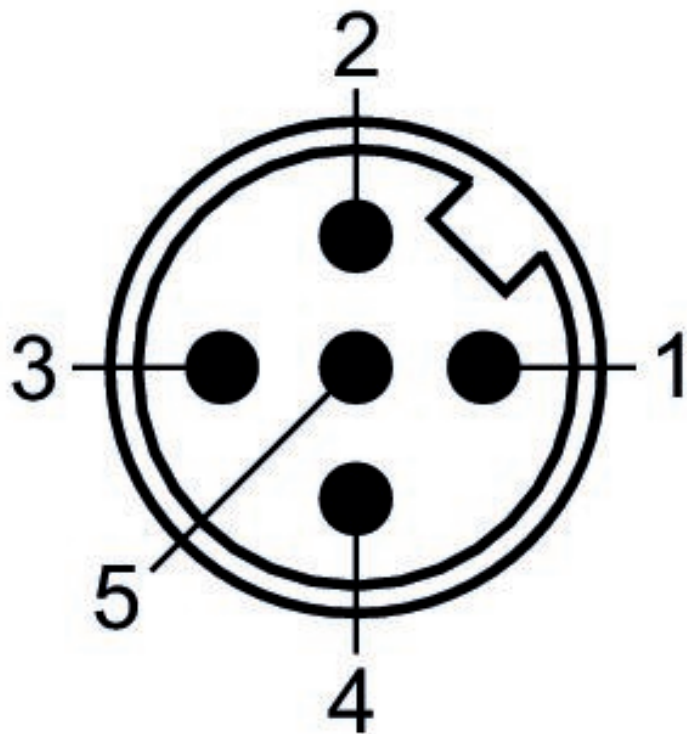
Plate type	Scope of delivery	Part No.
Assembly kit	M12 control module (incl. base plate for 2 valve positions incl. 2 nuts, 2 labels), 1 tie rod extension 16 mm, 1 tide rod extension 25 mm, 1 screw, 1 retaining clip, and 1 seal	R412022742

Dimensions



R412022742

Plug pin assignment



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

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

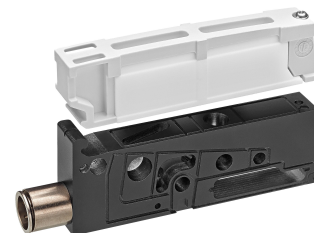
**Extension kit, combination plate, Series AV**

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

Min. working pressure: -0.95 bar

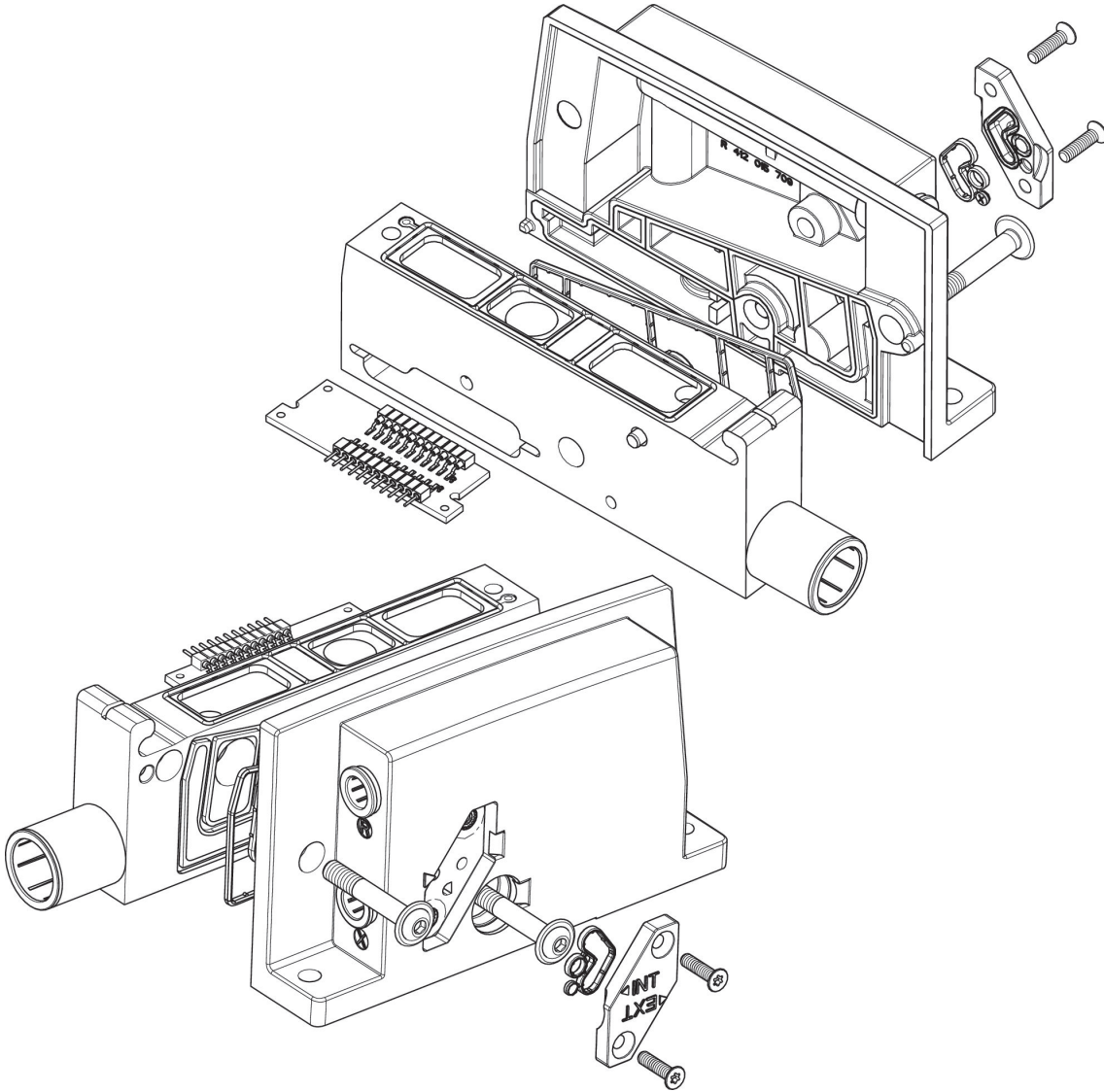
Max. working pressure: 10 bar



Type	Plate type	Scope of delivery	Version	Part No.
Supply plate, connection 1, no pressure zones	Base plate	Combination module, right end plate AV05, screws, and seal	Fieldbus	R412021780
Supply plate, connection 1, no pressure zones	Base plate	Combination module, right end plate AV05, screws, and seal	Fieldbus	R412022594
Supply plate, connection 1, no pressure zones	Base plate	Combination module, right end plate AV05, screws, and seal	Multipole	R412021777
Supply plate, connection 1, no pressure zones	Base plate	Combination module, right end plate AV05, screws, and seal	Multipole	R412022592
Supply plate, connection 1, separate pressure zones in channels 1/3/5	Base plate	Combination module, right end plate AV05, screws, and seal	Fieldbus	R412021779
Supply plate, connection 1, separate pressure zones in channels 1/3/5	Base plate	Combination module, right end plate AV05, screws, and seal	Fieldbus	R412022593
Supply plate, connection 1, separate pressure zones in channels 1/3/5	Base plate	Combination module, right end plate AV05, screws, and seal	Multipole	R412021776
Supply plate, connection 1, separate pressure zones in channels 1/3/5	Base plate	Combination module, right end plate AV05, screws, and seal	Multipole	R412022591



Dimensions



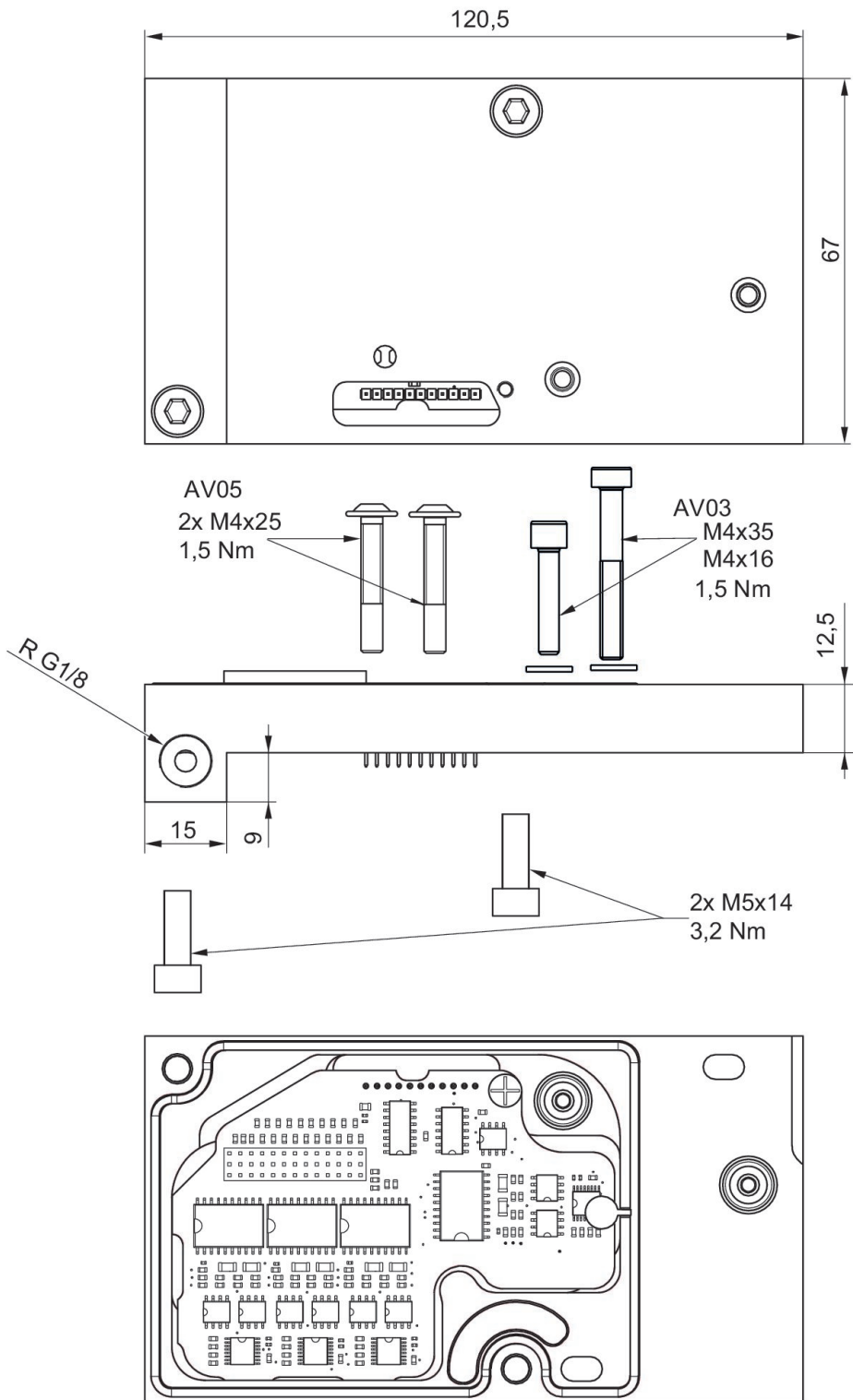
### Extension kit, combination plate

For series: AV03 AV05 HF02-LG  
 Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C



Type	Scope of delivery	Version	Part No.
32 outputs	Includes screws and seals.	Fieldbus	R422004007
30 outputs	Includes screws and seals.	Multipole	R422004056

Dimensions



### Round plug connector, Series CON-RD

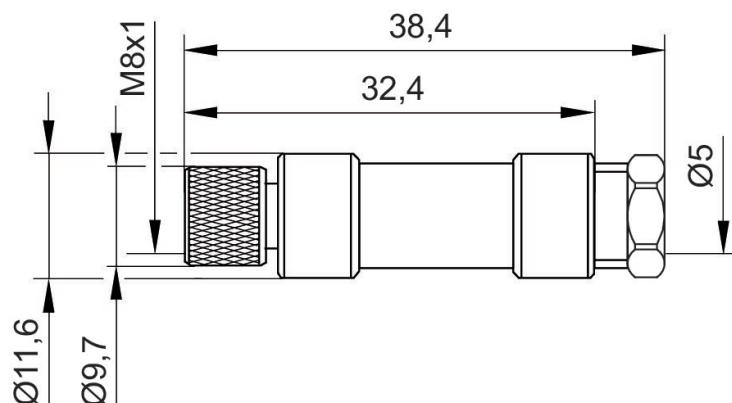
Min. ambient temperature: -40 °C  
 Max. ambient temperature: 85 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M8x1  
 Electrical connection 1, number of poles: 3-pin  
 Cable exit 1: straight



Operational voltage	Contact assignment	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	3-pin	A-coded	unshielded	Screws	4	3.5	5	R412021676

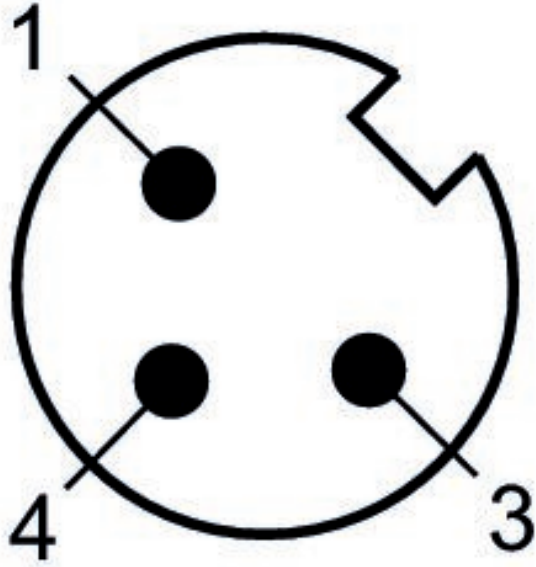
Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
-40	85	R412021676

Dimensions



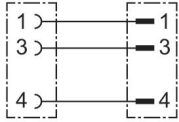
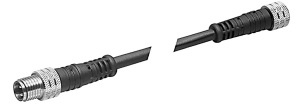
**R412021676**

Plug pin assignment



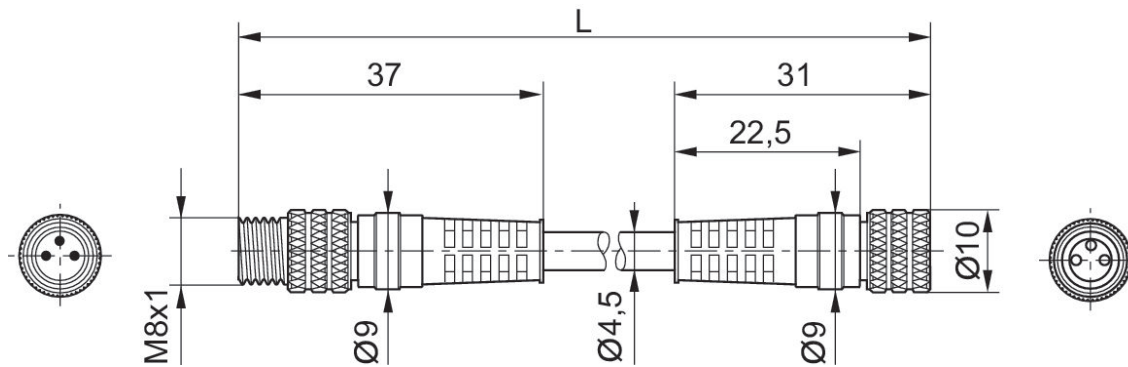
### Round plug connector, Series CON-RD, Plug M8x1

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M8x1  
 Electrical connection 1, number of poles: 3-pin  
 Cable exit 1: straight  
 Electrical connection 2, type: Socket  
 Electrical connection 2, thread size: M8x1  
 Electrical connection 2, number of poles: 3-pin  
 Cable exit 2: straight



Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Electrical connection 2, coding	Cable exit 2	Cable length [m]	Part No.
Socket	M8x1	3-pin	A-coded	straight	Plug	M8x1	3-pin	A-coded	straight	1	8946203702
Socket	M8x1	3-pin	A-coded	straight	Plug	M8x1	3-pin	A-coded	straight	2	8946203712
Socket	M8x1	3-pin	A-coded	straight	Plug	M8x1	3-pin	A-coded	straight	5	8946203722

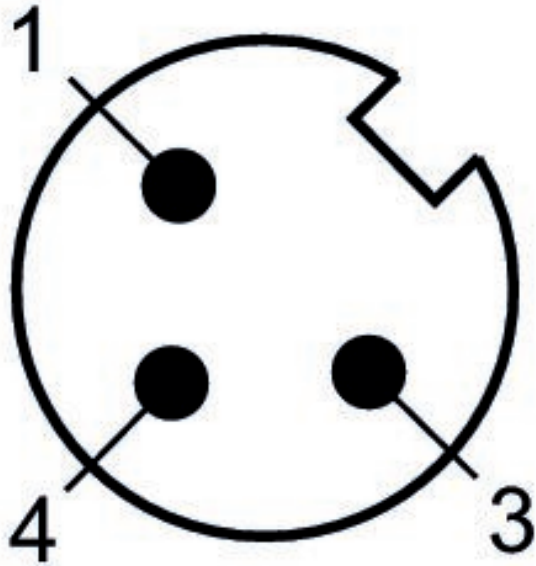
Dimensions



L = length

8946203702, 8946203712, 8946203722

Plug pin assignment



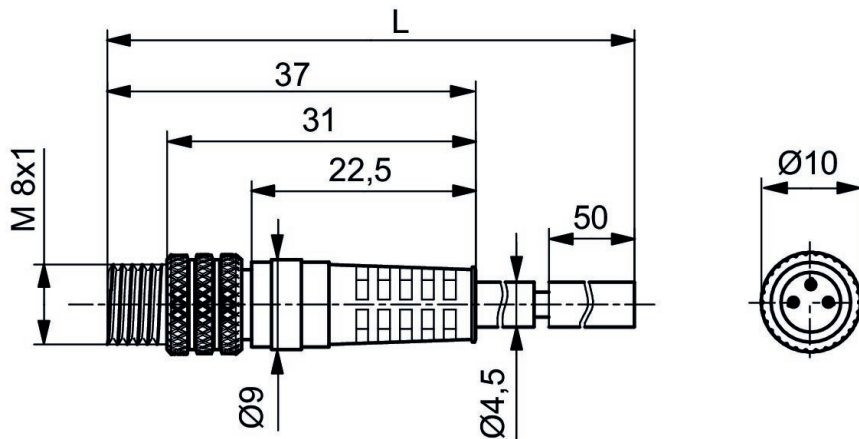
### Round plug connector, Series CON-RD

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M8x1  
 Electrical connection 1, number of poles: 3-pin  
 Cable exit 1: straight  
 Electrical connection 2, type: open cable ends  
 Electrical connection 2, number of poles: 3-pin



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, number of poles	Cable length [m]	Part No.
30 V AC/DC	Plug	M8x1	3-pin	A-coded	straight	open cable ends	3-pin	3	8946203602
30 V AC/DC	Plug	M8x1	3-pin	A-coded	straight	open cable ends	3-pin	5	8946203612
30 V AC/DC	Plug	M8x1	3-pin	A-coded	straight	open cable ends	3-pin	10	8946203622

Dimensions

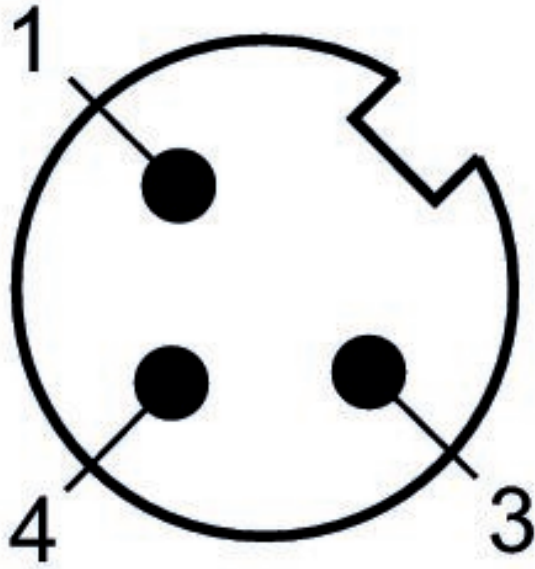


L = length



8946203602, 8946203612, 8946203622

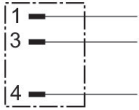
Plug pin assignment



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

### Round plug connector, Series CON-RD

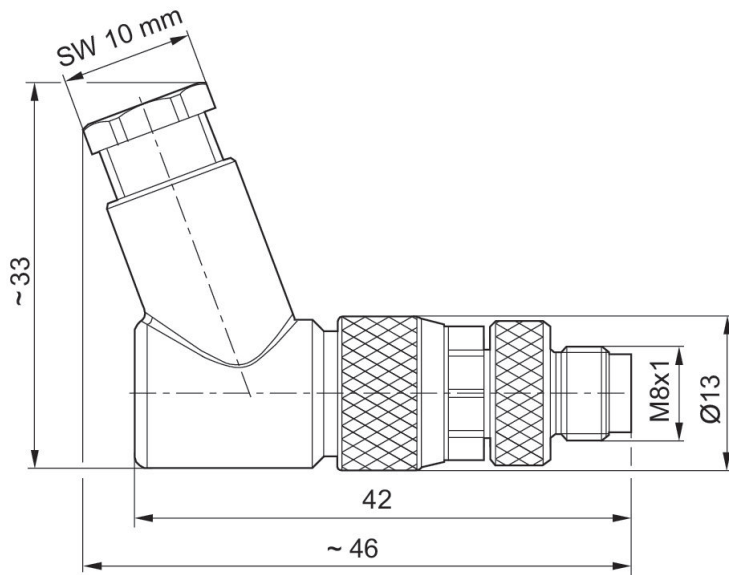
Min. ambient temperature: -25 °C  
 Max. ambient temperature: 80 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M8x1  
 Electrical connection 1, number of poles: 3-pin  
 Cable exit 1: angled



Operational voltage	Contact assignment	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	3-pin	A-coded	unshielded	Screws	4	3.5	6	R412021677

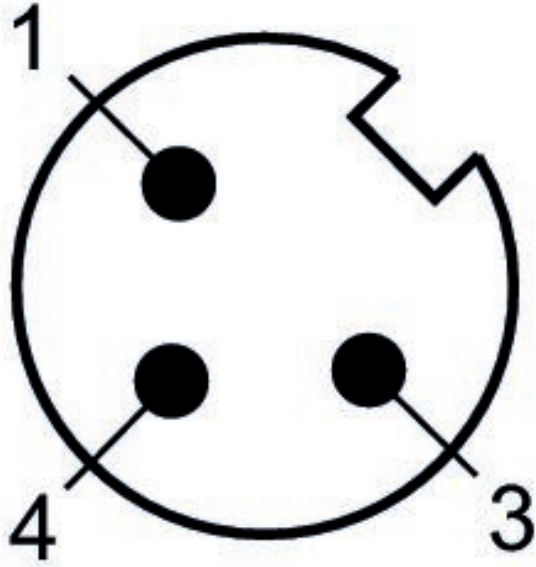
Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
-25	85	R412021677

Dimensions



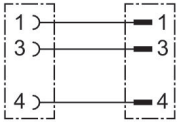
**R412021677**

Plug pin assignment



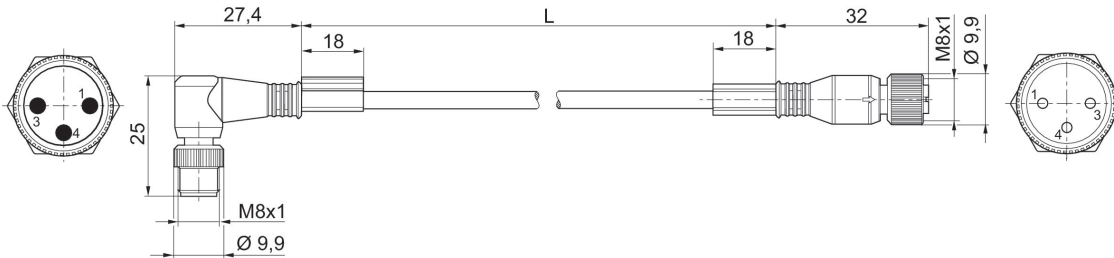
### Round plug connector, Series CON-RD

Min. ambient temperature: -25 °C  
 Max. ambient temperature: 85 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M8x1  
 Electrical connection 1, number of poles: 3-pin  
 Cable exit 1: angled  
 Electrical connection 2, type: Socket  
 Electrical connection 2, thread size: M8x1  
 Electrical connection 2, number of poles: 3-pin  
 Cable exit 2: straight  
 Wire cross-section: 0.25 mm<sup>2</sup>



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Electrical connection 2, coding	Cable exit 2	Cable length [m]	Part No.
48 V AC/DC	Socket	M8x1	3-pin	A-coded	straight	Plug	M8x1	3-pin	A-coded	angled	1	R412021681
48 V AC/DC	Socket	M8x1	3-pin	A-coded	straight	Plug	M8x1	3-pin	A-coded	angled	2	R412021682
48 V AC/DC	Socket	M8x1	3-pin	A-coded	straight	Plug	M8x1	3-pin	A-coded	angled	5	R412021683

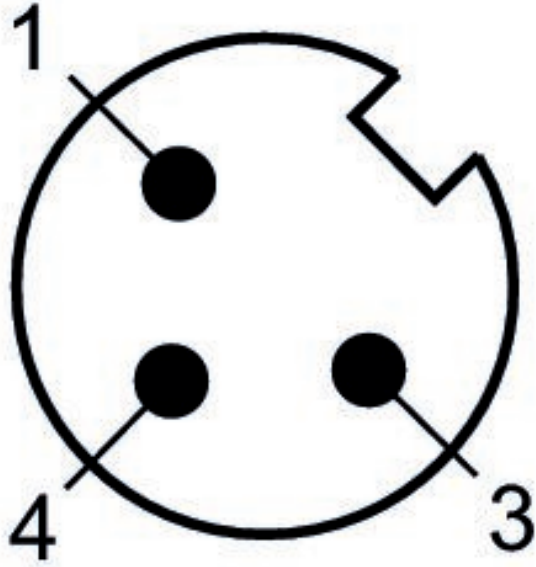
Dimensions



L = length

R412021681, R412021682, R412021683

Plug pin assignment



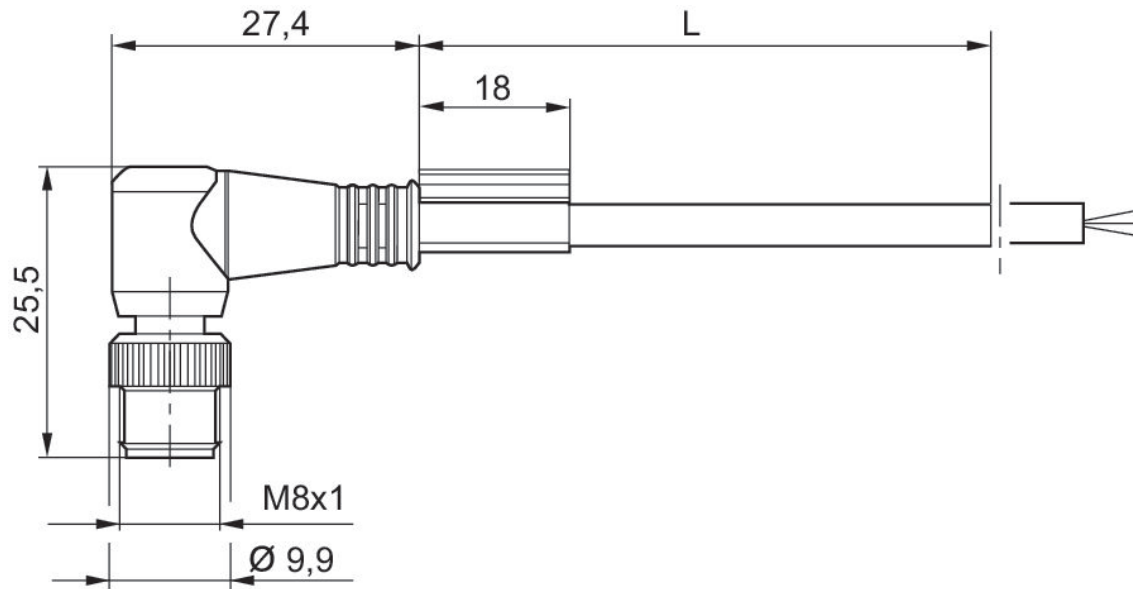
### Round plug connector, Series CON-RD

Min. ambient temperature: -25 °C  
 Max. ambient temperature: 85 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M8x1  
 Electrical connection 1, number of poles: 3-pin  
 Cable exit 1: angled  
 Electrical connection 2, type: open cable ends  
 Electrical connection 2, number of poles: 3-pin  
 Wire cross-section: 0.25 mm<sup>2</sup>



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, number of poles	Cable length [m]	Part No.
48 V AC/DC	Plug	M8x1	3-pin	A-coded	angled	open cable ends	3-pin	2	R412021678
48 V AC/DC	Plug	M8x1	3-pin	A-coded	angled	open cable ends	3-pin	5	R412021679
48 V AC/DC	Plug	M8x1	3-pin	A-coded	angled	open cable ends	3-pin	10	R412021680

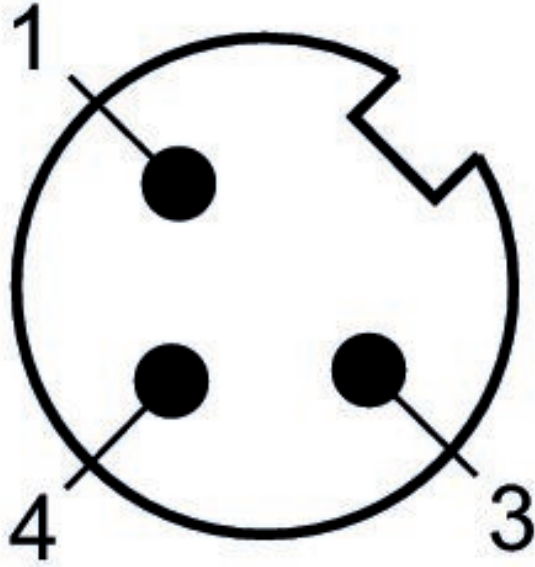
Dimensions



L = length

R412021678, R412021679, R412021680

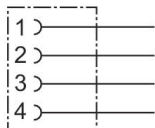
Plug pin assignment



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

### Round plug connector, Series CON-RD

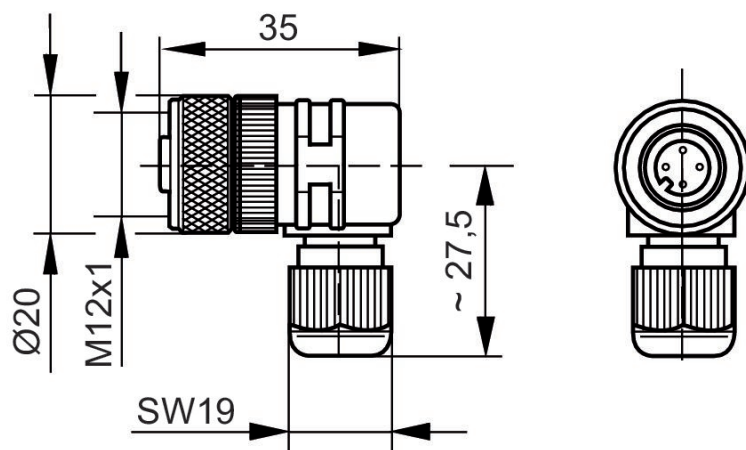
Min. ambient temperature: -25 °C  
 Max. ambient temperature: 90 °C  
 Electrical connection 1, type: Socket  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 4-pin  
 Electrical connection 1, coding: A-coded  
 Cable exit 1: angled



Operational voltage	Contact assignment	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	Min. ambient temperature [°C]	Part No.
48 V AC/DC	4-pin	A-coded	unshielded	Screws	4	4	-25	8941054424

Max. ambient temperature [°C]	Part No.
90	8941054424

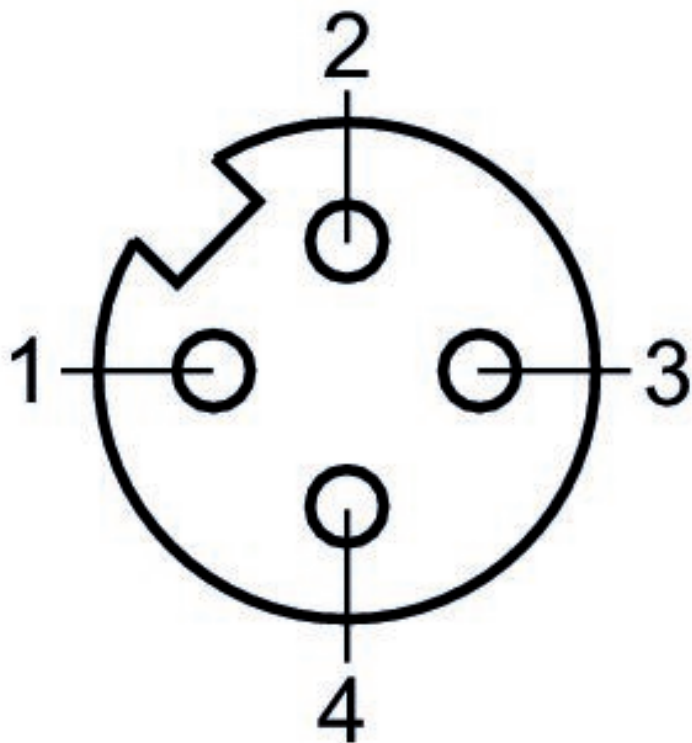
Dimensions





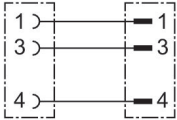
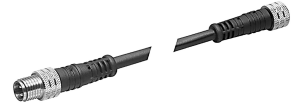
8941054424

Pin assignment, socket



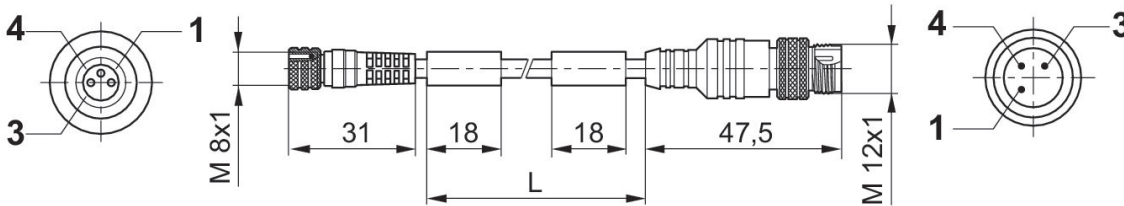
### Round plug connector, Series CON-RD

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 3-pin  
 Electrical connection 1, coding: A-coded  
 Cable exit 1: straight  
 Electrical connection 2, type: Socket  
 Electrical connection 2, thread size: M8x1  
 Electrical connection 2, number of poles: 3-pin  
 Electrical connection 2, coding: A-coded  
 Cable exit 2: straight



Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Electrical connection 2, coding	Cable exit 2	Cable length [m]	Part No.
Socket	M8x1	3-pin	A-coded	straight	Plug	M12x1	3-pin	A-coded	straight	2	8946203462

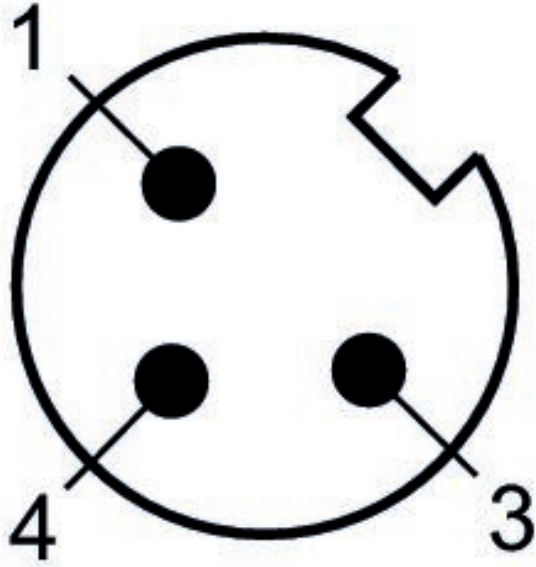
Dimensions



L = length

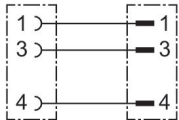
8946203462

Plug pin assignment



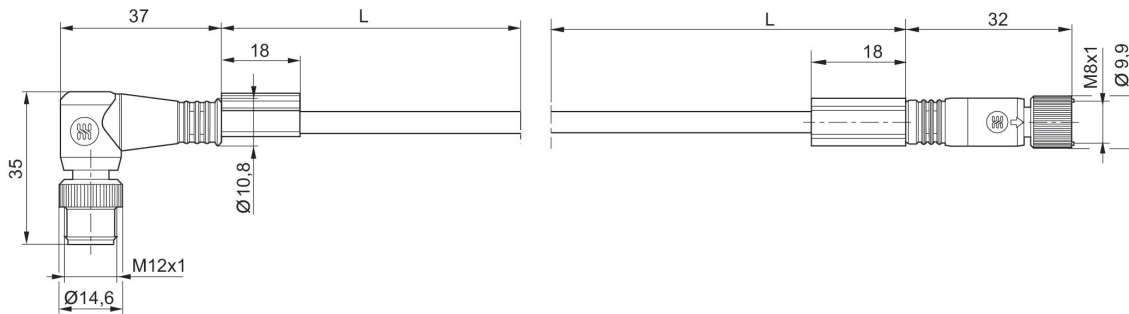
### Round plug connector, Series CON-RD

Min. ambient temperature: -25 °C  
 Max. ambient temperature: 80 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 3-pin  
 Cable exit 1: angled  
 Electrical connection 2, type: Socket  
 Electrical connection 2, thread size: M8x1  
 Electrical connection 2, number of poles: 3-pin  
 Cable exit 2: straight  
 Cable-Ø: 4.1 mm  
 Wire cross-section: 0.25 mm²



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Electrical connection 2, coding	Cable exit 2	Cable length [m]	Part No.
48 V AC/DC	Socket	M8x1	3-pin	A-coded	straight	Plug	M12x1	3-pin	A-coded	angled	2	R412021696
48 V AC/DC	Socket	M8x1	3-pin	A-coded	straight	Plug	M12x1	3-pin	A-coded	angled	5	R412021697

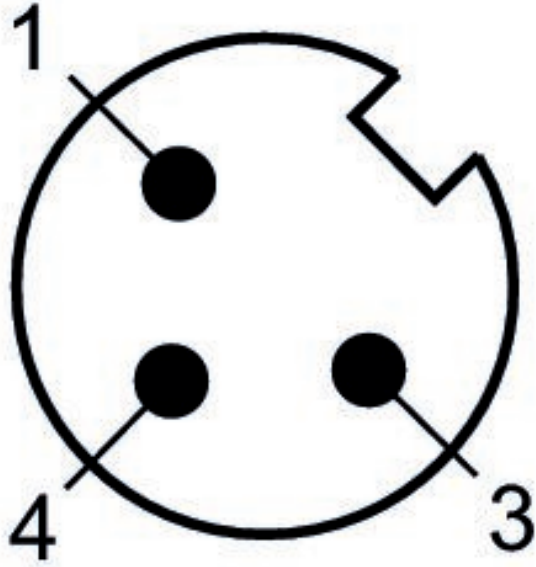
Dimensions



L = length

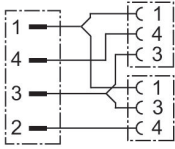
R412021696, R412021697

Plug pin assignment



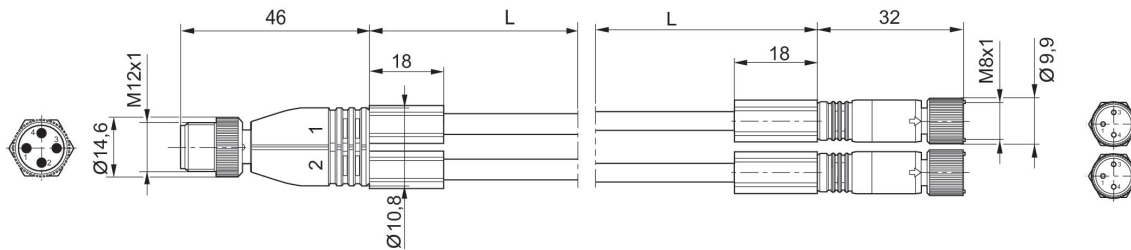
### Y-Plug connector, series CON-RD

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 2, thread size: M8x1  
 Electrical connection 1, number of poles: 4-pin  
 Electrical connection 2, number of poles: 3-pin  
 Min. ambient temperature: -25 °C  
 Max. ambient temperature: 80 °C



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Electrical connection 2, coding	Cable exit 2	Cable length [m]	Part No.
48 V AC/DC	Plug	M12x1	4-pin	A-coded	straight	2x Socket	M8x1	3-pin	A-coded	straight	0.6	R412021685
48 V AC/DC	Plug	M12x1	4-pin	A-coded	straight	2x Socket	M8x1	3-pin	A-coded	straight	3	R412021687

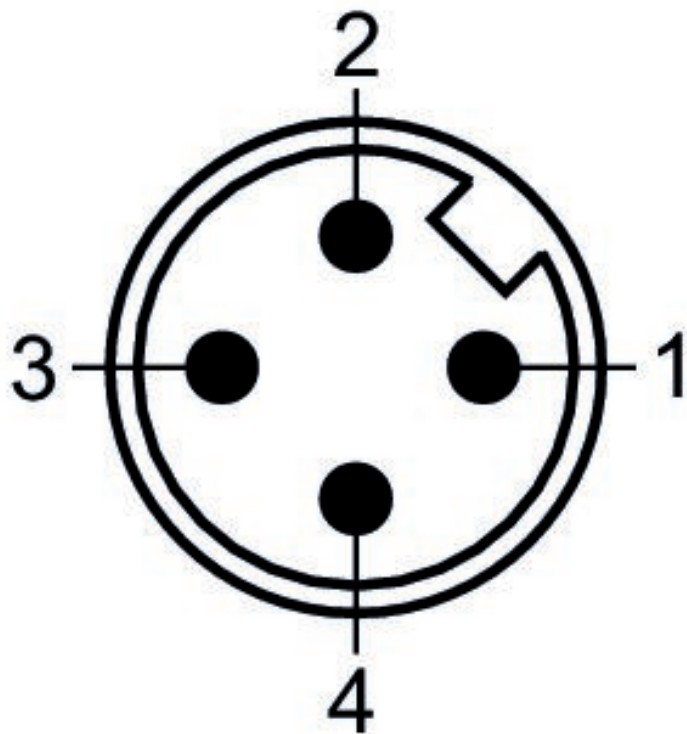
Dimensions



L = length

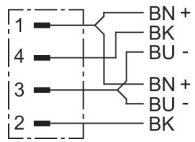
R412021685, R412021687

Plug pin assignment



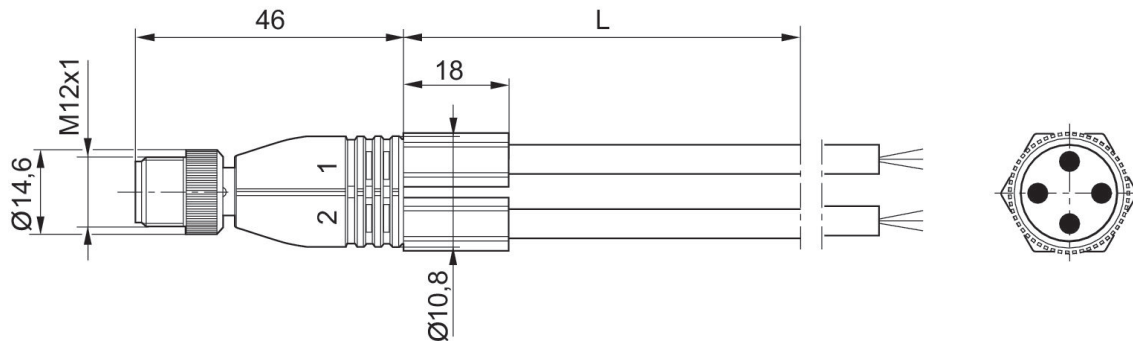
### Y-Plug connector, series CON-RD

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 4-pin  
 Electrical connection 2, number of poles: 3-pin  
 Min. ambient temperature: -25 °C  
 Max. ambient temperature: 80 °C



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, number of poles	Cable length [m]	Part No.
48 V AC/DC	Plug	M12x1	4-pin	A-coded	straight	2 x open cable ends	3-pin	2	R412021688

Dimensions

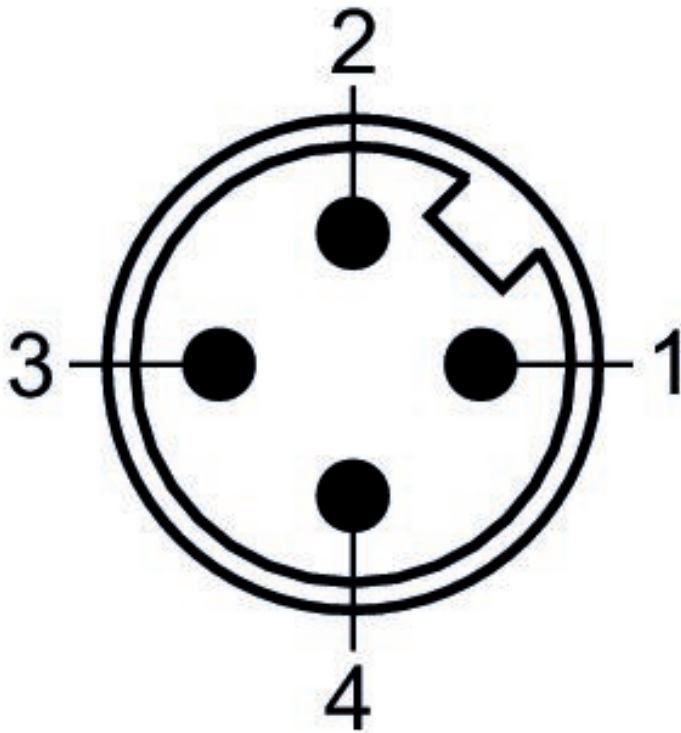


L = length



**R412021688**

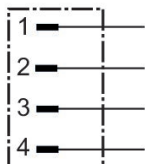
Plug pin assignment



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

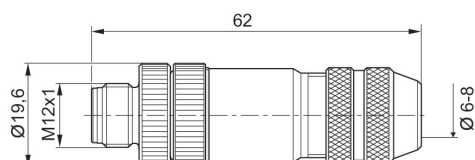
: Ethernet EtherNet/IP EtherCAT POWERLINK sercos III  
 Min. ambient temperature: -25 °C  
 Max. ambient temperature: 85 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 4-pin  
 Electrical connection 1, coding: D-coded  
 Cable exit 1: straight



Operational voltage	Contact assignment	Coding	Shielding	Protocol	Connection type	Max. current [A]	min. suitable cable Ø [mm]	Part No.
48 V AC/DC	4-pin	D-coded	shielded	Ethernet, EtherNet/IP, EtherCAT, POWERLINK, sercos III	Thread cutting	4	6	R419801401

max. suitable cable Ø [mm]	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
8	-40	85	R419801401

Dimensions



### Round plug connector, Series CON-RD

: DeviceNet

Min. ambient temperature: -40 °C

Max. ambient temperature: 85 °C

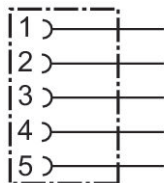
Electrical connection 1, type: Socket

Electrical connection 1, thread size: M12x1

Electrical connection 1, number of poles: 5-pin

Electrical connection 1, coding: A-coded

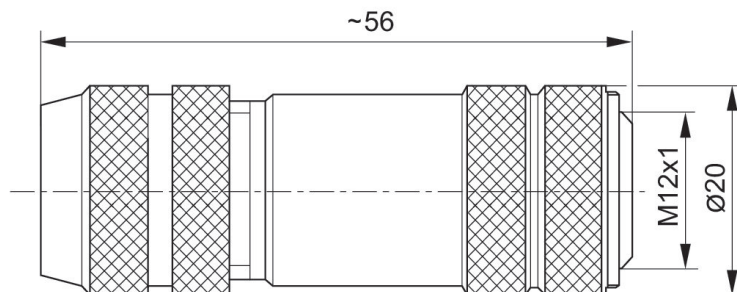
Cable exit 1: straight



Operational voltage	Contact assignment	Coding	Shielding	Protocol	Connection type	Max. current [A]	min. suitable cable Ø [mm]	Part No.
48 V AC/DC	5-pin	A-coded	shielded	CANopen, DeviceNet	Screws	4	6	8942051602

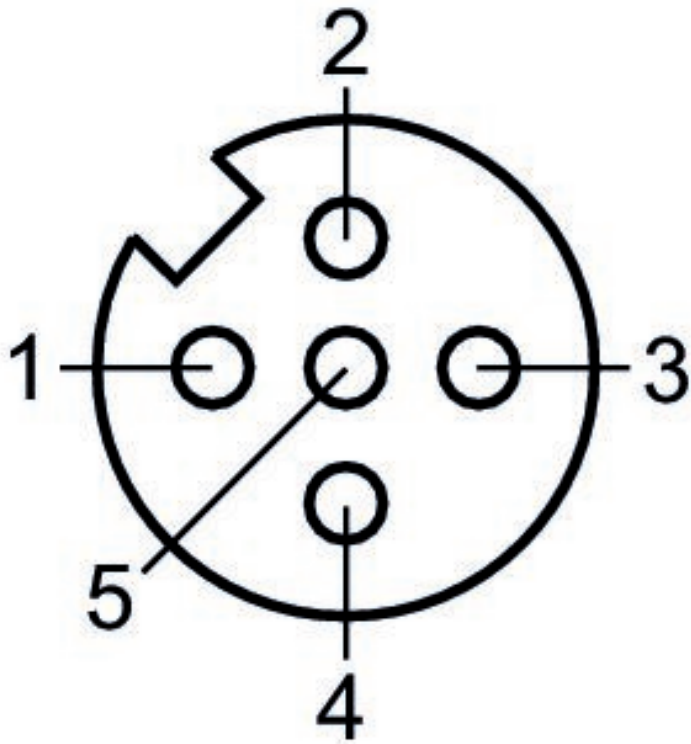
Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
-40	85	8942051602

#### Dimensions



8942051602

Pin assignment, socket



### Round plug connector, Series CON-RD

: PROFIBUS DP

Min. ambient temperature: -25 °C

Max. ambient temperature: 90 °C

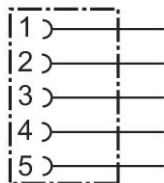
Electrical connection 1, type: Socket

Electrical connection 1, thread size: M12x1

Electrical connection 1, number of poles: 5-pin

Electrical connection 1, coding: B-coded

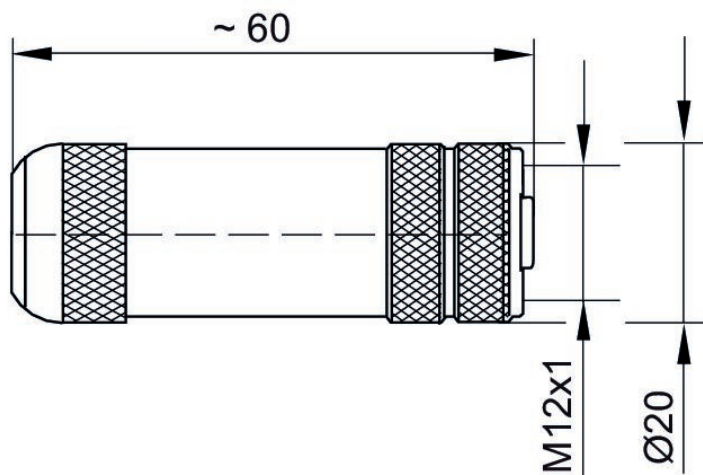
Cable exit 1: straight



Operational voltage	Contact assignment	Coding	Shielding	Protocol	Connection type	Max. current [A]	min. suitable cable Ø [mm]	Part No.
48 V AC/DC	5-pin	B-coded	shielded	PROFIBUS DP	Screws	4	6	8941054044

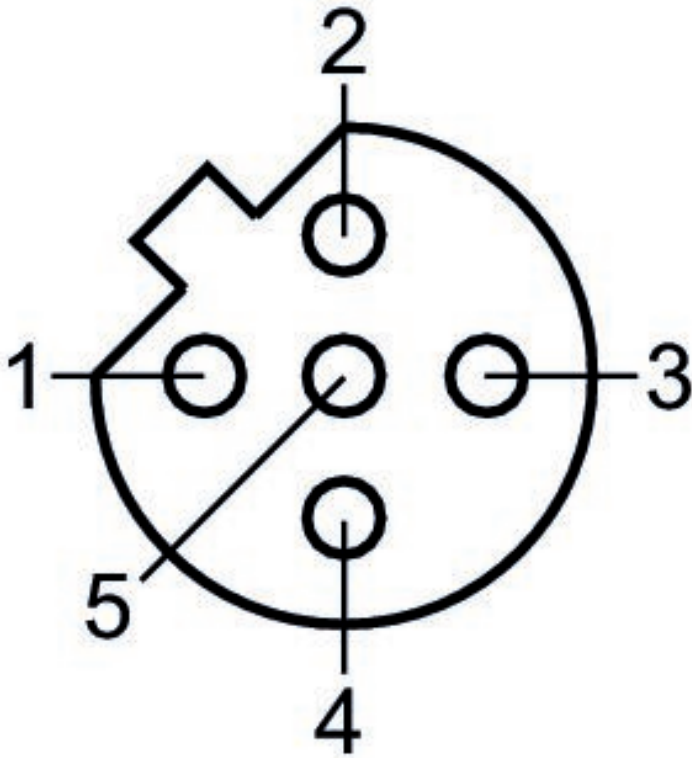
max. suitable cable Ø [mm]	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
8	-40	85	8941054044

Dimensions



8941054044

Pin assignment, socket



### Round plug connector, Series CON-RD

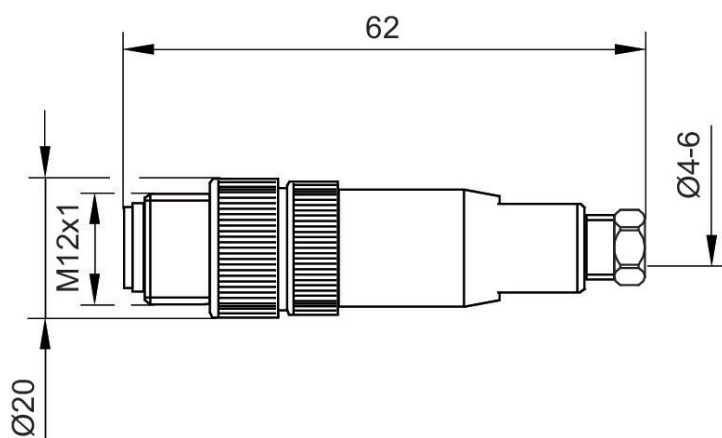
Min. ambient temperature: -40 °C  
 Max. ambient temperature: 85 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 4-pin  
 Electrical connection 1, coding: A-coded  
 Cable exit 1: straight



Operational voltage	Contact assignment	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	4-pin	A-coded	unshielded	Screws	4	4	6	1834484222

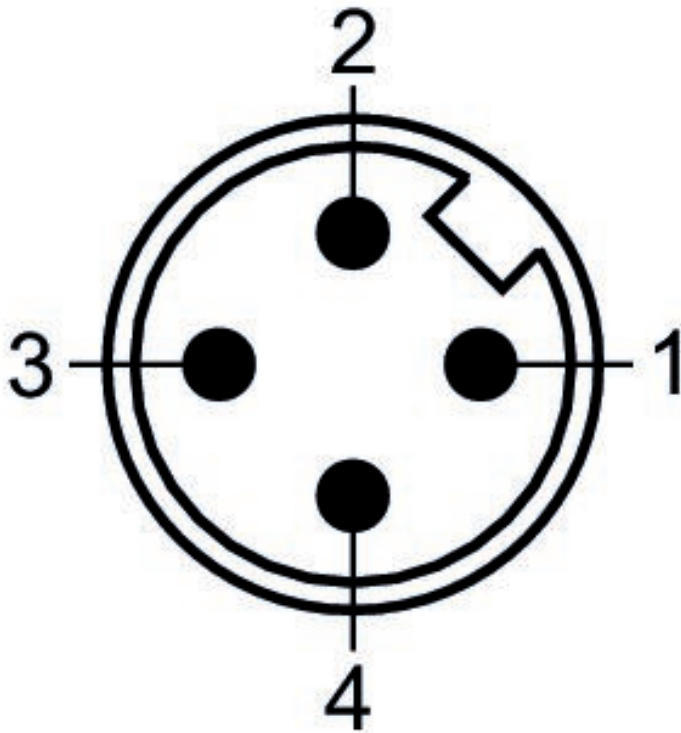
Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
-40	85	1834484222

Dimensions



1834484222

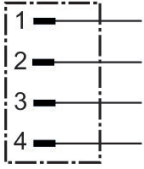
Plug pin assignment





### Round plug connector, Series CON-RD

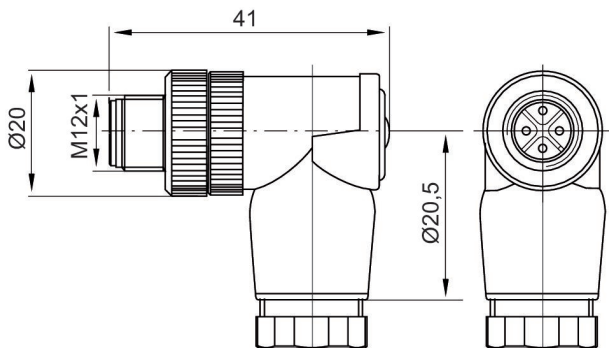
Min. ambient temperature: -40 °C  
 Max. ambient temperature: 85 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 4-pin  
 Electrical connection 1, coding: A-coded



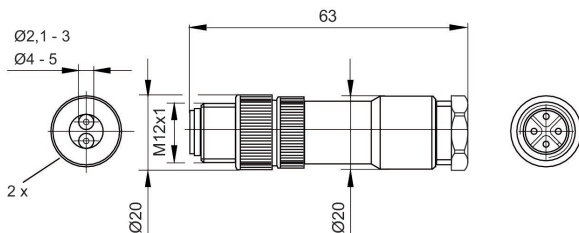
Operational voltage	Contact assignment	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	4-pin	A-coded	unshielded	Screws	4	4	6	1834484223
48 V AC/DC	4-pin	A-coded	unshielded	Screws	4	2.1	3	1834484246

Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
-40	85	1834484223
-40	85	1834484246

1834484223



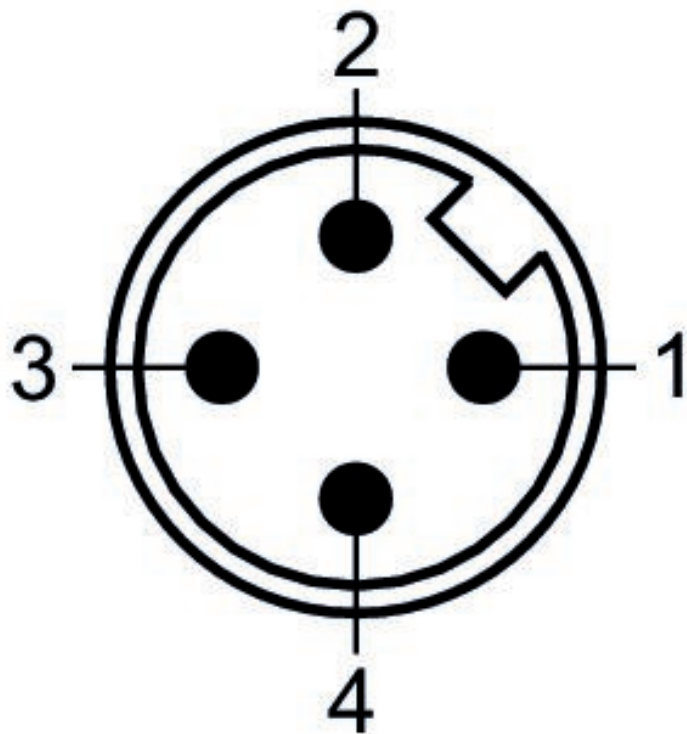
1834484246



duo plug

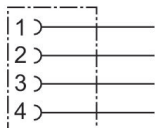
1834484223, 1834484246

Plug pin assignment



### Round plug connector, Series CON-RD

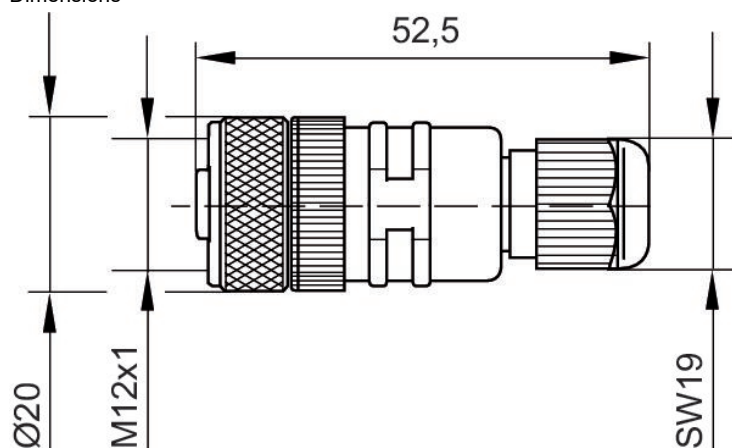
Min. ambient temperature: -25 °C  
 Max. ambient temperature: 90 °C  
 Electrical connection 1, type: Socket  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 4-pin  
 Electrical connection 1, coding: A-coded  
 Cable exit 1: straight



Operational voltage	Contact assignment	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	Min. ambient temperature [°C]	Part No.
48 V AC/DC	4-pin	A-coded	unshielded	Screws	4	4	-25	8941054324

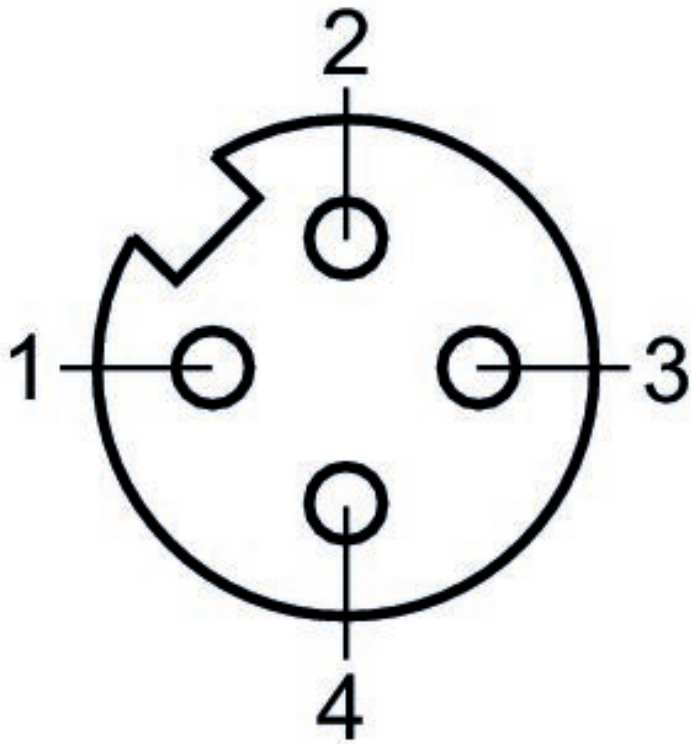
Max. ambient temperature [°C]	Part No.
90	8941054324

Dimensions



8941054324

Pin assignment, socket



### Round plug connector, Series CON-RD

: CANopen DeviceNet

Min. ambient temperature: -40 °C

Max. ambient temperature: 85 °C

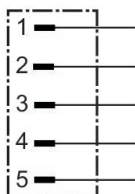
Electrical connection 1, type: Plug

Electrical connection 1, thread size: M12x1

Electrical connection 1, number of poles: 5-pin

Electrical connection 1, coding: A-coded

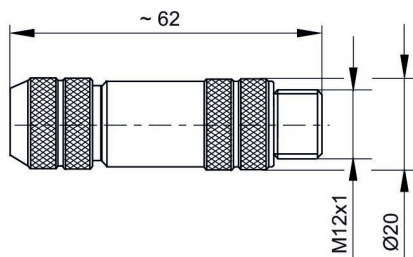
Cable exit 1: straight



Operational voltage	Contact assignment	Coding	Shielding	Protocol	Connection type	Max. current [A]	min. suitable cable Ø [mm]	Part No.
48 V AC/DC	5-pin	A-coded	shielded	CANopen, DeviceNet	Screws	4	6	8942051612

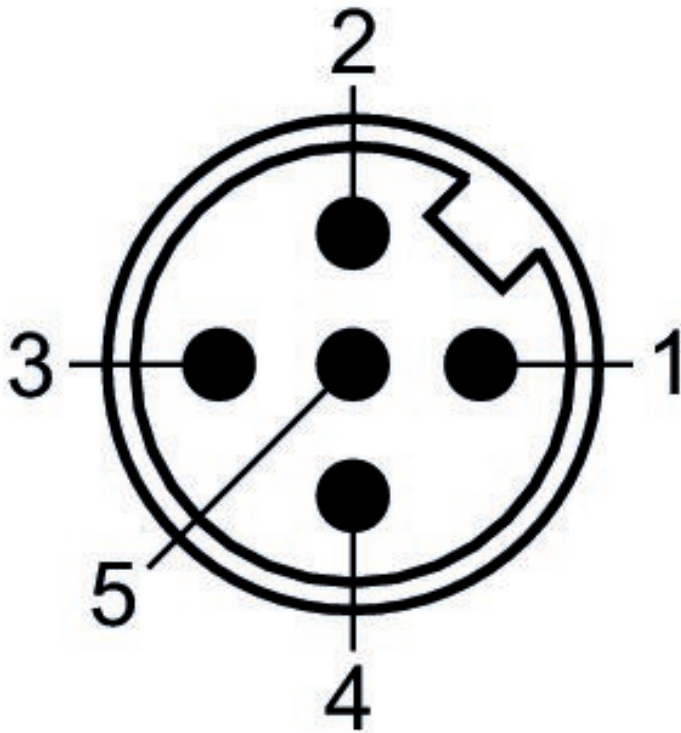
max. suitable cable Ø [mm]	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
8	-40	85	8942051612

#### Dimensions



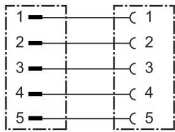
8942051612

Plug pin assignment



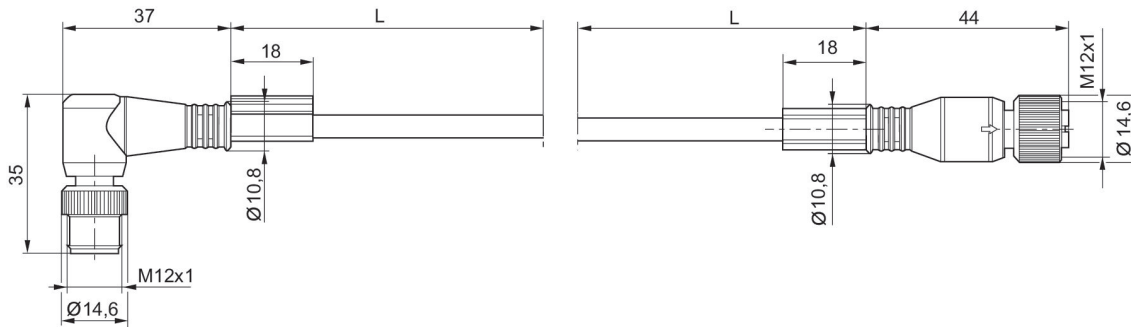
### Round plug connector, Series CON-RD

Min. ambient temperature: -25 °C  
 Max. ambient temperature: 80 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 5-pin  
 Electrical connection 1, coding: A-coded  
 Cable exit 1: angled  
 Electrical connection 2, type: Socket  
 Electrical connection 2, thread size: M12x1  
 Electrical connection 2, number of poles: 5-pin  
 Electrical connection 2, coding: A-coded  
 Cable exit 2: straight  
 Cable-Ø: 5 mm  
 Wire cross-section: 0.34 mm<sup>2</sup>



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Electrical connection 2, coding	Cable exit 2	Cable length [m]	Part No.
48 V AC/DC	Socket	M12x1	5-pin	A-coded	straight	Plug	M12x1	5-pin	A-coded	angled	2	R412021694
48 V AC/DC	Socket	M12x1	5-pin	A-coded	straight	Plug	M12x1	5-pin	A-coded	angled	5	R412021695

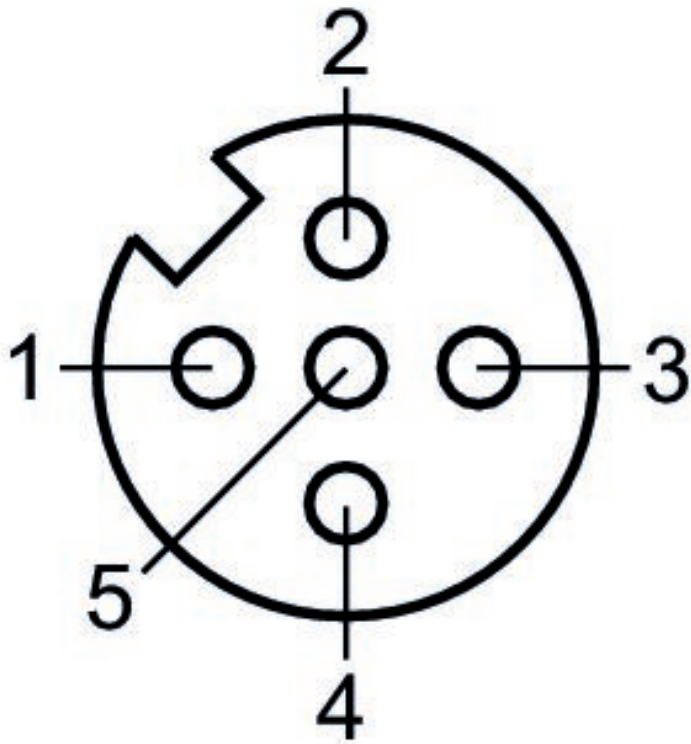
Dimensions



L = length

R412021694, R412021695

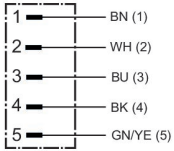
Pin assignment, socket





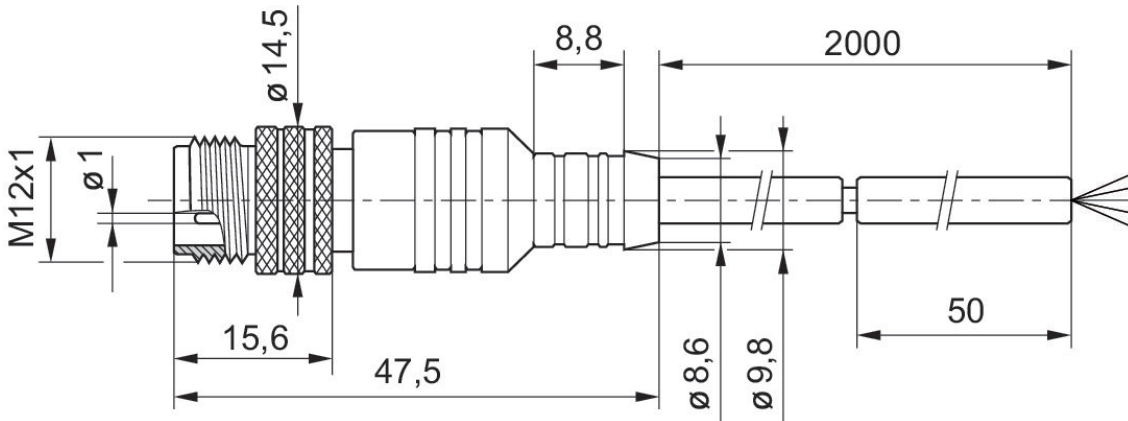
### Round plug connector, Series CON-RD

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 5-pin  
 Cable exit 1: straight  
 Electrical connection 2, type: open cable ends  
 Electrical connection 2, number of poles: 5-pin



Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, number of poles	Cable length [m]	Part No.
Plug	M12x1	5-pin	A-coded	straight	open cable ends	5-pin	2	8946203432
Plug	M12x1	5-pin	A-coded	straight	open cable ends	5-pin	5	8946203442

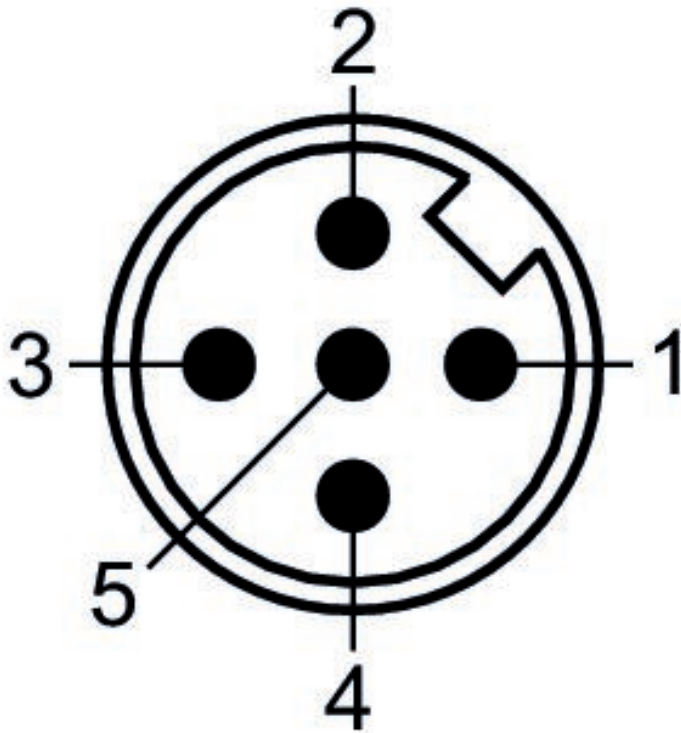
Dimensions



L = length

8946203432, 8946203442

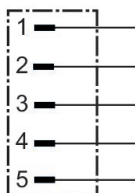
Plug pin assignment



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

### Round plug connector, Series CON-RD

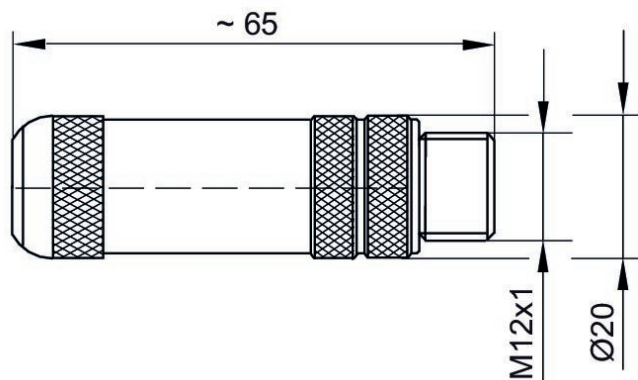
Min. ambient temperature: -25 °C  
 Max. ambient temperature: 90 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 5-pin  
 Electrical connection 1, coding: B-coded  
 Cable exit 1: straight



Operational voltage	Contact assignment	Coding	Shielding	Protocol	Connection type	Max. current [A]	min. suitable cable Ø [mm]	Part No.
48 V AC/DC	5-pin	B-coded	shielded	PROFIBUS DP	Screws	4	4	8941054054

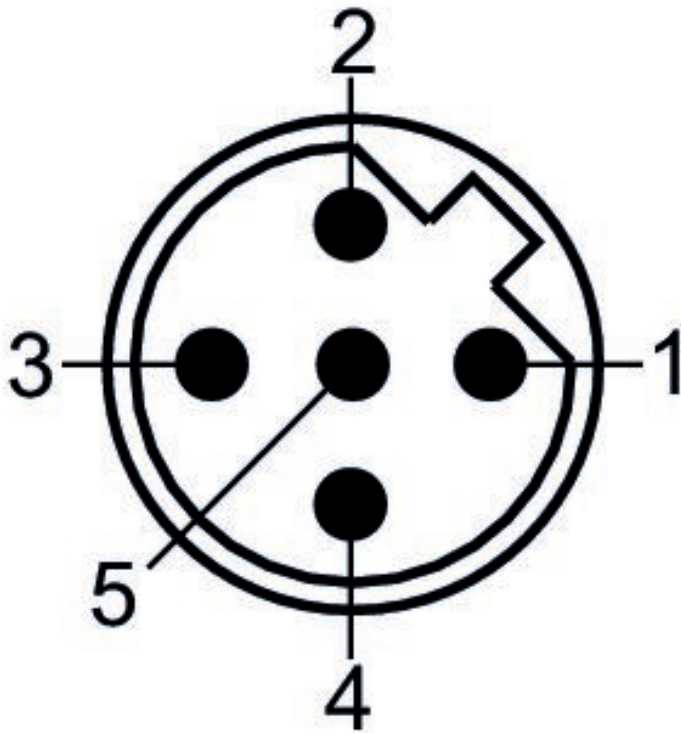
max. suitable cable Ø [mm]	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
9	-25	85	8941054054

Dimensions



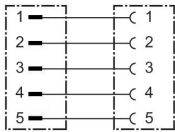
8941054054

Plug pin assignment



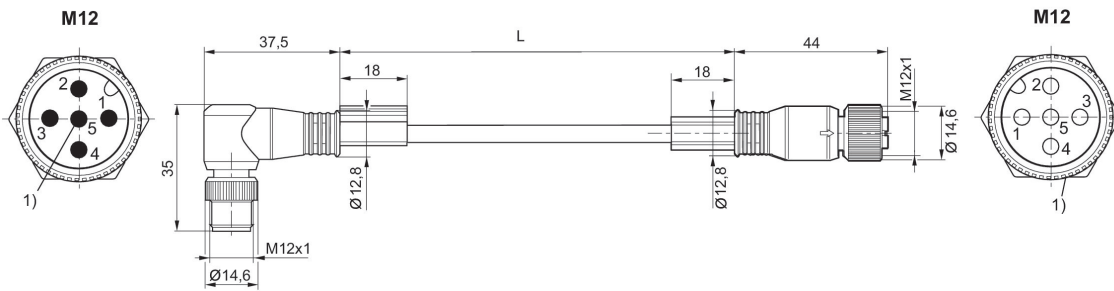
### Round plug connector, Series CON-RD

Min. ambient temperature: -25 °C  
 Max. ambient temperature: 80 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 5-pin  
 Electrical connection 1, coding: A-coded  
 Cable exit 1: angled  
 Electrical connection 2, type: Socket  
 Electrical connection 2, thread size: M12x1  
 Electrical connection 2, number of poles: 5-pin  
 Electrical connection 2, coding: A-coded  
 Cable exit 2: straight  
 Cable-Ø: 5.4 mm  
 Wire cross-section: 0.34 mm²



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Electrical connection 2, coding	Cable exit 2	Cable length [m]	Part No.
48 V AC/DC	Socket	M12x1	5-pin	A-coded	straight	Plug	M12x1	5-pin	A-coded	angled	2	R412022193

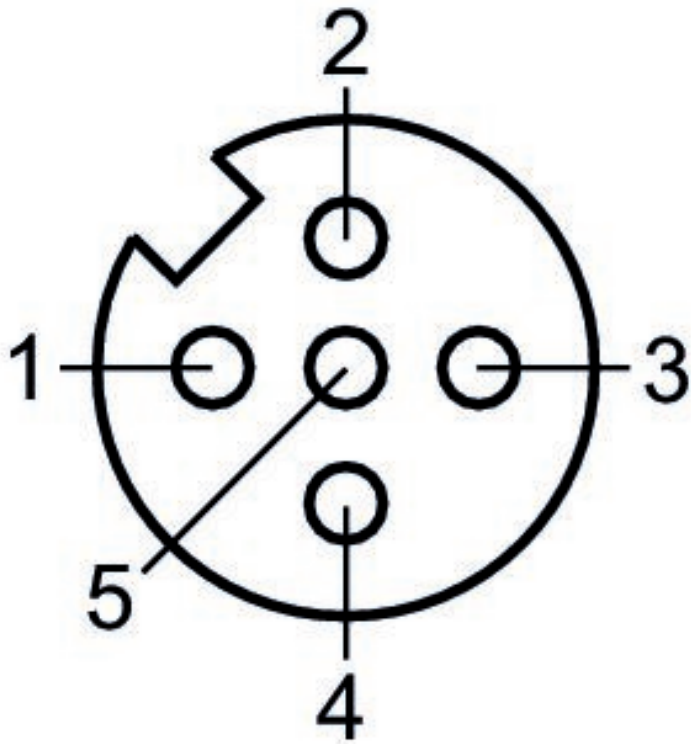
Dimensions



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

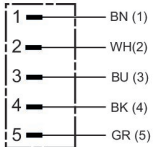
R412022193

Pin assignment, socket



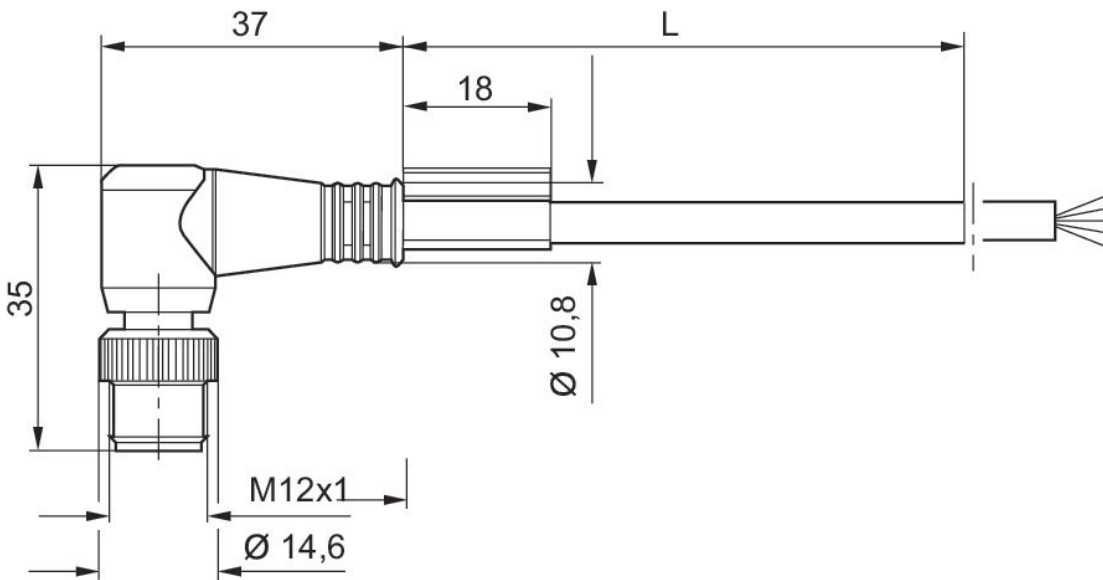
### Round plug connector, Series CON-RD

Min. ambient temperature: -25 °C  
 Max. ambient temperature: 80 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 5-pin  
 Electrical connection 1, coding: A-coded  
 Cable exit 1: angled  
 Electrical connection 2, type: open cable ends  
 Electrical connection 2, number of poles: 5-pin  
 Cable-Ø: 5 mm  
 Wire cross-section: 0.34 mm<sup>2</sup>



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, number of poles	Cable length [m]	Part No.
48 V AC/DC	Plug	M12x1	5-pin	A-coded	angled	open cable ends	5-pin	2	R412021691
48 V AC/DC	Plug	M12x1	5-pin	A-coded	angled	open cable ends	5-pin	5	R412021692
48 V AC/DC	Plug	M12x1	5-pin	A-coded	angled	open cable ends	5-pin	10	R412021693

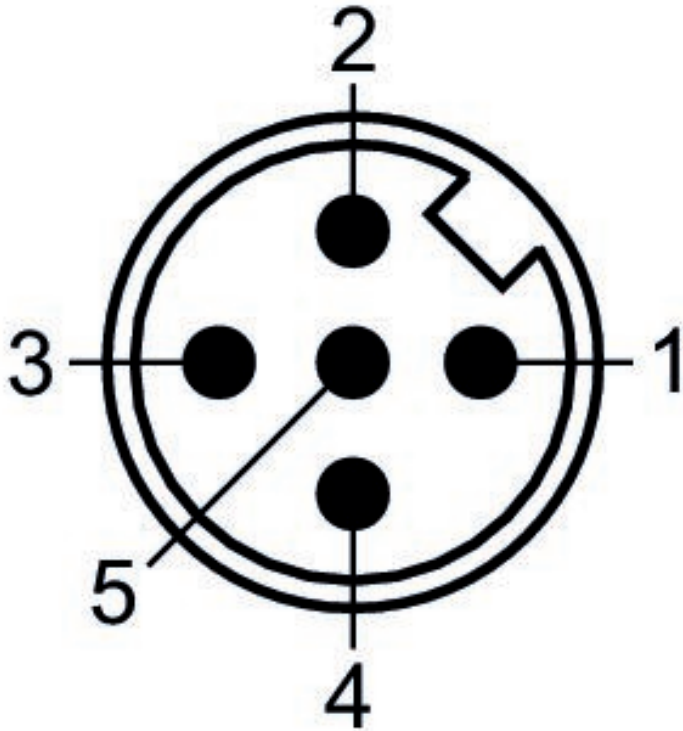
Dimensions



L = length

R412021691, R412021692, R412021693

Plug pin assignment

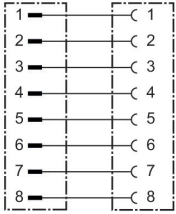


(1) BN=brown (2) WH=white (3) BU=blue (4) BK=black (5) GY=grey



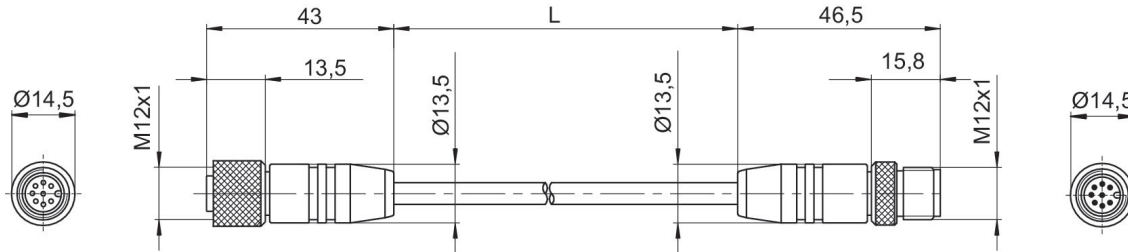
### Round plug connector, Series CON-RD

Min. ambient temperature: -25 °C  
 Max. ambient temperature: 80 °C  
 Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 1, number of poles: 8-pin  
 Electrical connection 1, coding: A-coded  
 Cable exit 1: straight  
 Electrical connection 2, type: Socket  
 Electrical connection 2, thread size: M12x1  
 Electrical connection 2, number of poles: 8-pin  
 Electrical connection 2, coding: A-coded  
 Cable exit 2: straight



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Cable exit 1	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Electrical connection 2, coding	Cable exit 2	Cable length [m]	Part No.
36 V DC / 30 V AC	Socket	M12x1	8-pin	A-coded	straight	Plug	M12x1	8-pin	A-coded	straight	0.5	8946202802
36 V DC / 30 V AC	Socket	M12x1	8-pin	A-coded	straight	Plug	M12x1	8-pin	A-coded	straight	1	8946202812
36 V DC / 30 V AC	Socket	M12x1	8-pin	A-coded	straight	Plug	M12x1	8-pin	A-coded	straight	2	8946202822
36 V DC / 30 V AC	Socket	M12x1	8-pin	A-coded	straight	Plug	M12x1	8-pin	A-coded	straight	5	8946202832
36 V DC / 30 V AC	Socket	M12x1	8-pin	A-coded	straight	Plug	M12x1	8-pin	A-coded	straight	10	8946202842

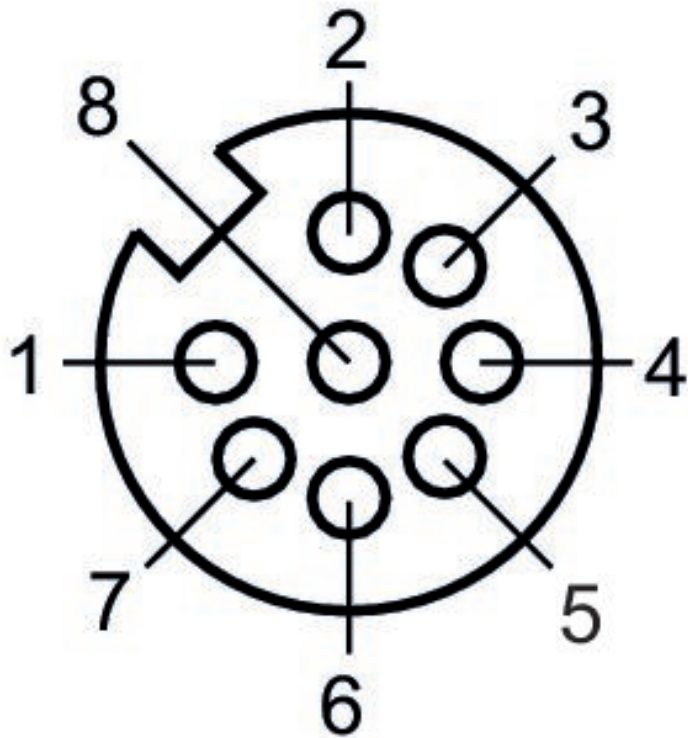
Dimensions



L = length

8946202802, 8946202812, 8946202822, 8946202832, 8946202842

Pin assignment, socket



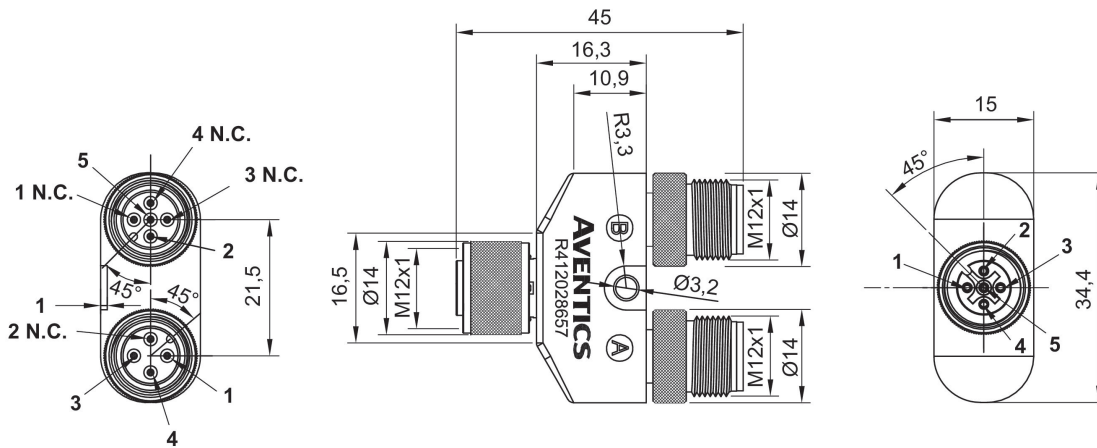
### Y-Plug connector, series CON-AP

Electrical connection 1, type: Socket  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 2, thread size: M12x1  
 Electrical connection 1, number of poles: 5-pin  
 Electrical connection 2, number of poles: 5-pin  
 Min. ambient temperature: -25 °C  
 Max. ambient temperature: 90 °C



Max. current [A]	Part No.
4	R412028657

Dimensions in mm

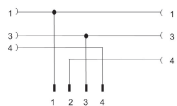


A = Electrical connection 2  
 B = Electrical connection 3

**Y-Plug connector, series CON-RD**

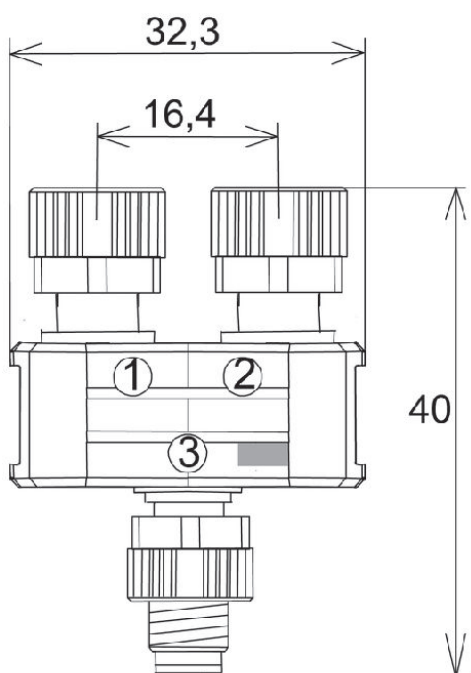
Min. ambient temperature: -25 °C

Max. ambient temperature: 85 °C



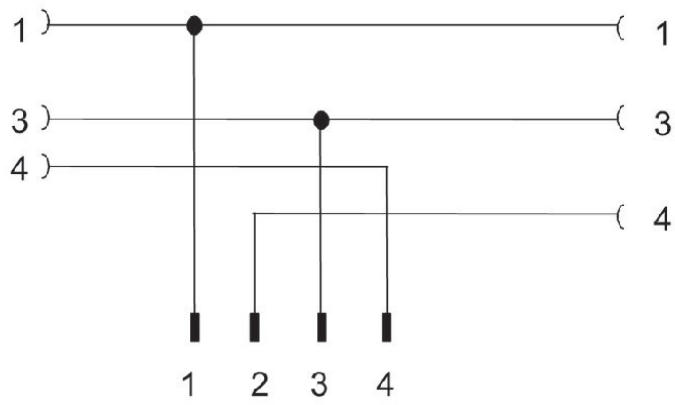
Max. current [A]	Part No.
4	R412028723

## Dimensions



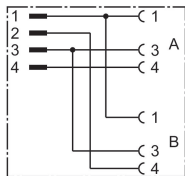
**R412028723**

Pin assignments



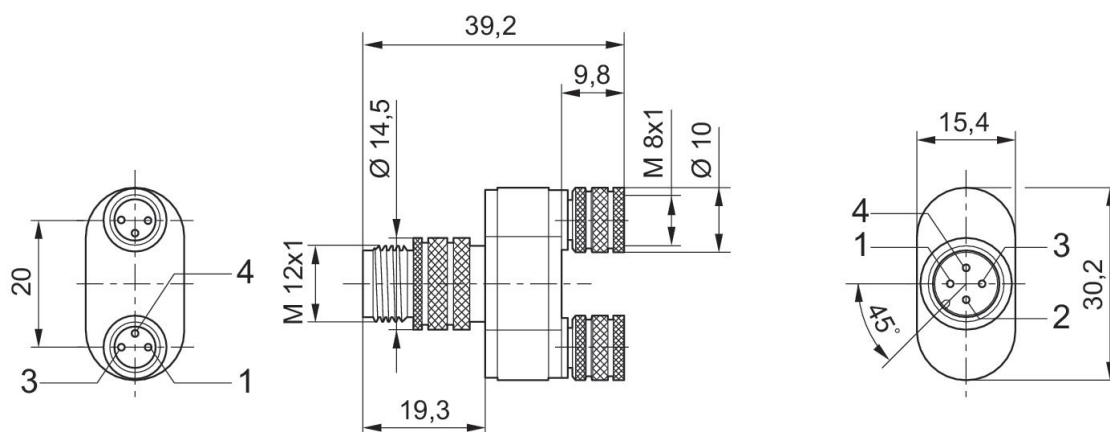
### Y-Plug connector, series CON-AP

Electrical connection 1, type: Socket  
 Electrical connection 1, thread size: M8x1  
 Electrical connection 1, number of poles: 3-pin  
 Min. ambient temperature: -25 °C  
 Max. ambient temperature: 50 °C



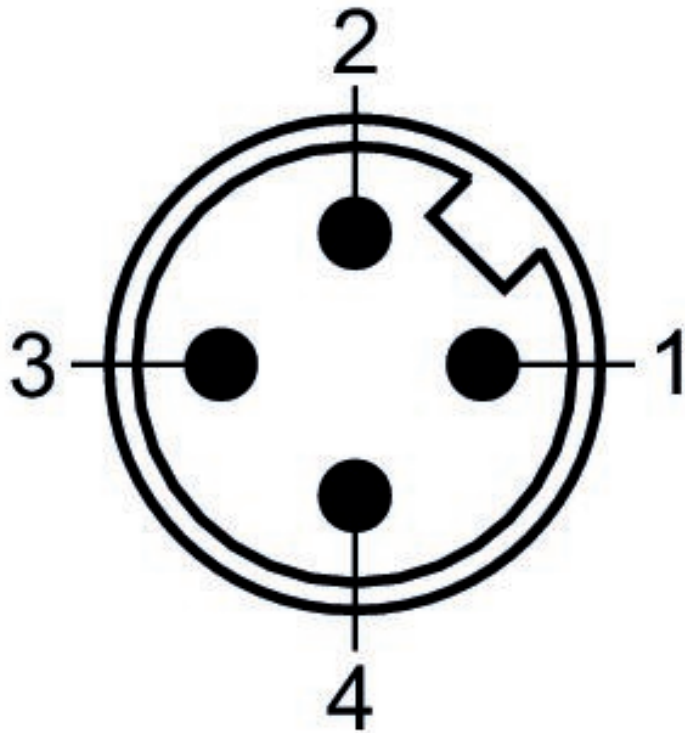
Max. current [A]	Part No.
4	8941002382

#### Dimensions



8941002382

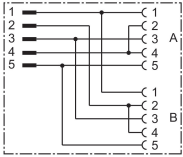
Plug pin assignment



Plug (male) M 12 Pin	Socket (fe- male) M8 A Pin	Socket (fe- male) M8 B Pin
1	1	1
2	-	4
3	3	3
4	4	-

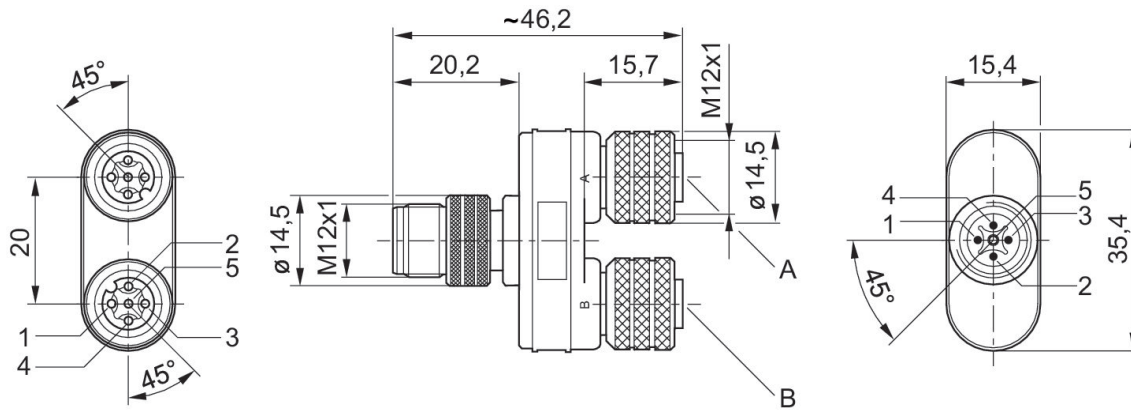
### Y-Plug connector, series CON-AP

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M12x1  
 Electrical connection 2, thread size: M12x1  
 Electrical connection 1, number of poles: 5-pin  
 Electrical connection 2, number of poles: 5-pin  
 Min. ambient temperature: -25 °C  
 Max. ambient temperature: 50 °C



Max. current [A]	Part No.
4	8941002392

Dimensions

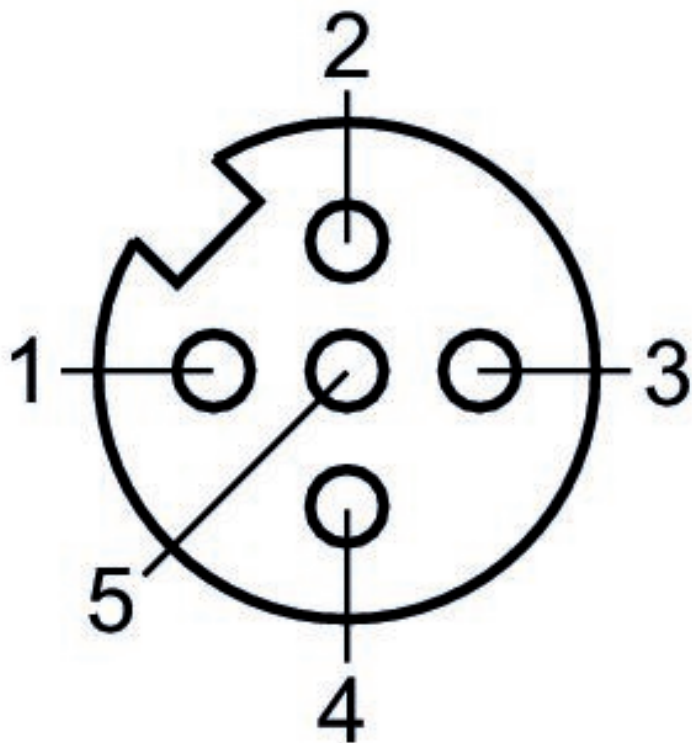


Sockets: Pin 2 and 4 bridged.



8941002392

Pin assignment, socket



Plug (male) M 12 Pin	Socket (fe- male) A M12 Pin	Socket (fe- male) B M12 Pin
1	1	1
2	-	2 / 4
3	3	3
4	2 / 4	-
5 repeat- Column	5	5

### Data final plug, Series CON-RD

: PROFIBUS DP

Min. ambient temperature: -25 °C

Max. ambient temperature: 80 °C

Electrical connection 1, type: Plug

Electrical connection 1, thread size: M12x1

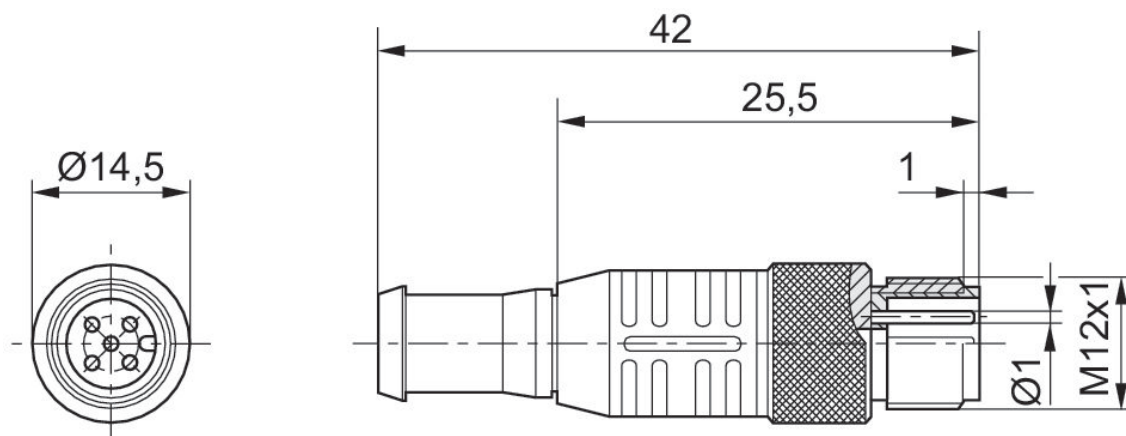
Electrical connection 1, number of poles: 4-pin

Electrical connection 1, coding: B-coded



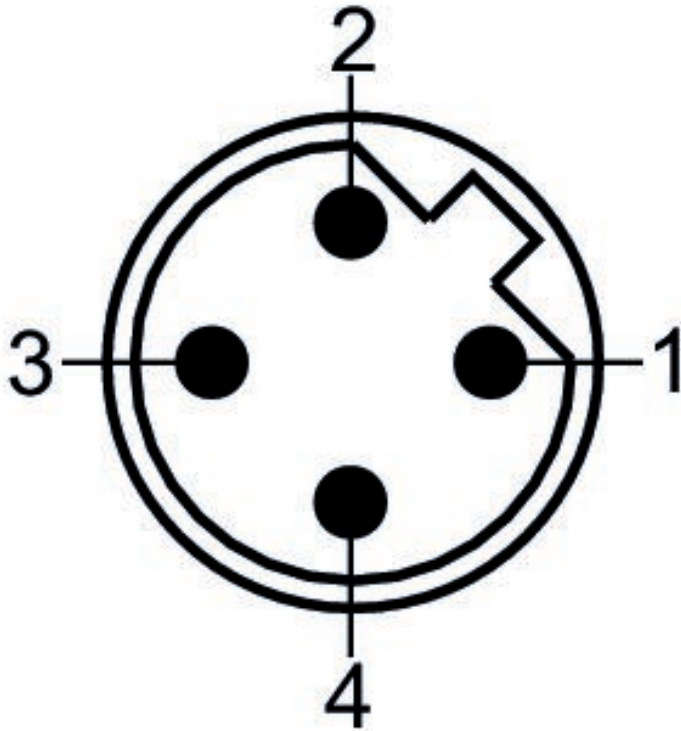
Contact assignment	Coding	Protocol	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
4-pin	B-coded	PROFIBUS DP	-25	80	8941054064

#### Dimensions



8941054064

Plug pin assignment



### Data final plug, Series CON-RD

: DeviceNet

Min. ambient temperature: 0 °C

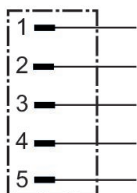
Max. ambient temperature: 60 °C

Electrical connection 1, type: Plug

Electrical connection 1, thread size: M12x1

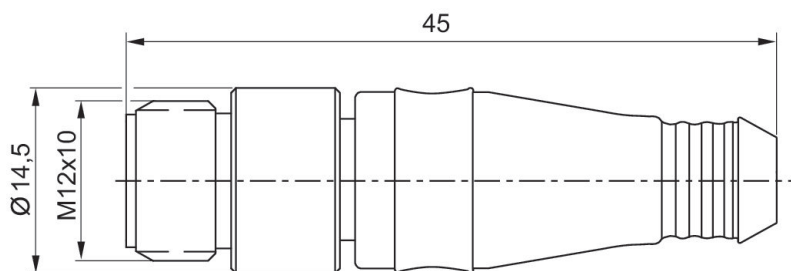
Electrical connection 1, number of poles: 5-pin

Electrical connection 1, coding: A-coded



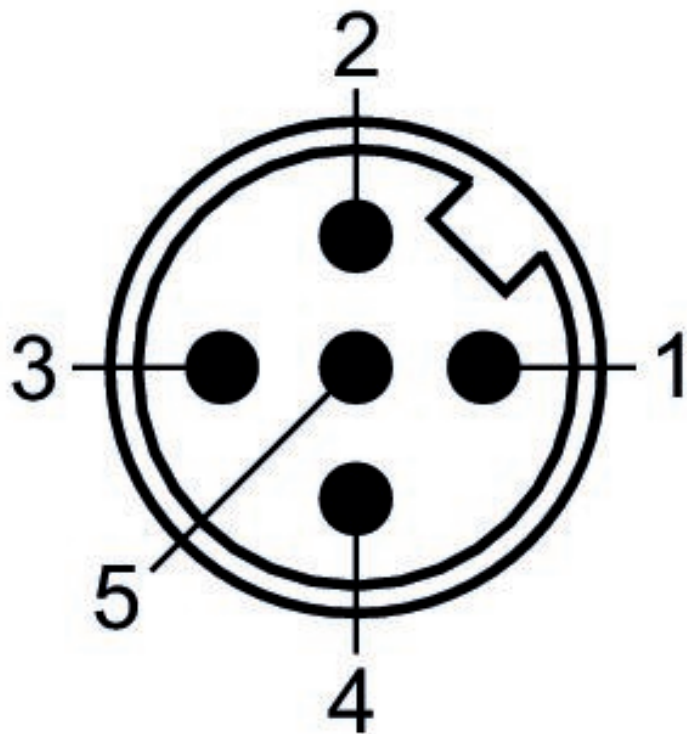
Contact as- signment	Coding	Protocol	Min. ambient temperature [°C]	Max. am- bient tem- perature [°C]	Part No.
5-pin	A-coded	CANopen, DeviceNet	0	60	8941054264

#### Dimensions



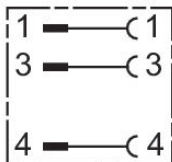
8941054264

Plug pin assignment



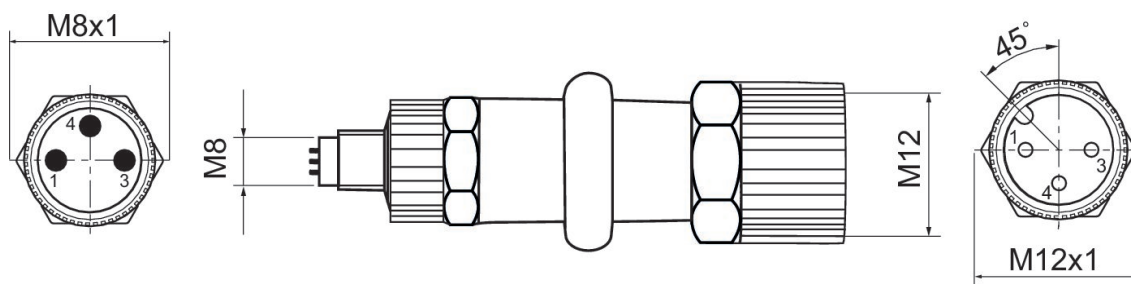
### Adapter, Series CON-AP

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: M8x1  
 Electrical connection 2, thread size: M12x1  
 Electrical connection 1, number of poles: 3-pin  
 Electrical connection 2, number of poles: 3-pin  
 Min. ambient temperature: -25 °C  
 Max. ambient temperature: 50 °C



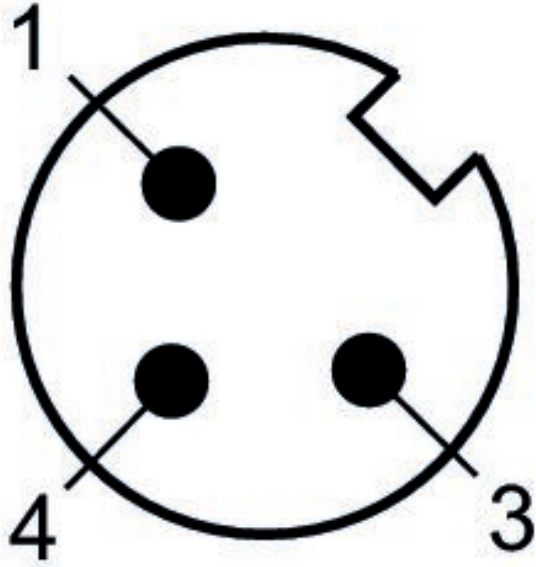
Max. current [A]	Part No.
4	R412021684

Dimensions



**R412021684**

Plug pin assignment



**Multipole plug, series CON-MP**

Electrical connection 1, type: Socket

Electrical connection 1, thread size: D-Sub

Electrical connection 1, number of poles: 25-pin

Min. ambient temperature: -20 °C

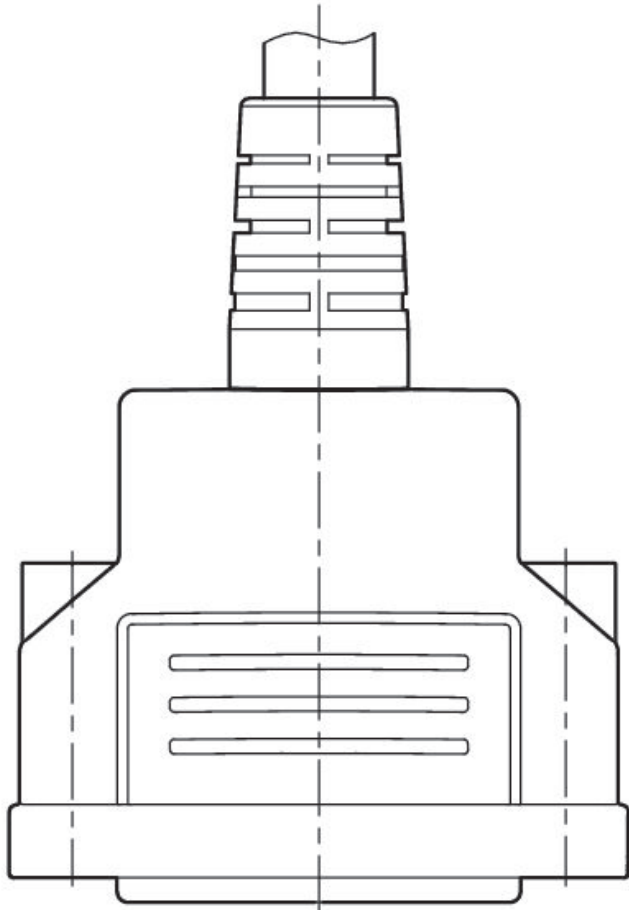
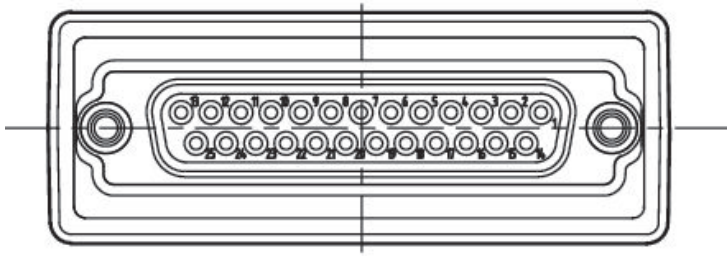
Max. ambient temperature: 80 °C



Operational voltage	Current [A]	Shielding	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 2, type	Cable length [m]	Cable-Ø [mm]	Wire cross-section [mm²]	Suitable for dynamic laying	Material cable sheath	Part No.
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	20	10.5	0.25	suitable for dynamic laying	Polyurethane	R412023363
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	20	8.5	0.22		Polyvinyl chloride	R499000954
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	3	8.5	0.22		Polyvinyl chloride	R419500454
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	5	8.5	0.22		Polyvinyl chloride	R419500455
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	10	8.5	0.22		Polyvinyl chloride	R419500456
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	15	8.5	0.22		Polyvinyl chloride	R412022156
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	3	10.5	0.25	suitable for dynamic laying	Polyurethane	R419500457
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	5	10.5	0.25	suitable for dynamic laying	Polyurethane	R419500458
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	10	10.5	0.25	suitable for dynamic laying	Polyurethane	R419500459

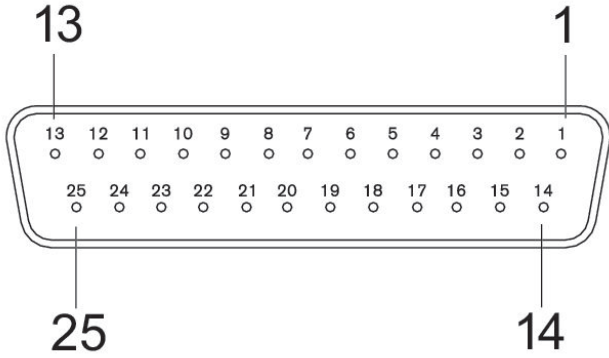


Dimensions



**R412023363, R499000954, R419500454, R419500455, R419500456, R412022156, R419500457, R419500458, R419500459**

PIN assignment and cable colors



Socket

Pin	1	2	3	4	5	6	7	8	9	10
Color	white	brown	green	yellow	gray	pink	blue	red	black	violet

Pin	11	12	13	14	15	16	17	18	19	20
Color	gray/pink	red/blue	white/green	brown/green	white/yellow	yellow/brown	white/gray	gray/brown	white/pink	pink/brown

Pin	21	22	23	24	25
Color	white/blue	brown/blue	white/red	brown/red	white/black

**Multipole plug, series CON-MP**

Electrical connection 1, type: Socket

Electrical connection 1, thread size: D-Sub

Electrical connection 1, number of poles: 25-pin

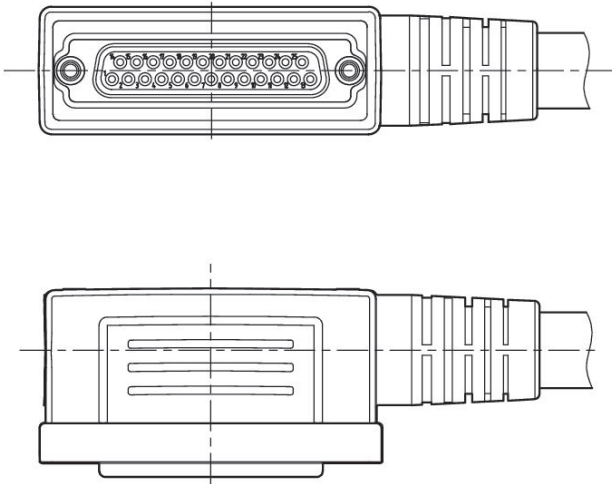
Min. ambient temperature: -20 °C

Max. ambient temperature: 80 °C



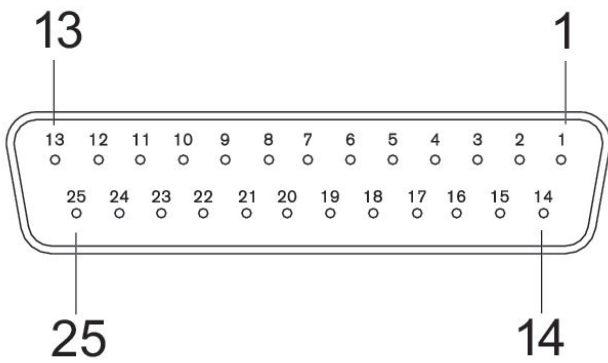
Operational voltage	Current [A]	Shielding	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 2, type	Cable length [m]	Cable-Ø [mm]	Wire cross-section [mm²]	Suitable for dynamic laying	Material cable sheath	Part No.
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	20	8.5	0.22		Polyvinyl chloride	R412023364
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	20	10.5	0.25	suitable for dynamic laying	Polyurethane	R412023365
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	3	8.5	0.22		Polyvinyl chloride	R419500460
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	5	8.5	0.22		Polyvinyl chloride	R419500461
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	10	8.5	0.22		Polyvinyl chloride	R419500462
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	15	8.5	0.22		Polyvinyl chloride	R412022352
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	3	10.5	0.25	suitable for dynamic laying	Polyurethane	R419500463
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	5	10.5	0.25	suitable for dynamic laying	Polyurethane	R419500464
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	10	10.5	0.25	suitable for dynamic laying	Polyurethane	R419500465

Dimensions



**R412023364, R412023365, R419500460, R419500461, R419500462, R412022352, R419500463, R419500464, R419500465**

PIN assignment and cable colors



Socket

Pin	1	2	3	4	5	6	7	8	9	10
Color	white	brown	green	yellow	gray	pink	blue	red	black	violet

Pin	11	12	13	14	15	16	17	18	19	20
Color	gray/pink	red/blue	white/green	brown/green	white/yellow	yellow/brown	white/gray	gray/brown	white/pink	pink/brown

Pin	21	22	23	24	25
Color	white/blue	brown/blue	white/red	brown/red	white/black

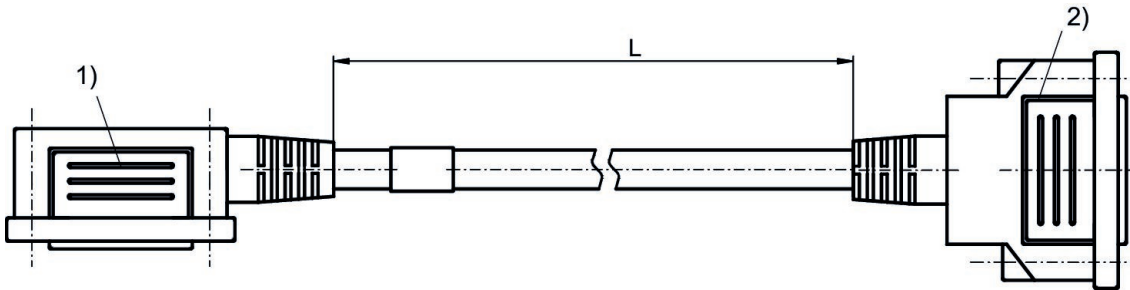
### Multipole plug, series CON-MP

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: D-Sub  
 Electrical connection 1, number of poles: 25-pin  
 Min. ambient temperature: -5 °C  
 Max. ambient temperature: 50 °C



Operational voltage	Current [A]	Shielding	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 2, type	Electrical connection 2, thread size	Cable length [m]	Cable-Ø [mm]	Wire cross-section [mm²]	Material cable sheath	Part No.
24 V DC	3	unshielded	Plug	D-Sub	Socket	D-Sub	0.5	8.5	0.22	Polyvinyl chloride	R412020635
24 V DC	3	unshielded	Plug	D-Sub	Socket	D-Sub	1	8.5	0.22	Polyvinyl chloride	R412020636
24 V DC	3	unshielded	Plug	D-Sub	Socket	D-Sub	2	8.5	0.22	Polyvinyl chloride	R412020637
24 V DC	3	unshielded	Plug	D-Sub	Socket	D-Sub	5	8.5	0.22	Polyvinyl chloride	R412020638
24 V DC	3	unshielded	Plug	D-Sub	Socket	D-Sub	10	8.5	0.22	Polyvinyl chloride	R412020639

Dimensions



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

### D-Sub plug, 25-pin

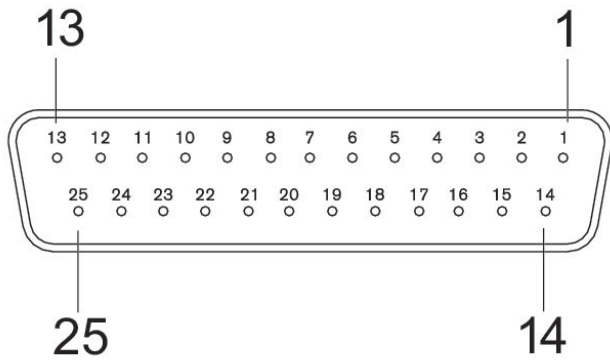
Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black

Pin	10	11	12	13	14	15	16	17	18
Color	violet	gray/pink	red/blue	white/green	brown/green	white/yellow	yellow/brown	white/gray	gray/brown

Pin	19	20	21	22	23	24	25
Color	white/pink	pink/brown	white/blue	brown/blue	white/red	brown/red	white/black

**R412020635, R412020636, R412020637, R412020638, R412020639**

PIN assignment and cable colors



Socket

Pin	1	2	3	4	5	6	7	8	9	10
Color	white	brown	green	yellow	gray	pink	blue	red	black	violet

Pin	11	12	13	14	15	16	17	18	19	20
Color	gray/pink	red/blue	white/green	brown/green	white/yellow	yellow/brown	white/gray	gray/brown	white/pink	pink/brown

Pin	21	22	23	24	25
Color	white/blue	brown/blue	white/red	brown/red	white/black

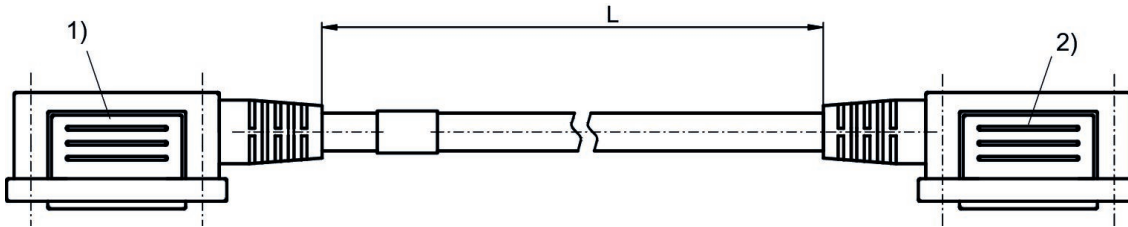
### Multipole plug, series CON-MP

Electrical connection 1, type: Plug  
 Electrical connection 1, thread size: D-Sub  
 Electrical connection 1, number of poles: 25-pin  
 Min. ambient temperature: -5 °C  
 Max. ambient temperature: 50 °C



Operational voltage	Current [A]	Shielding	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 2, type	Electrical connection 2, thread size	Cable length [m]	Cable-Ø [mm]	Wire cross-section [mm²]	Material cable sheath	Part No.
24 V DC	3	unshielded	Plug	D-Sub	Socket	D-Sub	0.5	8.5	0.22	Polyvinyl chloride	R412020630
24 V DC	3	unshielded	Plug	D-Sub	Socket	D-Sub	1	8.5	0.22	Polyvinyl chloride	R412020631
24 V DC	3	unshielded	Plug	D-Sub	Socket	D-Sub	2	8.5	0.22	Polyvinyl chloride	R412020632
24 V DC	3	unshielded	Plug	D-Sub	Socket	D-Sub	5	8.5	0.22	Polyvinyl chloride	R412020633
24 V DC	3	unshielded	Plug	D-Sub	Socket	D-Sub	10	8.5	0.22	Polyvinyl chloride	R412020634

Dimensions



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

### D-Sub plug, 25-pin

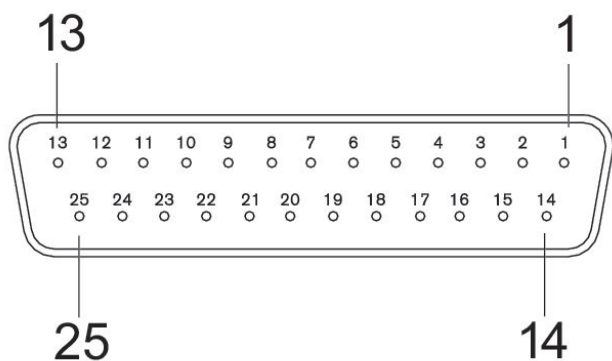
Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black

Pin	10	11	12	13	14	15	16	17	18
Color	violet	gray/pink	red/blue	white/green	brown/green	white/yellow	yellow/brown	white/gray	gray/brown

Pin	19	20	21	22	23	24	25
Color	white/pink	pink/brown	white/blue	brown/blue	white/red	brown/red	white/black

**R412020630, R412020631, R412020632, R412020633, R412020634**

PIN assignment and cable colors



Socket

Pin	1	2	3	4	5	6	7	8	9	10
Color	white	brown	green	yellow	gray	pink	blue	red	black	violet

Pin	11	12	13	14	15	16	17	18	19	20
Color	gray/pink	red/blue	white/green	brown/green	white/yellow	yellow/brown	white/gray	gray/brown	white/pink	pink/brown

Pin	21	22	23	24	25
Color	white/blue	brown/blue	white/red	brown/red	white/black



**Multipole plug, series CON-MP**

Electrical connection 1, type: Socket

Electrical connection 1, thread size: D-Sub

Electrical connection 1, number of poles: 44-pin

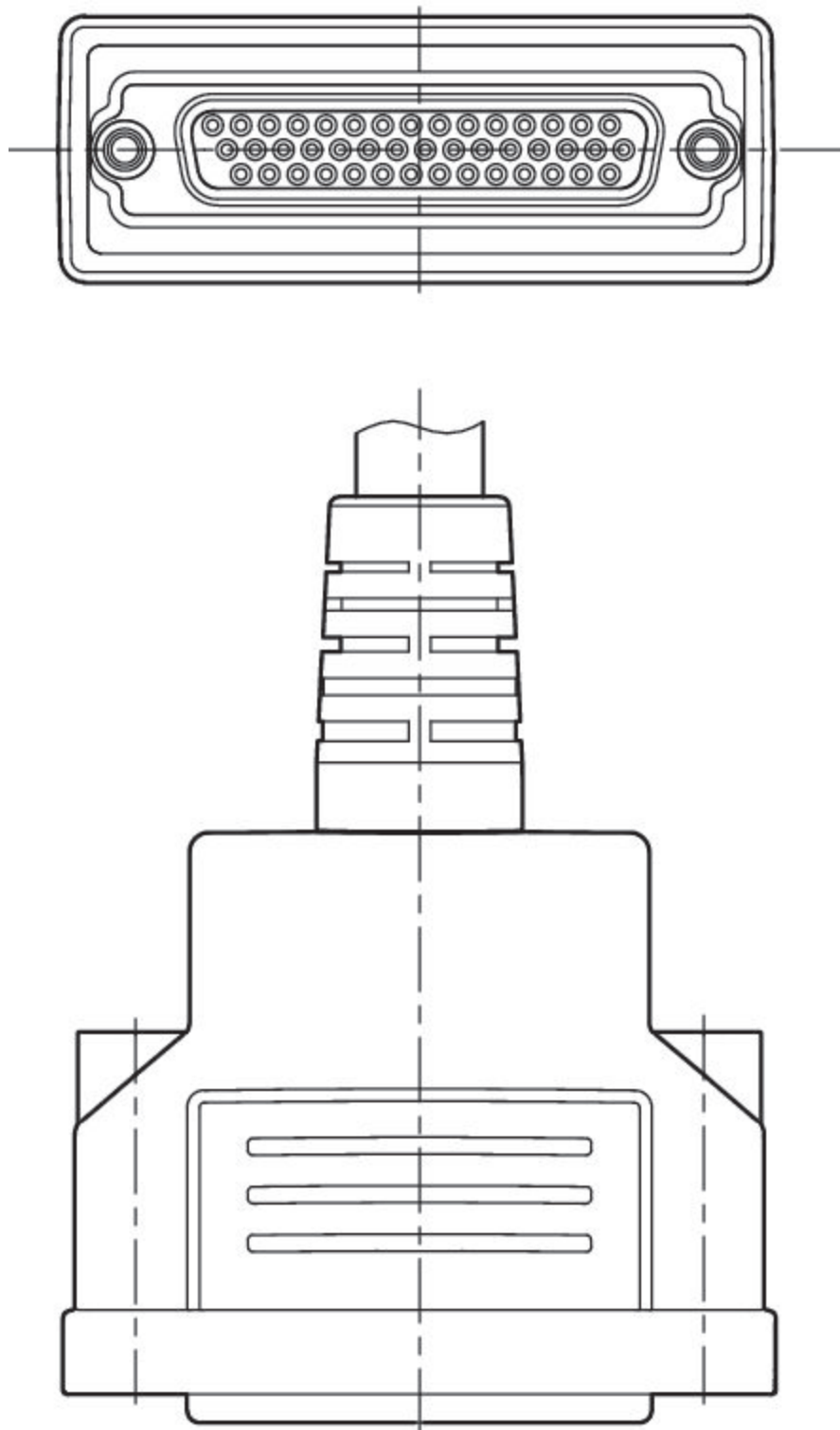
Min. ambient temperature: -20 °C

Max. ambient temperature: 80 °C



Operational voltage	Current [A]	Shielding	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 2, type	Cable length [m]	Cable-Ø [mm]	Wire cross-section [mm²]	Suitable for dynamic laying	Material cable sheath	Part No.
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	3	10.3	0.22		Polyvinyl chloride	R419500466
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	5	10.3	0.22		Polyvinyl chloride	R419500467
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	10	10.3	0.22		Polyvinyl chloride	R419500468
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	3	13.3	0.25	suitable for dynamic laying	Polyurethane	R419500469
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	5	13.3	0.25	suitable for dynamic laying	Polyurethane	R419500470
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	10	13.3	0.25	suitable for dynamic laying	Polyurethane	R419500471

Dimensions



D-Sub socket, 44 pin

Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black

Pin	10	11	12	13	14	15	16	17	18
Color	violet	gray/pink	red/blue	white/green	brown/green	white/yellow	yellow/brown	white/gray	gray/brown

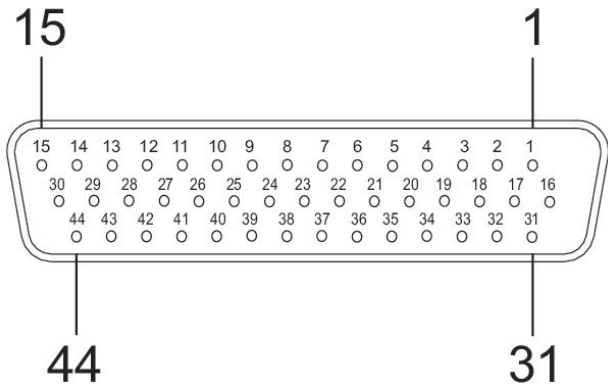
Pin	19	20	21	22	23	24	25	26	27
Color	white/pink	pink/brown	white/blue	brown/blue	white/red	brown/red	white/black	brown/black	gray/green

Pin	28	29	30	31	32	33	34	35	36
Color	yellow/gray	pink/green	yellow/pink	green/blue	yellow/blue	green/red	yellow/red	gray/black	yellow/black

Pin	37	38	39	40	41	42	43	44
Color	gray/blue	pink/blue	gray/red	pink/red	gray/black	pink/black	blue/black	red/black

**R419500466, R419500467, R419500468, R419500469, R419500470, R419500471**

PIN assignment and cable colors



Socket

**Multipole plug, series CON-MP**

Electrical connection 1, type: Socket

Electrical connection 1, thread size: D-Sub

Electrical connection 1, number of poles: 44-pin

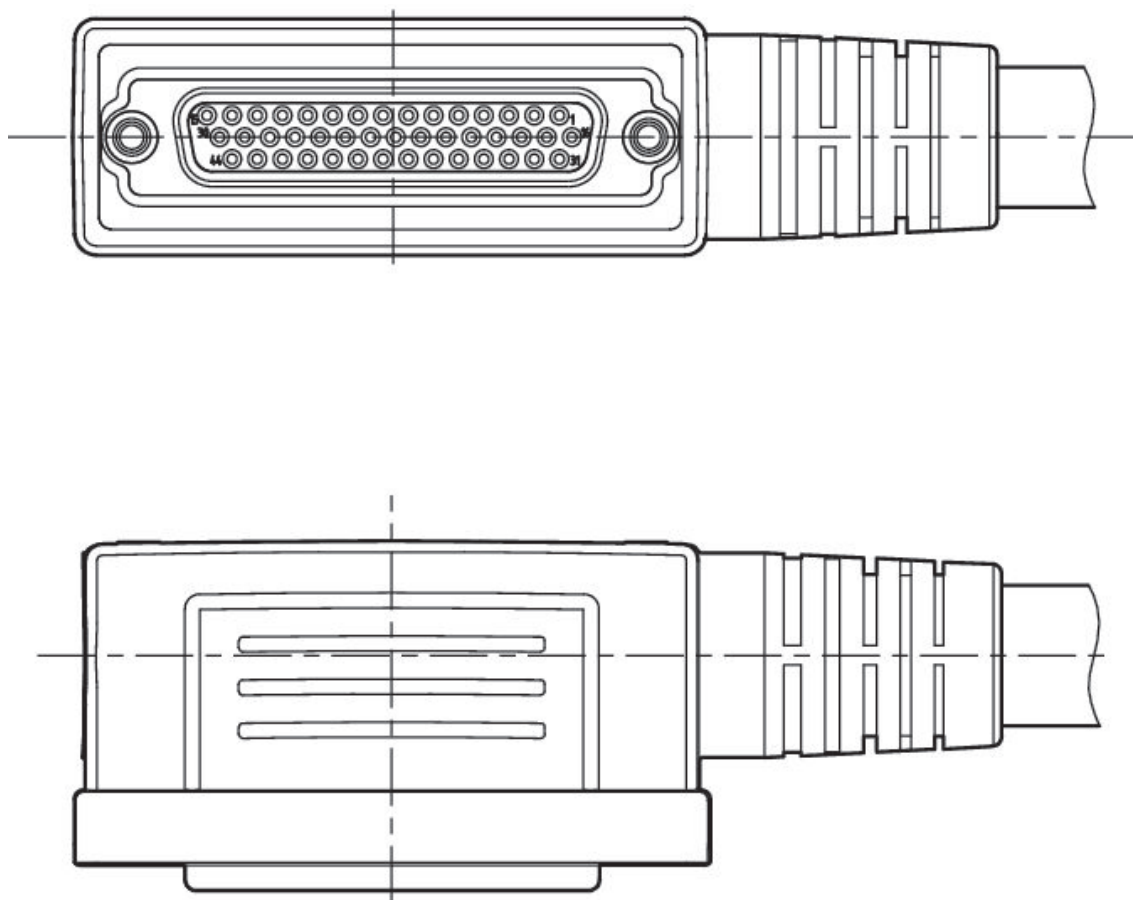
Min. ambient temperature: -20 °C

Max. ambient temperature: 80 °C



Operational voltage	Current [A]	Shielding	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 2, type	Cable length [m]	Cable-Ø [mm]	Wire cross-section [mm²]	Suitable for dynamic laying	Material cable sheath	Part No.
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	15	10.3	0.22		Polyvinyl chloride	R412020049
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	3	10.3	0.22		Polyvinyl chloride	R419500472
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	5	10.3	0.22		Polyvinyl chloride	R419500473
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	10	10.3	0.22		Polyvinyl chloride	R419500474
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	3	13.3	0.25	suitable for dynamic laying	Polyurethane	R419500475
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	5	13.3	0.25	suitable for dynamic laying	Polyurethane	R419500476
24 V DC	3	unshielded	Socket	D-Sub	open cable ends	10	13.3	0.25	suitable for dynamic laying	Polyurethane	R419500477

Dimensions



D-Sub socket, 44 pin

Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black

Pin	10	11	12	13	14	15	16	17	18
Color	violet	gray/pink	red/blue	white/green	brown/green	white/yellow	yellow/brown	white/gray	gray/brown

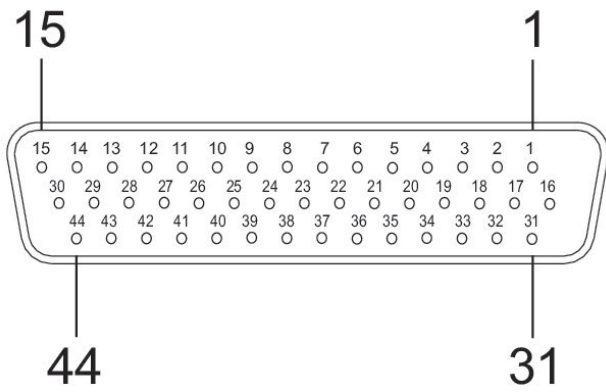
Pin	19	20	21	22	23	24	25	26	27
Color	white/pink	pink/brown	white/blue	brown/blue	white/red	brown/red	white/black	brown/black	gray/green

Pin	28	29	30	31	32	33	34	35	36
Color	yellow/gray	pink/green	yellow/pink	green/blue	yellow/blue	green/red	yellow/red	gray/black	yellow/black

Pin	37	38	39	40	41	42	43	44
Color	gray/blue	pink/blue	gray/red	pink/red	gray/black	pink/black	blue/black	red/black

R412020049, R419500472, R419500473, R419500474, R419500475, R419500476, R419500477

PIN assignment and cable colors



Socket

Release tool Ø 4, Ø 6, Ø 8, Ø 10

For series: AV03 AV05

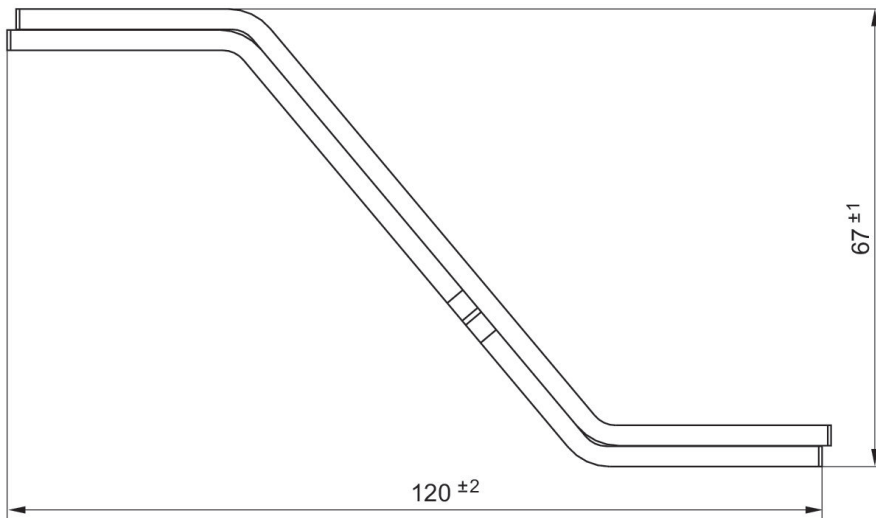
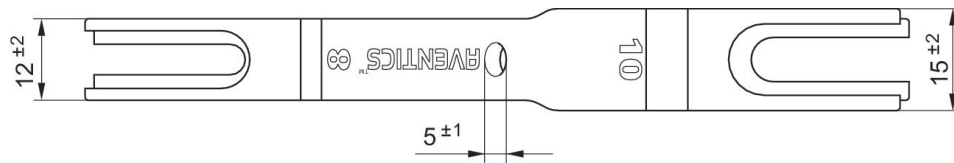
Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C



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

Dimensions



Release tool Ø 4, Ø 6, Ø 8, Ø 10, Ø 12, Ø 14

For series: AV03 AV05

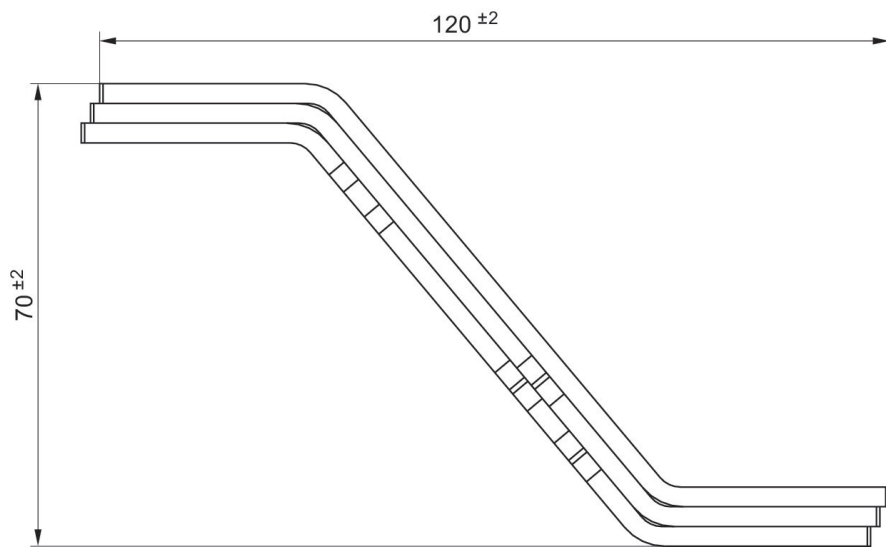
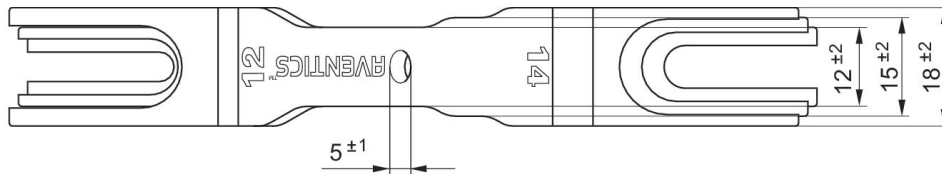
Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C



Type	Part No.
Ø 4, Ø 6, Ø 8, Ø 10, Ø 12, Ø 14	R422004107

Dimensions





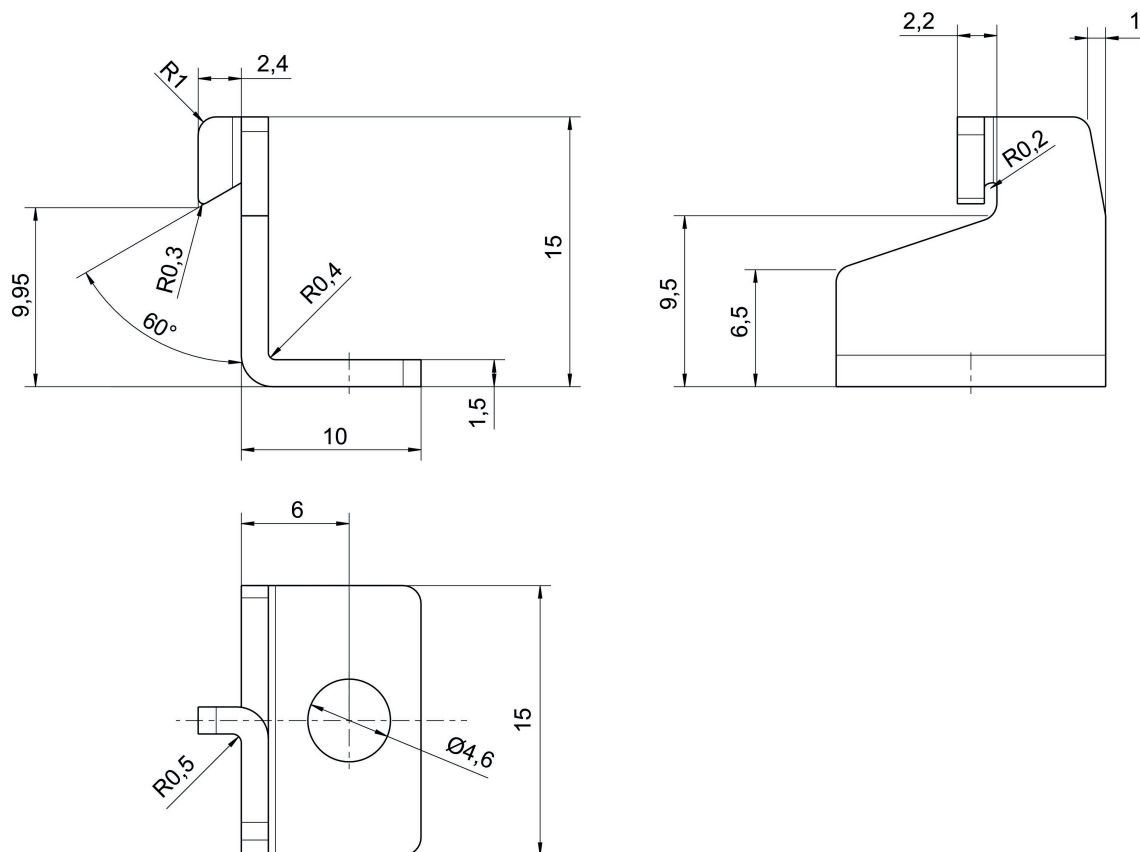
### Mounting bracket

For series: AV03 AV05



Delivery unit [piece]	Weight [kg]	Material	Part No.
10	0.047	Stainless Steel	R412020083

Dimensions in mm



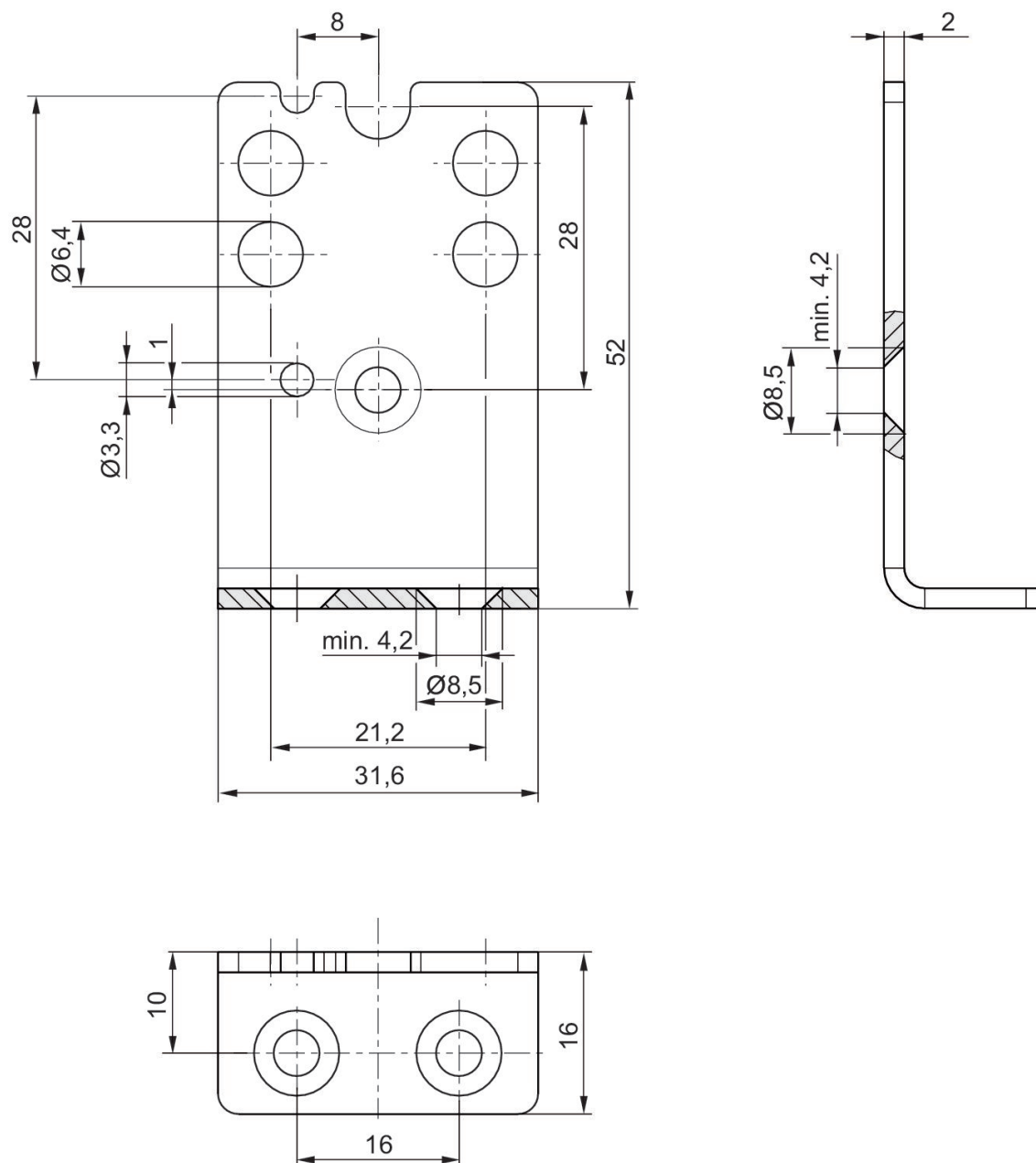
### Assembly kit

For series: AV



Type	Delivery unit [piece]	Material	Part No.
Mounting bracket for mounting to the mounting plate	2	Stainless Steel	R422103091

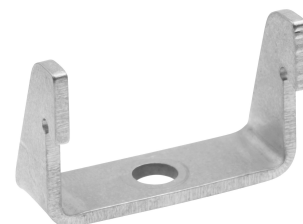
## Dimensions



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.

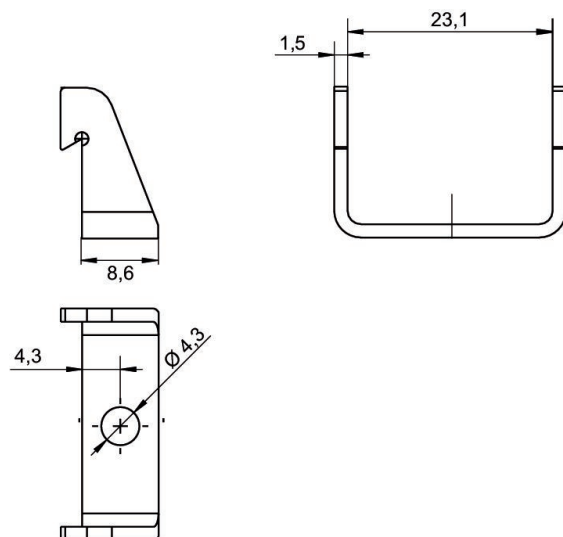
### Retaining bracket for intermediate mounting

For series: AES AV03 AV05



Type	Delivery unit [piece]	Material	Part No.
Retaining brackets	10	Stainless Steel	R412018339

Dimensions

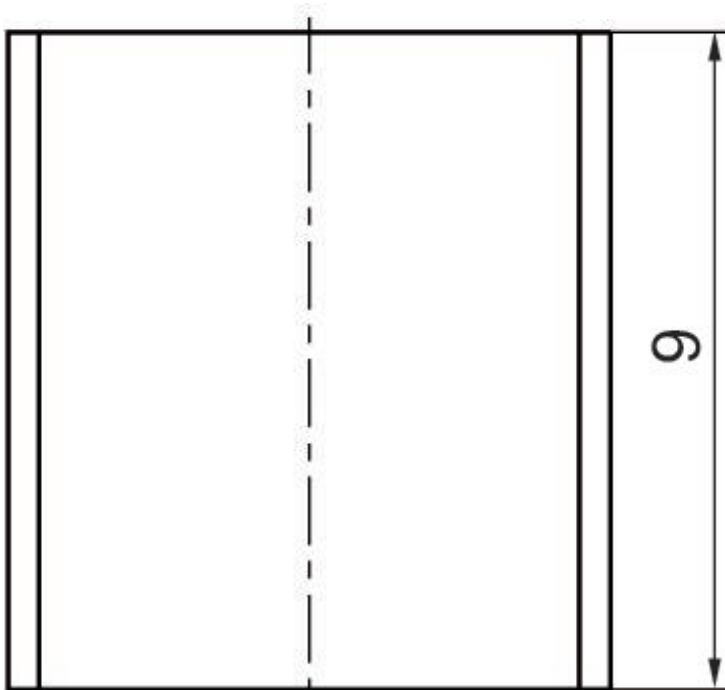
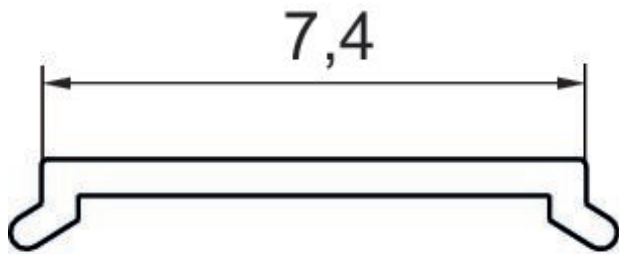


**Name plates, AV valve front**

For series: AV03 AV05

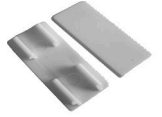
Type	Delivery unit [piece]	Weight [kg]	Material	Part No.
Name plates	150	0.014	Polyamide	R412019552

Dimensions



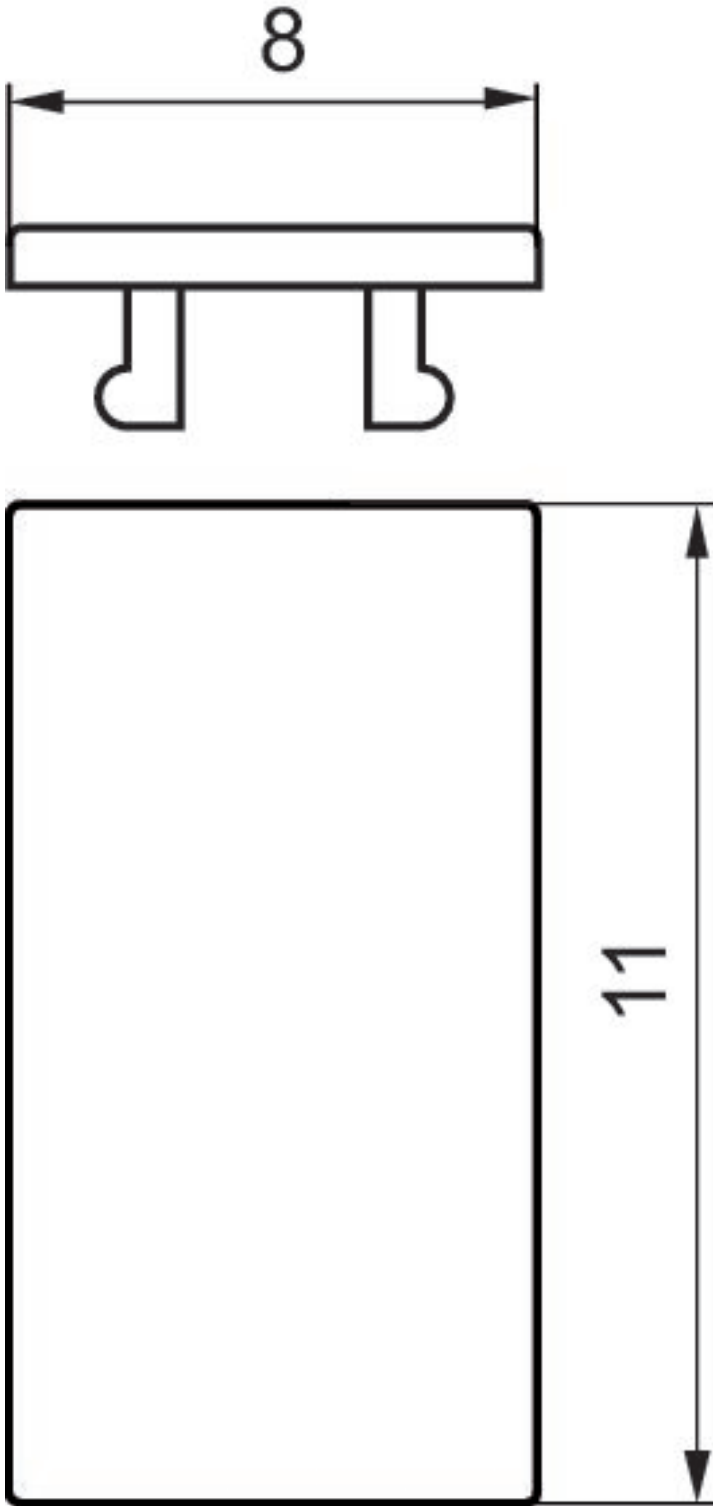
**Name plates, AV-BP base plate below**

For series: AV03-BP AV05-BP



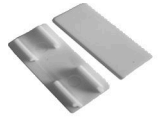
Type	Weight [kg]	Material	Part No.
Name plates	0.014	Polyamide	R412026461

Dimensions



**Name plates, AV valve, AES bus coupler above**

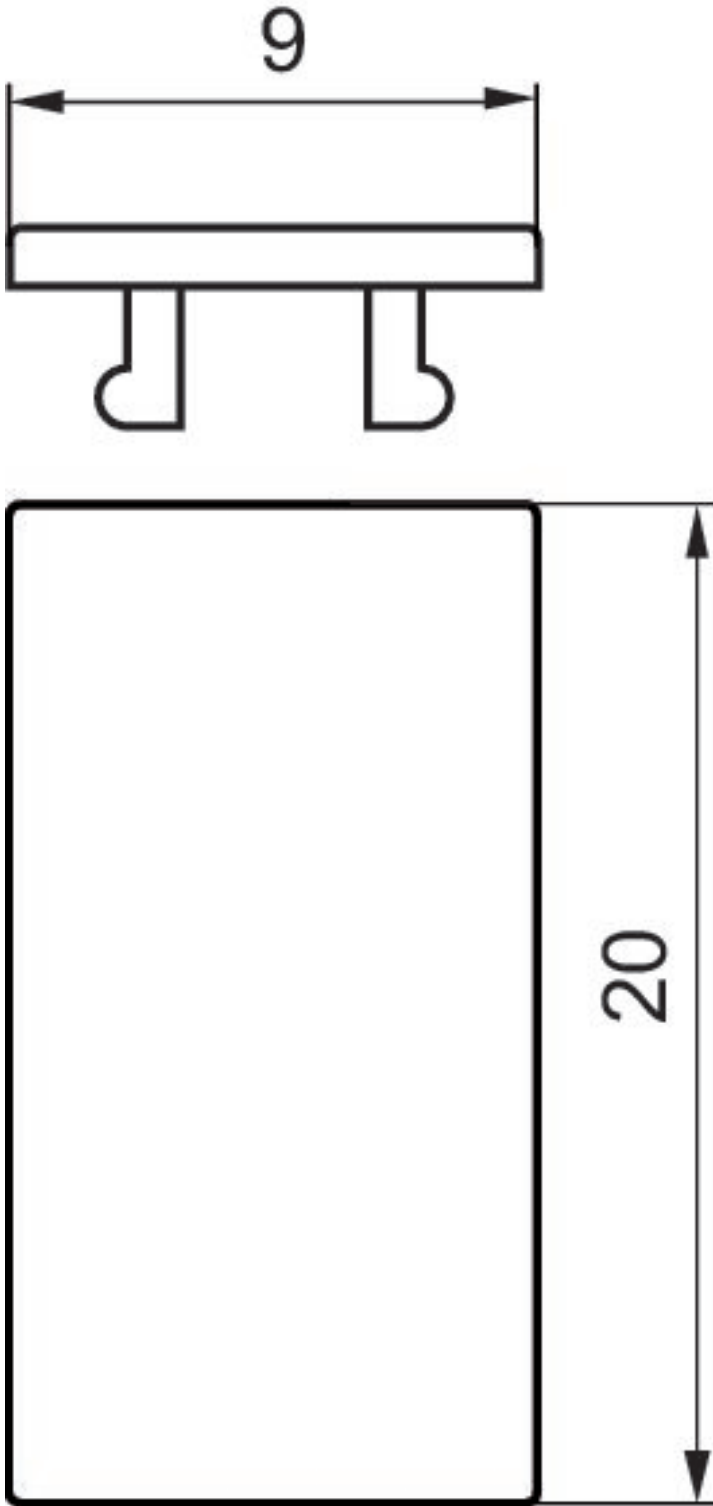
For series: AV03 AV05 AES



Type	Delivery unit [piece]	Weight [kg]	Material	Part No.
Name plates	24	0.014	Polycarbon- ate	R422100889



Dimensions



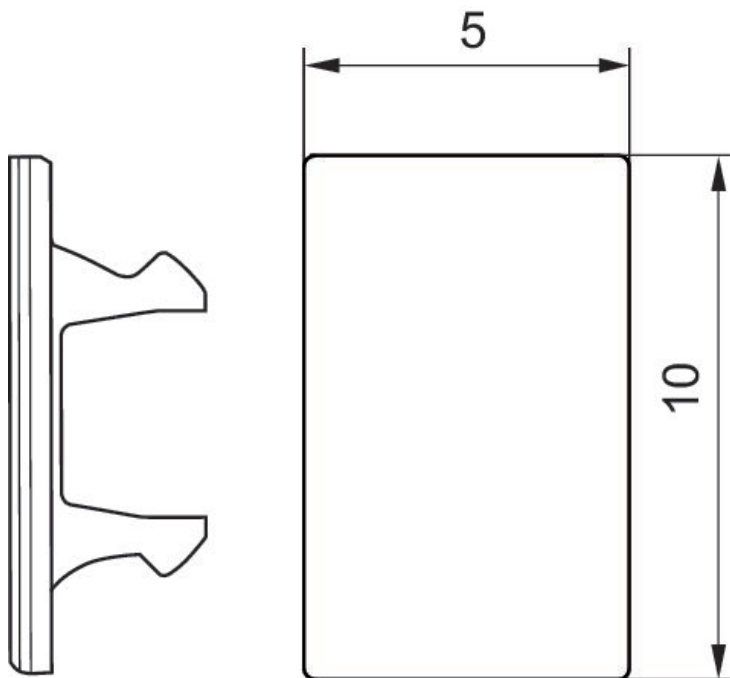
**Name plates, AES I/O module**

For series: AES AV03 AV05



Type	Delivery unit [piece]	Weight [kg]	Material	Part No.
Name plates	60	0.014	Polyamide	R412018192

Dimensions



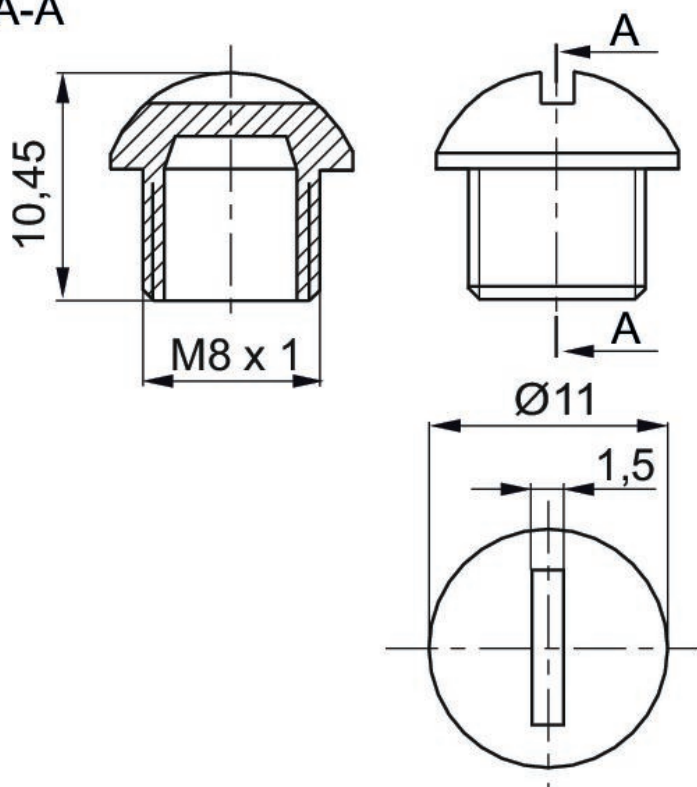
## Protective cap, series CON-RD, M8x1



Type	Weight [kg]	Material	Part No.
M8x1	0.001	Polyamide	R412003493

Dimensions

A-A

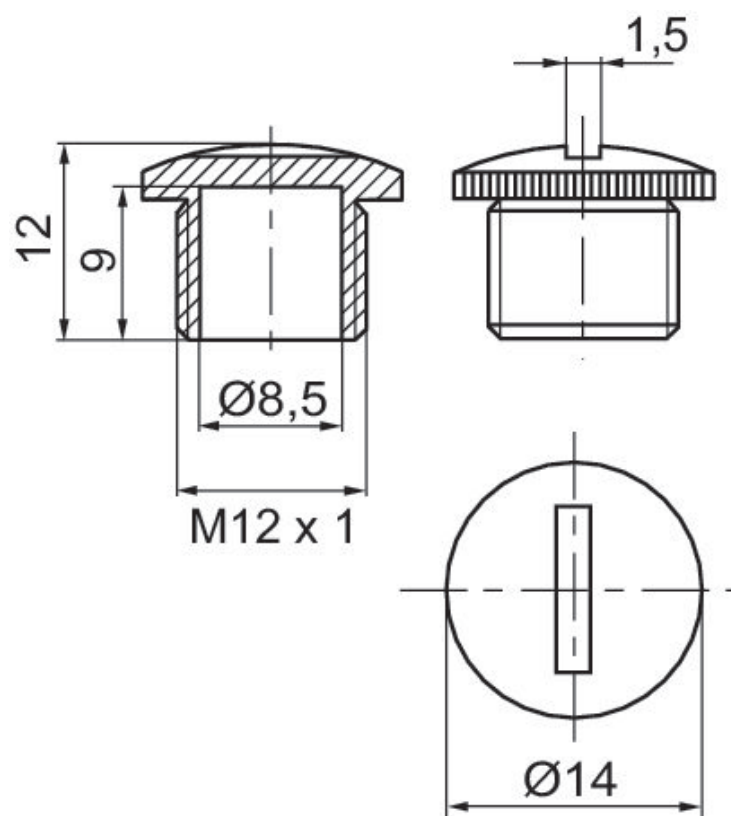


## Protective cap, series CON-RD, M12x1



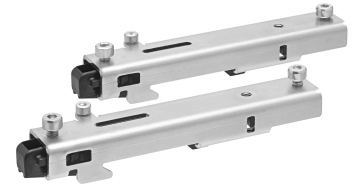
Type	Delivery unit [piece]	Weight [kg]	Material	Part No.
M12x1	50	0.001	Polyamide	1823312001

## Dimensions



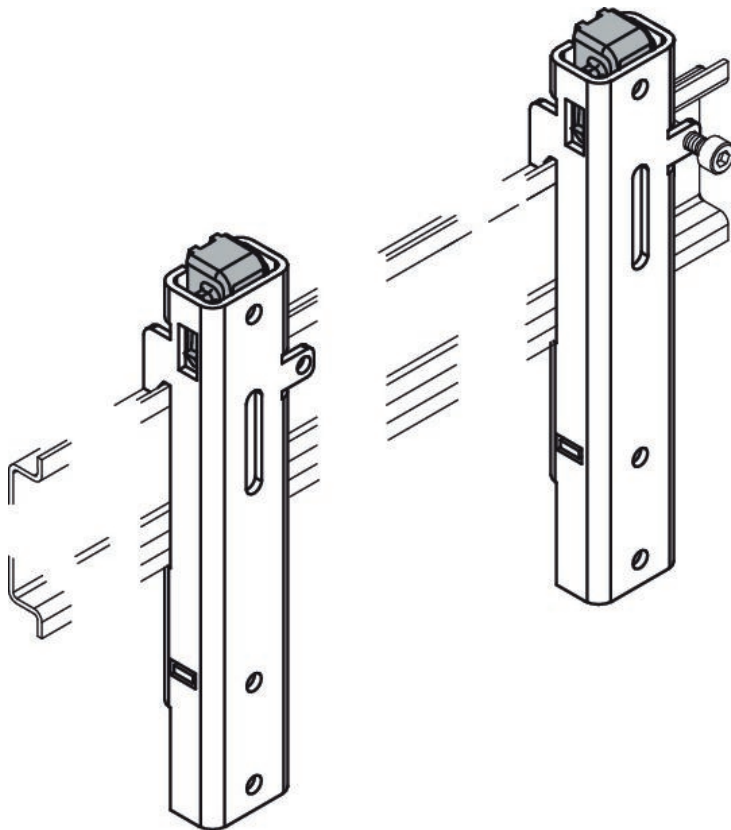
## Mounting kit for DIN rail

For series: AV03 AV05 AES ES05



Material	Part No.
Steel, chrome-plat- ed	R412019468

### Dimensions

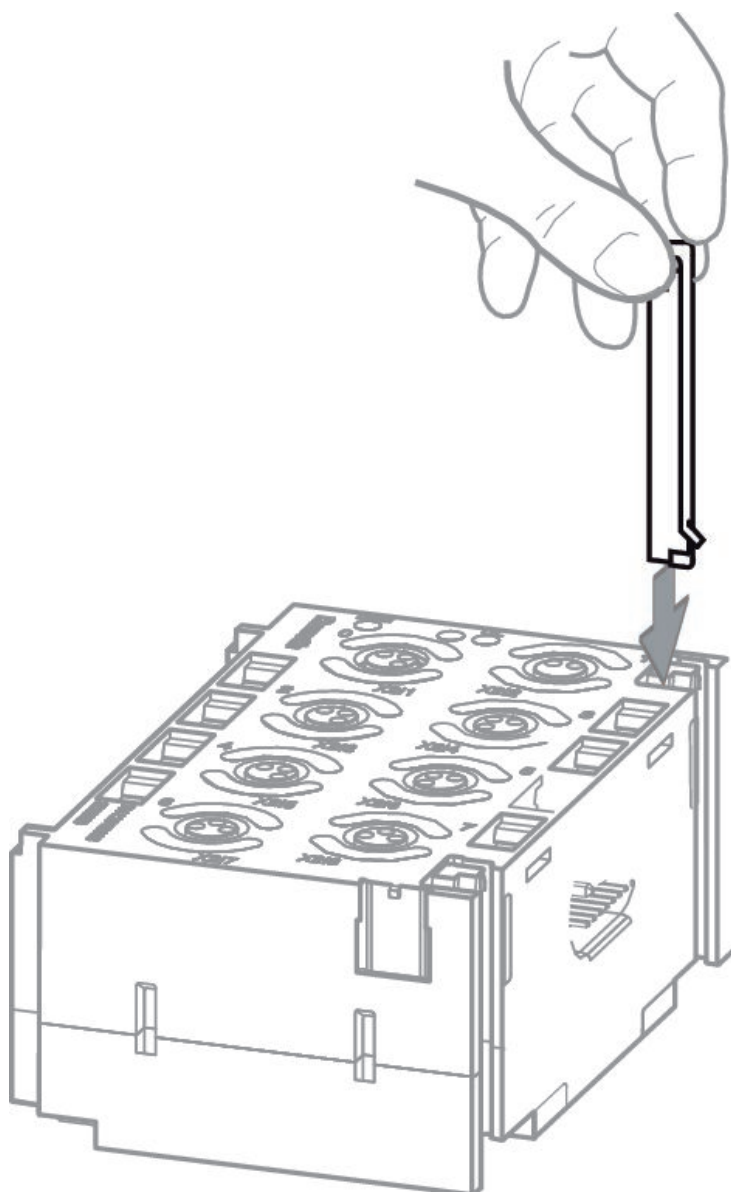


## Spring clamp element

For series: AES



Type	Delivery unit [piece]	Material	Part No.
Spring clamp element	10	Steel, chrome-plated	R412015400



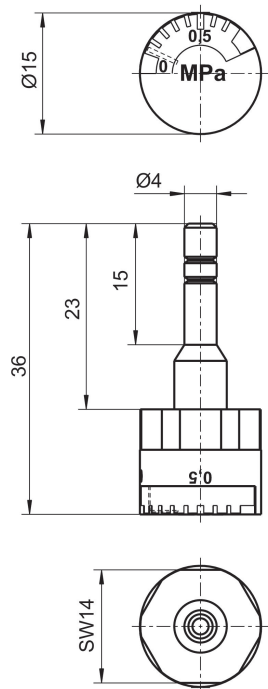
### Pressure gauge, Series PG1-ROB

Min. ambient temperature: 0 °C  
 Max. ambient temperature: 60 °C  
 Min. working pressure: 0 bar  
 Max. working pressure: 10 bar



Type	Nominal diameter [mm]	Port	Min. main scale display range [bar]	Max. main scale display range [bar]	Min. main scale display range [bar]	Max. main scale display range [bar]	Part No.
Bourdon tube pressure gauge	15	Ø 4	0	10	0	10	R412009413

Dimensions in mm



### Spare parts

For series: AV03-BP

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C



Type	Part No.
Screws	R412026460

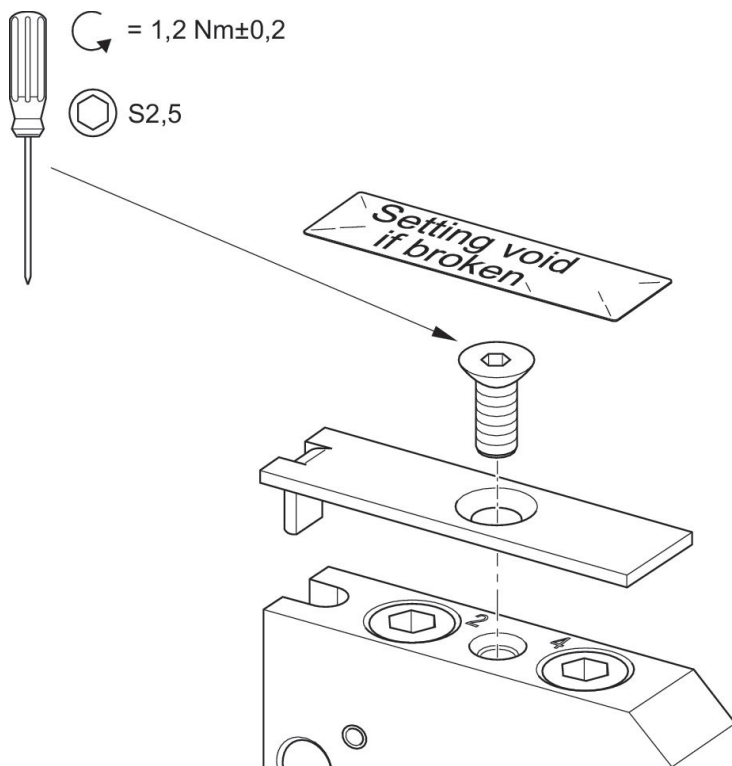


### Accessories, Throttle module Series AV

Min. ambient temperature: -10 °C  
 Max. ambient temperature: 60 °C  
 Min. working pressure: -10 bar  
 Max. working pressure: 60 bar



Type	Part No.
Tamper-proof plate kit	R422003595
Tamper-proof sticker kit	R422003596



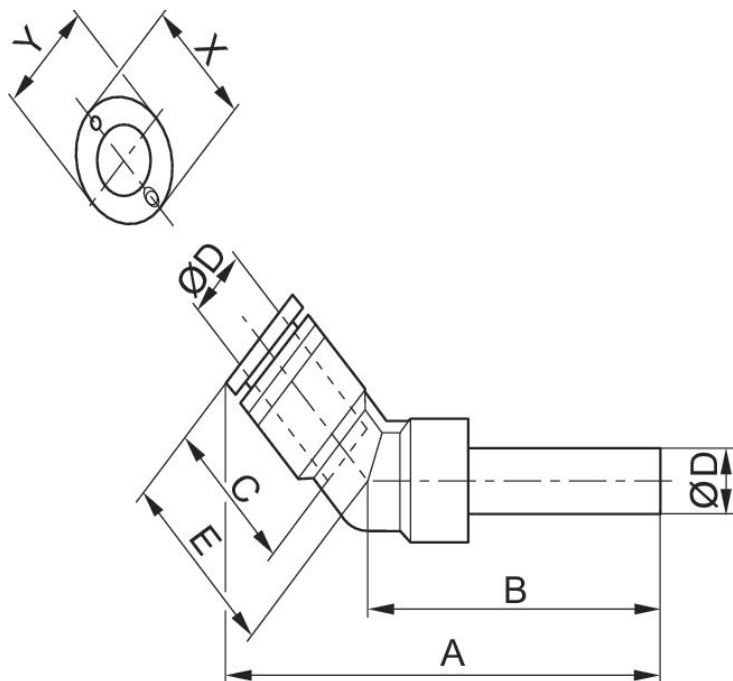
### Series QR1-S-RVW Mini

Compressed air connection type: pin bushing  
 Compressed air connection type 2: push-in fitting  
 Min. ambient temperature: 0 °C  
 Max. ambient temperature: 60 °C  
 Min. working pressure: -0.95 bar  
 Max. working pressure: 10 bar



G	Ø D	Delivery unit [piece]	Material	Part No.
Ø 4	Ø 4	10	Polybutyleneterephthalate	R412005046

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

## Push-in fittings

For series: AV

Min. ambient temperature: -10 °C

Max. ambient temperature: 60 °C

Min. working pressure: 0.9 bar

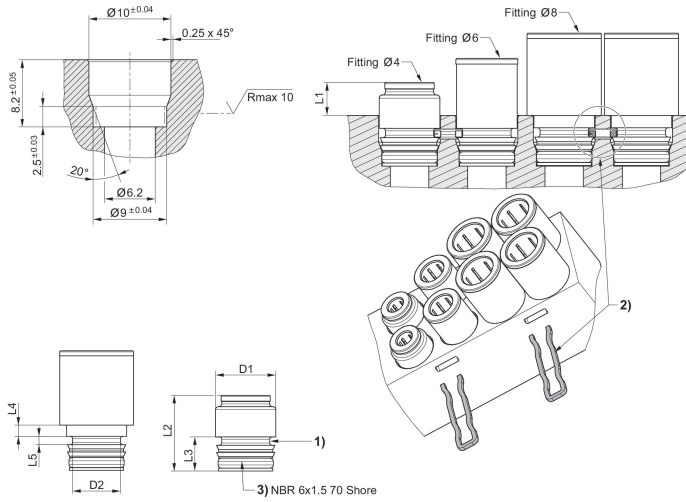
Max. working pressure: 10 bar



Delivery unit [piece]	Type	Material	Part No.
2	Push-in fitting Ø 4 mm - 5/32", straight	Brass	R412018617
2	Push-in fitting Ø 6 mm, straight	Brass	R412018618
2	Push-in fitting Ø 8 mm - 5/16", straight	Brass	R412018619
1	Push-in fitting Ø 3 mm, angled, short, and push-in fitting Ø 3 mm, angled, long	Brass	R412018621
1	Push-in fitting Ø 4 mm - 5/32", angled, short and push-in fitting Ø 4 mm - 5/32", angled, long	Brass	R412018622
1	Push-in fitting Ø 6 mm, angled, short Push-in fitting Ø 6 mm, angled, long	Brass	R412018623
10	Push-in fitting Ø 3 mm, angled, short	Brass	R422002561
10	Plug connector Ø 3 mm, angled, long	Brass	R422002569
10	Push-in fitting Ø 4 mm - 5/32", straight	Brass	R422002554
10	Push-in fitting Ø 4 mm, 5/32", angled, short	Brass	R422002562
10	Push-in fitting Ø 4 mm, 5/32", angled, long	Brass	R422002570
10	Push-in fitting Ø 6 mm, straight	Brass	R422002555
10	Push-in fitting Ø 6 mm, angled, short	Brass	R422002563
10	Push-in fitting Ø 6 mm, angled, long	Brass	R422002571
10	Push-in fitting Ø 8 mm, 5/16", straight	Brass	R422002557
10	Push-in fitting Ø 8 mm, 5/16", angled, short	Polyamide, fiber-glass reinforced, black	R422002565
10	Push-in fitting Ø 8 mm, 5/16", angled, long	Polyarylamide, fiber-glass reinforced	R422002573
1	Push-in fitting Ø 8 mm, angled, short Push-in fitting Ø 8 mm, angled, long	Polyamide, fiber-glass reinforced, black	R422002944
2	Push-in fitting 1/8", straight	Brass	R412021785
2	Push-in fitting 1/4", straight	Brass	R412018620
10	Push-in fitting 3/8", straight	Brass	R422002560
2	Push-in fitting Ø 12 mm, straight	Brass	R422102508
10	Push-in fitting Ø 12 mm, straight	Brass	R422002559
10	Push-in fitting 1/4", straight	Brass	R422002556
10	Push-in fitting 1/8", straight	Brass	R412021786

**R412018617, R412018618, R412018619,  
R422002554, R422002555, R422002557**

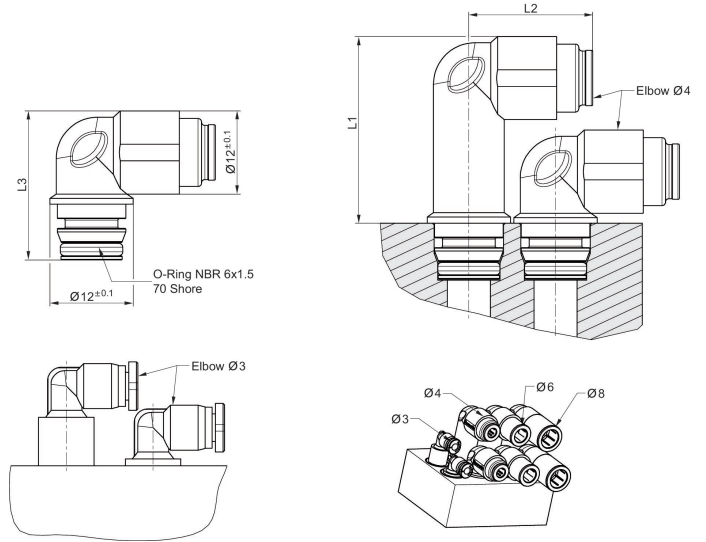
Dimensions



- 1) for adjustable stops
- 2) Staple assembly example
- 3) O-ring

**R412018621, R412018622, R412018623,  
R422002561, R422002569, R422002562,  
R422002570, R422002563, R422002571,  
R422002565, R422002573**





Dimensions



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



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