

Series AES



AVENTICS™ Series AES



Fieldbus connection with I/O functionality

- Stand-Alone variant ■ Configurable valve systems
- Stand-alone bus coupler
- Fieldbus protocol EtherNET/IP PROFIBUS DP CANopen POWERLINK DeviceNet PROFINET IO EtherCAT



Version	Stand-alone bus coupler
Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-25% / +25%
Power consumption electronics	0.1 A
Operating voltage, actuators	24 V DC
Power supply connection	M12, A-coded, 4-pin
Total current for actuators	4 A
Protection class	IP65
Cycle time at 256 bits	1 ms
Logic/actuator voltage	Galvanically isolated
Diagnosis	Short circuit Undervoltage
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2

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

Technical information

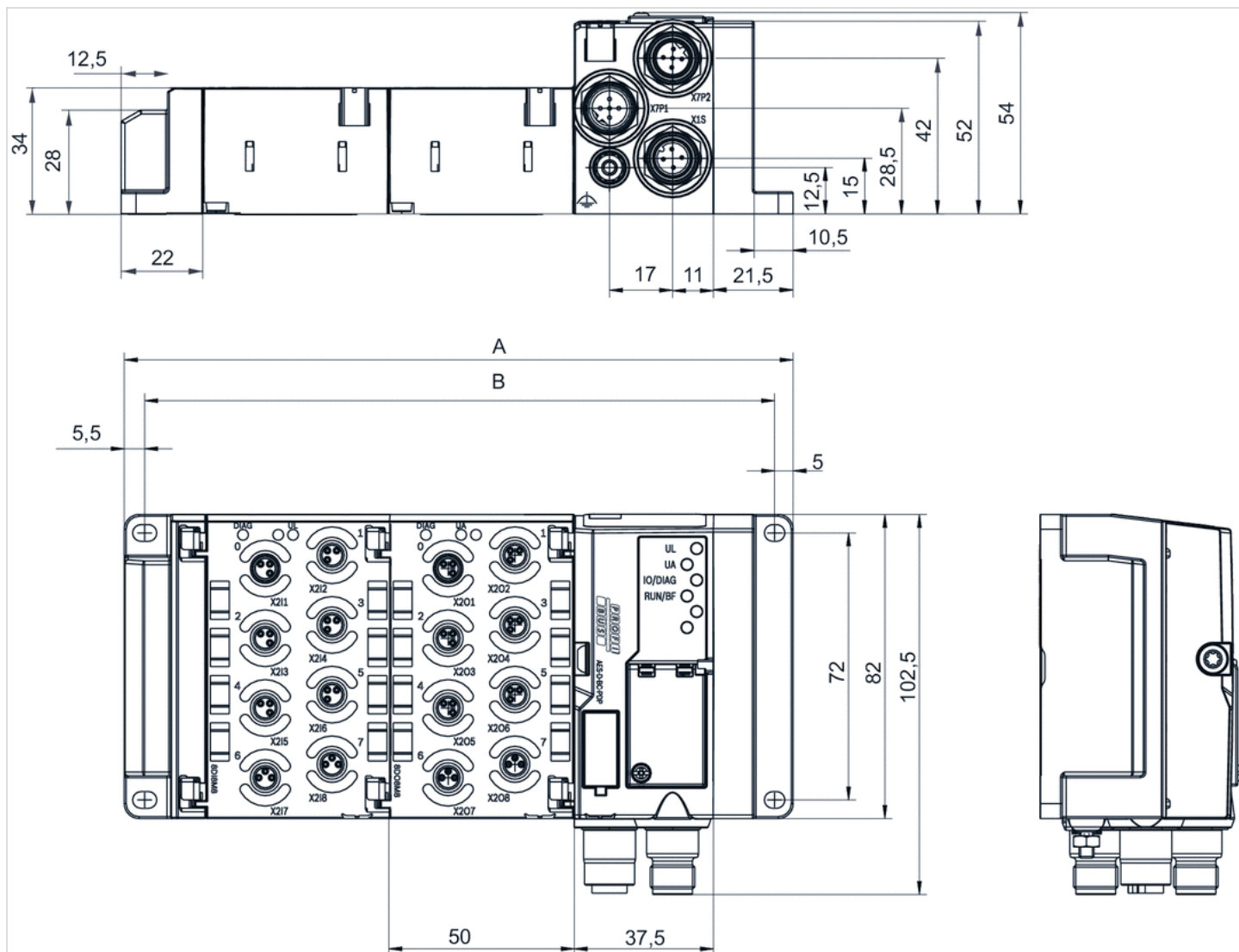
The maximum number of I/O modules is 10.
Caution: A reduced temperature range in accordance with the operating instructions may need to be considered in ATEX applications.

Technical information

Housing	Polyamide fiber-glass reinforced

Dimensions

Dimensions



A = number of I/O modules x 50 mm + 81 mm

B = number of I/O modules x 50 mm + 70.5 mm

Series AES

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



Version	Bus coupler
Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-25% / +25%
Power consumption electronics	0.1 A
Operating voltage, actuators	24 V DC
Total current for actuators	4 A
Protection class	IP65
Cycle time at 256 bits	1 ms
Number of solenoid coils max.	128
Number of valve positions max.	64
Logic/actuator voltage	Galvanically isolated
Diagnosis	Short circuit Undervoltage
I/O module extension max.	10
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	See table below

Technical data

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

Part No.	Port	power supply
	2	
R412018218	Socket (female), M12, 5-pin, B-coded	Plug (male), M12, 4-pin, A-coded
R412018220	Socket (female), M12, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded
R412018221	Socket (female), M12, 5-pin, A-coded	Plug (male), M12, 4-pin, A-coded
R412018223	Socket (female), M12, 4-pin, D-coded	Plug (male), M12, 4-pin, A-coded
R412018225	Socket (female), M12, 4-pin, D-coded	Plug (male), M12, 4-pin, A-coded
R412018222	Socket (female), M12, 4-pin, D-coded	Plug (male), M12, 4-pin, A-coded
R412018226	Socket (female), M12, 4-pin, D-coded	Plug (male), M12, 4-pin, A-coded

Part No.	Weight
R412018218	0.16 kg
R412018220	0.16 kg
R412018221	0.16 kg
R412018223	0.175 kg
R412018225	0.175 kg
R412018222	0.175 kg
R412018226	0.175 kg

Scope of delivery: Incl. mounting screws 3x

Technical information

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

Voltage and short-circuit monitoring per LED.

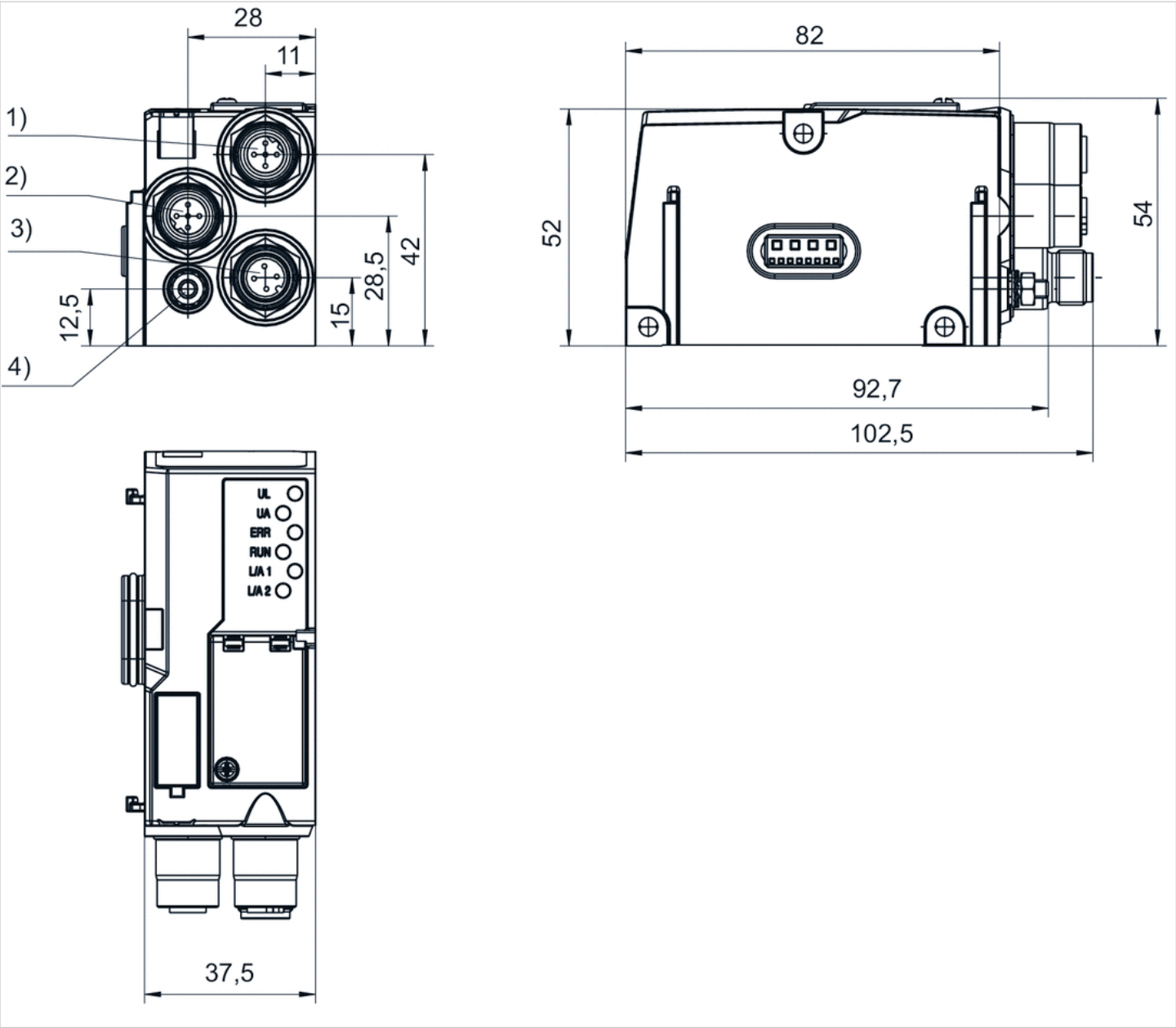
During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

Dimensions



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

Series AES

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



Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-25% / +25%
Max. current per channel	0.5 A
Total current for actuators	4 A
Protection class	IP65
Total current of sensors max.	1 A
Filter time	3 ms
Logic/actuator voltage	Galvanically isolated
Diagnosis	Short circuit Undervoltage
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.11 kg

Technical data

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

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

Delivery contents: incl. 2 spring clamp elements and seal

1) Function specification for fieldbus configuration.

Technical information

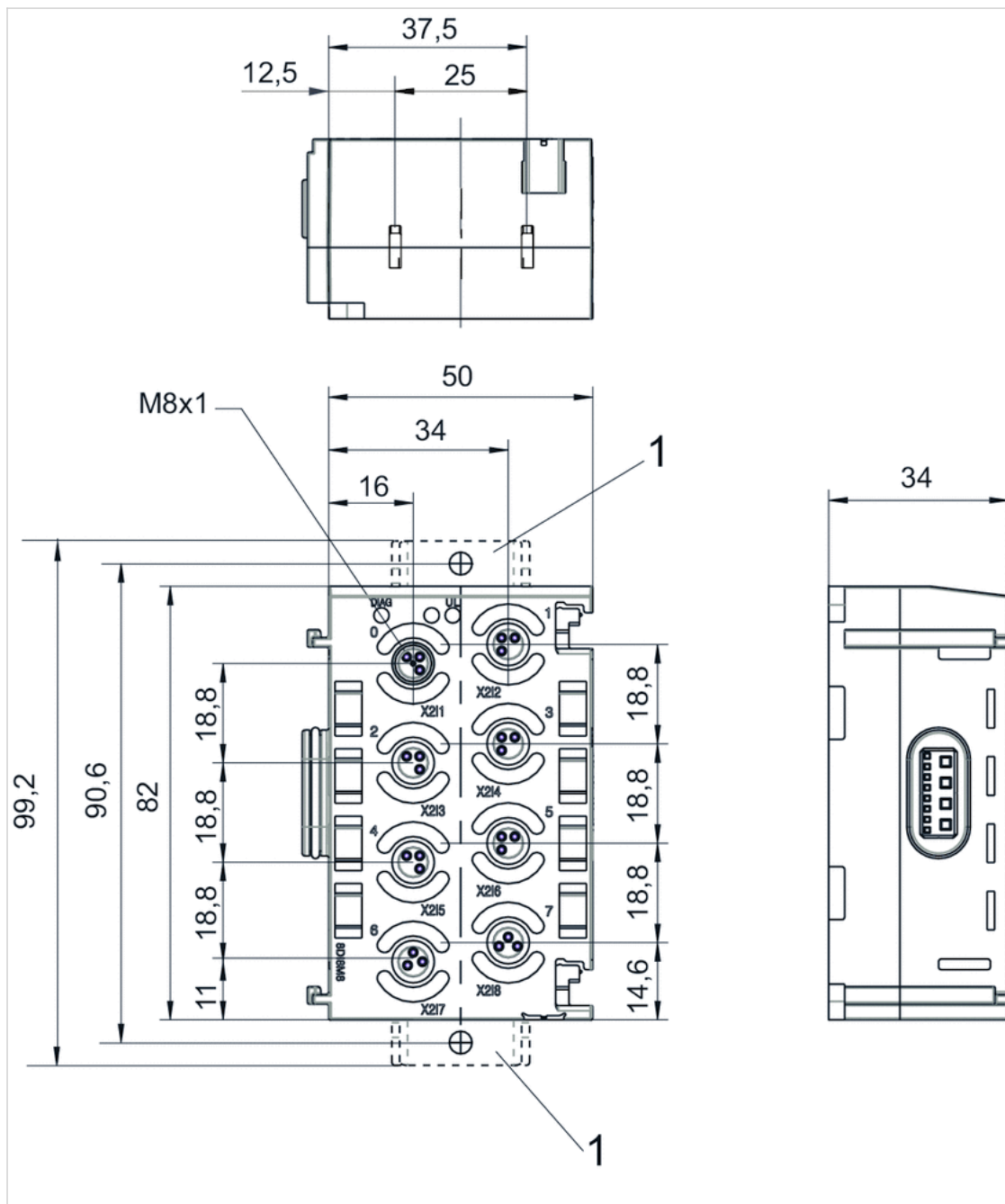
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.
The total current of all outputs (including valves) must not exceed 4 A in the overall system.
Voltage and short-circuit monitoring per LED.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

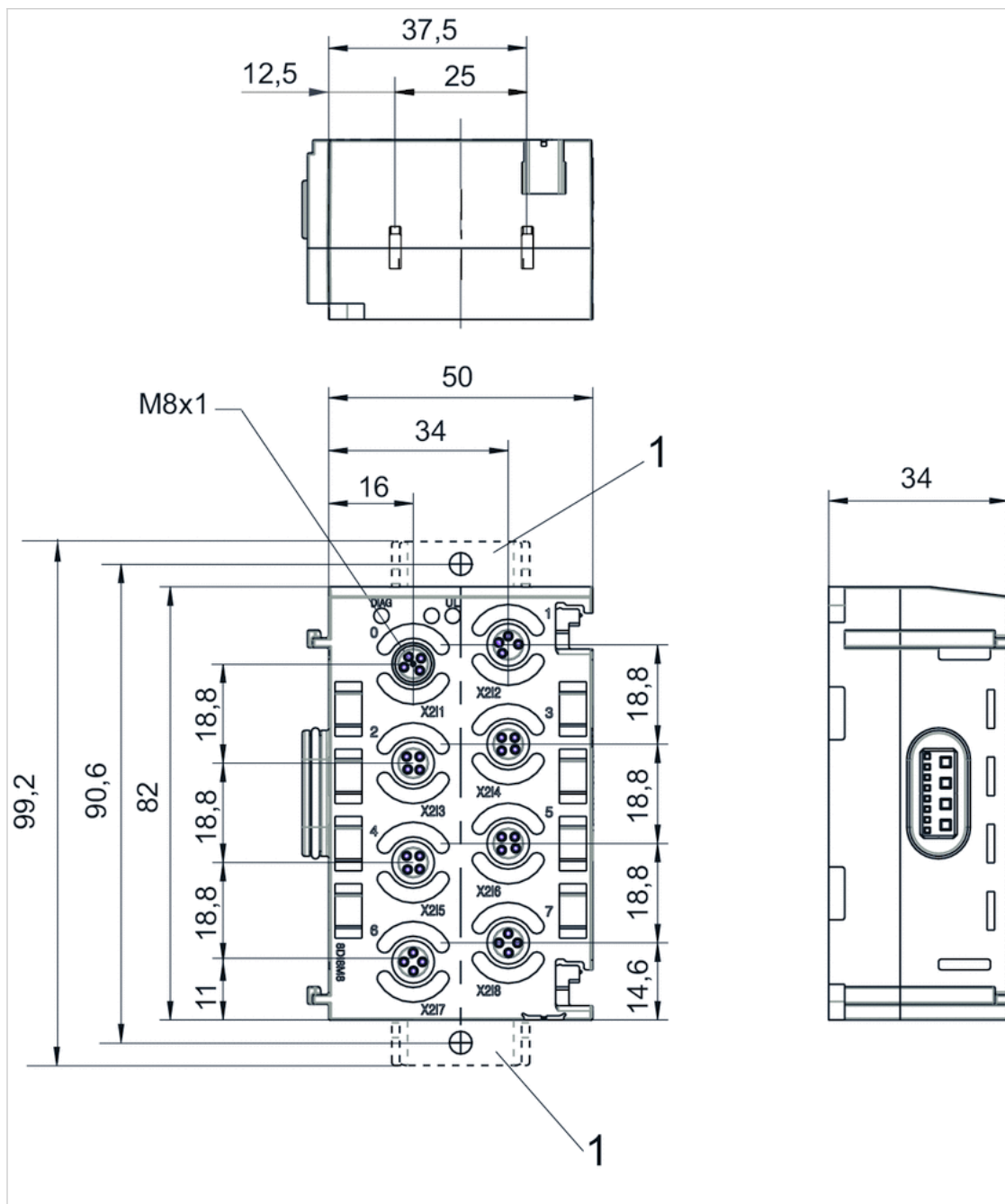
Dimensions

Dimensions, Fig. 1



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

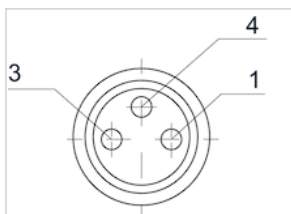
Dimensions, Fig. 2



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

Pin assignments

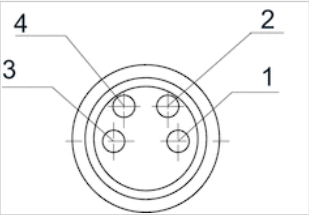
Pin assignments, PNP, 3-pin



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

Pin assignments

Pin assignments, PNP, 4-pin



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

Series AES

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



Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-25% / +25%
Max. current per channel	0.5 A
Power supply for actuators	8x0,5 A
Total current for actuators	4 A
Protection class	IP65
Total current of sensors max.	1 A
Logic/actuator voltage	Galvanically isolated
Diagnosis	Short circuit
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.11 kg

Technical data

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

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

Delivery contents: incl. 2 spring clamp elements and seal

1) Function specification for fieldbus configuration.

Technical information

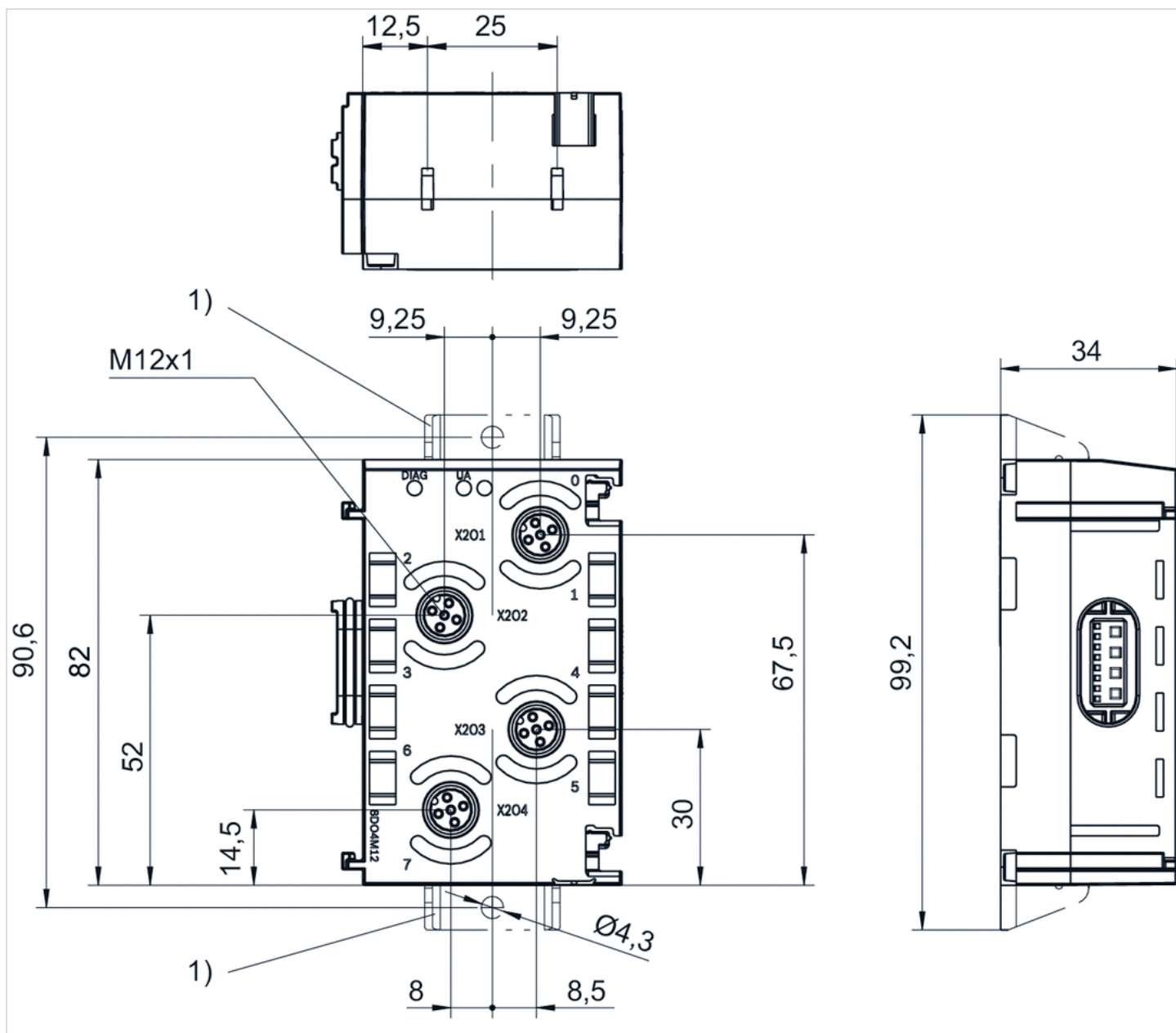
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office. The total current of all outputs (including valves) must not exceed 4 A in the overall system. Voltage and short-circuit monitoring per LED.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

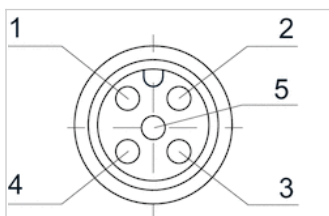
Dimensions



1) Retaining bracket (optional)

Pin assignments

Pin assignments, PNP



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

X = bit value

Series AES

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



Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-10% / +10%
Max. current per channel	0.5 A
Total current for actuators	4 A
Protection class	IP65
Total current of sensors max.	1 A
Filter time	3 ms
Logic/actuator voltage	Galvanically isolated
Diagnosis	Short circuit
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.11 kg

Technical data

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

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

Delivery contents: incl. 2 spring clamp elements and seal

Technical information

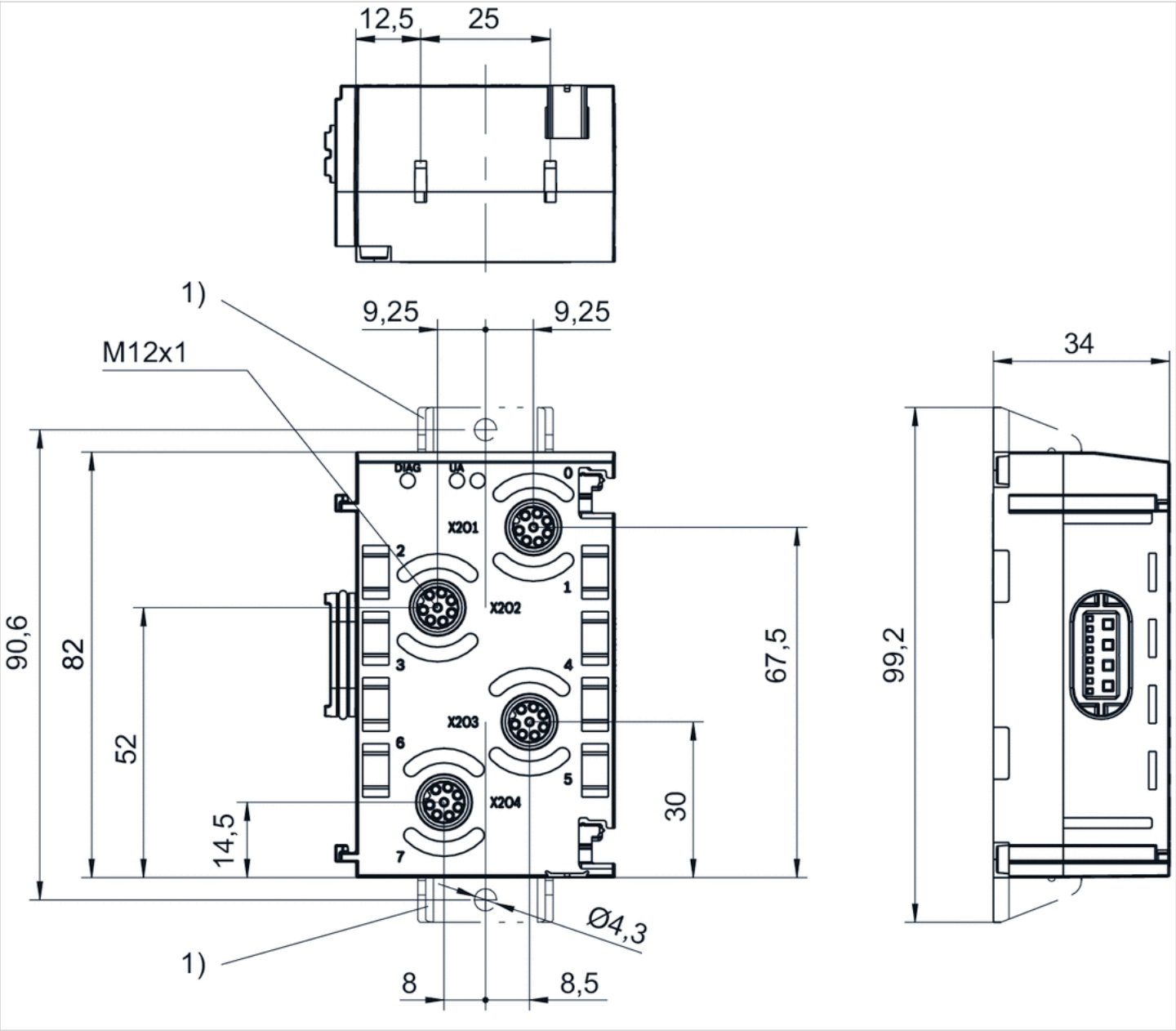
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.
The total current of all outputs (including valves) must not exceed 4 A in the overall system.
Voltage and short-circuit monitoring per LED.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

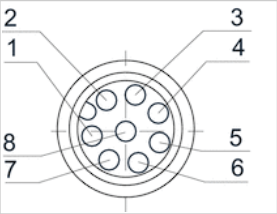
Dimensions



1) Retaining bracket (optional)

Pin assignments

Pin assignments, PNP



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

X = bit value

Series AES

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



Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Max. current per channel	0.5 A
Total current for actuators	4 A
Protection class	IP65
Logic/actuator voltage	Galvanically isolated
Diagnosis	Short circuit Undervoltage
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.115 kg

Technical data

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

Delivery contents: incl. 2 spring clamp elements and seal

Technical information

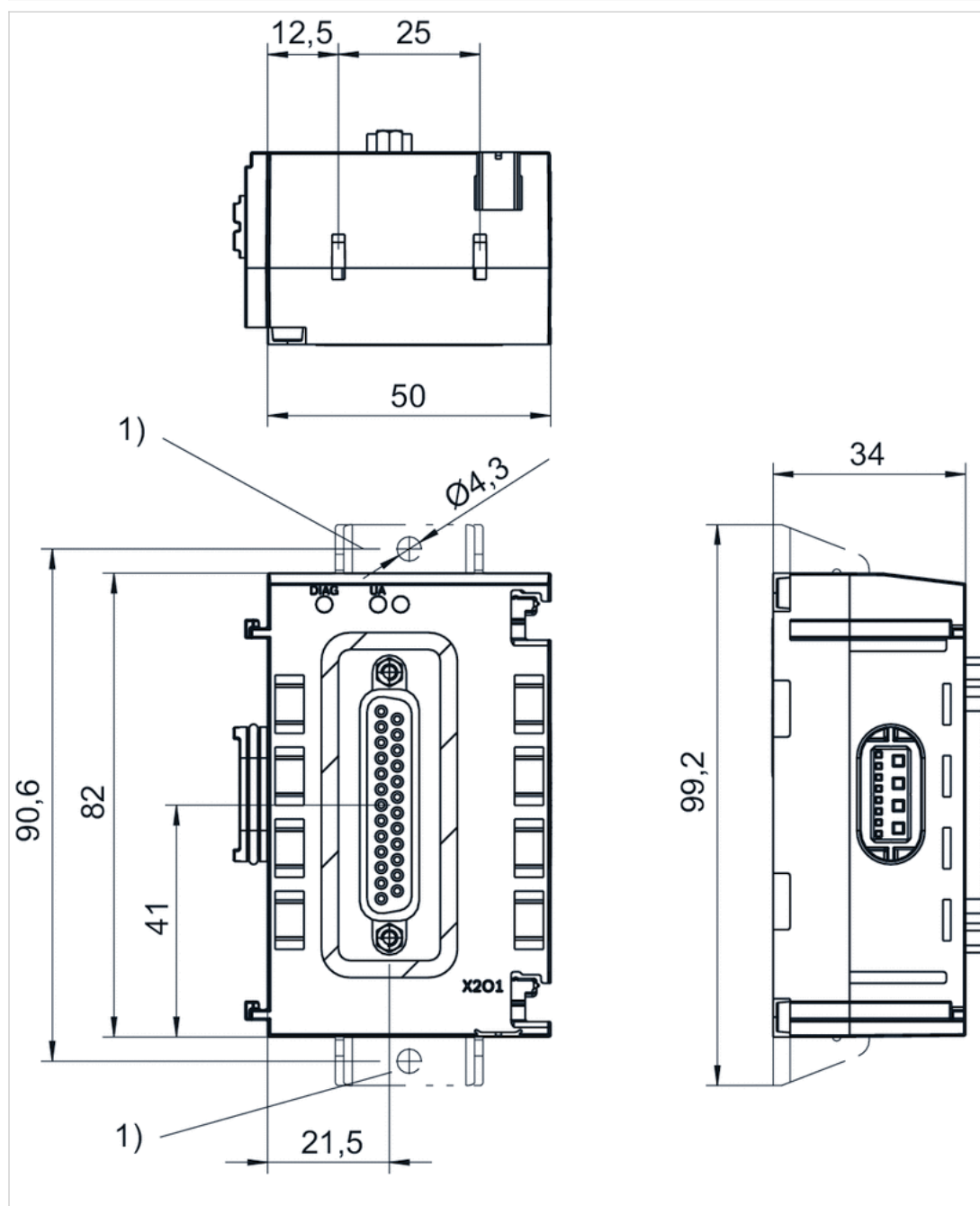
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.
Voltage and short-circuit monitoring per LED.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

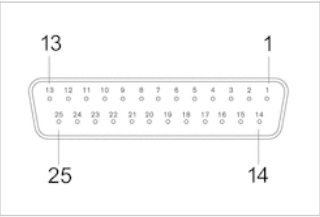
Dimensions



1) Retaining bracket (optional)

Pin assignments

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



Socket

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

X = bit value

Series AES

- digital inputs
- Spring clamp connections



Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-25% / +25%
Max. current per channel	0.5 A
Protection class	IP20
Total current of sensors max.	4 A
Logic/actuator voltage	Galvanically isolated
Diagnosis	Short circuit
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.115 kg

Technical data

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

Delivery contents: incl. 2 spring clamp elements and seal

Technical information

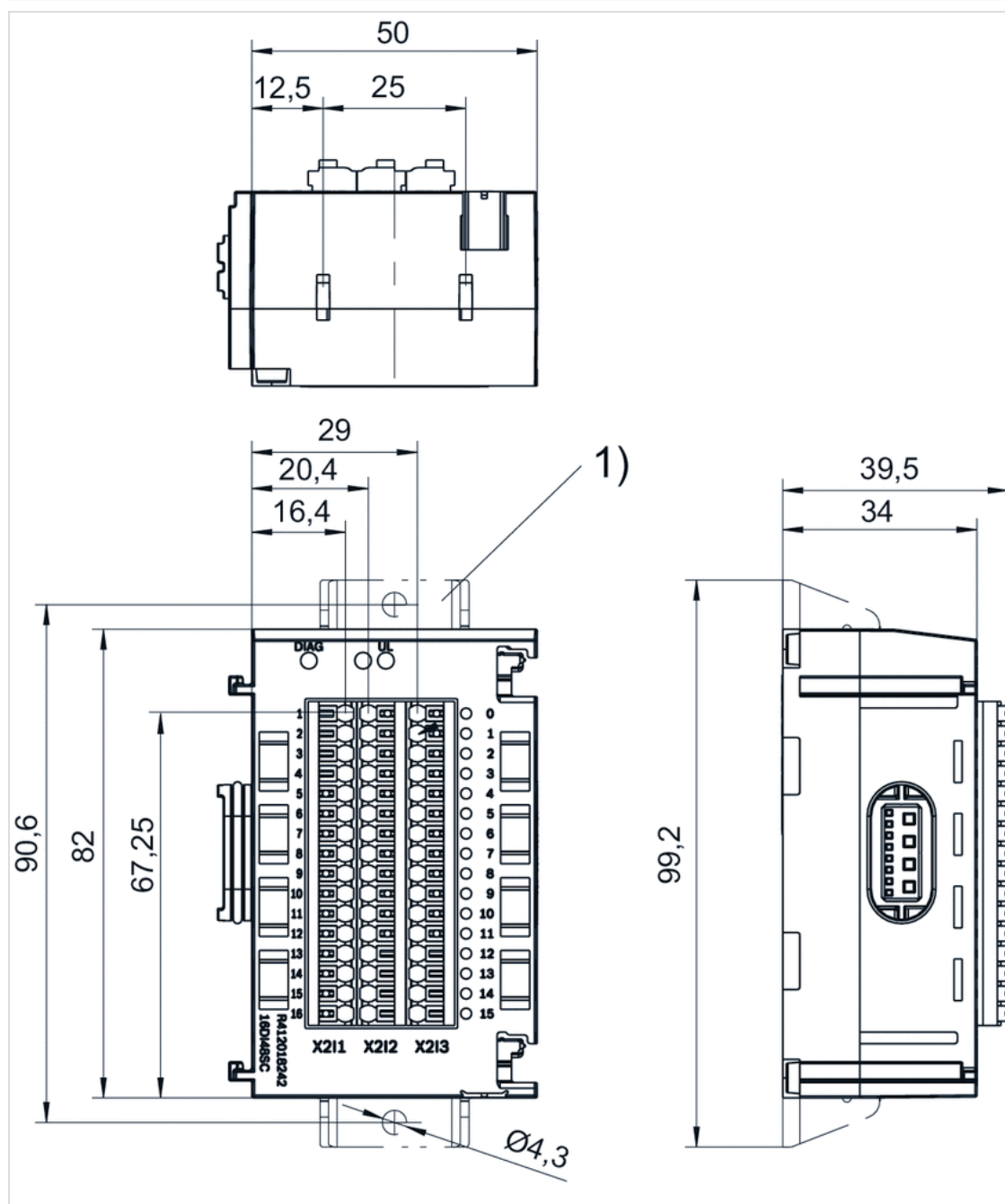
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.
Voltage and short-circuit monitoring per LED.
The clamp area for stranded wires is between 0.2 and 1.5 mm².

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

Dimensions



1) Retaining bracket (optional)

Series AES

- digital outputs
- Spring clamp connections



Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-25% / +25%
Max. current per channel	0.5 A
Total current for actuators	4 A
Protection class	IP20
Logic/actuator voltage	Galvanically isolated
Diagnosis	Short circuit
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.115 kg

Technical data

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

Delivery contents: incl. 2 spring clamp elements and seal

Technical information

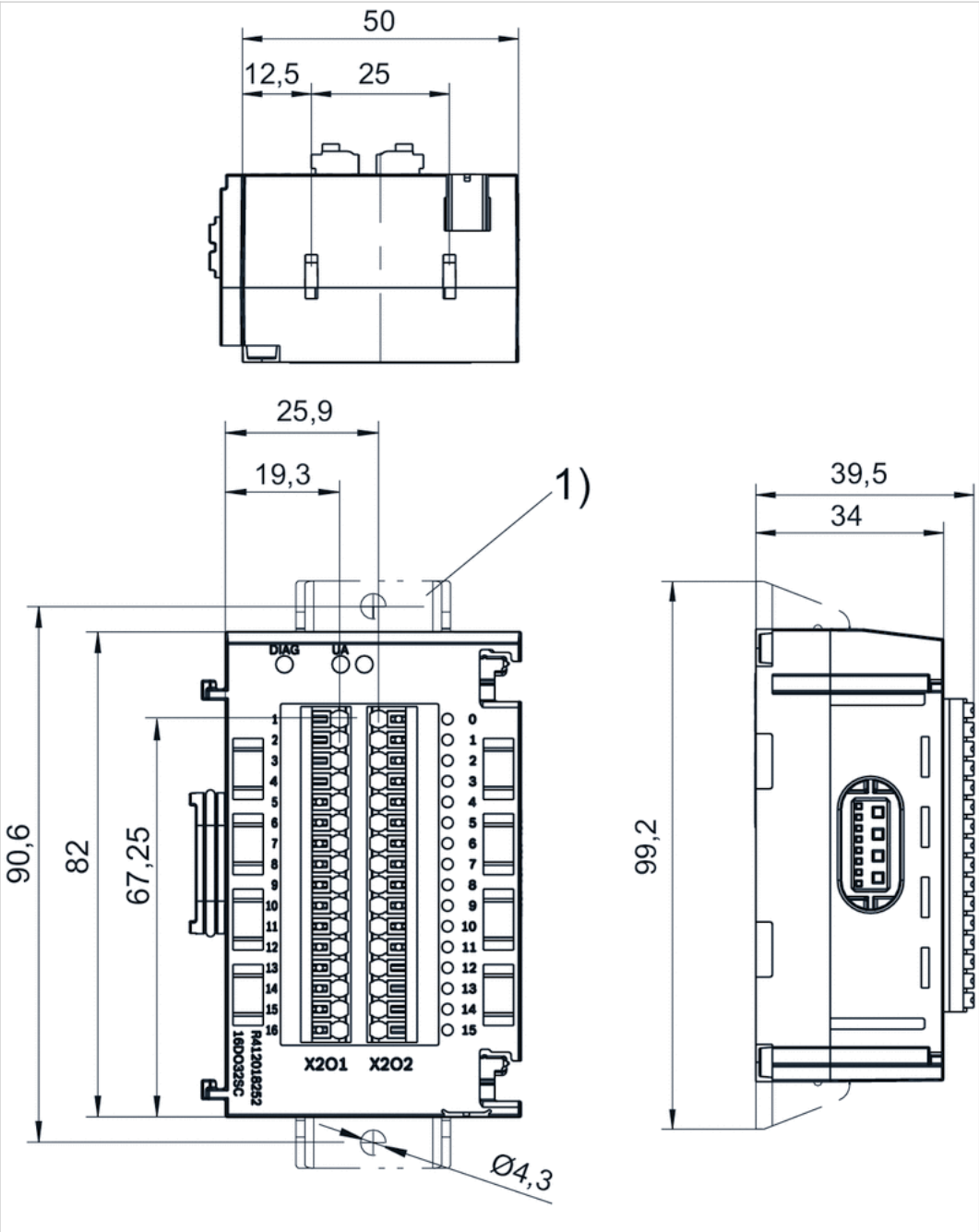
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.
 The total current of all outputs (including valves) must not exceed 4 A in the overall system.
 Voltage and short-circuit monitoring per LED.
 The clamp area for stranded wires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

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

Dimensions



1) Retaining bracket (optional)

Dimensions

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

Series AES

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



Version	I/O module version
Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Max. current per channel	0.5 A
Protection class	IP65
Diagnosis	Short circuit Undervoltage
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.11 kg

Technical data

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

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

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

Delivery contents: incl. 2 spring clamp elements and seal

1) freely selectable signals, configurable

Technical information

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

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

Voltage and short-circuit monitoring per LED.

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

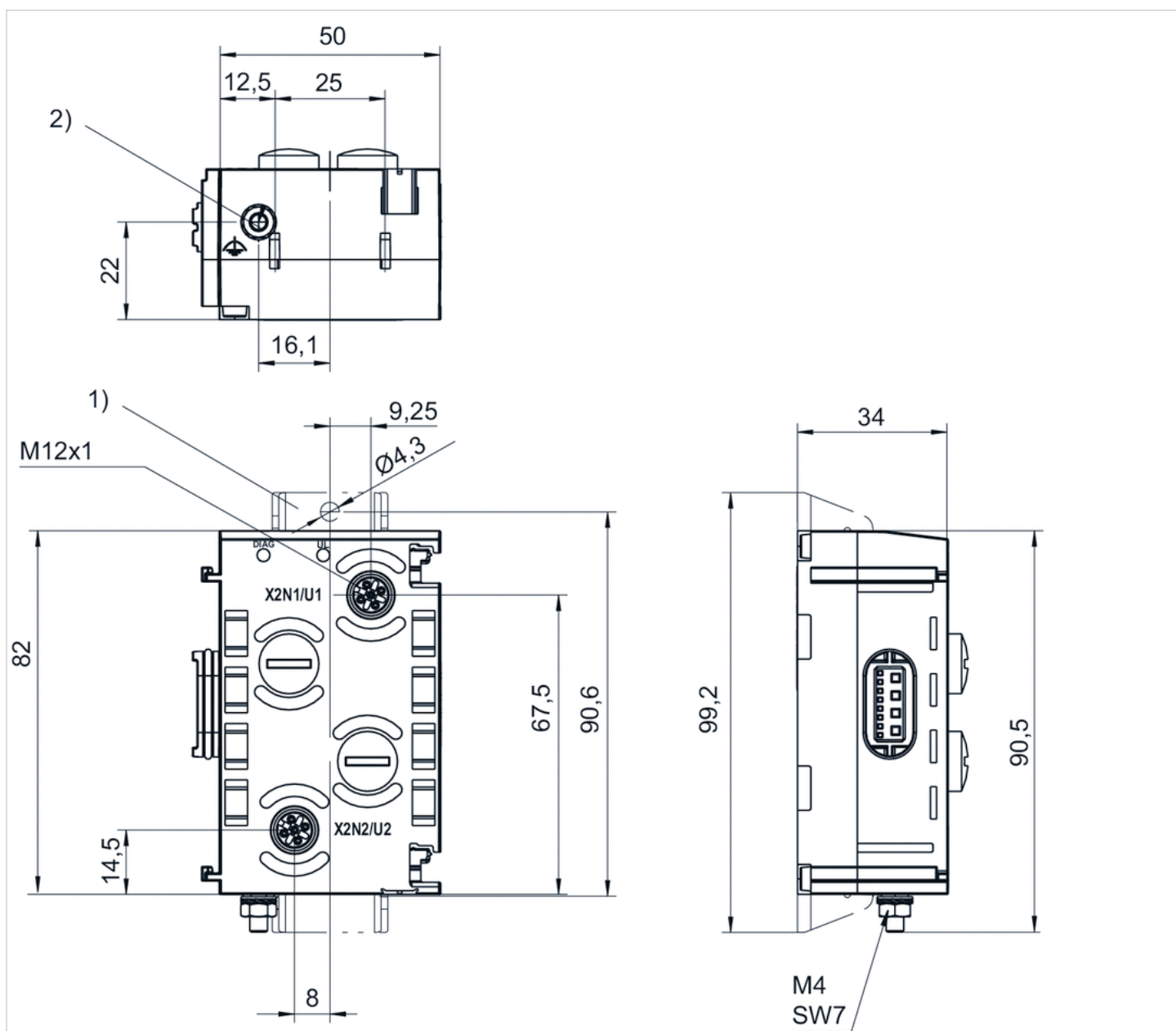
The output channels can drive a maximum ohmic load of 450 ohms in the current range. The minimum resistance in the voltage range is 1 kilohm.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

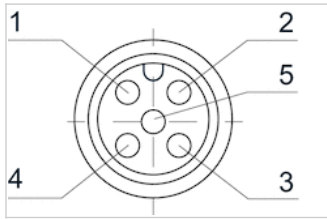
Dimensions



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

Pin assignments

Pin assignments, Socket (female)



Pin	1
Socket (female) X2N1 - X2N22AI2M12-E	24 V DC
Socket (female) X2U1 - X2U44AI4M12-E	24 V DC
Socket (female) X2U1 - X2U22AO2M12-E	not assigned
2	3
Input signal (differential input, positive signal)	0 V DC
Input signal (differential input, positive signal)	0 V DC
Output signal	0 V DC
4	
Input signal (differential input, negative signal, or connected externally to 0 V (pin 3))	
Input signal (0 V, connected to pin 3 internally)	
not assigned	
5	
Shield, connected internally with ground screw 2)	
Shield, connected internally with ground screw 2)	
Shield, connected internally with ground screw 2)	

Series AES

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



Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Max. current per channel	1.2 A
Protection class	IP65
Diagnosis	Short circuit Undervoltage
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.11 kg

Technical data

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

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

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

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

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

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

Technical information

You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.
The total current of all outputs (including valves) must not exceed 4 A in the overall system.
Suitable for direct connection of an electropneumatic pressure regulator from the ED series.

Technical information

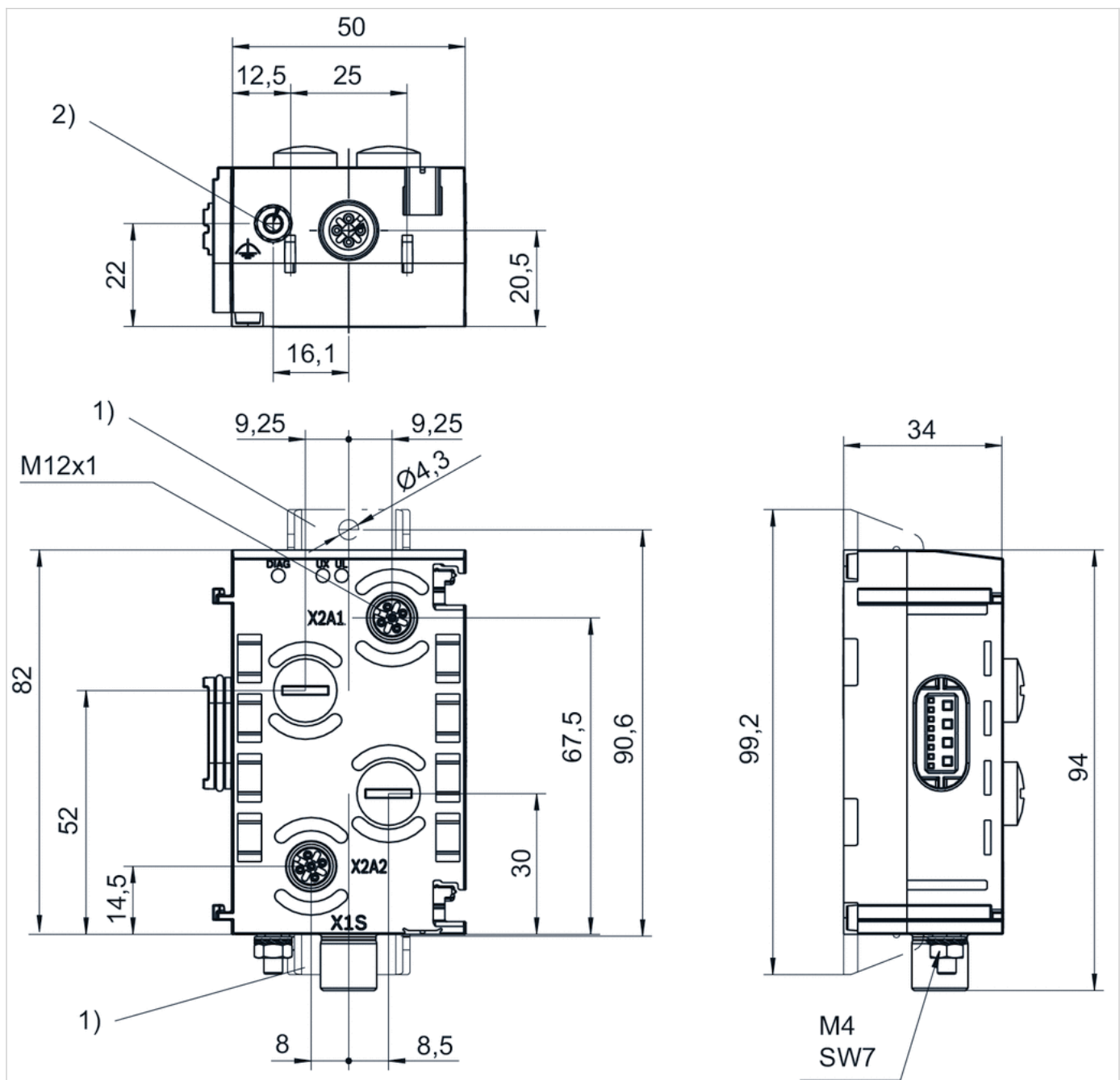
Material

Housing

Polyamide fiber-glass reinforced

Dimensions

Dimensions

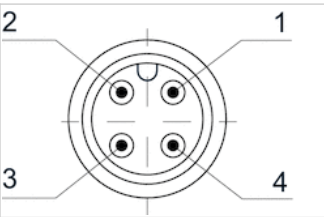


1) Retaining bracket (optional)

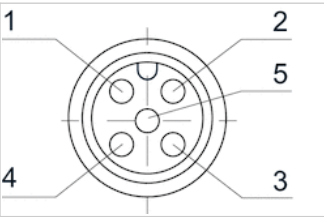
2) Ground

Pin assignments

Plug (male)



Pin assignments, Socket (female)



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

Series AES

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



Version	I/O module version
Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Protection class	IP65
Diagnosis	Short circuit Undervoltage
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.11 kg

Technical data

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

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

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

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

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

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

Technical information

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

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

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

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

Technical information

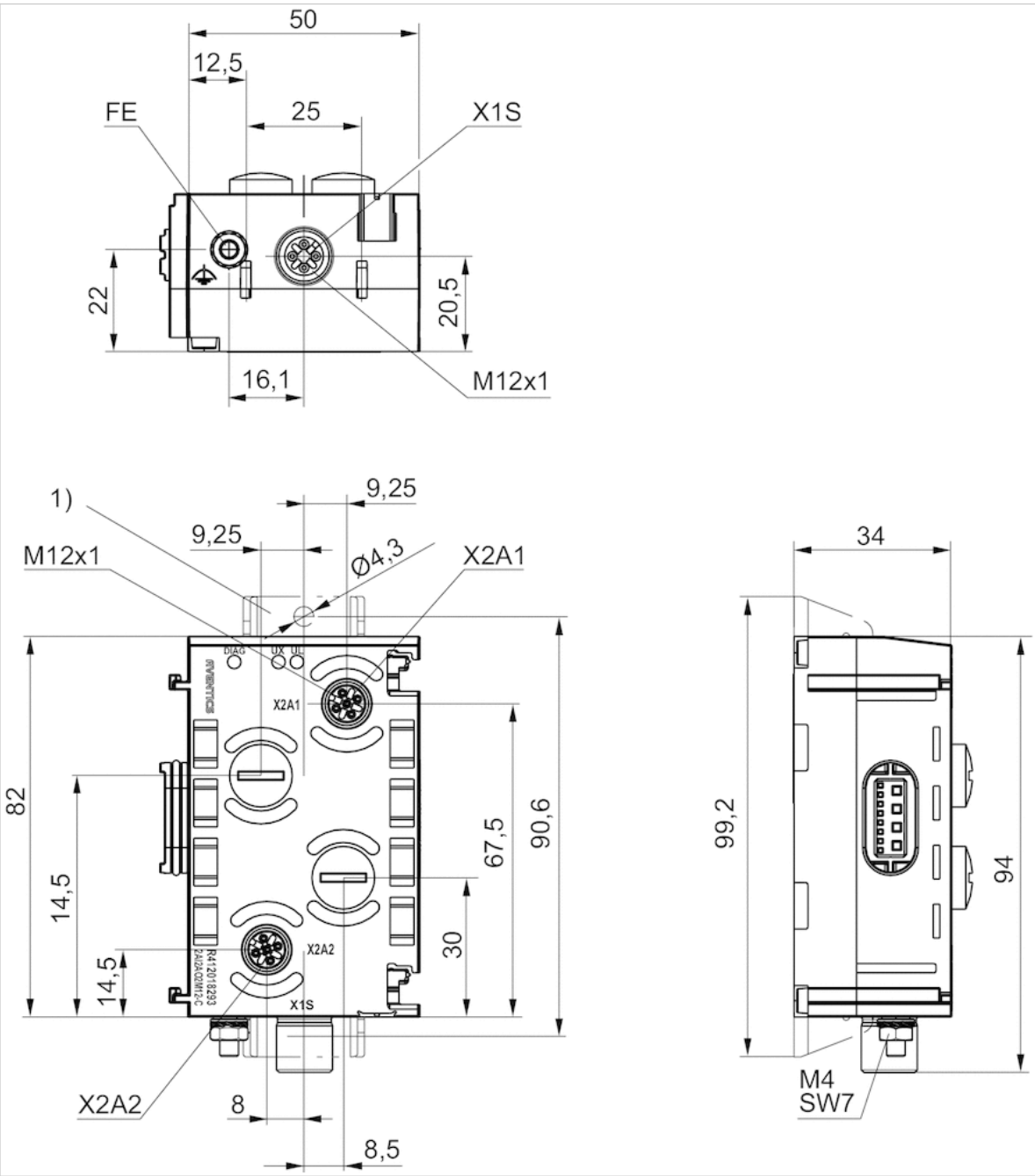
Material

Housing

Polyamide fiber-glass reinforced

Dimensions

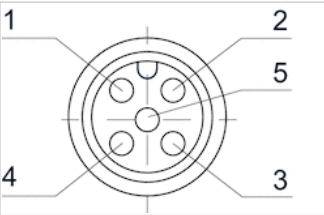
Dimensions



1) Retaining bracket (optional)

Pin assignments

Pin assignments, Socket (female)



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

Series AES

- Pressure measurement module with 4 compressed air connection



Ambient temperature min./max.	-10 ... 60 °C
Protection class	IP65
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.115 kg

Technical data

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

Technical information

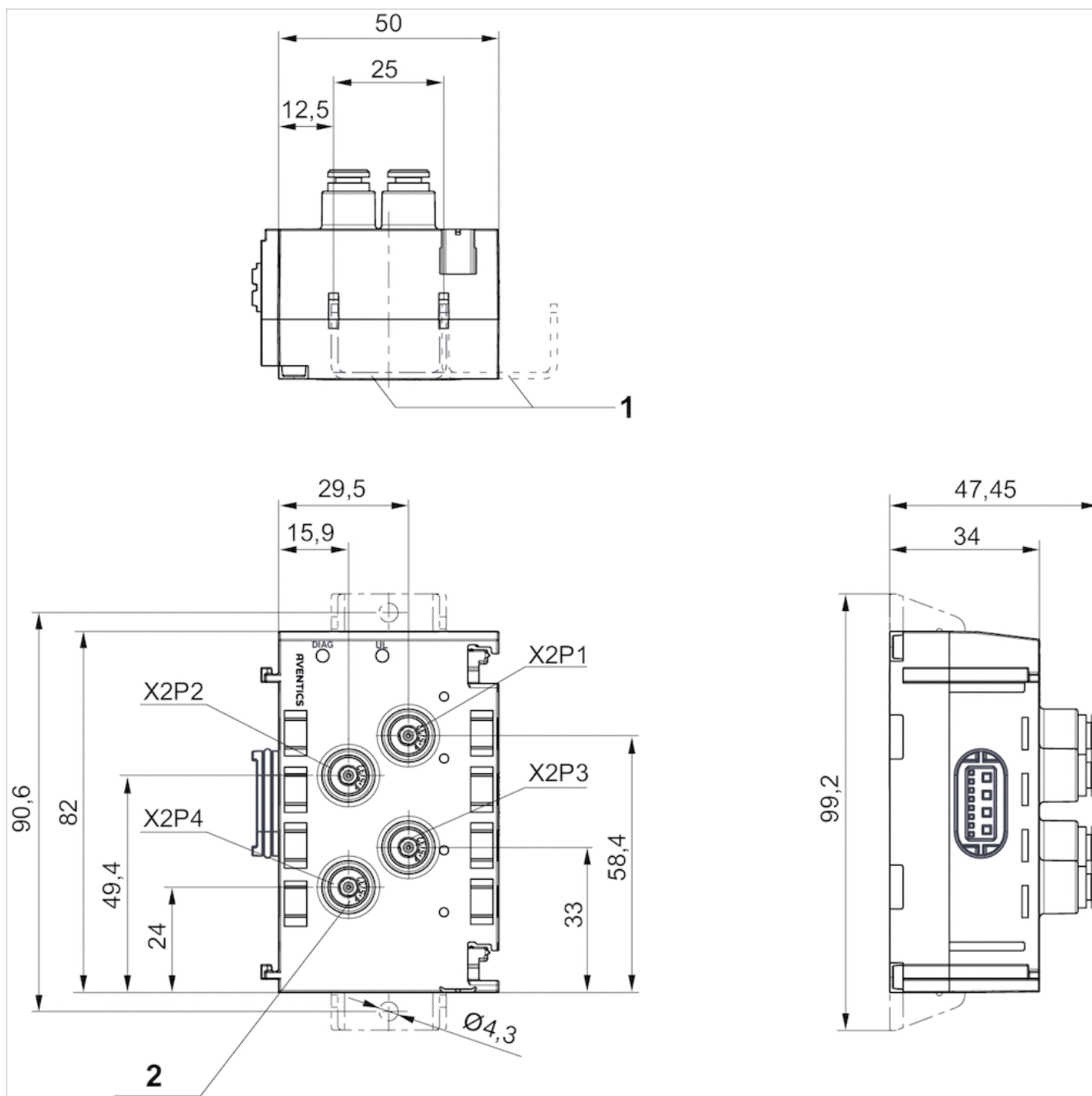
When using polyurethane tubing, we recommend using additional stiffener sleeves.
For push-in fittings, only use plug accessories made of plastic (polyamide) from our catalog.
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

Dimensions



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

Series AES

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



Version	Power module
Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-20% / +20%
Operating voltage, actuators	24 V DC
Actuator voltage tolerance	-10% / +10%
Total current for actuators	4 A
Protection class	IP65
Total current of sensors max.	4 A
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.15 kg

Technical data

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

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

UL: Logic voltage (power supply for electronic components and sensors), UA: Actuator voltage (power supply for valves and outputs), If connection 2 is not used for forwarding, it must be closed with sealing cap R412024838.

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

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

Technical information

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

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

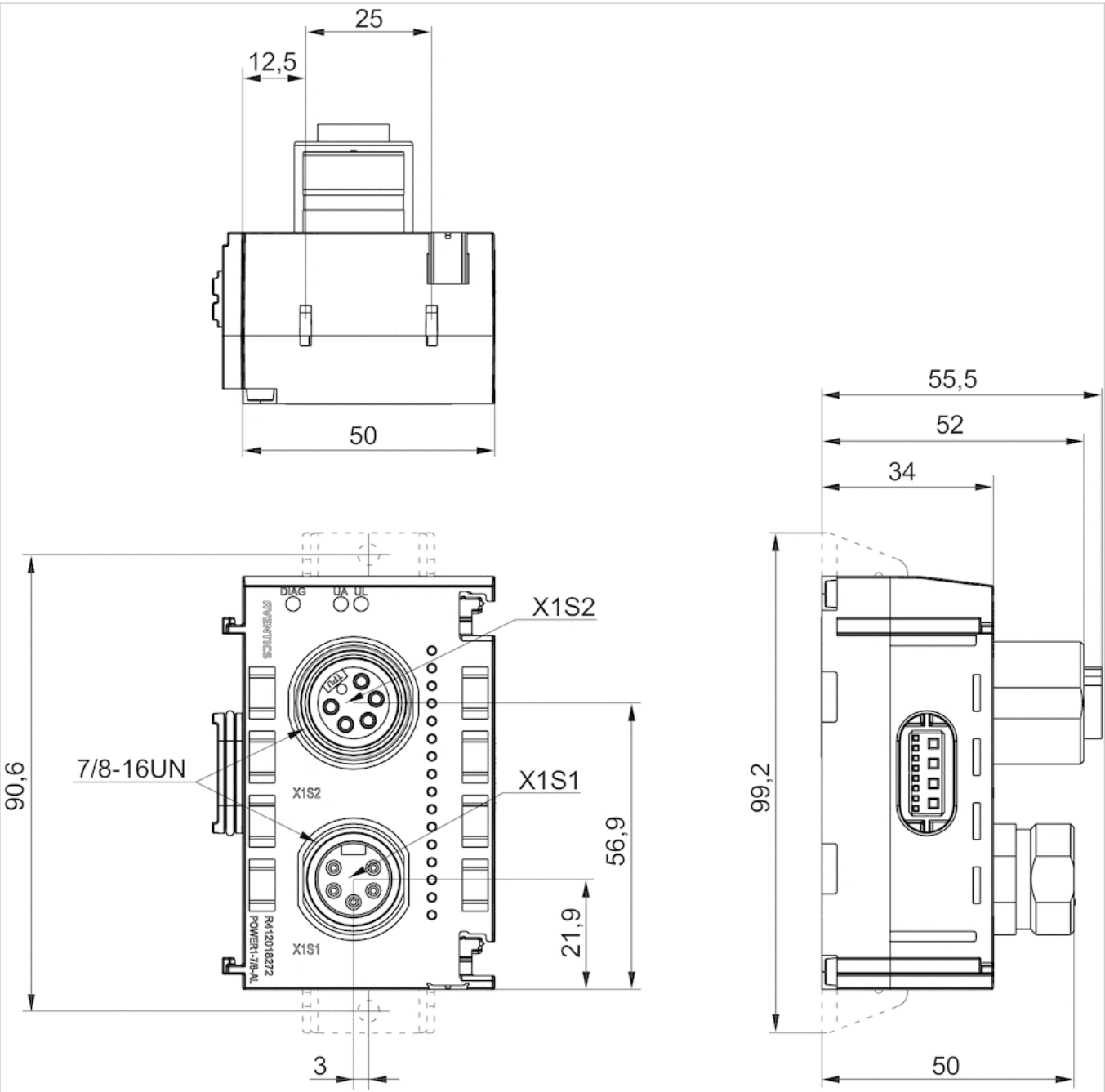
The total internal current (UA or UL) and consumption at X1S2 must not exceed 8A at X1S1.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

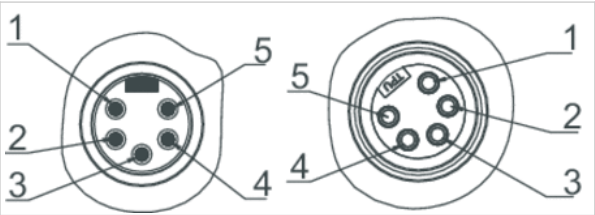
Dimensions



Port 1, X1S1
Port 2, X1S2

Pin assignments

Pin assignments, PNP



Pin	1	2	3
Plug X1S1	0 V DC (UA)	0 V DC (UL)	FE
Socket X1S2	0 V DC (UA)	0 V DC (UL)	FE

4	5
24 V DC power supply (UL) input	24 V DC power supply (UA) input
24 V DC power supply (UL) output	24 V DC power supply (UA) output

Series AES

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



Version	Power module
Ambient temperature min./max.	-10 ... 60 °C
Operational voltage electronics	24 V DC
Electronics voltage tolerance	-20% / +20%
Operating voltage, actuators	24 V DC
Actuator voltage tolerance	-10% / +10%
Total current for actuators	4 A
Protection class	IP65
Total current of sensors max.	4 A
Generic emission standard in accordance with norm	EN 61000-6-4
Generic immunity standard in accordance with norm	EN 61000-6-2
Weight	0.15 kg

Technical data

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

UL: Logic voltage (power supply for electronic components and sensors), UA: Actuator voltage (power supply for valves and outputs), The supply voltage is galvanically isolated from the right-hand module.

Technical information

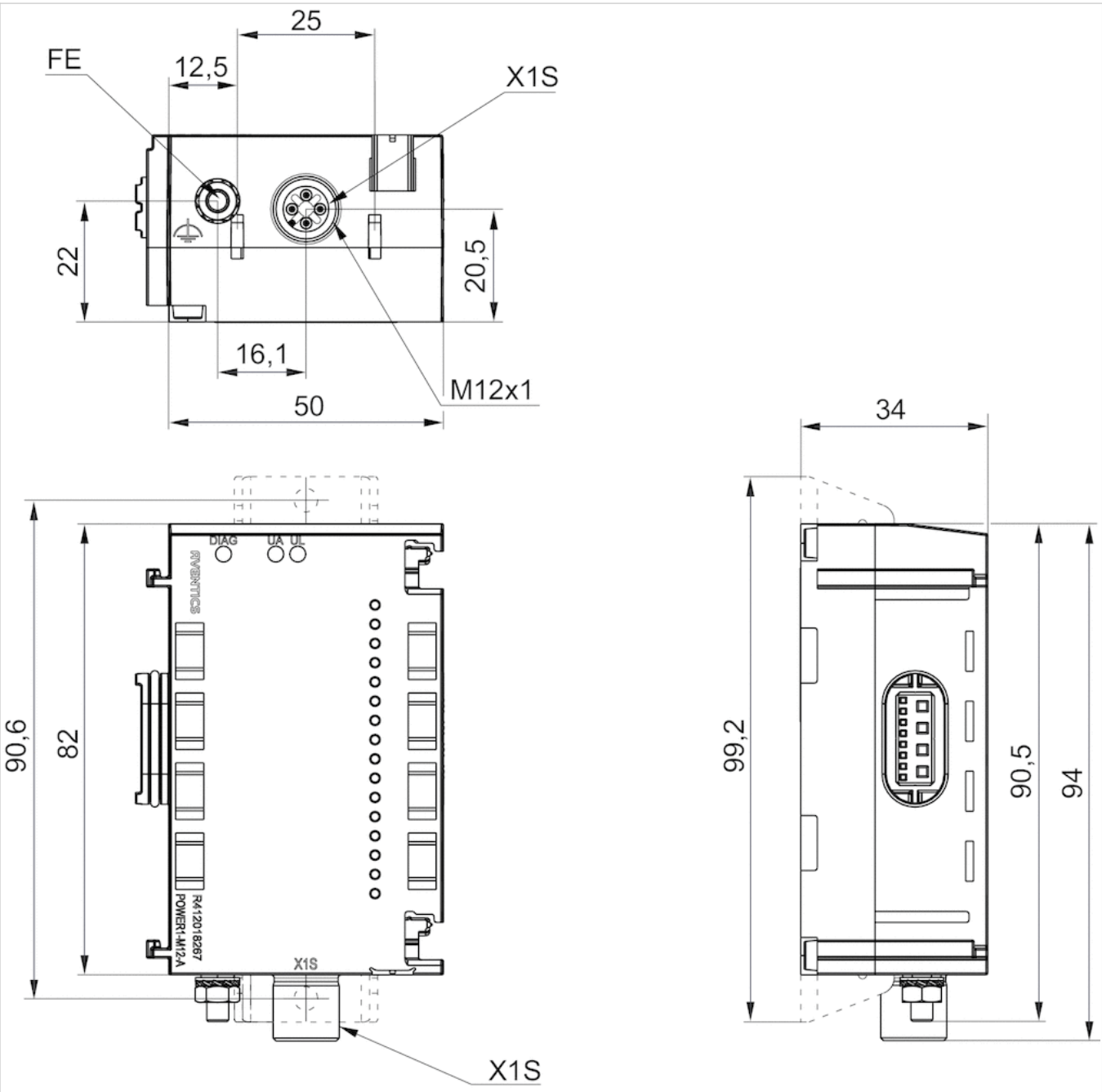
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Technical information

Material	
Housing	Polyamide fiber-glass reinforced

Dimensions

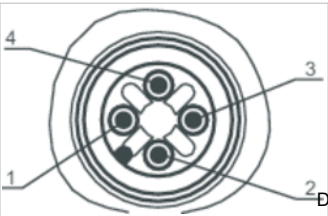
Dimensions



Port 1, X1S

Pin assignments

Pin assignments, PNP



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

Adapter module

- for series AES on B-design
- for series HF02-LG, HF03-LG, HF04, CD01-PI, CD10-PI, CD20-PI



Ambient temperature min./max.
Weight

-10 ... 60 °C
0.16 kg

Technical data

Part No.	Type	Scope of delivery	Scope of delivery
R412023458	32 outputs	Includes screws and seals.	1 piece

Technical information

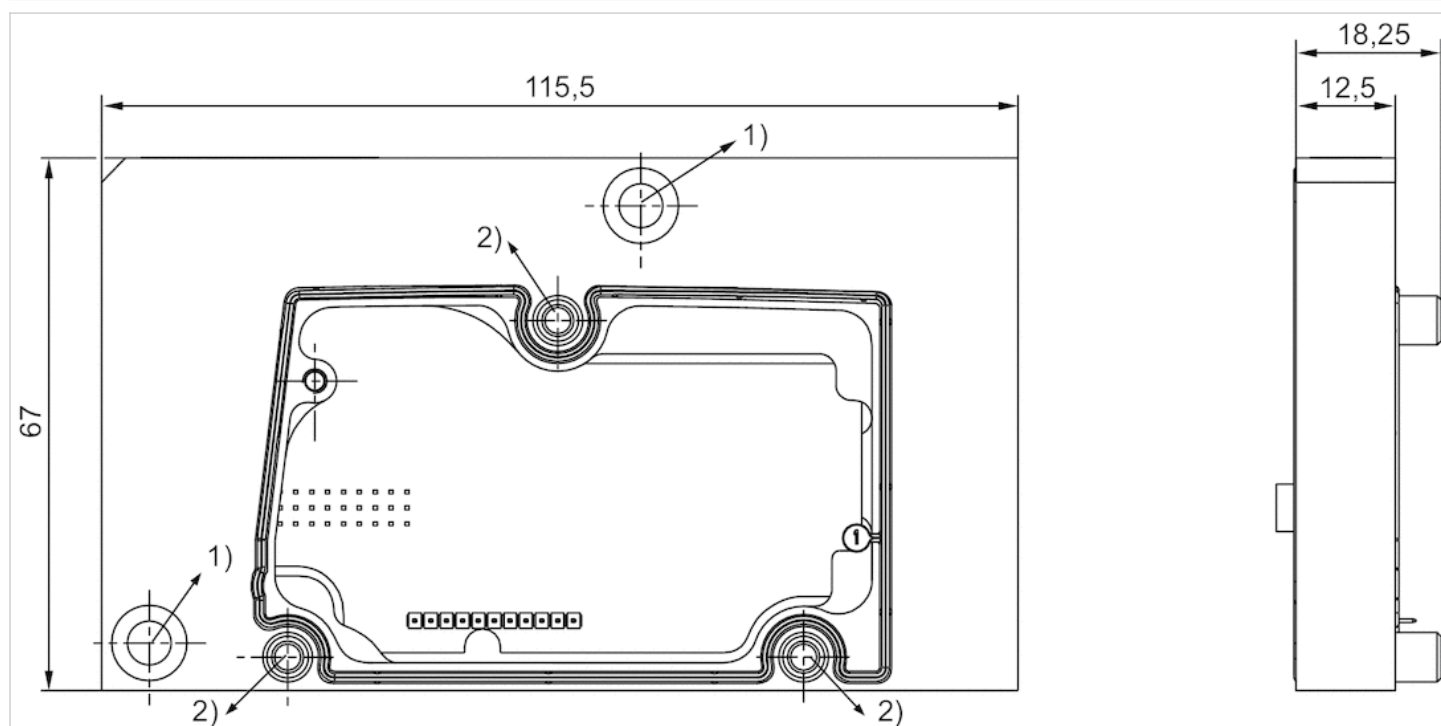
The adapter module is mounted on valve systems with a B-design interface for use with AES fieldbus couplers and AES I/O modules. See the operating instructions for further information (R412018150).

Technical information

Material	
Housing	Aluminum
Seals	Nitrile rubber

Dimensions

Dimensions



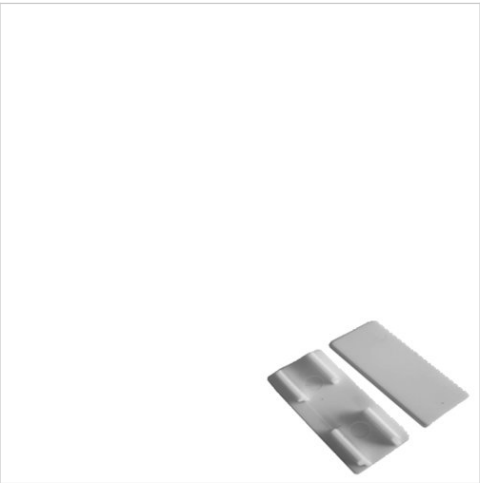
Includes screws and seals.

1) Torque: 3 Nm +0.5 Nm

2) Torque: 1.6 Nm +0.4 Nm

Name plates

- for AV03, AV05, AES



Weight

0.014 kg

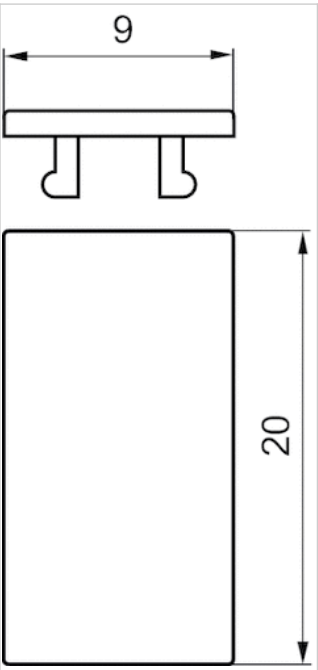
Technical data

Part No.	Type	Delivery unit
R422100889	Name plates	20 piece

Technical information

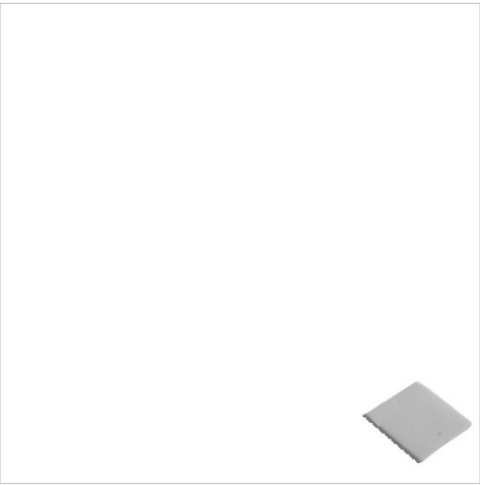
Material	
Housing	Polyamide

Dimensions



Name plates, front

- for AV03, AV05, AES



Weight

0.014 kg

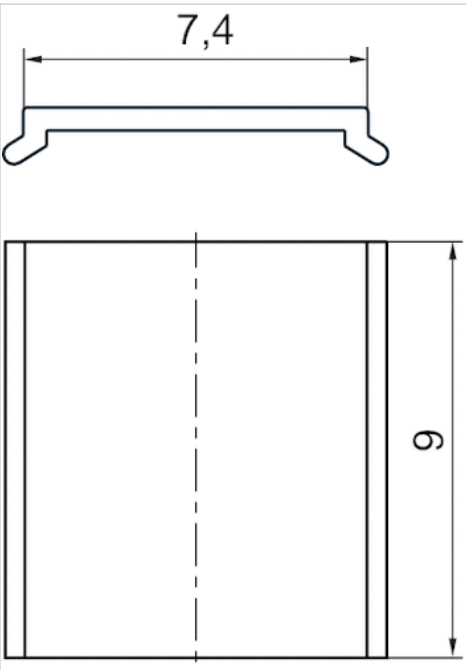
Technical data

Part No.	Type	Delivery unit
R412019552	Name plates	150 piece

Technical information

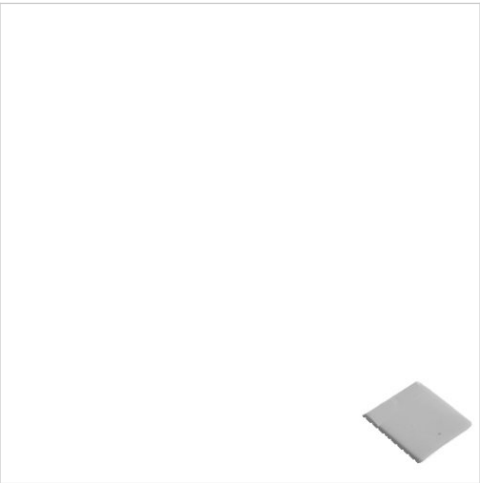
Material	
Housing	Polyamide

Dimensions



Name plates

- for AES



Weight

0.014 kg

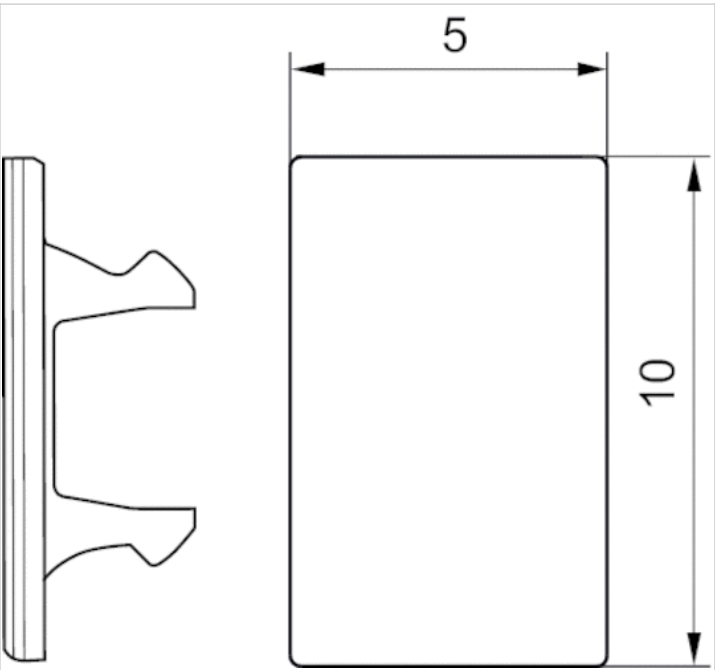
Technical data

Part No.	Type	Delivery unit
R412018192	Name plates	60 piece

Technical information

Material	
Housing	Polyamide

Dimensions



Protective cap, series CON-RD

- M8x1



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

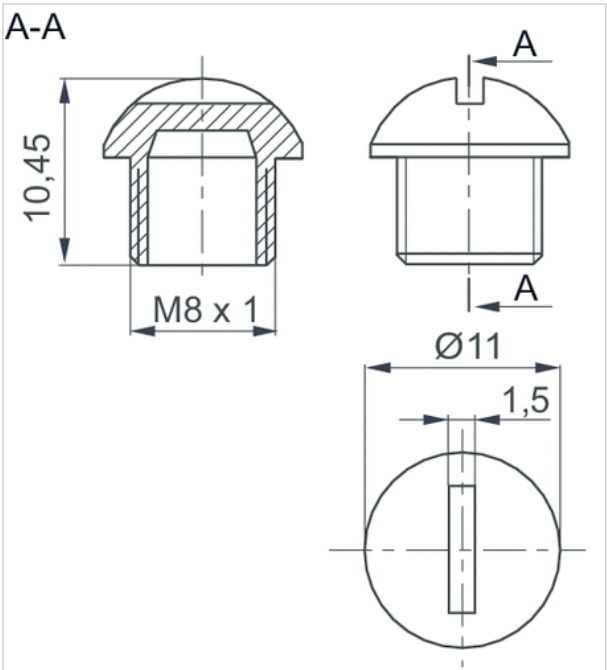
Technical data

Part No.	Type	Scope of delivery
R412003493	M8x1	25

Technical information

Material	
Housing	Polyamide

Dimensions



Protective cap, series CON-RD

- M12x1



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

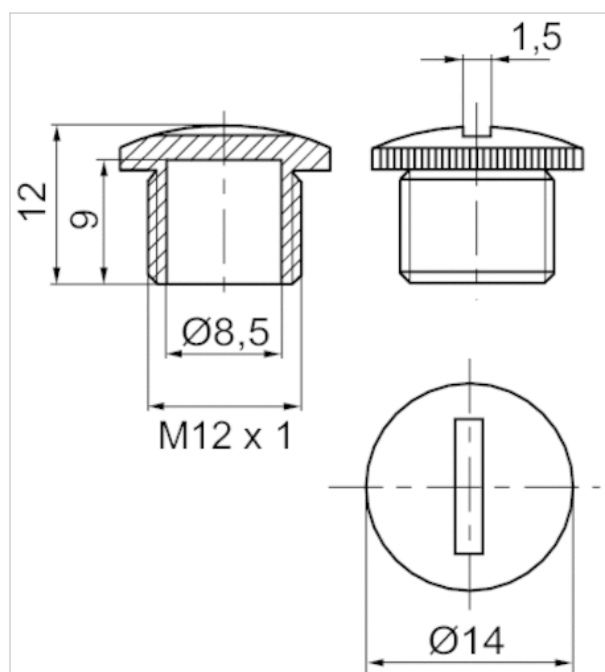
Technical data

Part No.	Type	Delivery unit
1823312001	M12x1	50 piece

Technical information

Material	
Housing	Polyamide

Dimensions



End plate left

- for AES



Ambient temperature min./max.

-10 ... 60 °C

Weight

0.033 kg

Technical data

Part No.	Type
R412015398	End plate left

Delivery contents: incl. 2 spring clamp elements

Technical information

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

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

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

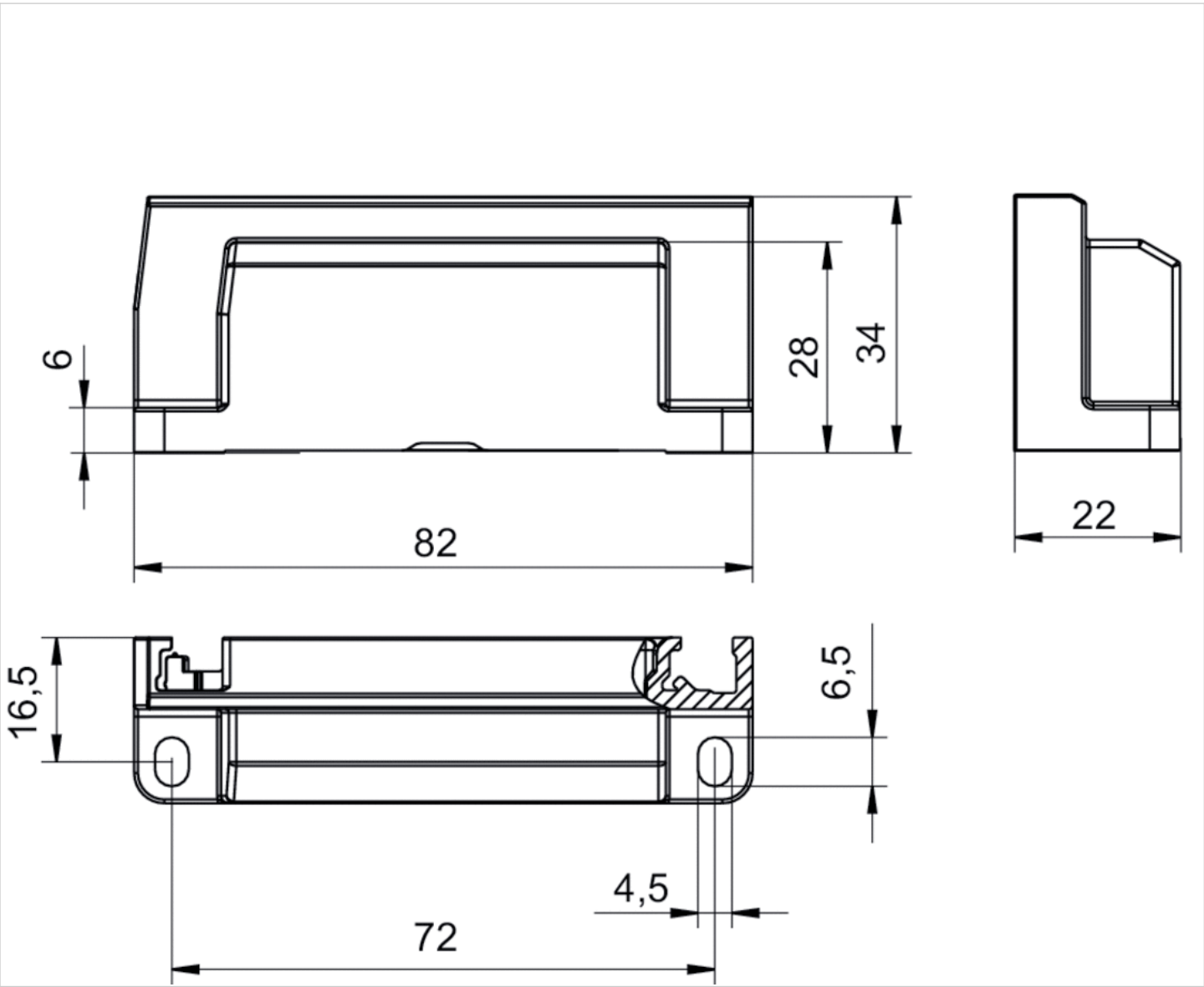
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Base plate	Polyamide fiber-glass reinforced

Dimensions

Dimensions



End plate right

- for AES



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

Technical data

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

Scope of delivery incl. seal and mounting screws

Technical information

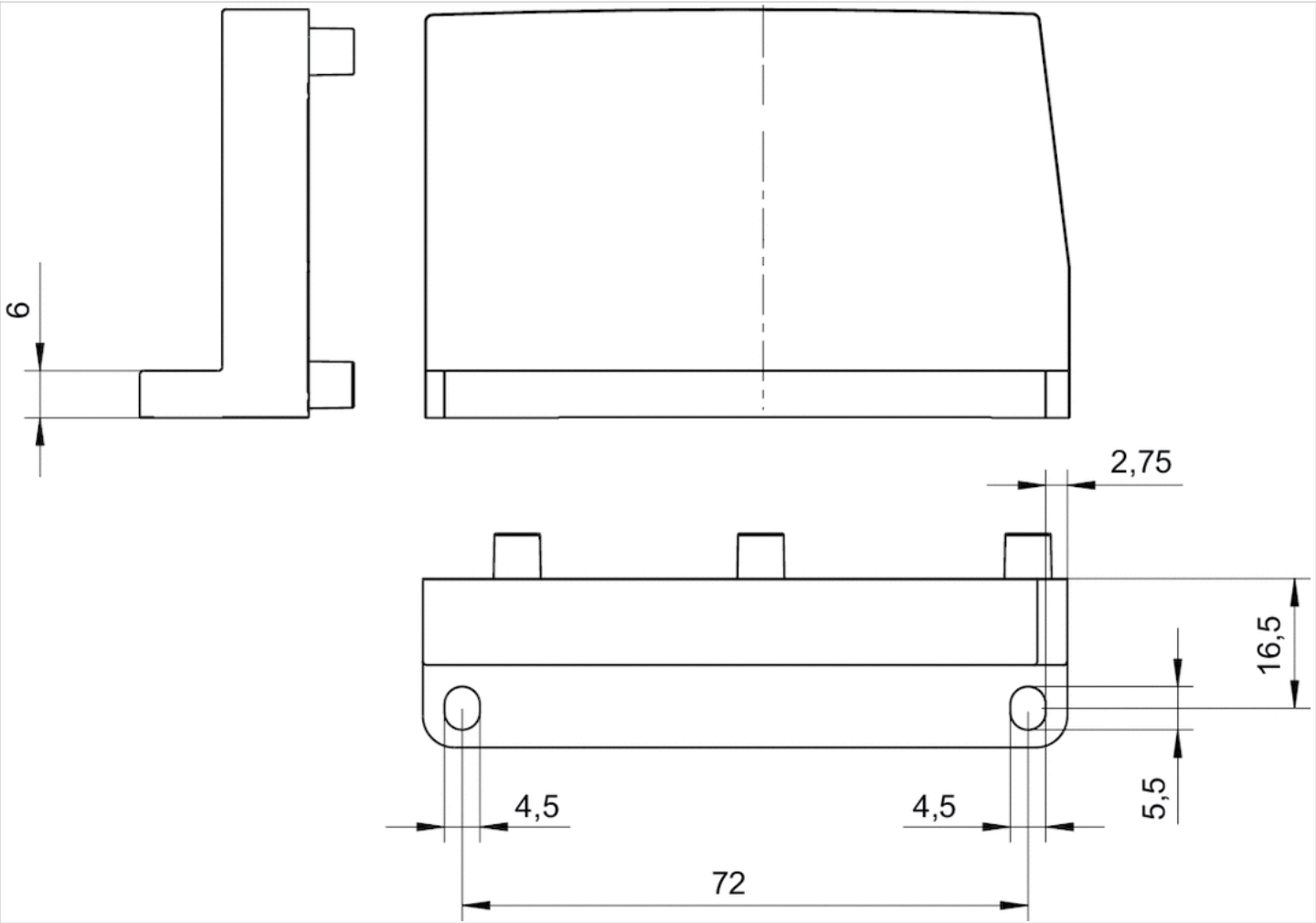
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The oil content of compressed air must remain constant during the life cycle.
Use only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

Technical information

Material	
Base plate	Polyamide fiber-glass reinforced

Dimensions

Dimensions



Retaining bracket for intermediate mounting

- for AES, AV03, AV05



Technical data

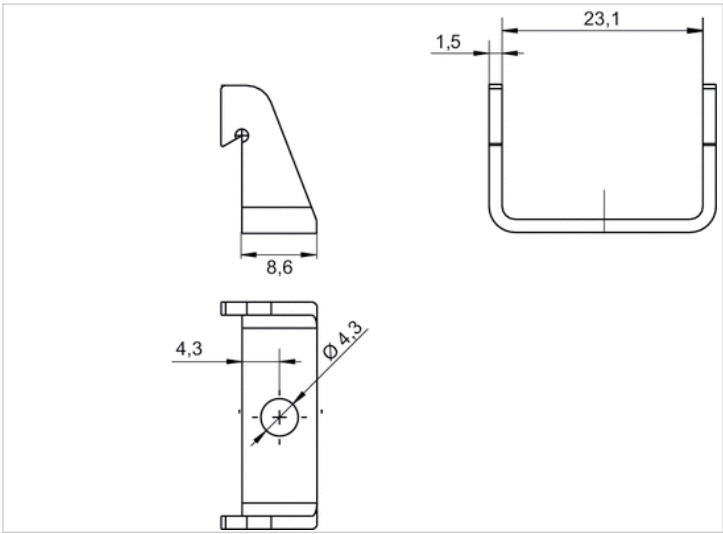
Part No.	Type	Delivery unit
R412018339	Retaining brackets	10 piece

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

Technical information

Material	
Housing	Stainless steel

Dimensions



Spring clamp element

- for AES



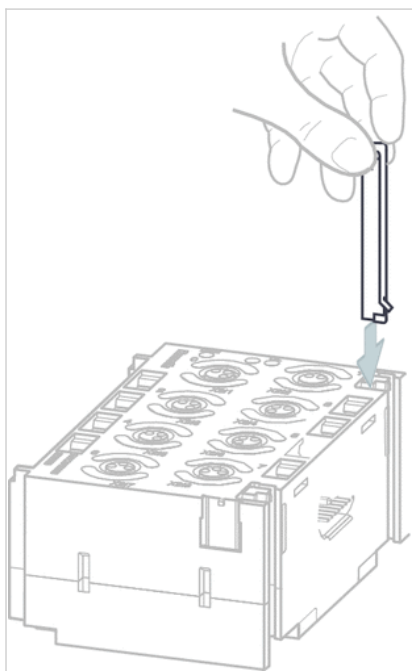
Technical data

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

Technical information

Material	
Housing	Steel

Dimensions

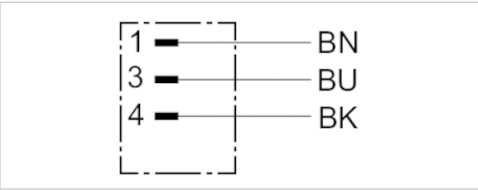


Round plug connector, Series CON-RD

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



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.25 mm²
Weight	See table below



Technical data

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

suitable for dynamic laying

Technical information

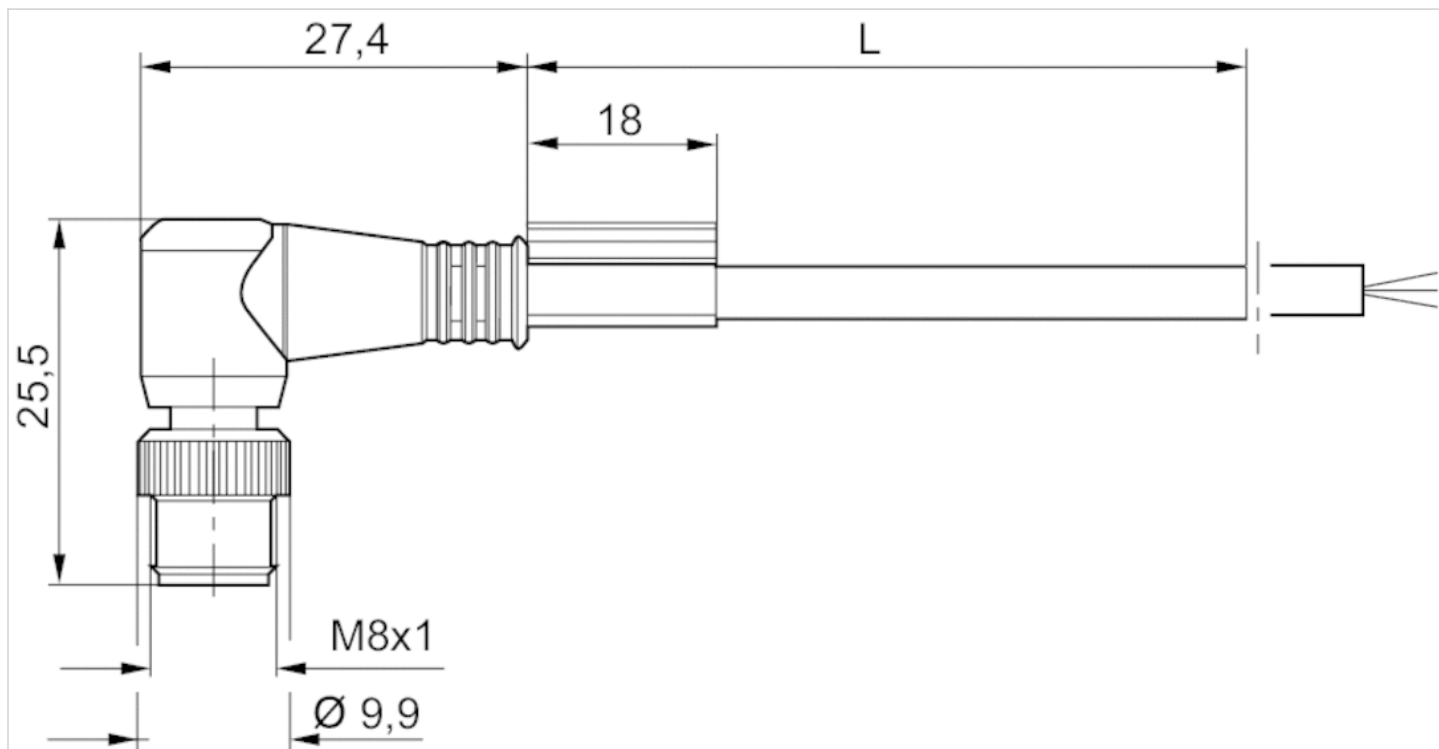
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

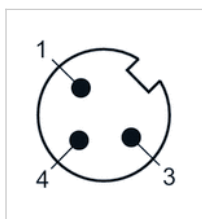
Dimensions



L = length

Pin assignments

Plug pin assignment



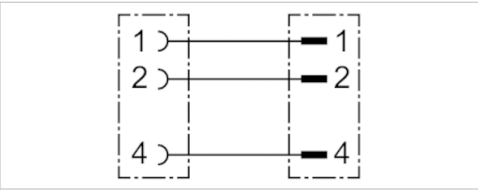
- (1) BN=brown
- (3) BU=blue
- (4) BK=black

Round plug connector, Series CON-RD

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



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.25 mm²
Weight	See table below



Technical data

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

suitable for dynamic laying

Technical information

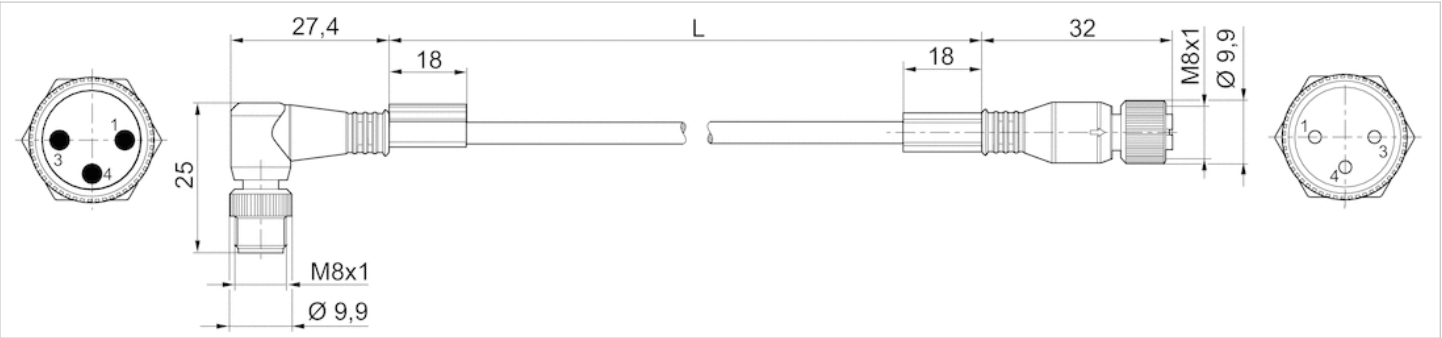
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

Dimensions



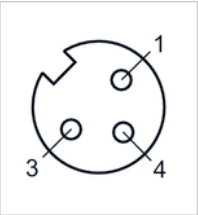
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket



Round plug connector, Series CON-RD

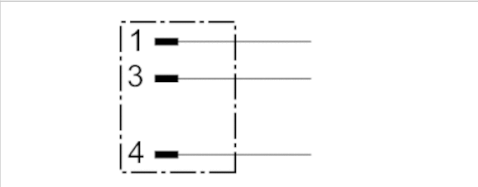
- Plug, M8x1, 3-pin, A-coded, angled, 90°
- unshielded



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

Screws
-25 ... 85 °C
48 V AC/DC

IP67
0.01 kg
The delivered product may vary from that in the illustration.



Technical data

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

Technical information

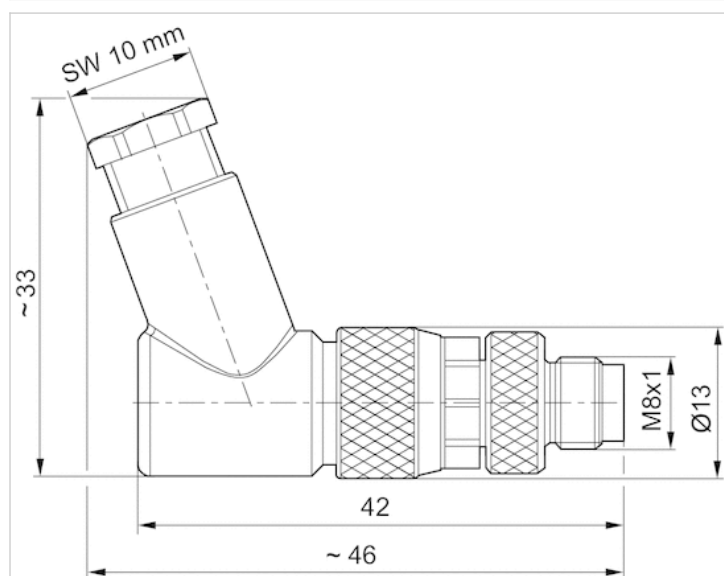
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

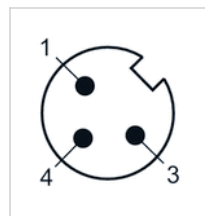
Dimensions

Dimensions



Pin assignments

Plug pin assignment

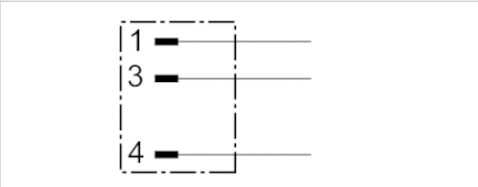


Round plug connector, Series CON-RD

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



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



Technical data

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

Technical information

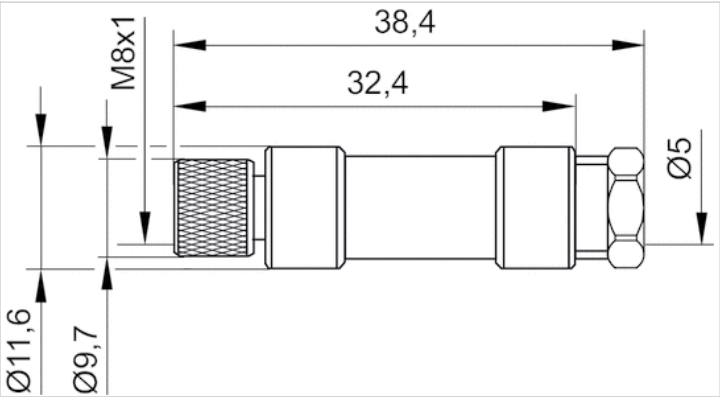
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

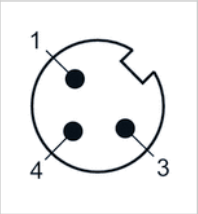
Dimensions

Dimensions



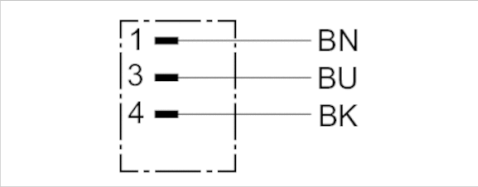
Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

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



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	30 V AC/DC
Protection class	IP67
Wire cross-section	0.25 mm²
Weight	See table below

Technical data

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

Technical information

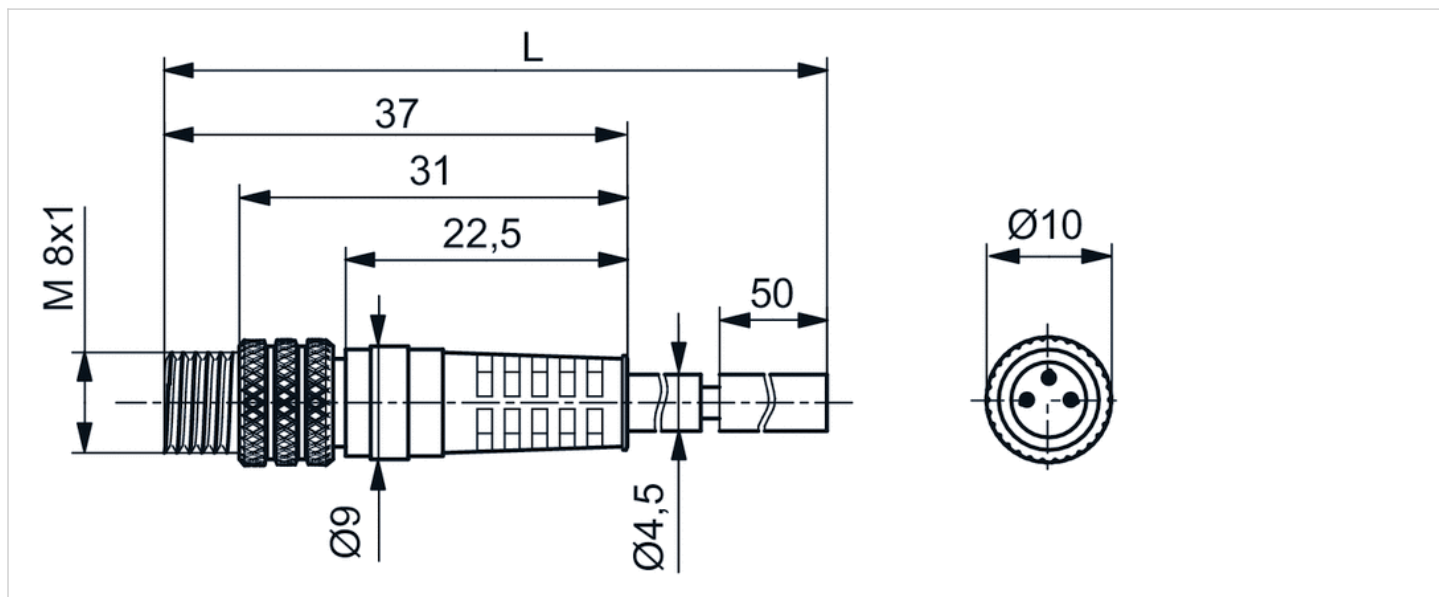
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyvinyl chloride

Dimensions

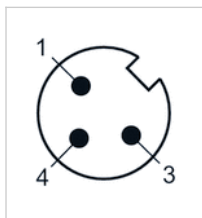
Dimensions



L = length

Pin assignments

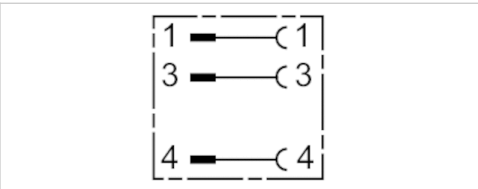
Plug pin assignment



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

Adapter, Series CON-AP

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



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

Technical data

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

Technical information

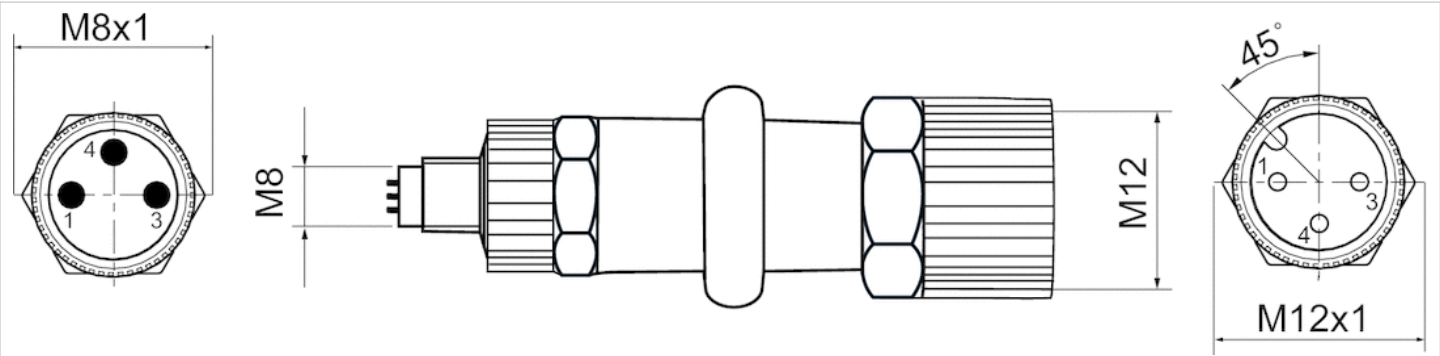
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane

Dimensions

Dimensions

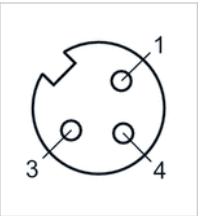


Pin assignments

Plug pin assignment



Pin assignment, socket



Round plug connector, Series CON-RD

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

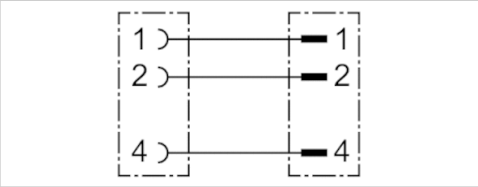


Protection class

Weight

IP68

See table below



Technical data

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

Technical information

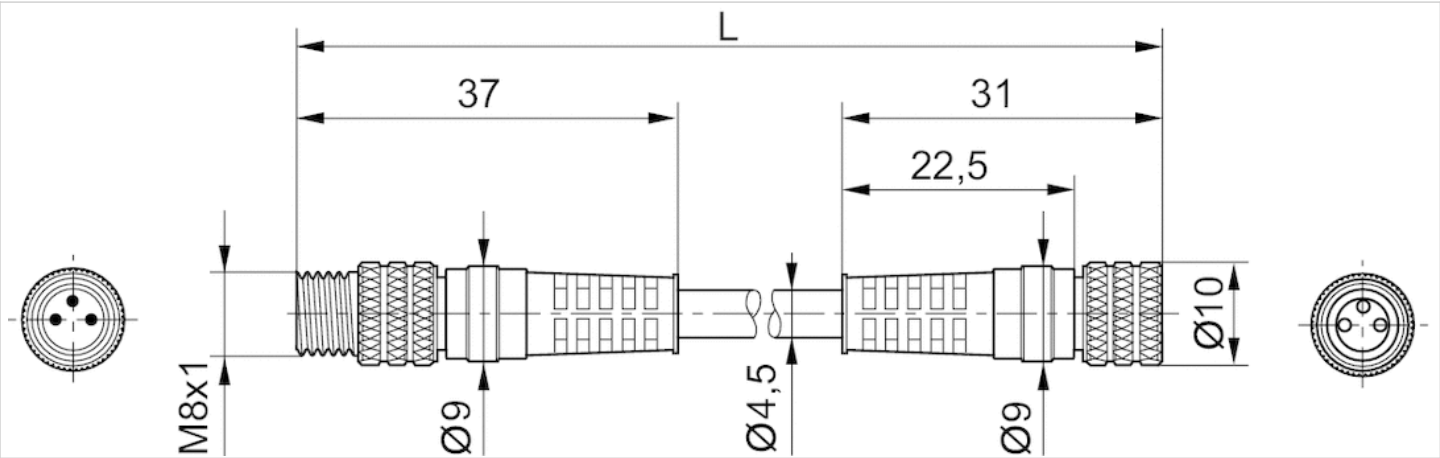
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

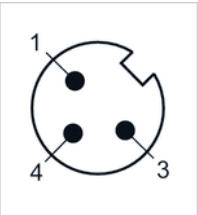
Dimensions



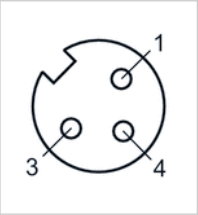
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket



Round plug connector, Series CON-RD

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



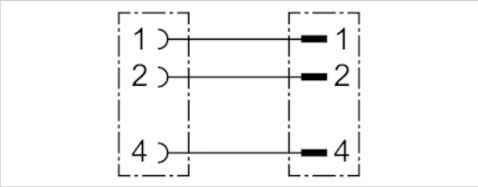
Protection class

Weight

IP68

0.073 kg

The delivered product may vary from that in the illustration.



Technical data

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

Technical information

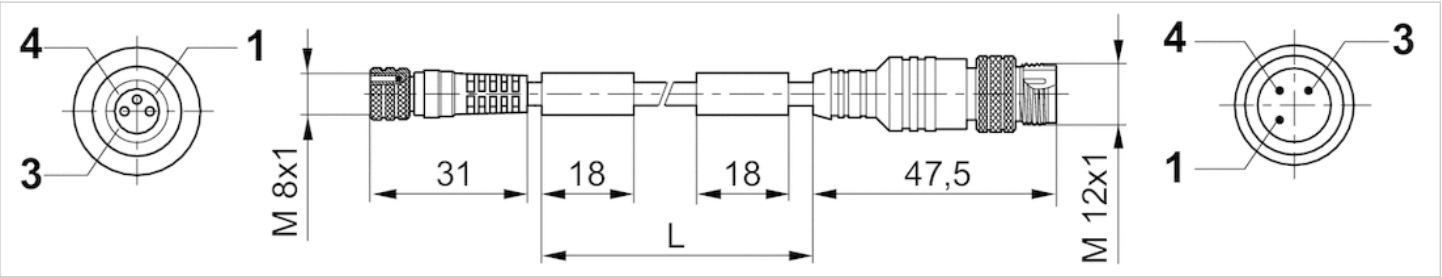
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

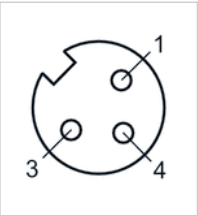
Dimensions



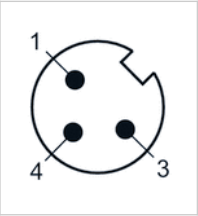
L = length

Pin assignments

Pin assignment, socket



Plug pin assignment

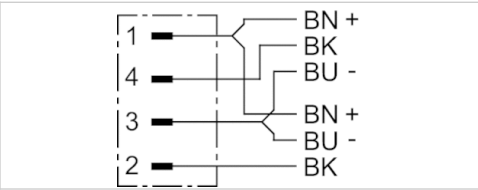


Y-Plug connector, series CON-RD

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



Ambient temperature min./max.	-40 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.34 mm²
Mounting screw tightening torque	0.8 Nm
Weight	0.122 kg



Technical data

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

with self-clinching screw

Technical information

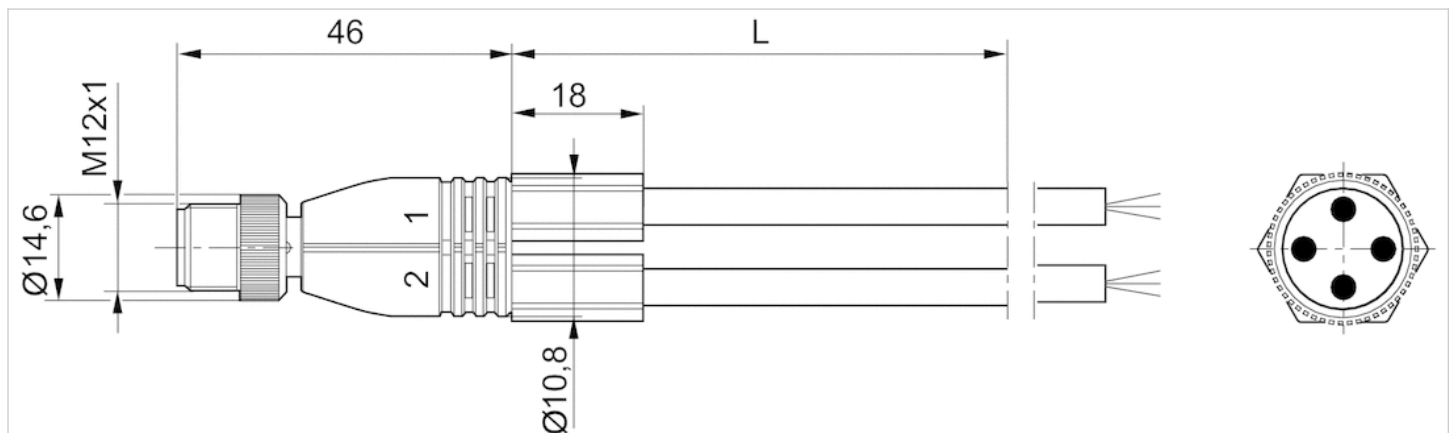
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

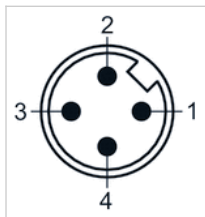
Dimensions



L = length

Pin assignments

Plug pin assignment

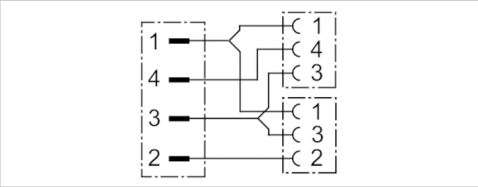


Line 1: (1) BN = brown, (3) BU =blue, (4) BK = black

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

Y-Plug connector, series CON-RD

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



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.25 mm²
Mounting screw tightening torque	0.8 Nm
Weight	See table below

Technical data

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

Technical information

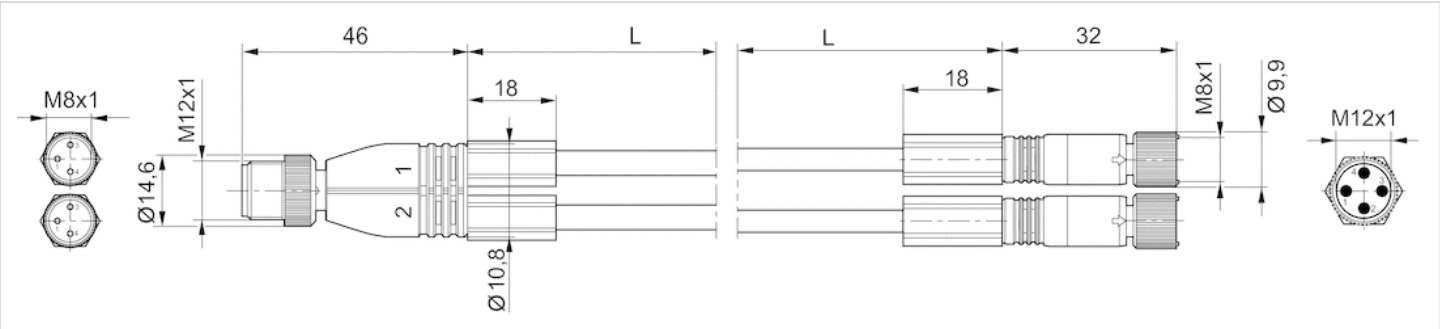
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

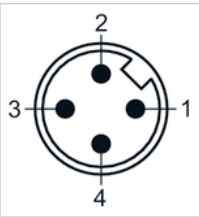
Dimensions



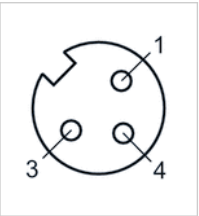
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket



Round plug connector, Series CON-RD

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



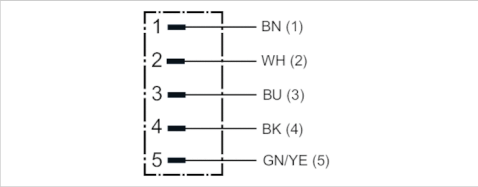
Protection class

Weight

IP68

See table below

The delivered product may vary from that in the illustration.



Technical data

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

with self-clinching screw

Technical information

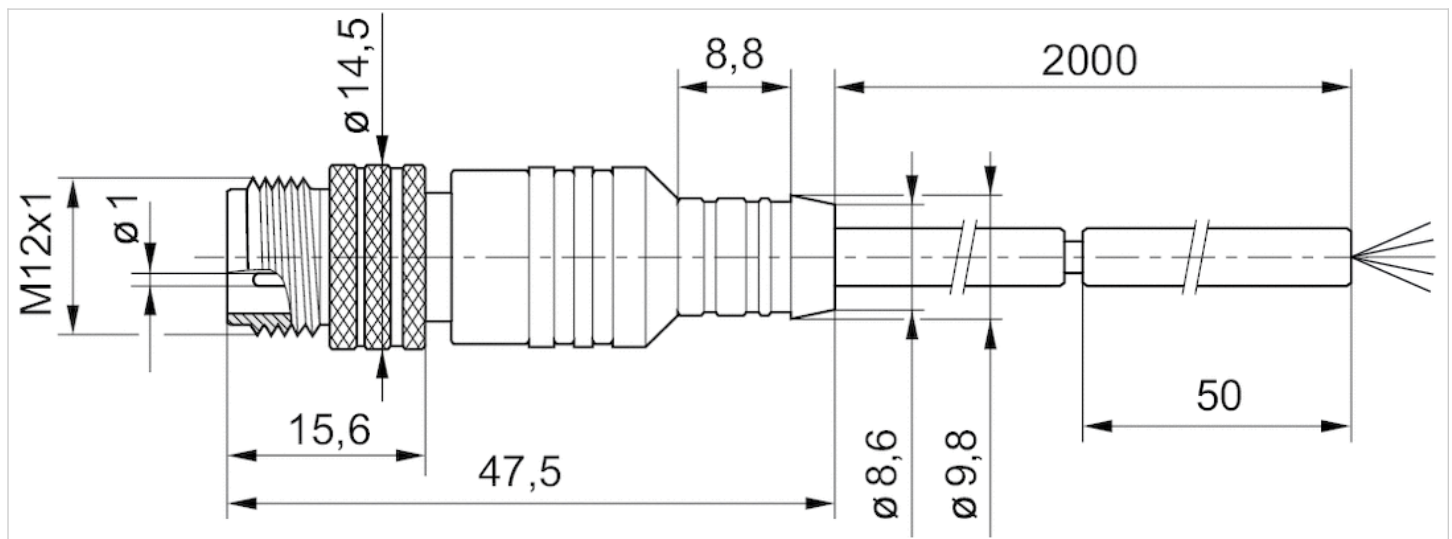
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

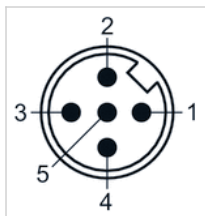
Dimensions



L = length

Pin assignments

Plug pin assignment



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

Round plug connector, Series CON-RD

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



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

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

Technical data

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

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

suitable for dynamic laying

Technical information

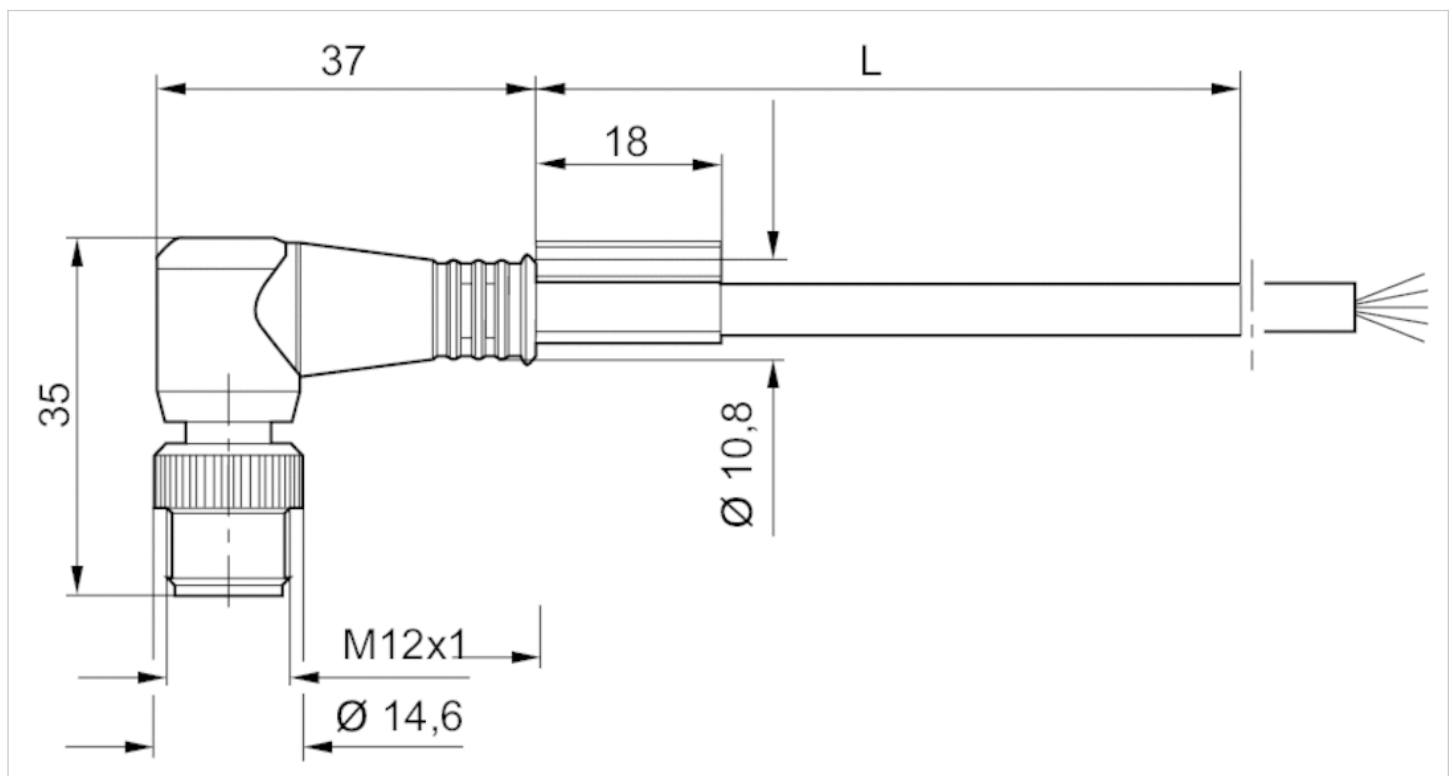
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

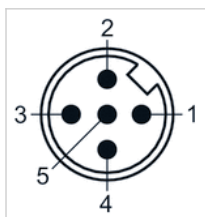
Dimensions



L = length

Pin assignments

Plug pin assignment



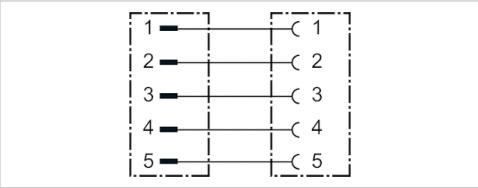
- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) GY=grey

Round plug connector, Series CON-RD

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



Ambient temperature min./max.	-25 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.34 mm²
Mounting screw tightening torque	0.8 Nm
Weight	See table below



Technical data

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

suitable for dynamic laying

Technical information

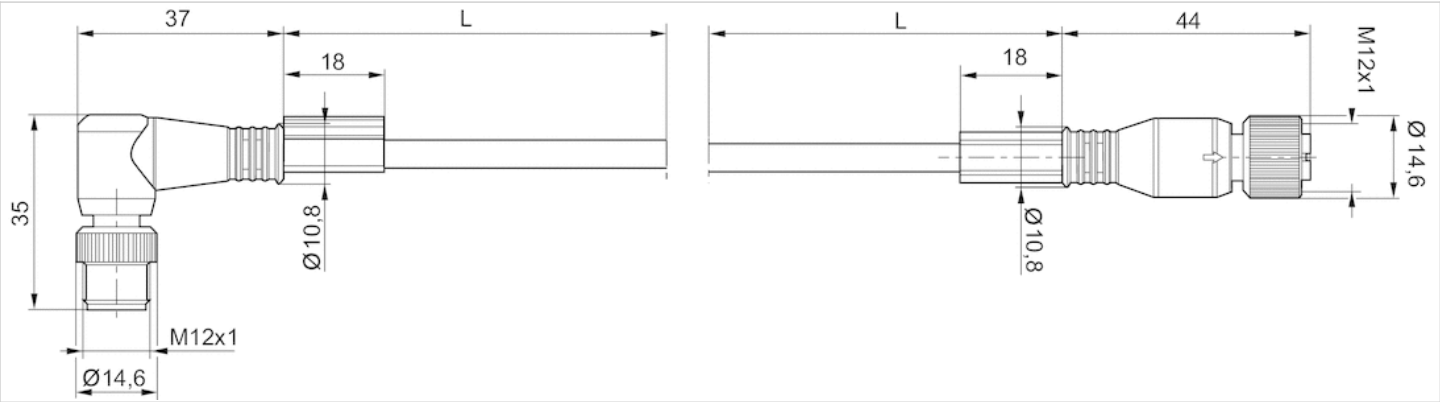
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

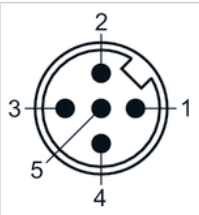
Dimensions



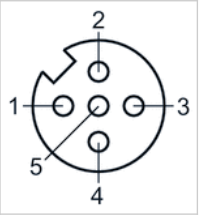
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket



Round plug connector, Series CON-RD

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



Ambient temperature min./max.

See table below

Operational voltage

48 V AC/DC

Protection class

IP67

Wire cross-section

0.25 mm²

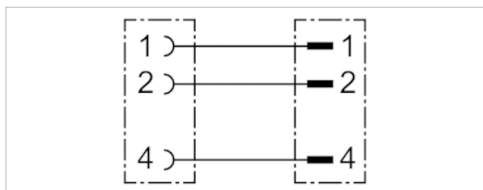
Mounting screw tightening torque

0.5 Nm

Weight

See table below

The delivered product may vary from that in the illustration.



Technical data

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

Part No.	Weight
R412021696	0.077 kg
R412021697	0.135 kg

suitable for dynamic laying

Technical information

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

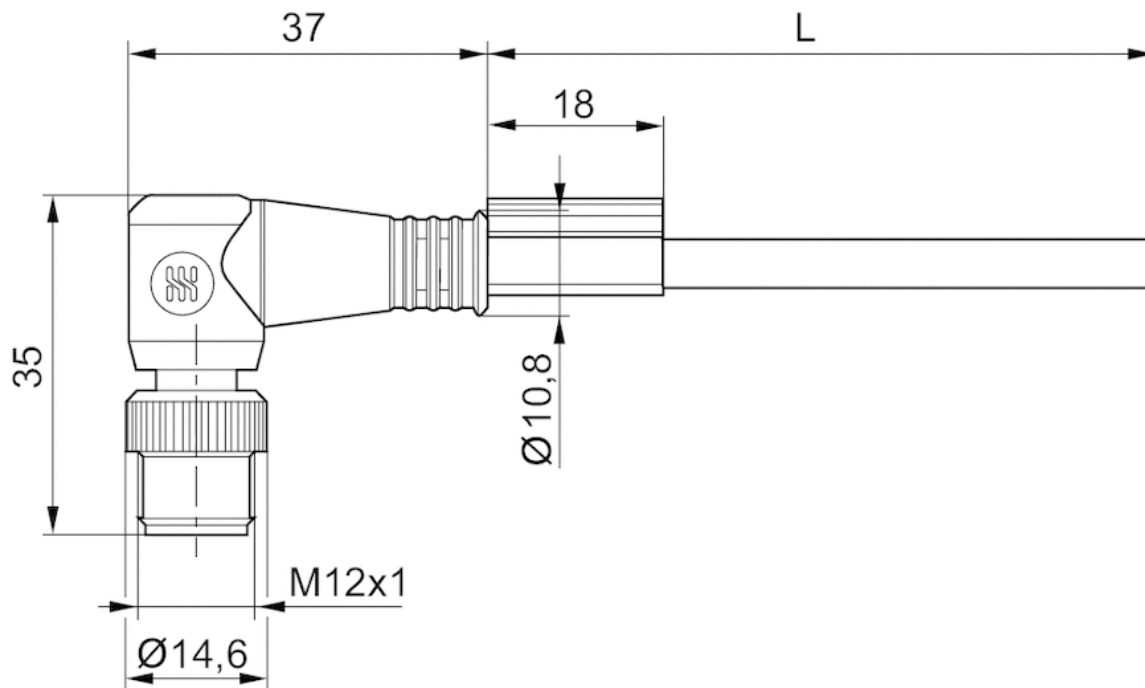
Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

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Dimensions

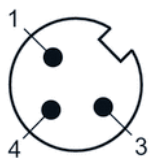
Dimensions



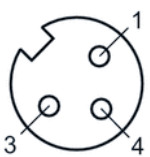
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket

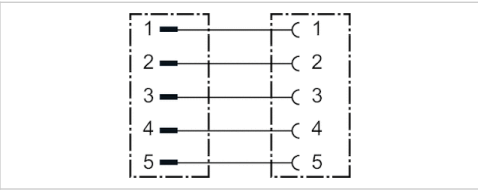


Round plug connector, Series CON-RD

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



Ambient temperature min./max.	-20 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.34 mm²
Mounting screw tightening torque	0.8 Nm



Technical data

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

suitable for dynamic laying

Technical information

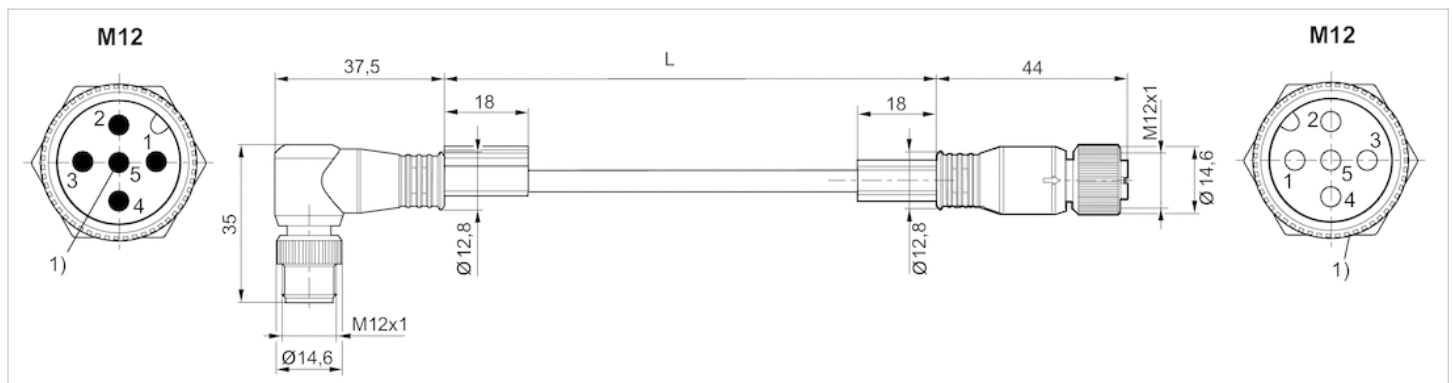
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

Dimensions



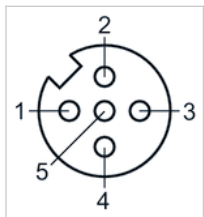
L = length

PIN assignment 1:1

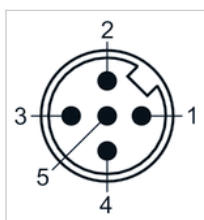
1) Shield is connected to pin 5 of the plug and the knurled screw of the socket.

Pin assignments

Pin assignment, socket

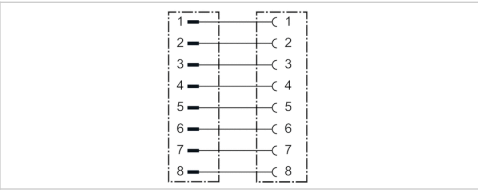


Plug pin assignment



Round plug connector, Series CON-RD

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



Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	30 / 36 V AC/DC
Protection class	IP67
Wire cross-section	0.25 mm²
Weight	See table below

Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
8946202802	1.5 A	8	6.6 mm	0.5 m	0.067 kg
8946202812	1.5 A	8	6.6 mm	1 m	0.96 kg
8946202822	1.5 A	8	6.6 mm	2 m	0.161 kg
8946202832	1.5 A	8	6.6 mm	5 m	0.339 kg
8946202842	1.5 A	8	6.6 mm	10 m	0.65 kg

suitable for dynamic laying

Technical information

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

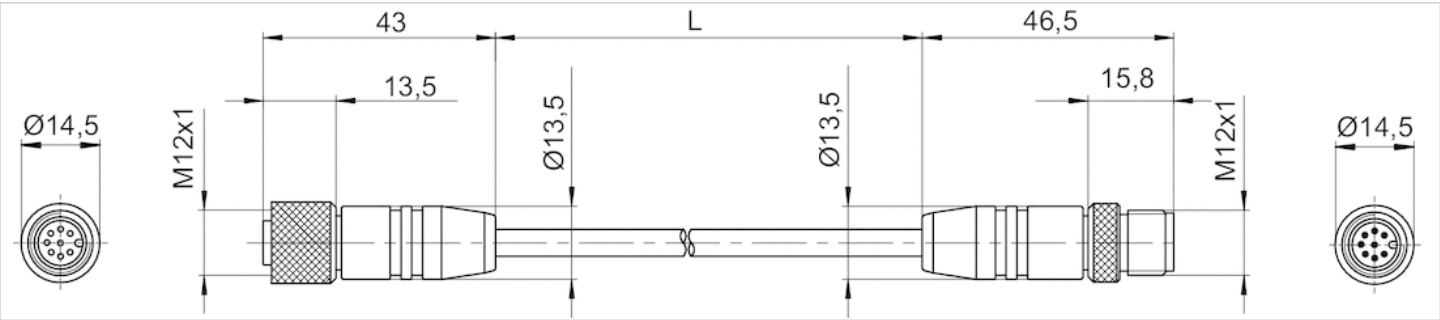
Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc
Cable sheath	Polyurethane

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Dimensions

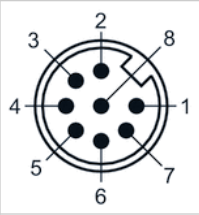
Dimensions



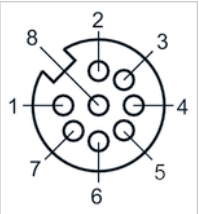
L = length

Pin assignments

Plug pin assignment



Pin assignment, socket



Round plug connector, Series CON-RD

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



Connection type

Ambient temperature min./max.

Operational
voltage

Protection class

Weight

Screws

-40 ... 85 °C

48 V AC/DC

IP67

See table below

The delivered product may vary from that in the illustration.



Technical data

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

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

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

Technical information

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

Included: 2 seals for 2 cables each with Ø 2.1 mm ... 3.0 mm and Ø 4.0 mm ... 5.0 mm .

Technical information

Material	
Housing	Polyamide

Dimensions

Fig. 1

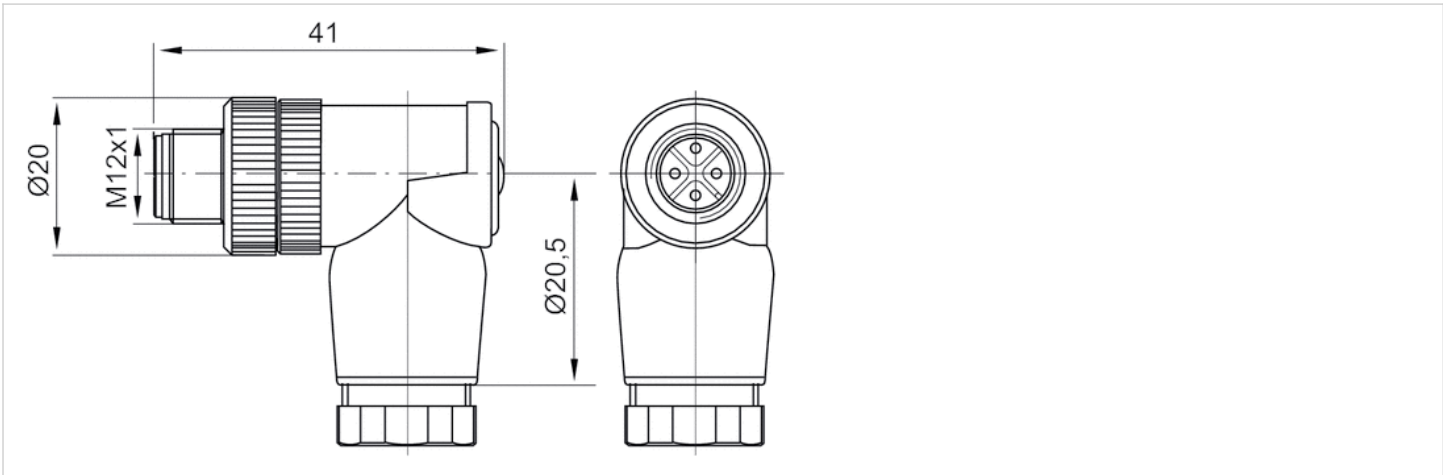
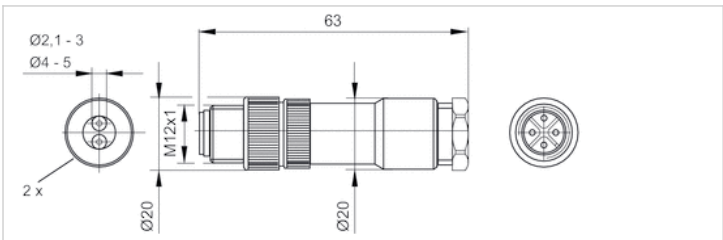


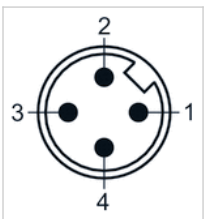
Fig. 2



duo plug

Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

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



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



Technical data

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

Technical information

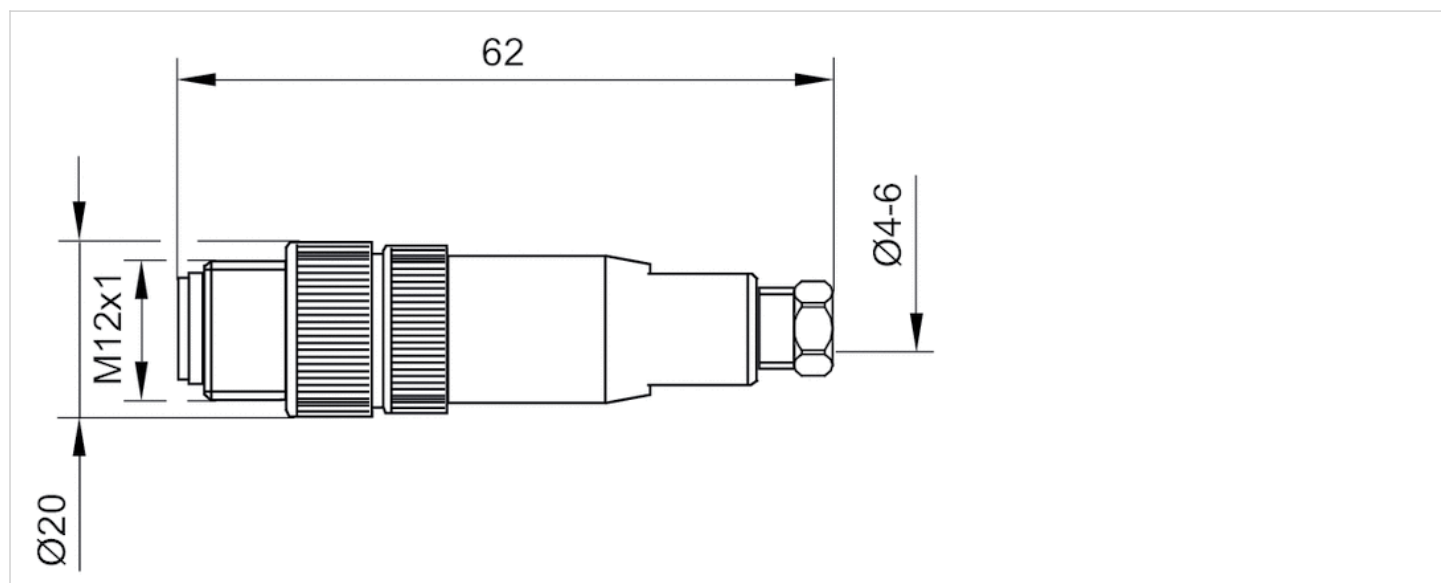
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

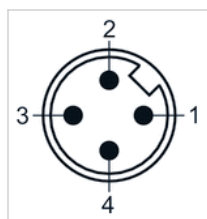
Dimensions

Dimensions



Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

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



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



Technical data

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

Technical information

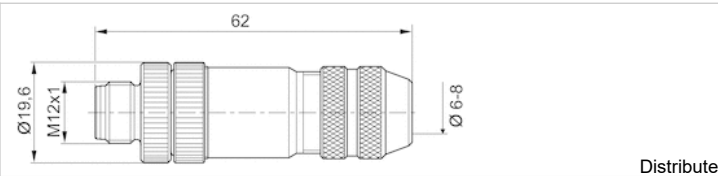
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

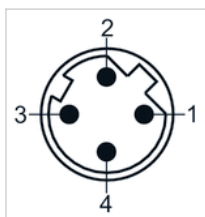
Dimensions

Dimensions



Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

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



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



Technical data

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

Technical information

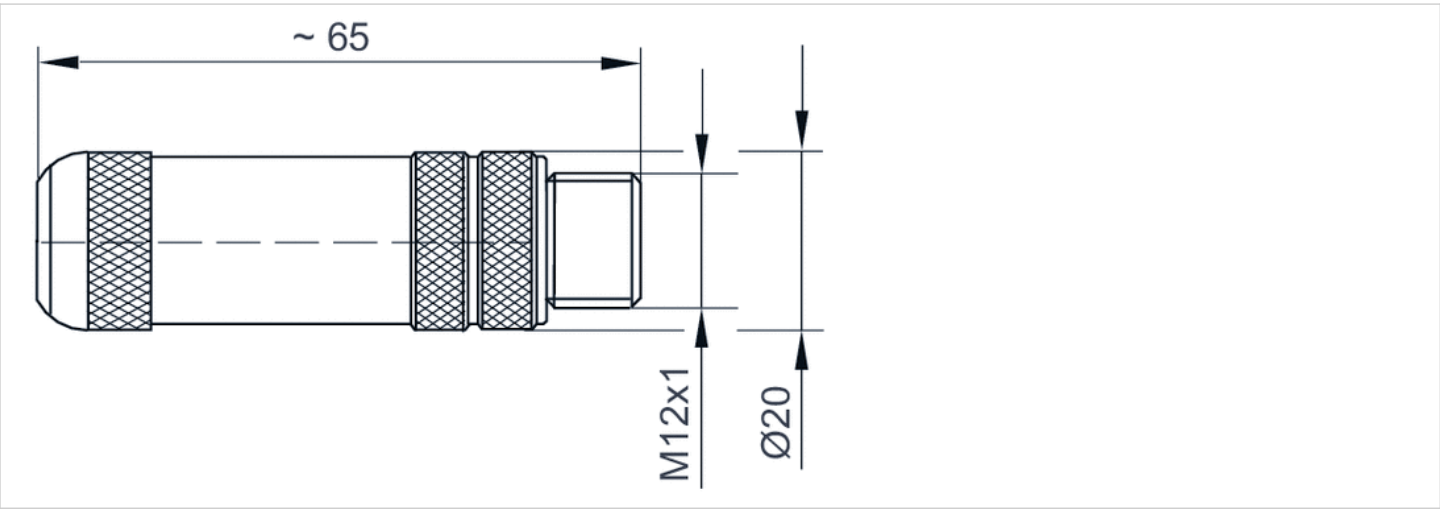
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated
Seals	Fluorocarbon caoutchouc

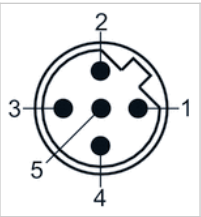
Dimensions

Dimensions



Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

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



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



Technical data

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

Technical information

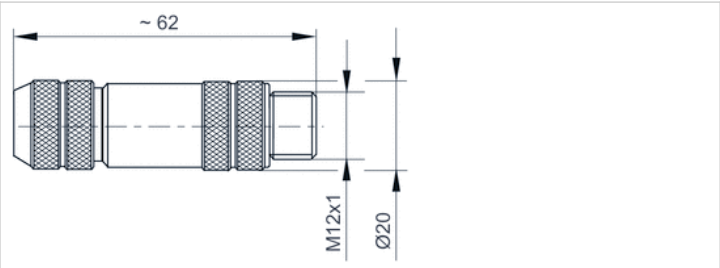
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

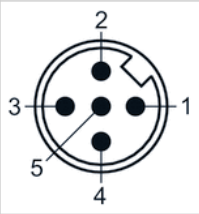
Dimensions

Dimensions



Pin assignments

Plug pin assignment



Data final plug, Series CON-RD

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



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



Technical data

Part No.
8941054064

Technical information

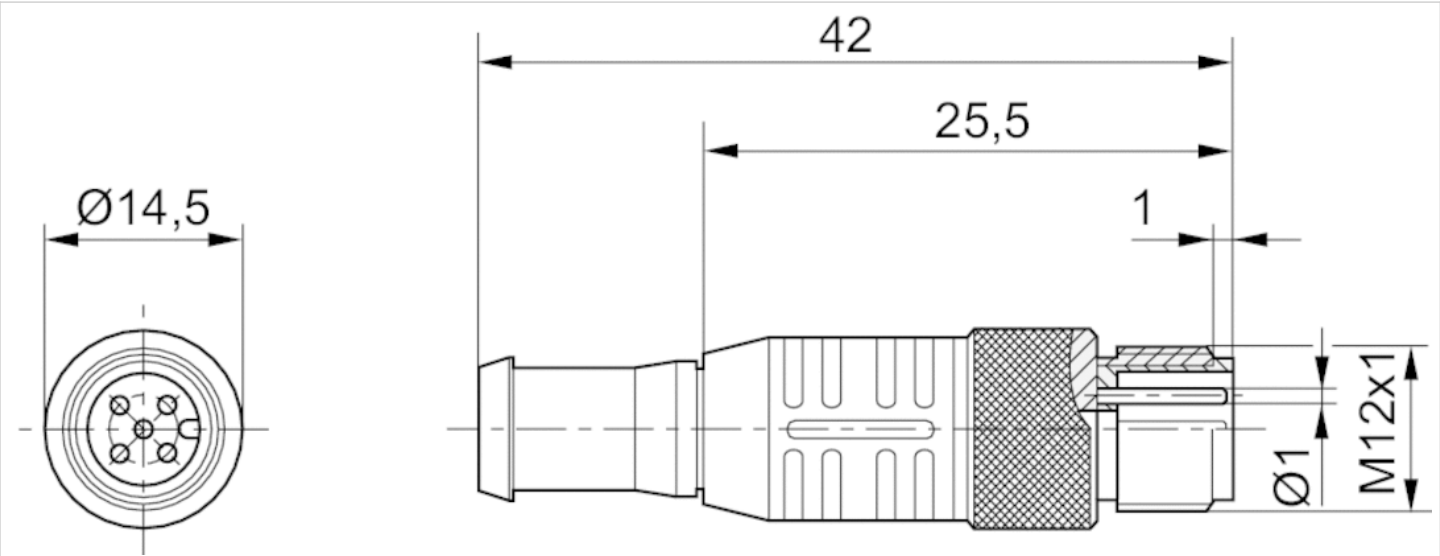
The specified protection class is only valid in assembled and tested state.
PROFIBUS DP bus termination plug

Technical information

Material	
Housing	Thermoplastic elastomer

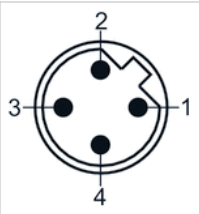
Dimensions

Dimensions



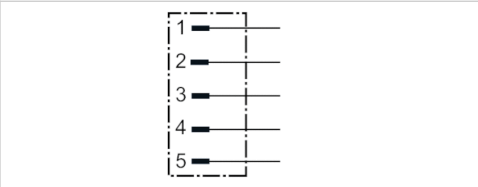
Pin assignments

Plug pin assignment



Data final plug, Series CON-RD

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



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

Technical data

Part No.
8941054264

Technical information

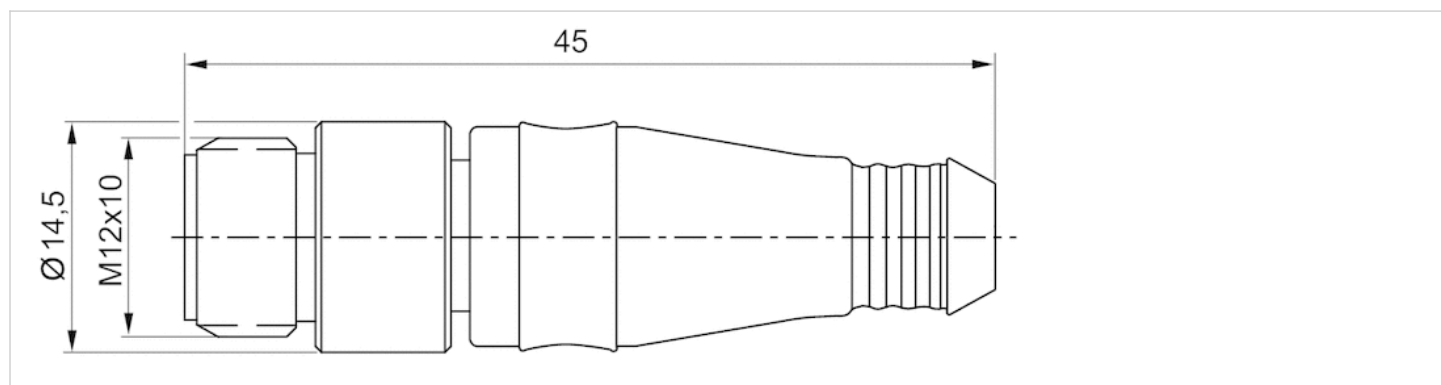
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer

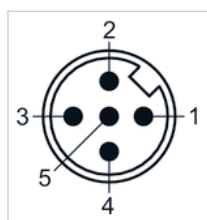
Dimensions

Dimensions



Pin assignments

Plug pin assignment

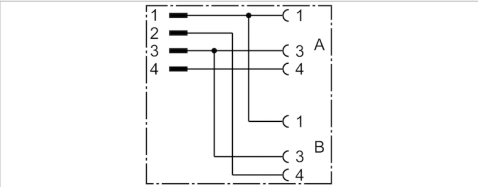


Y-Plug connector, series CON-AP

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



Ambient temperature min./max.	-25 ... 90 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.02 kg
The delivered product may vary from that in the illustration.	



Technical data

Part No.	Max. current
8941002382	4 A

Technical information

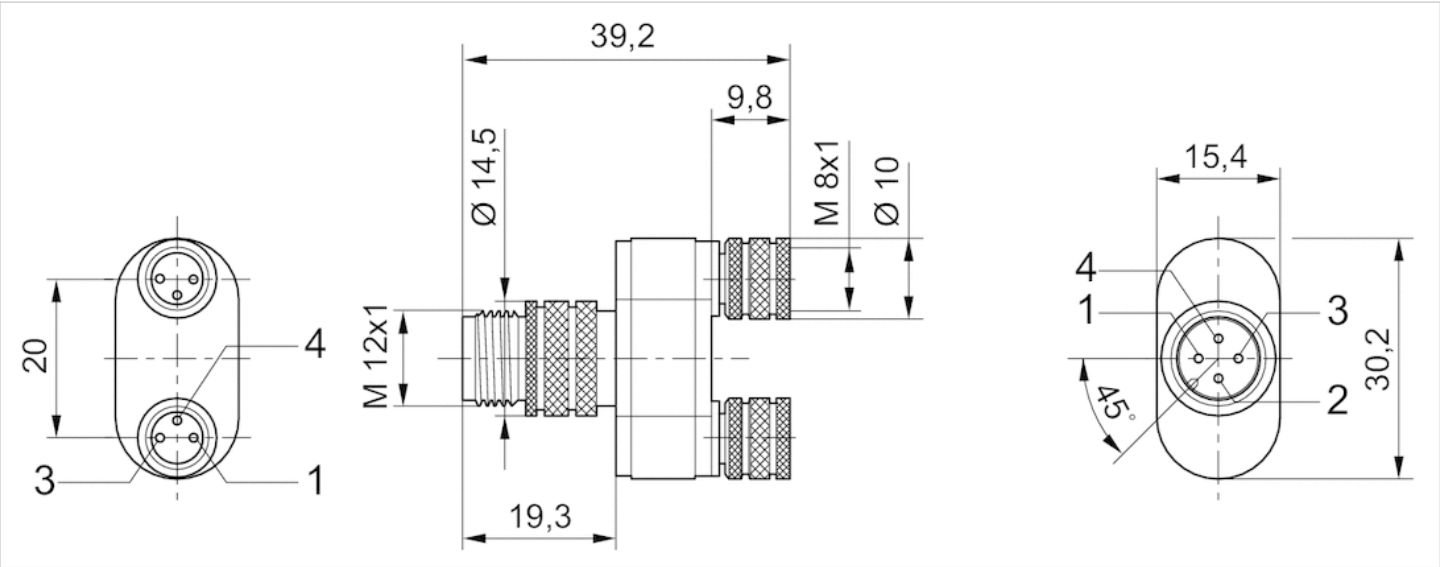
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc

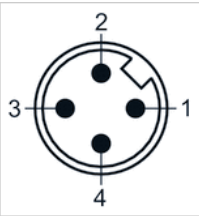
Dimensions

Dimensions

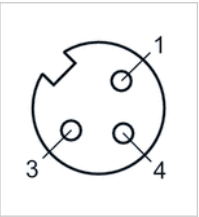


Pin assignments

Plug pin assignment

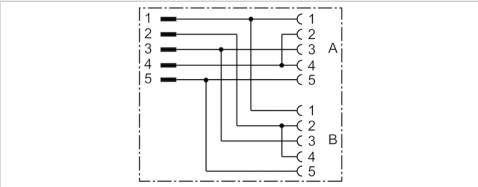


Pin assignment, socket



Y-Plug connector, series CON-AP

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



Ambient temperature min./max.	-25 ... 90 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.029 kg
	The delivered product may vary from that in the illustration.

Technical data

Part No.	Max. current
8941002392	4 A

Technical information

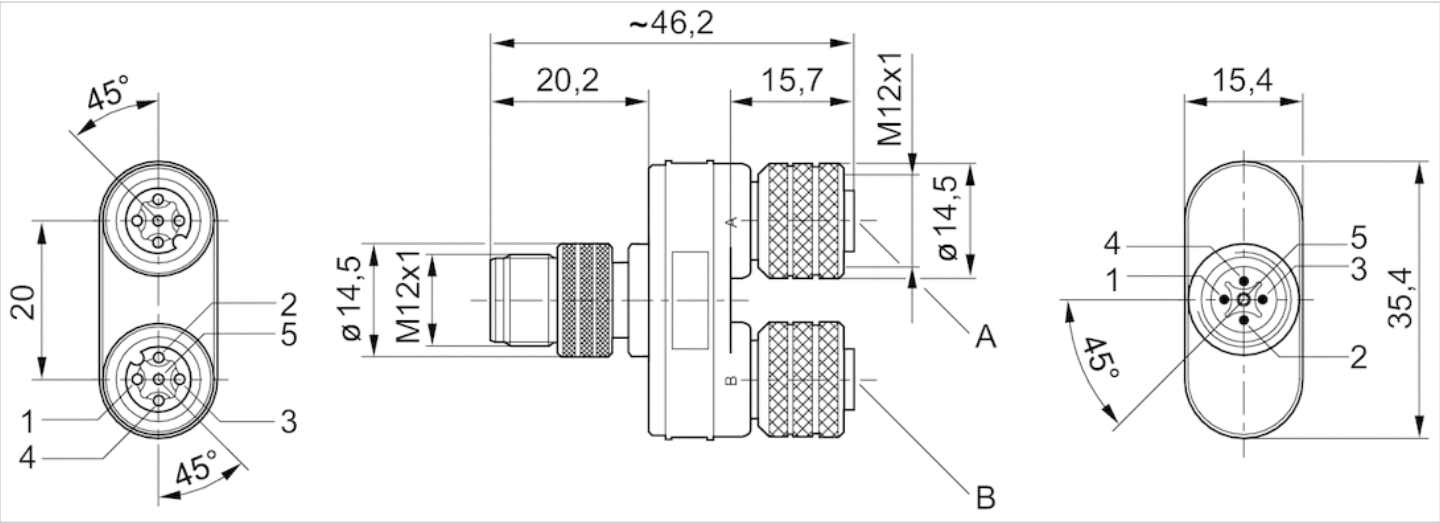
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc

Dimensions

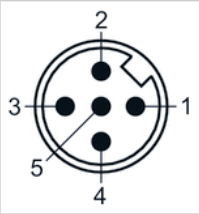
Dimensions



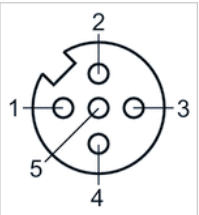
Sockets: Pin 2 and 4 bridged.

Pin assignments

Plug pin assignment



Pin assignment, socket

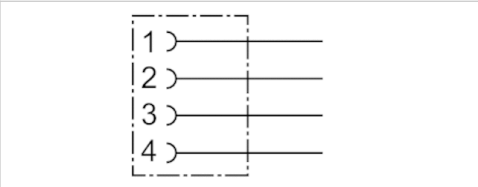


Round plug connector, Series CON-RD

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



Connection type	Screws
Ambient temperature min./max.	-25 ... 90 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.029 kg
The delivered product may vary from that in the illustration.	



Technical data

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

Technical information

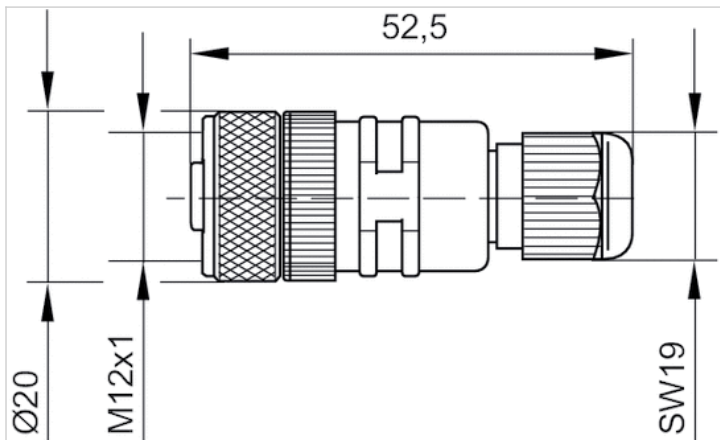
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polybutyleneterephthalate
Seals	Fluorocarbon caoutchouc

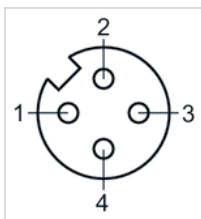
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

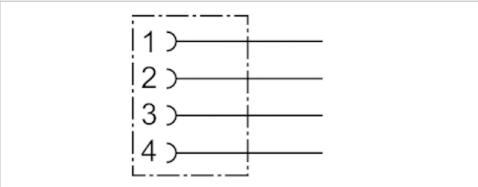


Round plug connector, Series CON-RD

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



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



Technical data

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

Technical information

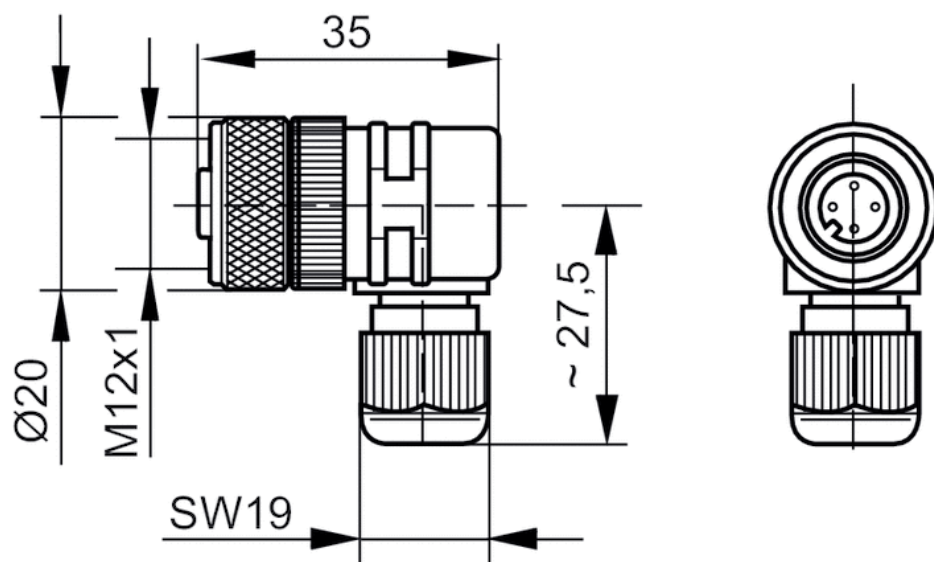
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polybutyleneterephthalate
Seals	Fluorocarbon caoutchouc

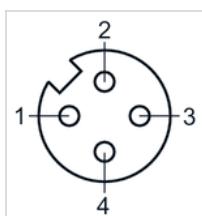
Dimensions

Dimensions



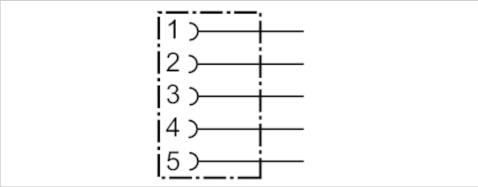
Pin assignments

Pin assignment, socket



Round plug connector, Series CON-RD

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



Connection type	Screws
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.051 kg

Technical data

Part No.	Max. current	suitable cable-Ø min./max
8942051602	4 A	6 mm

Technical information

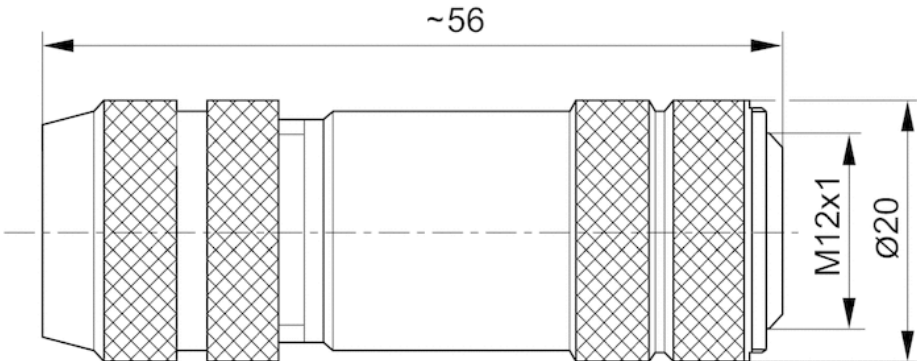
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

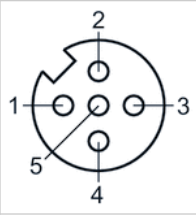
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

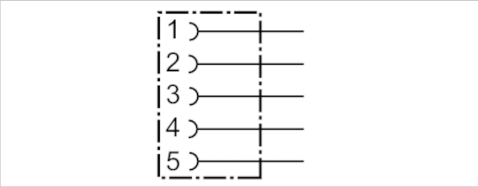


Round plug connector, Series CON-RD

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



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



Technical data

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

Technical information

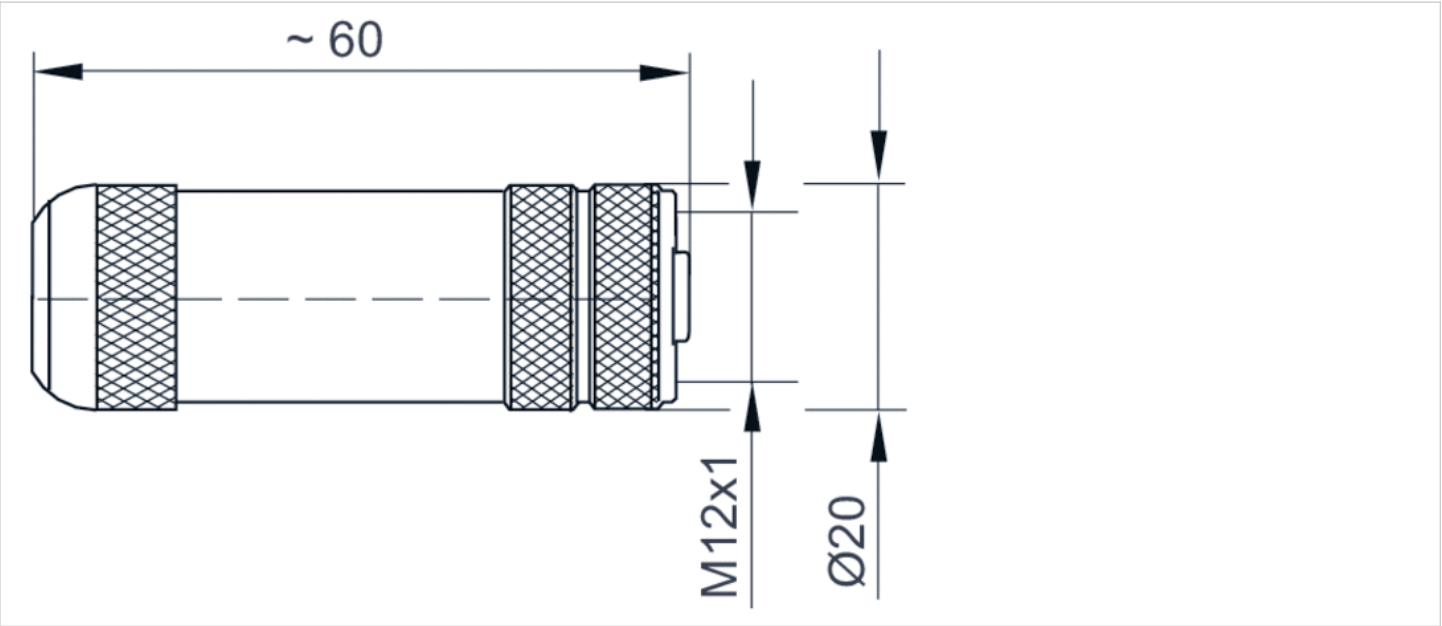
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated
Seals	Fluorocarbon caoutchouc

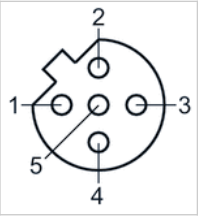
Dimensions

Dimensions



Pin assignments

Pin assignment, socket



Distributor, Series AES

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



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

Technical data

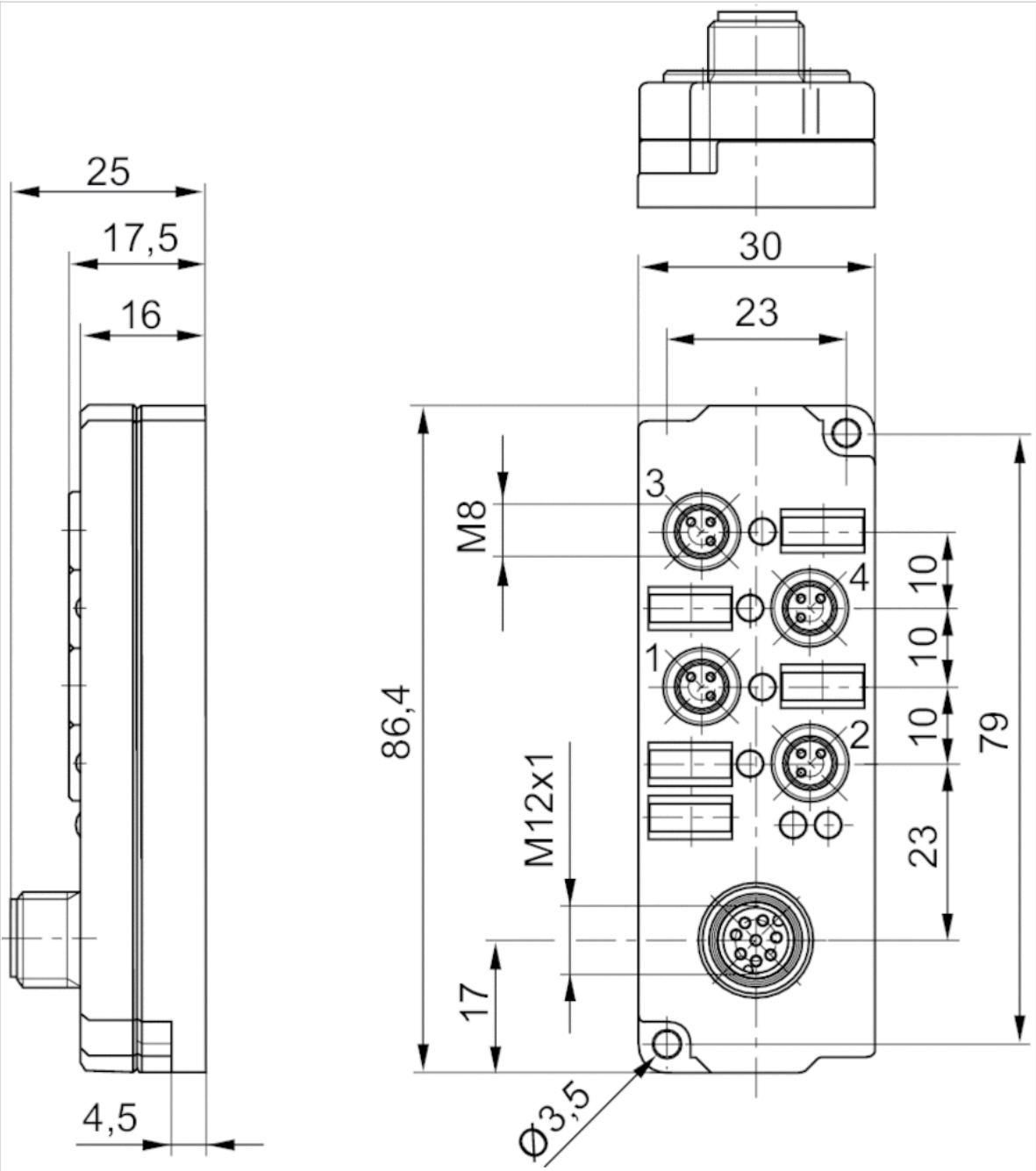
Part No.	Type	Port	Port
		1	2
R402001810	16DI4M12 16DI8M8	Plug (male), M12x1, 8-pin	Socket (female), M8x1, 3-pin

Technical information

Material	
Housing	Polyamide

Dimensions

Dimensions



Multipole plug, series CON-MP

- Plug D-Sub 25-pin angled 90°
- Socket D-Sub 25-pin angled 90°
- with cable
- UL (Underwriters Laboratories)
- unshielded



Ambient temperature min./max.	-20 ... 80 °C
Operational voltage	24 V DC
Protection class	IP67
Wire cross-section	0.2 mm ²
Weight	See table below
The delivered product may vary from that in the illustration.	

Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Certification	Weight
R412020630	3 A	25	8.5 mm	0.5 m	UL (Underwriters Laboratories)	0.19 kg
R412020631	3 A	25	8.5 mm	1 m	UL (Underwriters Laboratories)	0.26 kg
R412020632	3 A	25	8.5 mm	2 m	UL (Underwriters Laboratories)	0.383 kg
R412020633	3 A	25	8.5 mm	5 m	UL (Underwriters Laboratories)	0.736 kg
R412020634	3 A	25	8.5 mm	10 m	UL (Underwriters Laboratories)	1.4 kg

Technical information

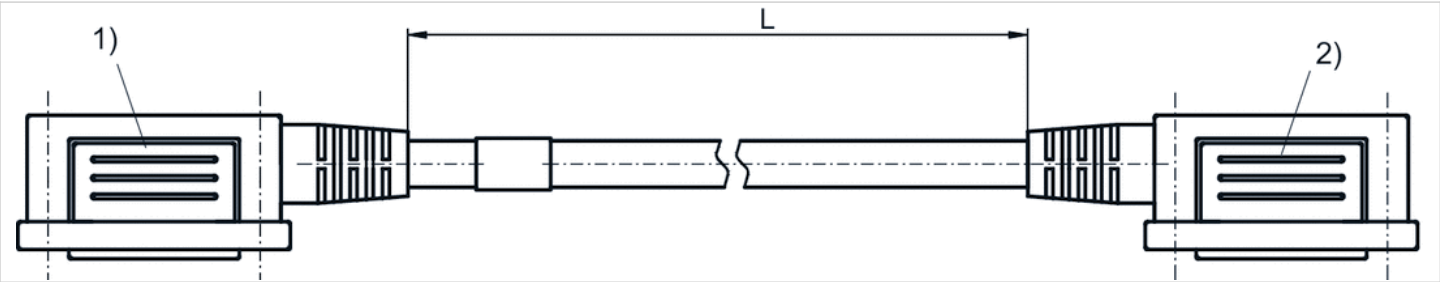
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyvinyl chloride

Dimensions

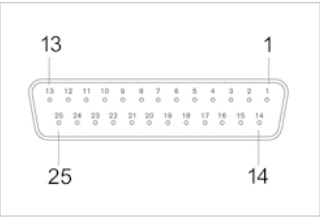
Dimensions



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

Pin assignments

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



Socket

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

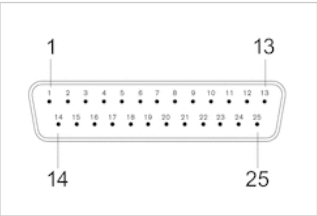
10	11	12	13	14	15
violet	gray/pink	red/blue	white/green	brown/green	white/yellow

16	17	18	19	20	21
yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue

22	23	24	25
brown/blue	white/red	brown/red	white/black

Pin assignments

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



Plug

Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black
10	11	12	13	14	15				
violet	gray/pink	red/blue	white/green	brown/green	white/yellow				
16	17	18	19	20	21				
yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue				
22	23	24	25						
brown/blue	white/red	brown/red	white/black						

Multipole plug, series CON-MP

- Plug D-Sub 25-pin angled 90°
- Socket D-Sub 25-pin straight 180°
- with cable
- UL (Underwriters Laboratories)
- unshielded



Ambient temperature min./max.	-20 ... 80 °C
Operational voltage	24 V DC
Protection class	IP67
Wire cross-section	0.2 mm ²
Weight	See table below

Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Certification	Weight
R412020635	3 A	25	8.5 mm	0.5 m	UL (Underwriters Laboratories)	0.205 kg
R412020636	3 A	25	8.5 mm	1 m	UL (Underwriters Laboratories)	0.275 kg
R412020637	3 A	25	8.5 mm	2 m	UL (Underwriters Laboratories)	0.396 kg
R412020638	3 A	25	8.5 mm	5 m	UL (Underwriters Laboratories)	0.756 kg
R412020639	3 A	25	8.5 mm	10 m	UL (Underwriters Laboratories)	1.409 kg

Technical information

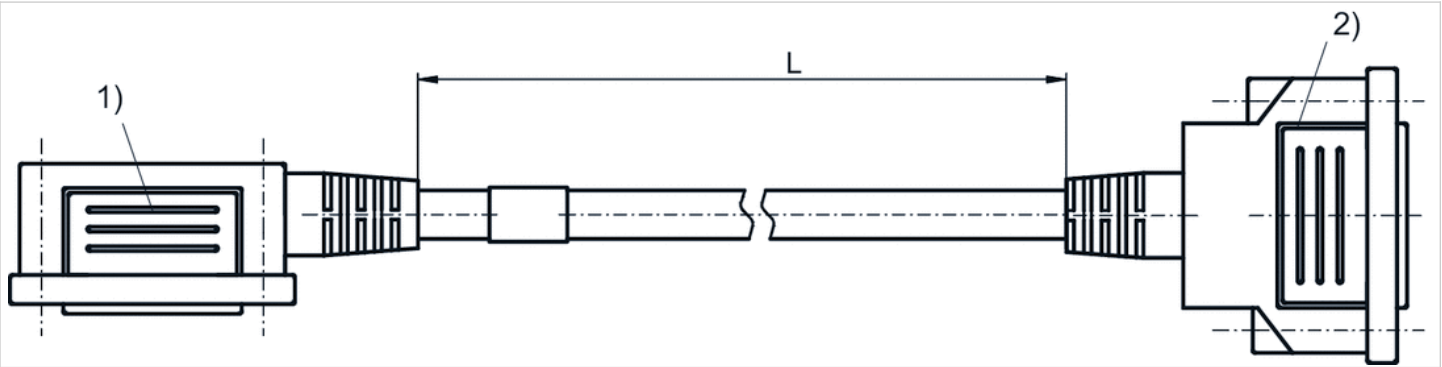
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyvinyl chloride

Dimensions

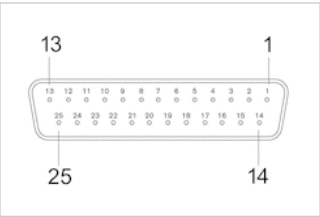
Dimensions



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

Pin assignments

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



Socket

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

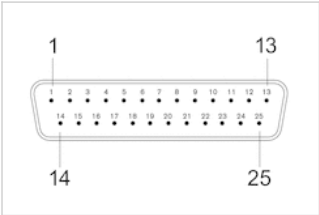
10	11	12	13	14	15
violet	gray/pink	red/blue	white/green	brown/green	white/yellow

16	17	18	19	20	21
yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue

22	23	24	25
brown/blue	white/red	brown/red	white/black

Pin assignments

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



Plug

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

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

16	17	18	19	20	21
yellow/brown	white/gray	gray/brown	white/pink	pink/brown	white/blue

22	23	24	25
brown/blue	white/red	brown/red	white/black

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