Series AES

AVENTICS™ Series AES

EMERSON.

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

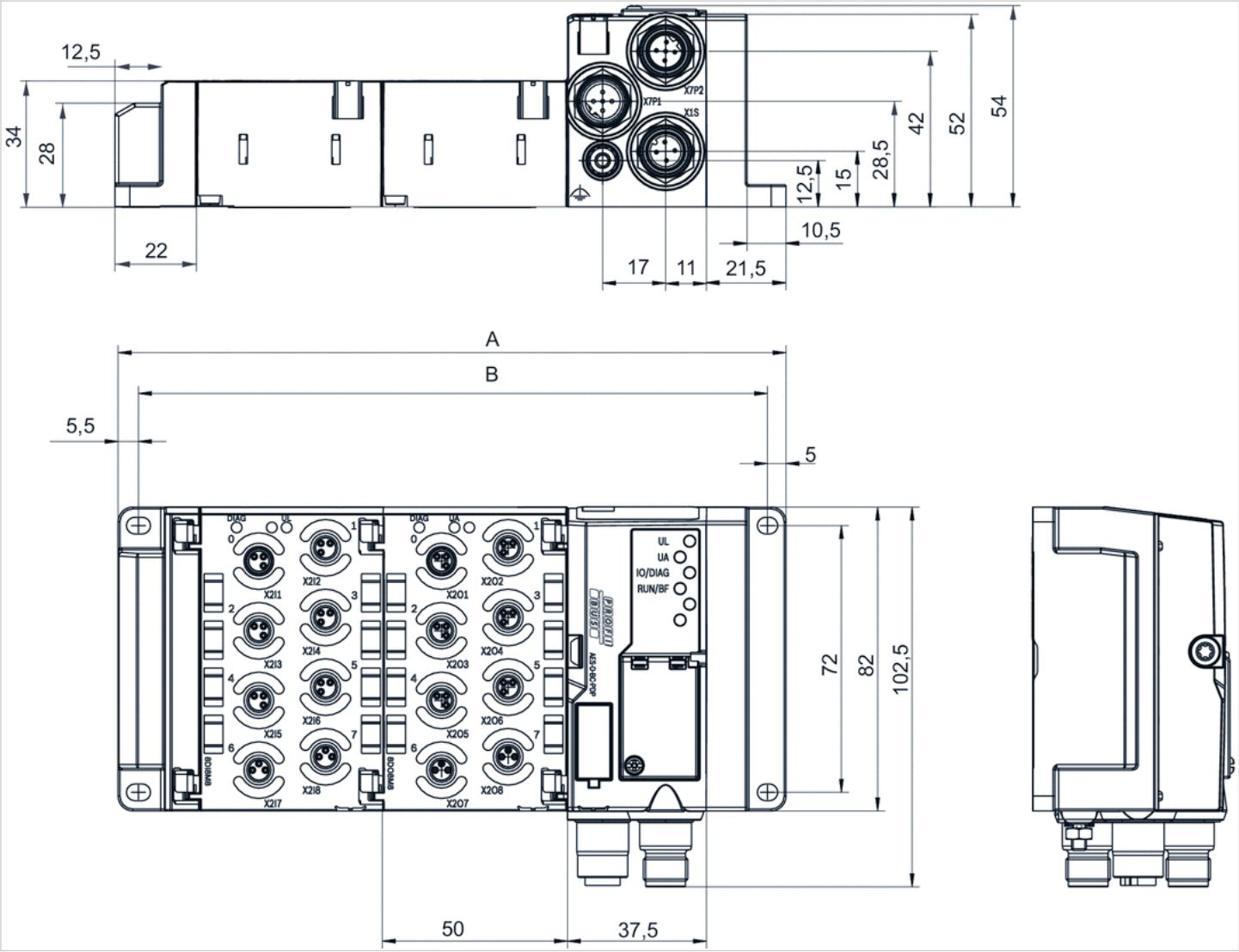
The maximum number of I/O modules is 10.
Caution: A reduced temperature range in accordance with the operating instructions may need to be considered in ATEX applications.

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

Bus coupler, series AES

R412018218

General series information
Series AES

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

Technical data

Industry
Industrial

Version
Bus coupler

Fieldbus protocol
PROFIBUS DP

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Plug

Communication port, Thread size
M12x1

Communication port, Number of poles
5-pin

Communication port, Coding
B-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
5-pin

Communication port 2
B-coded

Weight
0.16 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018218

Technical information

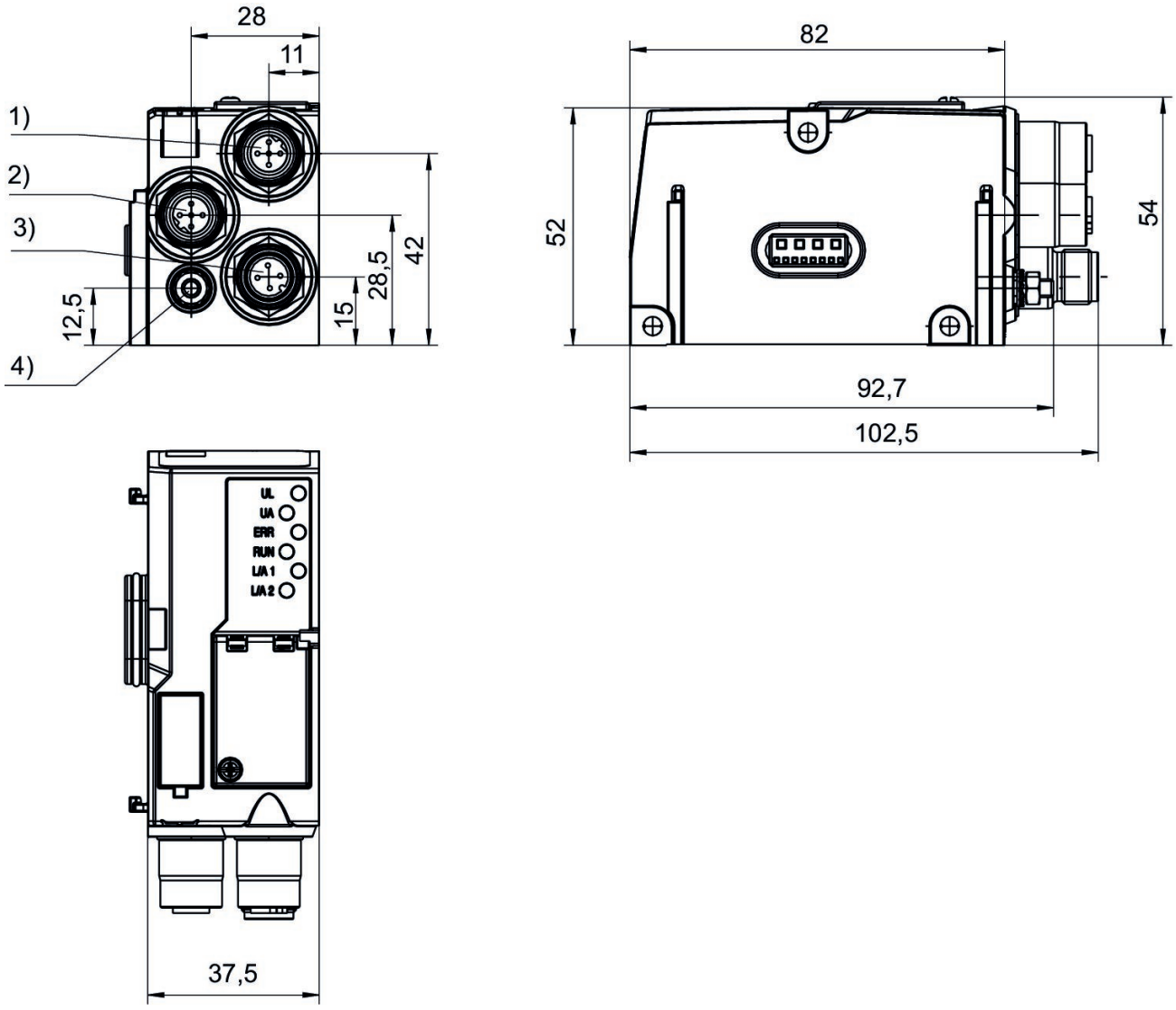
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412018220

General series information
Series AES

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

Technical data

Industry
Industrial

Version
Bus coupler

Fieldbus protocol
CANopen

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Plug

Communication port, Thread size
M12x1

Communication port, Number of poles
5-pin

Communication port, Coding
A-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
5-pin

Communication port 2
A-coded

Weight
0.16 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018220

Technical information

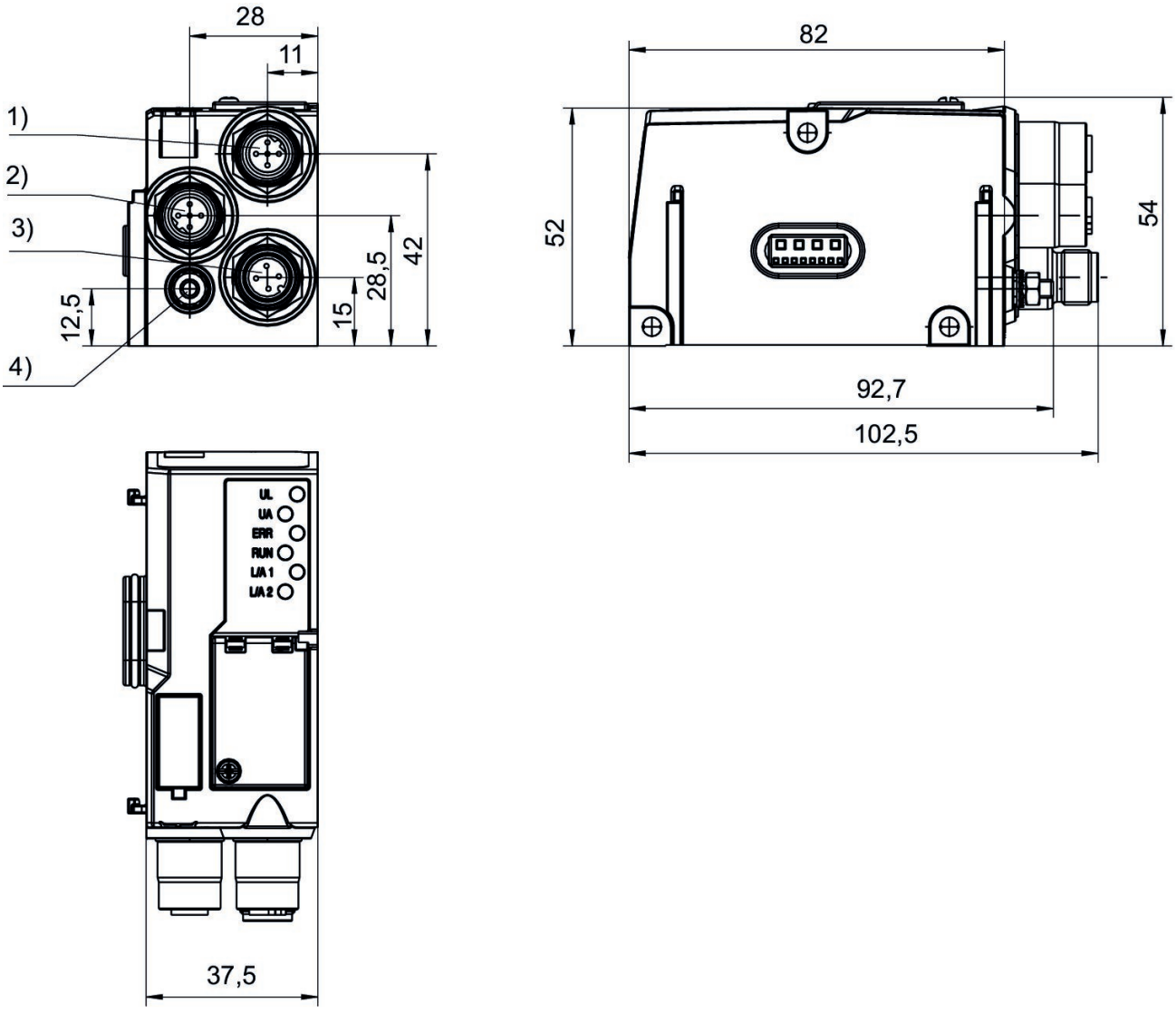
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412018221

General series information
Series AES

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

Technical data

Industry
Industrial

Version
Bus coupler

Fieldbus protocol
DeviceNet

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Plug

Communication port, Thread size
M12x1

Communication port, Number of poles
5-pin

Communication port, Coding
A-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
5-pin

Communication port 2
A-coded

Weight
0.16 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018221

Technical information

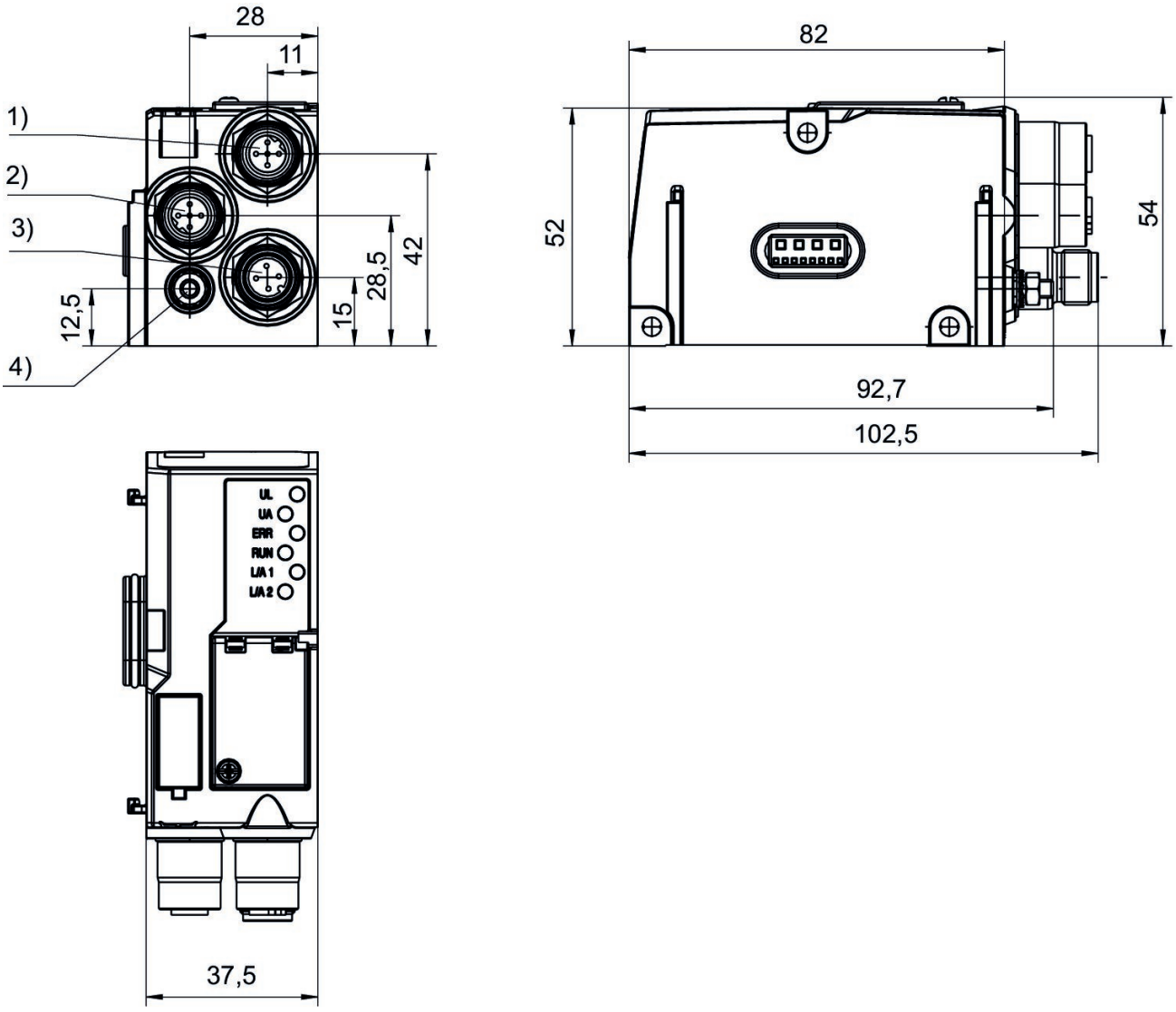
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412088222

General series information
Series AES

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Technical data

Industry
Industrial

Version
Bus coupler

Type
Generation 2
Note: supports DLR

Fieldbus protocol
EtherNet/IP

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412088222

Technical information

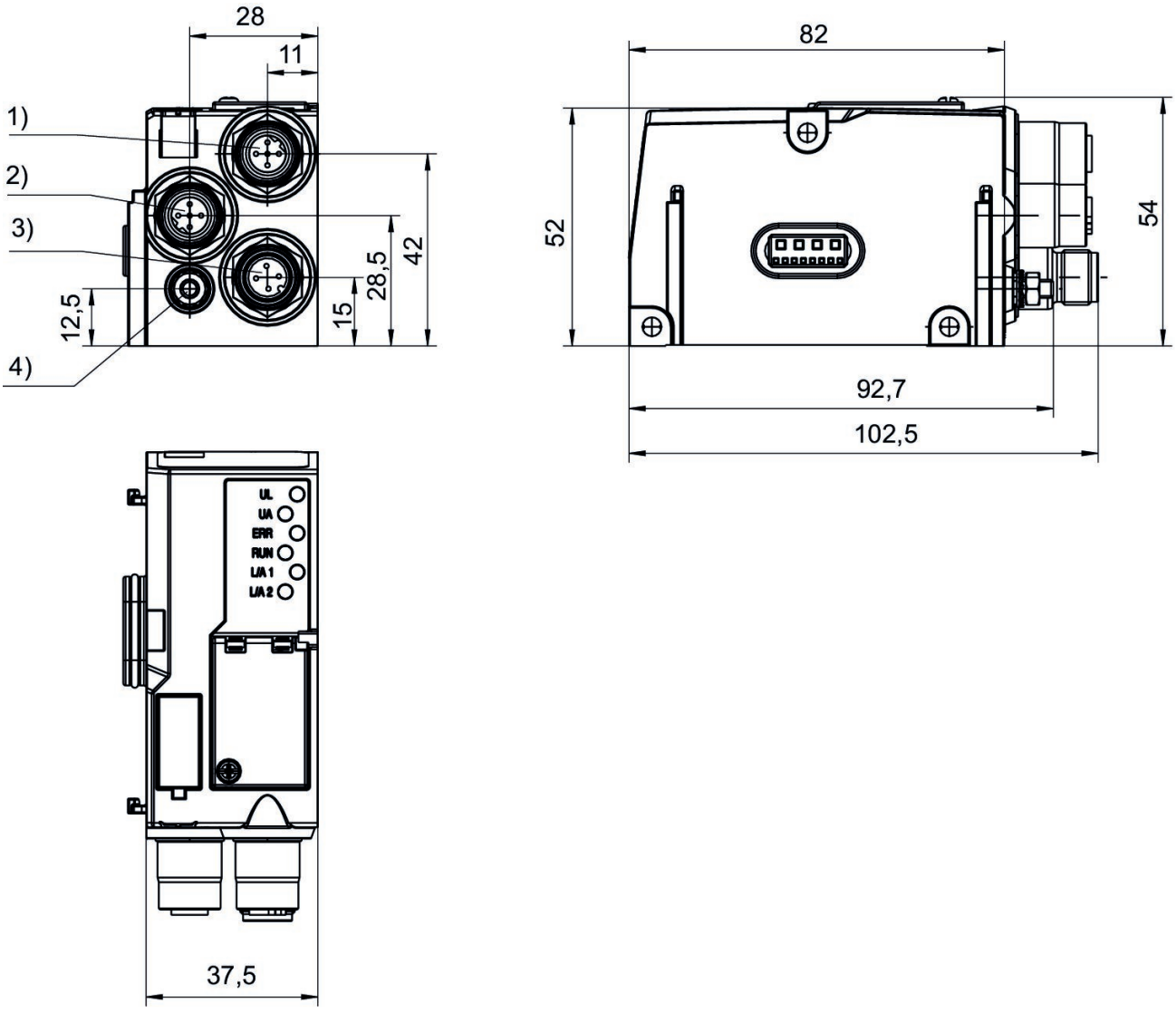
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412018222

General series information
Series AES

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

Technical data

Industry
Industrial

Version
Bus coupler

Note
Do not use in new constructions!

Fieldbus protocol
EtherNet/IP

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018222

Technical information

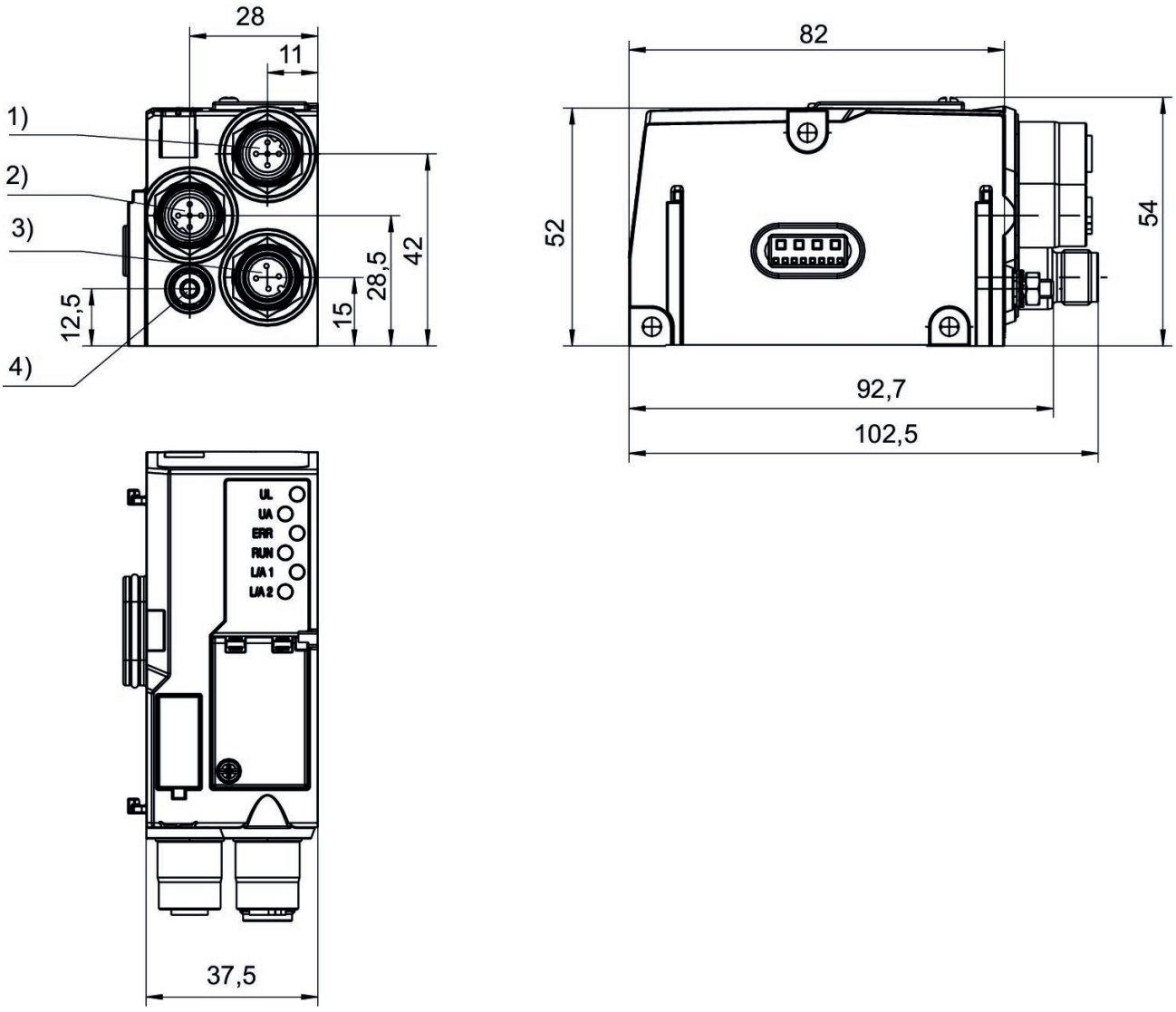
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412088223

General series information
Series AES

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Technical data

Industry
Industrial

Version
Bus coupler

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

Fieldbus protocol
PROFINET IO

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412088223

Technical information

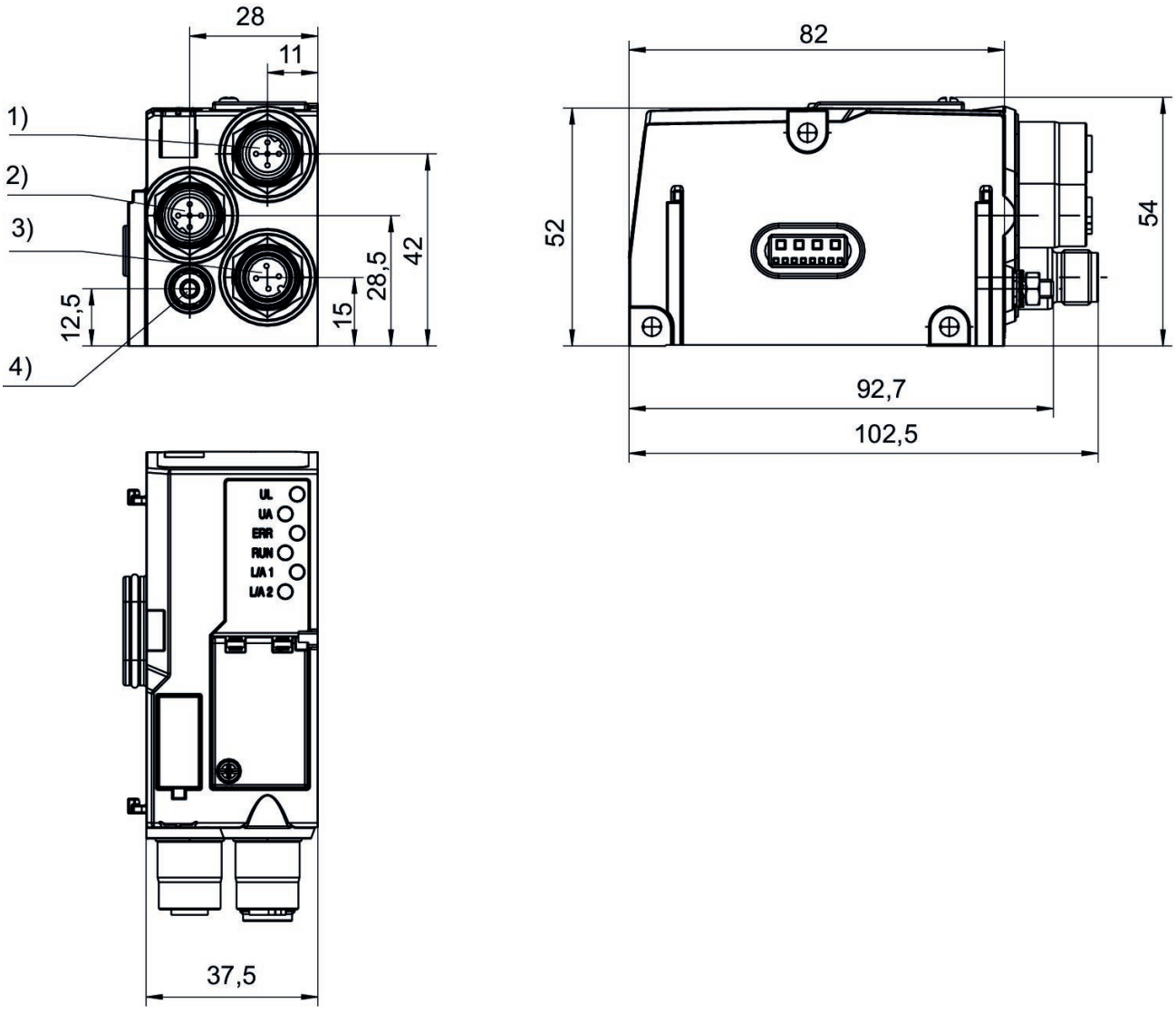
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412018223

General series information
Series AES

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Technical data

Industry
Industrial

Version
Bus coupler

Note
Do not use in new constructions!

Fieldbus protocol
PROFINET IO

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018223

Technical information

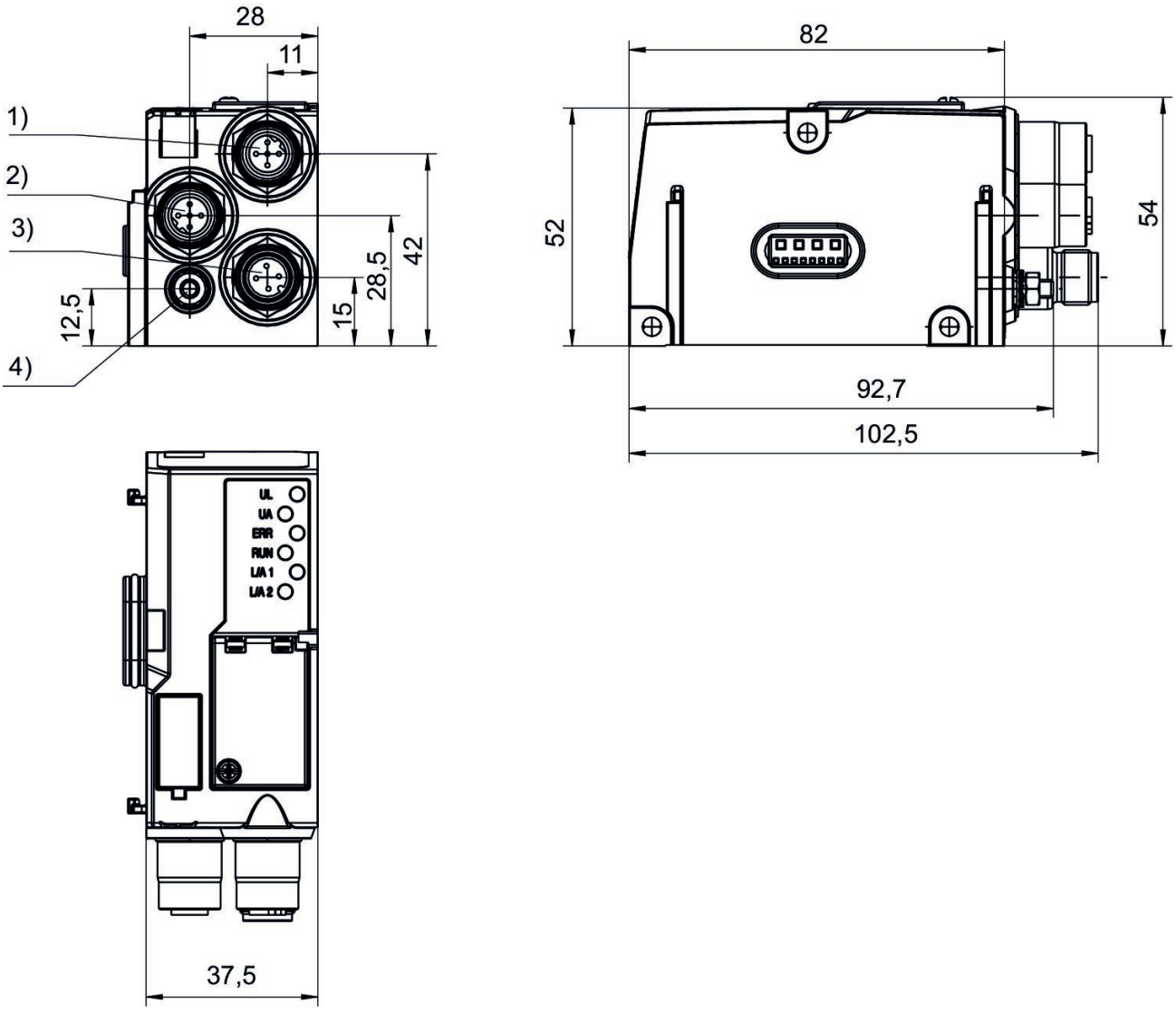
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412088225

General series information
Series AES

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

Technical data

Industry
Industrial

Version
Bus coupler

Type
Generation 2

Fieldbus protocol
EtherCAT

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412088225

Technical information

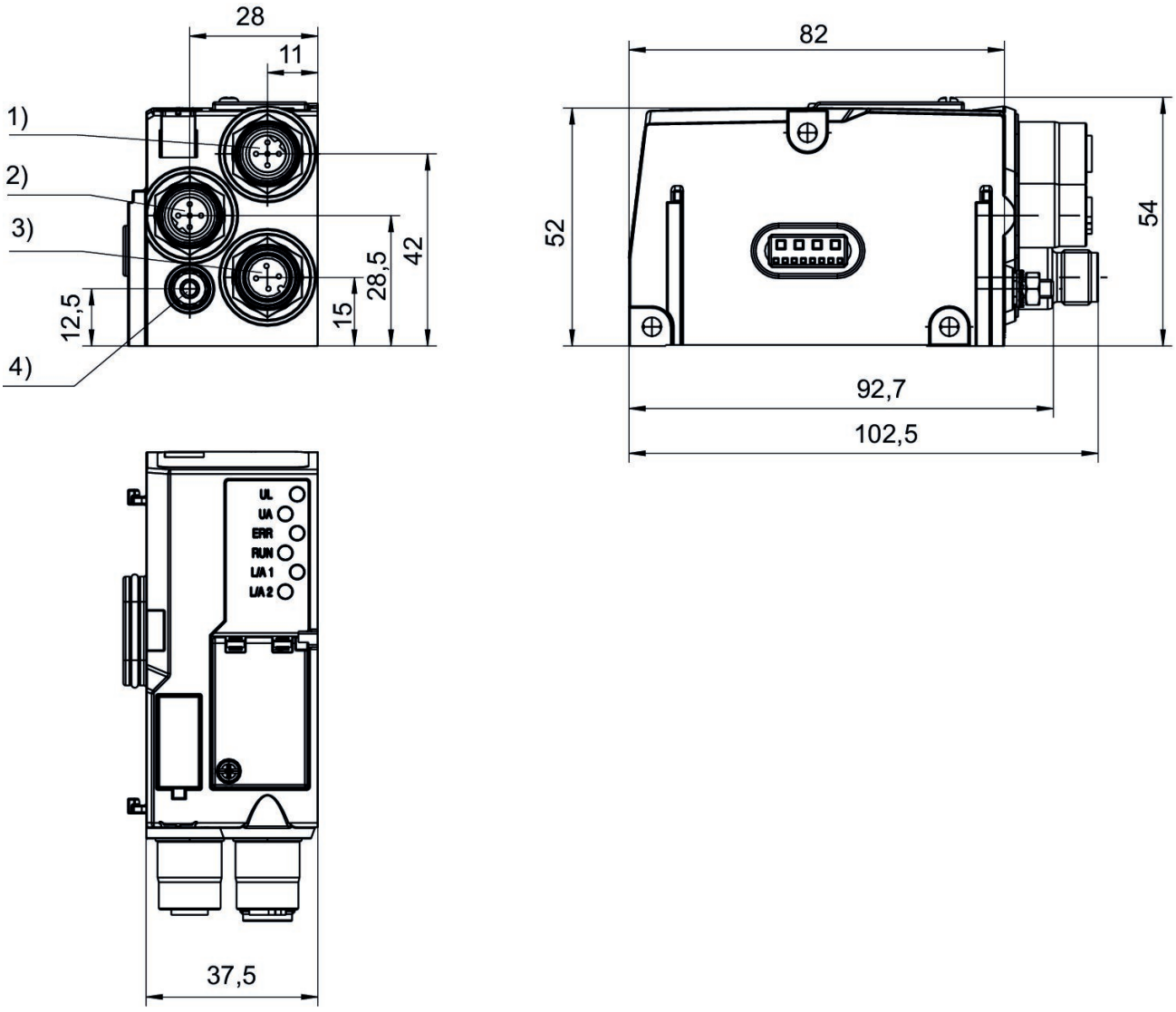
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412018225

General series information
Series AES

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Technical data

Industry
Industrial

Version
Bus coupler

Note
Do not use in new constructions!

Fieldbus protocol
EtherCAT

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018225

Technical information

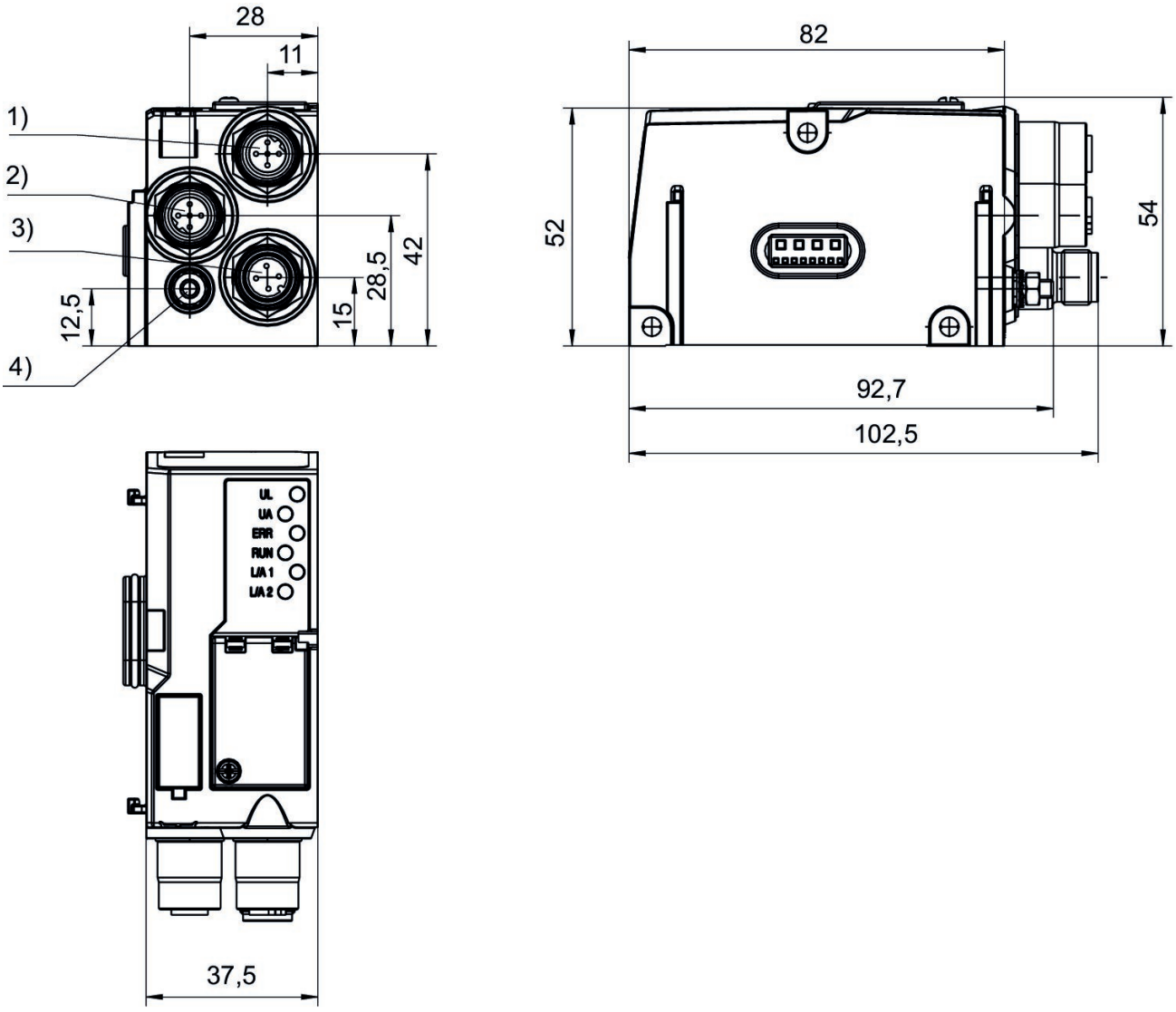
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412088226

General series information
Series AES

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Technical data

Industry
Industrial

Version
Bus coupler

Type
Generation 2

Fieldbus protocol
POWERLINK

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
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Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412088226

Technical information

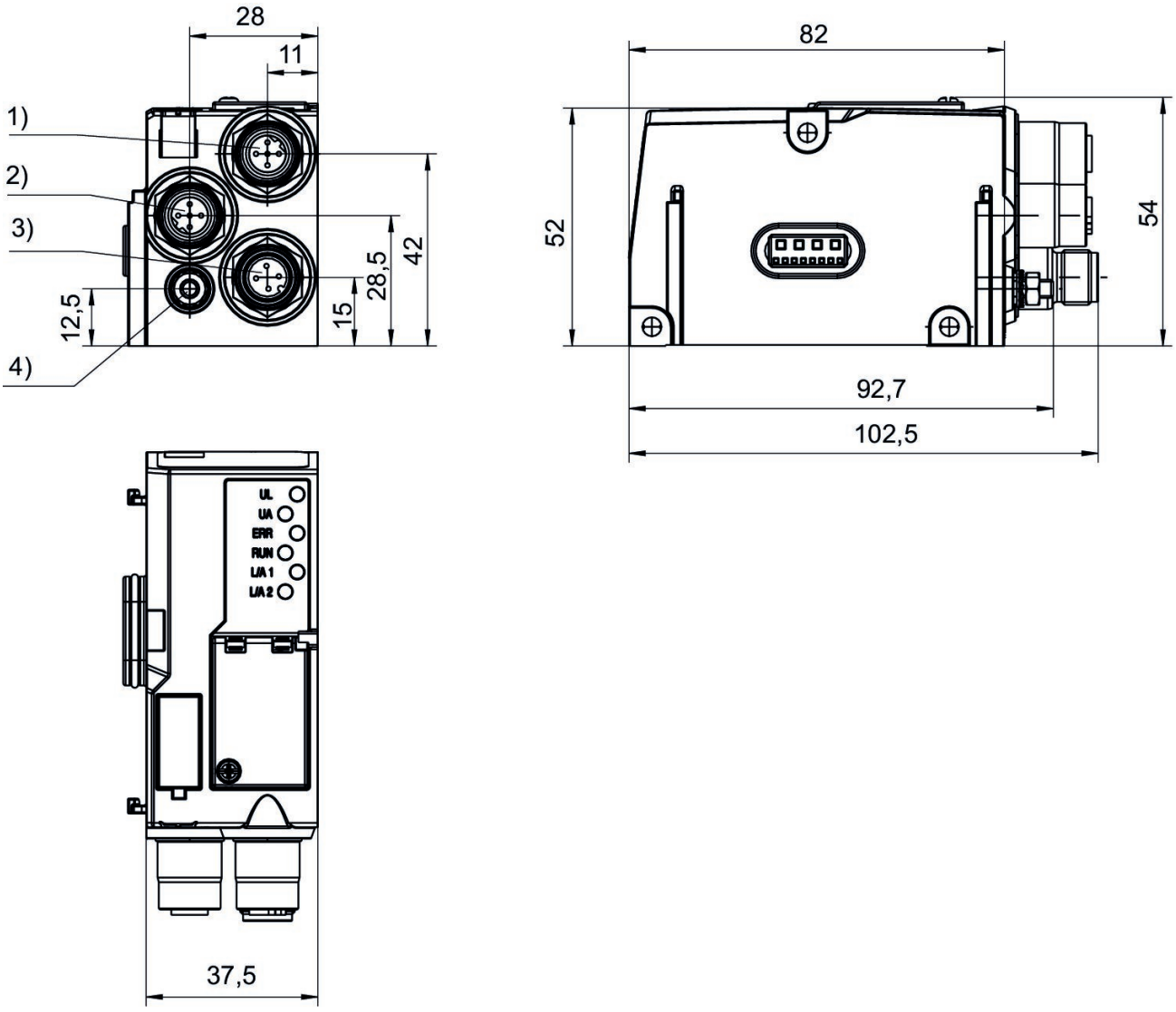
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412018226

General series information
Series AES

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

Technical data

Industry
Industrial

Version
Bus coupler

Note
Do not use in new constructions!

Fieldbus protocol
POWERLINK

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018226

Technical information

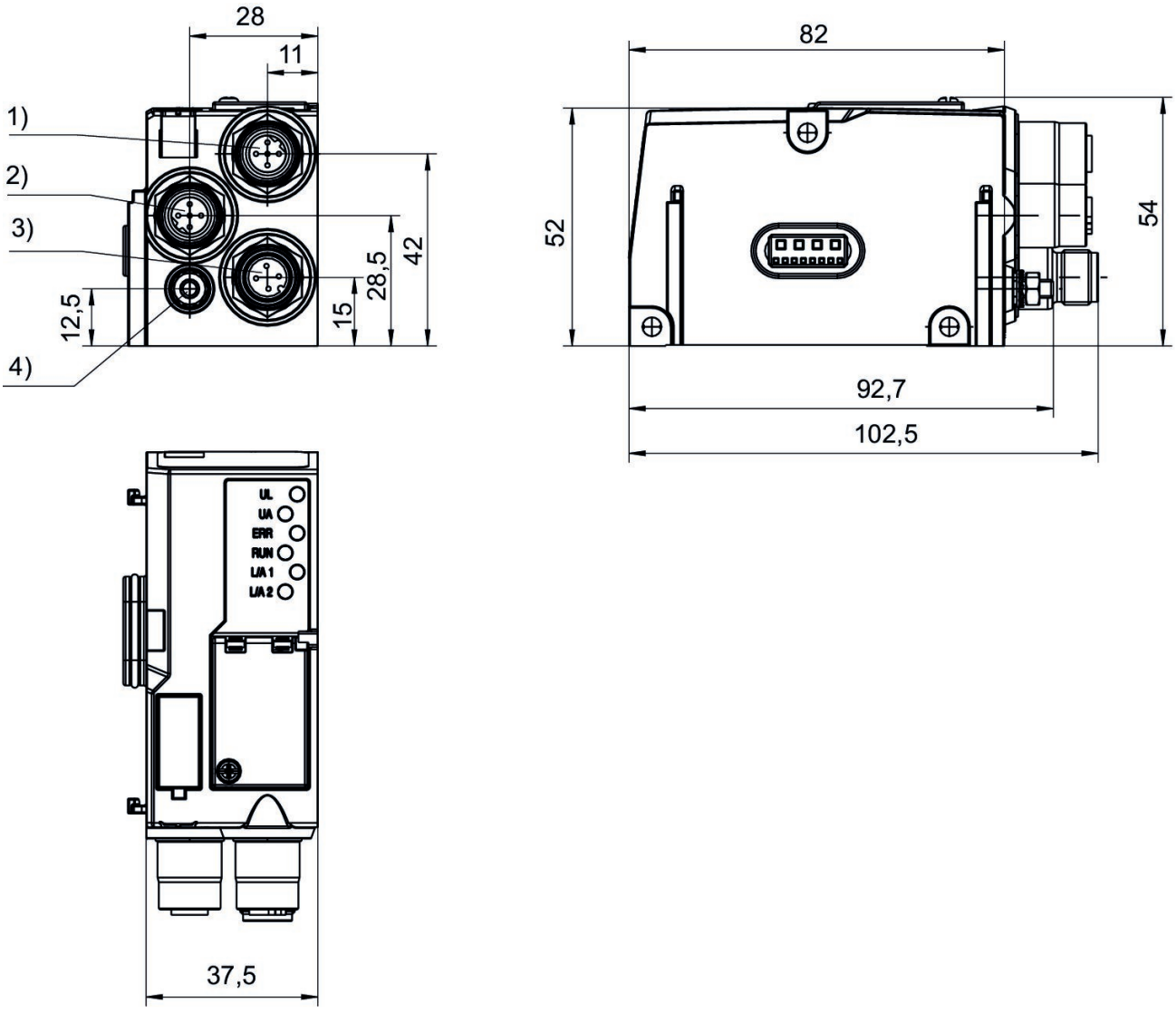
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Scope of delivery: Incl. mounting screws 3x

Dimensions



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

Bus coupler, series AES

R412088227

General series information
Series AES

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

Technical data

Industry
Industrial

Version
Bus coupler

Type
Generation 2

Fieldbus protocol
MODBUS TCP

E/A capable
connection with I/O

Number of I/O connections
512 inputs / 512 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug IN coding
A-coded

Fieldbus design
D-design

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Number of solenoid coils max.
128

Max. number of valve positions
64

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Power consumption electronics
0.1 A

Operating voltage, actuators
24 V DC

Total current for actuators
4 A

Protection class
IP65

Cycle time at 256 bits
< 1 ms

Logic/actuator voltage
Galvanically isolated

Diagnosis
System error
Undervoltage

I/O module extension max.
10

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

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

Communication port Type
Socket

Communication port, Thread size
M12x1

Communication port, Number of poles
4-pin

Communication port, Coding
D-coded

Communication port 2
Socket

Communication port 2
M12x1

Communication port 2
4-pin

Communication port 2
D-coded

Weight
0.175 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412088227

Technical information

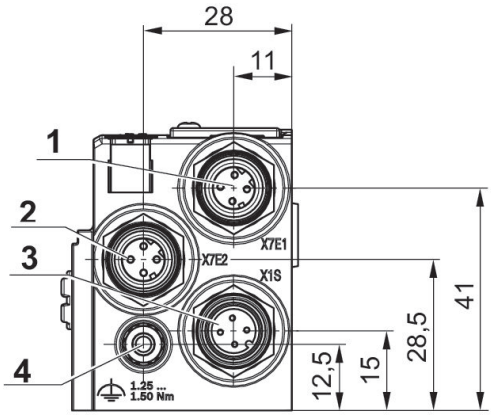
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

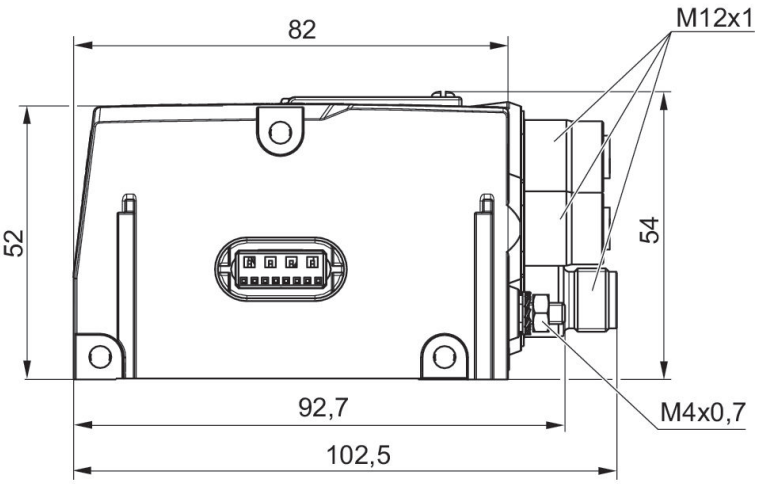
Voltage and short-circuit monitoring per LED.

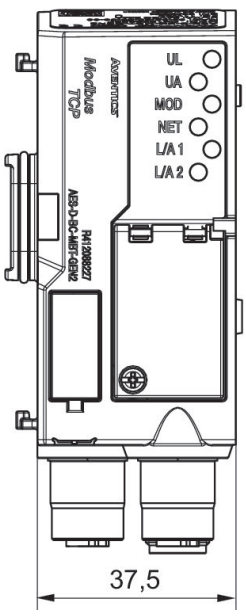
During cyclical data transfer, the bus coupler can send 512 bits of input data to the controller and receive 512 bits of output data from the controller.

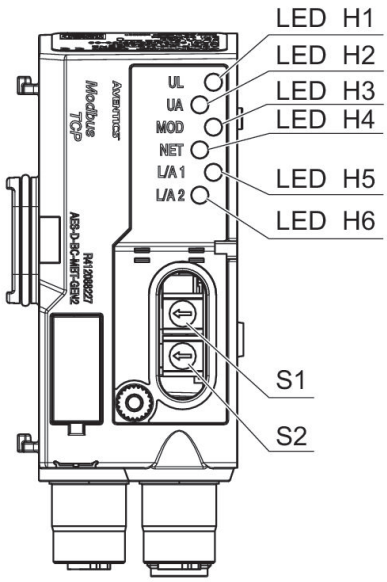
Scope of delivery: Incl. mounting screws 3x

Dimensions



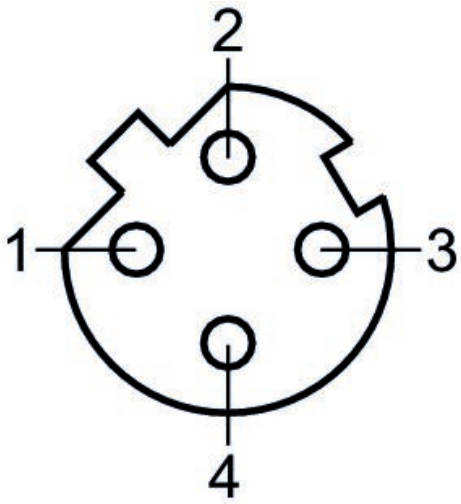




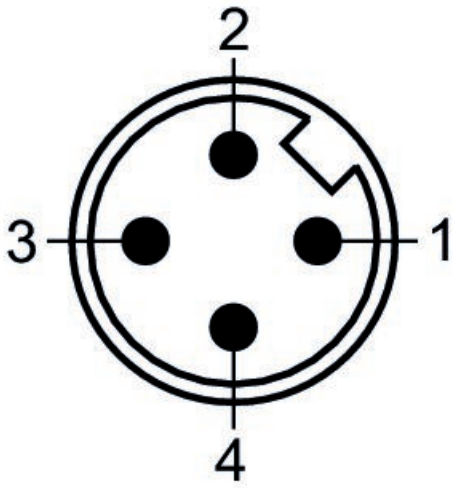


1) Fieldbus connection 2) Fieldbus connection 3) Power supply 4) Functional ground

Pin assignment, socket



Plug pin assignment



I/O modules, series AES

R412018269

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
8DIDO8M8

Note
Combination module

E/A capable
connection with I/O

I/O module version
digital inputs/outputs

Number of I/O connections
8 inputs / 8 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M8x1

Signal connection E/A number of poles
3-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
1 A

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

Number of inputs
8

Number of outputs
8

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018269

Technical information

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

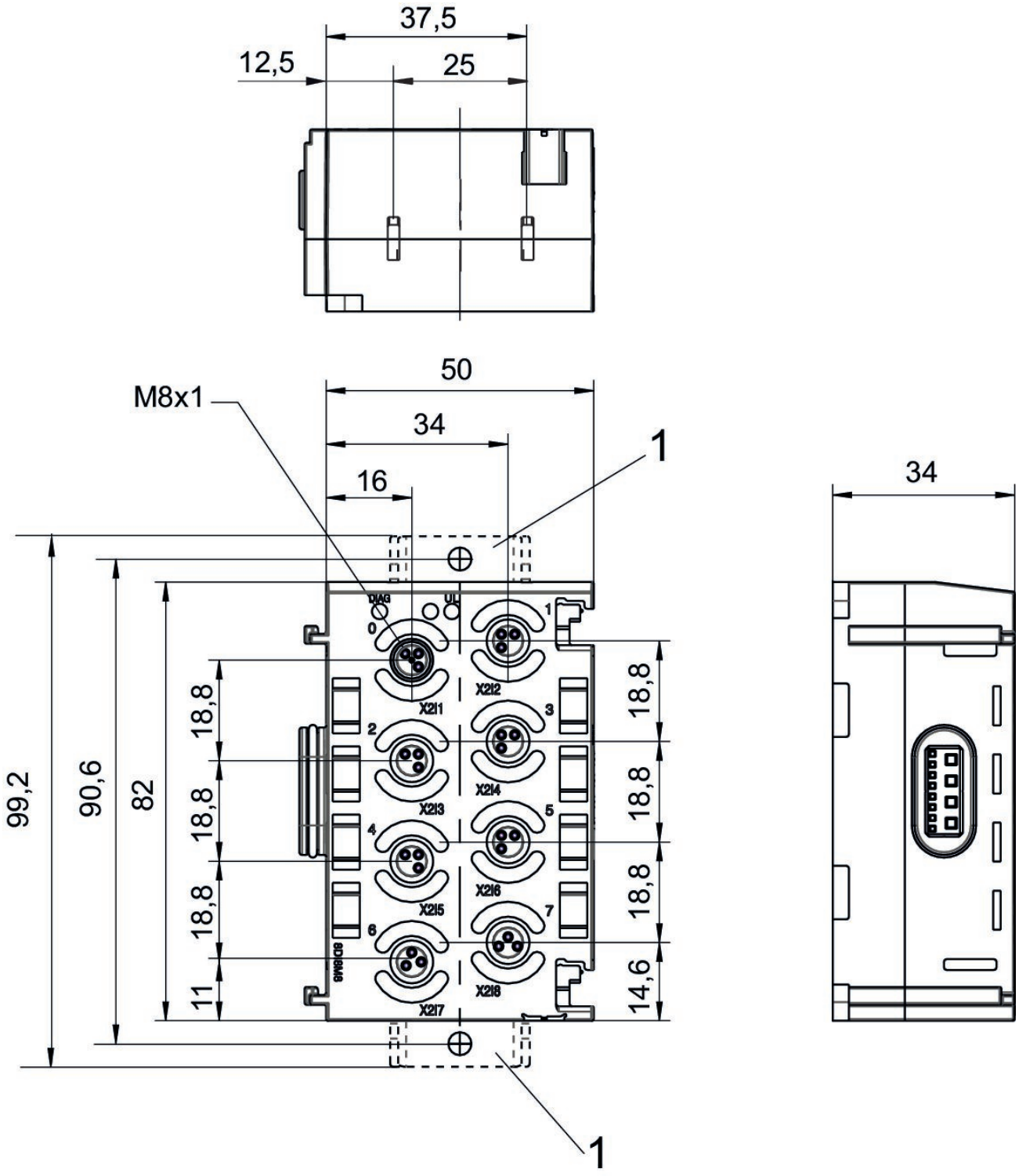
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Function specification for fieldbus configuration.

Dimensions

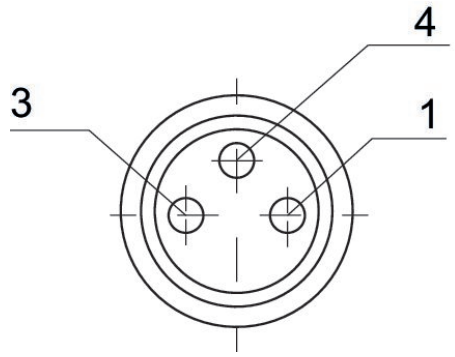


1) Retaining bracket (optional)
Pin assignment M8x1 (3-pin)

Pin assignments

PNP

3-pin



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

I/O modules, series AES

R412018233

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
8DI8M8

E/A capable
connection with I/O

I/O module version
digital inputs

Number of I/O connections
8 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M8x1

Signal connection E/A number of poles
3-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Protection class
IP65

Total current of sensors max.
1 A

Diagnosis
Short circuit
Undervoltage

Number of inputs
8

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018233

Technical information

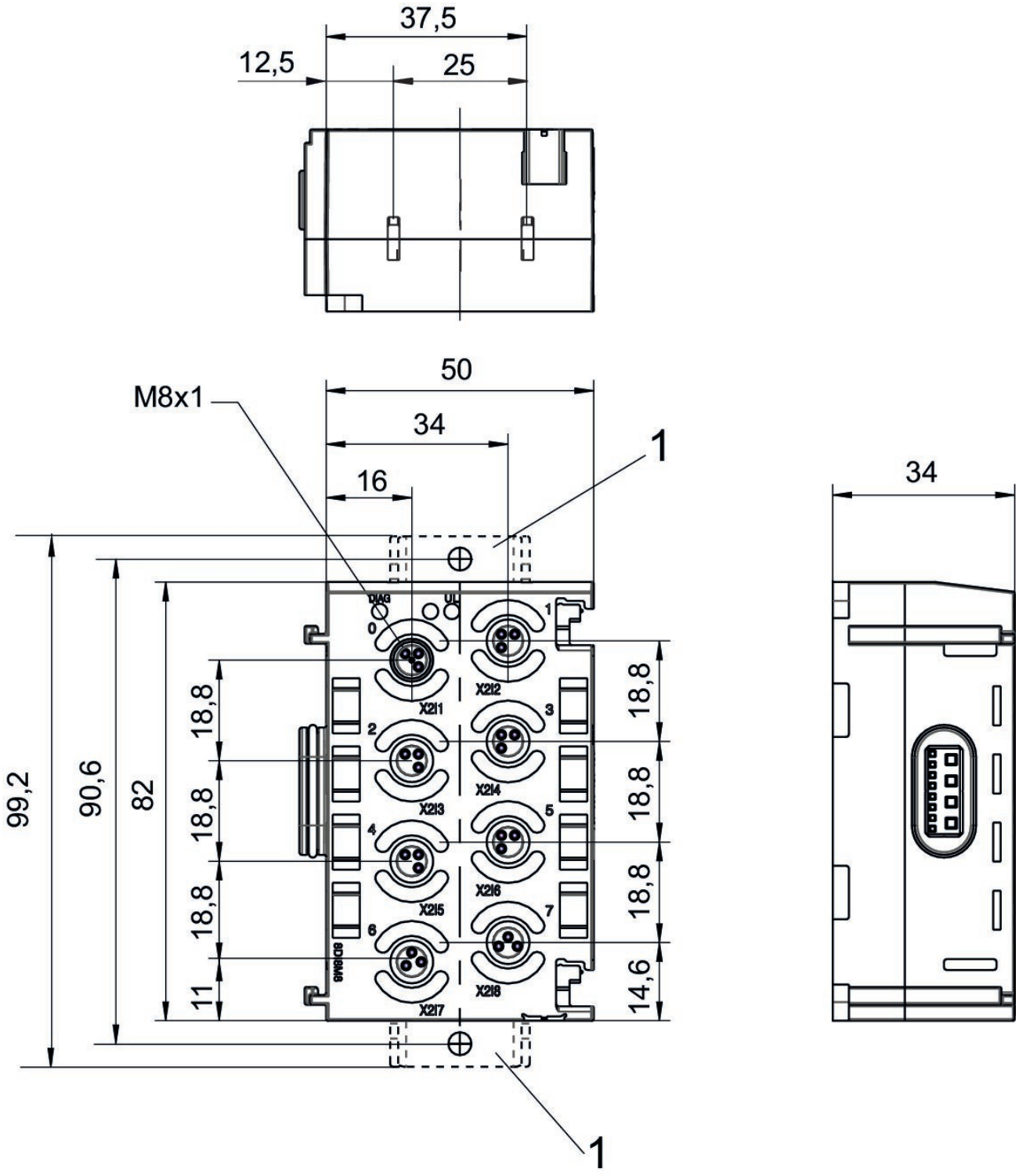
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Dimensions

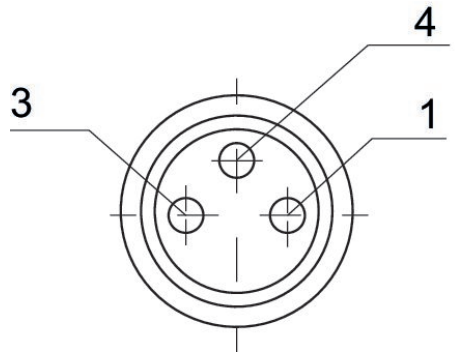


1) Retaining bracket (optional)
Pin assignment M8x1 (3-pin)

Pin assignments

PNP

3-pin



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

I/O modules, series AES

R412018248

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
8DO8M8

E/A capable
connection with I/O

I/O module version
digital outputs

Number of I/O connections
8 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M8x1

Signal connection E/A number of poles
3-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
1 A

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

Number of outputs
8

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018248

Technical information

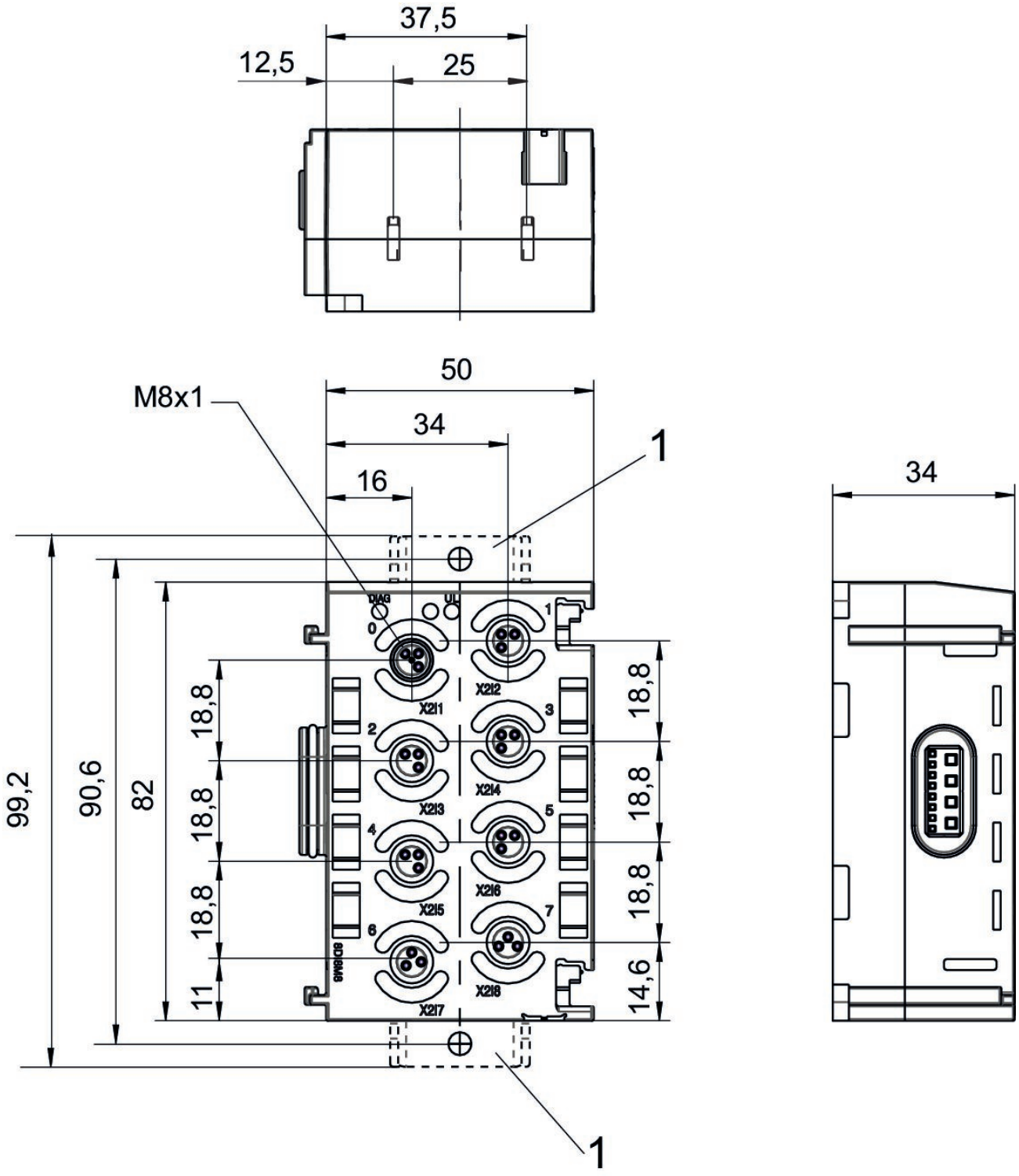
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Dimensions

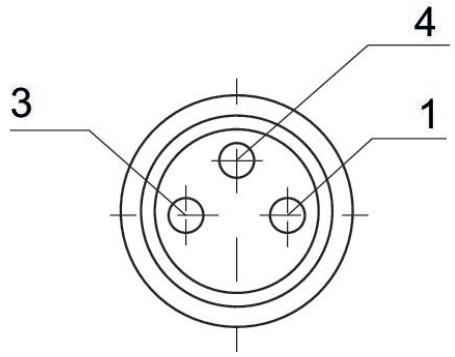


1) Retaining bracket (optional)
Pin assignment M8x1 (3-pin)

Pin assignments

PNP

3-pin



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

I/O modules, Series AES

R412018234

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
16DI8M8

E/A capable
connection with I/O

I/O module version
digital inputs

Number of I/O connections
16 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M8x1

Signal connection E/A number of poles
4-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Protection class
IP65

Total current of sensors max.
1 A

Diagnosis
Short circuit
Undervoltage

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018234

Technical information

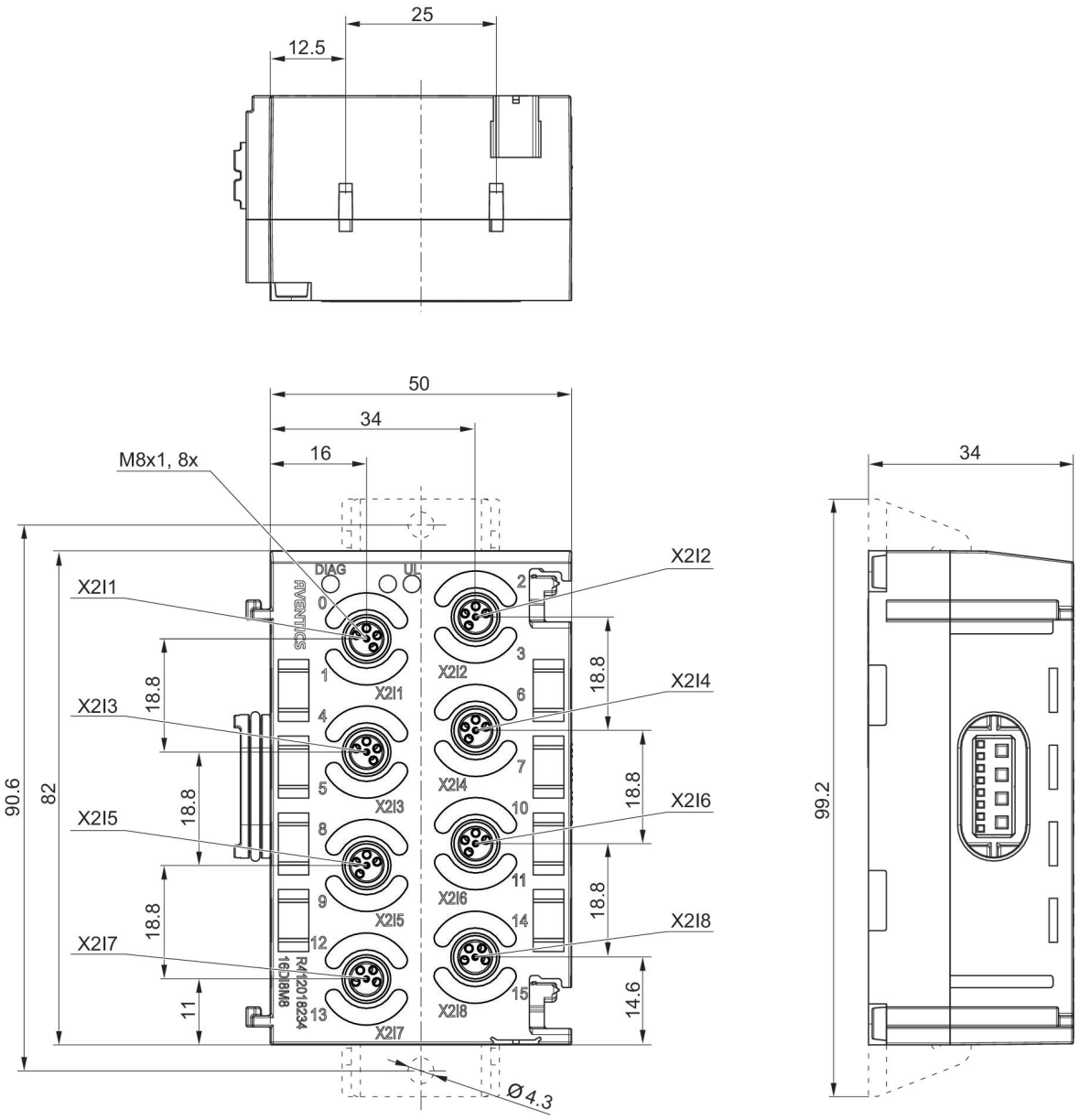
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Dimensions

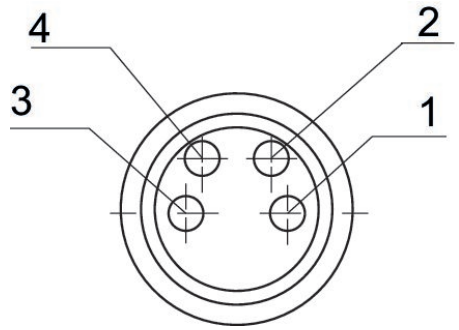


1) Retaining bracket (optional)
Pin assignment M8x1 (4-pin)

Pin assignments

X2I1-X2I8

4-pin



PNP

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

I/O modules, series AES

R412018235

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
8DI4M12

E/A capable
connection with I/O

I/O module version
digital inputs

Number of I/O connections
8 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Power supply for actuators
8x0,5 A

Protection class
IP65

Total current of sensors max.
1 A

Diagnosis
Short circuit

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018235

Technical information

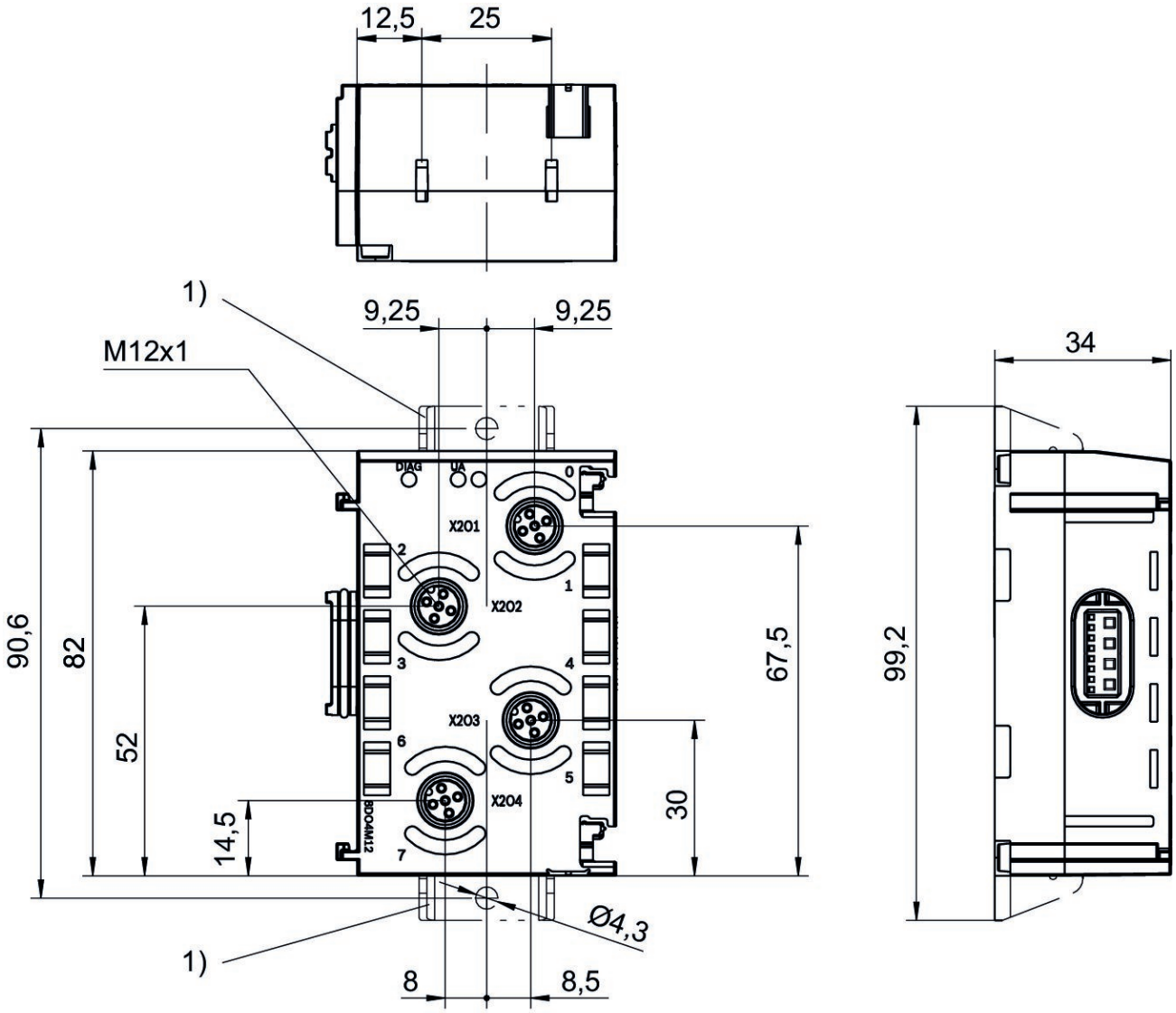
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

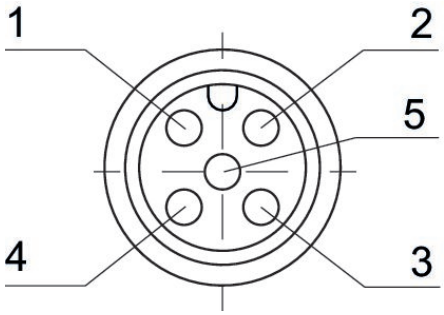
Dimensions



1) Retaining bracket (optional)

Pin assignments

PNP



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

X = bit value

I/O modules, series AES

R412018250

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
8DO4M12

E/A capable
connection with I/O

I/O module version
digital outputs

Number of I/O connections
8 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Power supply for actuators
8x0,5 A

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
1 A

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018250

Technical information

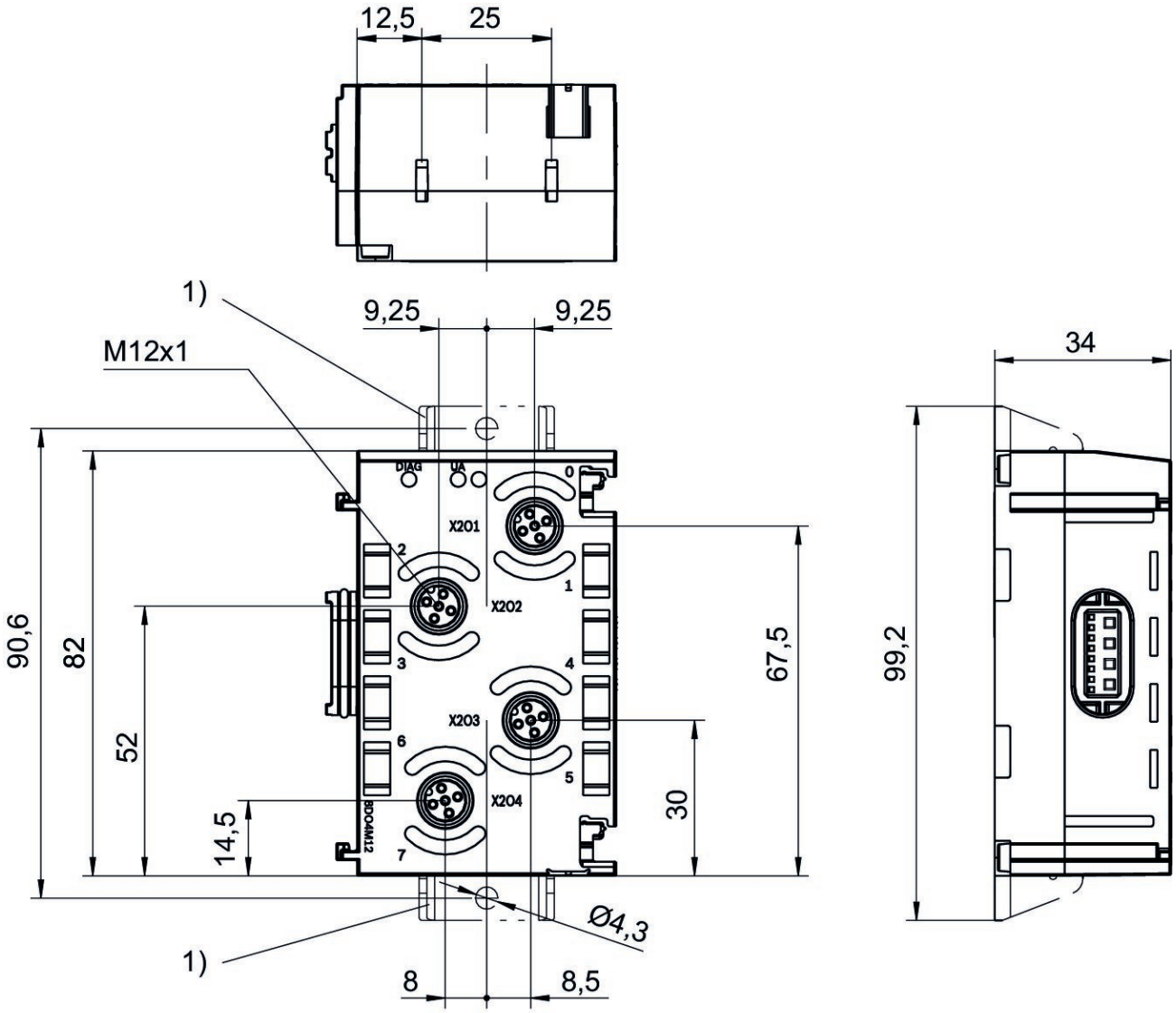
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

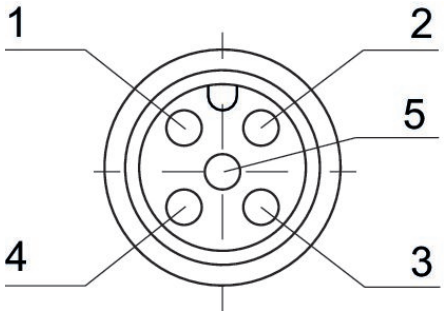
Dimensions



1) Retaining bracket (optional)

Pin assignments

PNP



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

X = bit value

I/O modules, series AES

R412018270

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
8DIDO4M12

Note
Combination module

E/A capable
connection with I/O

I/O module version
digital inputs/outputs

Number of I/O connections
8 inputs / 8 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Power supply for actuators
8x0,5 A

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
1 A

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018270

Technical information

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

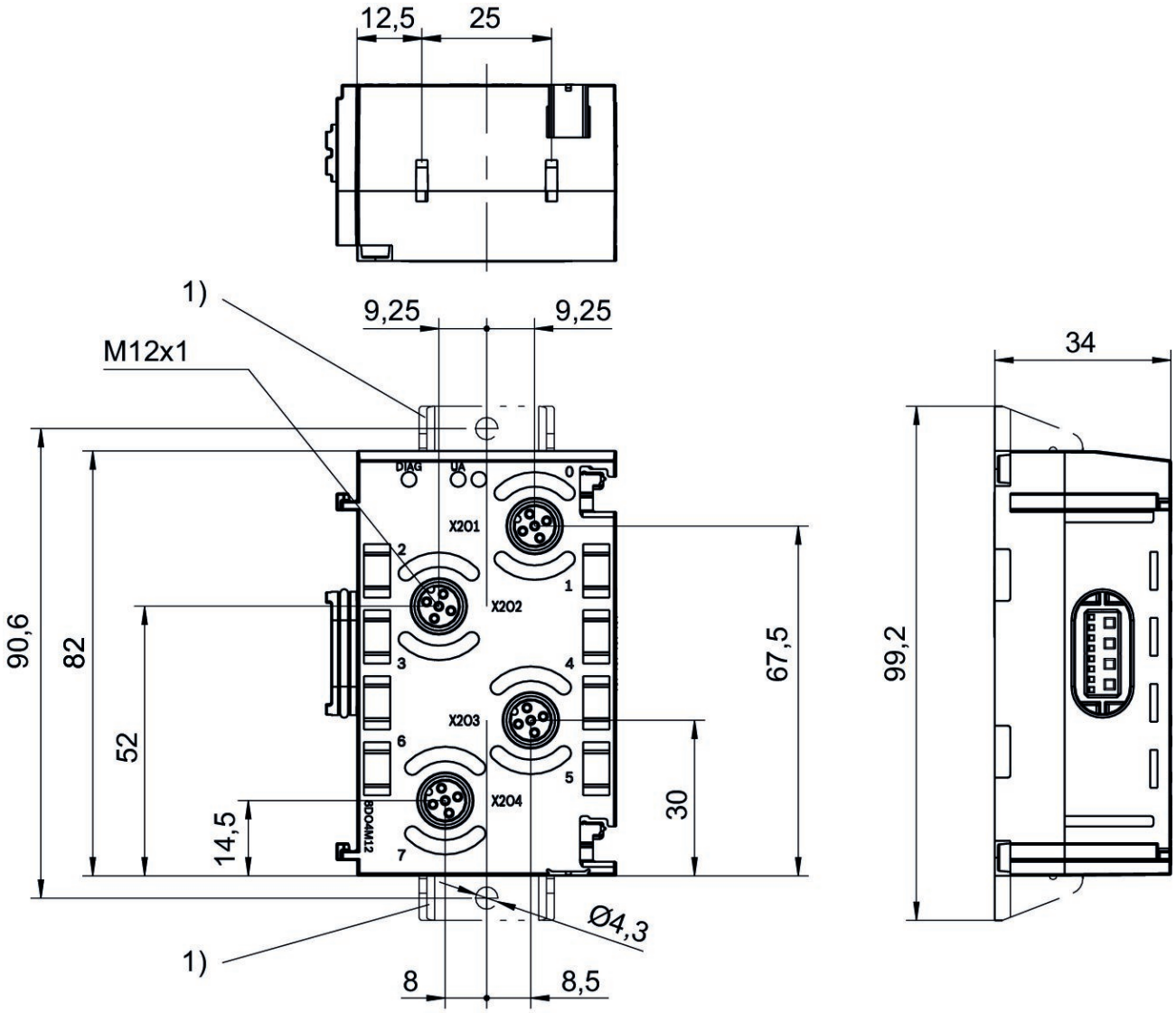
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

Function specification for fieldbus configuration.

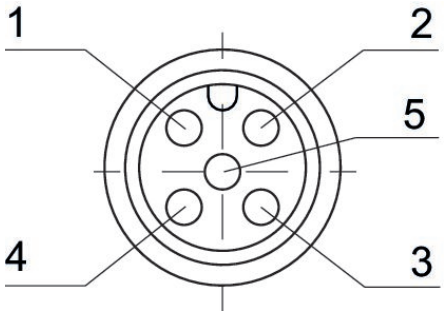
Dimensions



1) Retaining bracket (optional)

Pin assignments

PNP



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

X = bit value

I/O modules, series AES

R412018243

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
16DI4M12

E/A capable
connection with I/O

I/O module version
digital inputs

Number of I/O connections
16 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
8-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-10% / +10%

Max. current per channel
0.5 A

Protection class
IP65

Total current of sensors max.
1 A

Diagnosis
Short circuit

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018243

Technical information

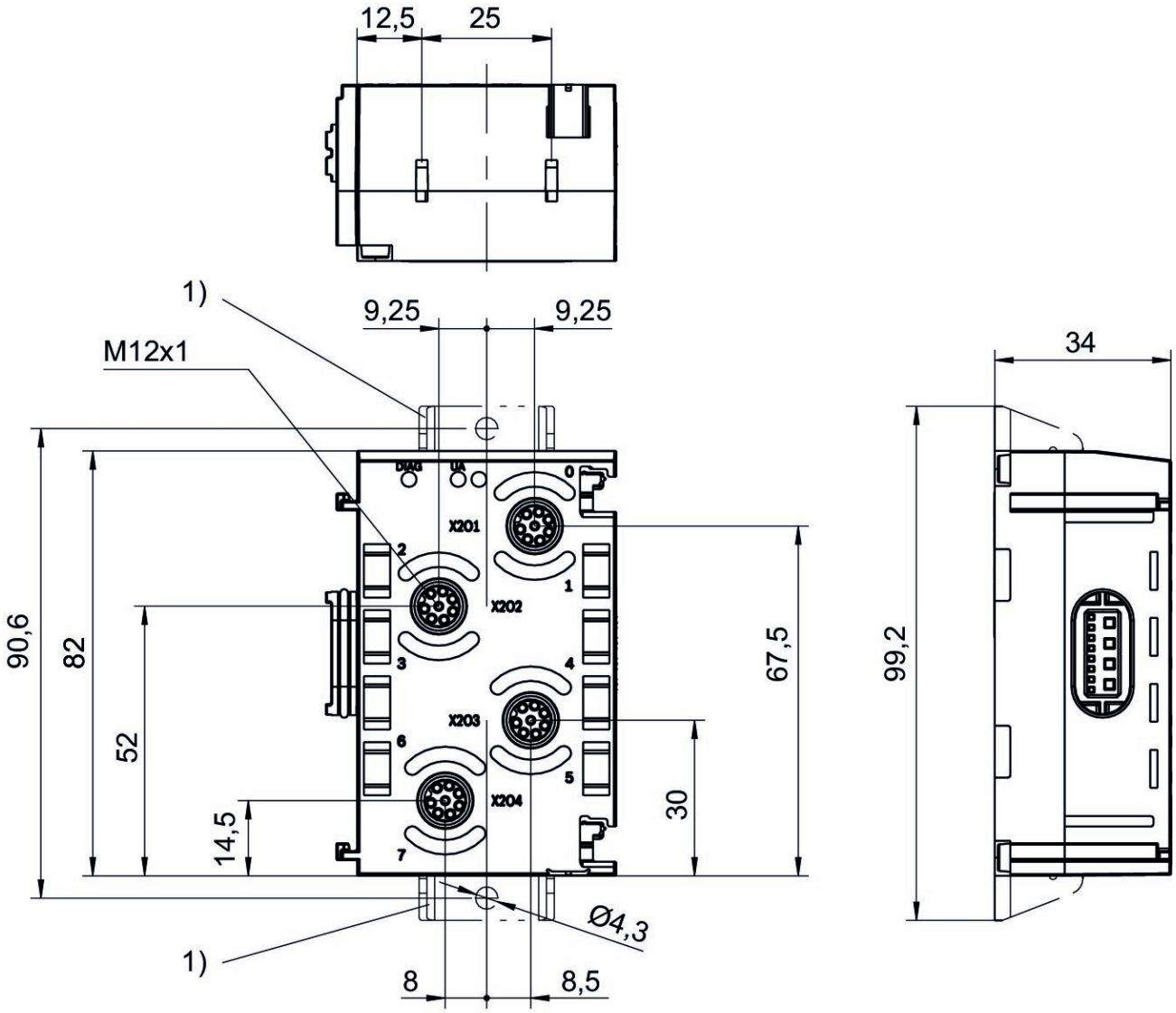
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

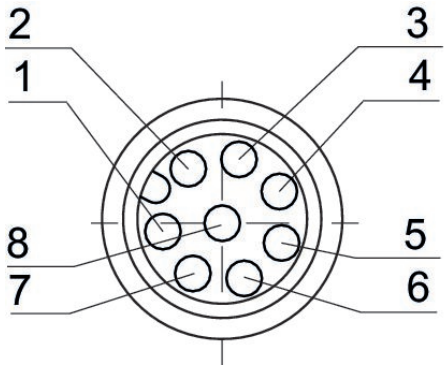
Dimensions



1) Retaining bracket (optional)

Pin assignments

PNP



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

X = bit value

I/O modules, series AES

R412018263

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
16DO4M12

E/A capable
connection with I/O

I/O module version
digital outputs

Number of I/O connections
16 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
8-pin

Filter time
3 ms

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-10% / +10%

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
1 A

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018263

Technical information

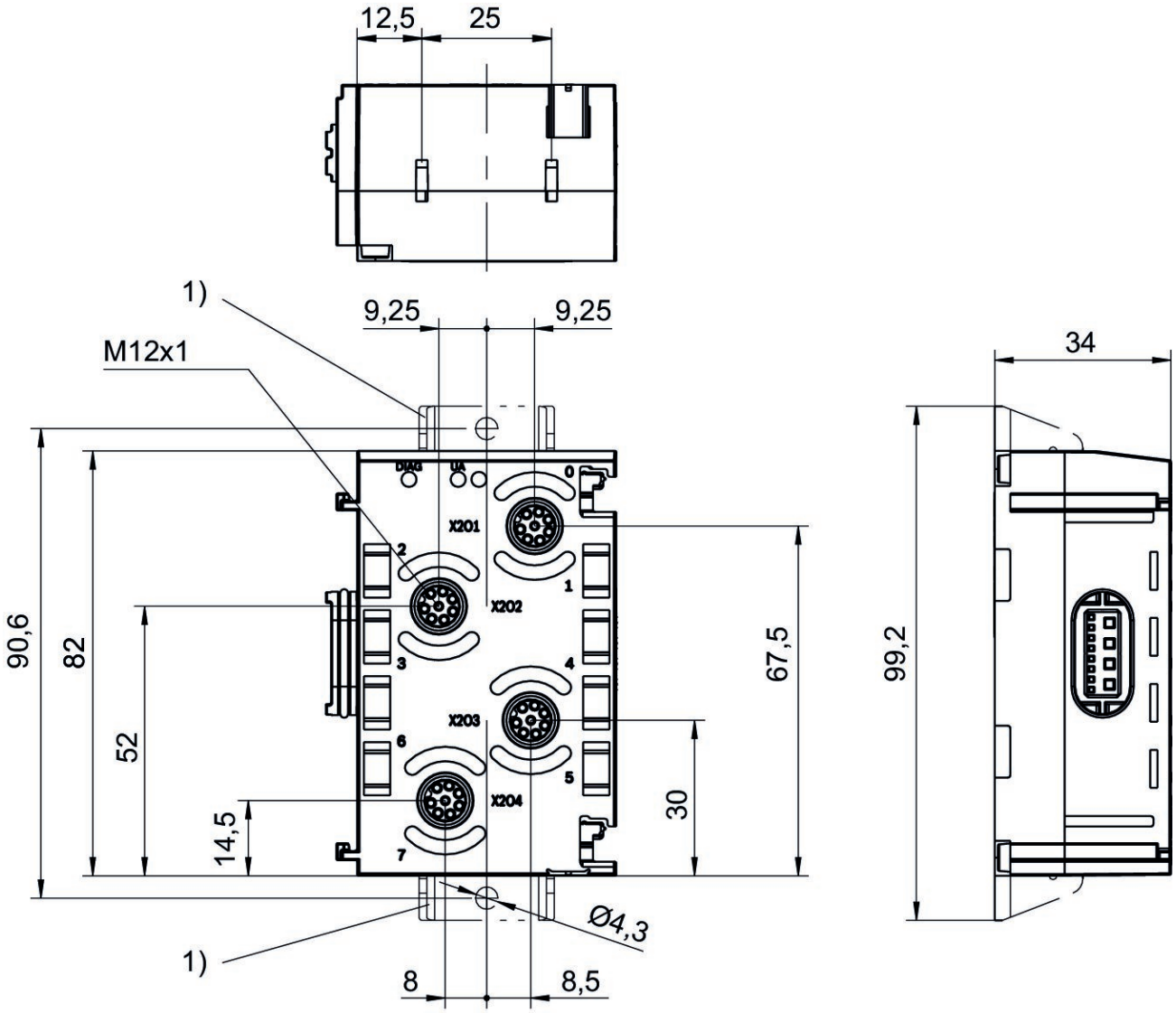
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

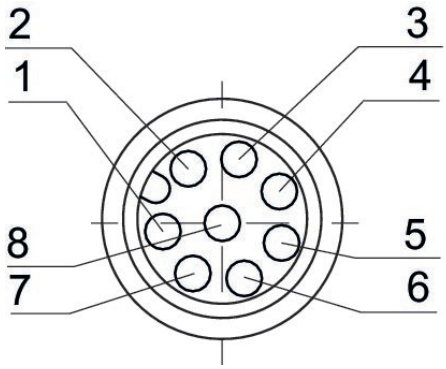
Dimensions



1) Retaining bracket (optional)

Pin assignments

PNP



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

X = bit value

I/O modules, series AES

R412018254

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
24DO1DSUB25

E/A capable
connection with I/O

I/O module version
digital outputs

Number of I/O connections
24 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
D-Sub

Signal connection E/A number of poles
25-pin

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP65

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

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

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

Weight
0.115 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018254

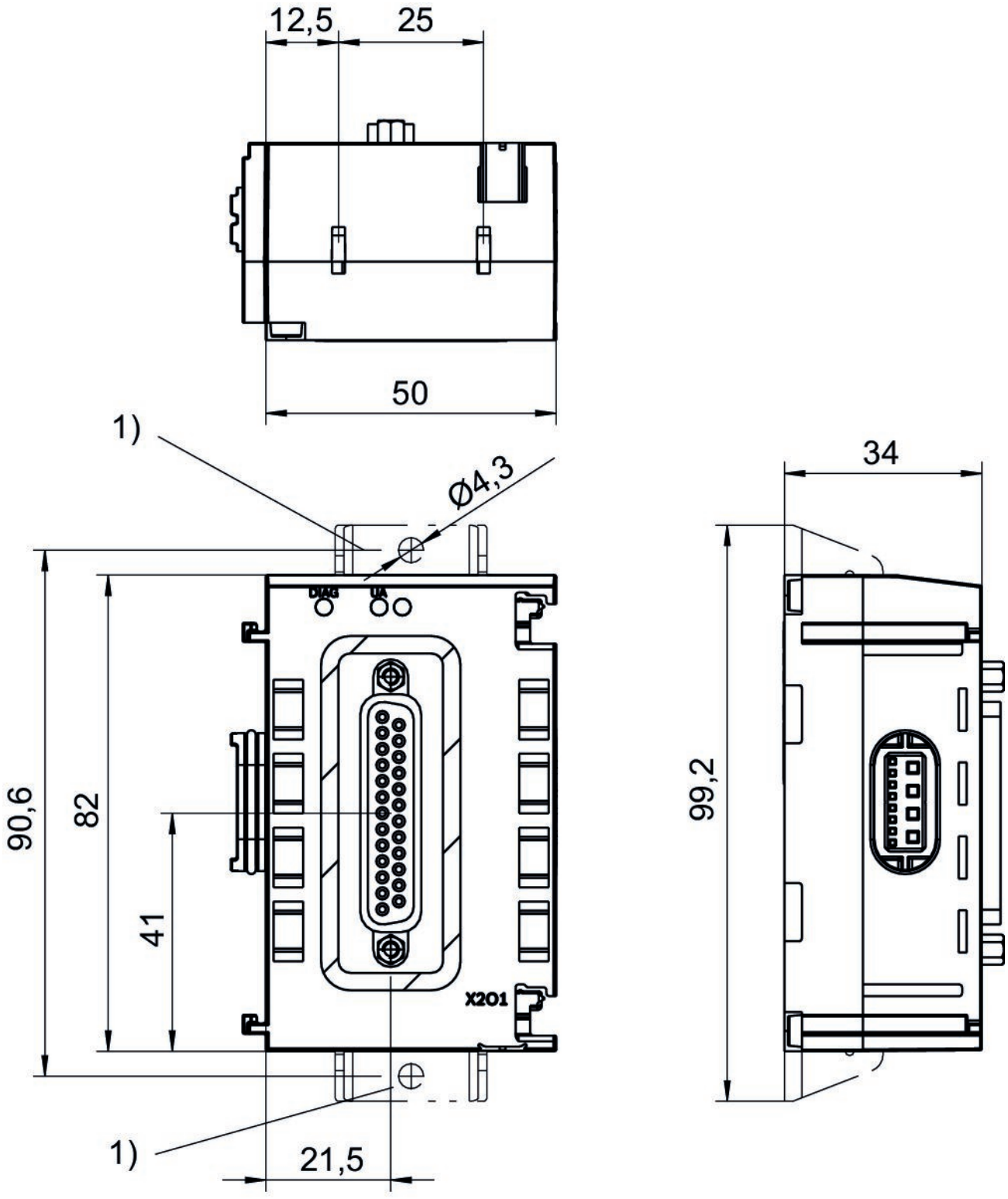
Technical information

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

Voltage and short-circuit monitoring per LED.

Delivery contents: incl. 2 spring clamp elements and seal

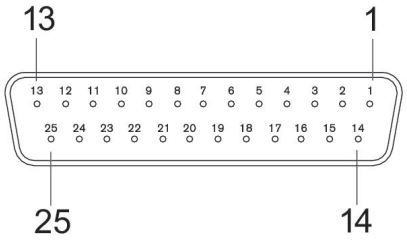
Dimensions



1) Retaining bracket (optional)

PIN assignment and cable colors

cable identification as per DIN 47100



Socket

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

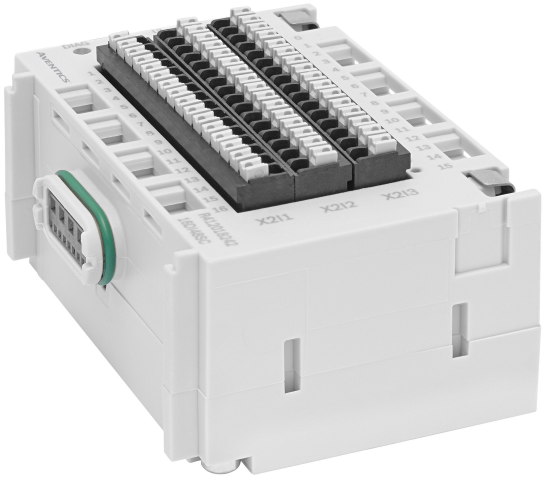
X = bit value

I/O modules, series AES

R412018242

General series information
Series AES

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



Technical data

Industry
Industrial

Version
I/O modules

Type
16DI48SC

E/A capable
connection with I/O

I/O module version
digital inputs

Number of I/O connections
16 inputs

Power plug IN type
Internal

Signal connection E/A type
Spring clamp connections

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Protection class
IP20

Total current of sensors max.
1 A

Diagnosis
Short circuit

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

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

Weight
0.115 kg

Material

Housing material	Part No.
Polyamide fiber-glass reinforced	R412018242

Technical information

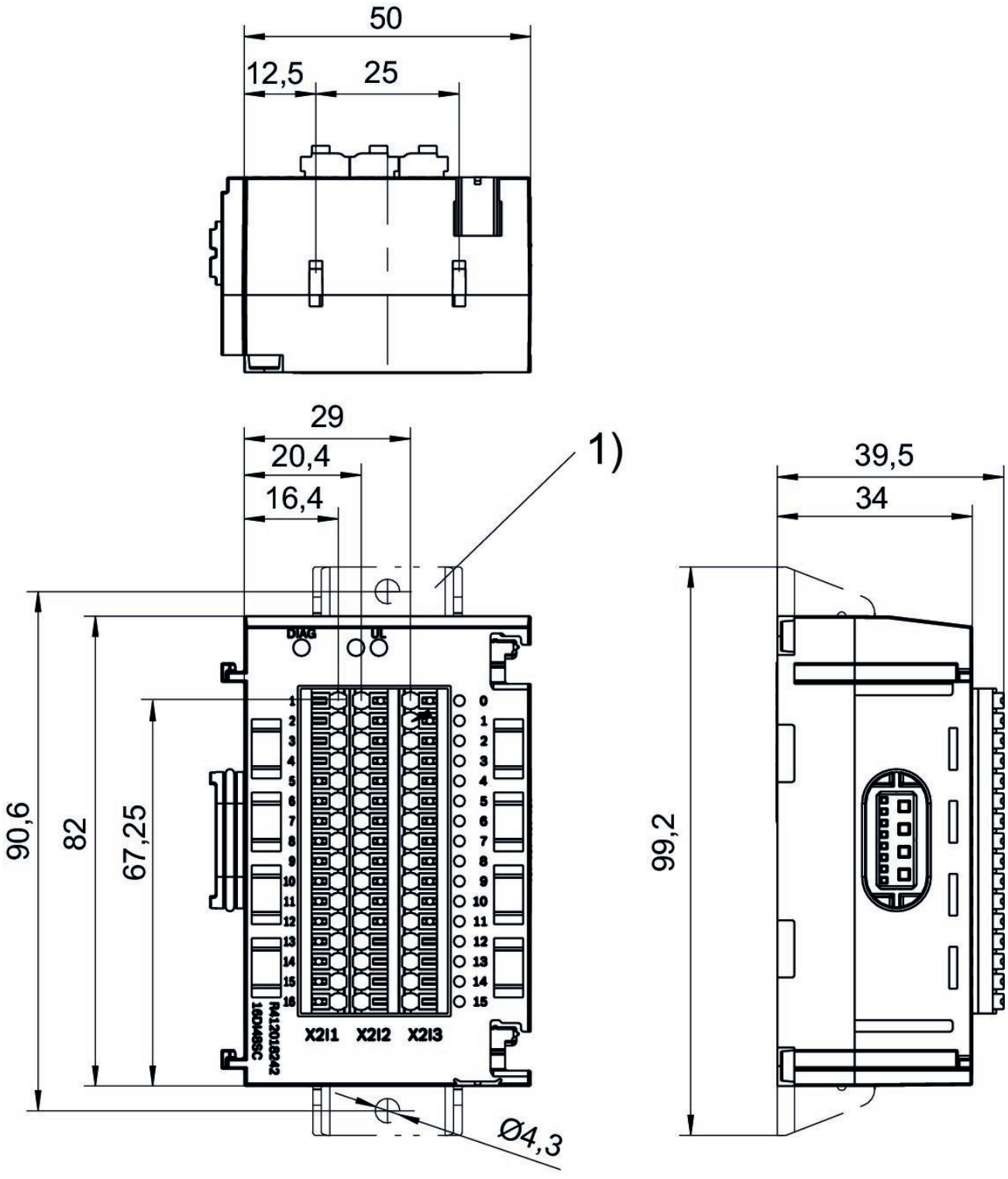
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

Voltage and short-circuit monitoring per LED.

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

Delivery contents: incl. 2 spring clamp elements and seal

Dimensions



1) Retaining bracket (optional)

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

Power module Series AES

R412018267

General series information
Series AES

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

Technical data

Industry
Industrial

Version
Power module

E/A capable
connection with I/O

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug OUT type
Socket

Power plug OUT size
M12x1

Power plug OUT number of pole
4-pin

Power supply direction UA
left

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-20% / +20%

Operating voltage, actuators
24 V DC

Actuator voltage tolerance
-10% / +10%

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
4 A

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

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

Weight
0.15 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018267

Technical information

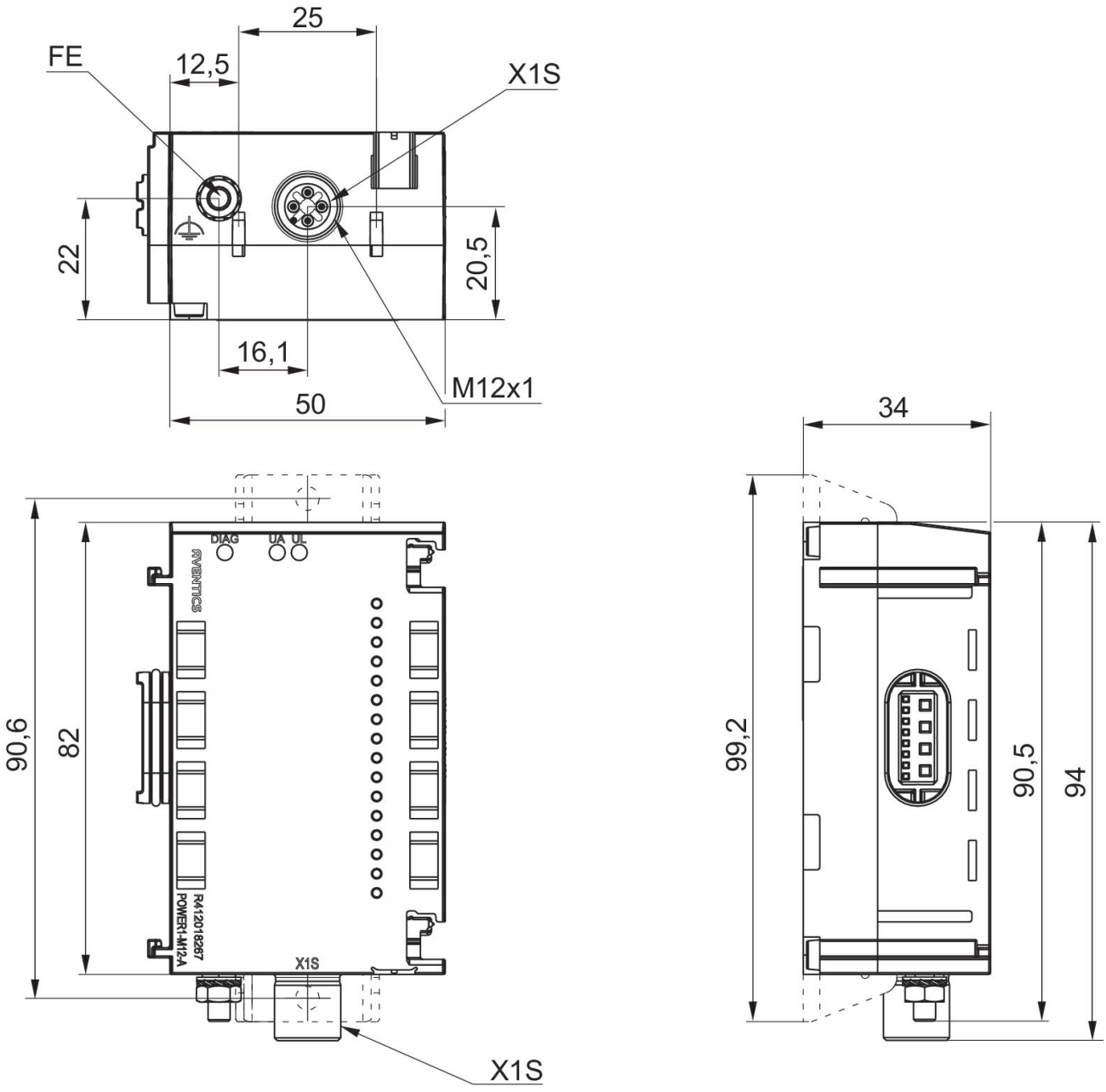
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

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

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

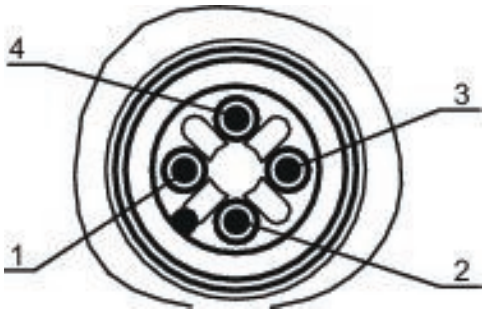
Dimensions



Port 1, X1S

Pin assignments

PNP



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

Power module Series AES

R412018268

General series information
Series AES

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

Technical data

Industry
Industrial

Version
Power module

E/A capable
connection with I/O

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Power plug OUT type
Socket

Power plug OUT size
M12x1

Power plug OUT number of pole
4-pin

Power supply direction UL
left

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-20% / +20%

Operating voltage, actuators
24 V DC

Actuator voltage tolerance
-10% / +10%

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
4 A

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

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

Weight
0.15 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018268

Technical information

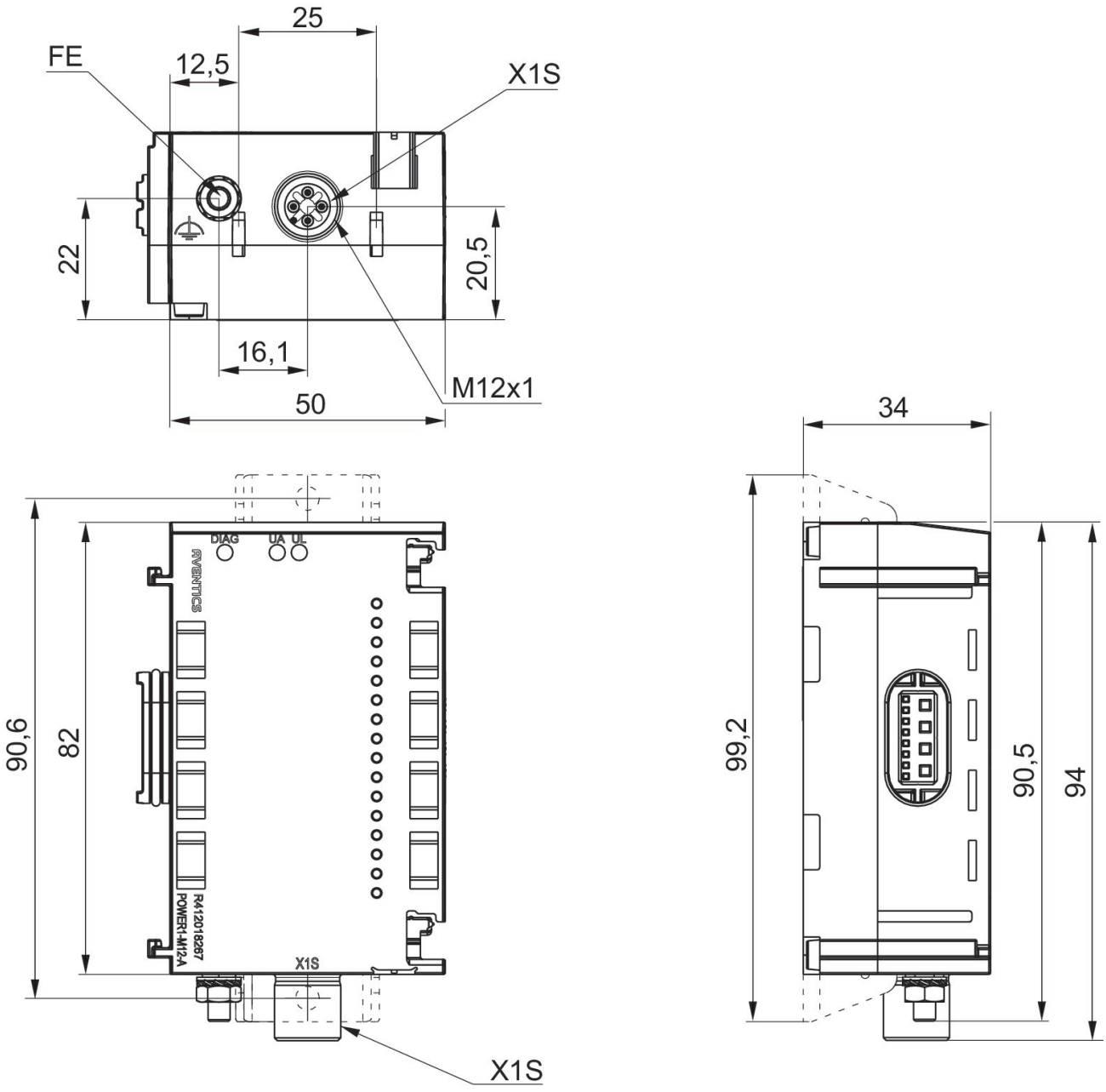
You will find assignment schemes for the product in the operating instructions, or contact the nearest AVENTICS sales office.

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

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

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

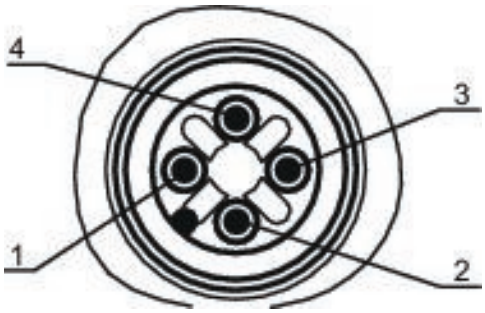
Dimensions



Port 1, X1S

Pin assignments

PNP



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

I/O modules, series AES

R412018277

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
2AI2M12-E

E/A capable
connection with I/O

I/O module version
analog inputs/outputs

Number of I/O connections
2 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Signal connection E/A coding
A-coded

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

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Max. current per channel
0.5 A

Protection class
IP65

Diagnosis
Short circuit
Undervoltage

Number of inputs
2

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018277

Technical information

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

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

Voltage and short-circuit monitoring per LED.

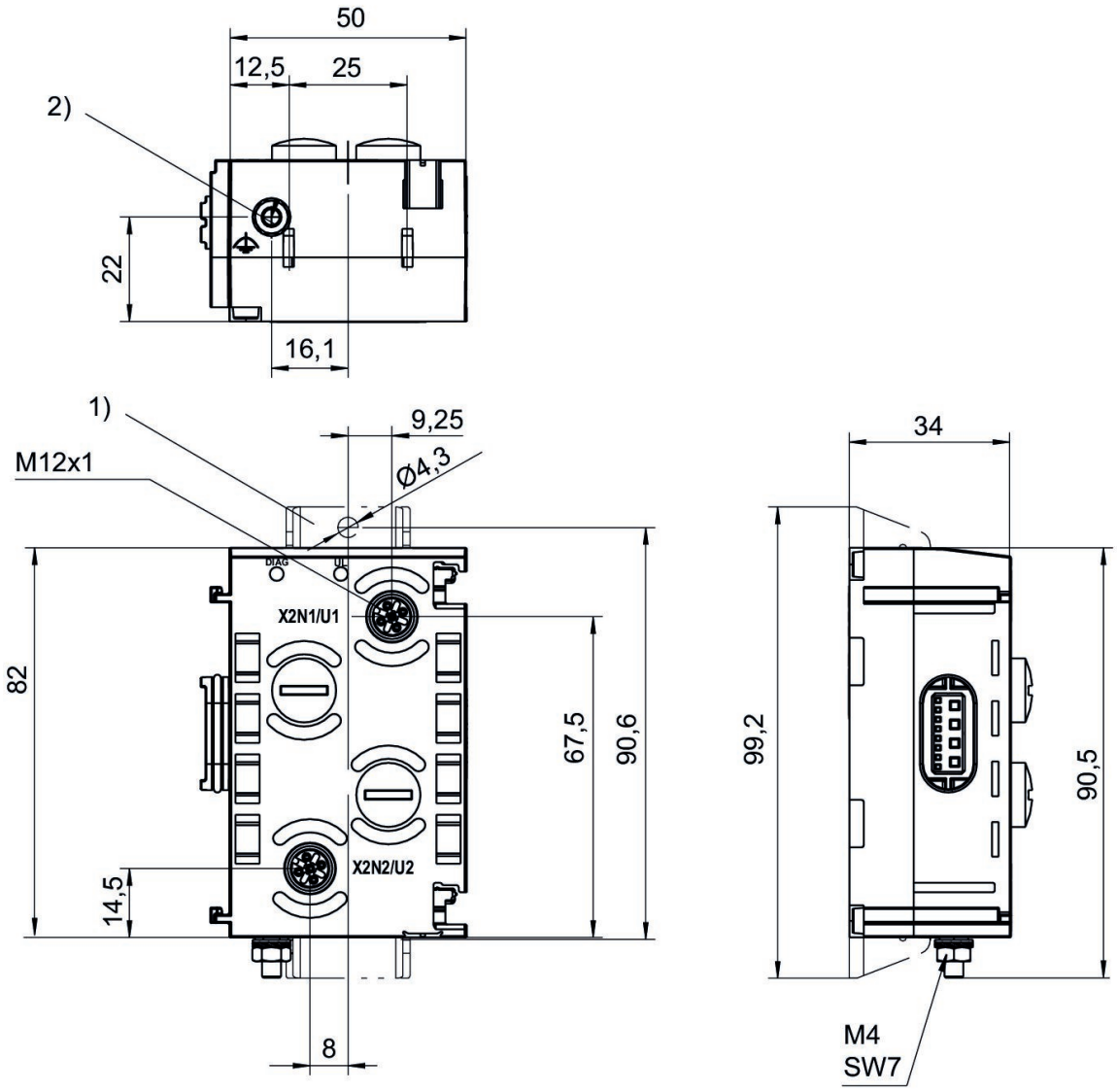
The input channels have an input resistance of 120 ohms in the current range and 100 kiloohms in the voltage range.

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 kiloohm.

Delivery contents: incl. 2 spring clamp elements and seal

freely selectable signals, configurable

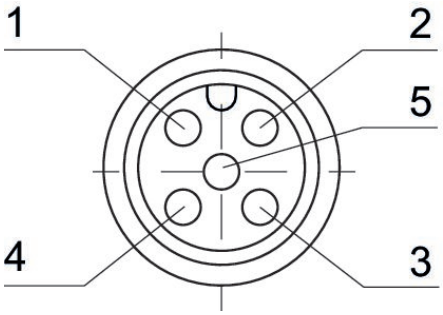
Dimensions



1) Retaining bracket (optional)
2) Ground

Pin assignments

Socket (female)



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

I/O modules, series AES

R412018278

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
4AI4M12-E

E/A capable
connection with I/O

I/O module version
analog inputs/outputs

Number of I/O connections
4 inputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Signal connection E/A coding
A-coded

Analog inputs
0 ... 10 V
2 - 10 V
0 ... 20 mA
4 ... 20 mA

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Max. current per channel
0.5 A

Protection class
IP65

Diagnosis
Short circuit
Undervoltage

Number of inputs
4

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018278

Technical information

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

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

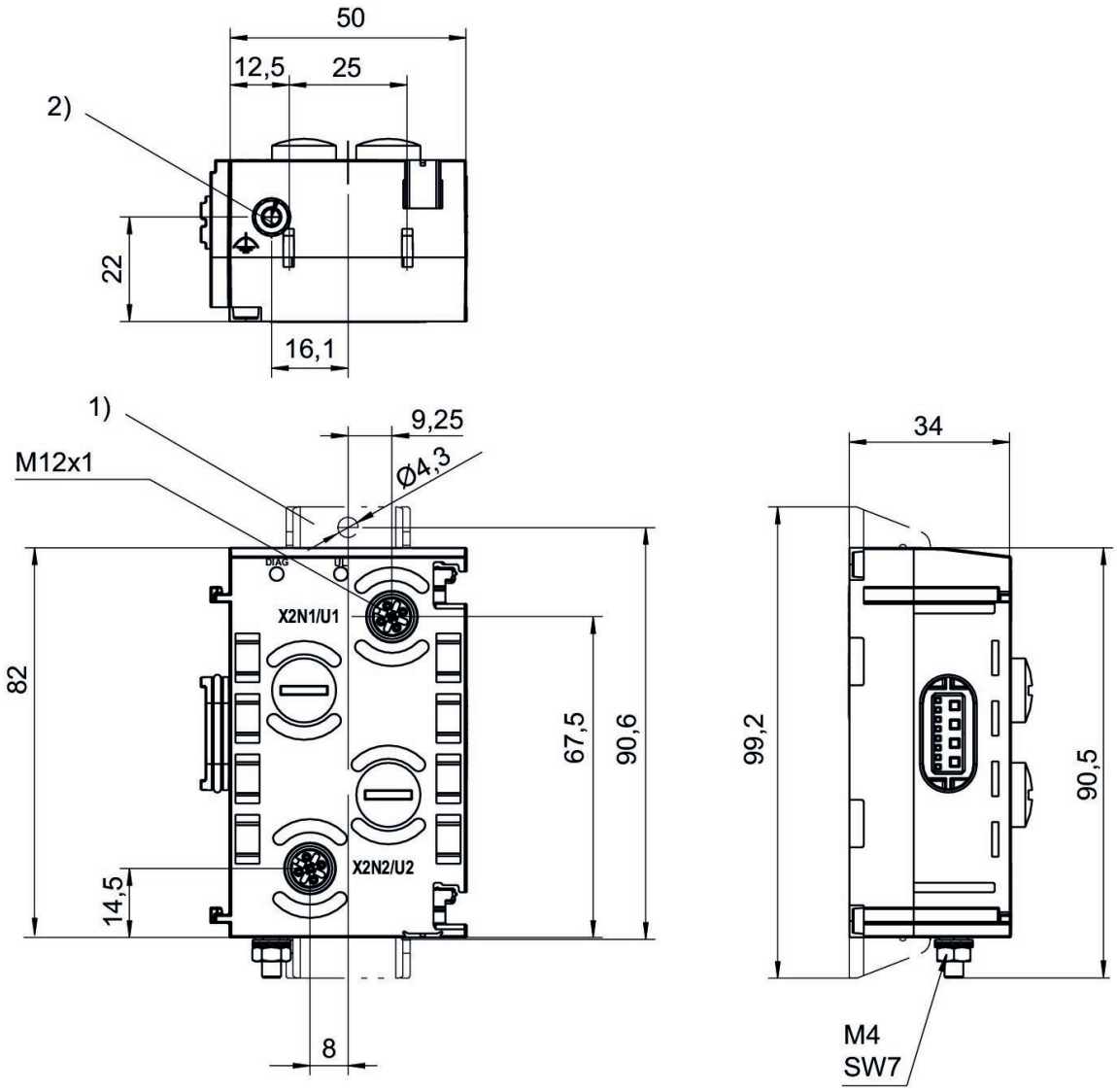
Voltage and short-circuit monitoring per LED.

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

The input circuit uses an 8-bit conversion.

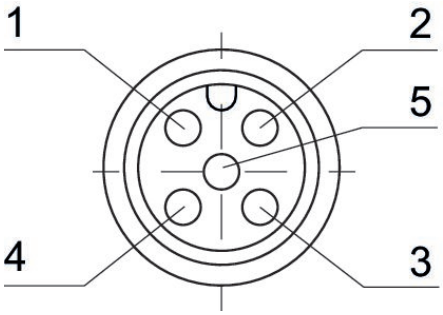
Dimensions



1) Retaining bracket (optional)
2) Ground

Pin assignments

Socket (female)



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

I/O modules, series AES

R412018281

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
2AO2M12-E

E/A capable
connection with I/O

I/O module version
analog inputs/outputs

Number of I/O connections
2 outputs

Power plug IN type
Internal

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Signal connection E/A coding
A-coded

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

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP65

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

Number of outputs
2

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018281

Technical information

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

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

Voltage and short-circuit monitoring per LED.

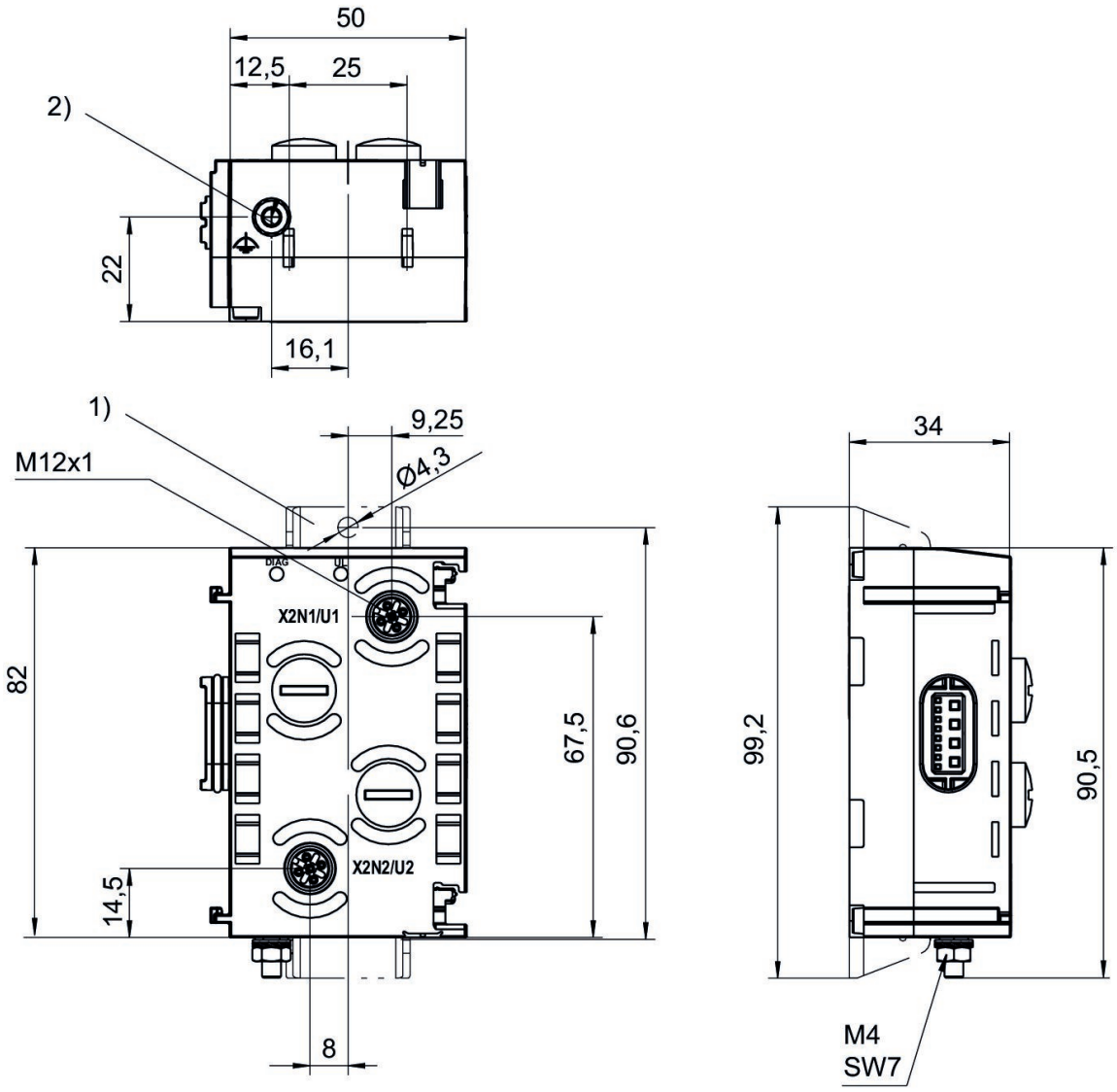
The input channels have an input resistance of 120 ohms in the current range and 100 kiloohms in the voltage range.

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 kiloohm.

Delivery contents: incl. 2 spring clamp elements and seal

freely selectable signals, configurable

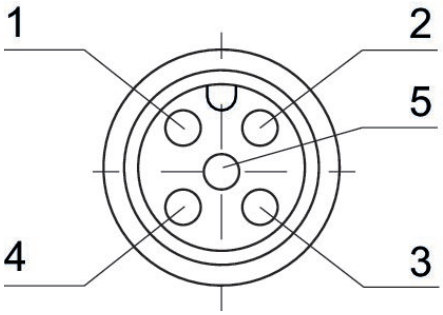
Dimensions



1) Retaining bracket (optional)
2) Ground

Pin assignments

Socket (female)



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

I/O modules, series AES

R412018287

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
2AI2AO2M12-AE

E/A capable
connection with I/O

I/O module version
analog inputs/outputs

Number of I/O connections
2 inputs / 2 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Signal connection E/A coding
A-coded

Number of inputs
2

Number of outputs
2

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

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

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Max. current per channel
1.2 A

Protection class
IP65

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018287

Technical information

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

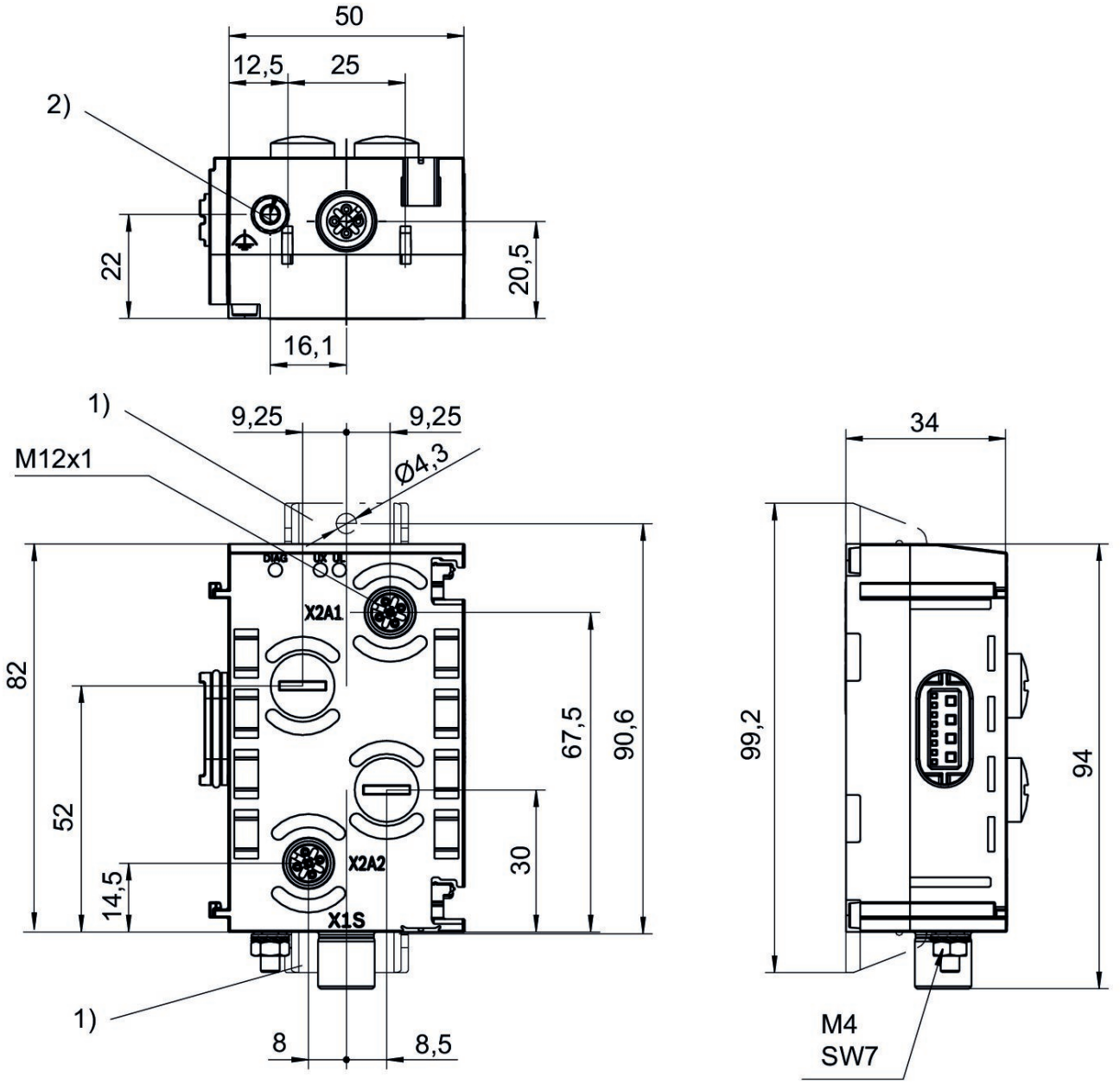
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

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

Delivery contents: incl. 2 spring clamp elements and seal

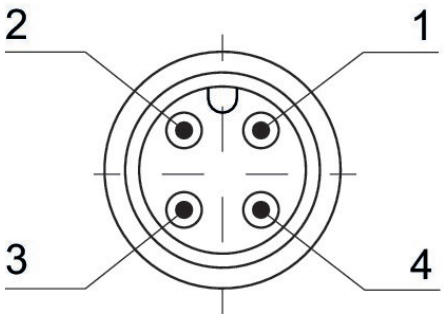
freely selectable signals, configurable

Dimensions



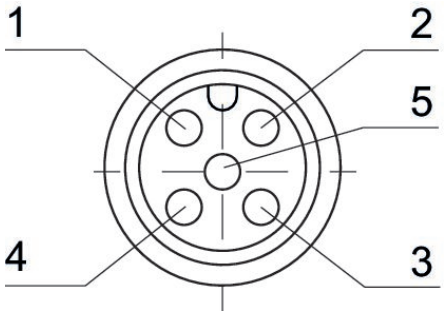
1) Retaining bracket (optional)
2) Ground

Plug (male)



Pin assignments

Socket (female)



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

I/O modules, series AES

R412018293

General series information
Series AES

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

Technical data

Industry
Industrial

Version
I/O modules

Type
2AI2AO2M12-C

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

E/A capable
connection with I/O

I/O module version
analog inputs/outputs

Number of I/O connections
2 inputs / 2 outputs

Power plug IN type
Plug

Power plug IN size
M12x1

Power plug IN number of pole
4-pin

Signal connection E/A type
Socket

Signal connection E/A thread size
M12x1

Signal connection E/A number of poles
5-pin

Signal connection E/A coding
A-coded

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

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

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Total current for actuators
4 A

Protection class
IP65

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit
Undervoltage

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

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

Weight
0.11 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018293

Technical information

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

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

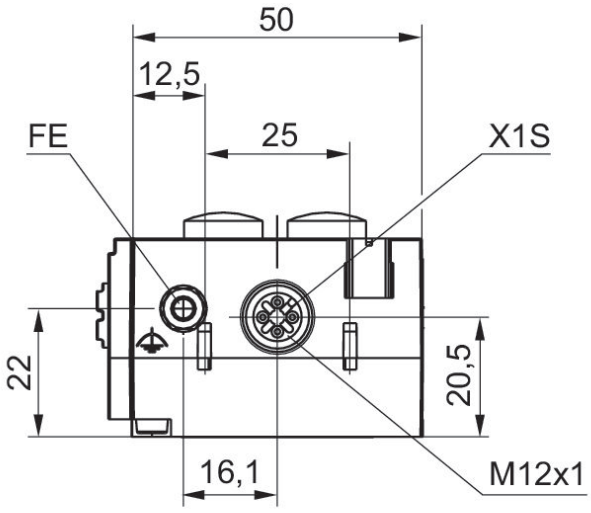
After direct connection to an electropneumatic pressure regulator suitable for controlling positions or superior control circuits.

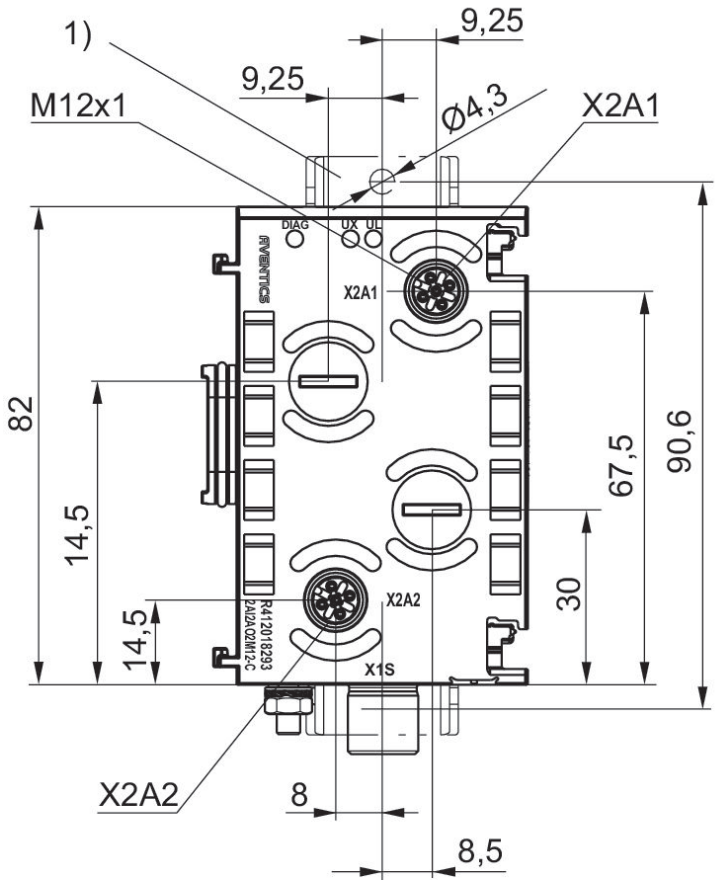
Suitable for direct connection of an electropneumatic pressure regulator from the ED series.

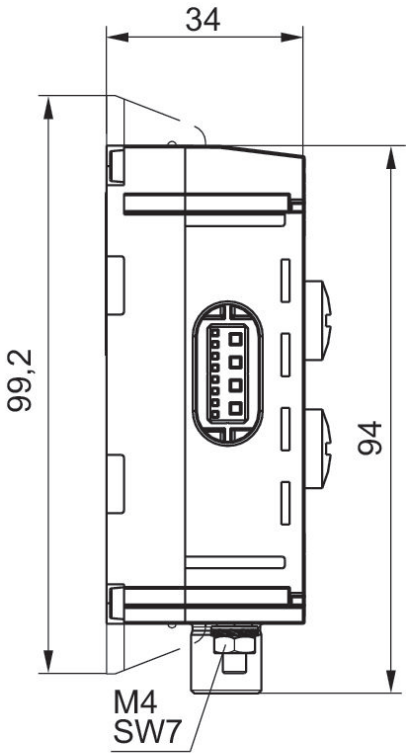
Delivery contents: incl. 2 spring clamp elements and seal

freely selectable signals, configurable

Dimensions



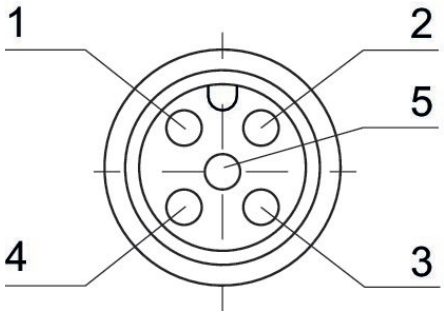




1) Retaining bracket (optional)

Pin assignments

Socket (female)



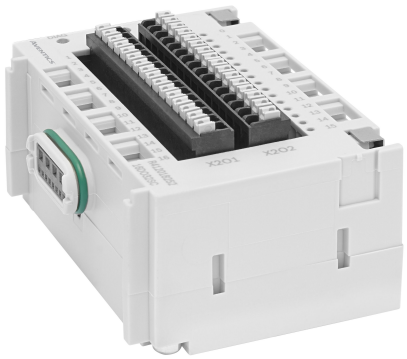
Pin	Socket (female) X2A1 - X2A2	Plug (male) X1S
1	24 V DC	-
2	Output signal	24 V DC
3	0 V DC	-
4	Input signal	0 V DC
5	Shield, connected internally with ground screw 2)	-

I/O modules, series AES

R412018252

General series information
Series AES

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



Technical data

Industry
Industrial

Version
I/O modules

Type
16DO32SC

E/A capable
connection with I/O

I/O module version
digital outputs

Number of I/O connections
16 outputs

Power plug IN type
Internal

Signal connection E/A type
Spring clamp connections

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-25% / +25%

Max. current per channel
0.5 A

Total current for actuators
4 A

Protection class
IP20

Logic/actuator voltage
Galvanically isolated

Diagnosis
Short circuit

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

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

Weight
0.115 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018252

Technical information

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

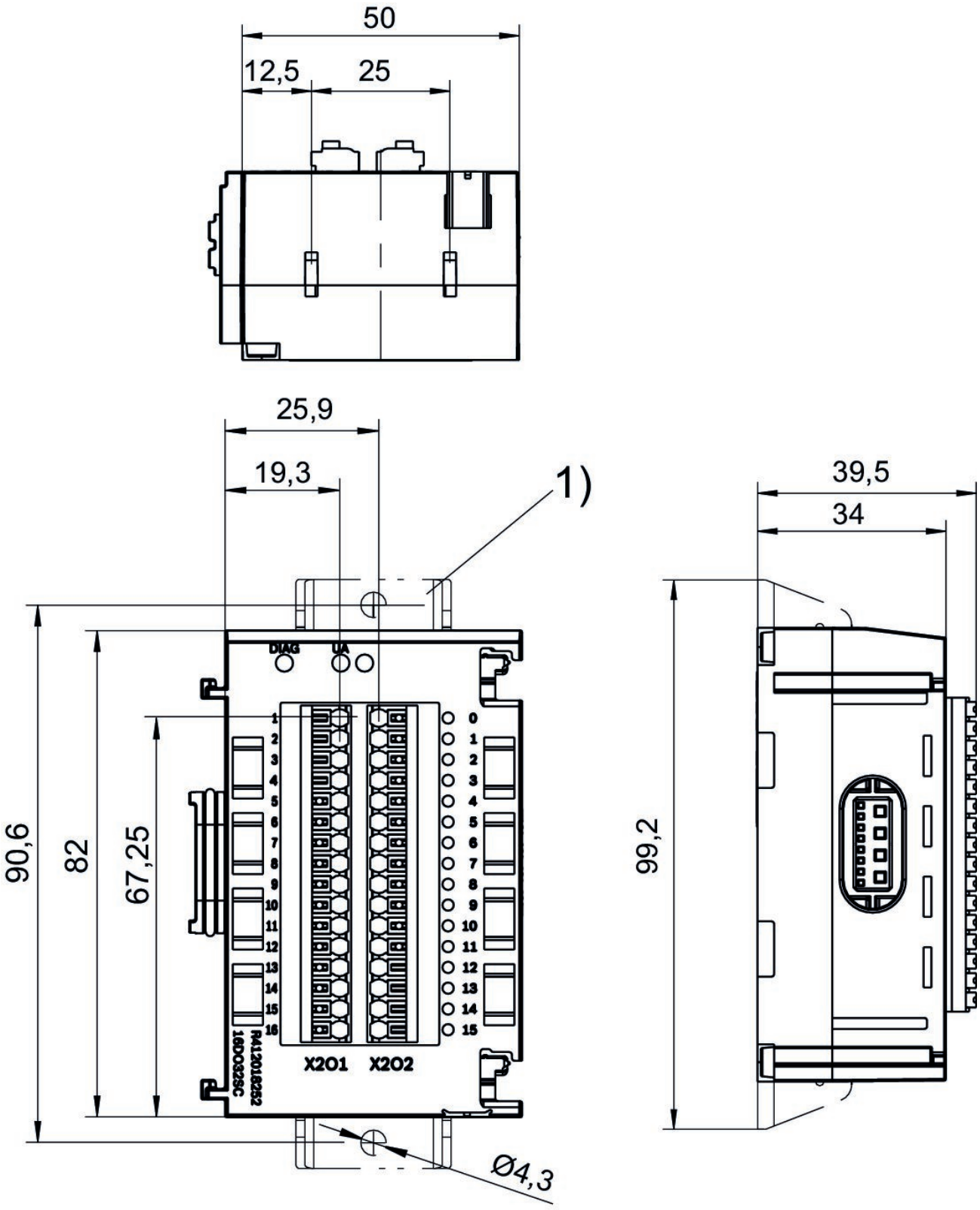
The total current of all outputs (including valves) must not exceed 4 A in the overall system.

Voltage and short-circuit monitoring per LED.

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

Delivery contents: incl. 2 spring clamp elements and seal

Dimensions



1) Retaining bracket (optional)

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

I/O modules, series AES

R412018291

General series information

Technical data

Industry
Industrial

Version
I/O modules

Type
4P4D4

port pneumatic
D4

Note
Pressure measurement module with 4 compressed air connection

E/A capable
connection with I/O

I/O module version
analog inputs

Number of I/O connections
4 inputs

Power plug IN type
Internal

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Working pressure max
10 bar

Measurement min.
0 bar

Measurement max.
10 bar

Protection class
IP65

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

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

Weight
0.115 kg

Material

Housing material	Part No.
Polyamide fiber-glass reinforced	R412018291

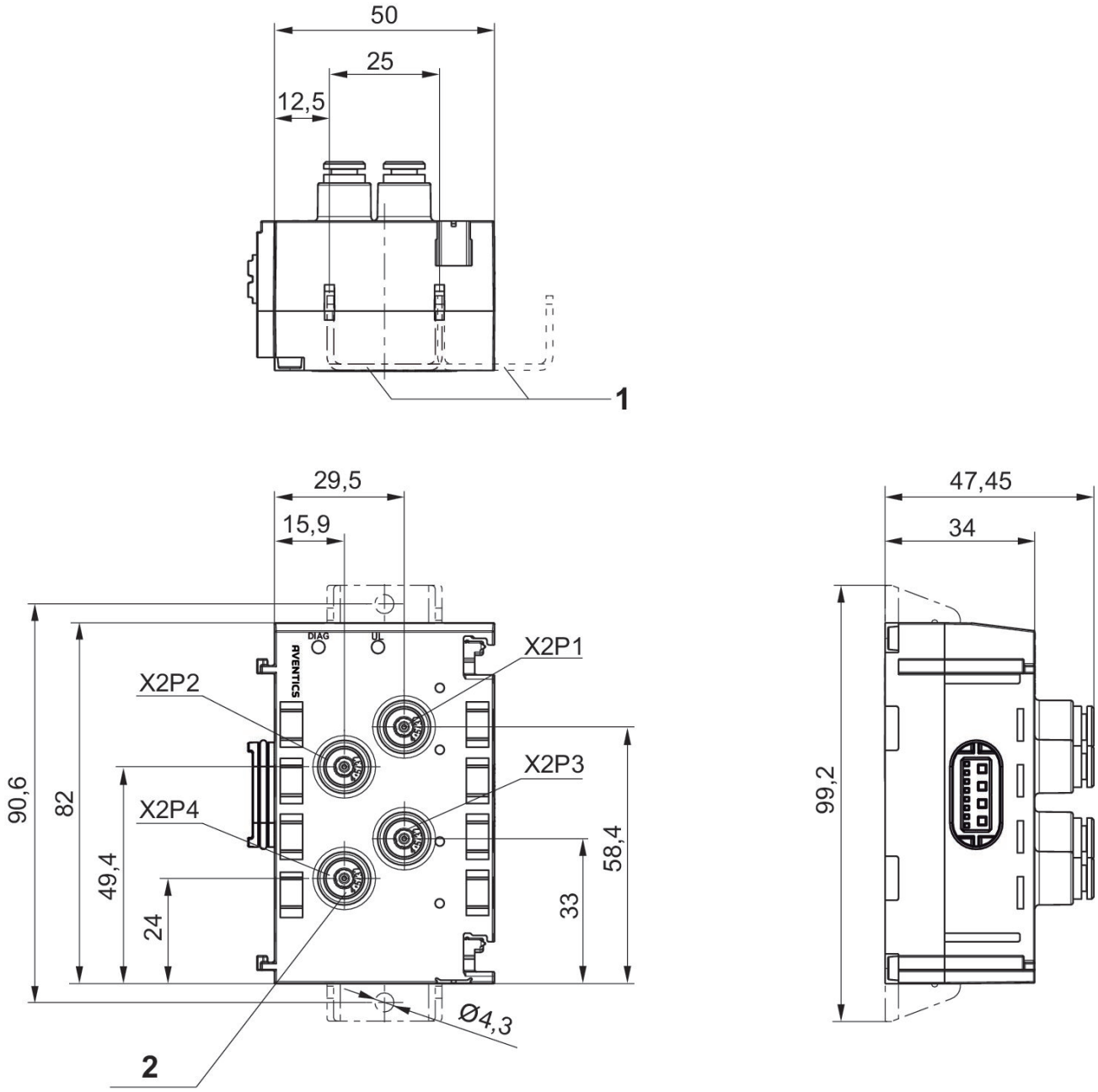
Technical information

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

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

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

Dimensions



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

I/O modules, series AES

R412018292

General series information

Technical data

Industry
Industrial

Version
I/O modules

Type
4VP4D4

port pneumatic
D4

Note
Pressure measurement module with 4 compressed air connection

E/A capable
connection with I/O

I/O module version
analog inputs

Number of I/O connections
4 inputs

Power plug IN type
Internal

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Working pressure max
1 bar

Measurement min.
-1 bar

Measurement max.
1 bar

Protection class
IP65

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

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

Weight
0.115 kg

Material

Housing material	Part No.
Polyamide fiber-glass reinforced	R412018292

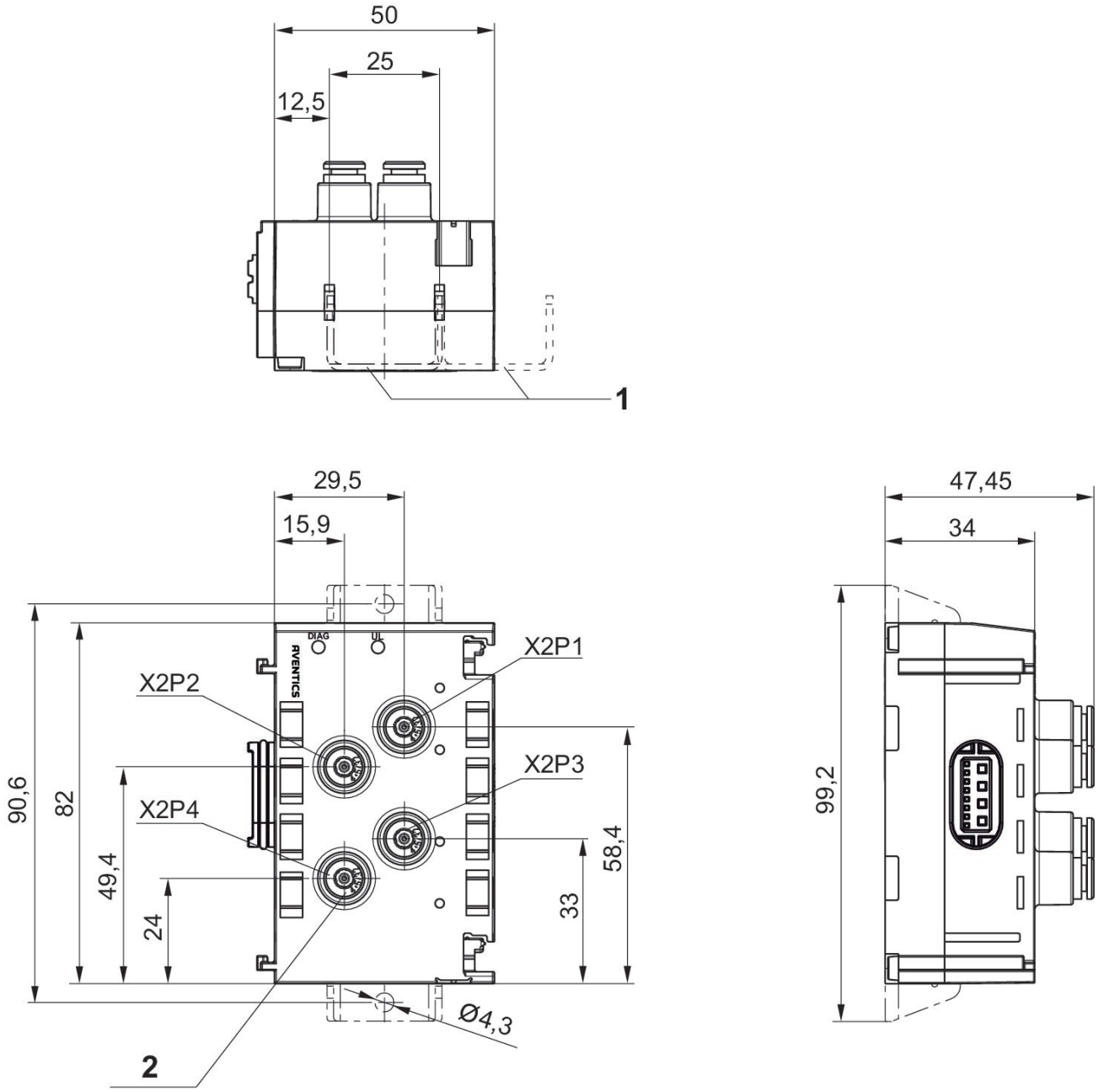
Technical information

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

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

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

Dimensions



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

Power module Series AES

R412018272

General series information
Series AES

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

Technical data

Industry
Industrial

Version
Power module

E/A capable
connection with I/O

Power plug IN type
Plug

Power plug IN size
7/8″-16UNF

Power plug IN number of pole
5-pin

Power plug OUT type
Socket

Power plug OUT size
7/8″-16UNF

Power plug OUT number of pole
5-pin

Power supply direction UA/UL
left, right

Min. ambient temperature
-10 °C

Max. ambient temperature
60 °C

Operational voltage electronics
24 V DC

Electronics voltage tolerance
-20% / +20%

Operating voltage, actuators
24 V DC

Actuator voltage tolerance
-10% / +10%

Total current for actuators
4 A

Protection class
IP65

Total current of sensors max.
4 A

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

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

Weight
0.15 kg

Material

Housing material
Polyamide fiber-glass reinforced

Part No.
R412018272

Technical information

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

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

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

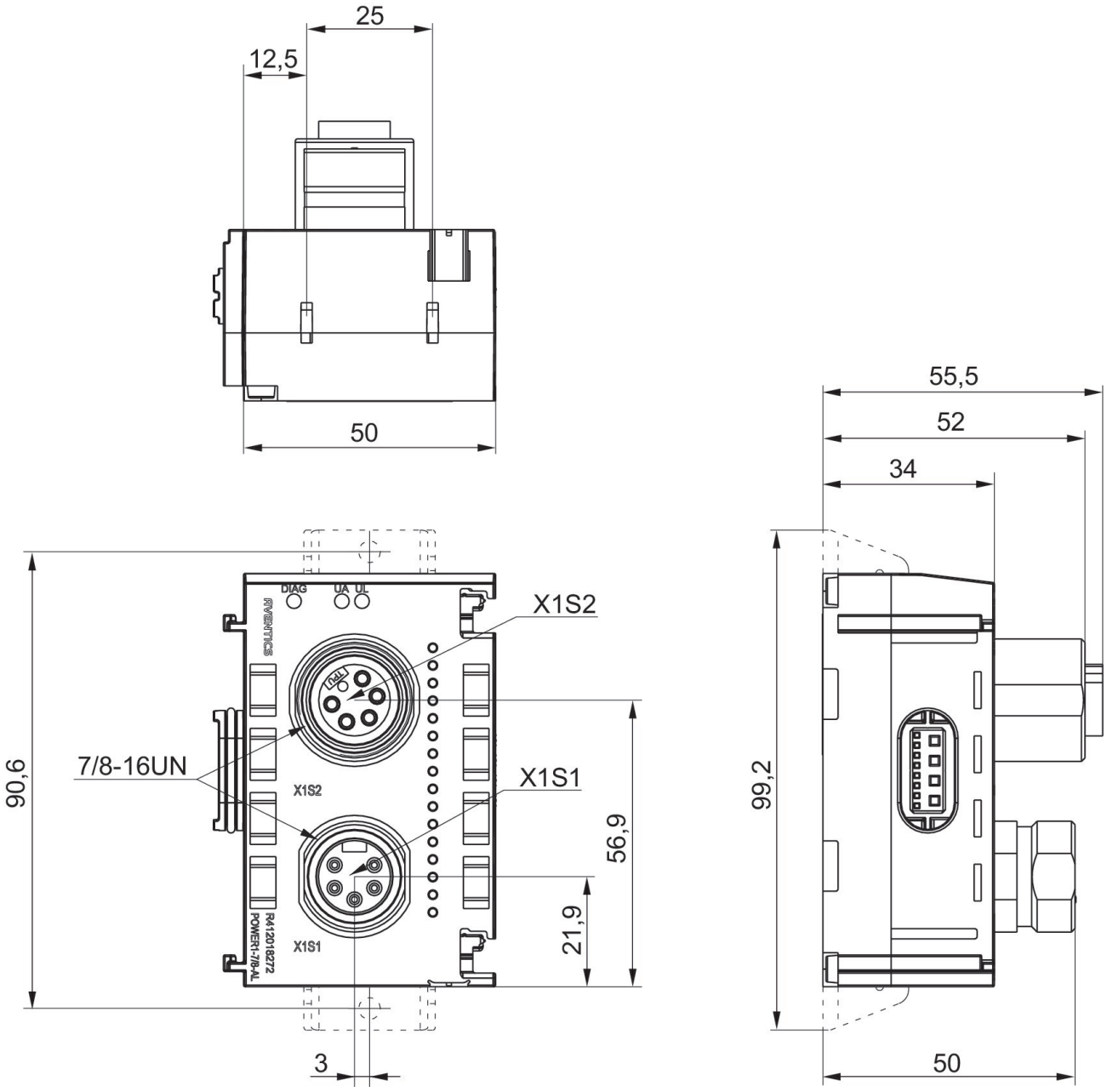
UL: Logic voltage (power supply for electronic components and sensors)

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

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

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

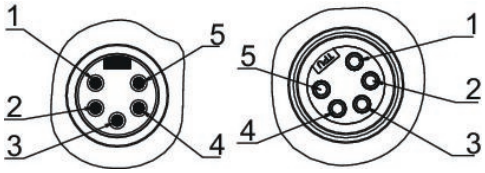
Dimensions



Port 1, X1S1
Port 2, X1S2

Pin assignments

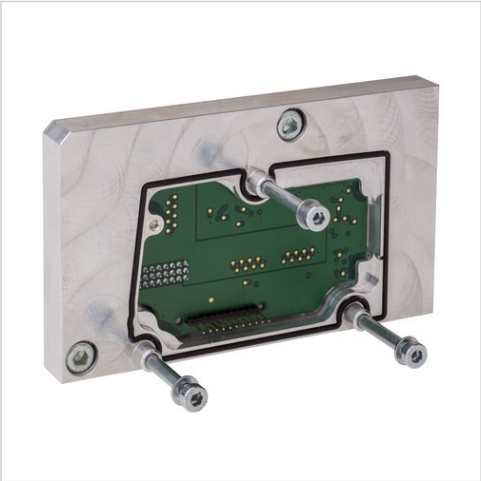
PNP



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

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.	-10 ... 60 °C
Weight	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

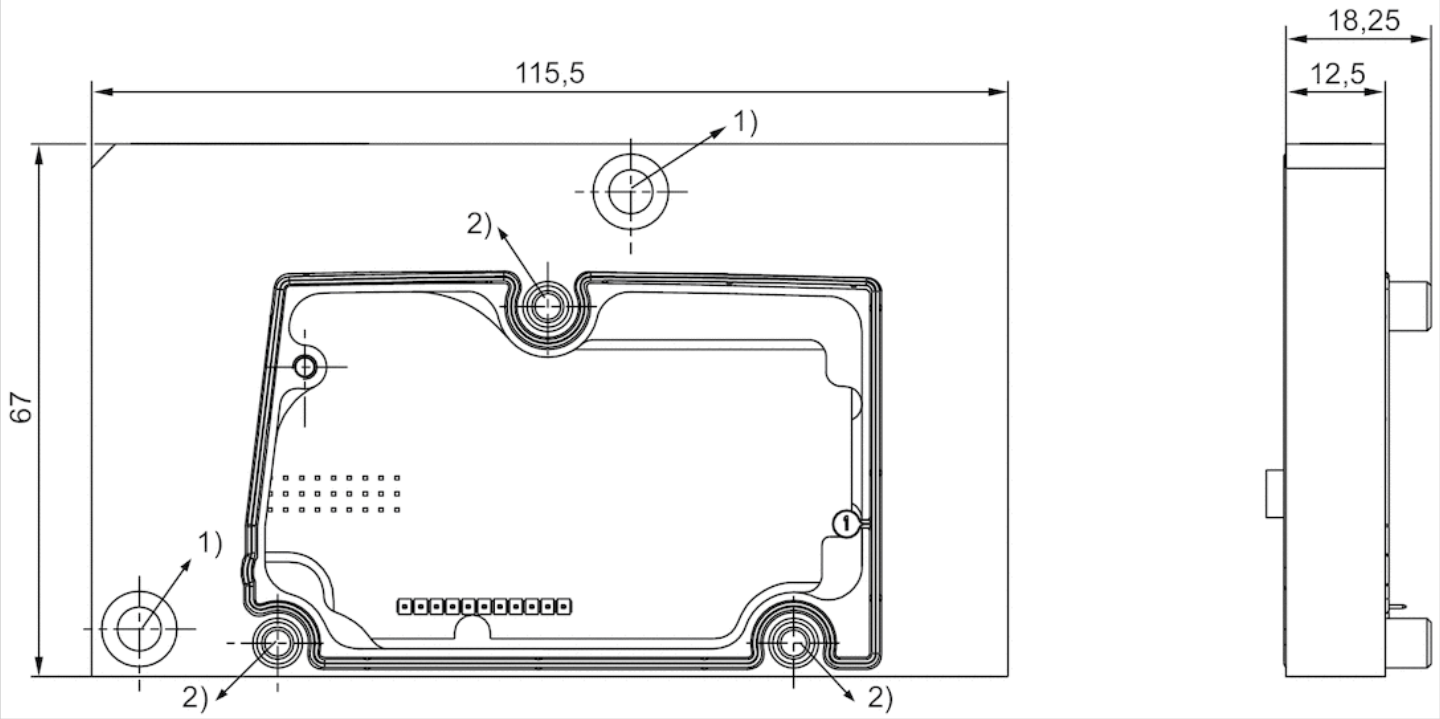
The adapter module is mounted on valve systems with a B-design interface for use with AES fieldbus couplers and AES I/O modules. See the operating instructions for further information (R412018150).

Technical information

Material	
Housing	Aluminum
Seals	Nitrile rubber

Dimensions

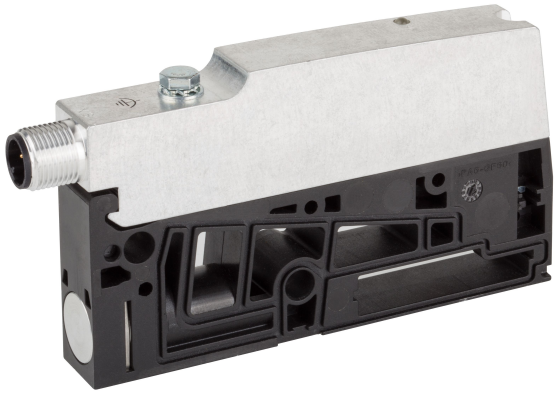
Dimensions

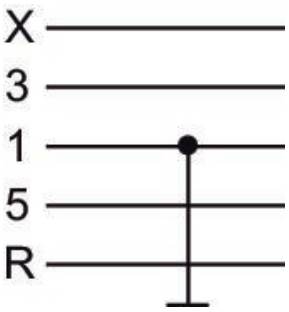


Includes screws and seals.
1) Torque: 3 Nm +0.5 Nm
2) Torque: 1.6 Nm +0.4 Nm

Extension kit, electrical supply plate

R412021778





Technical data

Industry	Industrial
Type	Assembly kit
For series	AV05 AES
DC operating voltage	24 V
Voltage tolerance DC	-10% / +10%
Scope of delivery	Supply plate, incl. 1 seal, 2 tie rods, and 2 screws for extension
Min. ambient temperature	-10 °C
Max. ambient temperature	60 °C
Min. medium temperature	-10 °C

Max. medium temperature	60 °C
Electrical connection	M12
Electrical connection	4-pin
Electrical connection	A-coded
Max. current consumption	2 A
Protection class	IP65
Weight	0.157 kg

Material

Housing material	Polyamide Aluminum
Seal material	Nitrile rubber
Part No.	R412021778

Technical information

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

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

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

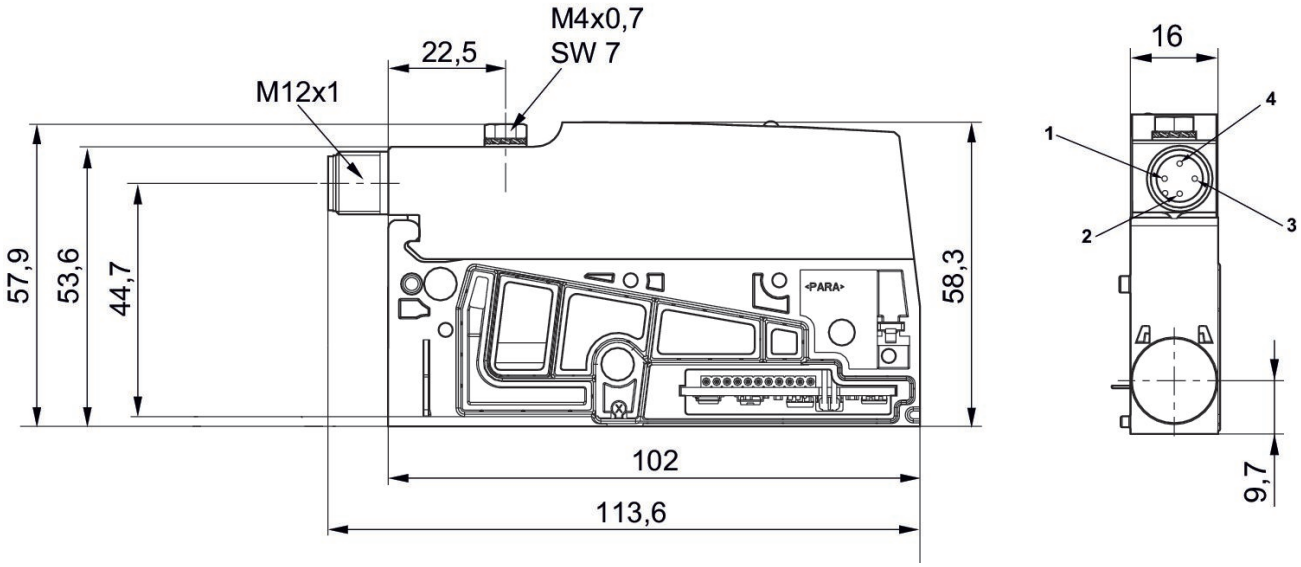
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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

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

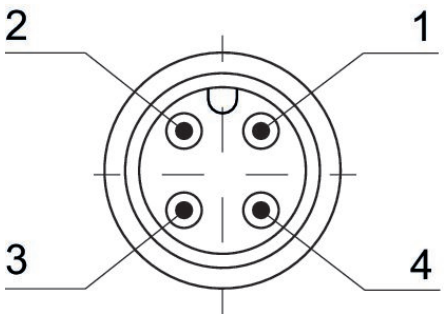
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in https://www.emerson.com/en-us/support).

Dimensions



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

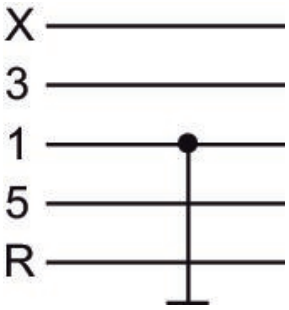
Plug (male)



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

Extension kit, electrical supply plate

R412021748



Technical data

Industry	Industrial
Type	Assembly kit
For series	AV03 AES
DC operating voltage	24 V
Voltage tolerance DC	-10% / +10%
Scope of delivery	Supply plate, incl. 1 seal, 1 tie rod, and 1 screw for extension
Min. ambient temperature	-10 °C
Max. ambient temperature	60 °C
Min. medium temperature	-10 °C

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

Material

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

Technical information

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

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

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

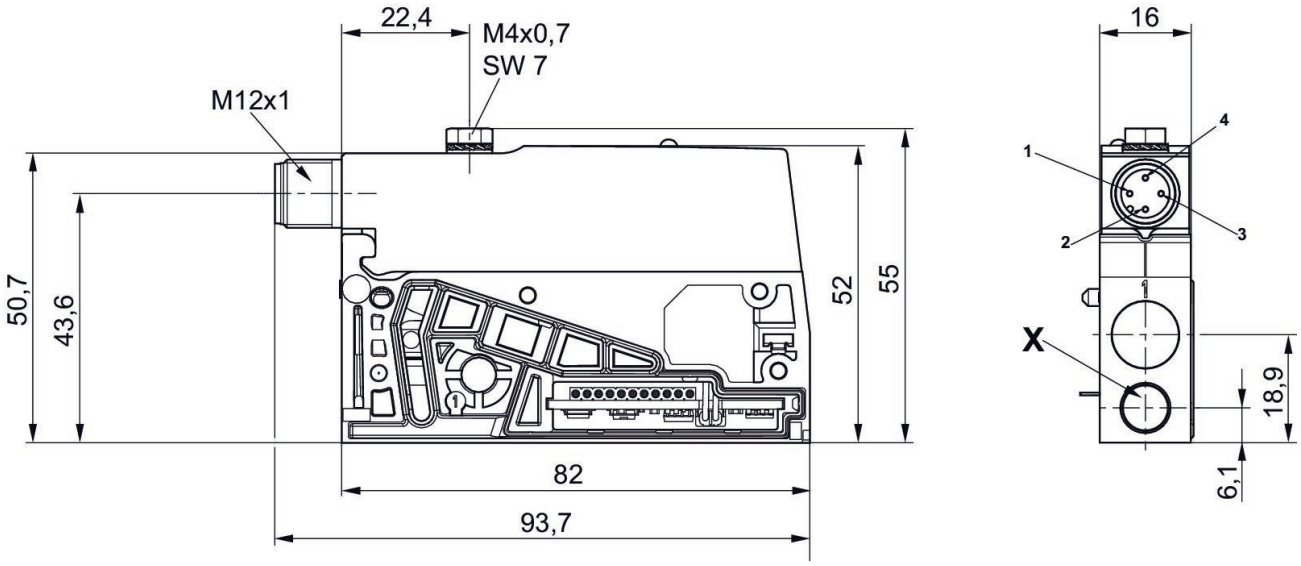
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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

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

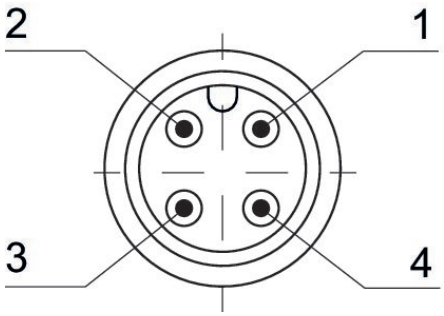
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in https://www.emerson.com/en-us/support).

Dimensions



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

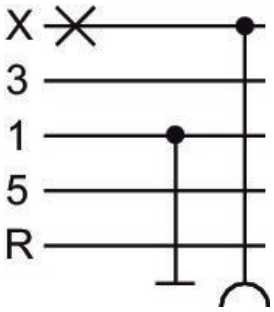
Plug (male)



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

Extension kit, electrical supply plate

R412021752



Technical data

Industry	Industrial
Type	Assembly kit
For series	AV03 AES
DC operating voltage	24 V
Voltage tolerance DC	-10% / +10%
Scope of delivery	Supply plate, incl. 1 seal, 1 tie rod, and 1 screw for extension
Min. ambient temperature	-10 °C
Max. ambient temperature	60 °C
Min. medium temperature	-10 °C

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

Material

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

Technical information

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

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

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

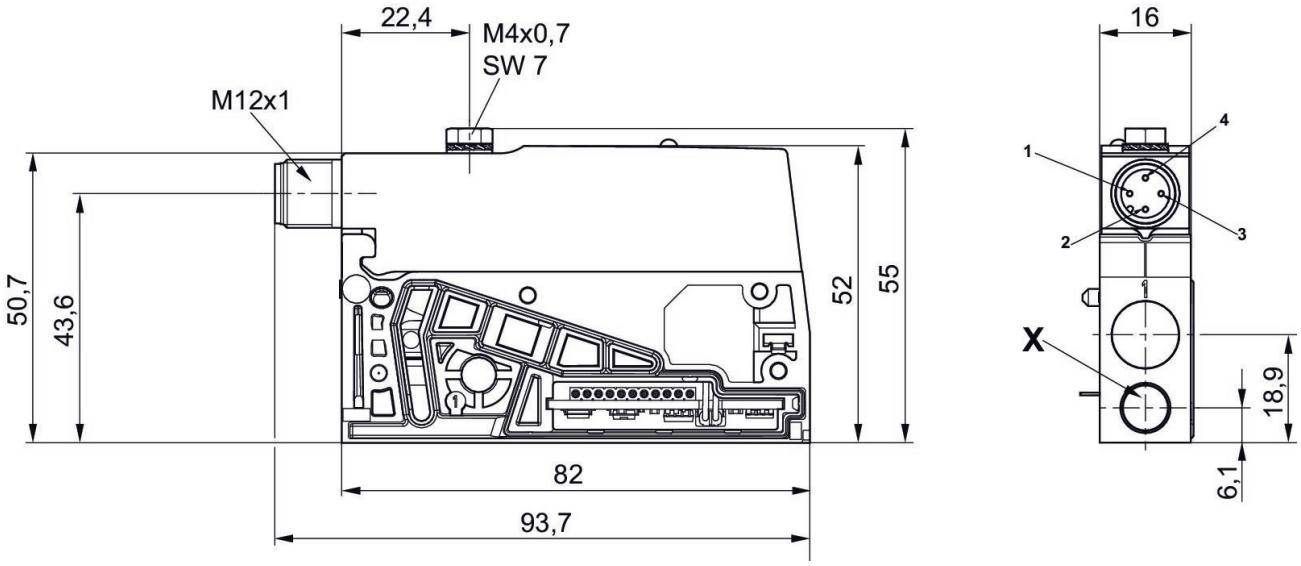
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!

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

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

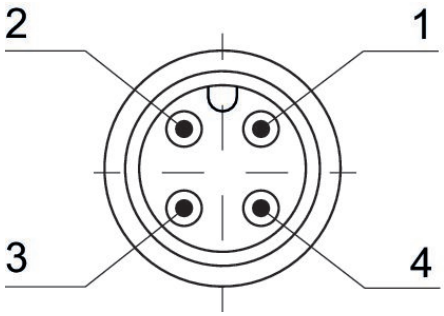
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in https://www.emerson.com/en-us/support).

Dimensions



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

Plug (male)



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

Name plates, AV-valves, AES bus coupler top

- for AV03, AV05, AES

Weight 0.014 kg

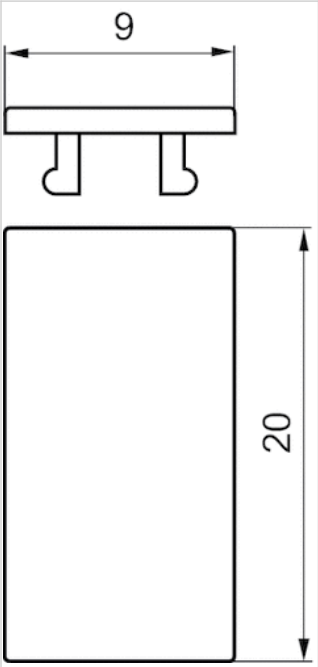
Technical data

Part No.	Type	Delivery unit
R422100889	Name plates	24 piece

Technical information

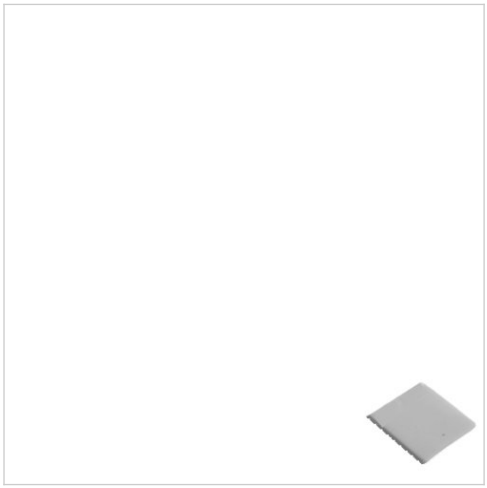
Material	
Housing	Polycarbonate

Dimensions



Name plates, AV-valves front

- for AV03, AV05, AES



Weight 0.014 kg

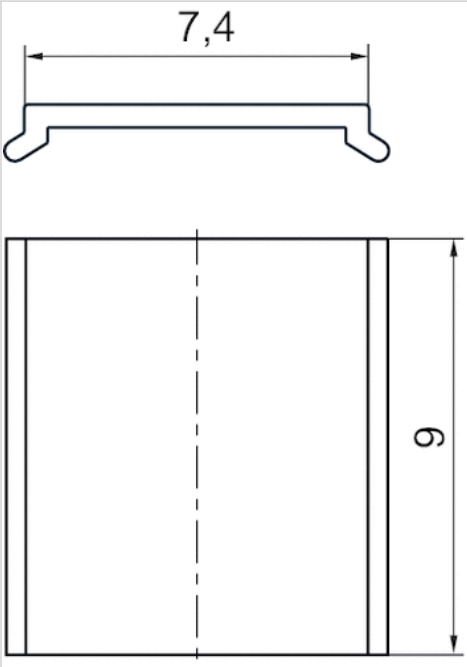
Technical data

Part No.	Type	Delivery unit
R412019552	Name plates	150 piece

Technical information

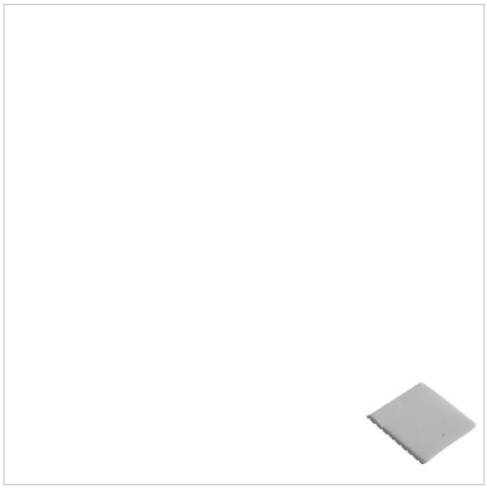
Material	
Housing	Polyamide

Dimensions



Name plates, AES E/A-module

- for AES



Weight 0.014 kg

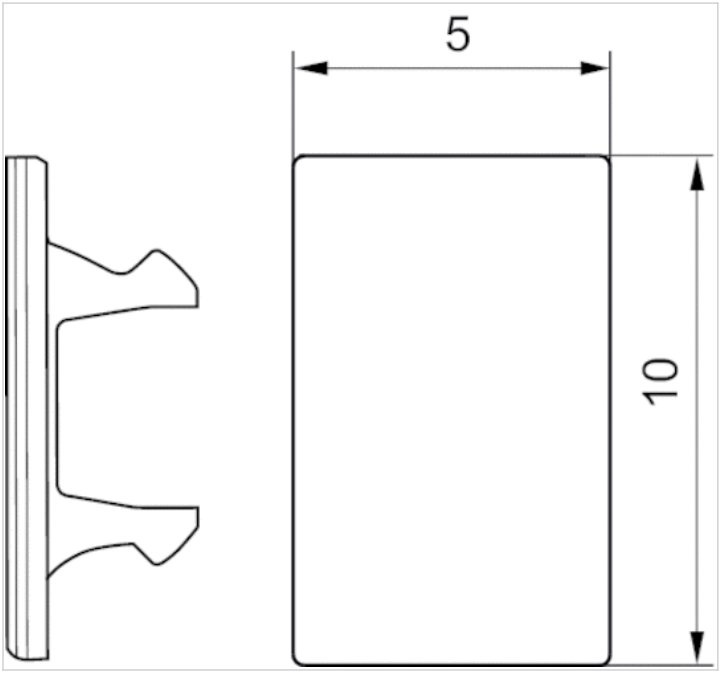
Technical data

Part No.	Type	Delivery unit
R412018192	Name plates	60 piece

Technical information

Material	
Housing	Polyamide

Dimensions



Protective cap, series CON-RD

- M8x1

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

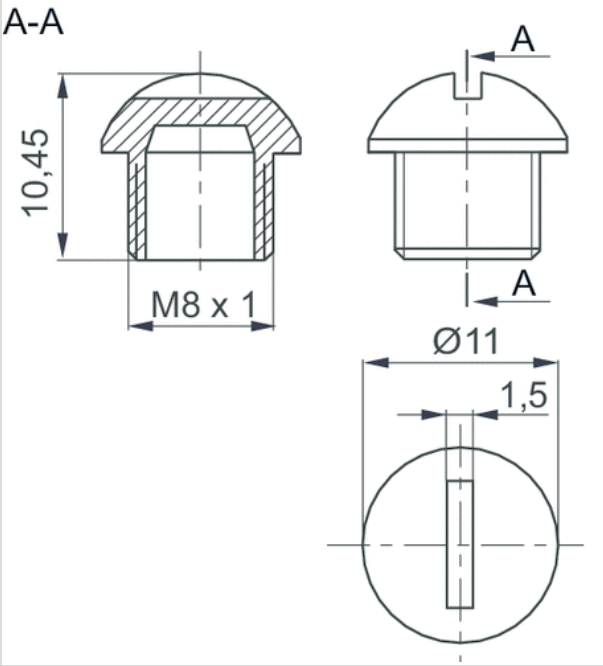
Technical data

Part No.	Type	Scope of delivery
R412003493	M8x1	25

Technical information

Material	
Housing	Polyamide

Dimensions



Protective cap, series CON-RD

- M12x1

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

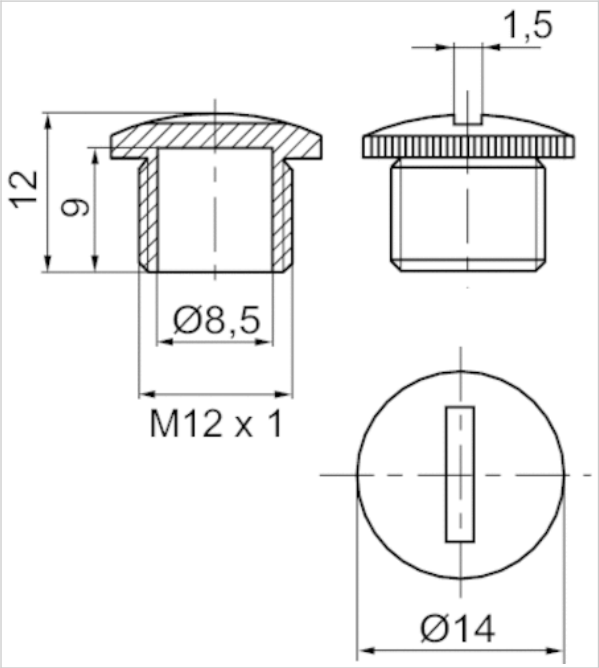
Technical data

Part No.	Type	Delivery unit
1823312001	M12x1	50 piece

Technical information

Material	
Housing	Polyamide

Dimensions



End plate left

- for AES

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

Technical data

Part No.	Type
R412015398	End plate left

Delivery contents: incl. 2 spring clamp elements

Technical information

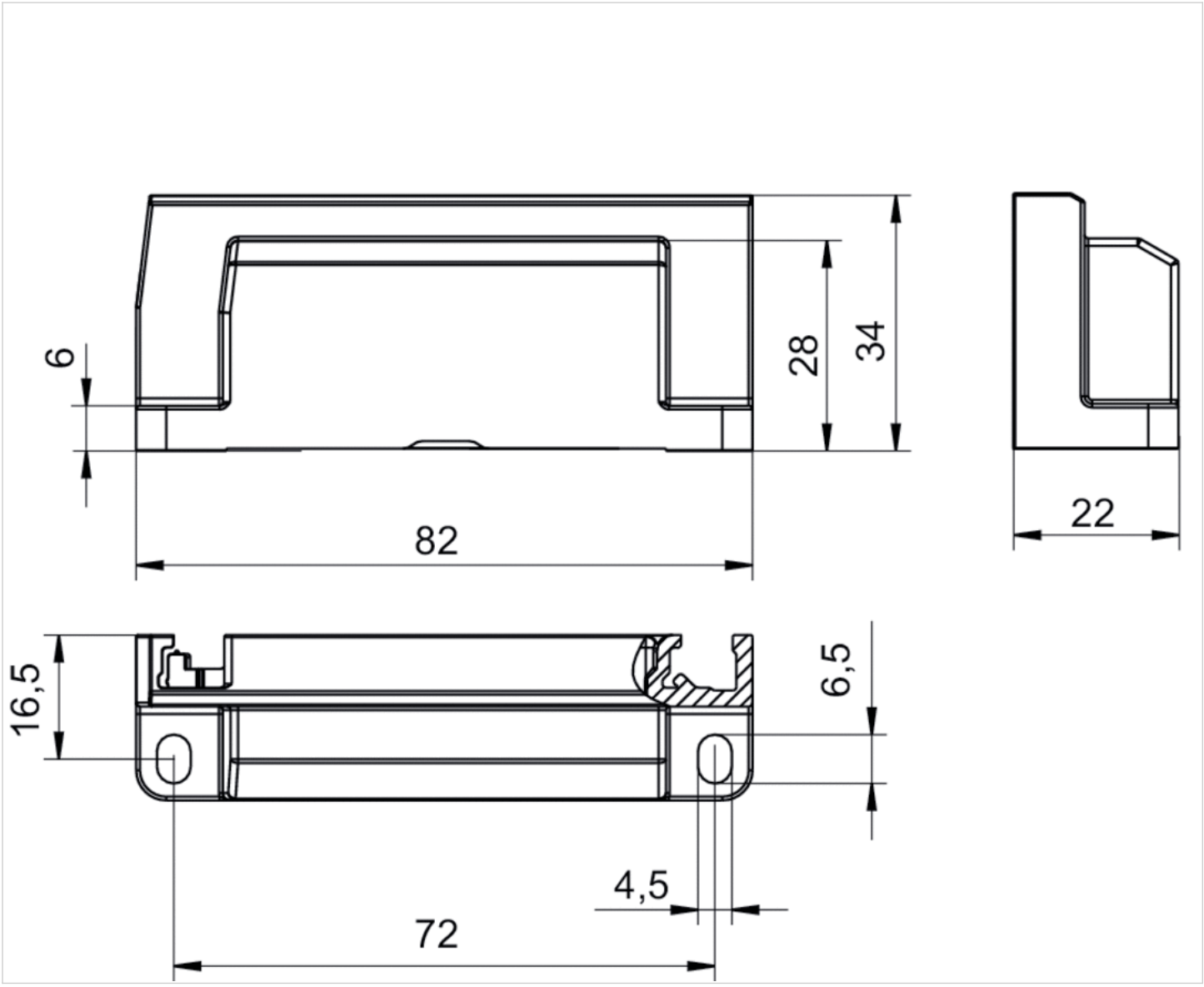
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The oil content of compressed air must remain constant during the life cycle.
Use only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

Technical information

Material	
Base plate	Polyamide fiber-glass reinforced

Dimensions

Dimensions



End plate right

- for AES

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

Technical data

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

Scope of delivery incl. seal and mounting screws

Technical information

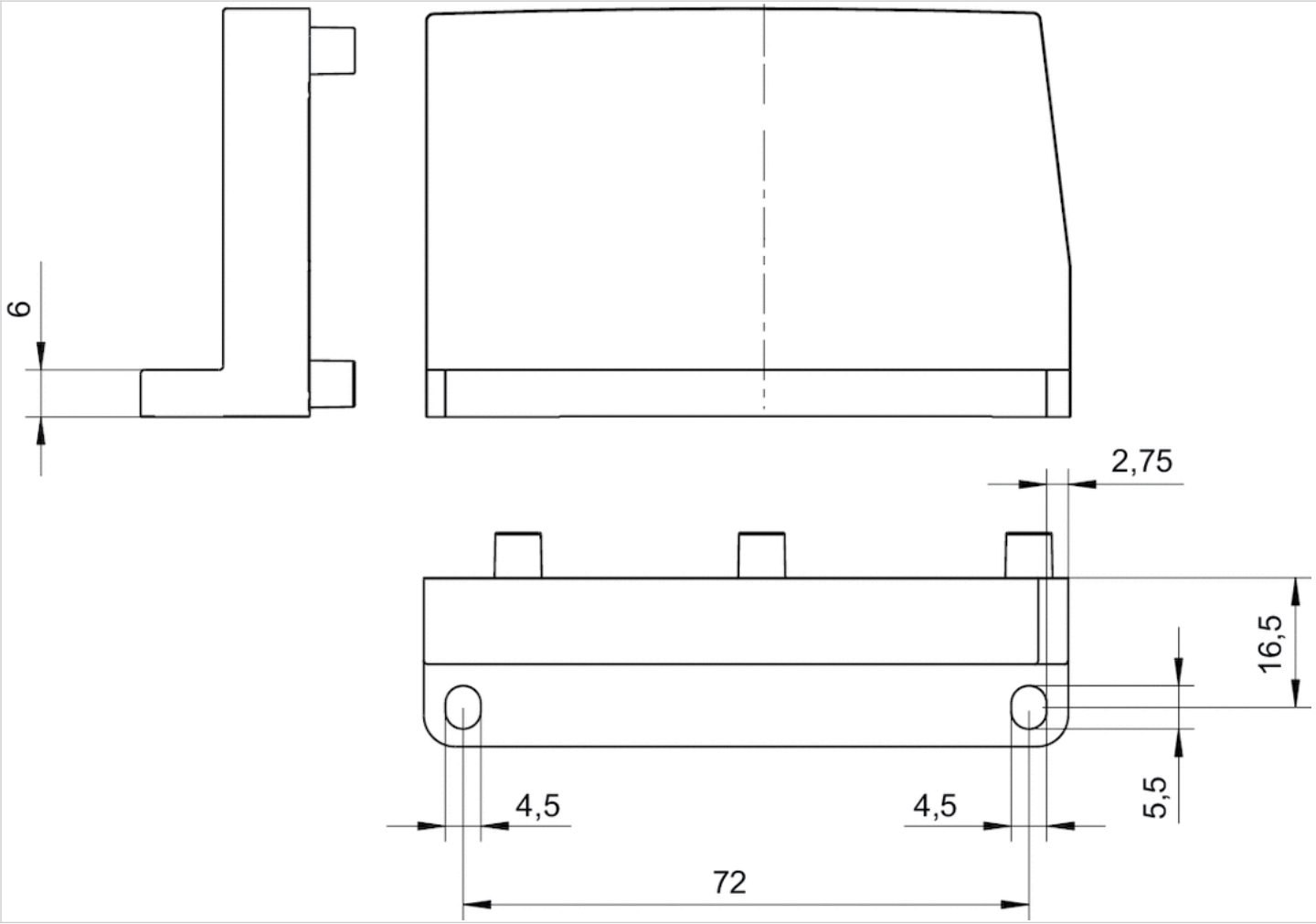
The min. control pressure must be adhered to, since otherwise faulty switching and valve failure may result!
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The oil content of compressed air must remain constant during the life cycle.
Use only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

Technical information

Material	
Base plate	Polyamide fiber-glass reinforced

Dimensions

Dimensions



Retaining bracket for intermediate mounting

- for AES, AV03, AV05

Technical data

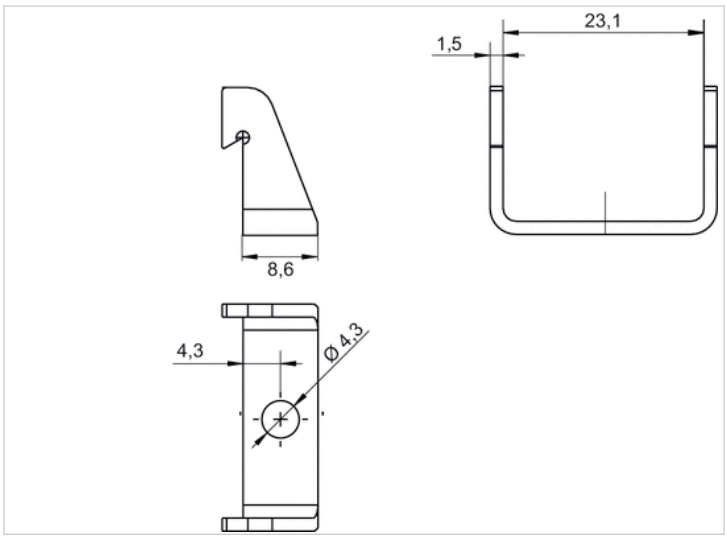
Part No.	Type	Delivery unit
R412018339	Retaining brackets	10 piece

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

Technical information

Material	
Housing	Stainless steel

Dimensions



Spring clamp element

- for AES

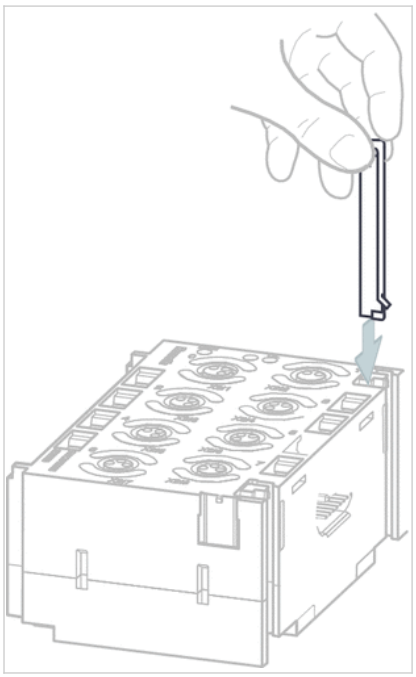
Technical data

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

Technical information

Material	
Housing	Steel

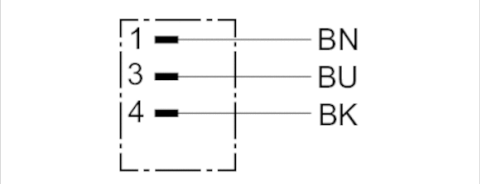
Dimensions



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

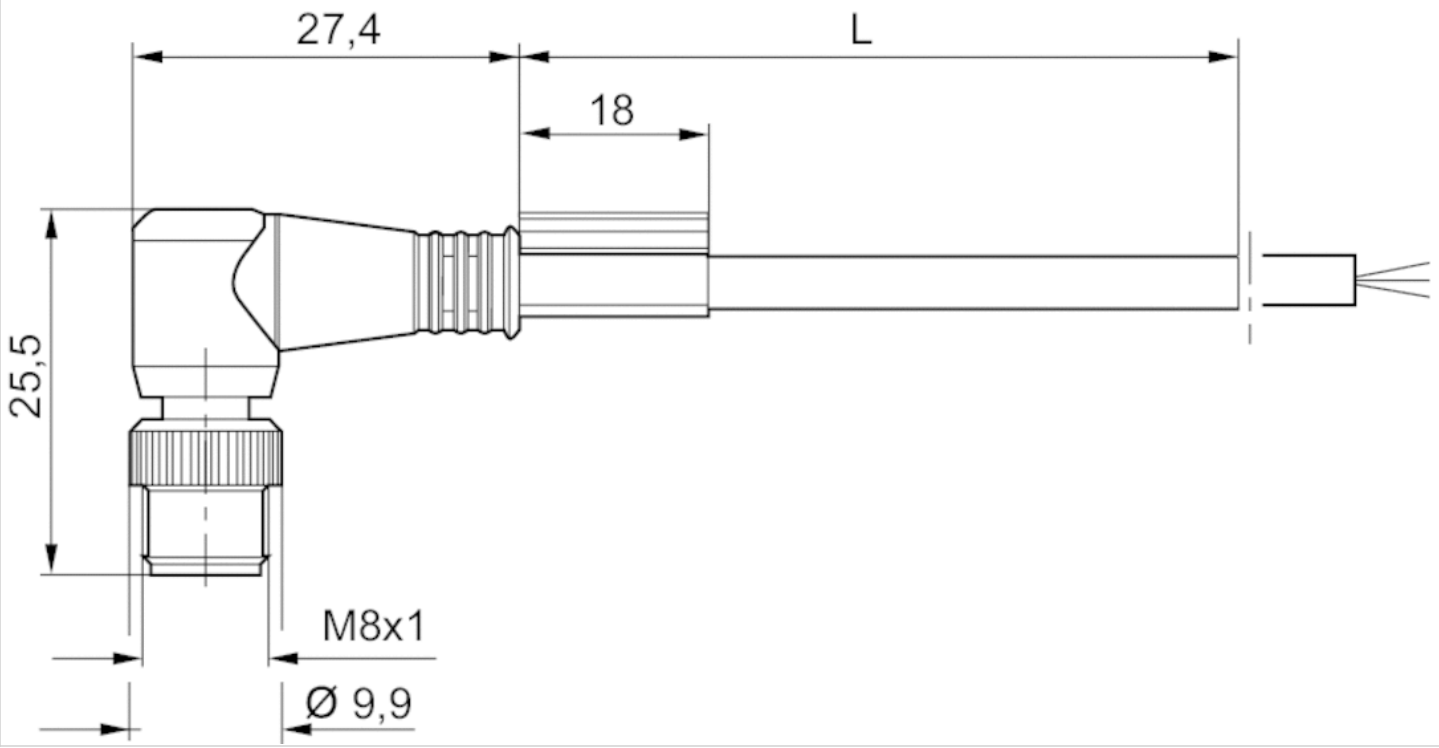
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

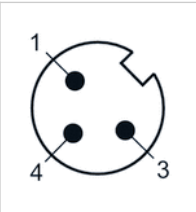
Dimensions



L = length

Pin assignments

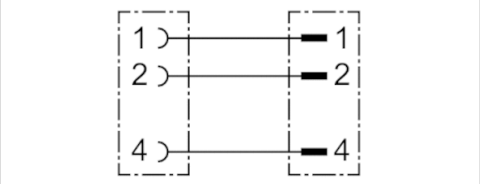
Plug pin assignment



(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

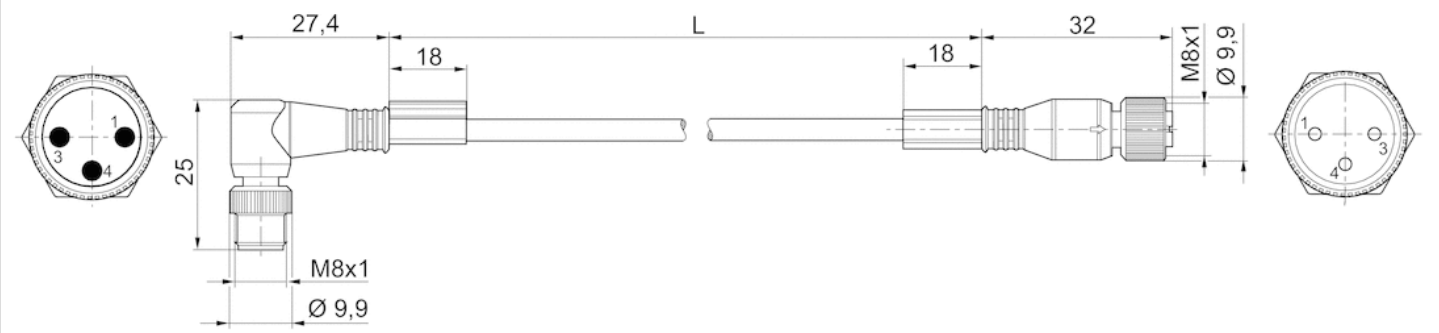
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

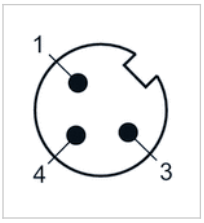
Dimensions



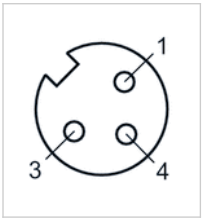
L = length

Pin assignments

Plug pin assignment

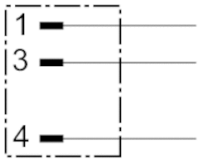


Pin assignment, socket



Round plug connector, Series CON-RD

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



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

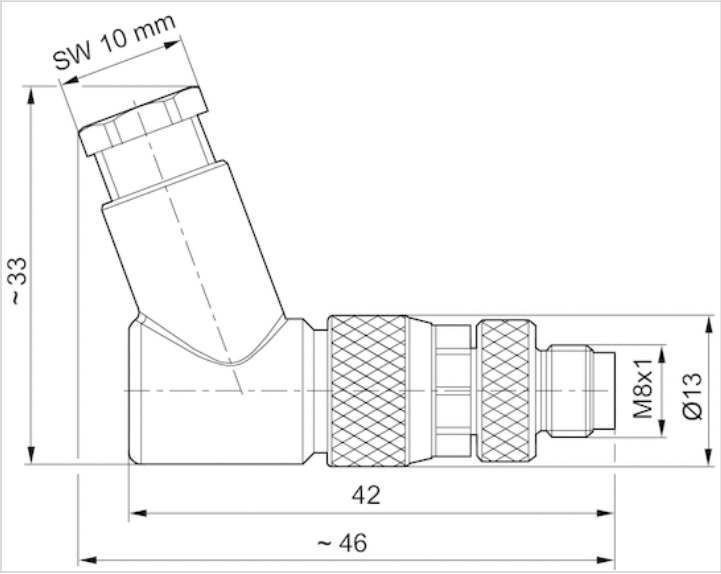
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

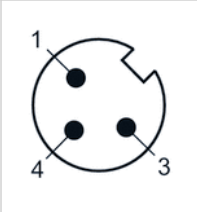
Dimensions

Dimensions



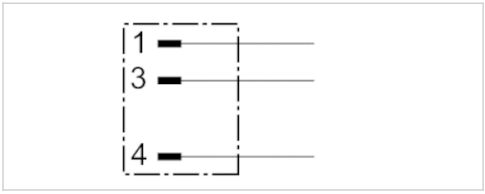
Pin assignments

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

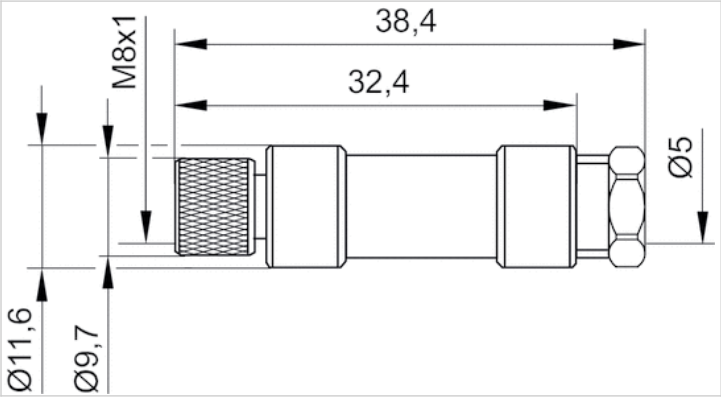
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

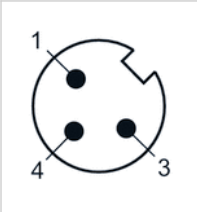
Dimensions

Dimensions



Pin assignments

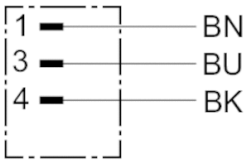
Plug pin assignment



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

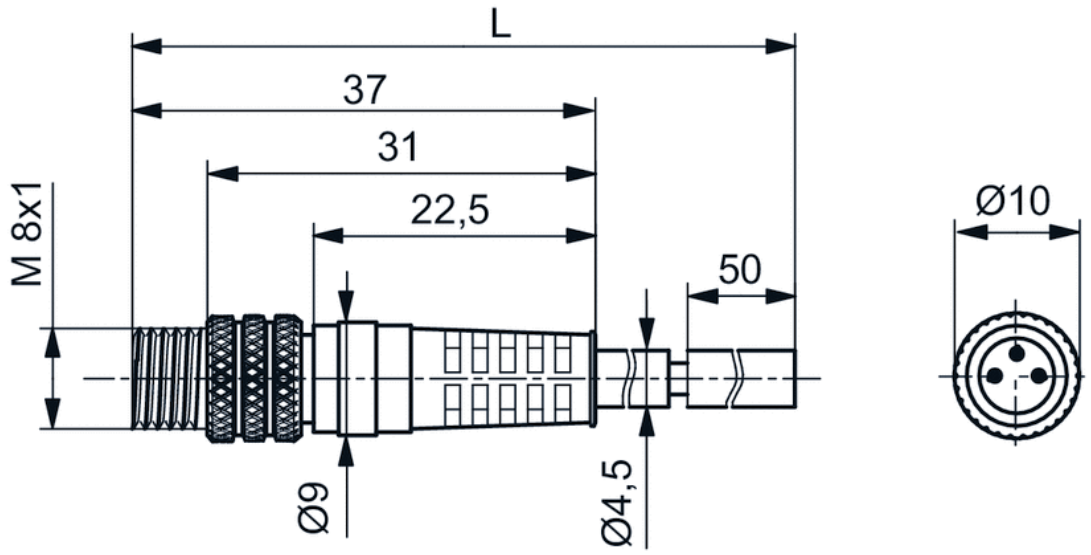
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyvinyl chloride

Dimensions

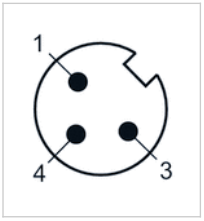
Dimensions



L = length

Pin assignments

Plug pin assignment

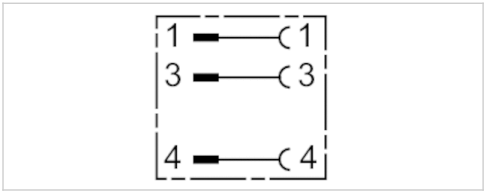


(1) BN=brown
(3) BU=blue
(4) BK=black

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

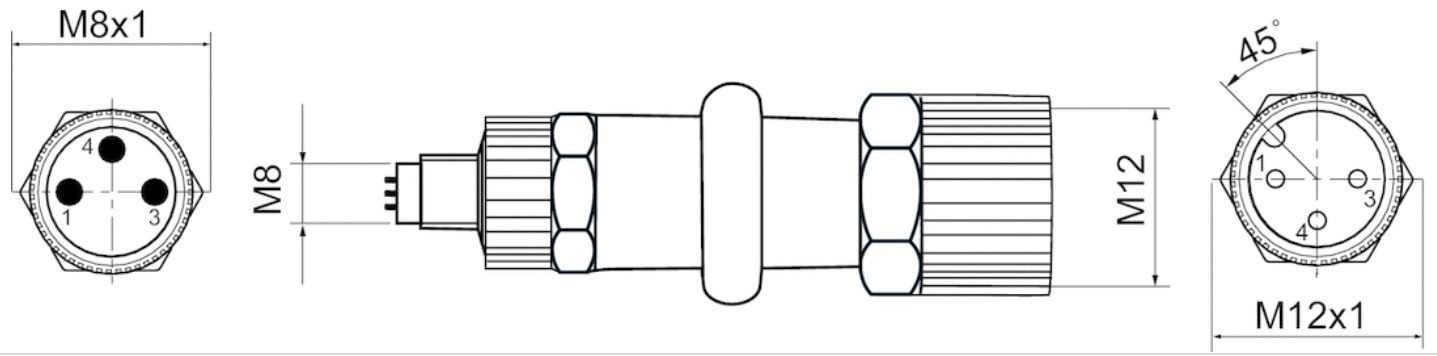
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane

Dimensions

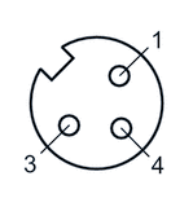
Dimensions



Pin assignments

Plug pin assignment

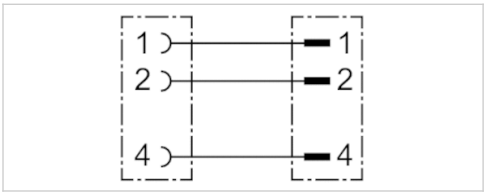
Pin assignment, socket



Round plug connector, Series CON-RD

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

Protection class	IP68
Weight	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

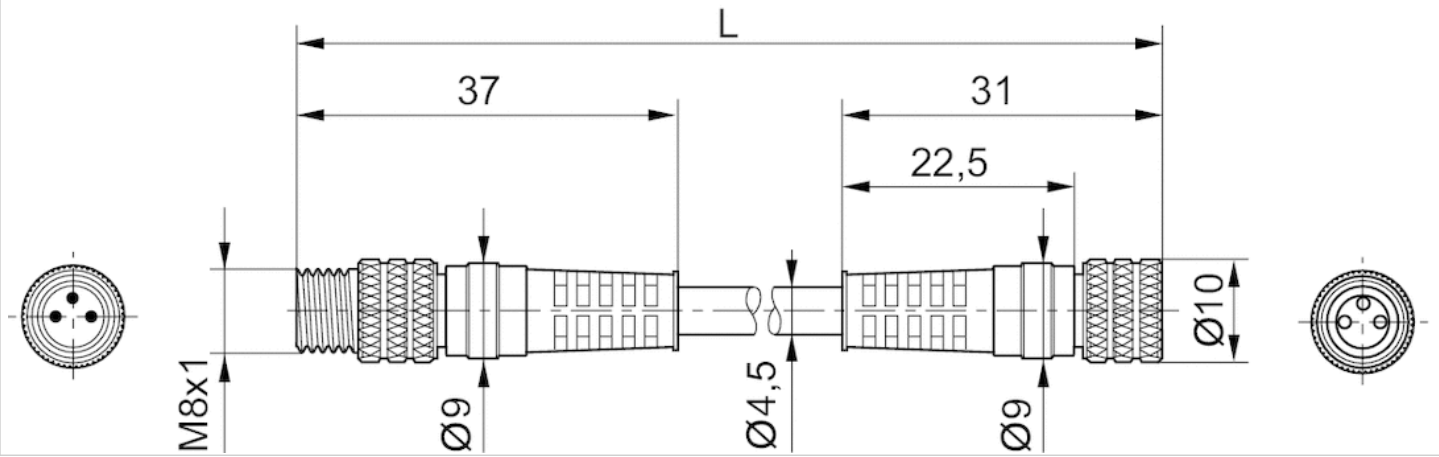
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

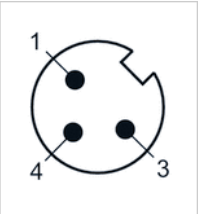
Dimensions



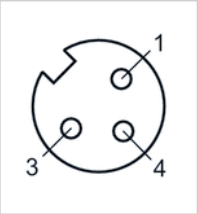
L = length

Pin assignments

Plug pin assignment

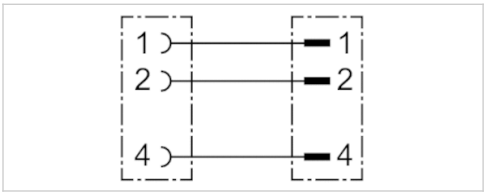


Pin assignment, socket



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	IP68
Weight	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

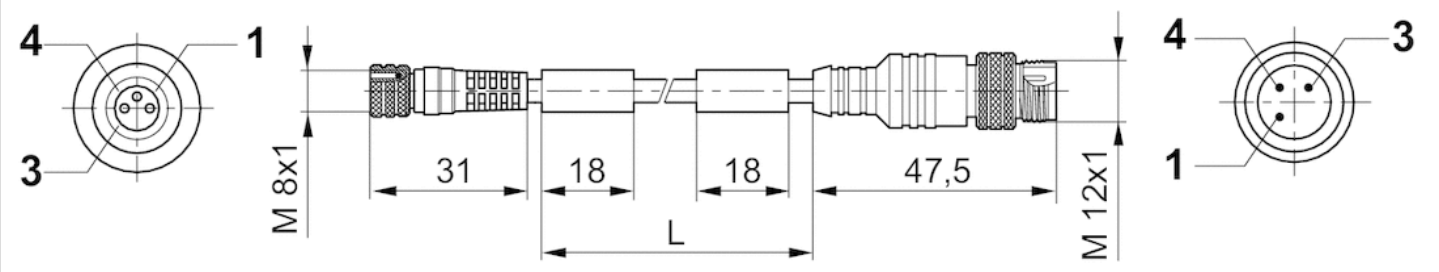
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

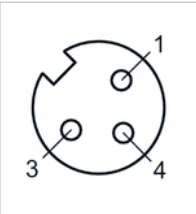
Dimensions



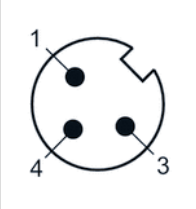
L = length

Pin assignments

Pin assignment, socket



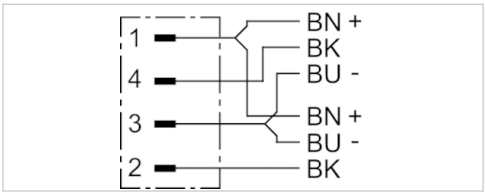
Plug pin assignment



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

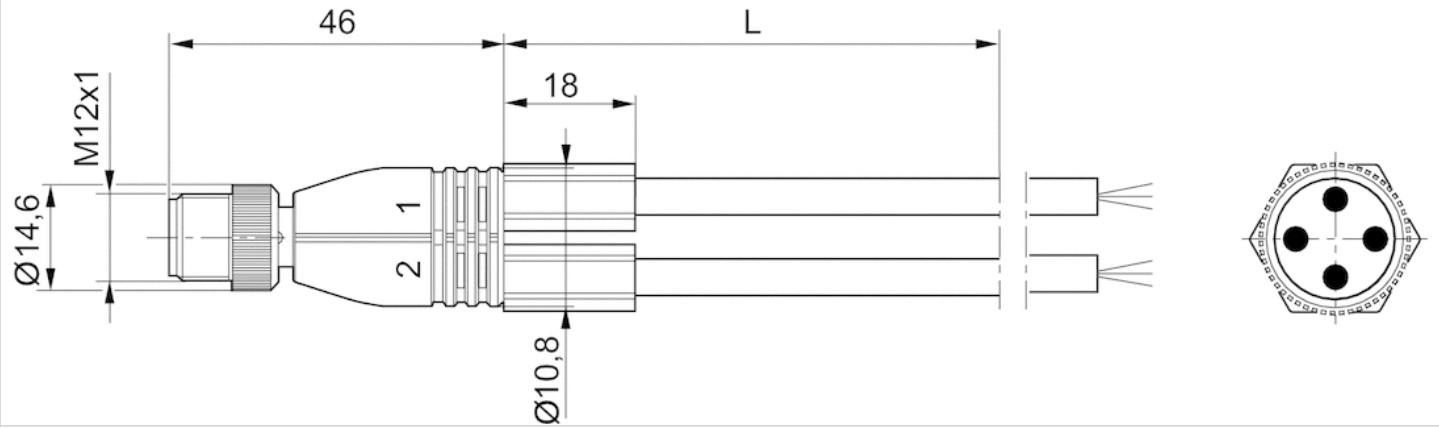
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

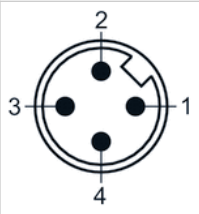
Dimensions



L = length

Pin assignments

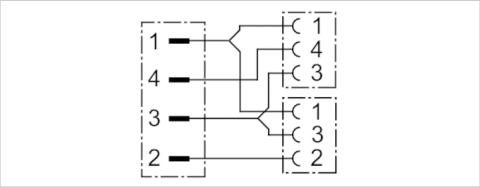
Plug pin assignment



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

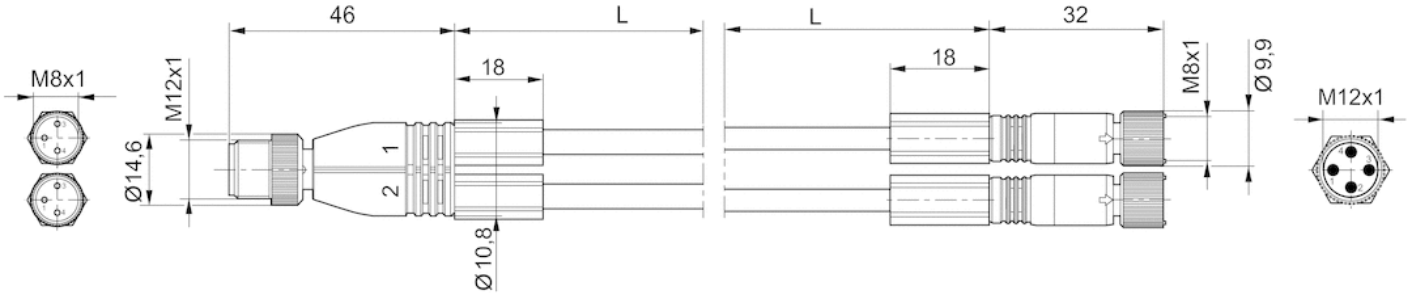
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

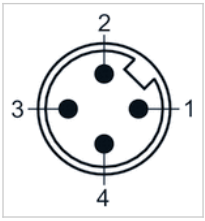
Dimensions



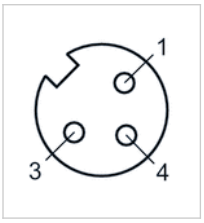
L = length

Pin assignments

Plug pin assignment

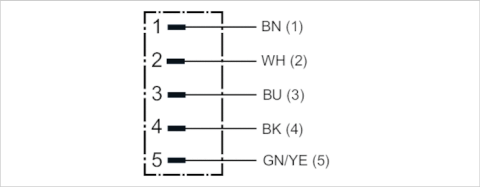


Pin assignment, socket



Round plug connector, Series CON-RD

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



Protection class	IP68
Weight	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

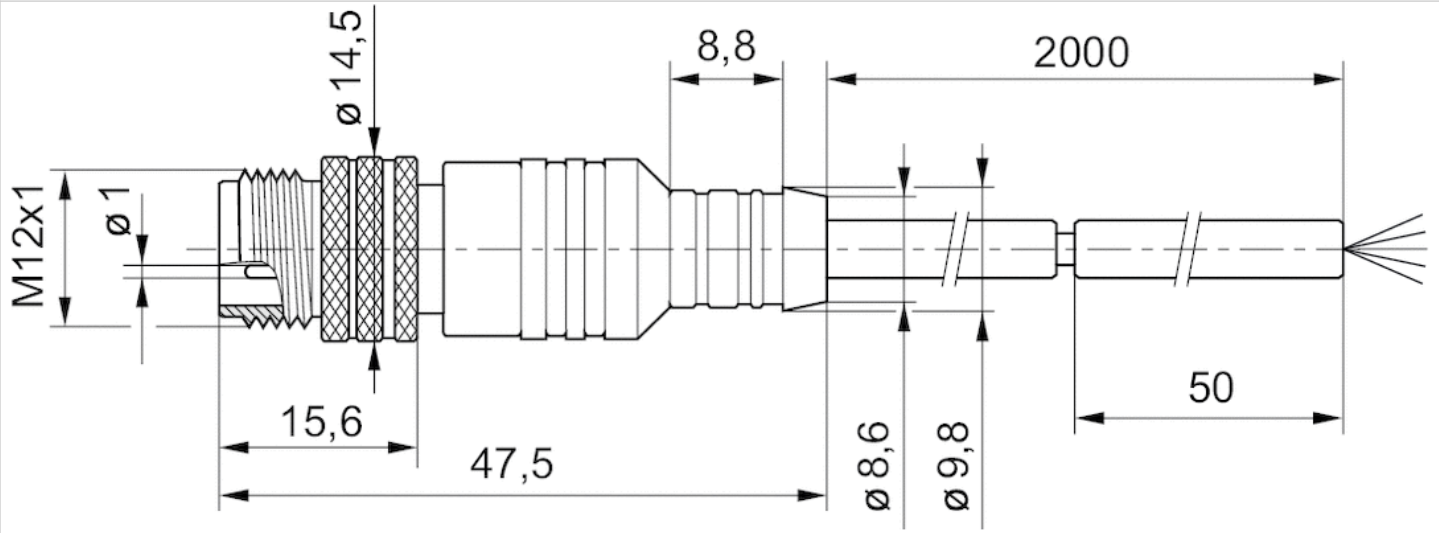
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

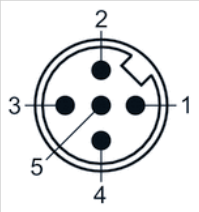
Dimensions



L = length

Pin assignments

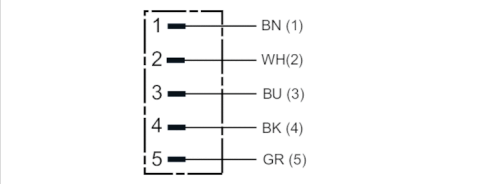
Plug pin assignment



(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 mm²
Mounting screw tightening torque	0.8 Nm
Weight	See table below

Technical data

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

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

suitable for dynamic laying

Technical information

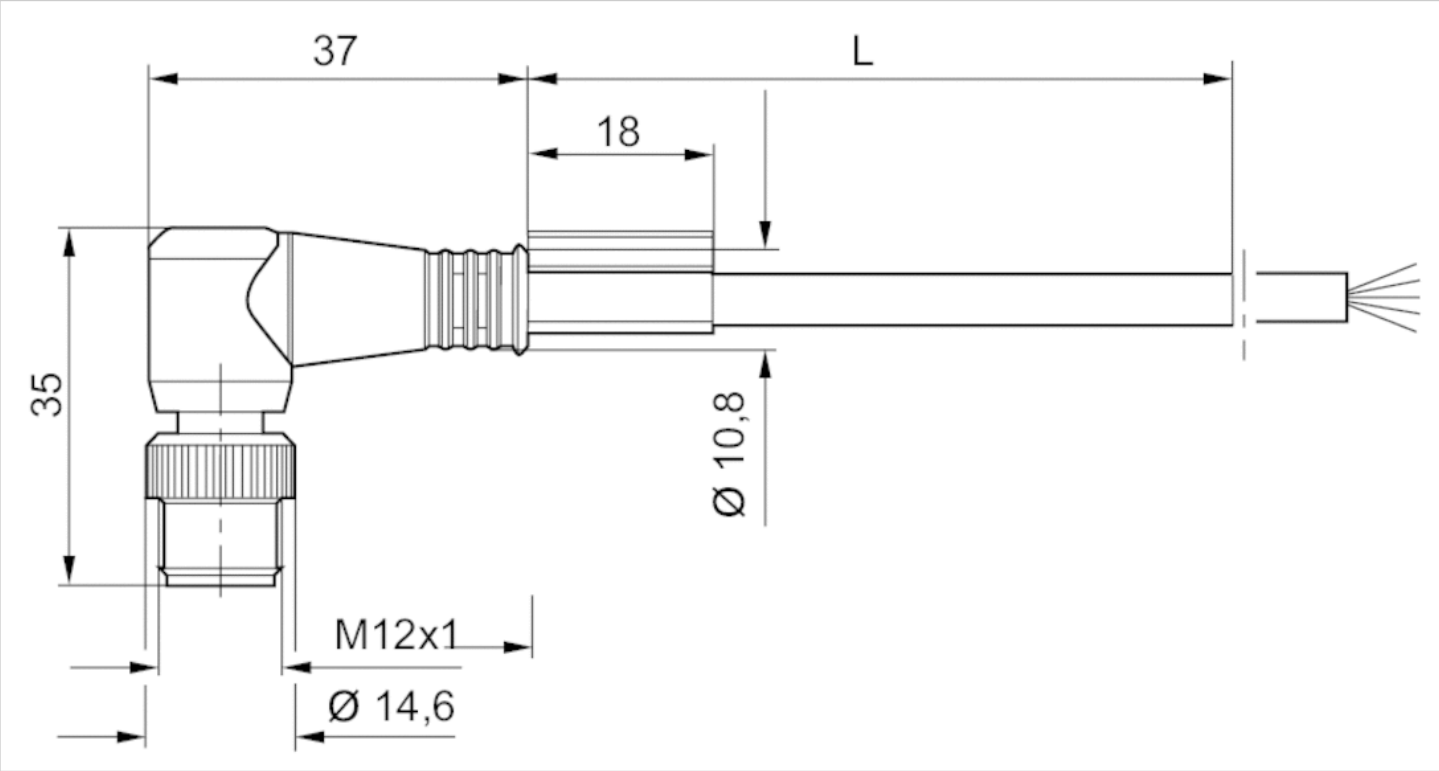
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

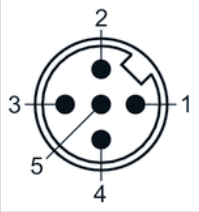
Dimensions



L = length

Pin assignments

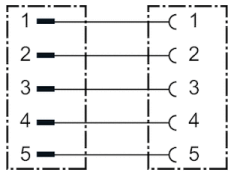
Plug pin assignment



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

Round plug connector, Series CON-RD

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



Ambient temperature min./max.	-25 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP68
Wire cross-section	0.34 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

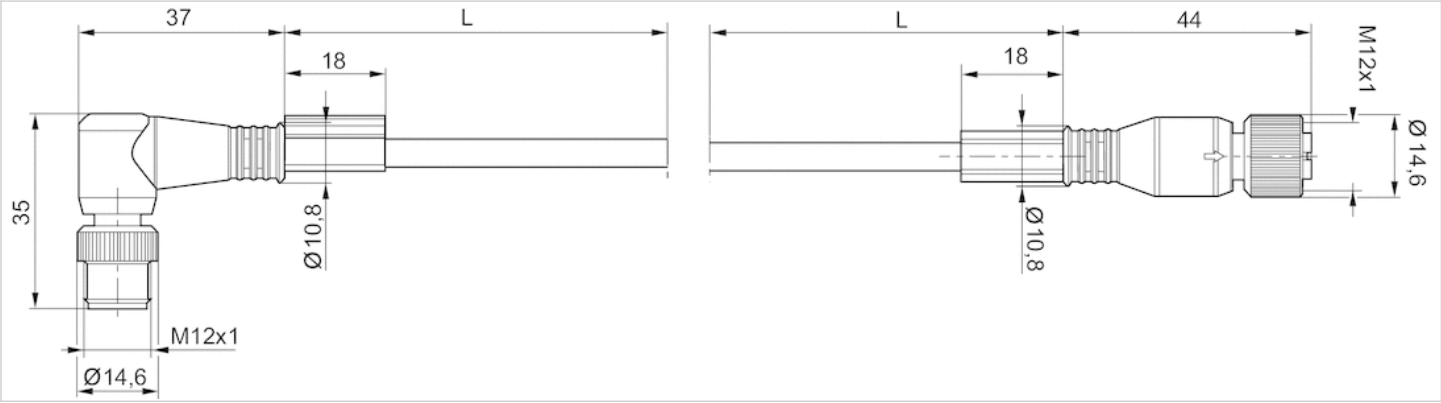
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

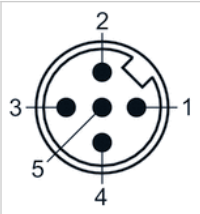
Dimensions



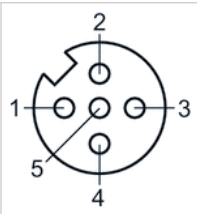
L = length

Pin assignments

Plug pin assignment

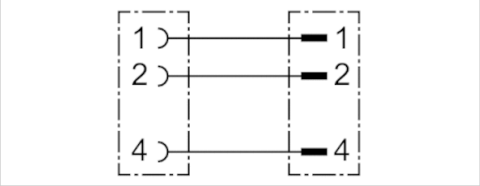


Pin assignment, socket



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

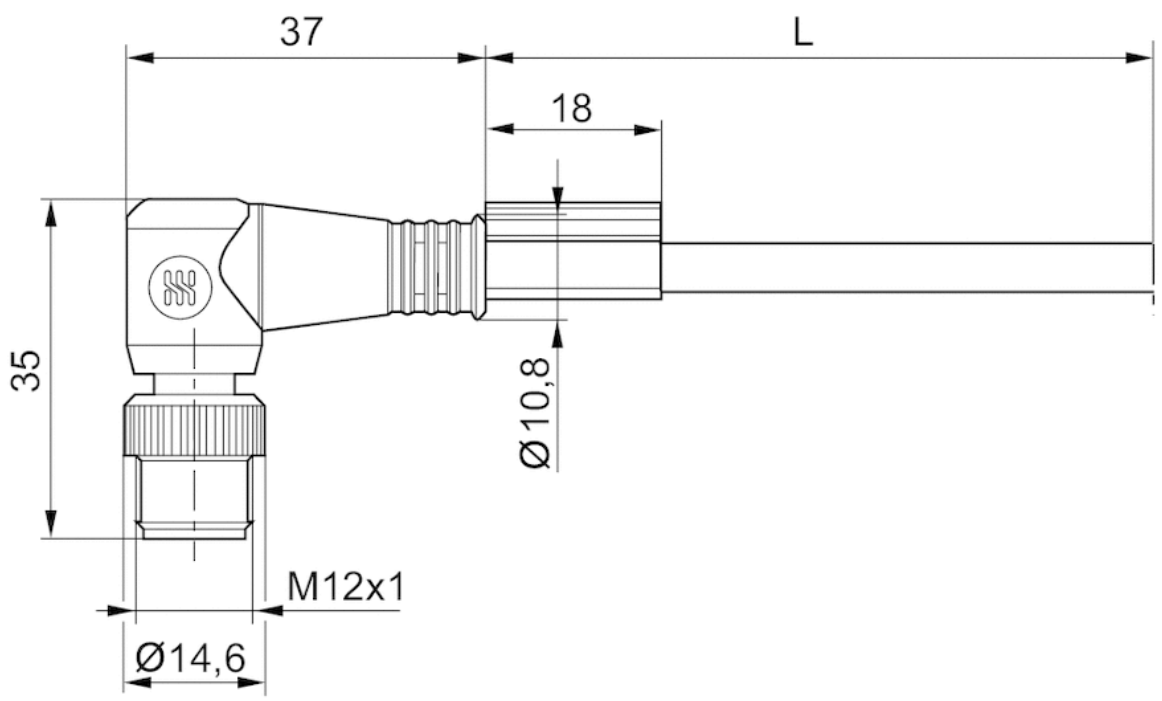
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

Dimensions

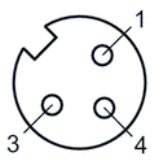


L = length

Pin assignments

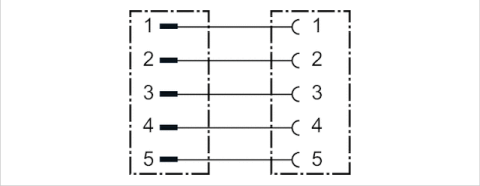
Plug pin assignment

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

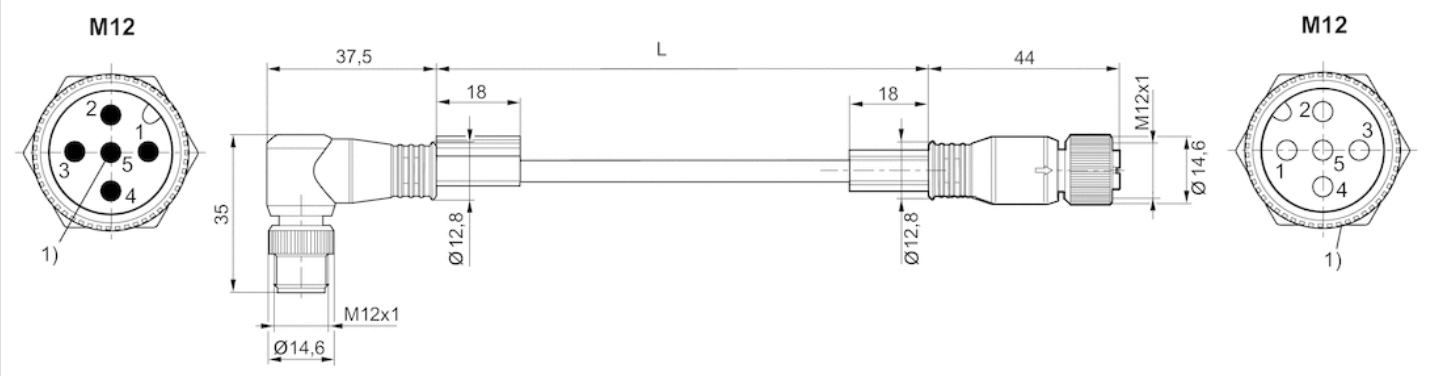
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

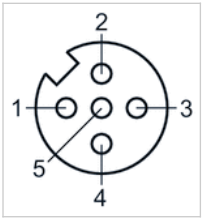
Dimensions



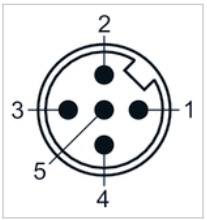
L = length
PIN assignment 1:1
1) Shield is connected to pin 5 of the plug and the knurled screw of the socket.

Pin assignments

Pin assignment, socket

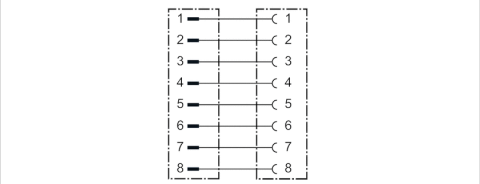


Plug pin assignment



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

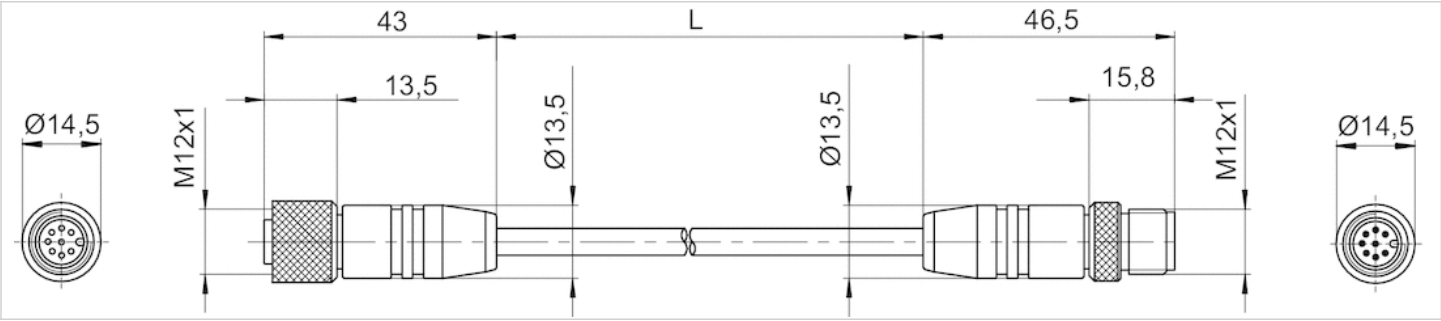
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc
Cable sheath	Polyurethane

Dimensions

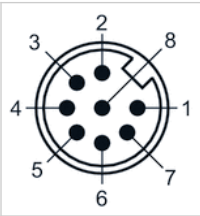
Dimensions



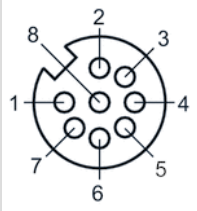
L = length

Pin assignments

Plug pin assignment

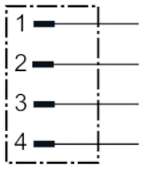


Pin assignment, socket



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

The delivered product may vary from that in the illustration.

Technical data

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

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

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

Technical information

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

Technical information

Material	
Housing	Polyamide

Dimensions

Fig. 1

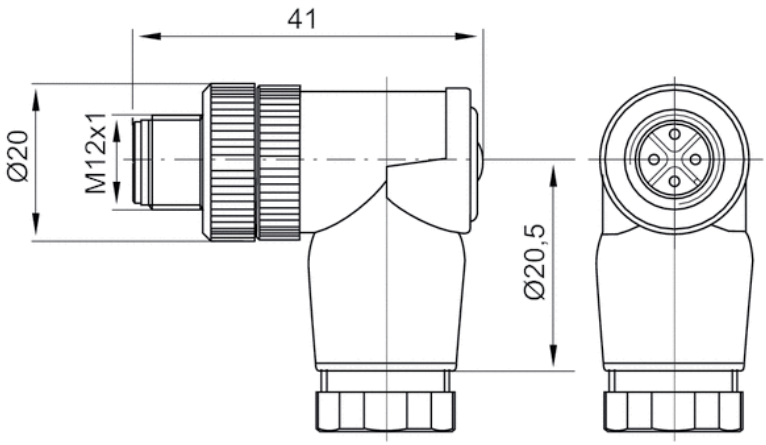
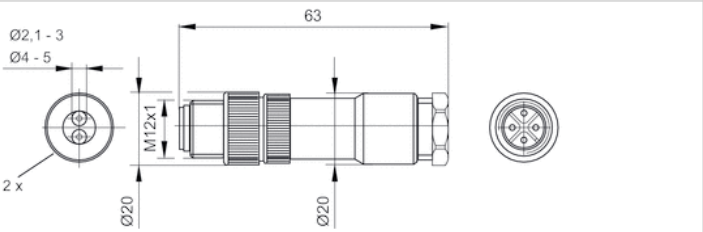


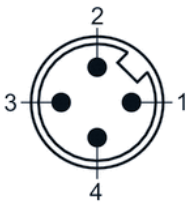
Fig. 2



duo plug

Pin assignments

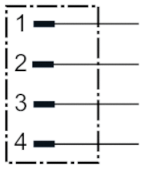
Plug pin assignment



Round plug connector, Series CON-RD

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

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



Technical data

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

Technical information

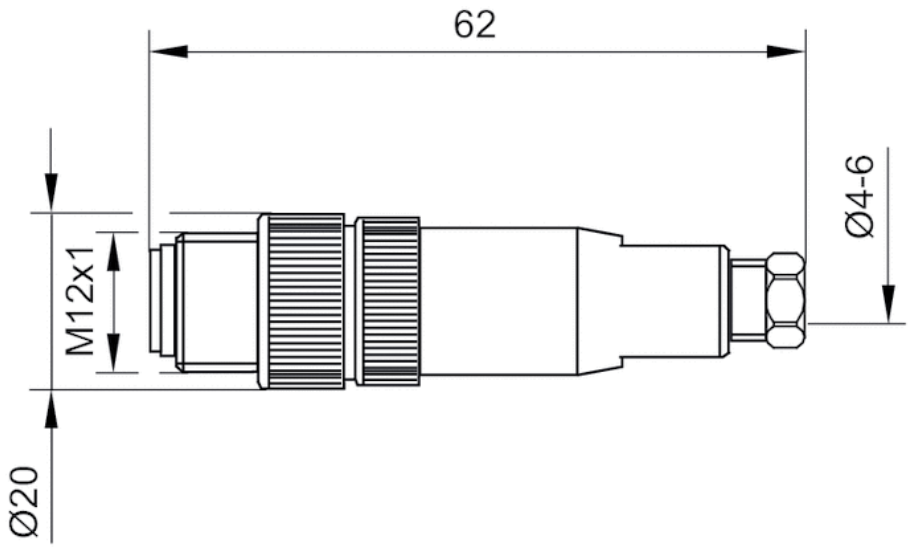
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

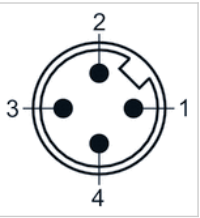
Dimensions

Dimensions



Pin assignments

Plug pin assignment



Round plug connector, Series CON-RD

- 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

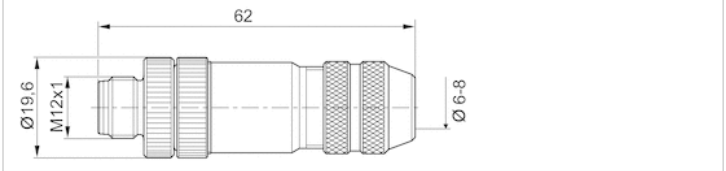
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

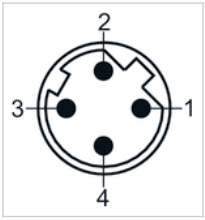
Dimensions

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

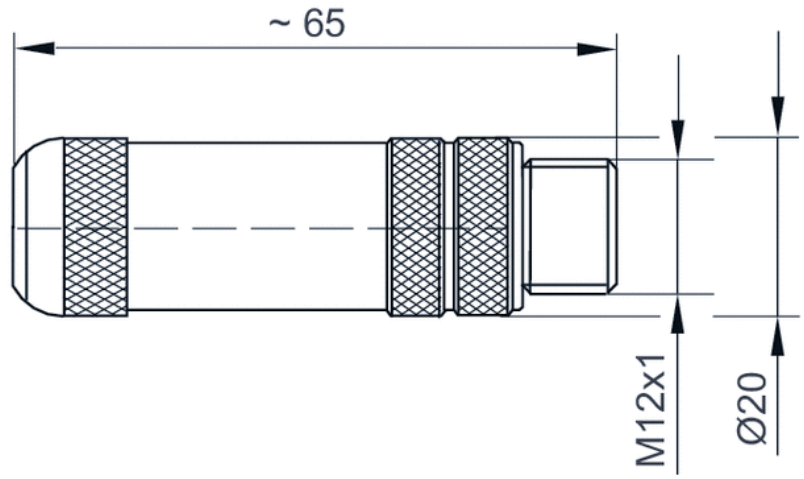
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated
Seals	Fluorocarbon caoutchouc

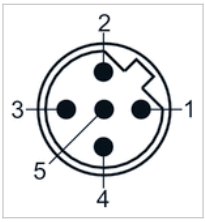
Dimensions

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

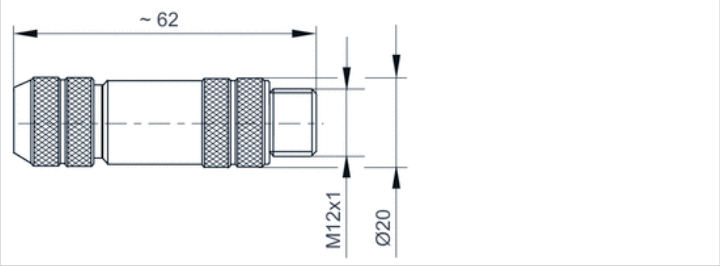
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated

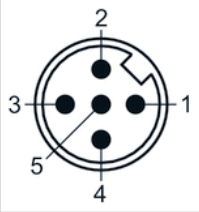
Dimensions

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

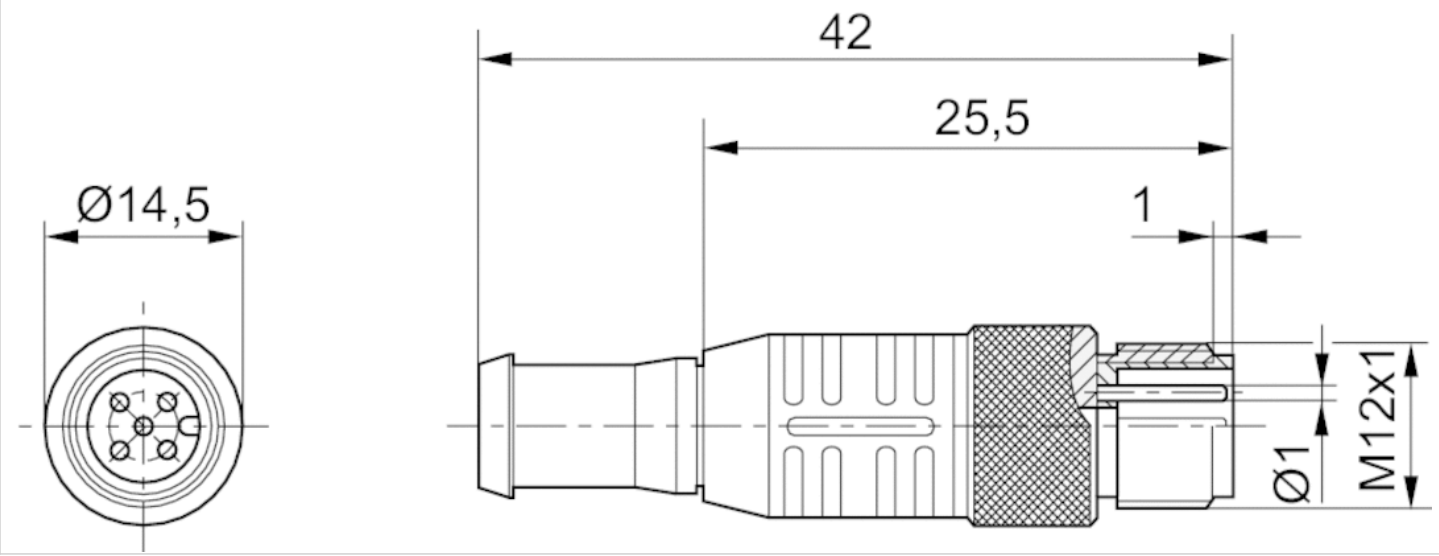
The specified protection class is only valid in assembled and tested state.
PROFIBUS DP bus termination plug

Technical information

Material	
Housing	Thermoplastic elastomer

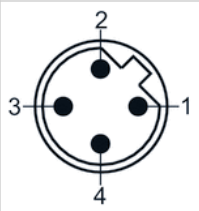
Dimensions

Dimensions



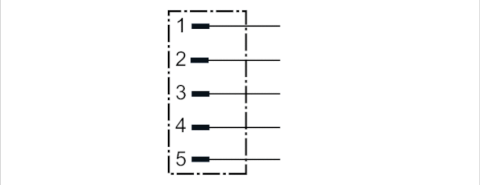
Pin assignments

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

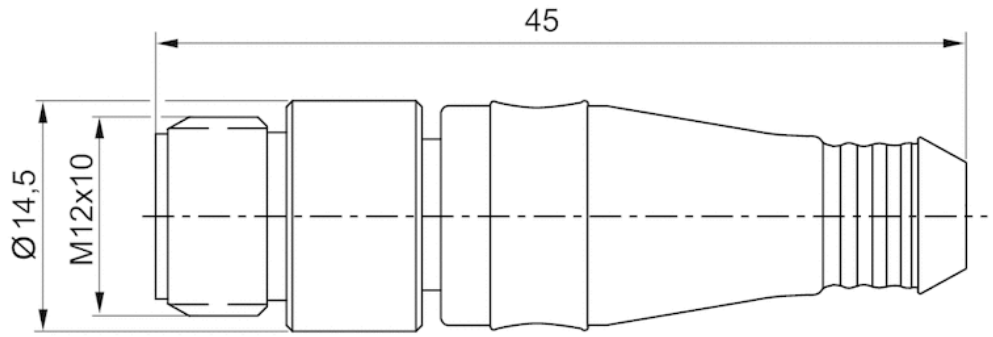
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer

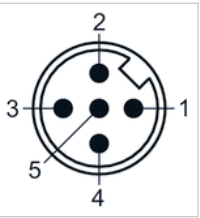
Dimensions

Dimensions



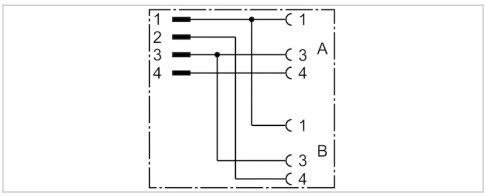
Pin assignments

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

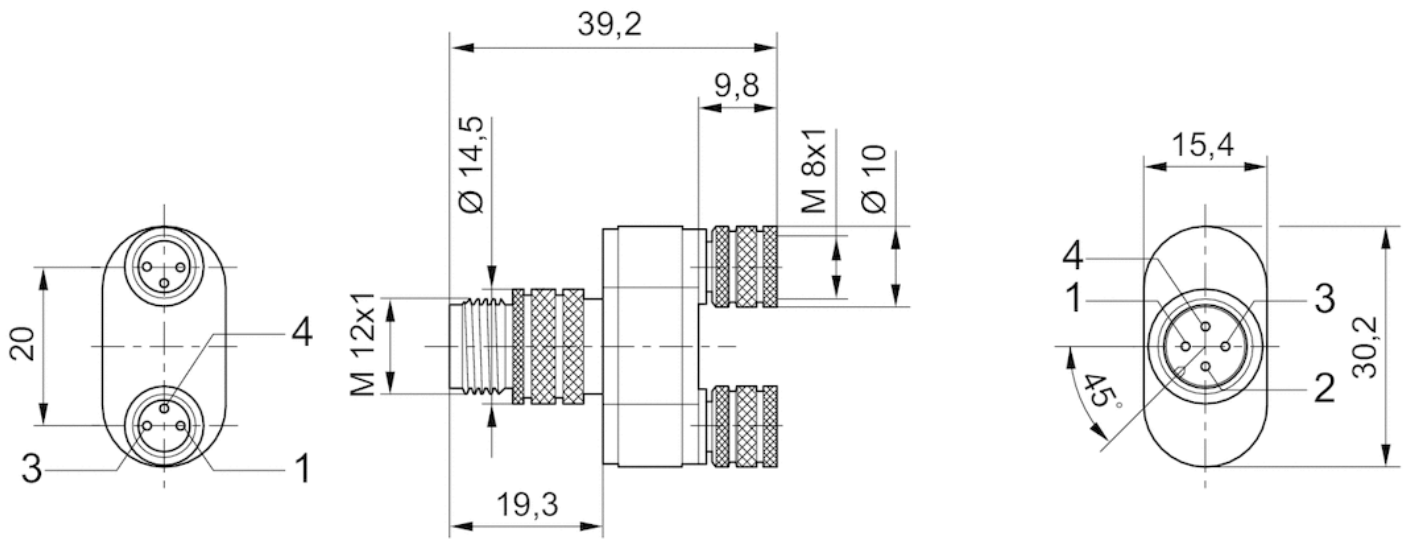
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc

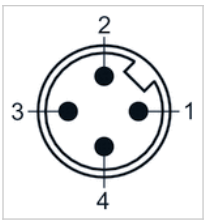
Dimensions

Dimensions

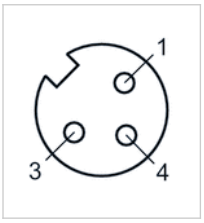


Pin assignments

Plug pin assignment

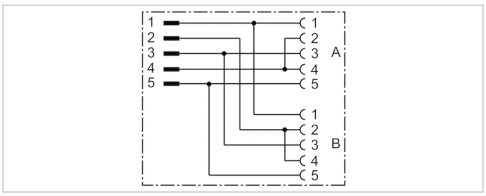


Pin assignment, socket



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

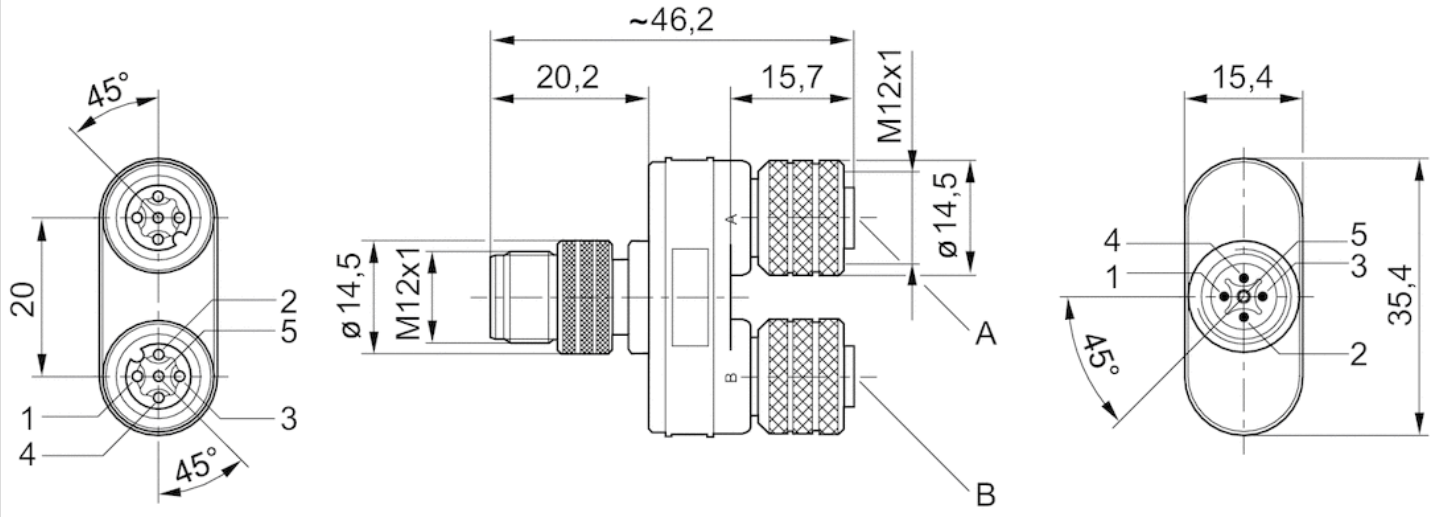
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Seals	Fluorocaoutchouc

Dimensions

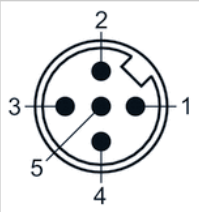
Dimensions



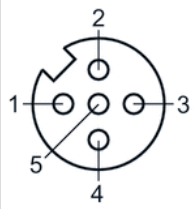
Sockets: Pin 2 and 4 bridged.

Pin assignments

Plug pin assignment

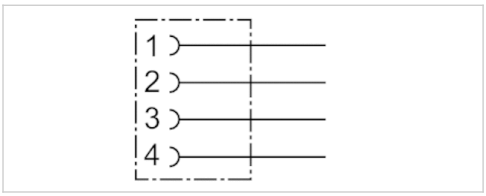


Pin assignment, socket



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

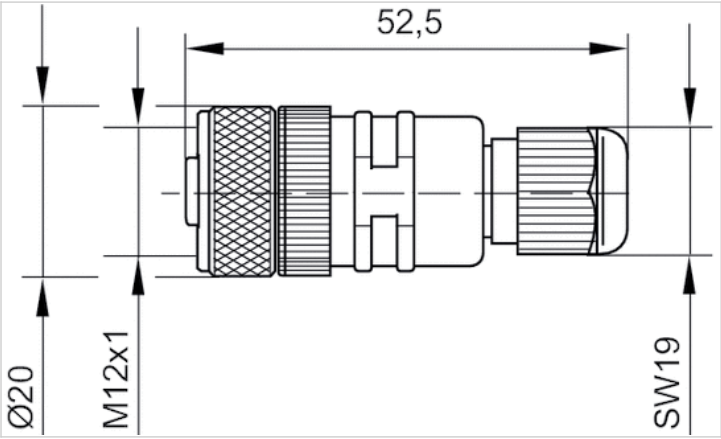
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polybutyleneterephthalate
Seals	Fluorocarbon caoutchouc

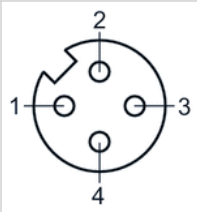
Dimensions

Dimensions



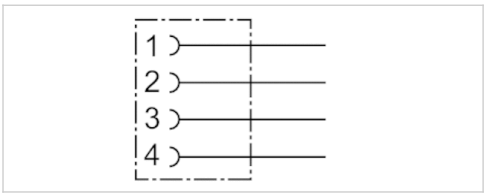
Pin assignments

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

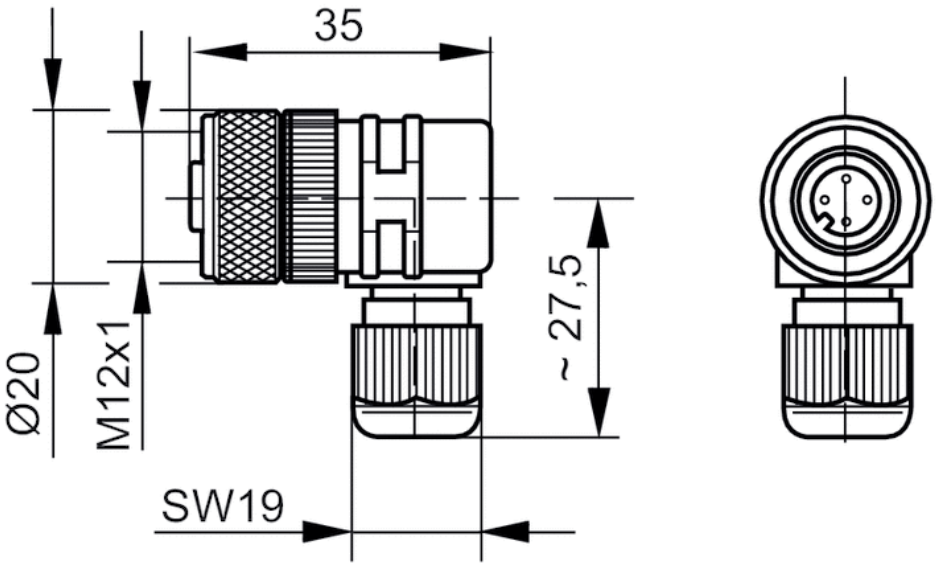
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polybutyleneterephthalate
Seals	Fluorocarbon caoutchouc

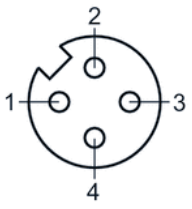
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

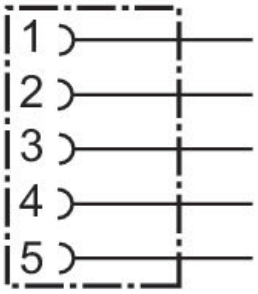


Round plug connector, Series CON-RD

8942051602

Round plug connector, Series CON-RD

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



Technical data

Industry
Industrial

Type
Round plug connectors

Connection type
Screws

Protocol
CANopen
DeviceNet

Certificates
UL (Underwriters Laboratories)

Shielding
shielded

Min. ambient temperature
-40 °C

Max. ambient temperature
85 °C

Max. current
4 A

Protection class
IP67

Operational voltage
48 V AC/DC

Electrical connection 1, type
Socket

Electrical connection 1, thread size
M12x1

Electrical connection 1, number of poles
5-pin

Electrical connection 1, coding
A-coded

Cable exit
straight

Cable exit angle
180°

Weight
0.051 kg

Material

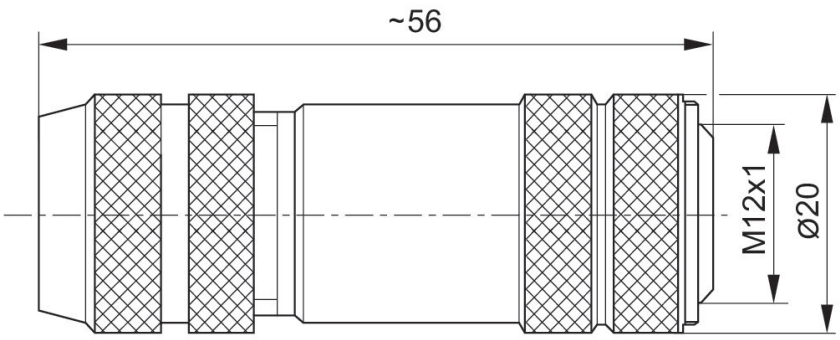
Housing material
Brass

Part No.
8942051602

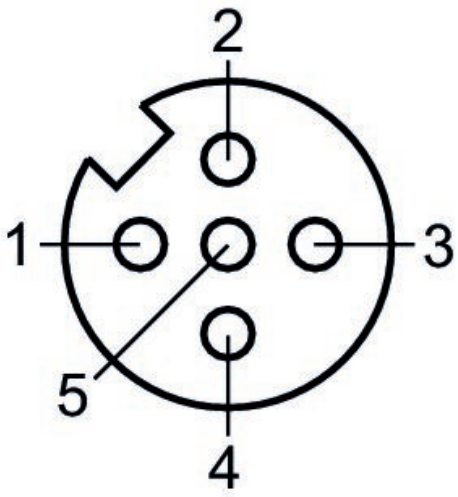
Technical information

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

Dimensions



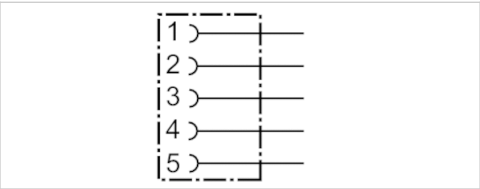
Pin assignment, socket



Round plug connector, Series CON-RD

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

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



Technical data

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

Technical information

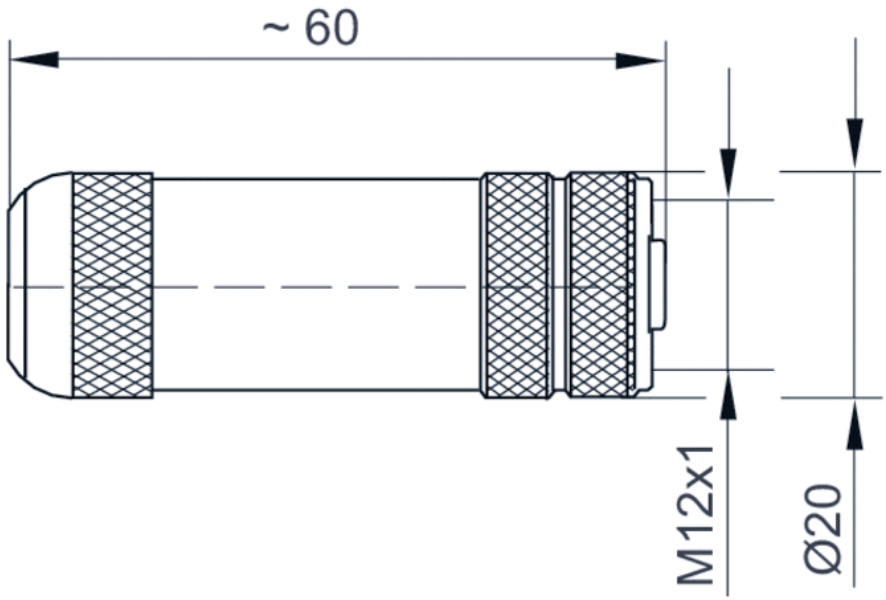
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Brass, nickel-plated
Seals	Fluorocarbon caoutchouc

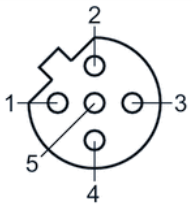
Dimensions

Dimensions



Pin assignments

Pin assignment, socket



Passive distributor, Series AES

R412028732

General series information
AVENTICS Series AES Field bus modules

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

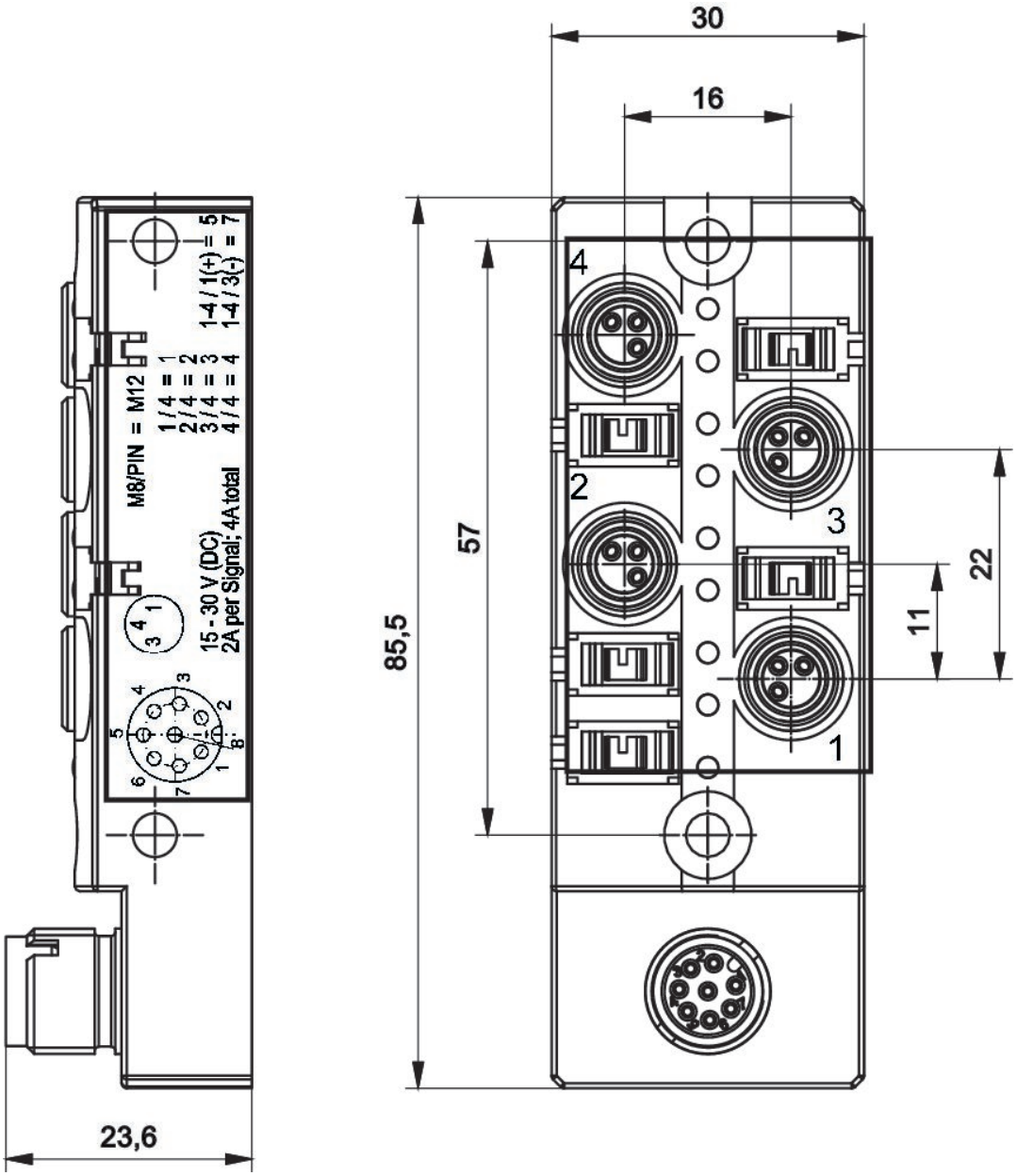
Technical data

Version	Passive distributor
E/A capable	connection with I/O
Number of I/O connections	4 inputs / 4 outputs
Signal connection E/A type	Socket
Signal connection E/A thread size	M8x1
Signal connection E/A number of poles	3-pin
Min. ambient temperature	-25 °C
Max. ambient temperature	80 °C
Operational voltage electronics	15-30 V DC
Current consumption electronics	2 A
Protection class	IP67
Communication port Type	Plug
Number	1
Communication port, Thread size	M12x1
Communication port, Number of poles	8-pin
Communication port, Coding	A-coded

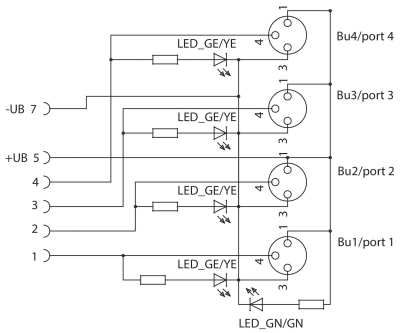
Material

Housing material	Polybutyleneterephthalate
Part No.	R412028732

Dimensions



Circuit diagram



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 mm²
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

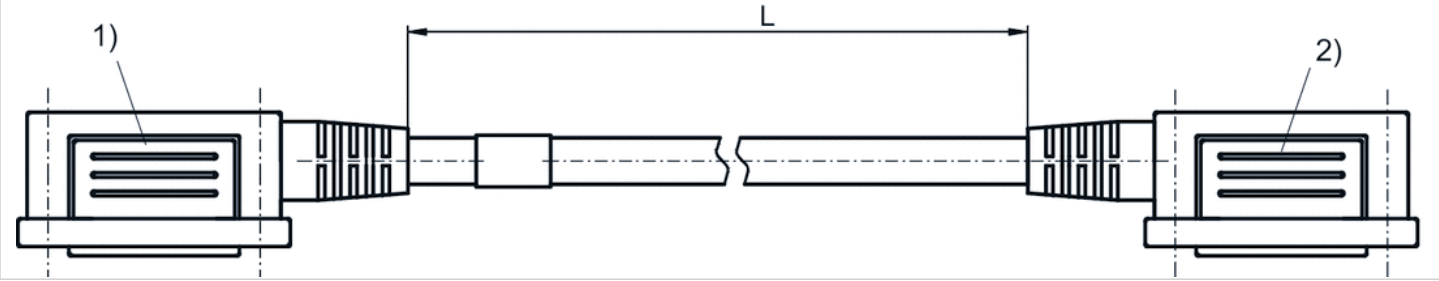
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyvinyl chloride

Dimensions

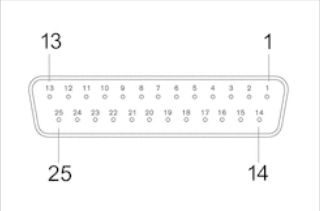
Dimensions



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

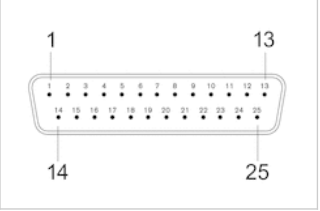
10	11	12	13	14	15
violet	gray/pink	red/blue	white/green	brown/green	white/yellow

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 mm²
Weight	See table below

Technical data

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

Technical information

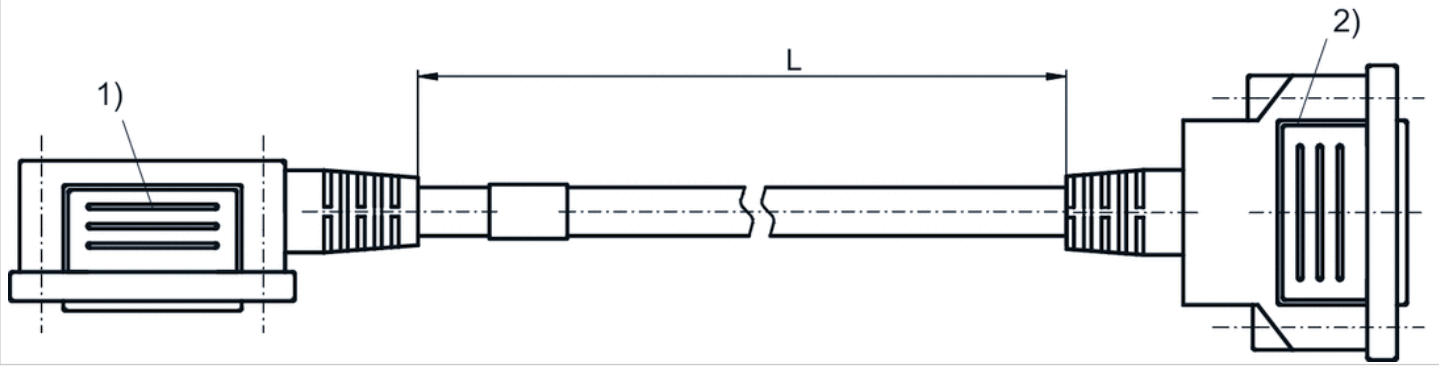
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Thermoplastic elastomer
Cable sheath	Polyvinyl chloride

Dimensions

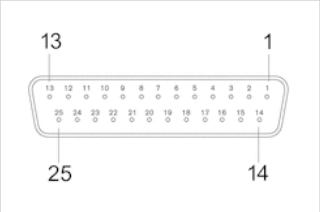
Dimensions



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

Pin assignments

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



Socket

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

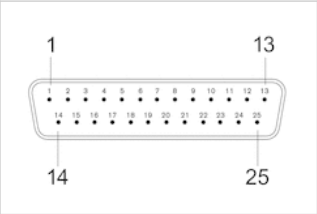
10	11	12	13	14	15
violet	gray/pink	red/blue	white/green	brown/green	white/yellow

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

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

Pin assignments

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



Plug

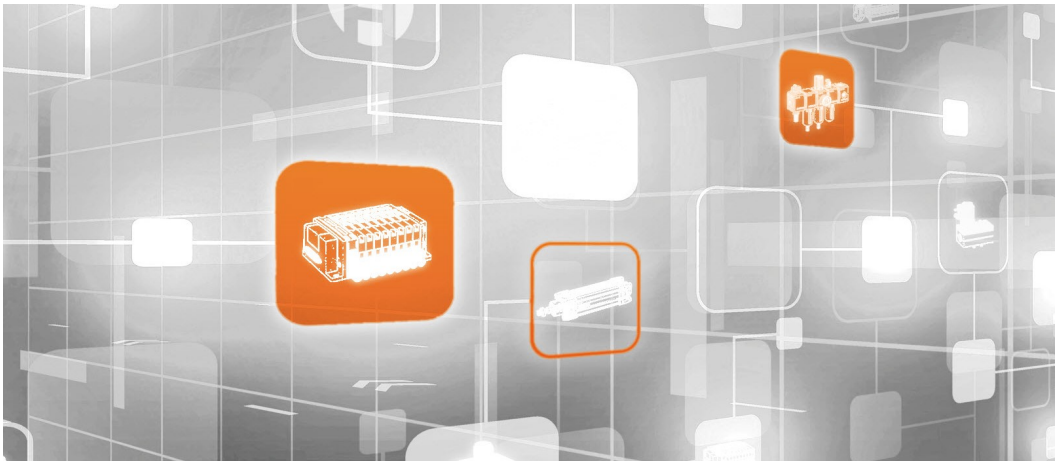
Pin	1	2	3	4	5	6	7	8	9
Color	white	brown	green	yellow	gray	pink	blue	red	black

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

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

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

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



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