

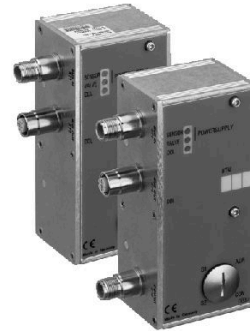
Series DDL



AVENTICS Series DDL Field bus modules

The AVENTICS Series DDL allows for a flexible fieldbus strategy and extended diagnostic functionality. Extended diagnostic functionality up to the pilot valve provides detailed information in case of an error. I/O-modules and E/P pressure regulators complete the product portfolio.

- Distributed Fieldbus systems
- Easy switch between Fieldbus protocols by changing only the bus node
- Control of LP, HF series valve systems, E/P pressure regulators, I/O-modules possible
- Channel diagnosis for fast failure analysis
- Hybrid cable with integrated power for easy and fast installation



Product overview

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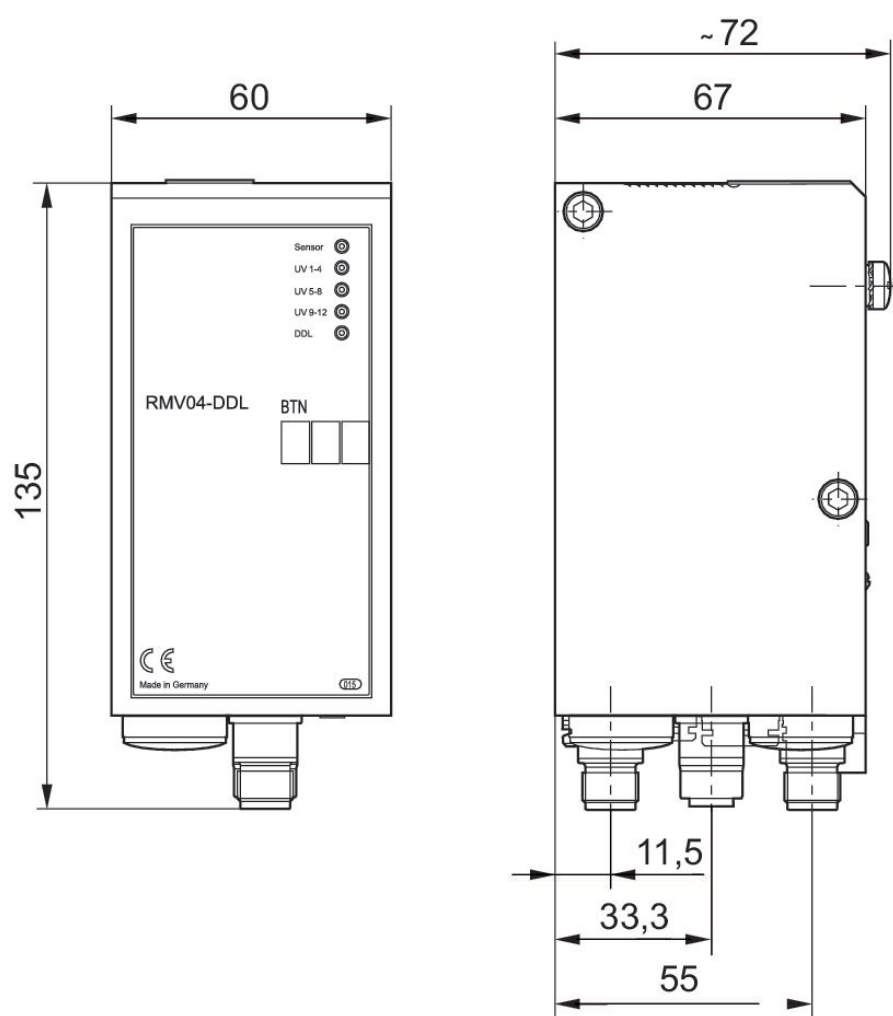
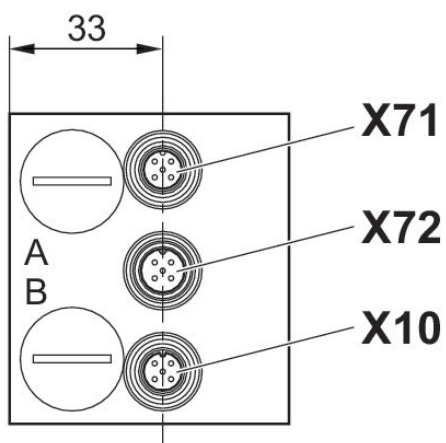
Series DDL

Electrical connection 2, thread size: M12
Electr. connection: 4-pin
Ambient temperature min./max.: 0 °C ... 50 °C



Min. ambient temperature [°C]	Max. ambient temperature [°C]	Version	Part No.
0	50	Driver	R412006880

Dimensions



Series DDL

Electrical connection 2, thread size: M12

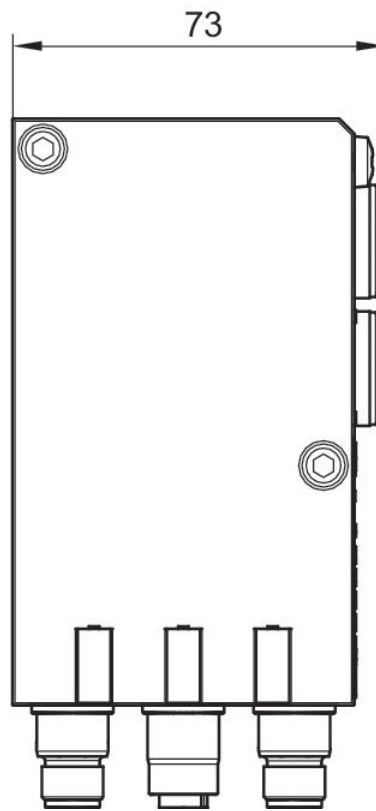
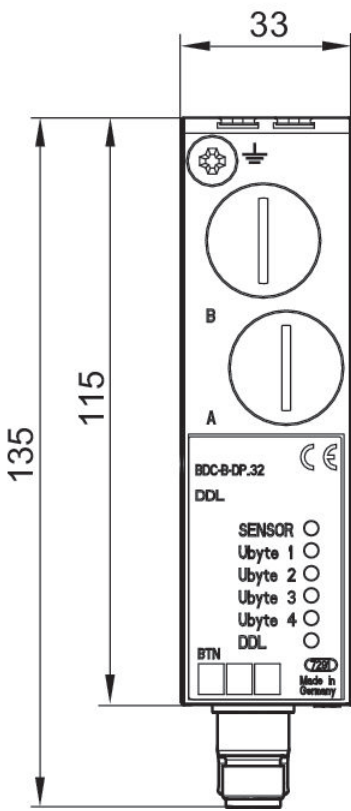
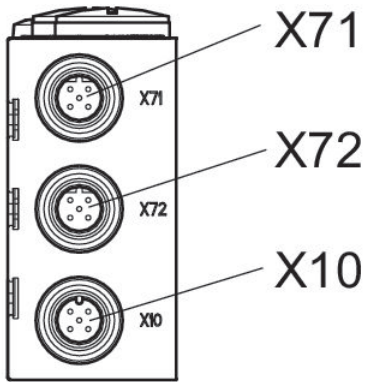
Electr. connection: 4-pin

Ambient temperature min./max.: 0 °C ... 50 °C



Min. ambient temperature [°C]	Max. ambient temperature [°C]	Version	E/A capable	Part No.
0	50	Driver	connection without I/O	R412008541

Dimensions



X71 = Bus IN
X72 = Bus OUT
X10 = power supply

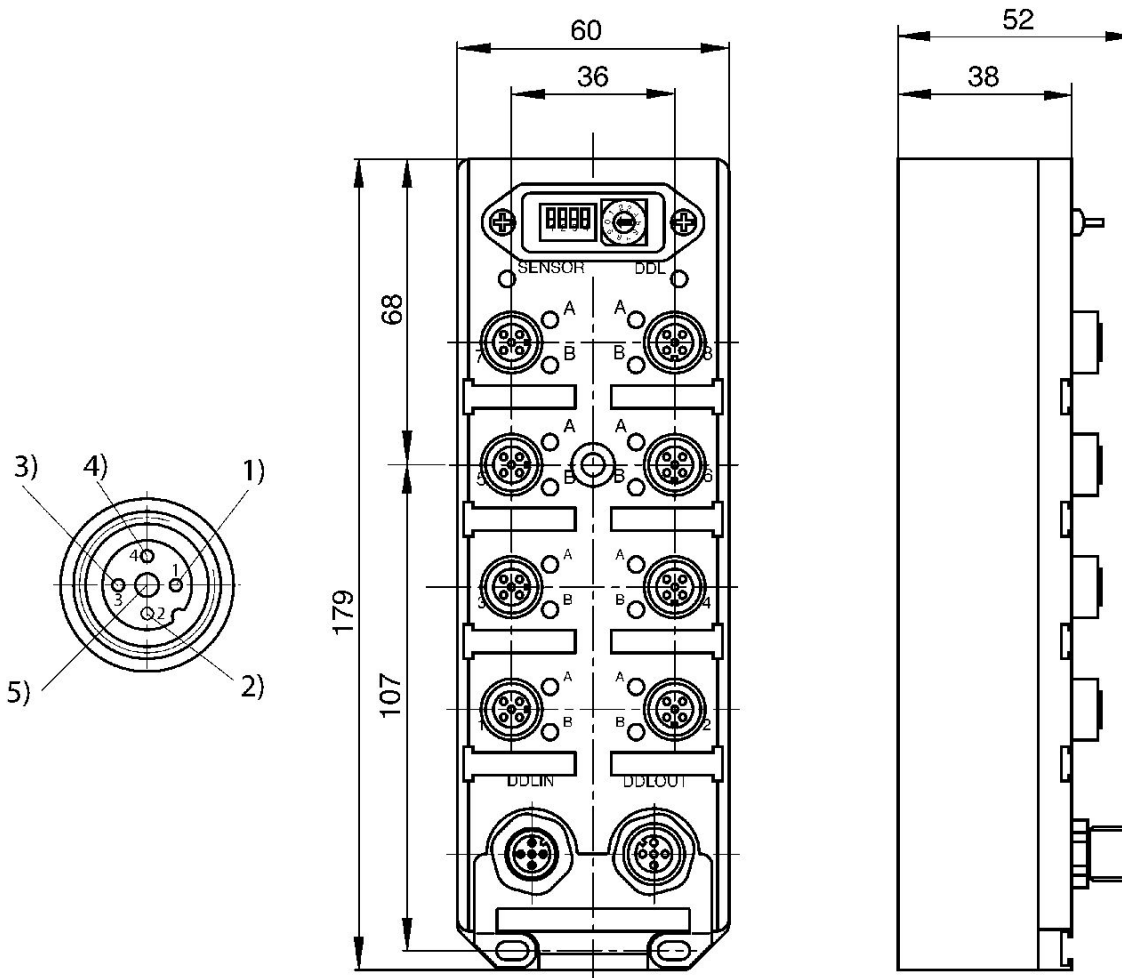
Series DDL

Electrical connection 2, thread size: via communication connection plug
Ambient temperature min./max.: 5 °C ... 50 °C



Min. ambient temperature [°C]	Max. ambient temperature [°C]	Version	Signal connection	Part No.
5	50	I/O module, active	M12	3375002000

Dimensions



1) 24 V 2) Input 2 3) 0 V 4) Input 1 5) PE

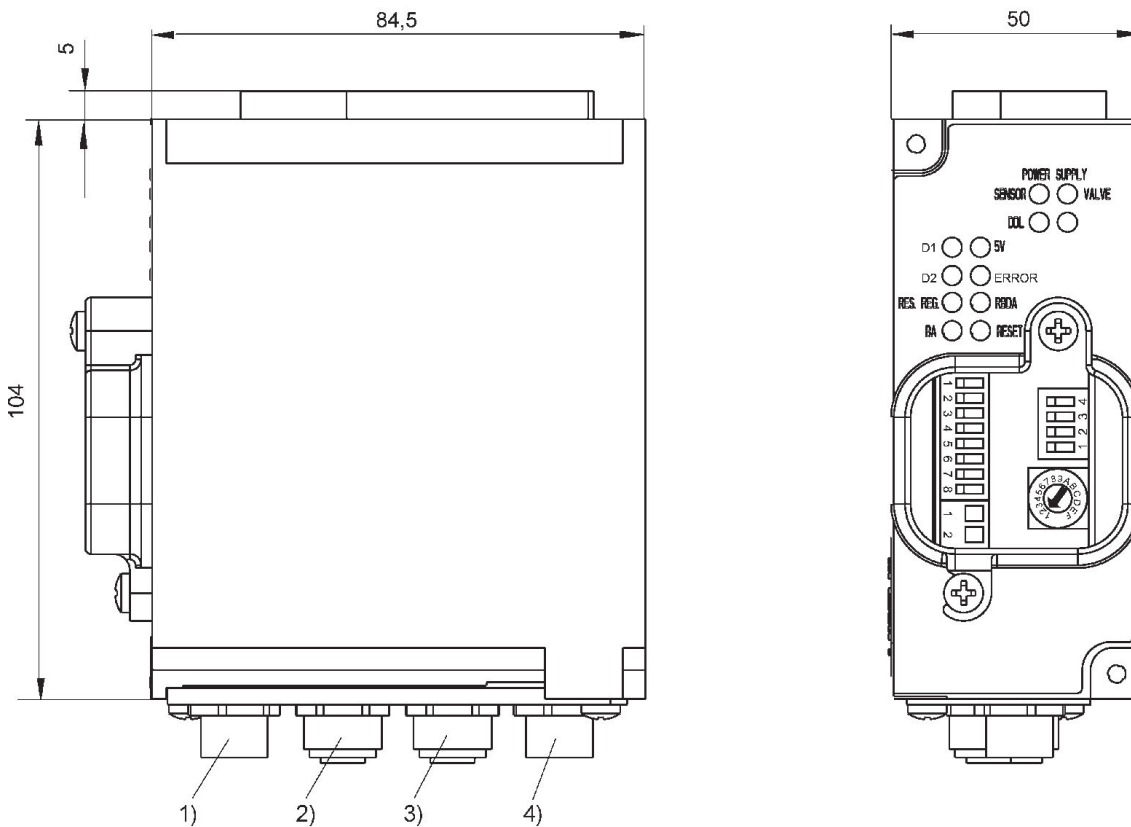
Series DDL

Electrical connection 2, thread size: M12
Electr. connection: 4-pin
Ambient temperature min./max.: 5 °C ... 50 °C



Min. ambient temperature [°C]	Max. ambient temperature [°C]	Fieldbus protocol	Version	Signal connection	Part No.
5	50	EtherNet/IP, MODBUS TCP, TCP/IP	Bus coupler with driver	M12	R412000732

Dimensions



1) Bus IN, M12x1, B-coded 2) Bus OUT, M12x1, B-coded 3) DDL, M12, 5-pin 4) Power supply plug M12, 4-pin

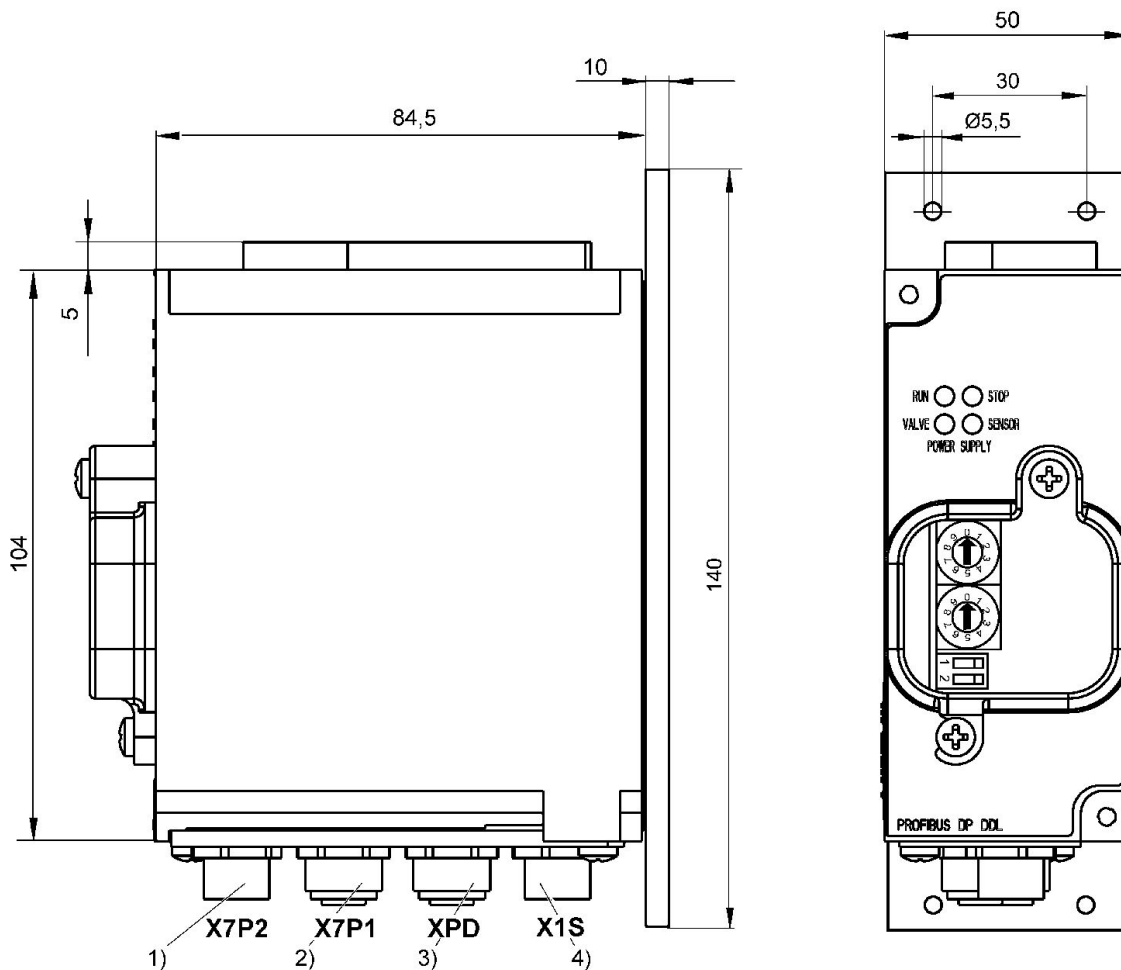
Series DDL

Electrical connection 2, thread size: M12x1
Electr. connection: 4-pin
Ambient temperature min./max.: 5 °C ... 50 °C



Min. ambient temperature [°C]	Max. ambient temperature [°C]	Fieldbus protocol	Version	E/A capable	Number of I/O connections	Signal connection	Part No.
5	50	DeviceNet	Stand-alone bus coupler	connection with I/O	1 output / 1 input	M12	R412006999

Dimensions



- 1) bus IN, M12x1, B-coded
- 2) bus OUT, M12x1, B-coded
- 3) DDL, M12, 5-pin
- 4) Power supply plug M12x1, 4-pin

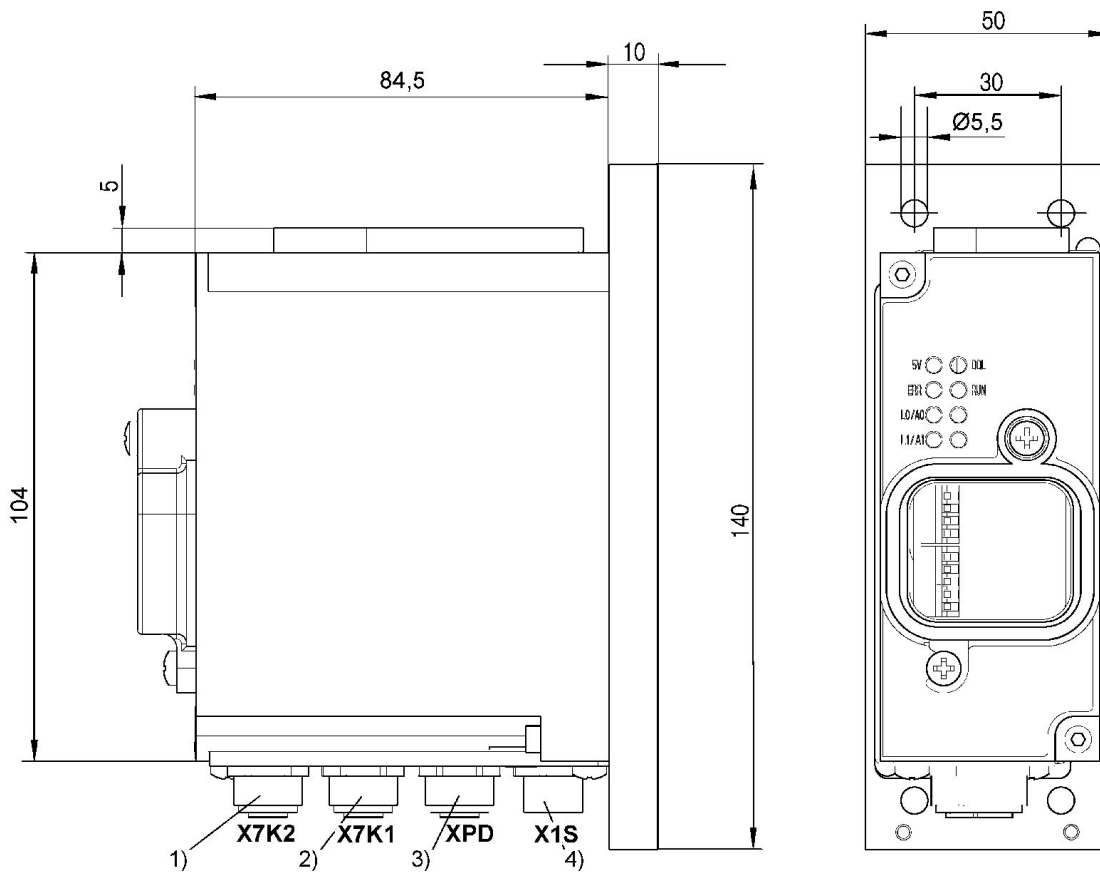
Series DDL

Electrical connection 2, thread size: M12x1
Electr. connection: 4-pin
Ambient temperature min./max.: 5 °C ... 50 °C



Min. ambient temperature [°C]	Max. ambient temperature [°C]	Fieldbus protocol	Version	Signal connection	Part No.
5	50	PROFINET IO	Stand-alone bus coupler	M12	R412013399

Dimensions



- 1) bus IN, M12x1, D-coded
- 2) Bus OUT, M12x1, D-coded
- 3) DDL, M12, 5-pin
- 4) Power supply plug M12x1, 4-pin

Round plug connector, Series CON-RD

Electrical connection 1: Plug ... M8x1 ... 3-pin ... angled

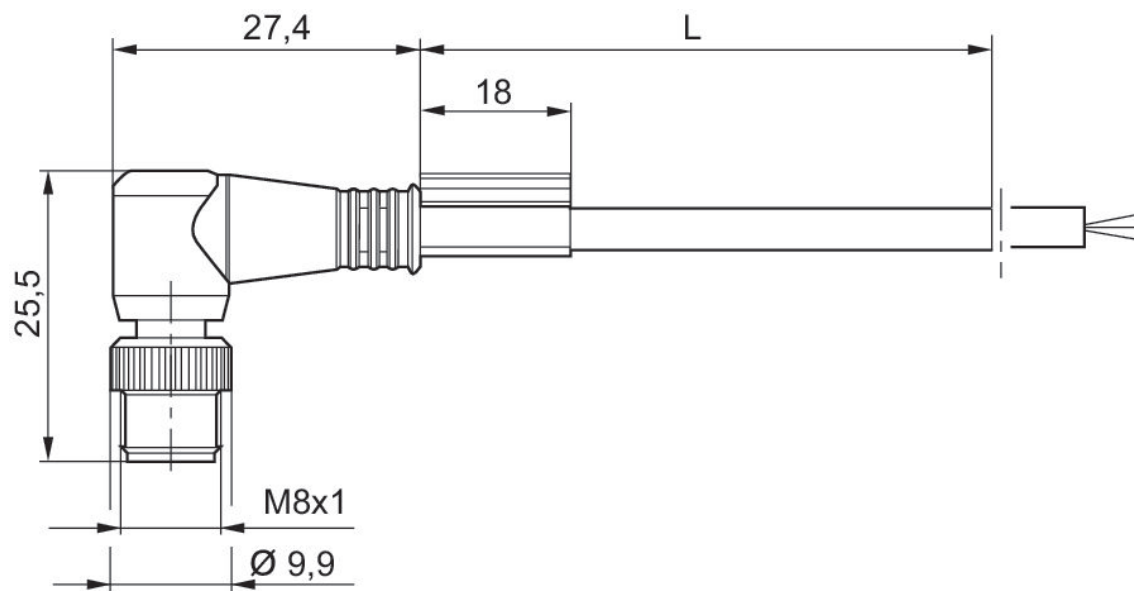
Electrical connection 2: open cable ends ... 3-pin

Ambient temperature min./max.: -25 °C ... 85 °C



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

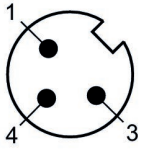
Dimensions



L = length

R412021678, R412021679, R412021680

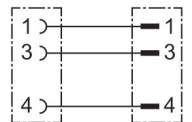
Plug pin assignment



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

Round plug connector, Series CON-RD

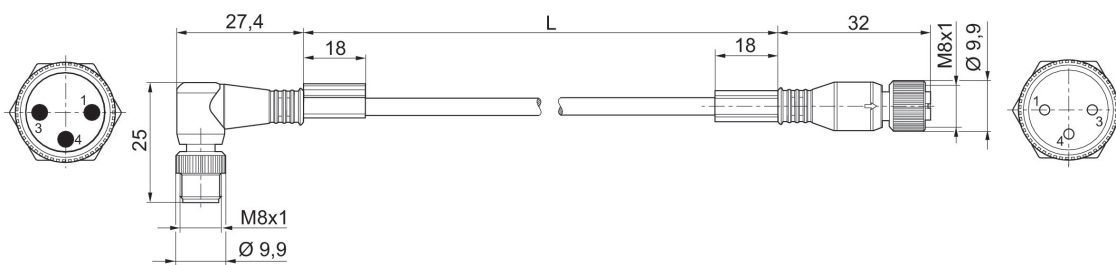
Electrical connection 1: Plug ... M8x1 ... 3-pin ... angled
 Electrical connection 2: Socket ... M8x1 ... 3-pin ... straight
 Ambient temperature min./max.: -25 °C ... 85 °C



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Part No.
48 V AC/DC	Socket	M8x1	3-pin	A-coded	Plug	M8x1	3-pin	R412021681
48 V AC/DC	Socket	M8x1	3-pin	A-coded	Plug	M8x1	3-pin	R412021682
48 V AC/DC	Socket	M8x1	3-pin	A-coded	Plug	M8x1	3-pin	R412021683

Electrical connection 2, coding	Cable length [m]	Part No.
A-coded	1	R412021681
A-coded	2	R412021682
A-coded	5	R412021683

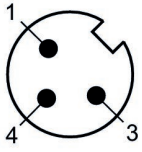
Dimensions



L = length

R412021681, R412021682, R412021683

Plug pin assignment



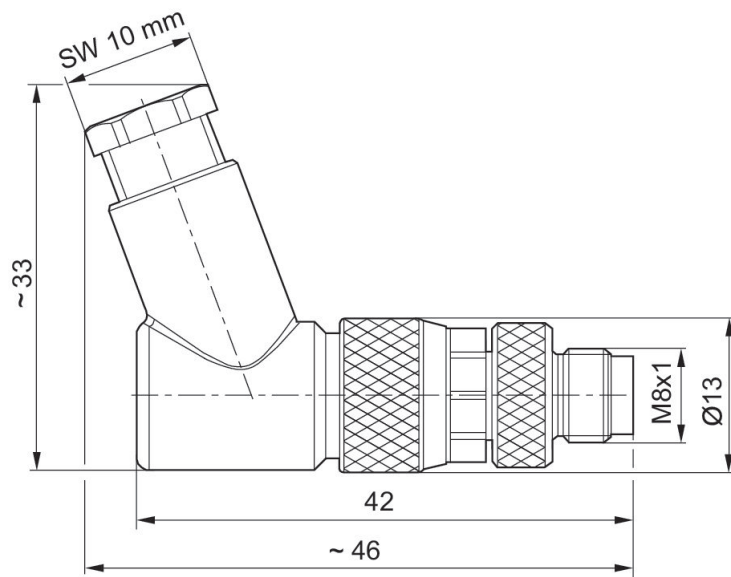
Round plug connector, Series CON-RD

Electrical connection 1: Plug ... M8x1 ... 3-pin ... angled
 Connection type: Screws
 Ambient temperature min./max.: -25 °C ... 80 °C



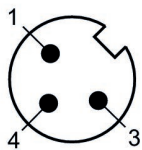
Operational voltage	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	Screws	4	3.5	6	R412021677

Dimensions



R412021677

Plug pin assignment

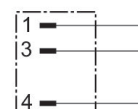


Round plug connector, Series CON-RD

Electrical connection 1: Plug ... M8x1 ... 3-pin ... straight

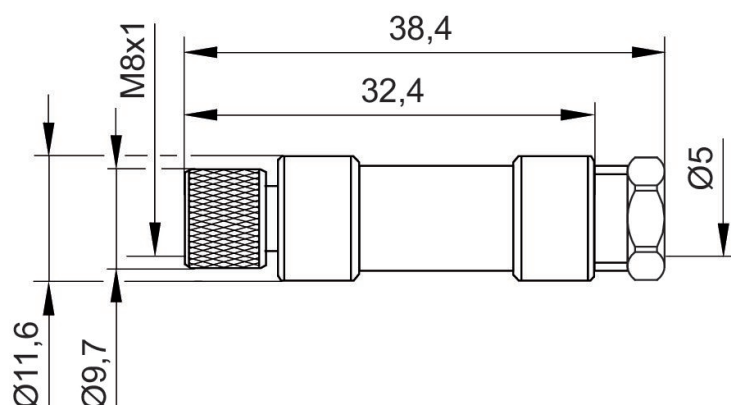
Connection type: Screws

Ambient temperature min./max.: -40 °C ... 85 °C

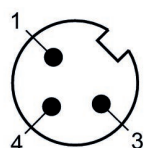


Operational voltage	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	Screws	4	3.5	5	R412021676

Dimensions

**R412021676**

Plug pin assignment



Round plug connector, Series CON-RD

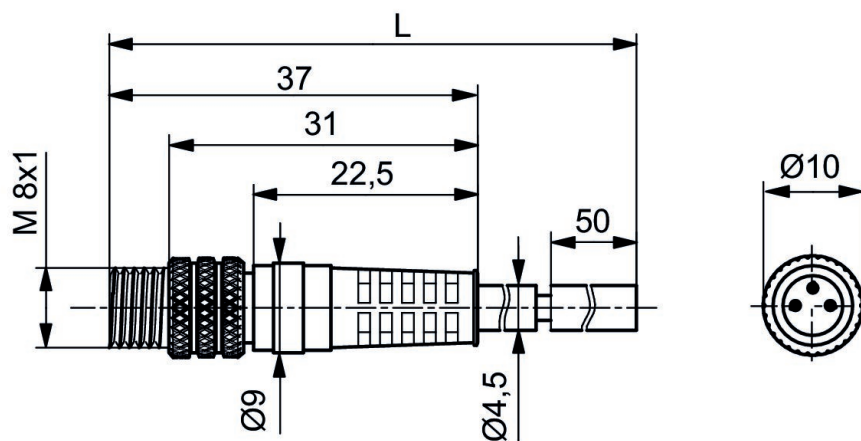
Electrical connection 1: Plug ... M8x1 ... 3-pin ... straight

Electrical connection 2: open cable ends ... 3-pin



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

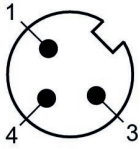
Dimensions



L = length

8946203602, 8946203612, 8946203622

Plug pin assignment

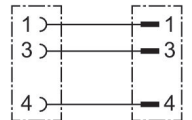


(1) BN=brown (3) BU=blue (4) BK=black

Round plug connector, Series CON-RD, Plug M8x1

Electrical connection 1: Plug ... M8x1 ... 3-pin ... straight

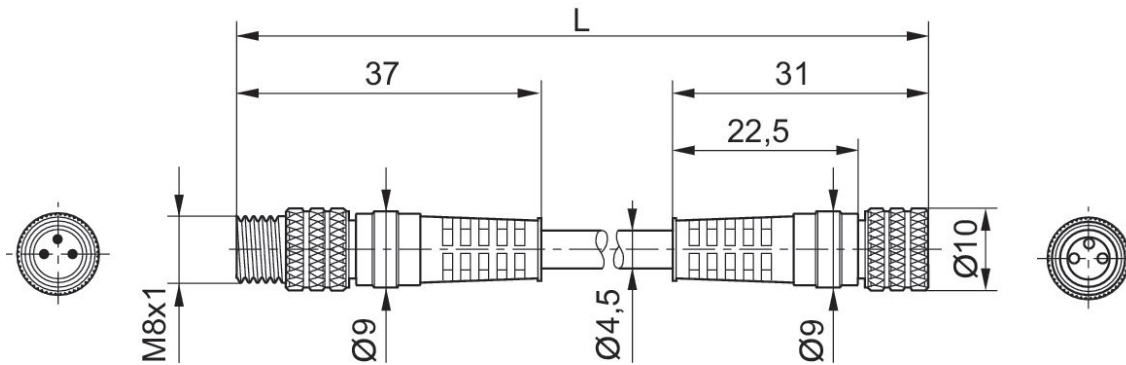
Electrical connection 2: Socket ... M8x1 ... 3-pin ... straight



Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Electrical connection 2, coding	Part No.
Socket	M8x1	3-pin	A-coded	Plug	M8x1	3-pin	A-coded	8946203702
Socket	M8x1	3-pin	A-coded	Plug	M8x1	3-pin	A-coded	8946203712
Socket	M8x1	3-pin	A-coded	Plug	M8x1	3-pin	A-coded	8946203722

Cable length [m]	Part No.
1	8946203702
2	8946203712
5	8946203722

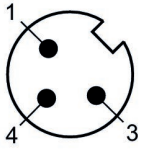
Dimensions



L = length

8946203702, 8946203712, 8946203722

Plug pin assignment



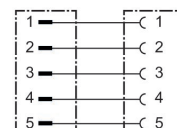
Round plug connector, Series CON-RD

Electrical connection 1: Plug ... M12x1 ... 5-pin ... A-coded ... straight ... 180°

Electrical connection 2: Socket ... M12x1 ... 5-pin ... A-coded ... straight

Certification: CE declaration of conformity, UL (Underwriters Laboratories)

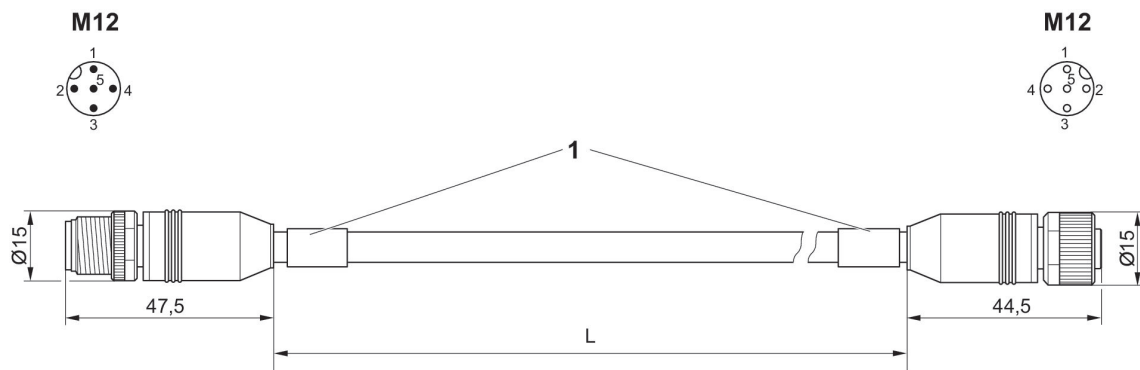
Ambient temperature min./max.: -25 °C ... 85 °C



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Electrical connection 2, type	Electrical connection 2, thread size	Electrical connection 2, number of poles	Part No.
60 V AC/DC	Socket	M12x1	5-pin	A-coded	Plug	M12x1	5-pin	8946054662
60 V AC/DC	Socket	M12x1	5-pin	A-coded	Plug	M12x1	5-pin	8946054672
60 V AC/DC	Socket	M12x1	5-pin	A-coded	Plug	M12x1	5-pin	8946054682
60 V AC/DC	Socket	M12x1	5-pin	A-coded	Plug	M12x1	5-pin	8946054692
60 V AC/DC	Socket	M12x1	5-pin	A-coded	Plug	M12x1	5-pin	8946054702
60 V AC/DC	Socket	M12x1	5-pin	A-coded	Plug	M12x1	5-pin	8946054712

Electrical connection 2, coding	Cable length [m]	Part No.
A-coded	0.3	8946054662
A-coded	0.5	8946054672
A-coded	1	8946054682
A-coded	2	8946054692
A-coded	5	8946054702
A-coded	10	8946054712

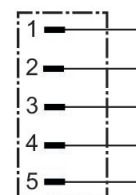
Dimensions



1) Cable sleeve

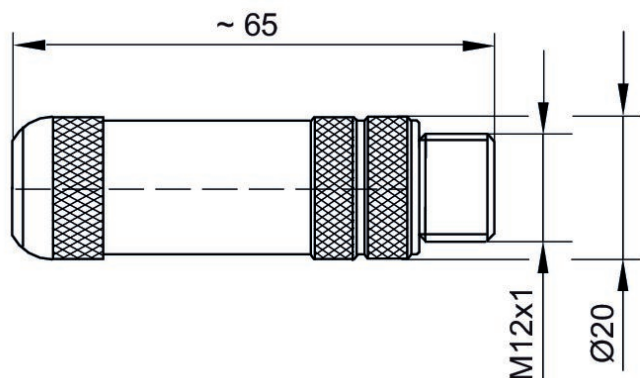
Round plug connector, Series CON-RD

Electrical connection 1: Plug ... M12x1 ... 5-pin ... B-coded ... straight
Ambient temperature min./max.: -25 °C ... 90 °C



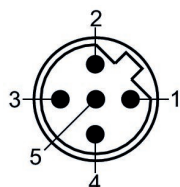
Operational voltage	Coding	Shielding	Protocol	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	B-coded	shielded	PROFIBUS DP	Screws	4	4	9	8941054054

Dimensions



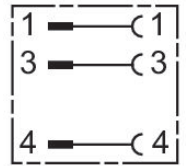
8941054054

Plug pin assignment



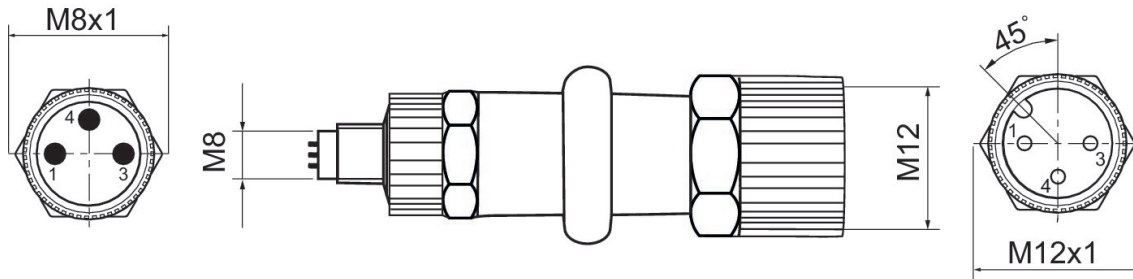
Adapter, Series CON-AP

Electrical connection 1: Plug ... M8x1 ... 3-pin ... A-coded ... straight ... 180°
 Electrical connection 2: Socket ... M12x1 ... 3-pin ... A-coded ... straight ... 180°
 Ambient temperature min./max.: -25 °C ... 50 °C



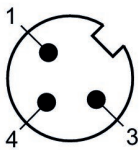
Max. current [A]	Part No.
4	R412021684

Dimensions



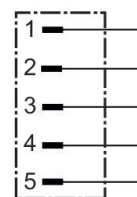
R412021684

Plug pin assignment



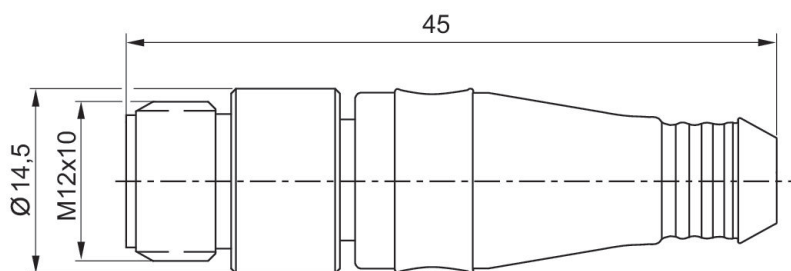
Data final plug, Series CON-RD

Electrical connection 1: Plug ... M12x1 ... 5-pin ... A-coded
 Protocol: CANopen, DeviceNet
 Ambient temperature min./max.: 0 °C ... 60 °C



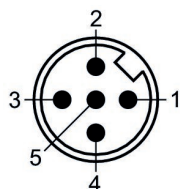
Coding	Protocol	Part No.
A-coded	CANopen, DeviceNet	8941054264

Dimensions



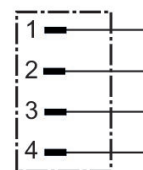
8941054264

Plug pin assignment



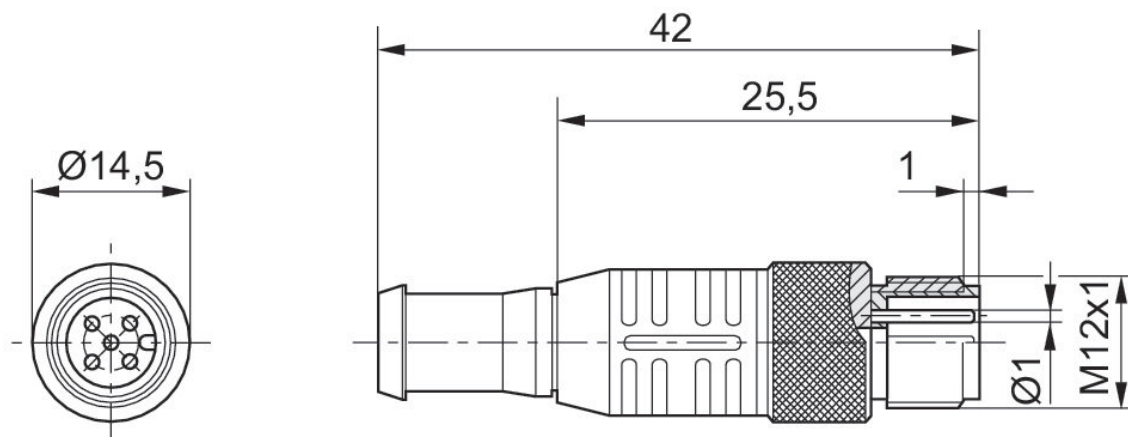
Data final plug, Series CON-RD

Electrical connection 1: Plug ... M12x1 ... 4-pin ... B-coded
 Protocol: PROFIBUS DP
 Ambient temperature min./max.: -25 °C ... 80 °C



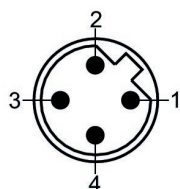
Coding	Protocol	Part No.
B-coded	PROFIBUS DP	8941054064

Dimensions



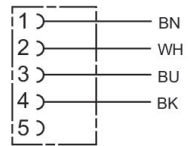
8941054064

Plug pin assignment



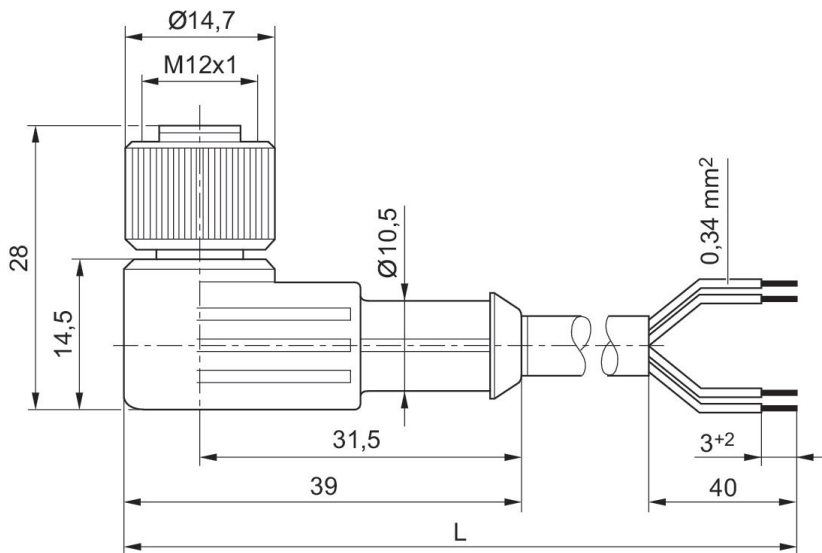
Round plug connector, Series CON-RD, 5-pin, angled, unshielded

Electrical connection 1: Socket ... M12x1 ... 5-pin ... angled
 Electrical connection 2: without wire end ferrule, tin-plated ... 4-pin
 Ambient temperature min./max.: -40 °C ... 85 °C



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Electrical connection 2, type	Electrical connection 2, number of poles	Cable length [m]	Part No.
48 V AC/DC	Socket	M12x1	5-pin	A-coded	open cable ends	4-pin	3	1834484259
48 V AC/DC	Socket	M12x1	5-pin	A-coded	open cable ends	4-pin	5	1834484260
48 V AC/DC	Socket	M12x1	5-pin	A-coded	open cable ends	4-pin	10	1834484261

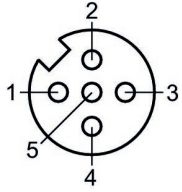
Dimensions



L = length

1834484259, 1834484260, 1834484261

Pin assignment, socket



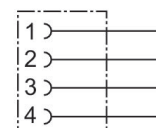
(1) BN=brown (2) WH=white (3) BU=blue (4) BK=black
(5) not assigned

Round plug connector, Series CON-RD

Electrical connection 1: Socket ... M12x1 ... 4-pin ... A-coded ... straight

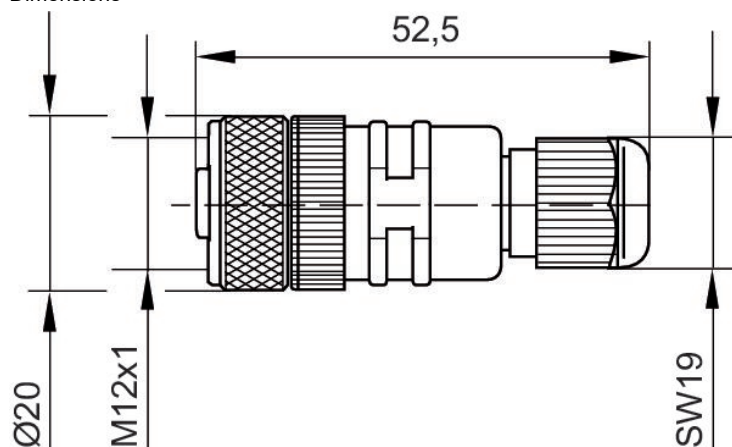
Connection type: Screws

Ambient temperature min./max.: -25 °C ... 90 °C



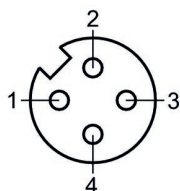
Operational voltage	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	Screws	4	4	8941054324

Dimensions



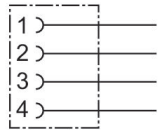
8941054324

Pin assignment, socket



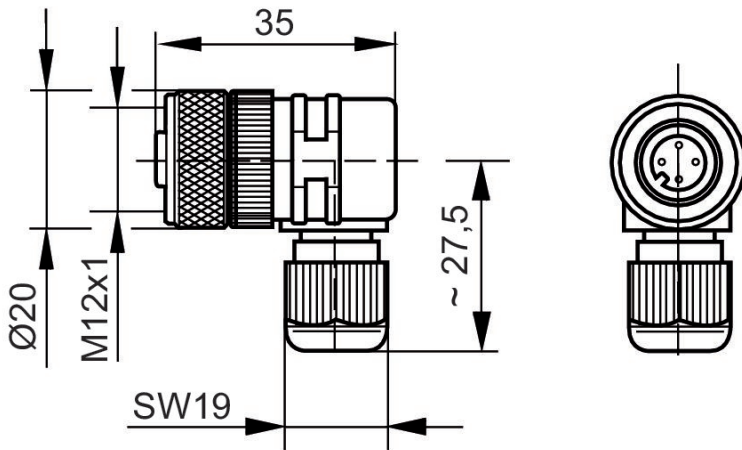
Round plug connector, Series CON-RD

Electrical connection 1: Socket ... M12x1 ... 4-pin ... A-coded ... angled
 Connection type: Screws
 Ambient temperature min./max.: -25 °C ... 90 °C



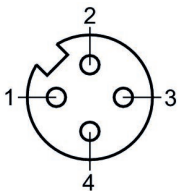
Operational voltage	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	Screws	4	4	8941054424

Dimensions



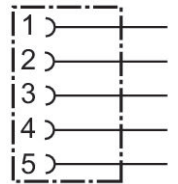
8941054424

Pin assignment, socket



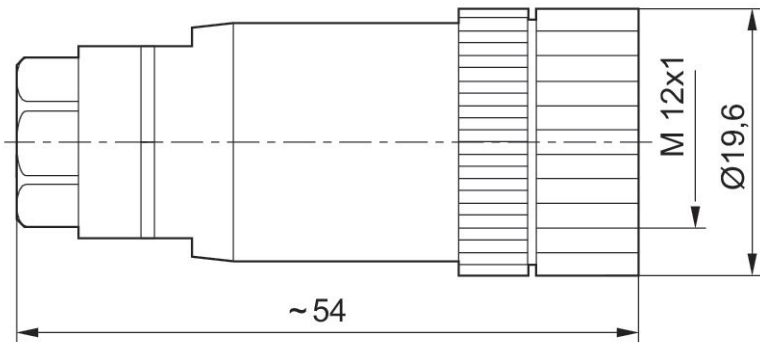
Round plug connector, Series CON-RD

Electrical connection 1: Socket ... M12x1 ... 5-pin ... A-coded ... straight
 Protocol: DeviceNet
 Connection type: Screws
 Ambient temperature min./max.: -40 °C ... 85 °C



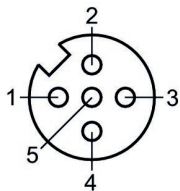
Operational voltage	Coding	Shielding	Protocol	Connection type	Max. current [A]	min. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	DeviceNet	Screws	4	4	4407230020

Dimensions



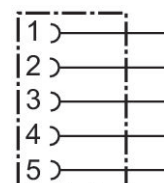
4407230020

Pin assignment, socket



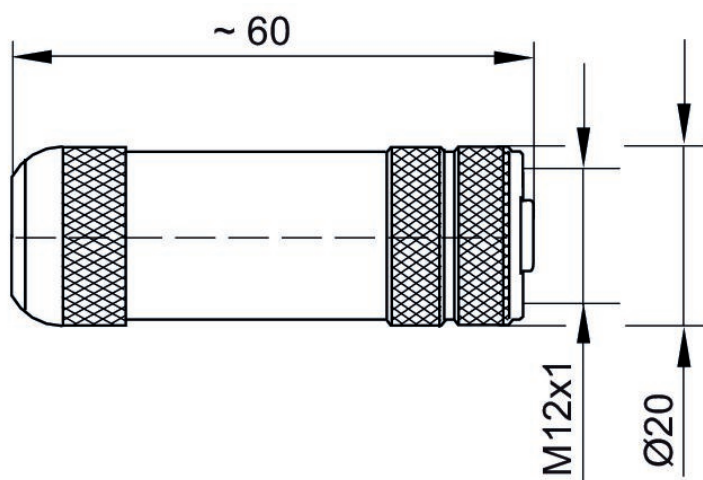
Round plug connector, Series CON-RD

Electrical connection 1: Socket ... M12x1 ... 5-pin ... B-coded ... straight
 Protocol: PROFIBUS DP
 Connection type: Screws
 Shielding: shielded
 Ambient temperature min./max.: -25 °C ... 90 °C



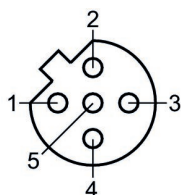
Operational voltage	Coding	Shielding	Protocol	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	B-coded	shielded	PROFIBUS DP	Screws	4	6	8	8941054044

Dimensions



8941054044

Pin assignment, socket



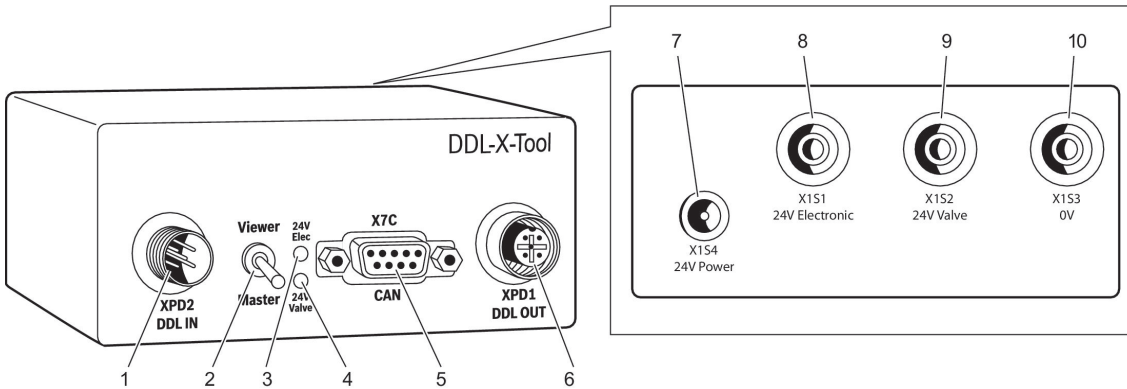
Series DDL

Ambient temperature min./max.: 5 °C ... 50 °C



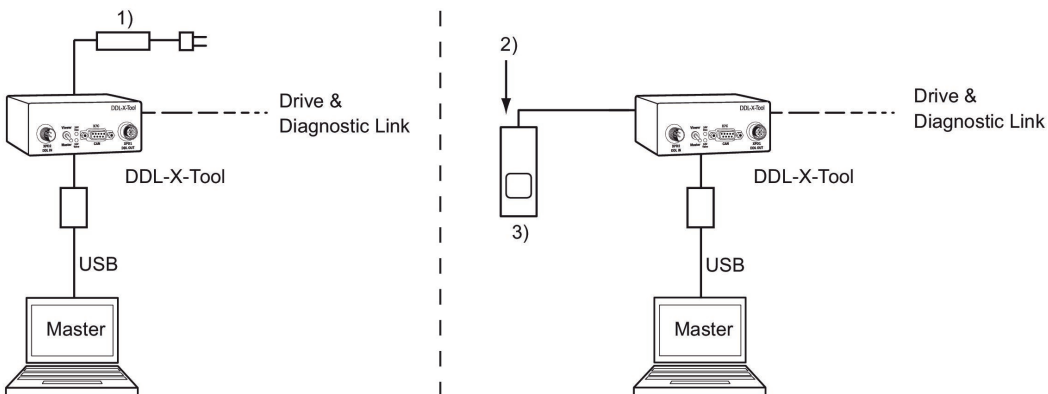
Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
5	50	R412008352

DDL-X-Tool connections



- 1) Integrated plug (DDL line coming from the bus coupler)
- 2) Selector switch (master/viewer mode)
- 3) LED
- 4) LED
- 5) D-Sub plug (PC connection)
- 6) Integrated socket (DDL line going to the modules)
- 7) Mains connection socket (for DDL supply of electronics and valves)
- 8) Integrated socket (separate supply for electronics, alternative to 7)
- 9) Integrated socket (separate supply for valves, emergency OFF, alternative to 7)
- 10) Integrated socket (0 V, alternative to 7)

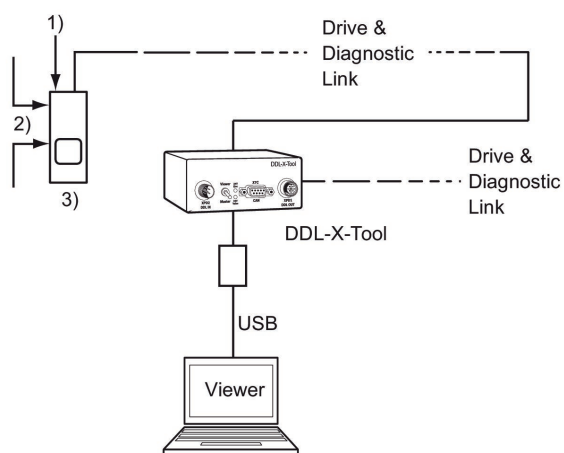
Master function to simplify commissioning



- 1) Power pack
- 2) Electronics 24 V/valves 24 V
- 3) Bus coupler

In the master function, all outputs from the components in the DDL line can be controlled and all inputs are visible.

Viewer function for observation purposes during fieldbus operation



- 1) Electronics 24 V/valves 24 V
- 2) Fieldbus
- 3) Bus coupler

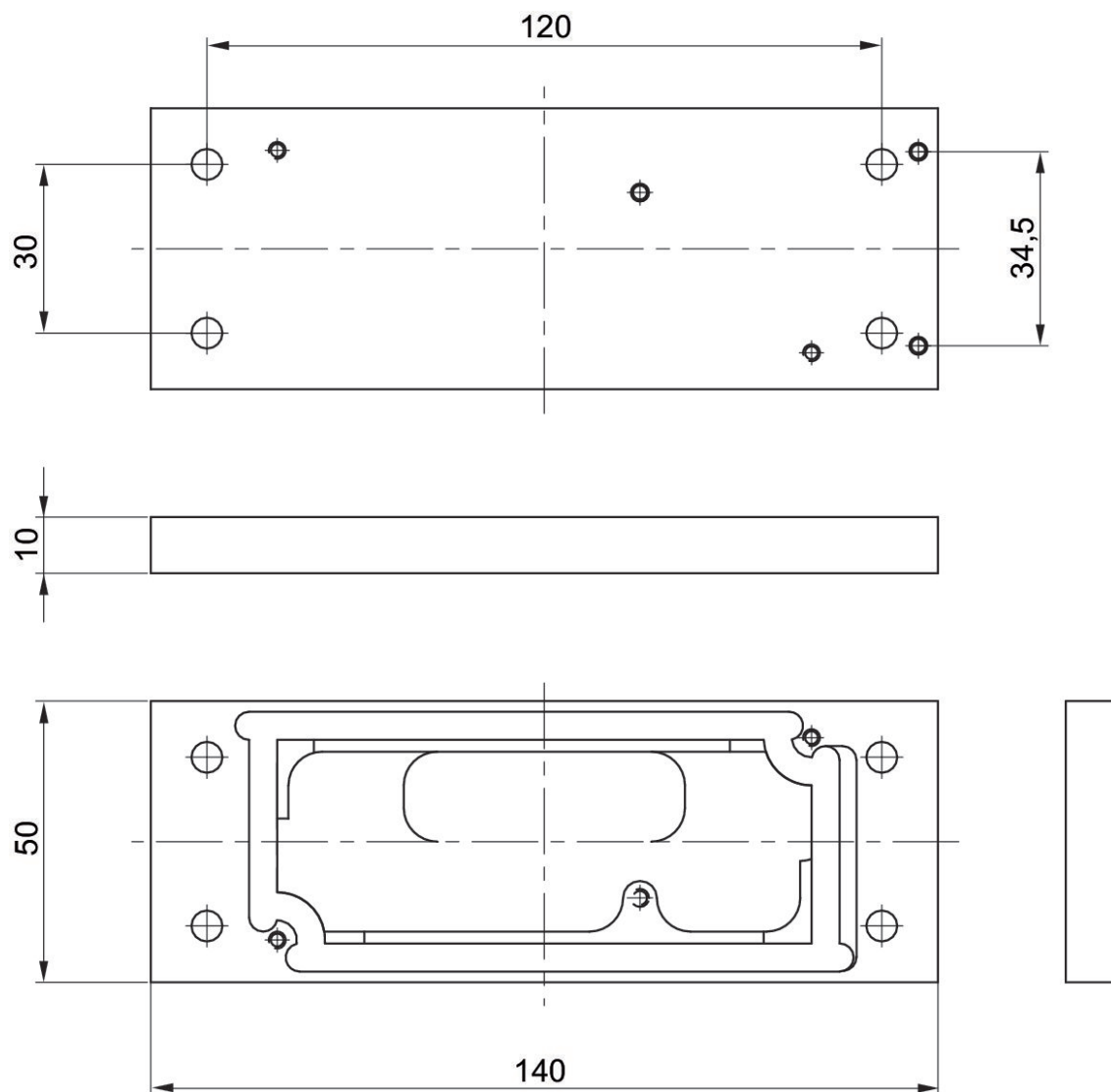
In the viewer function, the DDL-X-Tool displays all inputs and outputs from the components in the DDL line.

Base plate

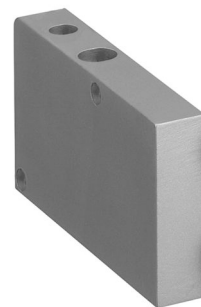


Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
5	50	R412008542

Dimensions

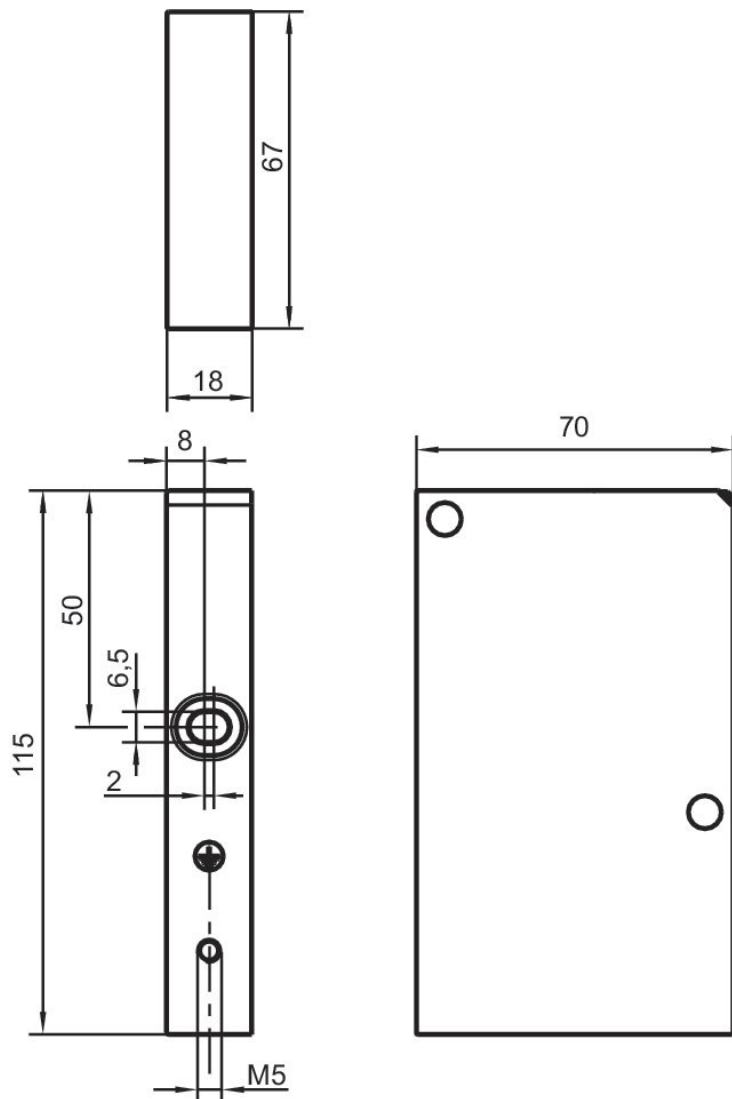


End plate left



Type	Part No.
End plate left	R412003490

Dimensions



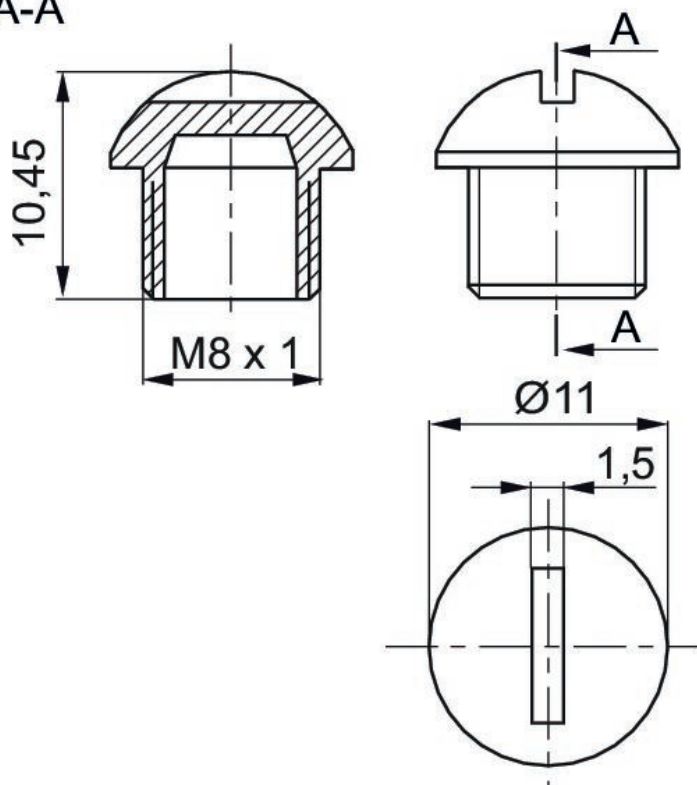
Protective cap, series CON-RD, M8x1



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

Dimensions

A-A

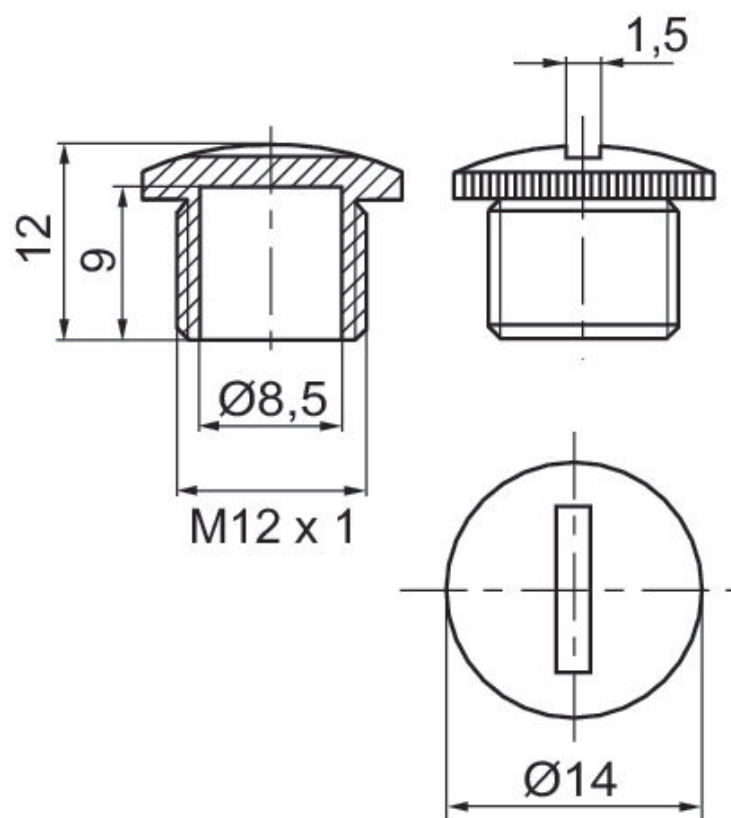


Protective cap, series CON-RD, M12x1



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





Dimensions



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



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