Technical Description

FBP FieldBusPlug

V6

FBP PROFIBUS DP
Accessories

Content

PDX11-FBP.100, PDX11-FBP.300, PDX11-FBP.500

PROFIBUS DP extension cables (lengths 1 m, 3 m, 5 m)

socket/plug (M12), vibration-resistant, shielded

Temperature range -30°C ... + 90°C

Materials

Moulded body	TPU, self-exstinguishing
Contact (female)	CuSn, pre-nickeled and 0.3 µm gold-plated
Contact (male)	CuZn, pre-nickeled and 0.8 µm gold-plated
Body	TPU, self-exstinguishing
Knurled screw, knurled nut	CuZn, nickeled
O-ring	Viton

Mechanical data

Degree of protection (only in fully locked position with their plugs)	IP 67

Use of this connector range in aggressive environments must be tested in each case.

Elektrical data

Max. current load	4 A
Nominal voltage	30 V AC / 36 V DC
Insulation group	C acc. to VDE 0110
Test voltage	1.5 kV AC / 60 s
Insulation resistance	> 10^9 Ω

Cable data

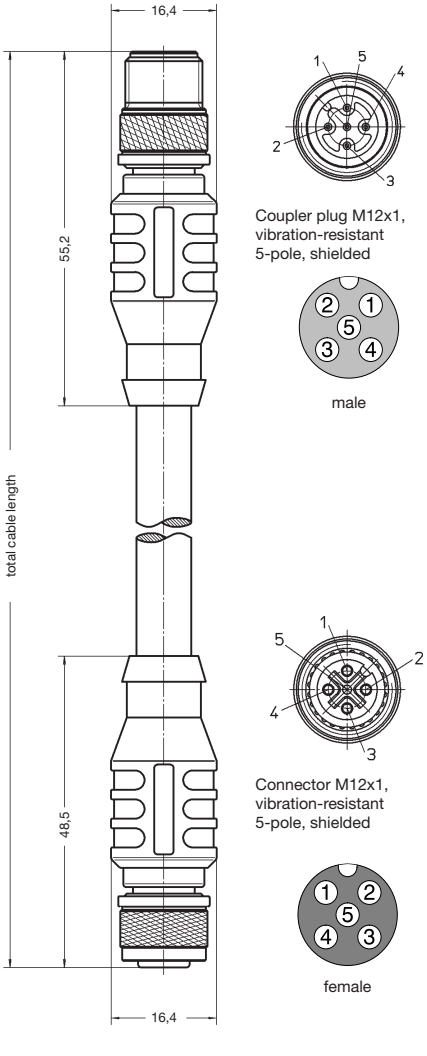
Number of poles	5	
Colours of cores	Meaning	Cross section
1 = brown	+24 V DC	0.5 mm²
2 = green	line A / N	0.22 mm²
3 = blue	0 V DC	0.5 mm²
4 = red	line B / P	0.22 mm²
5 = bare	bare flexible lead	ca. 0.5 mm²

M12 thread = braided shield->shield

Sheath/jacket	PUR (free of PVC and halogen)
Cable colour	violet (vi RAL 4001)
Further cable data	see page 7

Order numbers

PDX11-FBP.100	1SAJ 924 001 R0010
PDX11-FBP.300	1SAJ 924 001 R0030
PDX11-FBP.500	1SAJ 924 001 R0050



dimensions in mm

Technical changes reserved

PDF11-FBP.050

PROFIBUS DP round cable with female plug, 0.5 m

shielded, sheath partly bared, with wire-end ferrules

Supply voltage 24 V DC, connection PROFIBUS DP master

Temperature range -30°C ... + 90°C

Materials

Moulded body	TPU, self-exstinguishing
Contact (female)	CuSn, pre-nickeled and 0.3 µm gold-plated
Body	TPU, self-exstinguishing
knurled nut	CuZn, nickeled
O-ring	Viton

Mechanical data

Degree of protection (only in fully locked position with their plugs)	IP 67

Use of this connector range in aggressive environments must be tested in each case.

Elektrical data

Max. current load	4 A
Nominal voltage	30 V AC / 36 V DC
Insulation group	C acc. to VDE 0110
Test voltage	1.5 kV AC / 60 s
Insulation resistance	> 10^9 Ω

Cable data

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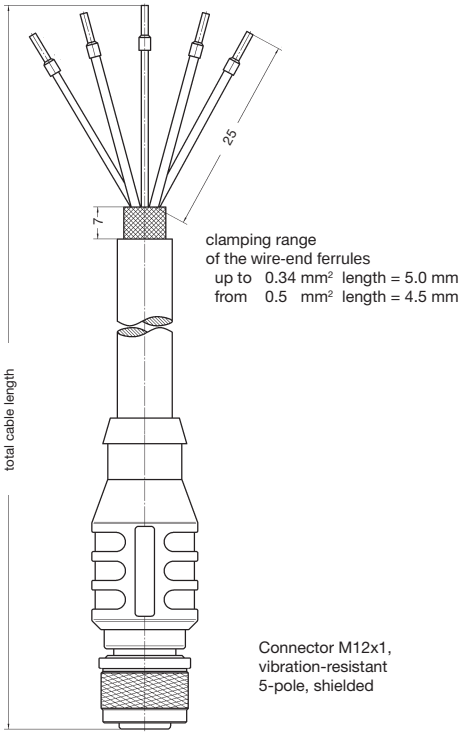
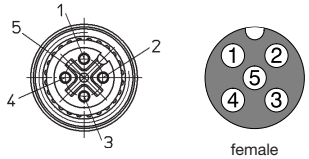
5 = bare	bare flexible lead	ca. 0.5 mm²
M12 thread = braided shield->shield		
Sheath/jacket	PUR (free of PVC and halogen)	
Cable colour	violet (vi RAL 4001)	
Further cable data	see page 7	





dimensions in mm

Bestellnummer

PDF11-FBP.050	1SAJ 924 002 R0005

Technical changes reserved

PDM11-FBP.050

PROFIBUS DP round cable with male plug, 0.5 m

shielded, sheath partly bared, with wire-end ferrules

for connecting devices without an FBP-M12-plug-socket

Temperature range -30°C ... + 90°C

Materials

Moulded body	TPU, self-exstinguishing
Contact (male)	CuSn, pre-nickeled and 0.3 µm gold-plated
Body	TPU, self-exstinguishing
knurled screw	CuZn, nickeled
O-ring	Viton

Mechanical data

Degree of protection (only in fully locked position with their plugs)	IP 67

Use of this connector range in aggressive environments must be tested in each case.

Elektrical data

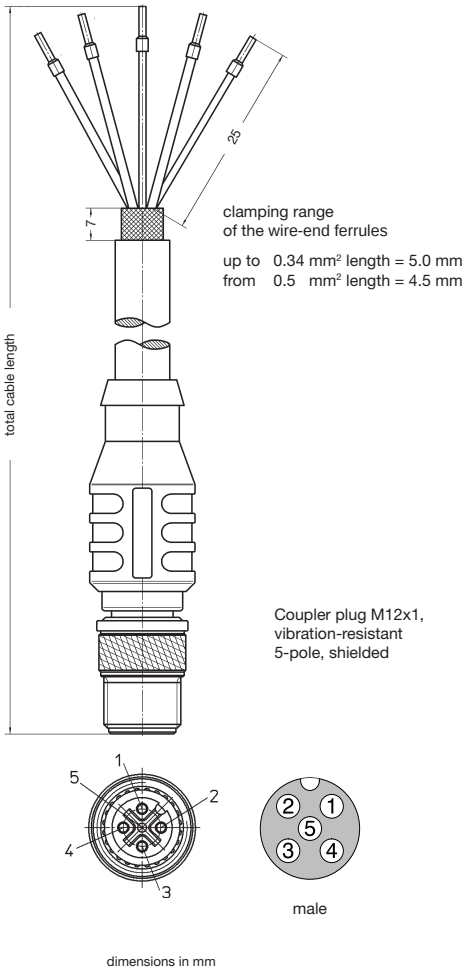
Max. current load	4 A
Nominal voltage	30 V AC / 36 V DC
Insulation group	C acc. to VDE 0110
Test voltage	1.5 kV AC / 60 s
Insulation resistance	> 10^9 Ω

Cable data

Number of poles	5	
Colours of cores	Meaning	Cross section
1 = brown	+24 V DC	0.5 mm²
2 = green	line A / N	0.22 mm²
3 = blue	0 V DC	0.5 mm²
4 = red	line B / P	0.22 mm²
5 = bare	bare flexible lead	ca. 0.5 mm²

M12 thread = braided shield->shield

Sheath/jacket	PUR (free of PVC and halogen)
Cable colour	violet (vi RAL 4001)
Further cable data	see page 7



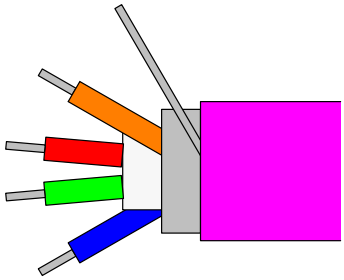
Order number

PDM11-FBP.050	1SAJ 924 003 R0005

Technical changes reserved

PDC11-FBP.999

PROFIBUS DP drop cable 100 m



Construction

Data lines

Conductors	Cu-litz wire 7 x 0.20 blw -0.22 mm²
Core insulation	Foam-Skin PE
Core colours	red and green
Twisted pair	2 cores are twisted in pairs
Shielding of pairs	PETP/AL laminated film metal side outside

Supply voltage

Conductors	Cu-litz wire 16 x 0.20 blw -0.5 mm²
Core insulation	PE
Core colours	brown and blue

Cores shielded twisted pairs 0.22 mm² and cores 0.5 mm² laid up together

Overall shield braided shield of tinned Cu wire 0.15 mm
optical covering ca. 85 %
with shieled wire 16 x 0.20 tinned

Cablejacket PUR, colour: violet (vi RAL 4001)
overall diameter: 7.7 mm ± 0.2 mm

Electrical data

Supply voltage

Conductor resistance	≤ 38.9 Ω/km
Insulation resistance	≥ 2000 MΩ/km x km

Data lines

Conductor resistance	≤ 93.0 Ω/km
Insulation resistance	≥ 5000 MΩ/km x km
Capacity in operation	nom. 30 nF/km
Characteristic impedance at 3 - 20 MHz	150 Ω ± 15 Ω

Cores

Nominal voltage		225 V (peak value)
Test voltage	core / core	1200 V
	core / shield	1200 V

Mechanical data

Minimum bending radius		
	non-detachable	10 * cable diameter
	flexible wiring	15 * cable diameter
Temperature range		
	flexible wiring	5°C ... + 80°C
	non-detachable	- 30°C ... + 80°C

Technical changes reserved

Order number

PDC11-FBP.999	1SAJ 924 004 R1000

PDM11-FBP.0

PROFIBUS DP male connector M12for round cable

with screwed connection, shielded, metal

2CDC341051F003

Temperature range -25°C ... + 90°C

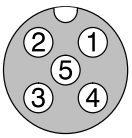
Materials

Moulded body	PA, self-exstinguishing
Contact (male)	CuZn, pre-coppered 2-4 µm CuSnZn
Body	CuZn, nickeled
knurled nut	CuZn, nickeled

Mechanical data

Degree of protection (only in fully locked position with their plugs)	IP 67

Use of this connector range in aggressive environments must be tested in each case.



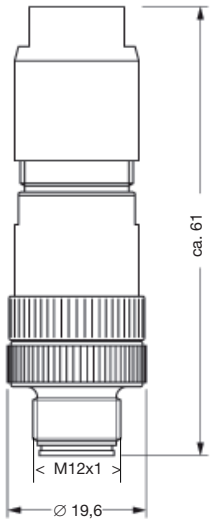
male

Elektrical data

Max. current load	4 A
Nominal voltage	30 V AC / 36 V DC
Insulation group	C acc. to VDE 0110
Test voltage	1.5 kV AC / 60 s
Insulation resistance	> 10^9 Ω

Connection data

Number of poles	5 (pin 5 early closing)
Cable gland	∅ 4.0 - 6.0 mm
Connection type	screw-type terminals



Cable data

Colours of cores	Meaning	Cross section
1 = brown	+24 V DC	0.5 mm²
2 = green	line A / N	0.22 mm²
3 = blue	0 V DC	0.5 mm²
4 = red	line B / P	0.22 mm²
5 = bare	bare flexible lead	ca. 0.5 mm²

M12 thread = braided shield->shield

Technical changes reserved

Assembly steps PDM11-FBP on to PROFIBUS-cable **see page 10**

Order number

PDM11-FBP.0	1SAJ 924 005 R0001

PDF11-FBP.0

PROFIBUS DP female connector M12 for round cable

with screwed connection, shielded, metal

2CDC341050F003

Temperature range -25°C ... + 90°C

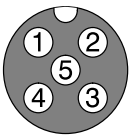
Materials

Moulded body	PA, self-exstinguishing
Contact (female)	CuZn, pre-coppered 2-4 µm CuSnZn
Body	CuZn, nickeled
knurled nut	CuZn, nickeled

Mechanical data

Degree of protection (only in fully locked position with their plugs)	IP 67

Use of this connector range in aggressive environments must be tested in each case.



female

Elektrical data

Max. current load	4 A
Nominal voltage	30 V AC / 36 V DC
Insulation group	C acc. to VDE 0110
Test voltage	1.5 kV AC / 60 s
Insulation resistance	> 10^9 Ω

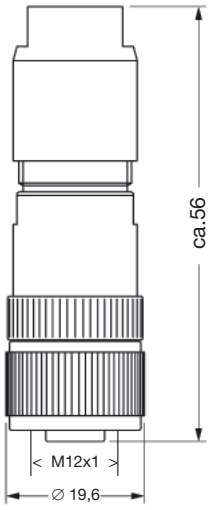
Connection data

Number of poles	5 (pin 5 early opening)
Cable gland	∅ 4.0 - 6.0 mm
Connection type	screw-type terminals

Cable data

Colours of cores	Meaning	Cross section
1 = brown	+24 V DC	0.5 mm²
2 = green	line A / N	0.22 mm²
3 = blue	0 V DC	0.5 mm²
4 = red	line B / P	0.22 mm²
5 = bare	bare flexible lead	ca. 0.5 mm²

M12 thread = braided shield->shield



Technical changes reserved

Assembly steps PDF11-FBP on to PROFIBUS-cable **see page 10**

Order number

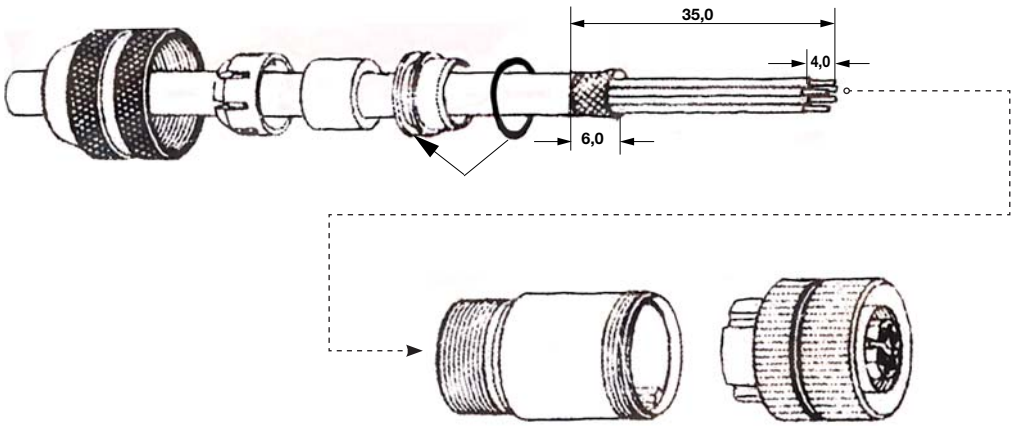
PDF11-FBP.0	1SAJ 924 006 R0001

PDM11-FBP / PDF11-FBP Assembly steps on to PROFIBUS-cable

1. Slide on part
2. Dismantle cable 35 + 1 mm
3. Strip conductor (4 mm), use wire-end ferrules without bend protection .

4. Widen shield and lay aroundthe shielding ring (6 mm), cut off projecting mesh.
5. Slide cores through the housing.
6. Mount shielding ring, gasket and clamping cage.
7. Tighten pressure screw to fix the cable.
8. Screw on bare flexible lead and pull the sleeve over it
9. Screw down cores.

10. Mount male/female part.
11. Tighten pressure screw.



PDR11-FBP.150

PROFIBUS DP terminating resistor 150 Ω

Male plug M 12, 5 poles

Temperature range	Storage	-20...+75 °C
	Operation	0...+55 °C

Materials

Moulded body	PA, self-exstinguishing
Contact	CuZn, pre-nickeled and 0.8 µm gold-plated
Body	TPU, self-exstinguishing
Knurled screw	CuZn, nickeled

Mechanical data

Degree of protection (only in fully locked position with their plugs)	IP 67

Good resistance to oil and chemicals.

Use of this connector range in aggressive environments must be tested in each case.

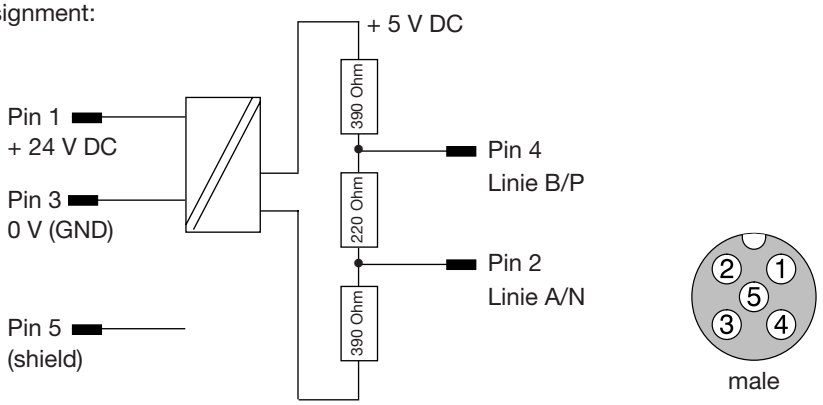
Elekrtical data

Input voltage range	19.2 ... 31.2 V
Input current	11 mA ± 20 % (typ. 12.5 mA at 19.2 V / 9.7 mA at 30 V)
Output voltage	1.1 V ± 10 %
Test voltage	24 V to signal 500 V / 1 min.

Connection data

Number of poles 5

Pin assignment:



Technical changes reserved

Order number

DR11-FBP.150	1SAJ 924 007 R0001

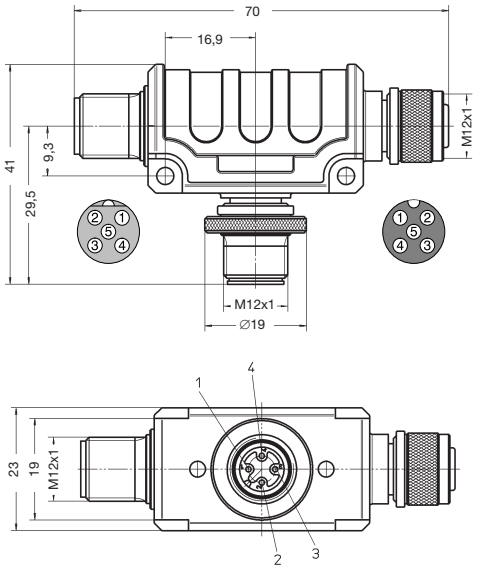
PDV11-FBP.0

PROFIBUS DP feeding connector
24 V DC, code B-A

2CDC341053F003

PROFIBUS DP
M12x1

5-pole, B-type encoded

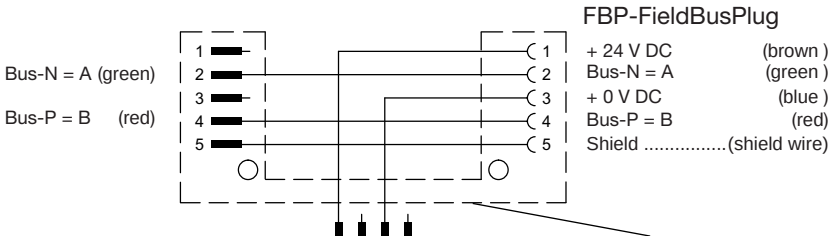


FBP-FieldBusPlug
M12x1

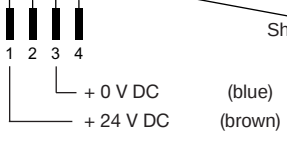
5-pole, A-type encoded

Pin assigment

Connection PROFIBUS DP
Female plug
M12x1 5-pole, B-type encoded
(within the scope of supply)



Connection 24 V DC
Male plug
M12x1 5-pole, A-type encoded
(within the scope of supply)



Assembly steps PDM11-FBP/ PDF11-FBP on to PROFIBUS-cable see page 10

Technical changes reserved

Order number

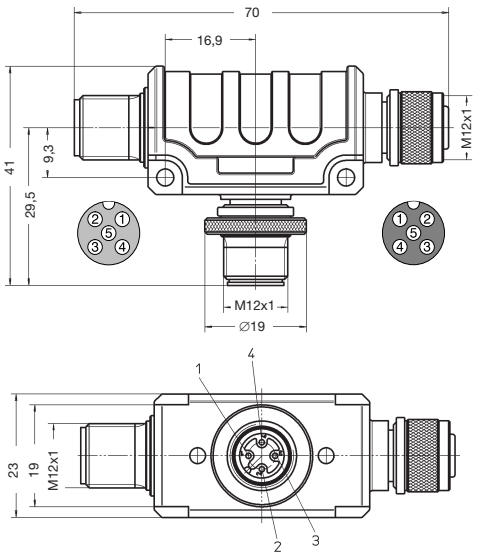
PDV11-FBP.0 1SAJ 924 008 R0001

PDV12-FBP.0

PROFIBUS DP feeding connector
24 V DC, code A-A

PROFIBUS DP
M12x1

5-pole, A-type encoded

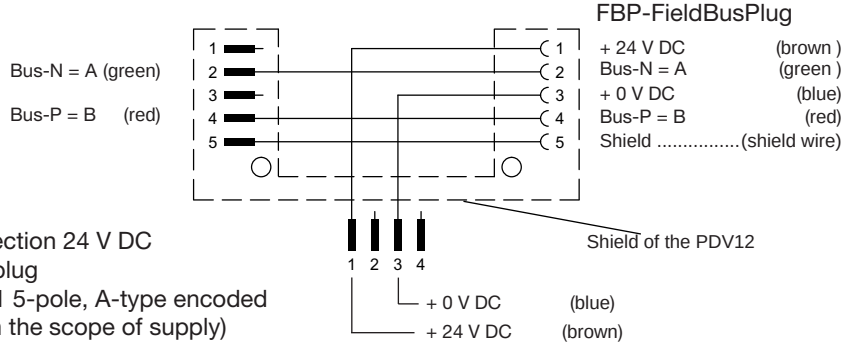


FBP-FieldBusPlug
M12x1

5-pole, A-type encoded

Pin assigment

Connection PROFIBUS DP
Female plug
M12x1 5-pole, B-type encoded
(within the scope of supply)



Connection 24 V DC
Male plug
M12x1 5-pole, A-type encoded
(within the scope of supply)

Technical changes reserved

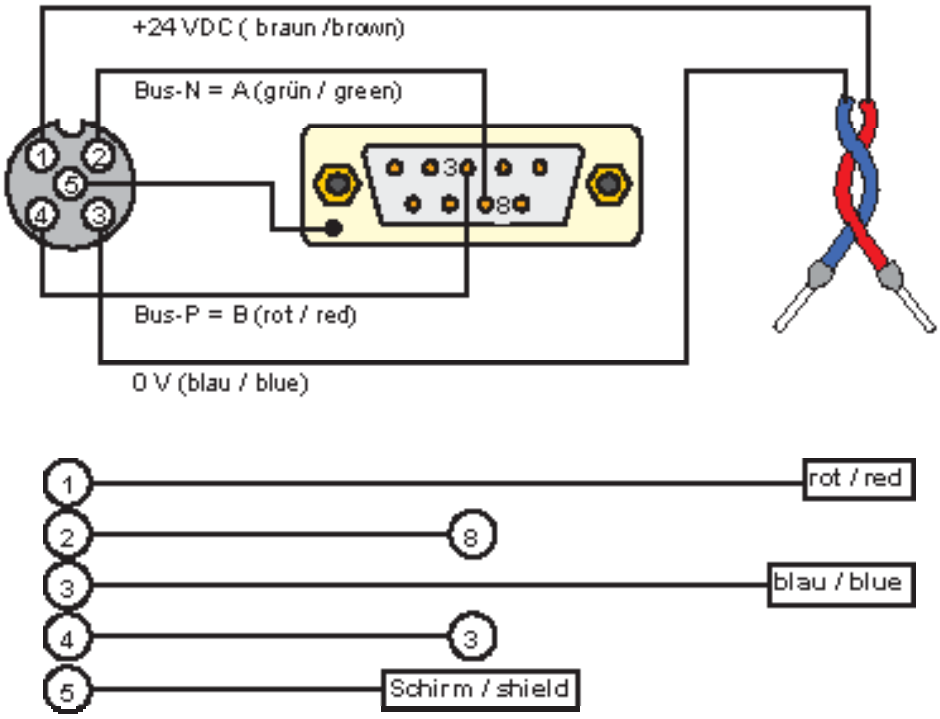
Order number

PDV12-FBP.0	1SAJ 924 011 R0001

PDA11-FBP.050

PROFIBUS DP Adaptor cable Dsub9-M12, length 2 x 0.50 m

2CDC341006F0004



Technical changes reserved

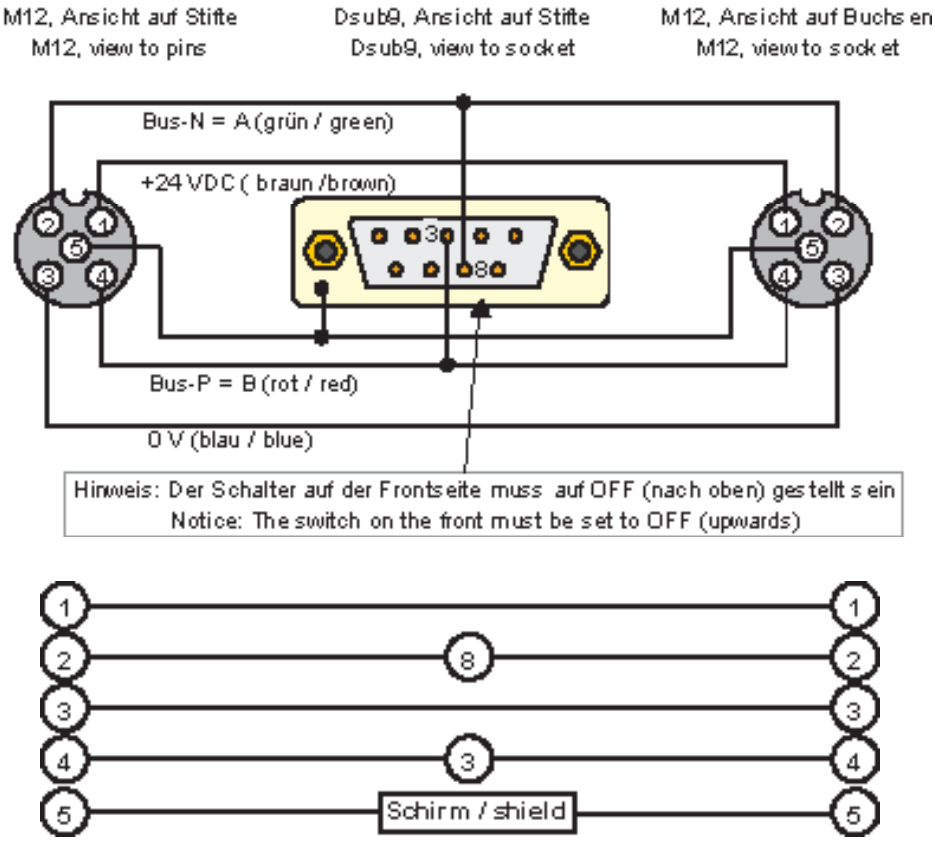
Order number

PDA11-FBP.05	1SAJ 924 009 R0005

PDA12-FBP.050

PROFIBUS DP Adaptor cable M12-Dsub9-M12, length 2 x 0.50 m

2CDC341007F0004



Technical changes reserved

Order number

PDA12-FBP.05	1SAJ 924 010 R0005

Manual No. 2CDC 192 004 D0203

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