

■ **PROFIBUS PA cable**

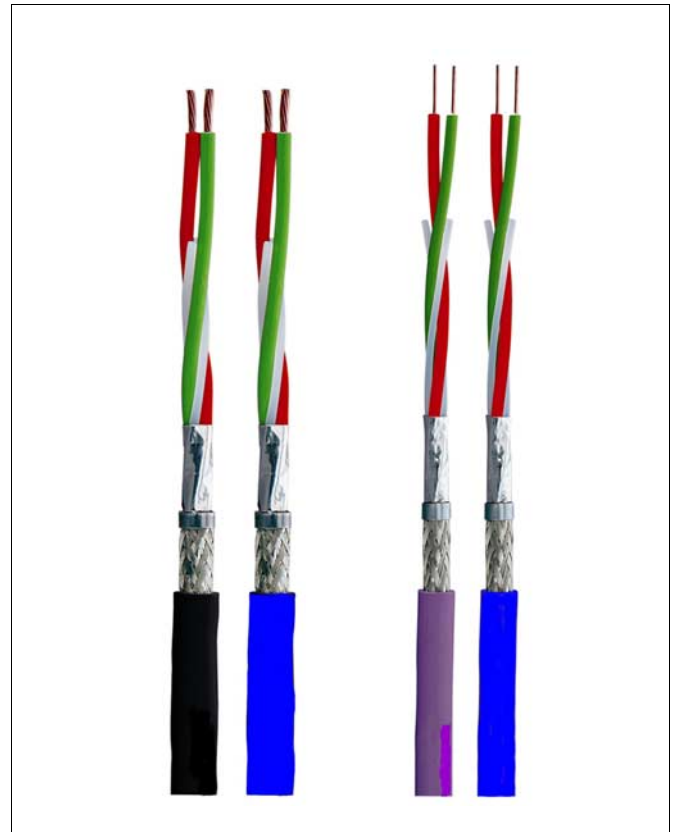
Non Ex(Hazardous) applications

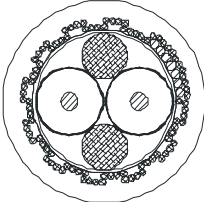
Ex(Hazardous) applications

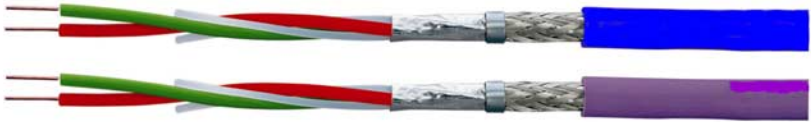
■ **PROFIBUS DP cable**

Non Ex(Hazardous) applications

Ex(Hazardous) applications



	PROFIBUS PA cable		
			
	NPC080-NO (CPN080) NPC080-EX (CPE080-Ex)	NPC150-NO (CPN150) NPC150-EX (CPE150-Ex)	NPC250-NO (CPN250) NPC250-EX (CPE250-Ex)
Application 	Standard Fieldbus cable for PROFIBUS PA with additional power supply for the devices, suitable for insulation displacement connections or M12 connectors. Recommended for indoor and outdoor installation, in dry and wet locations, on racks, on trays, in conduits. Not suitable for direct burial.	Long-distance Fieldbus cable for PROFIBUS PA with additional power supply for the devices, cable with low voltage drop along the line. Recommended for indoor and outdoor installation, in dry and wet locations, on racks, on trays, in conduits. Not suitable for direct burial.	Long-distance Fieldbus cable for PROFIBUS PA with additional power supply for the devices, cable with low voltage drop along the line. Recommended for indoor and outdoor installation, in dry and wet locations, on racks, on trays, in conduits. Not suitable for direct burial.
Internet Industrial ^{IT} enabled	www.abb.com/fieldbus Information Level	www.abb.com/fieldbus Information Level	www.abb.com/fieldbus Information Level
Standard	IEC 61158 Part 2		
Cassification	Type A		
Interface	MBP-LP(-IS), IEC 61158		
Conductor	stranded plain copper, AWG 18/7, 0.88 mm²	stranded plain copper, AWG 16/7, 1.3 mm²	stranded plain copper, AWG 14/7, 2.1 mm²
Insulation	foamed polyethylene with skin layer	polyethylene	polyethylene
Colour code	a-core: green, b-core: red		
Screen	plastic coated aluminium tape, metallic surface outside in contact with a tinned copper drain wire and wire braid		
Outer sheath	polyvinyl chloride PVC, colour: black (NPCnnn-NO), blue [IS] (NPCnnn-EX)		
Cable marking	Fieldbus Cable IEC 61158-2 Profibus PA UL-marking PLTC xx/7 AWG 300 V 75 °C sun res-lenght marking		
Overall diameter	approx. 7.9 mm	approx. 9.5 mm	approx. 11.5 mm
Weight	approx. 85 kg/km	approx. 110 kg/km	approx. 160 kg/km
Max. pulling tension	90 N	130 N	200 N
Min. bending radius	5 x cable overall diameter	5 x cable overall diameter	5 x cable overall diameter
Temperature range	-40...+75 °C during operation, -5...+50 °C for installation		
UV resistant	UL 1581 article 1200		
Oil resistant	ICEA S-82-552		
Flame propagation	UL 13 vertical tray test, IEC 60332-3		
Smoke density	-		
Halogenfree	-		
HCL emission	IEC 60754-1, max. 17 %		
Oxygen index of outer sheath	IEC 60332-3, min. 30 %		
Explosion protection	(NPCnnn-EX only) for EEx i applications [IS], Class I/II division 2 acc. to NEC 501-4(b) and NEC 502-4(b) or Zone 1/2, group II, acc. 60079-14.		
FISCO approval	FISCO not for passive components		
Approval	CE, UL (listet as PLTC acc. to UL 13)		
Electrical properties at 20 °C			
Conductor resistance (Loop)	max. 43.6 Ω/km	max. 27.4 Ω/km	max. 17.2 Ω/km
Screen resistance	nom. 9 Ω/km	nom. 6 Ω/km	nom. 6 Ω/km
Attenuation at 39 kHz	nom. 3.0 dB/km	nom. 2.7 dB/km	nom. 2.7 dB/km
Inductance	nom. 0.65 mH/km	nom. 0.65 mH/km	nom. 0.65 mH/km
Mutual capacitance	nom. 60 nF/km		
Capacitance unbalance to earth	max. 2000 pF/km		
Impedance	100 ±20 Ω		
Propagation delay change (7.9...39 kHz)	max. 1.7 μs/km		
Test voltage (core/core and core/screen)	1500 V		
Operating voltage	max. 300 V		

	PROFIBUS DP cable
	
	NDC110-NO (CDN110) NDC110-EX (CDE110-Ex)
Application	Standard zero halogen Fieldbus cable for Profibus DP/FMS and FIP, suitable for 9-pin SUB-D [IP20] and M12 [IP67] connectors. Recommended for indoor and outdoor installation, in dry and wet locations, on racks, on trays, in conduits. Not suitable for direct burial. Also especially in locations where the low smoke zero halogen characteristics are important (e.g. public buildings, hospitals, power stations, etc.)
Internet Industrial ^{IT} enabled	www.abb.com/fieldbus Information Level
Standard	EN 50170 Part 2 and Part 3
Classification	Type A
Interface	RS 485(-IS)
Conductor	solid plain copper, AWG 22/1, Ø 0.64 mm
Insulation	foamed polyethylene with skin layer
Colour code	a-core: green, b-core: red
Screen	plastic coated aluminium tape, metallic surface outside in contact with a tinned copper drain wire and wire braid
Outer sheath	Low smoke zero halogen compound, colour: violet (NDC110-NO), blue [IS] (NDC110-EX)
Cable marking	Fieldbus Cable EN 50170-2 Profibus FMS/DP UL-marking PLTC 22/1 AWG 300 V 75 °C sun res-lenght marking
Overall diameter	8.1 ± 0,3 mm
Weight	approx. 78 kg/km
Max. pulling tension	80 N
Min. bending radius	5 x cable overall diameter
Temperature range	-40...+75 °C during operation, 5...+50 °C for installation
UV resistant	UL 1581 article 1200
Oil resistant	ICEA S-82-552
Flame propagation	UL 13 vertical tray test, IEC 60332-3
Smoke density	low, IEC 61034
Halogenfree	yes, IEC 60754-1, 0 %
Degree of acidity of gases	IEC 60754 part 2, (pH > 4.3, c > 10 µS/mm)
Oxygen index of outer sheath	IEC 60332-3, min. 35 %
Explosion protection	(NDC110-EX only) for EEx i applications [IS], Class I/II division 2 acc. to NEC 501-4(b) and NEC 502-4(b) or Zone 1/2, group II, acc. 60079-14.
FISCO approval	FISCO not for passive components
Approval	CE, UL (listed as PLTC acc. to UL 13)
Electrical properties at 20 °C	
Conductor resistance (Loop)	max. 110 Ω/km
Screen resistance	nom. 9 Ω/km
Attenuation at 0.25 / 0.625 / 1.25 / 3.125 / 16 MHz	nom. 6 / 9 / 12 / 18 / 40 dB/km
Inductance	nom. 0.65 mH/km
Mutual capacitance	max. 30 nF/km
Capacitance unbalance to earth	max. 1500 pF/km
Impedance ≥ 3 MHz	150 ± 15 Ω
Test voltage (core/core and core/screen)	1500 V
Operating voltage	max. 300 V

Ordering information

PROFIBUS PA cable	Catalog No.			
NPC080-NO (76770101) PROFIBUS PA cable, black, 2 x 0.88 mm ² (AWG18/7), Type A loop resistance 43.6 Ohms/km, UL approval on request, for fixed installation indoor and outdoor, on racks and in conduits 65 m 330 m 1000 m	63648-9890130 1) 63648-9890131 1) 2) 63648-9890132			
NPC150-NO (79290101) PROFIBUS PA cable, black, 2 x 1.3 mm ² (AWG 16/7), Type A loop resistance 27.4 Ohms/km, UL approval, for fixed installation indoor and outdoor, on racks and in conduits 1000 m	1) 63648-9890133			
NPC250-NO (79290103) PROFIBUS PA cable, black, 2 x 2.1 mm ² (AWG 14/7), Type A loop resistance 17.2 Ohms/km, UL approval, for fixed installation indoor and outdoor, on racks and in conduits 1000 m	1) 63648-9890138			
NPC080-EX (76770100) PROFIBUS PA cable, blue, 2 x 0.88 mm ² (AWG18/7), Type A, for intrinsic safety applications (EEx i) loop resistance 43.6 Ohms/km, UL approval on request, for fixed installation indoor and outdoor, on racks and in conduits 65 m 330 m 1000 m	63648-9890134 1) 63648-9890135 1) 2) 63648-9890136			
NPC150-EX (79290100) PROFIBUS PA cable, blue, 2 x 1.3 mm ² (AWG 16/7), Type A, for intrinsic safety applications (EEx i) loop resistance 27.4 Ohms/km, UL approval, for fixed installation indoor and outdoor, on racks and in conduits 1000 m	1) 63648-9890137			
NPC250-EX (79290102) PROFIBUS PA cable, blue, 2 x 2.1 mm ² (AWG 14/7), Type A, for intrinsic safety applications (EEx i) loop resistance 17.2 Ohms/km, UL approval, for fixed installation indoor and outdoor, on racks and in conduits 1000 m	1) 63648-9890139			

1) incl. no-return cable drum

2) Delivery time 8 weeks by order quantity > 1000 m

Ordering information

PROFIBUS DP cable	Catalog No.			
NDC110-NO (79260301) PROFIBUS DP cable, violet, 2 x 0.32 mm ² (AWG22/1), Type A Impedance 150 +/-15 Ohms / >= 3 MHz, UL approval on request, for fixed installation indoor and outdoor, on racks and in conduits 65 m 330 m 1000 m	63647-9890140 3) 63647-9890141 3) 4) 63647-9890142			
NDC110-EX (79260302) PROFIBUS DP cable, blue! , 2 x 0.32 mm ² (AWG22/1), Type A, for intrinsic safety applications (Ex i) Impedance 150 +/-15 Ohms / >= 3 MHz, UL approval on request, for fixed installation indoor and outdoor, on racks and in conduits 65 m 330 m 1000 m	63647-9890143 3) 63647-9890144 3) 4) 63647-9890145			

3) incl. no-return cable drum

4) Delivery time 8 weeks by order quantity > 1000 m

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ABB Automation Products GmbH

Borsigstr. 2
63755 Alzenau
Germany
Tel: +49 551 905-534
Fax: +49 551 905-555
CCC-support.deapr@de.abb.com