

1407493
<https://www.phoenixcontact.com/us/products/1407493>

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Hybrid cable, Ethernet hybrid CAT5 (100 Mbps), 8-position, PUR halogen-free, black RAL 9005, shielded (Tinned copper braided shield), Plug straight M12 SPEEDCON, coding: Y / IP67, on Plug straight M12 SPEEDCON, coding: Y / IP67, cable length: 5 m, Power with Ethernet (PWE)

Commercial data

Item number	1407493
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	BF04
Product key	BF1CML
Catalog page	Page 405 (C-2-2019)
GTIN	4046356777926
Weight per piece (including packing)	476 g
Weight per piece (excluding packing)	476 g
Customs tariff number	85444210
Country of origin	PL

Technical data

Notes

General	Further products with variable cable type and variable cable length can be found in the accessories section
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Product properties

Product type	Data cable preassembled
Application	Standard
Sensor type	Ethernet hybrid
Number of positions	8
No. of cable outlets	1
Shielded	yes
Coding	Y

Interfaces

Bus system	Ethernet
Signal type/category	Ethernet hybrid CAT5 (IEC 11801), 100 Mbps

Signaling

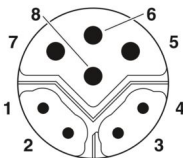
Status display	No
Status display present	No

Electrical properties

Nominal voltage U_N	48 V AC (Power and data)
	50 V DC (Power and data)
Nominal current I_N	6 A (Power)
	0.5 A (Data)
Transmission medium	Copper

Connector

Connection 1

Dimensional drawing	 <p>M12 hybrid plug pin assignment, 8-pos., Y-coded, pin side view</p>
Type	M12 Pin, straight, 8-position, AST, Keying: Y
Number of positions	8
Shielded	yes
Signal type/category	EtherCAT® CAT5 (IEC 11801), 100 Mbps
	PROFINET CAT5 (IEC 11801), 100 Mbps

NBC-MSY/ 5,0-94H/MSY SCO - Hybrid cable

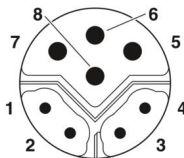


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Insertion/withdrawal cycles	≥ 100
Insulation resistance	≥ 100 MΩ
Overvoltage category	III
Degree of pollution	3
Tightening torque	0.4 Nm
Contact material	CuZn
Contact surface material	Ni/Au
Contact carrier material	PA 6.6
Material for screw connection	Zinc die-cast, nickel-plated
Seal material	FKM
Flammability rating according to UL 94	V0
Degree of protection	IP65 IP67
Ambient temperature (operation)	-25 °C ... 85 °C
Standard designation	M12 connector
Standards/regulations	IEC 61076-2-113

Connection 2

Dimensional drawing	 <p>M12 hybrid plug pin assignment, 8-pos., Y-coded, pin side view</p>
Type	M12 Pin, straight, 8-position, AST, Keying: Y
Number of positions	8
Shielded	yes
Signal type/category	EtherCAT® CAT5 (IEC 11801), 100 Mbps PROFINET CAT5 (IEC 11801), 100 Mbps
Insertion/withdrawal cycles	≥ 100
Insulation resistance	≥ 100 MΩ
Overvoltage category	III
Degree of pollution	3
Tightening torque	0.4 Nm
Contact material	CuZn
Contact surface material	Ni/Au
Contact carrier material	PA 6.6
Material for screw connection	Zinc die-cast, nickel-plated
Seal material	FKM
Flammability rating according to UL 94	V0
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Standard designation	M12 connector
Standards/regulations	IEC 61076-2-113

Cable/line

Cable length	5 m
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Ethernet hybrid [94H]

Dimensional drawing	
Cable weight	87 kg/km
UL AWM Style	20963 (80°C/30 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet hybrid [94H]
Conductor structure	1x4xAWG26 + 1x4xAWG20
Conductor structure signal line	19x 0.10 mm
AWG signal line	26
Conductor cross section	4x 0.15 mm ² (Data) 4x 0.6 mm ² (Power)
Wire diameter incl. insulation	1.05 mm (Data) 1.4 mm (Power)
External cable diameter	7.60 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	black RAL 9005
Conductor material	Bare Cu litz wires
Material wire insulation	PP (Data) PP (Power)
Single wire, color	white/orange, orange, white/green, green, white, blue, brown, black
Overall twist	1 star quad and 4 wires with 2 fillers
Optical shield covering	85 %
Insulation resistance	≥ 5 GΩ*km
Loop resistance	≤ 280.00 Ω/km (Data) ≤ 34.60 Ω/km (Power)
Wave impedance	100 Ω ±15 Ω (4 MHz ... 100 MHz)
Working capacitance	nom. 50 nF (per kilometer)
Differential impedance	100 Ω ±5 % (at 100 MHz)
Nominal voltage, cable	≤ 50 V (Peak value, not for high-power applications)

NBC-MSY/ 5,0-94H/MSY SCO - Hybrid cable



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Test voltage Core/Core	1500 V (50 Hz, 1 min.)
Test voltage Core/Shield	1500.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Smallest bending radius, fixed installation	38 mm
Smallest bending radius, movable installation	76 mm
Max. bending cycles	2000000
Tensile strength	70 N (in accordance with DIN EN 50565-1 for flexible installation) 240 N (in accordance with DIN EN 50565-1 for fixed installation)
Near end crosstalk attenuation (NEXT)	56.3 dB (at 4 MHz)
	50.3 dB (at 10 MHz)
	47.2 dB (at 16 MHz)
	45.8 dB (at 20 MHz)
	42.9 dB (at 31.25 MHz)
	38.4 dB (at 62.5 MHz)
	35.3 dB (at 100 MHz)
Shield attenuation	6 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.5 dB (at 20 MHz)
	17.1 dB (at 31.25 MHz)
	24.8 dB (at 62.5 MHz)
	32 dB (at 100 MHz)
Halogen-free	≥ 80.00 dB (30 MHz ... 125 MHz)
	according to IEC 60754
Flame resistance	in accordance with DIN VDE 0472 part 815
	in acc. with UL 1581, section 1061
Resistance to oil	in acc. with UL 1581, section 1061
	according to IEC 60811-2-1
Other resistance	according to VDE 0282 Part 10
	Low adhesion
Special properties	Free of substances which would hinder coating with paint or varnish
	Silicone-free
Ambient temperature (operation)	-40 °C ... 90 °C (cable, fixed installation)
	-30 °C ... 70 °C (Cable, flexible installation)

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP65
	IP67
	IP65/IP67
Ambient temperature (operation)	-25 °C ... 90 °C (M12 connector)

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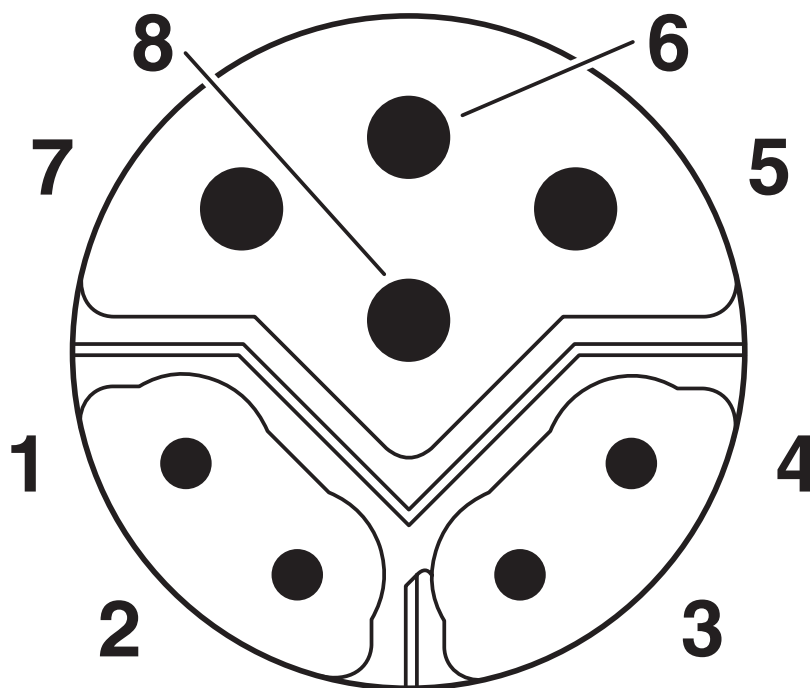
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Standards and regulations

Standard designation	M12 connector
Standards/specifications	IEC 61076-2-113

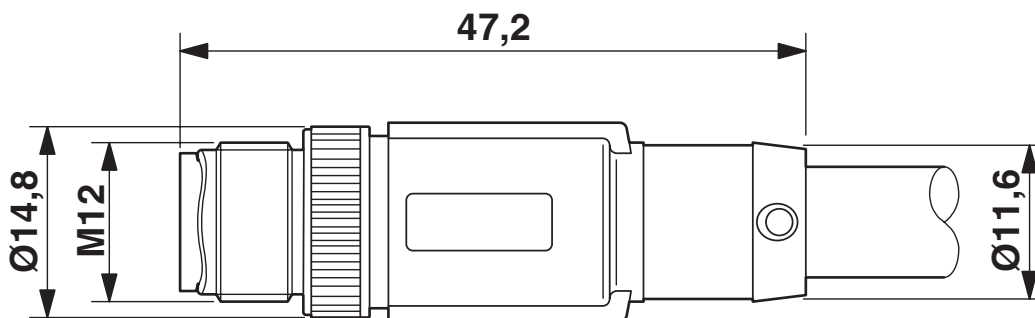
Drawings

Schematic diagram



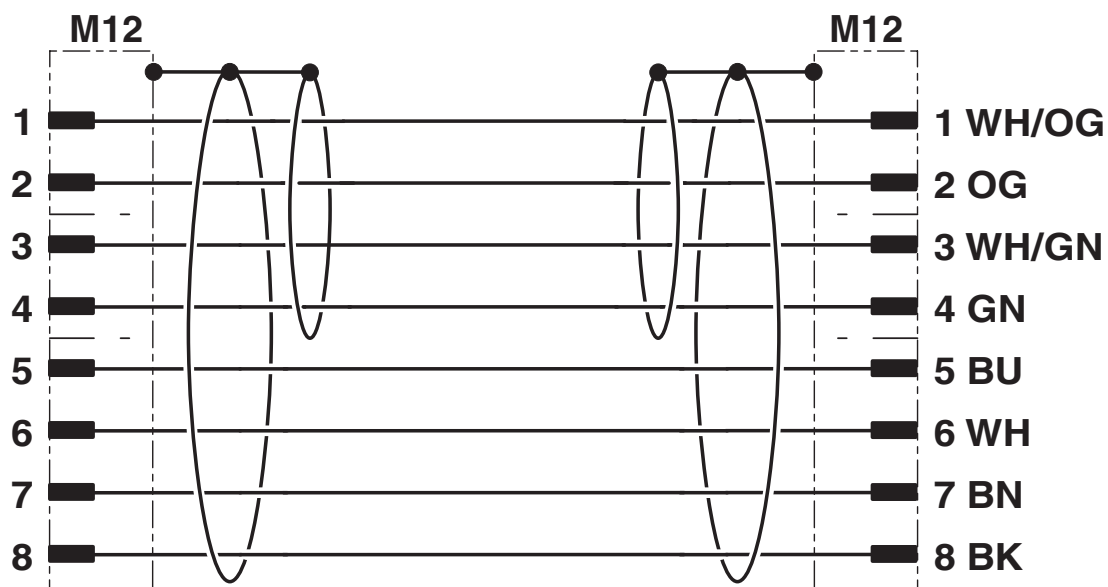
M12 hybrid plug pin assignment, 8-pos., Y-coded, pin side view

Dimensional drawing



Plug, M12 x 1, straight, shielded

Circuit diagram



NBC-MSY/ 5,0-94H/MSY SCO - Hybrid cable



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Classifications

ECLASS

ECLASS-11.0	27060307
ECLASS-13.0	27060307

ETIM

ETIM 8.0	EC001855
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UNSPSC

UNSPSC 21.0	26121600
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Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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Accessories

PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

<https://www.phoenixcontact.com/us/products/1430873>

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



SAC-M12-EXCLIP-M - Locking clip

1558988

<https://www.phoenixcontact.com/us/products/1558988>

Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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TSD 04 SAC - Torque screwdriver

1208429

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Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

TSD-M 1,2NM - Torque screwdriver

1212224

<https://www.phoenixcontact.com/us/products/1212224>



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

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TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

<https://www.phoenixcontact.com/us/products/1212600>



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

SAC BIT M12-D15 - Tool

1208432

<https://www.phoenixcontact.com/us/products/1208432>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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