

# NBC-MSDS/6,0-93G/R4AQ - Bus system cable



1408491

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Assembled EtherCAT® cable, shielded, star quad, 22 AWG stranded (7-wire), RAL 6018 (yellow-green), M12 plug, SPEEDCON, 4-pos. to RJ45 plug/IP20, length: 6 m

## Commercial data

Item number	1408491
Packing unit	1 pc
Minimum order quantity	50 pc
Product key	AF1CJP
GTIN	4046356813570
Weight per piece (including packing)	437.43 g
Weight per piece (excluding packing)	437.43 g
Country of origin	PL

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## Technical data

### Product properties

Product type	Data cable preassembled
Number of positions	4
No. of cable outlets	1
Shielded	yes

### Insulation characteristics

Degree of pollution	3
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### Electrical properties

Nominal voltage $U_N$	48 V AC
	60 V DC
Transmission medium	Copper

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	$\geq 100$
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### Material specifications

Flammability rating according to UL 94	V0
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### Connector

#### Connection 1

Type	Plug straight M12
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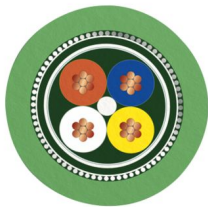
#### Connection 2

Type	Plug straight RJ45
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### Cable/line

Cable length	6 m
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#### PROFINET PVC stranded CAT5 [93B]

Dimensional drawing	
Cable weight	67 kg/km
UL AWM Style	21694

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Number of positions	4
Shielded	yes
Cable type	PROFINET PVC stranded CAT5 [93B]
Conductor structure	1x4xAWG22/7, SF/TQ
Signal runtime	5.3 ns/m
Signal speed	0.66 c
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Conductor cross-section	4x 0.34 mm <sup>2</sup>
Wire diameter incl. insulation	1.55 mm
External cable diameter	6.50 mm ±0.2 mm
Outer sheath, material	PVC
External sheath, color	green RAL 6018
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PE
Single wire, color	white, yellow, blue, orange
Thickness, outer sheath	approx. 0.90 mm
Overall twist	Star quad
Optical shield covering	85 %
Insulation resistance	≥ 500 MΩ*km
Coupling resistance	≤ 20.00 mΩ/m (at 10 MHz)
Loop resistance	≤ 120.00 Ω/km
Wave impedance	100 Ω ±15 Ω (at 100 MHz)
Nominal voltage, cable	600 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	3 x D
Minimum bending radius, flexible installation	7 x D
Smallest bending radius, fixed installation	20 mm
Smallest bending radius, movable installation	46 mm
Near end crosstalk attenuation (NEXT)	80 dB (with 1 MHz)
	76 dB (at 4 MHz)
	70 dB (at 10 MHz)
	65 dB (at 16 MHz)
	63 dB (at 20 MHz)
	60 dB (at 31.25 MHz)
	55 dB (at 62.5 MHz)
	50 dB (at 100 MHz)
Shield attenuation	2.1 dB (with 1 MHz)
	4 dB (at 4 MHz)
	6.3 dB (at 10 MHz)
	8 dB (at 16 MHz)
	9 dB (at 20 MHz)
	11.4 dB (at 31.25 MHz)

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	16.5 dB (at 62.5 MHz)
	21.3 dB (at 100 MHz)
Flame resistance	according to UL 1685 (CSA FT 4)
Resistance to oil	Resistant to oil to a limited extent
Other resistance	UV resistant (according to UL 1581, Section 1200)
Ambient temperature (operation)	-40 °C ... 70 °C (cable, fixed installation)
	-40 °C ... 70 °C (Cable, flexible installation)
Ambient temperature (installation)	-20 °C ... 60 °C

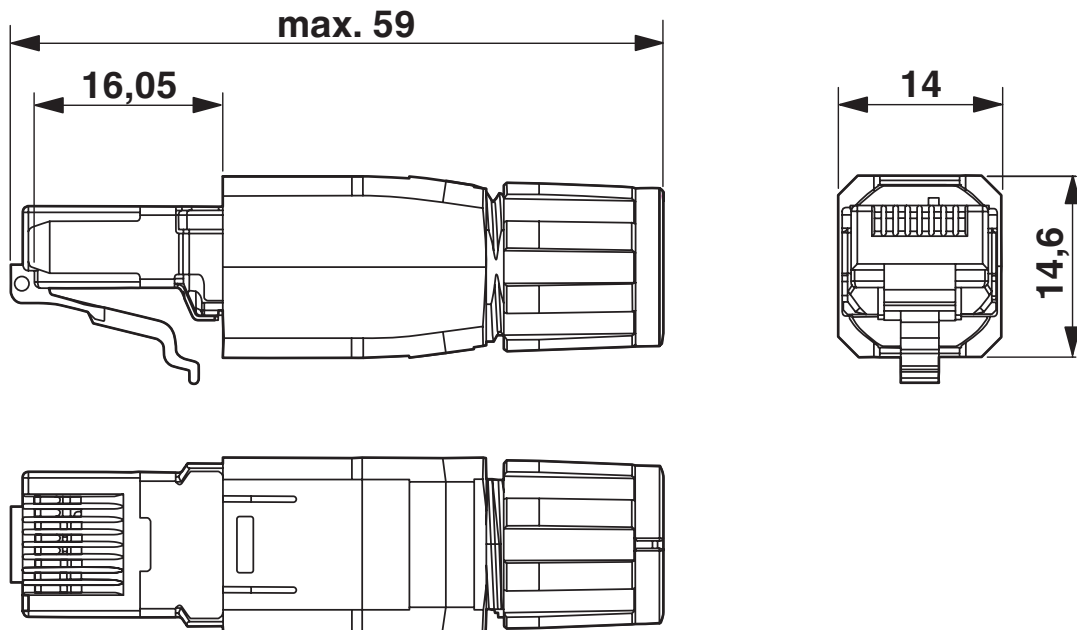
## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-10 °C ... 60 °C (cable, fixed installation)
	-10 °C ... 60 °C (Cable, flexible installation)

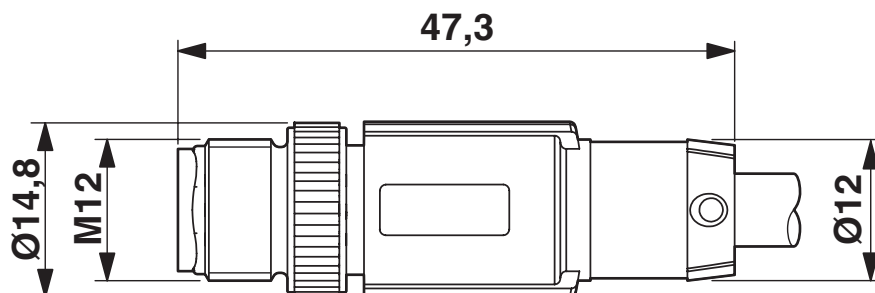
Drawings

Dimensional drawing



RJ45 connector, IP20

Dimensional drawing



Plug, M12 x 1, straight, shielded

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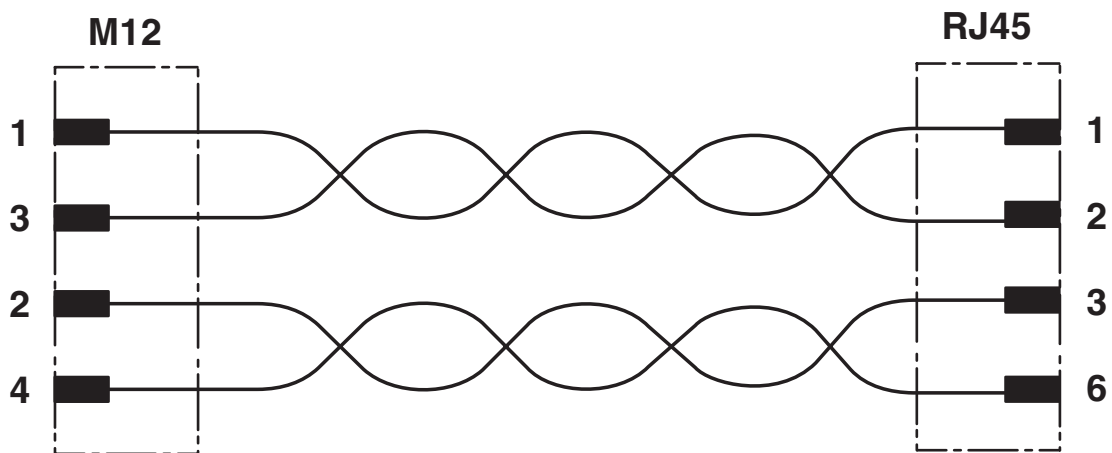
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Schematic diagram



Pin assignment M12 male connector, 4-pos., D-coded, male side

Circuit diagram



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## Classifications

### ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

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