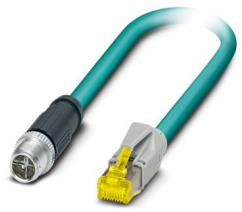
NBC-M12MSX/20,0-94F/R4AC CMC - Network cable

1440656

https://www.phoenixcontact.com/us/products/1440656

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Network cable, Ethernet CAT6$_A$ (10 Gbps), 8-position, PUR halogen-free, water blue RAL 5021, Plug straight M12, coding: X / IP65, on Plug straight RJ45 / IP20, cable length: 20 m

Commercial data

Item number	1440656
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	AF1CMJ
GTIN	4046356504577
Weight per piece (including packing)	960 g
Weight per piece (excluding packing)	800 g
Customs tariff number	85444290
Country of origin	PL

Technical data

Product properties

Product type	Data cable preassembled
Application	Standard
Number of positions	8
Number of slots	1
Shielded	yes
Coding	X

Insulation characteristics

Overvoltage category	I
Degree of pollution	1

Interfaces

Signal type/category	Ethernet $CAT6_A$, 10 Gbps

Electrical properties

Nominal voltage U_N	48 V AC
	60 V DC
Nominal current I_N	0.5 A
Transmission medium	Copper
Transmission speed	10 Gbps
Transmission characteristics (category)	$CAT6_A$

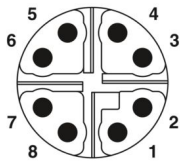
Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 100

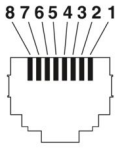
Connector

Connection 1

Dimensional drawing	 Pin assignment of M12 plug, 8-pos., X-coded, pin side view
Type	M12 Plug, straight, 8-position, shielded (Advanced Shielding Technology), Keying: X, Ethernet, CC-Link IE
Number of positions	8
Shielded	yes
Shielding	Advanced Shielding Technology

Signal type/category	Ethernet CAT6$_A$, 10 Gbps
	CC-Link IE CAT6$_A$, 10 Gbps
Insertion/withdrawal cycles	≥ 100
Insulation resistance	≥ 100 Ω
Overvoltage category	II
Degree of pollution	3
Tightening torque	0.4 Nm (M12 connector)
Material Contact	CuZn
Material Contact surface	Ni/Au
Material Contact carrier	PA 6.6
Material Screw connection	Die-cast zinc, nickel-plated
Material Grip body	TPU, hardly inflammable, self-extinguishing
Material Seal	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 61076-2-109

Connection 2

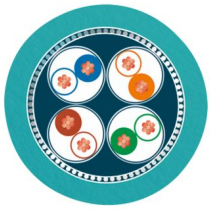
Dimensional drawing	 Connector pin assignment plug RJ45
Type	RJ45 Plug, straight, 8-position, Ethernet, CC-Link IE
Number of positions	8
Signal type/category	Ethernet CAT6$_A$, 10 Gbps
	CC-Link IE CAT6$_A$, 10 Gbps
Insertion/withdrawal cycles	≥ 750
Insulation resistance	≥ 100 Ω
Overvoltage category	I
Degree of pollution	2
Material Contact	CuSn
Material Contact surface	Ni/Au
Material Contact carrier	PC
Material Housing	PA
Color (Housing)	gray
Flammability rating according to UL 94	V2

Degree of protection	IP20 (RJ45 connector)
Ambient temperature (operation)	-25 °C ... 60 °C

Cable/line

Cable length	20 m

Ethernet 10 Gbit [94F]

Dimensional drawing	
UL AWM Style	21238 (80 °C / 600 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet 10 Gbit [94F]
Conductor structure	4x2xAWG26/7; S/FTP
AWG signal line	26
Conductor cross-section	4x 2x 0.14 mm²
Wire diameter incl. insulation	1 mm ±0.05 mm
External cable diameter	6.40 mm ±0.2 mm
Outer sheath, material	PUR
External sheath, color	water blue RAL 5021
Conductor material	Bare Cu litz wires
Material wire insulation	Foamed PE
Single wire, color	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Twisted pairs	2 cores to the pair
Overall twist	4 pairs for core
Optical shield covering	70 %
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 290.00 Ω/km
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Nominal voltage, cable	≤ 100 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	4 x D
Minimum bending radius, flexible installation	8 x D
Smallest bending radius, fixed installation	26 mm
Smallest bending radius, movable installation	51 mm
Halogen-free	according to IEC 60754-1

Flame resistance	according to IEC 60332-1-2
	in accordance with UN ECE-R 118.03
	according to CSA C 22.2 No. 210-FT1
Resistance to oil	in accordance with DIN EN 60811-404
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (Cable, flexible installation)

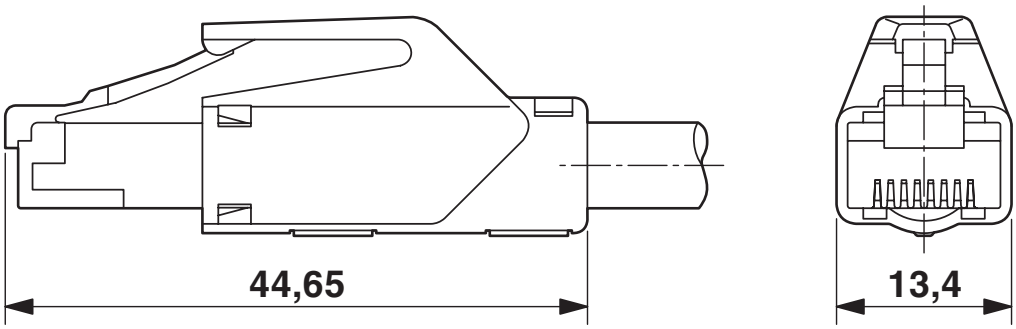
Environmental and real-life conditions

Ambient conditions

Degree of protection	IP65 (M12 connector)
	IP67 (M12 connector)
	IP20 (RJ45 connector)

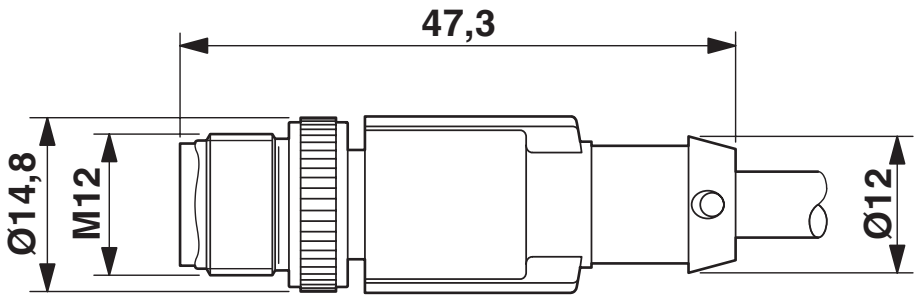
Drawings

Dimensional drawing



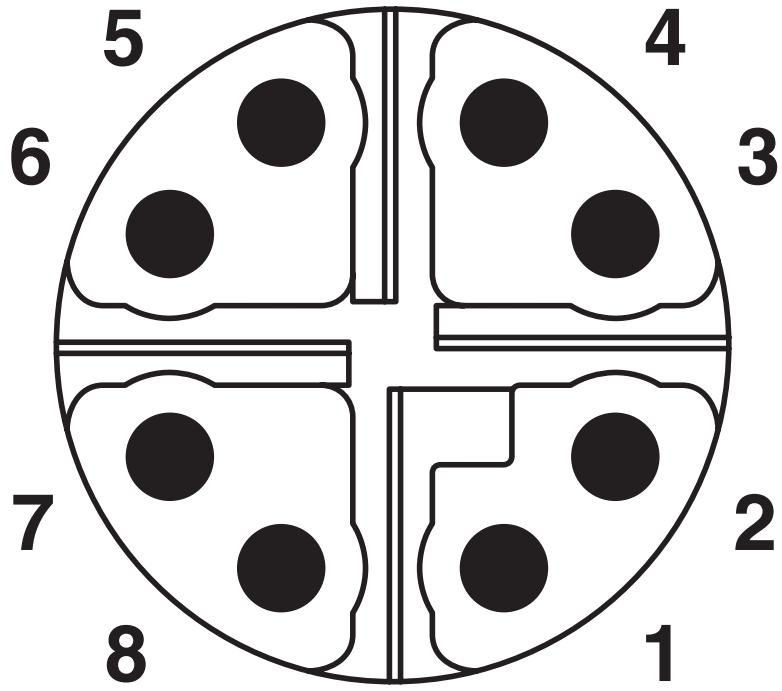
RJ45 connector dimensional drawing

Dimensional drawing



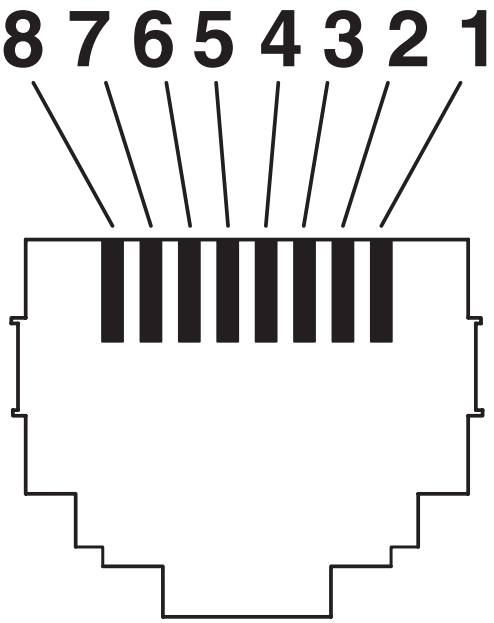
M12 connector dimensional drawing

Schematic diagram



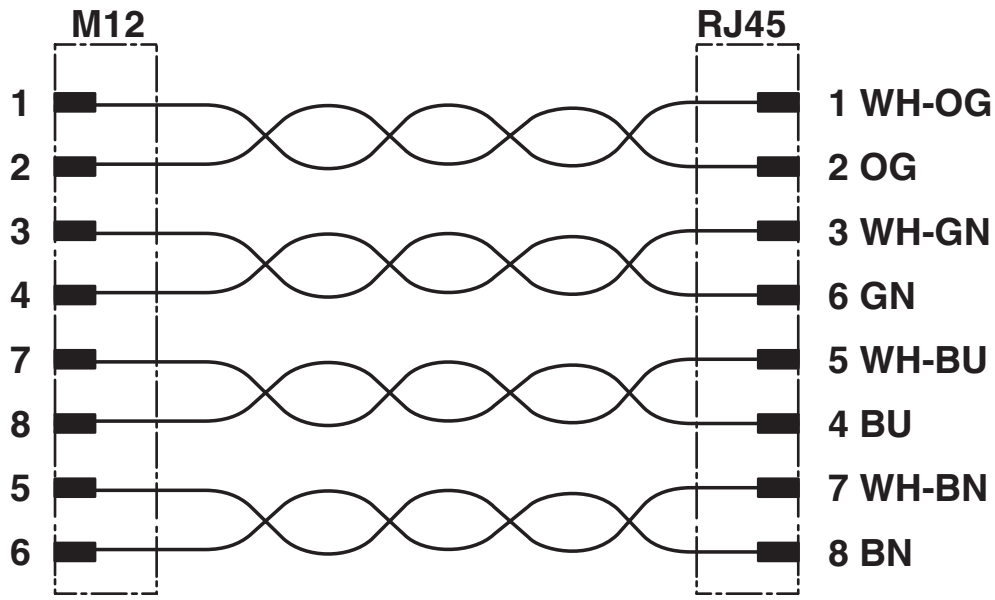
M12 Cat6$_A$, 8-pos. plug pin assignment, pin side view

Schematic diagram



Connector pin assignment plug RJ45

Circuit diagram



Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1440656

UL Listed
Approval ID: FILE E 335024

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	30 V	0.5 A	-	-

cUL Listed
Approval ID: FILE E 335024

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	30 V	0.5 A	-	-

Classifications

ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

ETIM

ETIM 10.0	EC002599

UNSPSC

UNSPSC 21.0	26121600

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%

EF3.1 Climate Change

CO2e kg	44.828 kg CO2e

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