

NBC-R4QC-R4QC-IE8/.../... - Network cable



1411848

<https://www.phoenixcontact.com/us/products/1411848>

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Network cable, degree of protection: IP65/IP67, number of positions: 8, 1 Gbps, CAT5, cable outlet: straight, Ethernet

Commercial data

Item number	1411848
Packing unit	1 pc
Minimum order quantity	1 pc
Note	Made to order (non-returnable)
Sales key	AB50
Product key	ABNABE
Customs tariff number	85444210
Country of origin	PL

1411848

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Technical data

Product properties

Product type	Data cable preassembled
Product family	RJ45 INDUSTRIAL IE8 CAT5
Number of positions	8
No. of cable outlets	1
Number of slots	1
Shielded	yes
Cable outlet	straight

Insulation characteristics

Degree of pollution	2
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Interfaces

Signal type/category	Ethernet CAT5 (IEC 11801:2002), 1 Gbps
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Signaling

Status display	no
Status display present	no

Electrical properties

Rated voltage (III/3)	72 V (DC)
Nominal voltage U_N	48 V
Nominal current I_N	1 A
Transmission medium	Copper
Transmission speed	1 Gbps
Transmission characteristics (category)	CAT5 (IEC 11801:2002)
Transmission speed	1 Gbps
Wave impedance	100 Ω

Mechanical properties

Mechanical data

Insertion/withdrawal cycles	≥ 200
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Material specifications

Flammability rating according to UL 94	V2
Outer sheath, material	PUR
Conductor material	Bare Cu litz wires

Connector

Connection 1

Type	Plug straight RJ45
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NBC-R4QC-R4QC-IE8/.../... - Network cable



1411848

<https://www.phoenixcontact.com/us/products/1411848>

Locking type	Push Pull
Degree of protection	IP67

Connection 2

Type	Plug straight RJ45
Locking type	Push Pull
Degree of protection	IP67

Cable/line

Ethernet flexible CAT5, 4-pair [94B]

Cable weight	47 kg/km
UL AWM Style	20963 (80°C/30 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet flexible CAT5, 4-pair [94B] Ethernet flexible CAT5, 4-pair 94B
Conductor structure	4x2xAWG26/7, SF/UTP
Signal runtime	5.3 ns/m
Conductor structure signal line	7x 0.16 mm
AWG signal line	26
Conductor cross-section	4x 2x 0.14 mm ²
Wire diameter incl. insulation	0.96 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
Thickness, outer sheath	1.05 mm
Twisted pairs	2 cores to the pair
Overall twist	4 pairs for core
Shielding	Aluminum-coated foil, tinned copper braided shield
Optical shield covering	70 %
Insulation resistance	≥ 5 GΩ*km
Coupling resistance	≤ 100.00 mΩ/m (at 10 MHz)
Loop resistance	≤ 290.00 Ω/km
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Cable capacity	48 nF/km (at 1 kHz)
Nominal voltage, cable	≤ 100 V
Test voltage Core/Core	700 V (50 Hz, 1 min.)
Test voltage Core/Shield	700.00 V (50 Hz, 1 min.)
Minimum bending radius, fixed installation	4 x D
Minimum bending radius, flexible installation	8 x D

NBC-R4QC-R4QC-IE8/.../... - Network cable



1411848

<https://www.phoenixcontact.com/us/products/1411848>

Smallest bending radius, fixed installation	26 mm
Smallest bending radius, movable installation	52 mm
Tensile strength	≤ 100 N
Near end crosstalk attenuation (NEXT)	71.3 dB (with 1 MHz)
	62.3 dB (at 4 MHz)
	56.3 dB (at 10 MHz)
	53.2 dB (at 16 MHz)
	51.8 dB (at 20 MHz)
	48.9 dB (at 31.25 MHz)
	44.4 dB (at 62.5 MHz)
Power-summated near end crosstalk attenuation (PSNEXT)	41.3 dB (at 100 MHz)
	62.3 dB (with 1 MHz)
	53.3 dB (at 4 MHz)
	47.3 dB (at 10 MHz)
	44.2 dB (at 16 MHz)
	42.8 dB (at 20 MHz)
	39.9 dB (at 31.25 MHz)
Return attenuation (RL)	35.4 dB (at 62.5 MHz)
	32.3 dB (at 100 MHz)
	23 dB (at 4 MHz)
	24.1 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	23.6 dB (at 31.25 MHz)
Remote crosstalk attenuation (FEXT)	21.5 dB (at 62.5 MHz)
	20.1 dB (at 100 MHz)
	23 dB (at 4 MHz)
	24.1 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	23.6 dB (at 31.25 MHz)
Wave attenuation	21.5 dB (at 62.5 MHz)
	20.1 dB (at 100 MHz)
	3.2 dB (with 1 MHz)
	6 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.6 dB (at 20 MHz)
Halogen-free	17.1 dB (at 31.25 MHz)
	24.8 dB (at 62.5 MHz)
	32 dB (at 100 MHz)
	according to IEC 60754-1

NBC-R4QC-R4QC-IE8/.../... - Network cable



1411848

<https://www.phoenixcontact.com/us/products/1411848>

Flame resistance	according to IEC 60332-1-2
Resistance to oil	in accordance with EN 60811-2-1
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)
	-20 °C ... 80 °C (Cable, flexible installation)

Ethernet drag chain CAT5, 4-pair [94C]

Cable weight	57 kg/km
UL AWM Style	20963 (80°C/30 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet drag chain CAT5, 4-pair [94C]
	Ethernet drag chain CAT5, 4-pair 94C
Conductor structure	4x2xAWG26/19, S/UTP
Signal runtime	5.3 ns/m
Conductor structure signal line	19x 0.10 mm
AWG signal line	26
Conductor cross-section	4x 2x 0.14 mm ²
Wire diameter incl. insulation	1 mm
External cable diameter	6.90 mm +0.1 mm ... 0.2 mm
Outer sheath, material	PUR
External sheath, color	water blue RAL 5021
Conductor material	Bare Cu litz wires
Material wire insulation	PP
Single wire, color	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Thickness, outer sheath	0.85 mm
Twisted pairs	2 cores to the pair
Overall twist	Four pairs and four fillers to the core
Shielding	Tinned copper braided shield
Optical shield covering	90 %
Insulation resistance	≥ 500 MΩ*km
Coupling resistance	≤ 100.00 mΩ/m (at 10 MHz)
Loop resistance	≤ 290.00 Ω/km
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Cable capacity	approx. 50 nF/km (at 1 kHz)
Nominal voltage, cable	≤ 100 V
Test voltage Core/Core	700 V (50 Hz, 1 min.)
Test voltage Core/Shield	700.00 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	28 mm
Smallest bending radius, movable installation	56 mm
Dynamic load capacity (bending)	Max. bending cycles: 5000000, Bending radius: 7,5 x D, Traversing rate: 3 m/s, Acceleration: 5 m/s ²
Tensile strength	≤ 100 N

NBC-R4QC-R4QC-IE8/.../... - Network cable



1411848

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Near end crosstalk attenuation (NEXT)	65.3 dB (with 1 MHz)
	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)
Power-summated near end crosstalk attenuation (PSNEXT)	62.3 dB (with 1 MHz)
	53.3 dB (at 4 MHz)
	47.3 dB (at 10 MHz)
	44.2 dB (at 16 MHz)
	42.8 dB (at 20 MHz)
	39.9 dB (at 31.25 MHz)
	35.4 dB (at 62.5 MHz)
	32.3 dB (at 100 MHz)
Return attenuation (RL)	23 dB (at 4 MHz)
	24.1 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	23.6 dB (at 31.25 MHz)
	21.5 dB (at 62.5 MHz)
	20.1 dB (at 100 MHz)
Remote crosstalk attenuation (FEXT)	23 dB (at 4 MHz)
	24.1 dB (at 8 MHz)
	25 dB (at 10 MHz)
	25 dB (at 16 MHz)
	25 dB (at 20 MHz)
	23.6 dB (at 31.25 MHz)
	21.5 dB (at 62.5 MHz)
	20.1 dB (at 100 MHz)
Wave attenuation	3.2 dB (with 1 MHz)
	6 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.6 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	according to IEC 60754-1
Flame resistance	according to IEC 60332-1-2
Resistance to oil	in accordance with EN 60811-2-1
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)

NBC-R4QC-R4QC-IE8/.../... - Network cable



1411848

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	-20 °C ... 80 °C (Cable, flexible installation)
Ethernet [94D]	
UL AWM Style	2464 (80°C/300 V)
Number of positions	8
Shielded	yes
Cable type	Ethernet [94D] Ethernet 94D
Conductor structure	4x2xAWG26/7, SF/UTP
Signal speed	0.6 c
Conductor structure signal line	7x 0.16 mm
AWG signal line	26
Conductor cross-section	4x 2x 0.14 mm ²
Wire diameter incl. insulation	0.98 mm ±0.05 mm
External cable diameter	6.40 mm ±0.2 mm
Outer sheath, material	PVC (reinforced) UV-resistant
External sheath, color	black RAL 9005
Conductor material	Bare Cu litz wires
Material wire insulation	PP
Single wire, color	white/blue-blue, white/orange-orange, white/green-green, white/brown-brown
Thickness, outer sheath	0.80 mm
Twisted pairs	2 cores to the pair
Overall twist	4 pairs, twisted
Shielding	Aluminum-lined polyester foil, tinned copper braided shield
Optical shield covering	85 %
Max. conductor resistance	< 140 Ω/km
Insulation resistance	≥ 5 GΩ*km
Wave impedance	100 Ω ±15 Ω (at 4 ... 100 MHz)
Cable capacity	< 56 nF/km
Nominal voltage, cable	72 V DC 300 V AC
Test voltage Core/Core	2500 V DC (2 s)
Test voltage Core/Shield	2500.00 V DC (2 s)
Smallest bending radius, fixed installation	30 mm
Smallest bending radius, movable installation	60 mm
Tensile strength	80 N
Flame resistance	According to VW-1
Resistance to oil	according to IEC 60811-2-1
Other resistance	UV resistant (according to UL 1581, Section 1200)
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)

Environmental and real-life conditions

Ambient conditions

NBC-R4QC-R4QC-IE8/.../... - Network cable



1411848

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Degree of protection	IP67 (RJ45 connector)
	IP65/IP67
Ambient temperature (operation) (male connector/female connector)	-40 °C ... 70 °C (RJ45 connector)
Ambient temperature (operation)	-40 °C ... 80 °C (cable, fixed installation)

Standards and regulations

Standards/specifications	IEC PAS 61076-3-117
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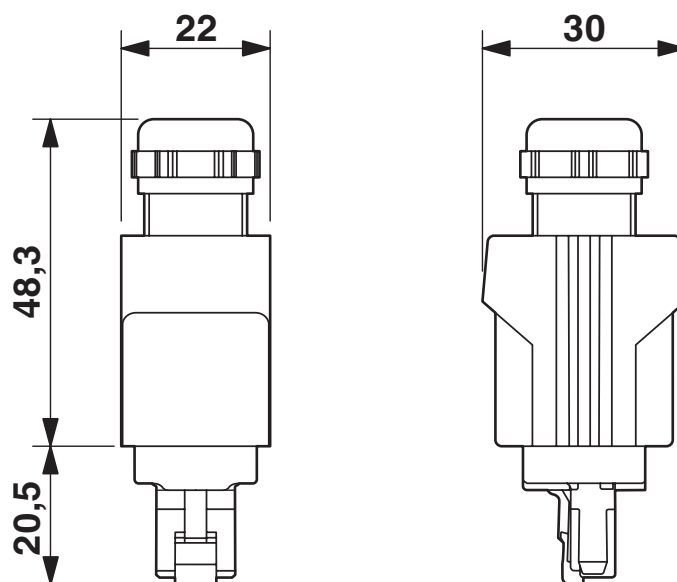
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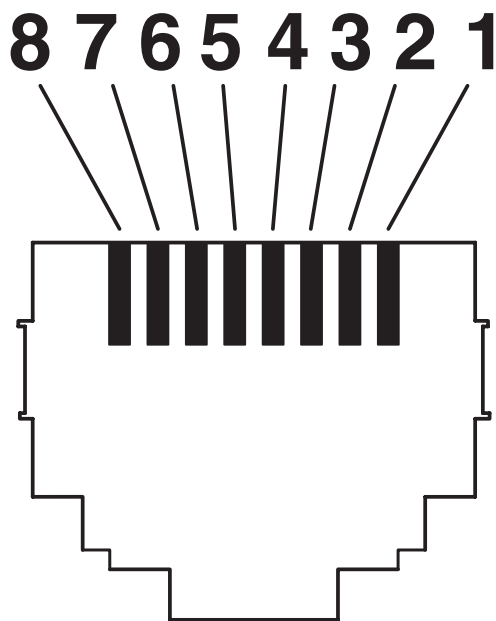
Drawings

Dimensional drawing



RJ45 Push-Pull connector, IP67

Schematic diagram



Connector pin assignment plug RJ45

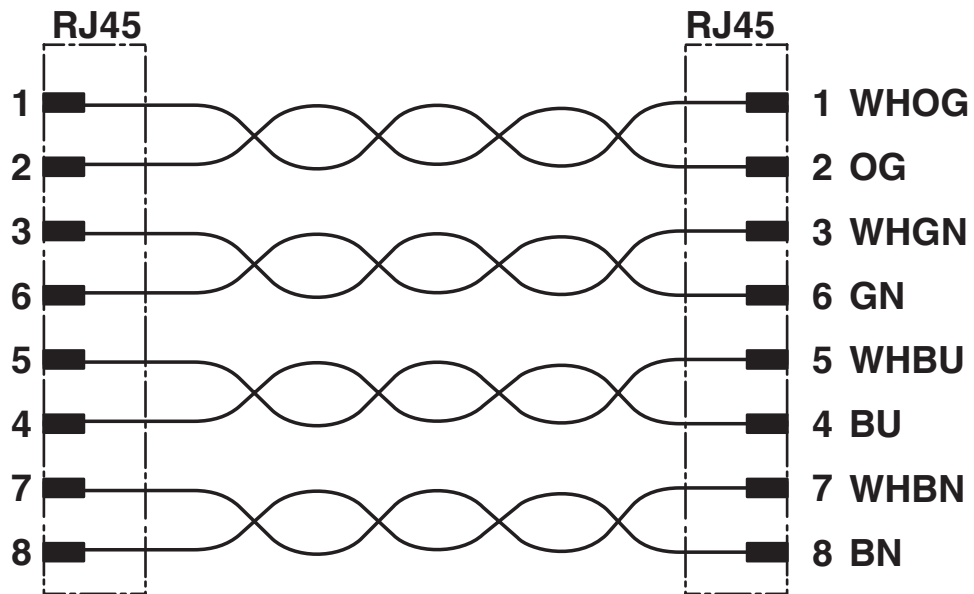
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Circuit diagram



Contact assignment of RJ45 plugs

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Approvals

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EAC

Approval ID: 19060508

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Classifications

ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

UNSPSC

UNSPSC 21.0	26121600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1)
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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com