

# NBC-R4ACR/10,0-93G/R4ACR - Patch cable



1409015

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EtherCAT® patch cable, shielded, star quad, 22 AWG stranded (7-wire), green, angled RJ45 plug/IP20 to angled RJ45 plug/IP20, length: 10 m

EtherCAT® patch cable

## Commercial data

Item number	1409015
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	NULL
Product key	ABNABA
GTIN	4046356857369
Weight per piece (including packing)	695.6 g
Weight per piece (excluding packing)	695 g
Customs tariff number	85444210
Country of origin	PL

1409015

<https://www.phoenixcontact.com/us/products/1409015>

## Technical data

### Product properties

Product type	Data cable preassembled
Product family	RJ45 INDUSTRIAL PN4 CAT5
Number of positions	4
Number of slots	1

### Interfaces

Signal type/category	EtherCAT® CAT5 (IEC 11801:2002), 100 Mbps
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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	100 Mbps
Transmission characteristics (category)	CAT5 (IEC 11801:2002)

### Material specifications

Outer sheath, material	PVC
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### Connector

#### Connection 1

Type	Plug angled RJ45
Handle color	black
Material	CuSn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carrier)
	PA (Housing)
Insertion/withdrawal cycles	≥ 750
Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 80 °C

#### Connection 2

Type	Plug angled RJ45
Handle color	black
Material	CuSn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carrier)

# NBC-R4ACR/10,0-93G/R4ACR - Patch cable



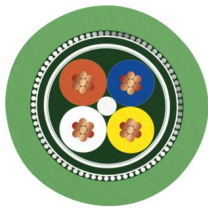
1409015

<https://www.phoenixcontact.com/us/products/1409015>

	PA (Housing)
Insertion/withdrawal cycles	≥ 750
Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 80 °C

## Cable/line

EtherCAT® [93G]

Dimensional drawing	
Shielded	yes
UL AWM Style	21694
Cable weight	67 kg/km
Cable type	EtherCAT®
Cable type (abbreviation)	93G
Signal type/category	EtherCAT® CAT5 (IEC 11801), 100 Mbps
Cable structure	1x4xAWG22/7, SF/TQ
External cable diameter	6.50 mm ±0.2 mm
Outer sheath, material	PVC
External sheath, color	green RAL 6018
Thickness, outer sheath	approx. 0.90 mm
Material, inner sheath	PVC
Conductor material	Tin-plated Cu litz wires
Conductor structure signal line	7x 0.25 mm
AWG signal line	22
Conductor cross-section	4x 0.34 mm <sup>2</sup>
Material wire insulation	PE
Wire diameter incl. insulation	1.55 mm
Single wire, color	white, yellow, blue, orange
Overall twist	Star quad
Shielding	Aluminum-coated foil, tinned copper braided shield
Optical shield covering	85 %
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.)
Cable insulation resistance	≥ 500 MΩ*km
Coupling resistance	≤ 20.00 mΩ/m (at 10 MHz)
Wave impedance	100 Ω ±15 Ω (at 100 MHz)

# NBC-R4ACR/10,0-93G/R4ACR - Patch cable



1409015

<https://www.phoenixcontact.com/us/products/1409015>

Loop resistance	≤ (per km)
Signal runtime	5.3 ns/m
Signal speed	0.66 c
Minimum bending radius, fixed installation	3 x D
Minimum bending radius, flexible installation	7 x D
Resistance to oil	Resistant to oil to a limited extent
Flame resistance	according to UL 1685 (CSA FT 4)
Other resistance	UV resistant (according to UL 1581, Section 1200)
Ambient temperature (operation)	-40 °C ... 70 °C (Cable, flexible installation) -40 °C ... 70 °C (cable, fixed installation)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20 (RJ45 connector) IP20
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 80 °C (RJ45 connector)

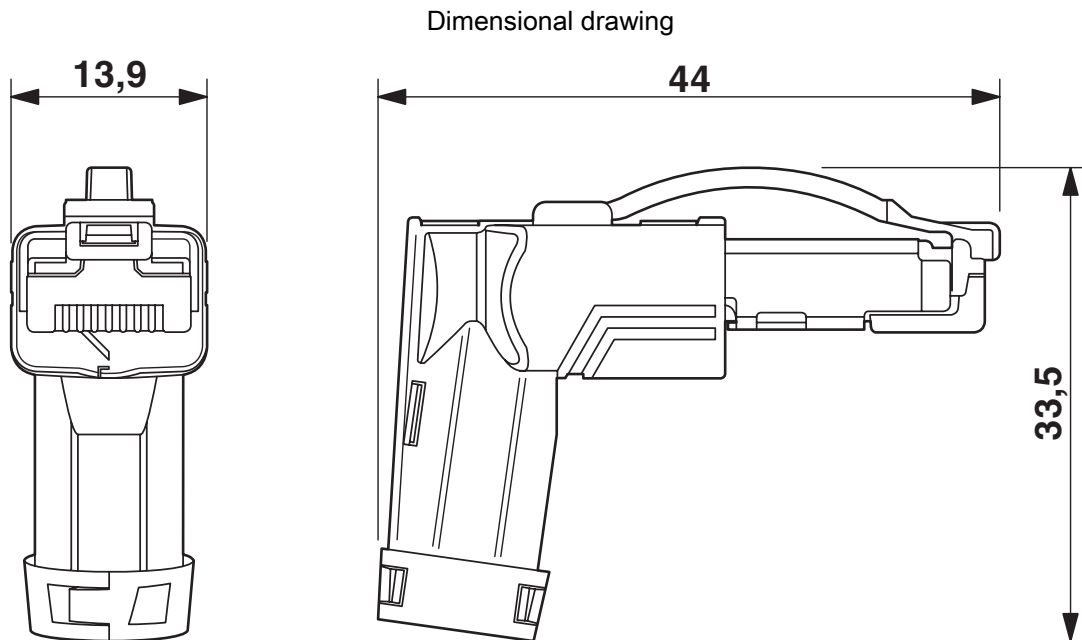
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1409015

<https://www.phoenixcontact.com/us/products/1409015>

## Drawings



RJ45 connector, IP20, angled

# NBC-R4ACR/10,0-93G/R4ACR - Patch cable

1409015

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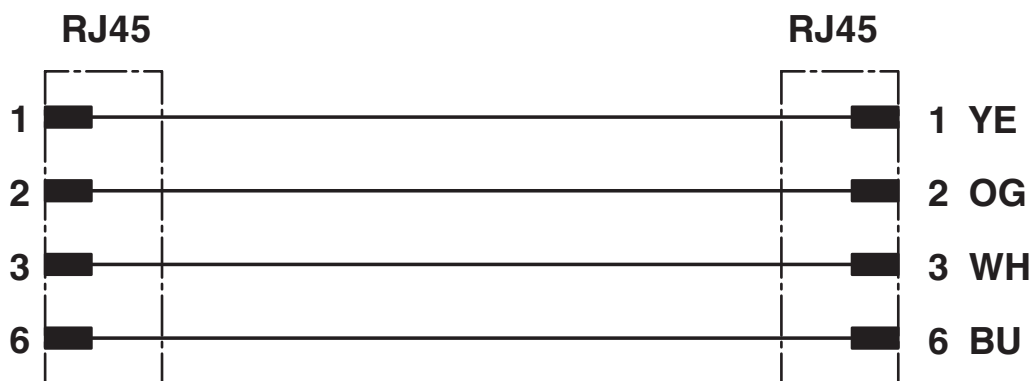


Schematic diagram



Connector pin assignment plug RJ45

Circuit diagram



Contact assignment of RJ45 plugs

# NBC-R4ACR/10,0-93G/R4ACR - Patch cable



1409015

<https://www.phoenixcontact.com/us/products/1409015>

## Classifications

### ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

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1409015

<https://www.phoenixcontact.com/us/products/1409015>

## 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.)	No substance above 0.1 wt%
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