

# Patch cable - NBC-R4AC/1,0-93G/R4AC - 1408981

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EtherCAT<sup>®</sup> patch cable, shielded, star quad, AWG 22 stranded (7-wire), green, RJ45 plug/IP 20, straight, to RJ45 plug/IP20, straight, length: 1.0 m

EtherCAT<sup>®</sup> patch cable



## Key Commercial Data

Packing unit	1 pc
GTIN	 4 0 4 6 3 5 6 8 5 7 2 9 1
GTIN	4046356857291

## Technical data

### Ambient conditions

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

### General data

Rated current at 40°C	1 A
Rated voltage	48 V
Number of positions	4
Rated voltage (III/3)	72 V (DC)
Degree of protection	IP20
Number of slots	1
Transmission characteristics (category)	CAT5

### Characteristics head 1

Color	black
Material (component)	CuSn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carriers)
	PA (Housing)

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## Technical data

### Characteristics head 1

Insertion/withdrawal cycles	≥ 750
Ambient temperature (operation)	-25 °C ... 80 °C
Outer sheath, material	PVC
External sheath, color	green RAL 6018

### Characteristics head 2

Color	black
Material (component)	CuSn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carriers)
	PA (Housing)
Insertion/withdrawal cycles	≥ 750
Ambient temperature (operation)	-25 °C ... 80 °C

### Cable

Cable type	EtherCAT <sup>®</sup>
Cable type (abbreviation)	93G
UL AWM style	21694
Signal type/category	EtherCAT <sup>®</sup> CAT5 (IEC 11801), 100 Mbps
Cable structure	1x4xAWG22/7; SF/TQ
Conductor cross section	4x 0.34 mm <sup>2</sup>
AWG signal line	22
Conductor structure signal line	7x 0.25 mm
Core diameter including insulation	1.55 mm
Wire colors	White, yellow, blue, orange
Overall twist	Star quad
Shielding	Aluminum-coated foil, tinned copper braided shield
Optical shield covering	85 %
External sheath, color	green RAL 6018
Outer sheath thickness	approx. 0.9 mm
External cable diameter D	6.5 mm ±0.2 mm
Minimum bending radius, fixed installation	3 x D
Minimum bending radius, flexible installation	7 x D
Cable weight	67 kg/km
Outer sheath, material	PVC
Material, inner sheath	PVC
Material conductor insulation	PE
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ (per km)
Wave impedance	100 Ω ±15 Ω (at 100 MHz)

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### Technical data

#### Cable

Signal speed	0.66 c
Signal runtime	5.3 ns/m
Coupling resistance	≤ 20.00 mΩ/m (at 10 MHz)
Nominal voltage, cable	600 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000 V (50 Hz, 1 min.)
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
Ambient temperature (storage/transport)	-50 °C ... 70 °C

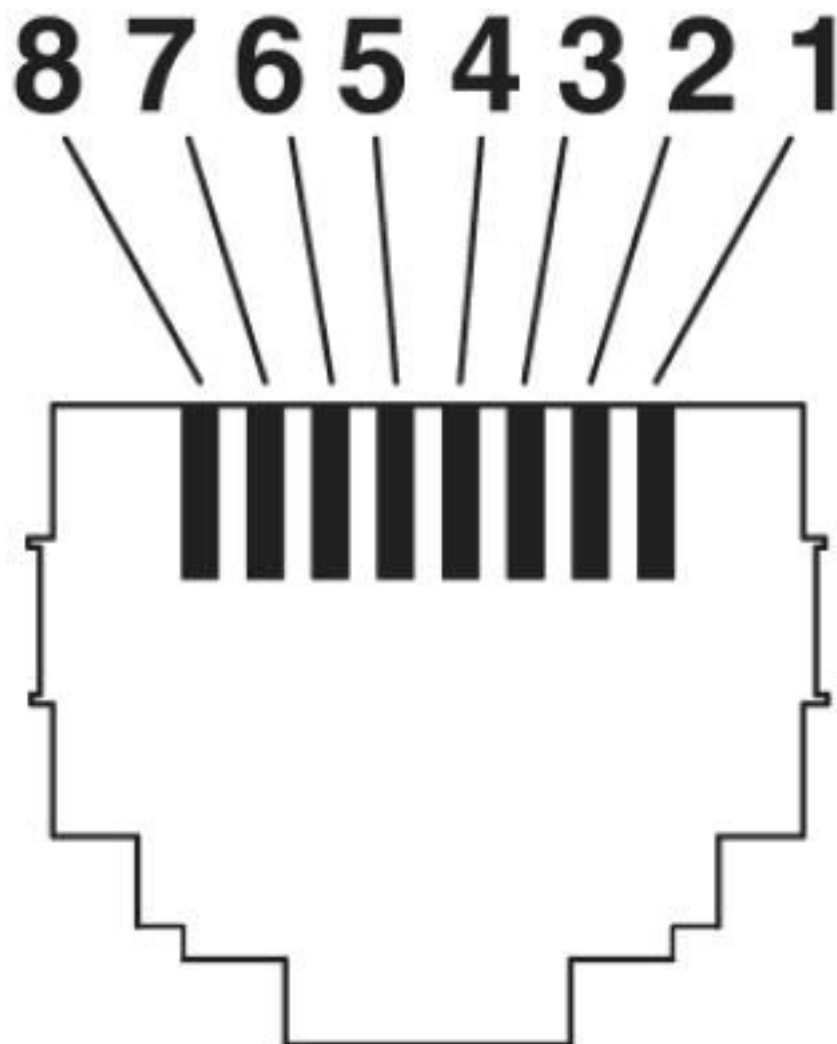
#### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

#### Drawings

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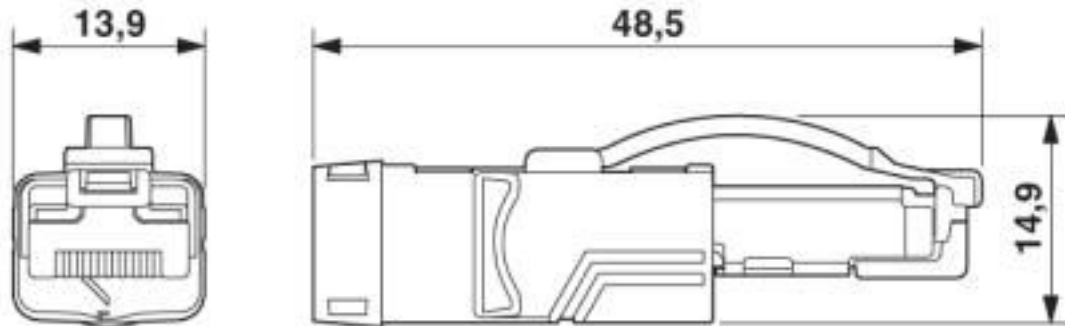
Schematic diagram



Connector pin assignment plug RJ45

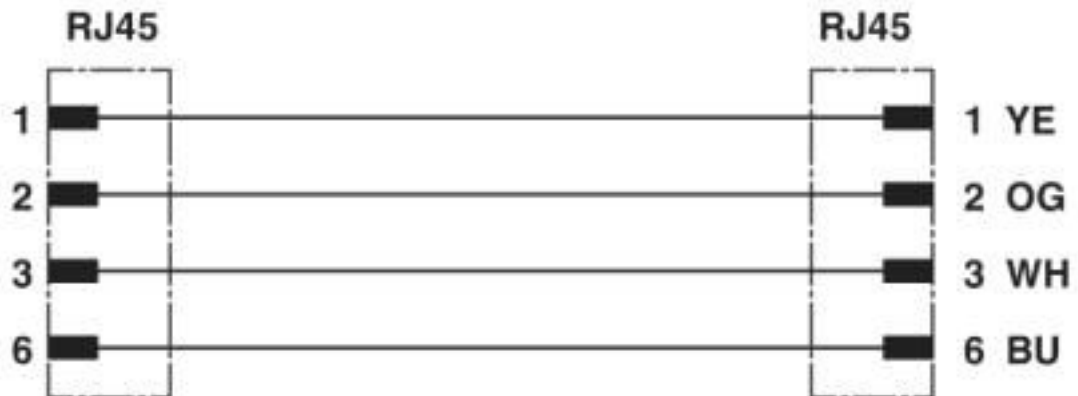
# Patch cable - NBC-R4AC/1,0-93G/R4AC - 1408981

Dimensional drawing



RJ45 connector, IP20

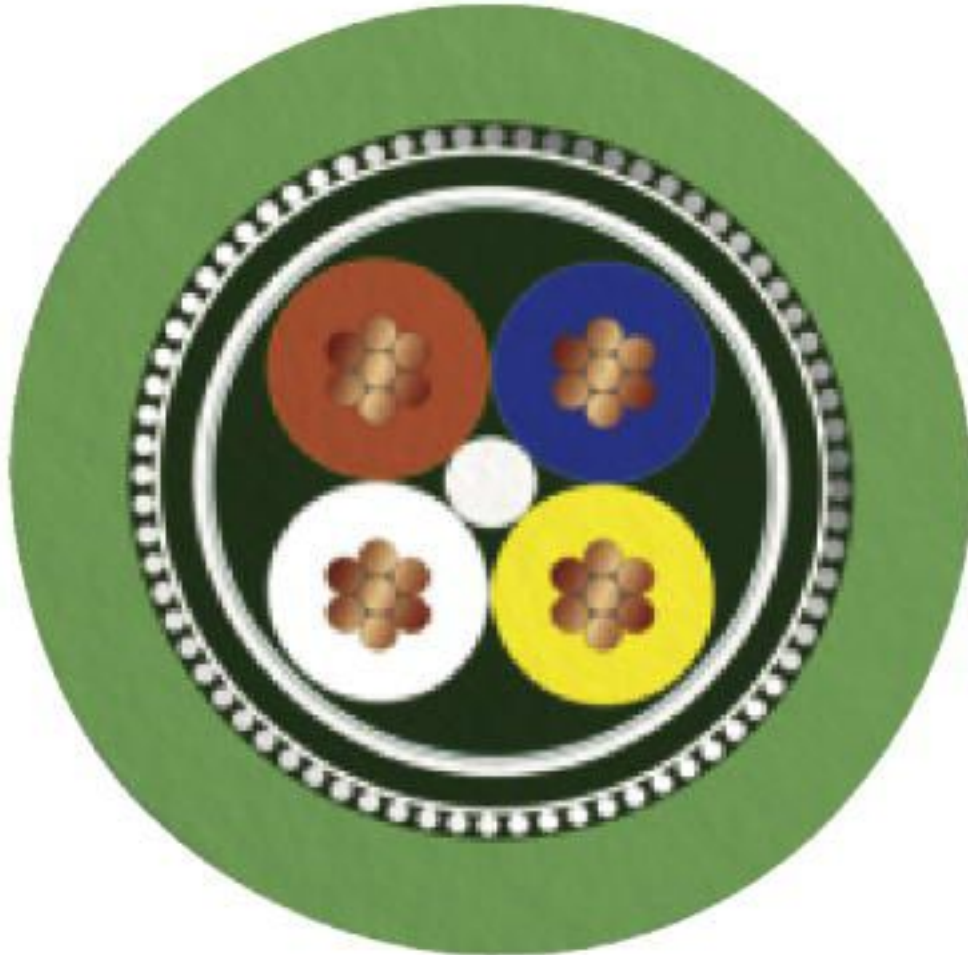
Circuit diagram



Contact assignment of RJ45 plugs

# Patch cable - NBC-R4AC/1,0-93G/R4AC - 1408981

Cable cross section



EtherCAT® [93G]

## Classifications

eCl@ss

eCl@ss 4.0	24010400
eCl@ss 4.1	24010400
eCl@ss 5.0	19030300
eCl@ss 5.1	19030300
eCl@ss 6.0	27061800
eCl@ss 7.0	27060308
eCl@ss 8.0	27060308
eCl@ss 9.0	27060308

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### Classifications

#### ETIM

ETIM 4.0	EC002599
ETIM 5.0	EC002599
ETIM 6.0	EC001262
ETIM 7.0	EC001262

#### UNSPSC

UNSPSC 6.01	26121616
UNSPSC 7.0901	26121616
UNSPSC 11	26121604
UNSPSC 12.01	31261501
UNSPSC 13.2	26121604
UNSPSC 19.0	26121604

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