

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

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Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, Variable cable type, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug angled RJ45 / IP20, cable length: Free input (0.2 ... 40.0 m)



### Key Commercial Data

Packing unit	1 pc
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### Technical data

#### Dimensions

Length of cable	Free input (0.2 ... 40.0 m)
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#### Ambient conditions

Degree of protection	IP65 (M12 connector)
	IP67 (M12 connector)
	IP20 (RJ45 connector)
Ambient temperature (operation)	-25 °C ... 90 °C (M12 connector)
	-25 °C ... 80 °C (RJ45 connector)

### General data

Note	This product corresponds to the PROFINET Cabling and Interconnection Technology Guideline for PROFINET regulations, version 2.00, order no: 2.252, Chapter 8.2 Connectors for Outside Environment (Balanced cabling)
	Further products with fixed cable length can be found in the accessories section
Rated current at 40°C	1 A
Rated voltage	48 V AC
	60 V DC
Number of positions	4
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT® CAT5 (IEC 11801), 100 Mbps
Standards/regulations	M12 connector IEC 61076-2-101

# Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

## Technical data

### General data

Contact material	CuSn
Contact carrier material	TPU GF
Contact surface material	Ni/Au
Housing material	Plastic
Transmission characteristics (category)	CAT5
Transmission speed	100 Mbps

### Characteristics head 1

Head type	Plug straight M12 SPEEDCON / IP67
No. of positions (pin connector pattern)	4
Coding	D (Data)
Color	black
Material (component)	CuSn (Contact)
	Ni/Au (Contact surface)
	PA (Contact carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Zinc die-cast, nickel-plated (Screw connection)
Insulation resistance	≥ 100 MΩ
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm
Ambient temperature (operation)	-25 °C ... 90 °C

### Characteristics head 2

Head type	Plug angled RJ45 / IP20
No. of positions (pin connector pattern)	4 (8)
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

### Line characteristics

Note	This item is a network cable with a freely selectable cable type. The technical data for all possible cable types is listed in the table below.
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### Standards and Regulations

Standards/specifications	M12 connector IEC 61076-2-101
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### PROFINET PVC stranded CAT5 [93B]

Cable type	PROFINET PVC stranded CAT5
Cable type (abbreviation)	93B
UL AWM style	21694

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

### Technical data

#### PROFINET PVC stranded CAT5 [93B]

Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT® 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	≤ 120.00 Ω/km
Wave impedance	100 Ω ±15 Ω (at 100 MHz)
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)
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)
	16.5 dB (at 62.5 MHz)
	21.3 dB (at 100 MHz)

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

### Technical data

#### PROFINET PVC stranded CAT5 [93B]

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
Shielded	yes

#### PROFINET drag chain CAT5 [93C]

Product labeling	"sequential length in metres" PN-CABLE-934-C / PUR-4X22AWG/7 Trailing * 22AWG (SHIELDED) (UL) E119100 CMX 75°C VERIFIED (UL) CAT 5E PATCH CABLE FRNC * (Cable printing cable supplier)
Cable type	PROFINET drag chain CAT5
Cable type (abbreviation)	93C
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT® 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	1.5 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	5 x D
Minimum bending radius, flexible installation	7.5 x D
Number of bending cycles	3000000
Bending radius	100 mm
Traversing path	10 m
Traversing rate	4 m/s
Acceleration	4 m/s <sup>2</sup>

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

### Technical data

#### PROFINET drag chain CAT5 [93C]

Torsion force	± 30 °/m
Tensile strength GRP	≤ 150 N
Cable weight	61 kg/km
Outer sheath, material	PUR
Material, inner sheath	FRNC
Material conductor insulation	PE
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 120.00 Ω/km
Wave impedance	100 Ω ±15 Ω (at 1 ... 100 MHz)
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)
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)
	16.5 dB (at 62.5 MHz)
	21.3 dB (at 100 MHz)
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 (UL rating)
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000 V (50 Hz, 1 min.)
Special properties	Electrical properties according to EN 50288-2-2
Flame resistance	according to IEC 60332-1-2
Halogen-free	yes
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	UV resistant
Ambient temperature (operation)	-40 °C ... 70 °C (cable, fixed installation)
	-40 °C ... 70 °C (cable, flexible installation)
Ambient temperature (installation)	-20 °C ... 60 °C

# Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

## Technical data

### PROFINET drag chain CAT5 [93C]

Ambient temperature (storage/transport)	-50 °C ... 70 °C
Shielded	yes

### PROFINET robot CAT5 [93R]

Cable type	PROFINET robot CAT5
Cable type (abbreviation)	93R
UL AWM style	20233 (80°C/300 V)
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT® CAT5 (IEC 11801), 100 Mbps
Cable structure	1x4xAWG22/19; S/TQ
Conductor cross section	4x 0.34 mm²
AWG signal line	22
Conductor structure signal line	19x 0.15 mm
Core diameter including insulation	1.5 mm
Wire colors	White, yellow, blue, orange
Overall twist	Star quad
Shielding	Tinned copper braided shield
Optical shield covering	85 %
External sheath, color	green RAL 6018
Outer sheath thickness	approx. 1 mm
External cable diameter D	6.5 mm ±0.2 mm
Minimum bending radius, fixed installation	5 x D
Torsion force	± 180 °/m (1 000 000 torsion cycles)
Cable weight	55 kg/km
Outer sheath, material	PUR
Material conductor insulation	Foamed PE
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 120.00 Ω/km
Wave impedance	100 Ω ±5 Ω (at 100 MHz)
Attenuation	2.9 dB (with 1 MHz)
	5 dB (at 4 MHz)
	8.1 dB (at 10 MHz)
	10.4 dB (at 16 MHz)
	11.9 dB (at 20 MHz)
	15.5 dB (at 31.25 MHz)
	26.5 dB (at 62.5 MHz)
	41 dB (at 100 MHz)
Signal runtime	4.8 ns/m
Nominal voltage, cable	300 V
Test voltage Core/Core	2000 V (50 Hz, 1 min.)

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

### Technical data

#### PROFINET robot CAT5 [93R]

Test voltage Core/Shield	2000 V (50 Hz, 1 min.)
Flame resistance	according to IEC 60332-1-2
Halogen-free	according to IEC 60754-1
Resistance to oil	in accordance with DIN EN 60811-2-1
Other resistance	UV resistant According to UL 1581, Section 1200
Ambient temperature (operation)	-40 °C ... 80 °C
	-40 °C ... 80 °C
Ambient temperature (installation)	-20 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Shielded	yes

#### PROFINET RADOX® railway application CAT5 [937]

Cable type	PROFINET RADOX® railway application CAT5
Cable type (abbreviation)	937
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT® 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	approx. 1.5 mm
Wire colors	white-blue, orange-yellow
Overall twist	Star quad
Shielding	Plastic-coated aluminum foil, tinned copper braided shield
External sheath, color	black RAL 9005
Outer sheath thickness	approx. 1 mm
External cable diameter D	6.6 mm ±0.4 mm
Minimum bending radius, fixed installation	6 x D
Cable weight	70 kg/km
Outer sheath, material	PE-X
Material conductor insulation	Foamed PE
Conductor material	silver-plated Cu litz wires
Conductor resistance	≤ 54.4 Ω/km
Working capacitance	≤ 65 pF (core-core)
	≤ 100 pF (core-shield)
Wave impedance	100 Ω ±5 Ω (f = 100 MHz)
Near end crosstalk attenuation (NEXT)	73 dB (with 1 MHz)
	70 dB (at 4 MHz)
	65 dB (at 10 MHz)
	57 dB (at 31.5 MHz)
	52 dB (at 62.5 MHz)

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

### Technical data

#### PROFINET RADOX® railway application CAT5 [937]

	48 dB (at 100 MHz)
Remote crosstalk attenuation (FEXT)	78 dB (with 1 MHz)
	77 dB (at 4 MHz)
	70 dB (at 10 MHz)
	65 dB (at 31.5 MHz)
	56 dB (at 62.5 MHz)
	48 dB (at 100 MHz)
Attenuation	2 dB (with 1 MHz)
	4.4 dB (at 4 MHz)
	7.4 dB (at 10 MHz)
	14 dB (at 31.5 MHz)
	20 dB (at 62.5 MHz)
	26 dB (at 100 MHz)
Return loss (RL)	25 dB (at 4 MHz)
	30 dB (at 10 MHz)
	30 dB (at 31.5 MHz)
	30 dB (at 62.5 MHz)
	28 dB (at 100 MHz)
Signal speed	75 c
Shield attenuation	40 dB (30 MHz ≤ f ≤ 100 MHz)
Coupling resistance	200.00 mΩ/m (f ≤ 30 MHz)
Nominal voltage, cable	300 V AC
Test voltage, cable	2000 V AC (50 Hz, 5 minutes)
Fire protection in rail vehicles	BS 6853 (Category Ia, Ib, II)
	GM/RT 2130 (Category Ia, Ib, II)
	EN 45545 (Risk level HL1 - HL3)
	DIN 5510 (Fire protection level 1, 2, 3, 4)
	NF F16-101 (Category A1, A2, B)
	NF F16-101 (Class C/F0)
	NFPA 130
	UNI CEI 11170 (Risk level LR1 - LR4)
Flame resistance	EN 60332-1-2
	EN 50266
	EN 60332-3-25
	NF C32-070, 2.1
	NF C32-070, 2.2
	UL 1685, 12 (FT4)
	in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01)
Halogen-free	According to EN 50267-2-1
Resistance to oil	according to IRM 902, 72 h at 100 °C



## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

### Technical data

#### PROFINET RADOX® railway application CAT5 [937]

Other resistance	Resistance to fuels according to IRM 903, 168 h at 70 °C
Concentration of fumes	BS 6853 D.8.7
	EN 61034-2
	UL 1685, 12 (FT4)
Fume corrosiveness	EN 50267-2-2
Fume toxicity	BS 6853 B.1
	EN 50305, 9.2
Ambient temperature (operation)	-50 °C ... 90 °C (cable, fixed installation)
	-40 °C ... 90 °C (cable, flexible installation)
Ambient temperature (installation)	-25 °C ... 90 °C
Shielded	yes

#### PROFINET stranded CAT5 [93M]

Cable type	PROFINET stranded CAT5
Cable type (abbreviation)	93M
UL AWM style	20236 (80°C/30 V)
Signal type/category	PROFINET CAT5 (IEC 11801), 100 Mbps
	EtherCAT® 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	approx. 1.5 mm
Wire colors	White, yellow, blue, orange
Overall twist	Star quad
Shielding	Aluminum-coated foil, tinned copper braided shield
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	4 x D
Minimum bending radius, flexible installation	8 x D
Cable weight	65 kg/km
Outer sheath, material	PUR
Material, inner sheath	PVC
Material conductor insulation	PE
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 500 MΩ*km
Loop resistance	≤ 120.00 Ω/km
Working capacitance	52 pF
Wave impedance	100 Ω ±15 Ω (at 100 MHz)
Near end crosstalk attenuation (NEXT)	80 dB (with 1 MHz)

# Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

## Technical data

PROFINET stranded CAT5 [93M]

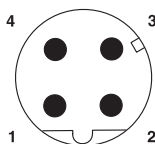
	76 dB (at 4 MHz)
	70 dB (at 10 MHz)
	65 dB (at 16 MHz)
	63 dB (at 20 MHz)
	60 dB (at 31.25 MHz)
	55 dB (at 62.5 MHz)
	50 dB (at 100 MHz)
Attenuation	2.1 dB (with 1 MHz)
	4 dB (at 4 MHz)
	6.3 dB (at 10 MHz)
	8 dB (at 16 MHz)
	9 dB (at 20 MHz)
	11.4 dB (at 31.25 MHz)
	16.5 dB (at 62.5 MHz)
	21.3 dB (at 100 MHz)
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.)
Ambient temperature (operation)	-40 °C ... 80 °C
	-40 °C ... 80 °C (cable, flexible installation)
Ambient temperature (installation)	-40 °C ... 80 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Shielded	yes

## Environmental Product Compliance

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

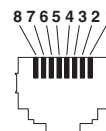
## Drawings

Schematic diagram



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

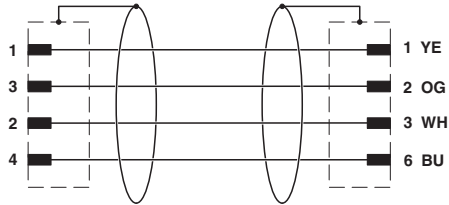
Schematic diagram



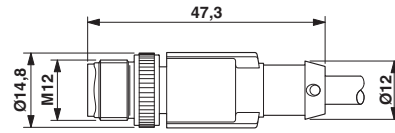
Connector pin assignment plug RJ45

# Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

Circuit diagram



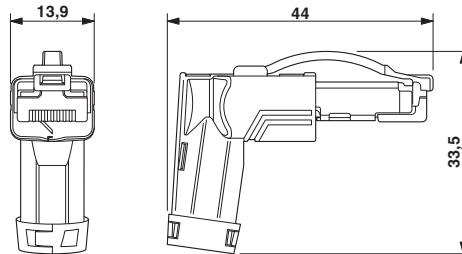
Dimensional drawing



Contact assignment of the M12 and RJ45 plug

Plug, M12 x 1, straight, shielded

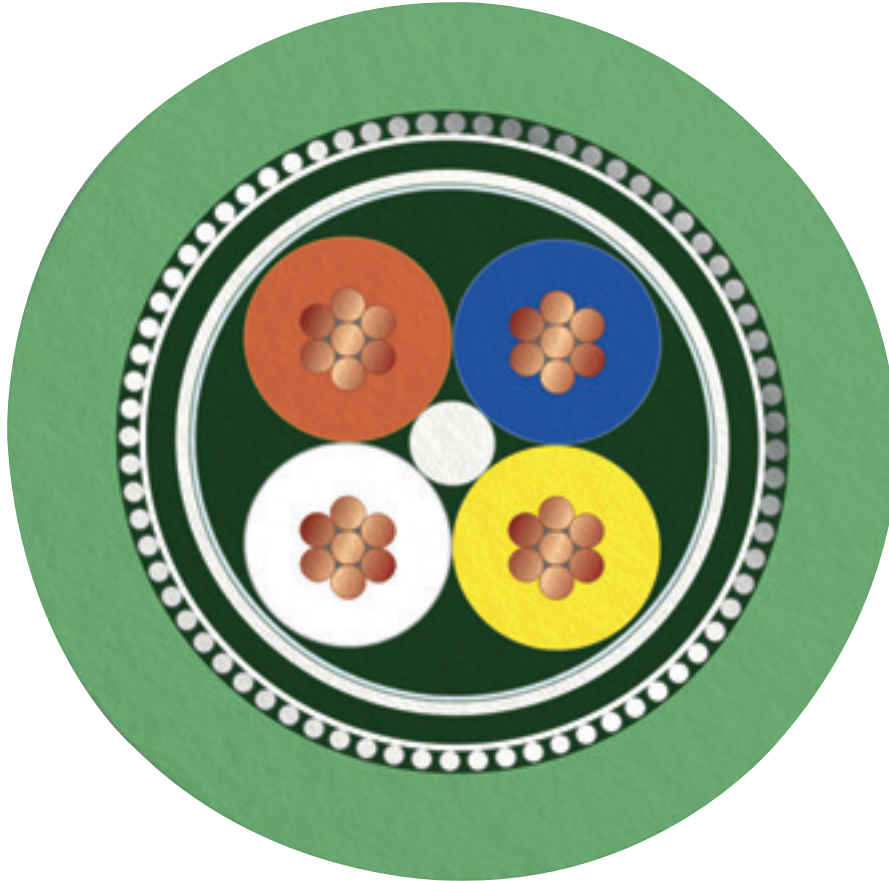
Dimensional drawing



RJ45 connector, IP20, angled

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

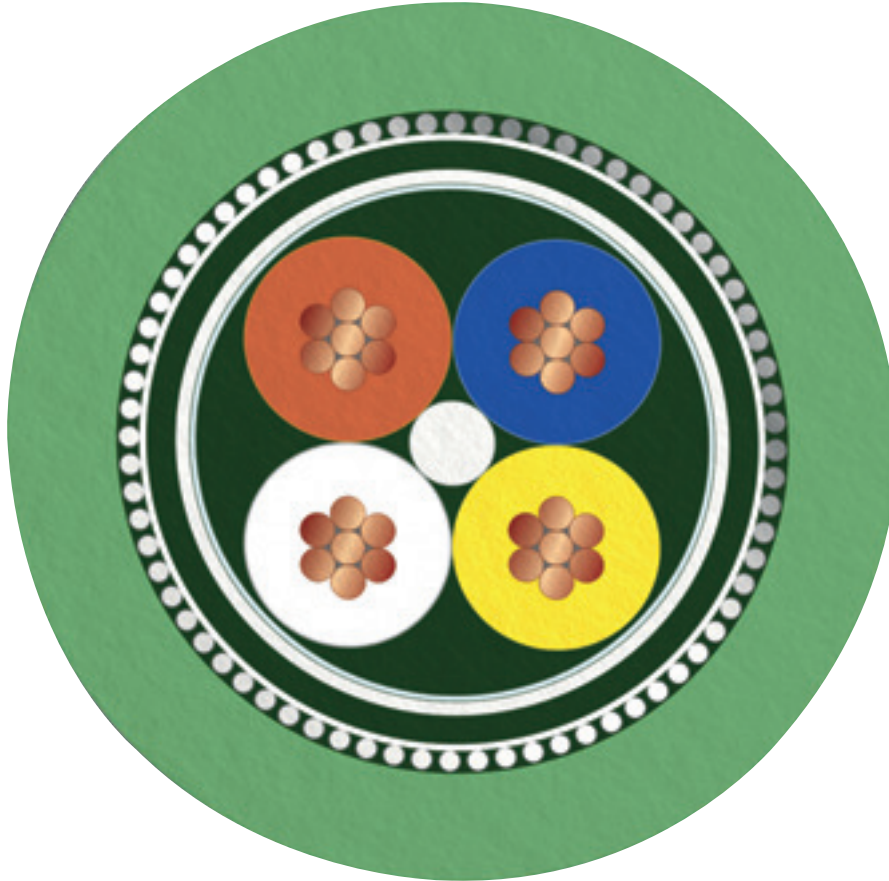
Cable cross section



PROFINET PVC stranded CAT5 [93B]

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

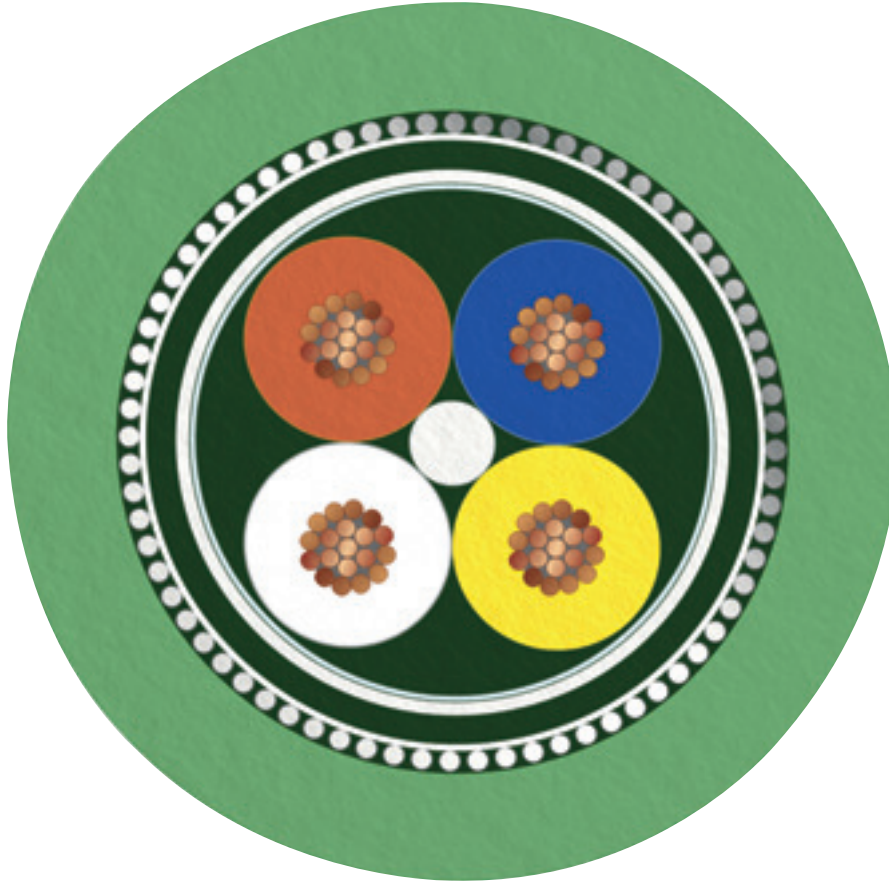
Cable cross section



PROFINET drag chain CAT5 [93C]

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

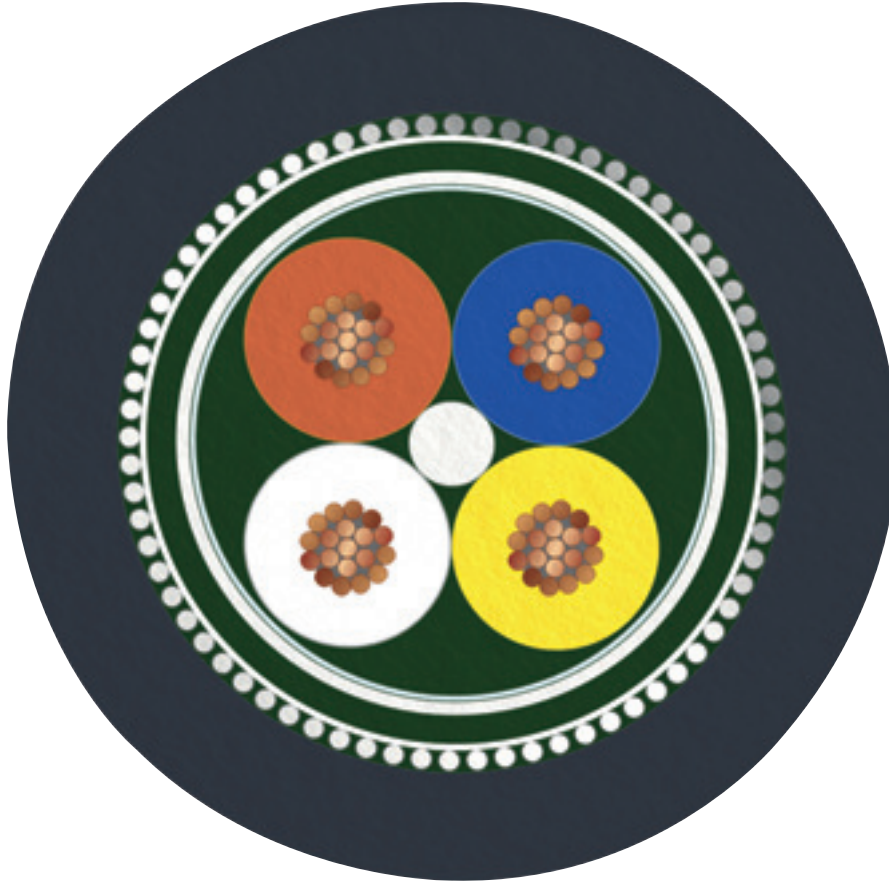
Cable cross section



PROFINET robot CAT5 [93R]

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

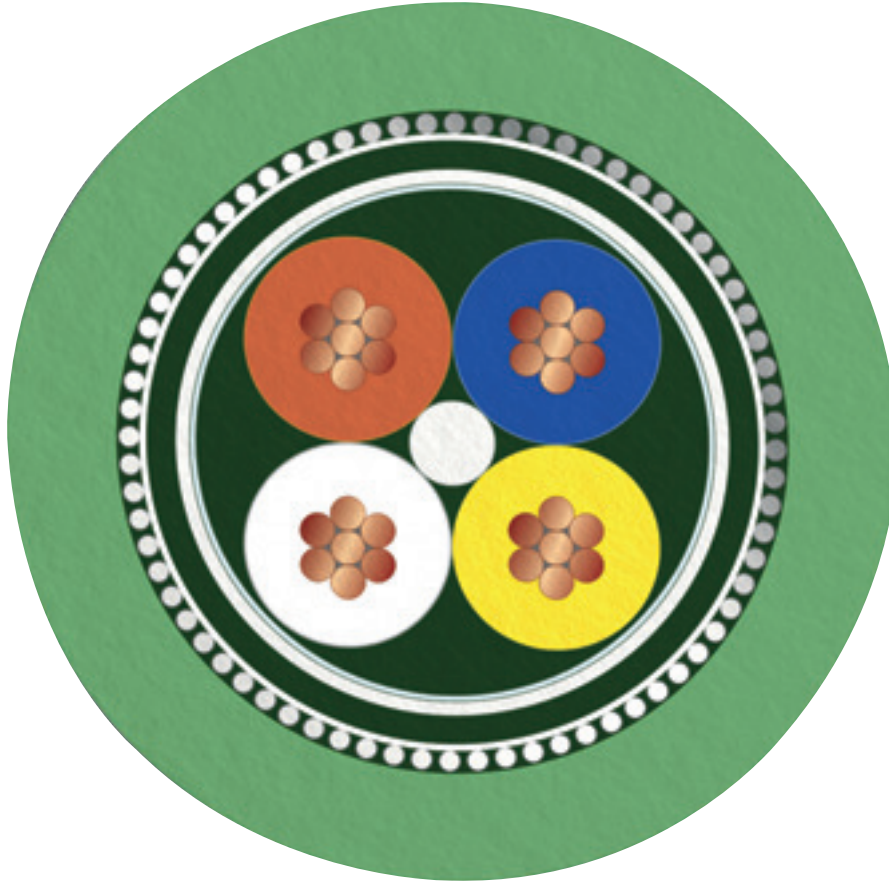
Cable cross section



PROFINET RADOX<sup>®</sup> railway application CAT5 [937]

# Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

Cable cross section



PROFINET stranded CAT5 [93M]

## Classifications

eCl@ss

eCl@ss 10.0.1	27060308
eCl@ss 11.0	27060307
eCl@ss 4.0	27060300
eCl@ss 4.1	27060300
eCl@ss 5.0	27061800
eCl@ss 5.1	27061800
eCl@ss 6.0	27279200
eCl@ss 7.0	27279218
eCl@ss 9.0	27060308

ETIM

ETIM 3.0	EC000830
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# Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

## Classifications

### ETIM

ETIM 4.0	EC002599
ETIM 6.0	EC000830
ETIM 7.0	EC003249

### UNSPSC

UNSPSC 6.01	31261501
UNSPSC 7.0901	31261501
UNSPSC 11	31261501
UNSPSC 12.01	31261501
UNSPSC 13.2	31251501
UNSPSC 18.0	26121604
UNSPSC 19.0	26121604
UNSPSC 20.0	26121604
UNSPSC 21.0	26121604

## Approvals

### Approvals

#### Approvals

UL Listed / cUL Listed / EAC-RoHS / cULus Listed

#### Ex Approvals

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 335024
Nominal voltage UN	30 V		
Nominal current IN	4 A		

cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 335024
Nominal voltage UN	60 V		
Nominal current IN	0.5 A		

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

### Approvals

EAC-RoHS		RU D- DE.HB35.B.00387
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cULus Listed	
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### Accessories

#### Accessories

#### Data cable preassembled

Network cable - NBC-MSD/ 1,0-93B/R4ACR SCO - 1407508



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug angled RJ45 / IP20, cable length: 1 m

Network cable - NBC-MSD/ 2,0-93B/R4ACR SCO - 1407509



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug angled RJ45 / IP20, cable length: 2 m

Network cable - NBC-MSD/ 5,0-93B/R4ACR SCO - 1407510



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug angled RJ45 / IP20, cable length: 5 m

Network cable - NBC-MSD/10,0-93B/R4ACR SCO - 1407511



Network cable, PROFINET CAT5 (100 Mbps), EtherCAT® CAT5 (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded, Plug straight M12 SPEEDCON / IP67, coding: D, on Plug angled RJ45 / IP20, cable length: 10 m

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

### Accessories

#### Protective cap

Sealing cap - PROT-M12 FS-PA-CHAIN - 1430873

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



#### Safety locking

Locking clip - SAC-M12-EXCLIP-M - 1558988



Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools

#### Screwdriver tools

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

Tool - SAC BIT M12-D15 - 1208432



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

#### Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

## Network cable - NBC-MSD-R4ACR SCO-PN/.../... - 1408638

### Accessories

Torque screwdriver - TSD-M 1,2NM - 1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

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