

## Hybrid cable - NBC-MSY/ 5,0-94H/MSY SCO - 1407493

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)




Hybrid cable, Ethernet hybrid CAT5 (100 Mbps), 8-position, PUR halogen-free, black RAL 9005, shielded, Plug straight M12 SPEEDCON / IP67, coding: Y, on Plug straight M12 SPEEDCON / IP67, coding: Y, cable length: 5 m, Power with Ethernet (PWE)



Ethernet

### Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 1 pc  |
| GTIN         | <br>4 046356 777926 |
| GTIN         | 4046356777926   |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 5 m |
|-----------------|-----|

#### Ambient conditions

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

#### General data

|                          |   |
|--------------------------|---|
| Note                     | Further products with variable cable type and variable cable length can be found in the accessories section |
| Rated current at 40°C    | 6 A (Power)<br>0.5 A (Data)   |
| Rated voltage            | 48 V AC (Power and data)<br>50 V DC (Power and data)  |
| Number of positions      | 8   |
| Signal type/category     | Ethernet hybrid CAT5 (IEC 11801), 100 Mbps  |
| Standards/regulations    | M12 connector IEC 61076-2-113   |
| Contact material         | CuZn  |
| Contact carrier material | PP / PA 6 GF  |

# Hybrid cable - NBC-MSY/ 5,0-94H/MSY SCO - 1407493

## Technical data

### General data

|   |           |
|---|-----------|
| Contact surface material                | Ni/Au     |
| Degree of protection                    | IP65/IP67 |
| Transmission characteristics (category) | CAT5      |

### Characteristics head 1

|  |  |
|--|--|
| Head type                                | Plug straight M12 SPEEDCON / IP67                  |
| No. of positions (pin connector pattern) | 8 (4+4)  |
| Coding                                   | Y (Hybrid)   |
| Color                                    | black  |
| Material (component)                     | CuZn (Contact)                                     |
|  | Ni/Au (Contact surface)                            |
|  | PP (Contact carrier, data)                         |
|  | PA (Contact carrier, power)                        |
|  | TPU, hardly inflammable, self-extinguishing (Grip) |
|  | Zinc die-cast, nickel-plated (Screw connection)    |
| Shielded                                 | yes  |
| Insulation resistance                    | ≥ 100 MΩ   |
| Insertion/withdrawal cycles              | ≥ 100  |
| Torque                                   | 0.4 Nm   |
| Ambient temperature (operation)          | -25 °C ... 90 °C                                   |
| Shielded                                 | yes  |
| Outer sheath, material                   | PUR  |
| External sheath, color                   | black RAL 9005                                     |
| Type type, plug side                     | Plug straight                                      |
| Type type, socket side                   | Plug, straight                                     |

### Characteristics head 2

|  |  |
|--|--|
| Head type                                | Plug straight M12 SPEEDCON / IP67                  |
| No. of positions (pin connector pattern) | 8 (4+4)  |
| Coding                                   | Y (Hybrid)   |
| Color                                    | black  |
|  | black  |
| Material (component)                     | CuZn (Contact)                                     |
|  | Zinc die-cast, nickel-plated (Screw connection)    |
|  | Ni/Au (Contact surface)                            |
|  | PP (Contact carrier, data)                         |
|  | PA (Contact carrier, power)                        |
|  | TPU, hardly inflammable, self-extinguishing (Grip) |
| Shielded                                 | yes  |
| Insulation resistance                    | ≥ 100 MΩ   |
| Insertion/withdrawal cycles              | ≥ 100  |
| Torque                                   | 0.4 Nm   |

# Hybrid cable - NBC-MSY/ 5,0-94H/MSY SCO - 1407493

## Technical data

### Characteristics head 2

|                                 |                  |
|---------------------------------|------------------|
| Ambient temperature (operation) | -25 °C ... 90 °C |
|---------------------------------|------------------|

### Standards and Regulations

|                          |                               |
|--------------------------|-------------------------------|
| Standards/specifications | M12 connector IEC 61076-2-113 |
|--------------------------|-------------------------------|

### Cable

|   |   |
|---|---|
| Cable type                                      | Ethernet hybrid   |
| Cable type (abbreviation)                       | 94H   |
| UL AWM style                                    | 20963 (80°C/30 V)   |
| Signal type/category                            | Ethernet hybrid CAT5 (IEC 11801), 100 Mbps                          |
| Cable structure                                 | 1x4xAWG26+1x4xAWG20   |
| Conductor cross section                         | 4x 0.15 mm <sup>2</sup> (Data)                                      |
|   | 4x 0.6 mm <sup>2</sup> (Power)                                      |
| AWG signal line                                 | 26  |
| AWG power supply                                | 20  |
| Conductor structure signal line                 | 19x 0.10 mm   |
| Conductor structure, voltage supply             | 19x 0.20 mm   |
| Core diameter including insulation              | 1.05 mm (Data)  |
|   | 1.4 mm (Power)  |
| Wire colors                                     | White/orange, orange, white/green, green, white, blue, brown, black |
| Overall twist                                   | 1 star quad and 4 wires with 2 fillers                              |
| Shielding                                       | Tinned copper braided shield  |
| Optical shield covering                         | 85 %  |
| External sheath, color                          | black RAL 9005  |
| External cable diameter D                       | 7.6 mm ±0.2 mm  |
| Minimum bending radius, fixed installation      | 5 x D   |
| Minimum bending radius, flexible installation   | 10 x D  |
| Number of bending cycles                        | 2000000   |
| Minimum bending radius, drag chain applications | 10 x D  |
| Traversing path                                 | 4.5 m   |
| Traversing rate                                 | 3 m/s   |
| Acceleration                                    | 3 m/s <sup>2</sup>  |
| Tensile strength GRP                            | 70 N (in accordance with DIN EN 50565-1 for flexible installation)  |
|   | 240 N (in accordance with DIN EN 50565-1 for fixed installation)    |
| Cable weight                                    | 87 kg/km  |
| Outer sheath, material                          | PUR   |
| Material conductor insulation                   | PP (Data)   |
|   | PP (Power)  |
| Conductor material                              | Bare Cu litz wires  |
| Insulation resistance                           | ≥ 5 GΩ*km   |
| Loop resistance                                 | ≤ 280.00 Ω/km (Data)  |
|   | ≤ 34.60 Ω/km (Power)  |

## Hybrid cable - NBC-MSY/ 5,0-94H/MSY SCO - 1407493

### Technical data

#### Cable

|                                       |   |
|---------------------------------------|---|
| Working capacitance                   | nom. 50 nF (per kilometer)  |
| Wave impedance                        | 100 Ω ±15 Ω (4 MHz ... 100 MHz)                                     |
| Near end crosstalk attenuation (NEXT) | 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)  |
| Attenuation                           | 6 dB (at 4 MHz)   |
|                                       | 9.5 dB (at 10 MHz)  |
|                                       | 12.1 dB (at 16 MHz)   |
|                                       | 13.5 dB (at 20 MHz)   |
|                                       | 17.1 dB (at 31.25 MHz)  |
|                                       | 24.8 dB (at 62.5 MHz)   |
|                                       | 32 dB (at 100 MHz)  |
| Shield attenuation                    | ≥ 80 dB (30 MHz ... 125 MHz)  |
| Differential impedance                | 100 Ω ±5 % (at 100 MHz)   |
| Nominal voltage, cable                | ≤ 50 V (Peak value, not for high-power applications)                |
| Test voltage Core/Core                | 1500 V (50 Hz, 1 min.)  |
| Test voltage Core/Shield              | 1500 V (50 Hz, 1 min.)  |
| Special properties                    | Free of substances which would hinder coating with paint or varnish |
|                                       | Silicone-free   |
| Flame resistance                      | in acc. with UL 1581, section 1061                                  |
| Halogen-free                          | according to IEC 60754  |
|                                       | in accordance with DIN VDE 0472 part 815                            |
| Resistance to oil                     | according to IEC 60811-2-1  |
|                                       | according to VDE 0282 Part 10                                       |
| Other resistance                      | Low adhesion  |
| Ambient temperature (operation)       | -40 °C ... 90 °C (cable, fixed installation)                        |
|                                       | -30 °C ... 70 °C (cable, flexible installation)                     |

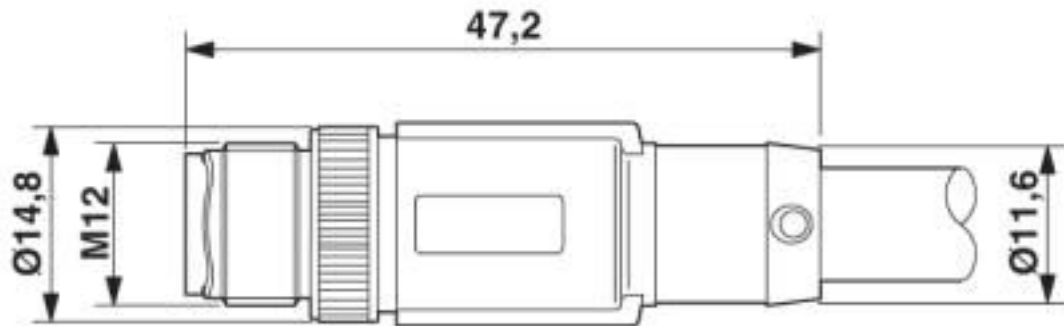
#### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally Friendly Use Period = 50 years  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

#### Drawings

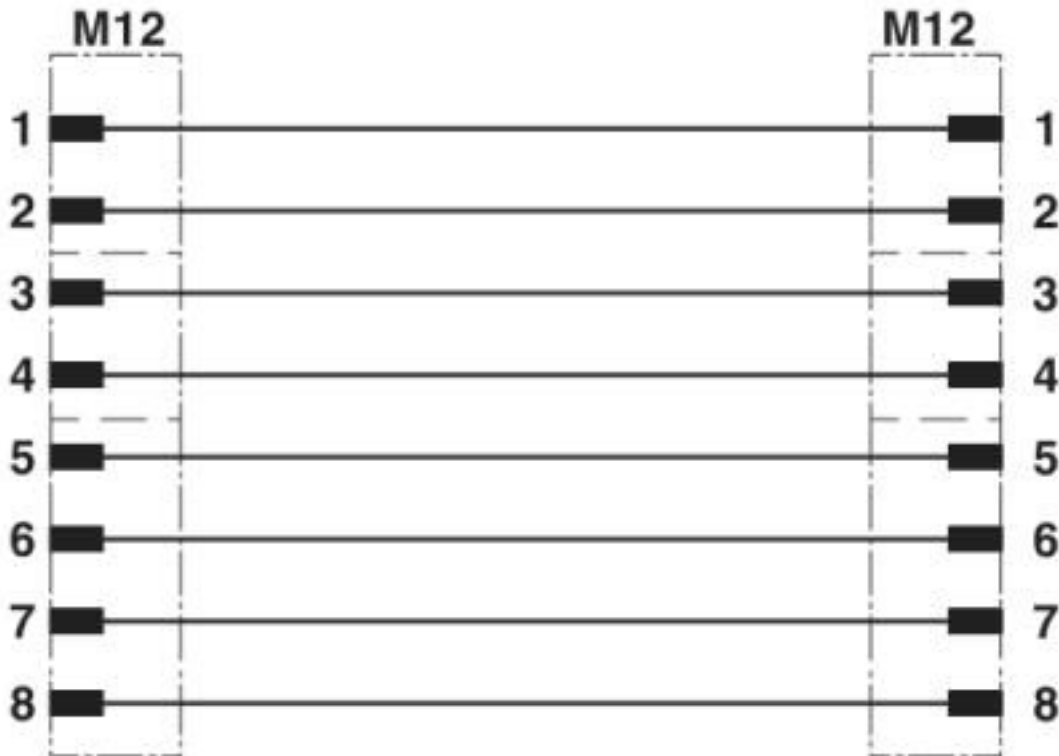
# Hybrid cable - NBC-MSY/ 5,0-94H/MSY SCO - 1407493

Dimensional drawing



Plug, M12 x 1, straight, shielded

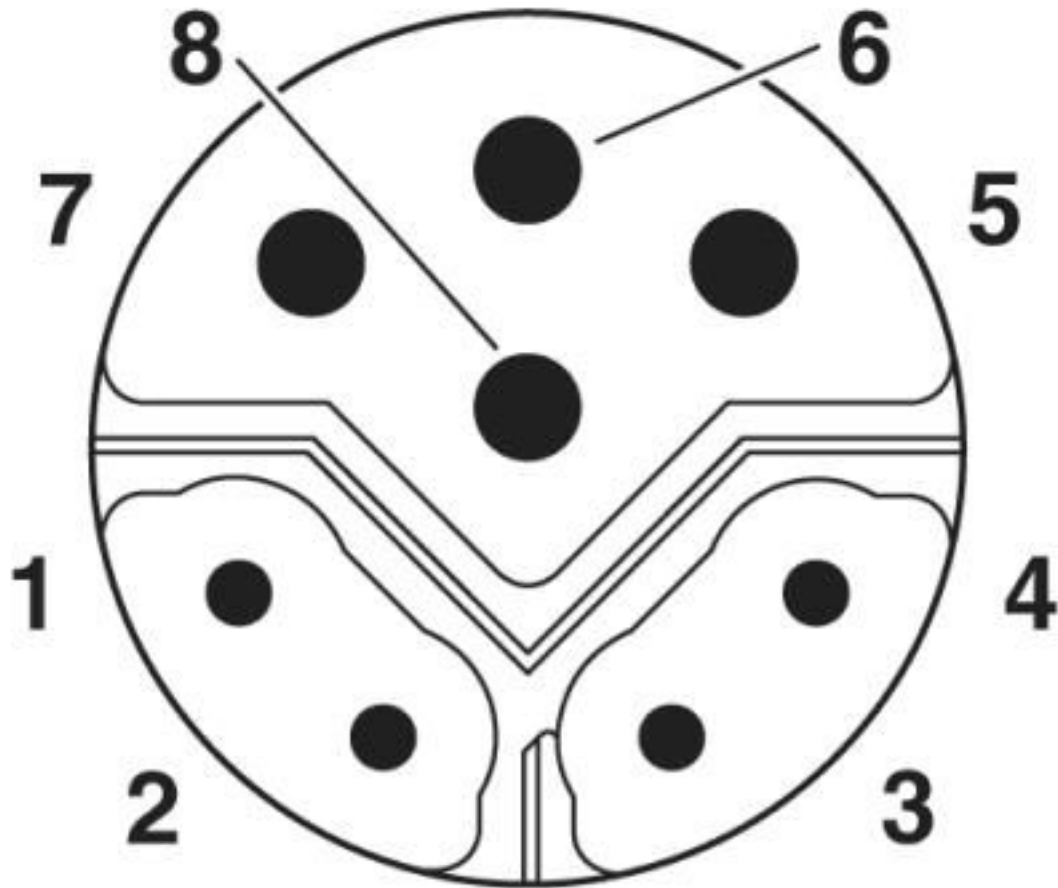
Circuit diagram



Contact assignment of the M12 plugs

# Hybrid cable - NBC-MSY/ 5,0-94H/MSY SCO - 1407493

Schematic diagram



M12 hybrid plug pin assignment, 8-pos., Y-coded, pin side view

## Hybrid cable - NBC-MSY/ 5,0-94H/MSY SCO - 1407493

Cable cross section



Ethernet hybrid [94H]

### Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060308 |
| eCl@ss 4.0    | 27060300 |
| eCl@ss 4.1    | 27060300 |
| eCl@ss 5.0    | 27060300 |
| eCl@ss 5.1    | 27060300 |
| eCl@ss 6.0    | 27279200 |
| eCl@ss 7.0    | 27279218 |
| eCl@ss 8.0    | 27279218 |
| eCl@ss 9.0    | 27060308 |

# Hybrid cable - NBC-MSY/ 5,0-94H/MSY SCO - 1407493

## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC000830 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC002599 |
| ETIM 6.0 | EC001262 |
| ETIM 7.0 | EC001262 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 26121609 |
| UNSPSC 7.0901 | 26121609 |
| UNSPSC 11     | 26121609 |
| UNSPSC 12.01  | 26121609 |
| 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 | 56.5 V  |   |               |
| Nominal current IN | 0.175 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 | 56.5 V  |   |               |



## Hybrid cable - NBC-MSY/ 5,0-94H/MSY SCO - 1407493

### Approvals

|                                |         |
|--------------------------------|---------|
| Nominal current I <sub>N</sub> | 0.175 A |
|--------------------------------|---------|

|          |  |                          |
|----------|--|--------------------------|
| EAC-RoHS |  | RU D-<br>DE.HB35.B.00387 |
|----------|--|--------------------------|

|              |  |
|--------------|--|
| cULus Listed |  |
|--------------|--|

### Accessories

#### Accessories

#### Data cable preassembled

Hybrid cable - NBC-MSY-MSY SCO-EH/.../... - 1408641



Hybrid cable, Ethernet hybrid CAT5 (100 Mbps), 8-position, Variable cable type, shielded, Plug straight M12 SPEEDCON / IP67, coding: Y, on Plug straight M12 SPEEDCON / IP67, coding: Y, cable length: Free input (0.2 ... 40.0 m), Power with Ethernet (PWE)

#### 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

## Hybrid cable - NBC-MSY/ 5,0-94H/MSY SCO - 1407493

### Accessories

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

---

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



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

---

Phoenix Contact 2020 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Ethernet Cables / Networking Cables](#) category:*

*Click to view products by [Phoenix Contact](#) manufacturer:*

Other Similar products are found below :

[73-6670-7](#) [73-6680-15](#) [73-7797-25](#) [MCJB2-10P6Q7-120](#) [84909-0204](#) [1200700174](#) [1200860368](#) [E16A06002M030](#) [E200102-009-S1](#)  
[AX105346-EW](#) [MT14-187L](#) [17-103530](#) [ERWPAB3002M005](#) [190-038045-01](#) [NK5EPC18RDY](#) [NK5EPC18VLY](#) [NK5EPC18YLY](#)  
[NK5EPC1GRY](#) [NK5EPC4Y](#) [NK5EPC6YLY](#) [NK5EPC8BLY](#) [NK5EPC9YLY](#) [1969343-6](#) [C501100010](#) [C501106002](#) [C501106007](#)  
[C501106015](#) [C501106025](#) [C601102010](#) [C601104010](#) [C601106007](#) [C601106015](#) [2142758-2](#) [2168427-2](#) [CAT1106007](#) [21949-1](#) [2J1866A](#)  
[RJF SFTP 5E 0500](#) [AX100351](#) [MN14CEC/ST](#) [C501100015](#) [C501106004](#) [C501106010](#) [C5F1108007](#) [C601104004](#) [C601106004](#)  
[CA21106004](#) [CA21106010](#) [CA21106015](#) [CA21109007](#)