

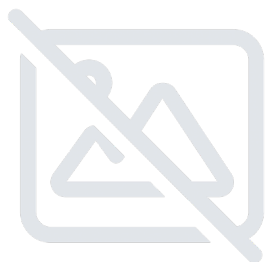
# SAC-8P-M12MS/ 2,0-853/M12FS HN - Sensor/actuator cable



1404946

<https://www.phoenixcontact.com/us/products/1404946>

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Sensor/actuator cable, 8-pos., PUR, black, shielded, straight M12 male plug, A-coded, to straight M12 female plug, A-coded, cable length: 2 m

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1404946       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 10 pc         |
| Product key                          | AF1CMA        |
| GTIN                                 | 4046356730570 |
| Weight per piece (including packing) | 82 g          |
| Weight per piece (excluding packing) | 82 g          |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Number of positions  | 8                     |
| No. of cable outlets | 1                     |
| Coding               | A                     |

### Material specifications

|                               |                                             |
|-------------------------------|---------------------------------------------|
| Seal material                 | NBR                                         |
| Material of grip body         | TPU, hardly inflammable, self-extinguishing |
| Contact material              | CuZn                                        |
| Contact surface material      | Ni/Au                                       |
| Contact carrier material      | TPU GF                                      |
| Material for screw connection | Zinc die-cast, nickel-plated                |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 30 V AC                    |
|                       | 30 V DC                    |

### Mechanical properties

#### Mechanical data

|                             |            |
|-----------------------------|------------|
| Insertion/withdrawal cycles | $\geq 100$ |
|-----------------------------|------------|

### Signaling

|                        |    |
|------------------------|----|
| Status display         | no |
| Status display present | no |

### Connector

#### Connection 1

|                     |                   |
|---------------------|-------------------|
| Type                | Plug straight M12 |
| Number of positions | 8                 |
| Coding type         | A                 |

#### Connection 2

|                     |                     |
|---------------------|---------------------|
| Type                | Socket straight M12 |
| Number of positions | 8                   |
| Coding type         | A                   |

### Cable/line

|              |          |
|--------------|----------|
| Cable length | 2 m      |
| Cable weight | 22 kg/km |

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|                                               |                                                                                                                                                      |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Copper weight                                 | 13.5 kg/km                                                                                                                                           |
| UL AWM Style                                  | 20963 (80°C/30 V)                                                                                                                                    |
| Number of positions                           | 8                                                                                                                                                    |
| Shielded                                      | yes                                                                                                                                                  |
| Conductor structure                           | 4x2xAWG28/19; S/UTP                                                                                                                                  |
| Conductor structure signal line               | 19x 0.08 mm                                                                                                                                          |
| AWG signal line                               | 28                                                                                                                                                   |
| Conductor cross section                       | 4x 2x 0.09 mm²                                                                                                                                       |
| Wire diameter incl. insulation                | 0.6 mm                                                                                                                                               |
| External cable diameter                       | 3.70 mm ±0.1 mm                                                                                                                                      |
| Outer sheath, material                        | PUR                                                                                                                                                  |
| External sheath, color                        | black                                                                                                                                                |
| Conductor material                            | Tin-plated Cu litz wires                                                                                                                             |
| Material, filler                              | Yarn                                                                                                                                                 |
| Material wire insulation                      | TPE                                                                                                                                                  |
| Thickness, outer sheath                       | nom. 0.45 mm                                                                                                                                         |
| Twisted pairs                                 | 2 cores to the pair                                                                                                                                  |
| Overall twist                                 | Four pairs and four fillers to the core                                                                                                              |
| Optical shield covering                       | 85 %                                                                                                                                                 |
| Shield resistance                             | approx. 36.00 Ω/km                                                                                                                                   |
| Max. conductor resistance                     | ≤ 222 Ω/km                                                                                                                                           |
| Insulation resistance                         | ≥ 200 MΩ*km                                                                                                                                          |
| Cable capacity                                | nom. 110 pF/m (Within a pair of wires)                                                                                                               |
| Nominal voltage, cable                        | 30 V                                                                                                                                                 |
| Test voltage Core/Core                        | 0.5 kV (50 Hz, 1 min.)                                                                                                                               |
| Test voltage Core/Shield                      | 0.50 kV (50 Hz, 1 min.)                                                                                                                              |
| Smallest bending radius, fixed installation   | 10 mm                                                                                                                                                |
| Smallest bending radius, movable installation | 50 mm                                                                                                                                                |
| Dynamic load capacity (bending)               | Max. bending cycles: 3000000                                                                                                                         |
| Flame resistance                              | in accordance with EN 50265-2-1<br>in acc. to UL VW1                                                                                                 |
| Other resistance                              | Hydrolysis-resistant (In accordance with D 253 377-02-A-01 F83558)<br>Media resistance (In accordance with D 253 377-02-A-01 F83558)                 |
| Special properties                            | Silicone-free<br>PVC-free                                                                                                                            |
| Ambient temperature (operation)               | -40 °C ... 80 °C (cable, fixed installation)<br>-10 °C ... 80 °C (Cable, flexible installation)<br>100 °C (with limited hydrolysis/media resistance) |

## Environmental and real-life conditions

### Ambient conditions

IP65

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|                      |      |
|----------------------|------|
| Degree of protection | IP67 |
|                      | IP68 |

## Standards and regulations

|                      |               |
|----------------------|---------------|
| Standard designation | M12 connector |
|----------------------|---------------|

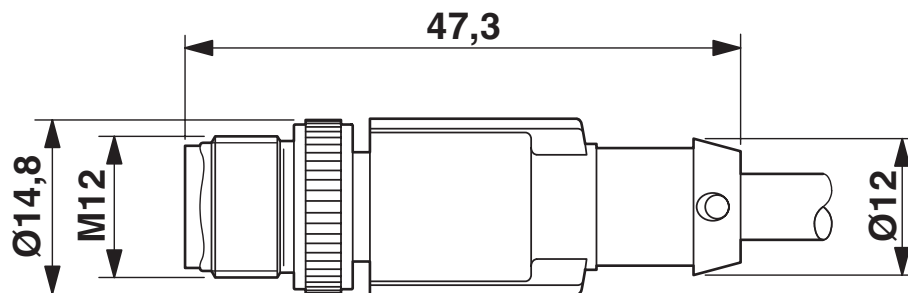
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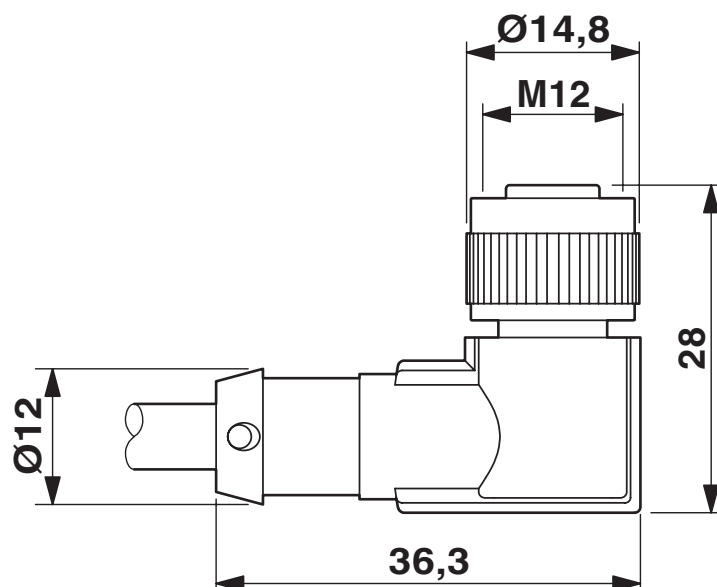
## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing

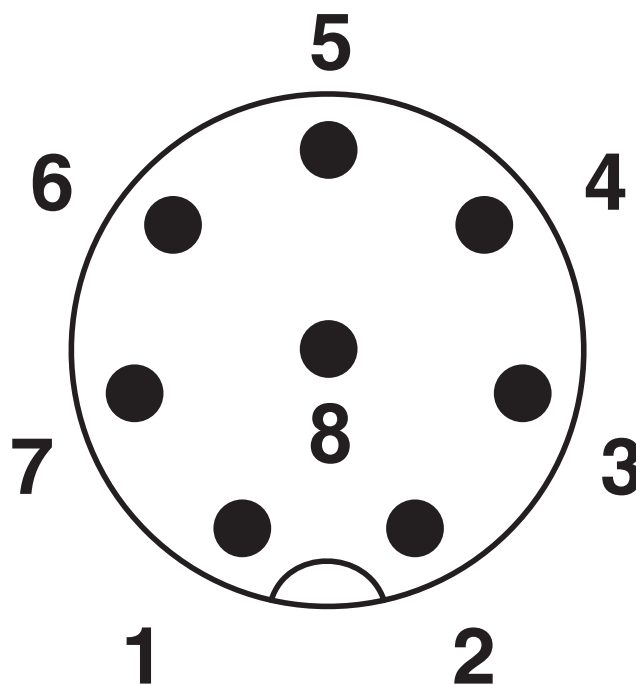


M12 x 1 socket, straight, shielded

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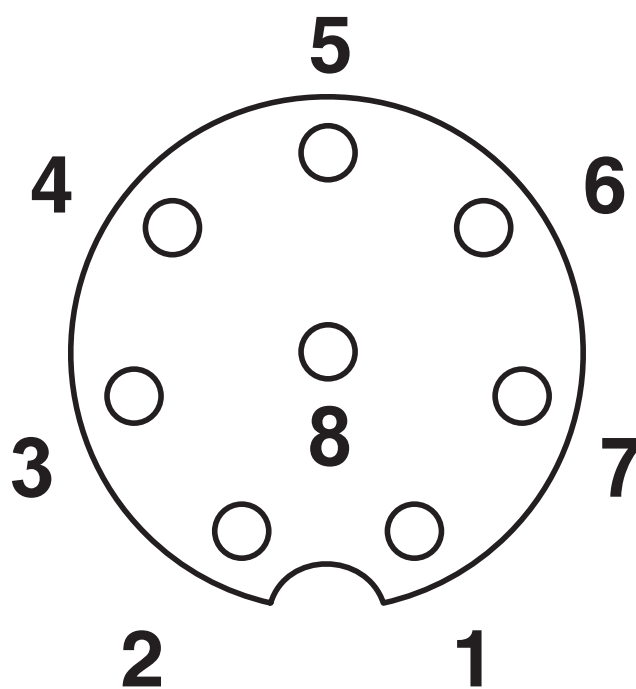
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Schematic diagram



Pin assignment M12 plug, 8-pos., view plug side

Schematic diagram



Pin assignment M12 socket, 8-pos., A-coded, view female side

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Circuit diagram



Contact assignment of the M12 plug and the M12 socket

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
|-------------|----------|

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC001855 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

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## Environmental product compliance

### EU RoHS

|                                         |                    |
|-----------------------------------------|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|-----------------------------------------|--------------------|

### China RoHS

|                                        |                                                                                                                                                                                                                                   |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environment friendly use period (EFUP) | EFUP-50                                                                                                                                                                                                                           |
|                                        | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                                                                                                                                                |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| REACH candidate substance (CAS No.) | 1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16.9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus" <sup>TM</sup> )(CAS: n/a) |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|

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