

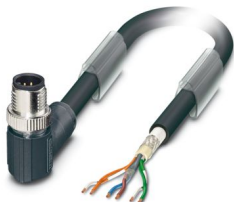
# SAC-6P-MR/ 2,0-970 SCO - Bus system cable



1428539

<https://www.phoenixcontact.com/us/products/1428539>

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Bus system cable, VARAN (100 Mbps), 6-position, SANTOPRENE halogen-free/TPE halogen-free, black RAL 9005, shielded, Plug angled M12 SPEEDCON, coding: A, on free cable end, cable length: 2 m

## Commercial data

|                                      |                    |
|--------------------------------------|--------------------|
| Item number                          | 1428539            |
| Packing unit                         | 1 pc               |
| Minimum order quantity               | 1 pc               |
| Product key                          | BF1CMM             |
| Catalog page                         | Page 324 (PC-2011) |
| GTIN                                 | 4046356322812      |
| Weight per piece (including packing) | 192.449 g          |
| Weight per piece (excluding packing) | 182.526 g          |
| Country of origin                    | PL                 |

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## Technical data

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Application          | Standard                |
| Sensor type          | VARAN                   |
| Number of positions  | 6                       |
| No. of cable outlets | 1                       |
| Coding               | A                       |

### Insulation characteristics

|                      |    |
|----------------------|----|
| Overvoltage category | II |
| Degree of pollution  | 3  |

### Interfaces

|                      |                 |
|----------------------|-----------------|
| Bus system           | VARAN           |
| Signal type/category | VARAN, 100 Mbps |

### Signaling

|                        |    |
|------------------------|----|
| Status display         | No |
| Status display present | No |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 30 V AC                    |
|                       | 30 V DC                    |
| Nominal current $I_N$ | 2 A                        |
| Transmission medium   | Copper                     |

### Material specifications

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Flammability rating according to UL 94 | HB                                          |
| 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                |

### Connection data

#### Pin assignment

|                                                           |                       |
|-----------------------------------------------------------|-----------------------|
| Contact   Color (signal designation)   Contact (optional) | 1 (Plug)              |
|                                                           | 4 (Plug)              |
|                                                           | 6 (Plug)   BU (Power) |
|                                                           | 7 (Plug)   BN (Power) |
|                                                           | 5 (Plug)   GNWH (RD+) |

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|  |                       |
|--|-----------------------|
|  | 8 (Plug)   GN (RD-)   |
|  | 2 (Plug)   OGWH (TD+) |
|  | 3 (Plug)   OG (TD-)   |

## Connector

### Connection 1

|                     |                          |
|---------------------|--------------------------|
| Type                | Plug angled M12 SPEEDCON |
| Number of positions | 6                        |
| Locking type        | SPEEDCON                 |
| Coding type         | A (Standard)             |

### Connection 2

|      |                |
|------|----------------|
| Type | free cable end |
|------|----------------|

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 2 m |
|--------------|-----|

### VARAN [970]

|                                 |                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing             |  |
| Cable weight                    | 81 kg/km                                                                             |
| Number of positions             | 6                                                                                    |
| Shielded                        | yes                                                                                  |
| Cable type                      | VARAN [970]                                                                          |
| Conductor structure             | 1x2xAWG22/19 + 1x4xAWG24/19                                                          |
| Conductor structure signal line | 19x 0.13 mm                                                                          |
| AWG signal line                 | 24                                                                                   |
| Conductor cross section         | 4x 0.25 mm <sup>2</sup> (Signal line)<br>2x 0.38 mm <sup>2</sup> (Power supply)      |
| Wire diameter incl. insulation  | 1.35 mm (Signal line)<br>1.5 mm (Power supply)                                       |
| External cable diameter         | 7.80 mm ±0.2 mm                                                                      |
| Outer sheath, material          | SANTOPRENE halogen-free                                                              |
| External sheath, color          | black RAL 9005                                                                       |
| Conductor material              | Bare Cu litz wires                                                                   |
| Material, filler                | Yarn                                                                                 |
| Material wire insulation        | PP                                                                                   |
| Single wire, color              | brown, blue, white/orange, white/green, green, orange                                |

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|                                               |                                             |
|-----------------------------------------------|---------------------------------------------|
| Type of pair shielding                        | Tinned copper braided shield, 95 % covering |
| Overall twist                                 | 1 star quad and 2 wires with 2 fillers      |
| Max. conductor resistance                     | 77 $\Omega$ /m (Data cable)                 |
| Insulation resistance                         | 5 G $\Omega$ *km (Data cable)               |
| Wave impedance                                | 100 $\Omega$ $\pm$ 15 %                     |
| Working capacitance                           | 50 nF (Data cable)                          |
| Nominal voltage, cable                        | 125 V (Data cable)                          |
|                                               | 48 V (Power supply)                         |
| Test voltage                                  | 2000 V (Power supply)                       |
|                                               | max. 700 V AC (Data cable)                  |
| Smallest bending radius, fixed installation   | $\geq$ 93 mm                                |
| Smallest bending radius, movable installation | $\geq$ 93 mm                                |
| Max. bending cycles                           | 3000000                                     |
| Bending radius                                | 93 mm                                       |
| Traversing path                               | 2 m                                         |
| Traversing rate                               | 1 m/s                                       |
| Acceleration                                  | 2 m/s <sup>2</sup>                          |
| Halogen-free                                  | in accordance with DIN EN 50267-2-1         |
| Ambient temperature (operation)               | -20 °C ... 80 °C (Cable)                    |
| Ambient temperature (installation)            | 0 °C ... 50 °C                              |

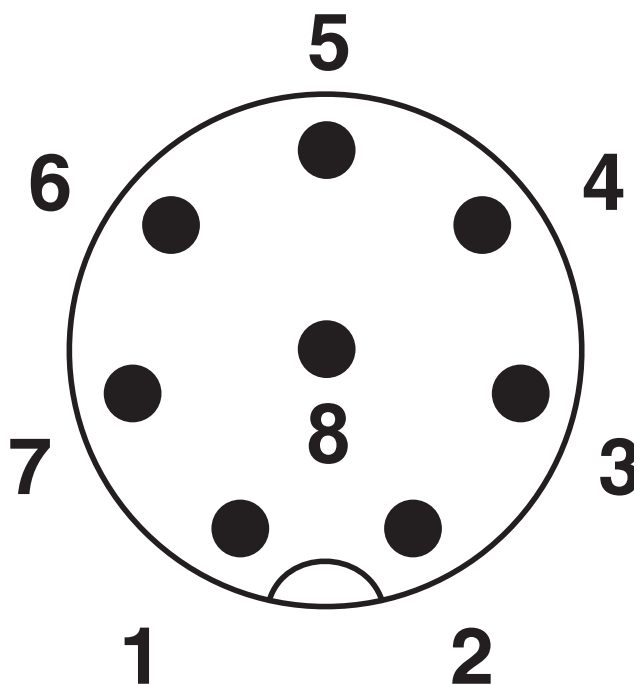
## Environmental and real-life conditions

### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Degree of protection            | IP65                             |
|                                 | IP67                             |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |

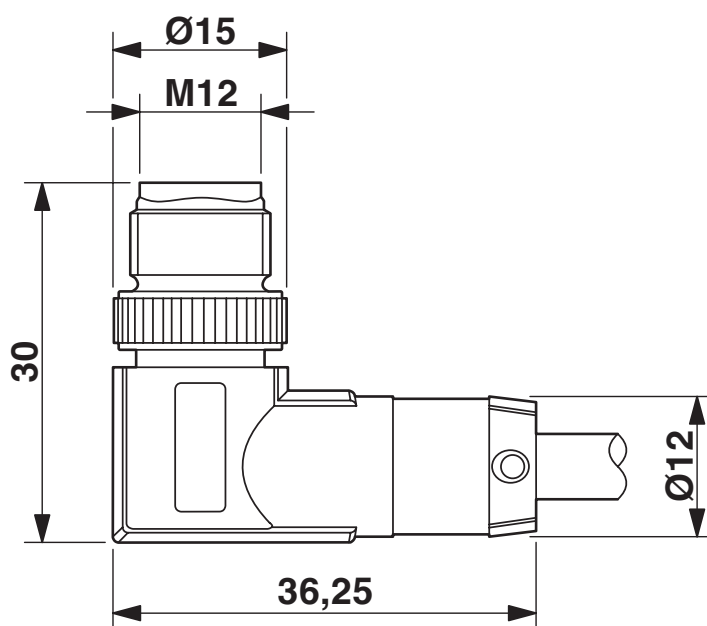
## Drawings

Schematic diagram



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

Dimensional drawing



M12 x 1 male plug, angled, shielded

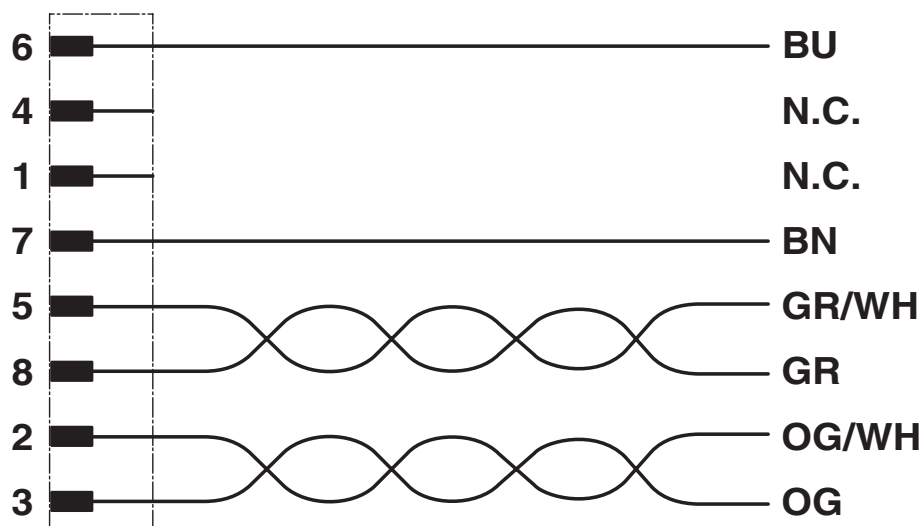
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Circuit diagram



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27060307 |
| ECLASS-13.0 | 27060307 |

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