

# SAC-6P-M12MS/ 2,0-970/M12FS - Bus system cable



1065682

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

As illustrated, but without  
SPEEDCON

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1065682                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Product key                          | AF1CMM                         |
| GTIN                                 | 4055626730936                  |
| Weight per piece (including packing) | 188 g                          |
| Weight per piece (excluding packing) | 188 g                          |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                     |                         |
|---------------------|-------------------------|
| Product type        | Data cable preassembled |
| Application         | Bus system              |
| Number of positions | 6                       |

### 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

|                       |          |
|-----------------------|----------|
| Nominal voltage $U_N$ | 30 V AC  |
|                       | 30 V DC  |
| Nominal current $I_N$ | 2 A      |
| Transmission medium   | Copper   |
| Transmission speed    | 100 Mbps |

### Material specifications

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

### Connector

#### Connection 1

|                     |                   |
|---------------------|-------------------|
| Type                | Plug straight M12 |
| Number of positions | 6                 |
| Coding type         | A (Standard)      |

#### Connection 2

|                     |                     |
|---------------------|---------------------|
| Type                | Socket straight M12 |
| Number of positions | 6                   |
| Coding type         | A (Standard)        |

### Cable/line

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

VARAN [970]

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|                                               |                                                                                                                                     |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 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 structure, voltage supply           | 19x 0.16 mm                                                                                                                         |
| AWG power supply                              | 22                                                                                                                                  |
| 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                                                                               |
| 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 Ω/m (Data cable)                                                                                                                 |
| Insulation resistance                         | 5 GΩ*km (Data cable)                                                                                                                |
| Wave impedance                                | 100 Ω ±15 %                                                                                                                         |
| Working capacitance                           | 50 nF (Data cable)                                                                                                                  |
| Nominal voltage, cable                        | 125 V (Data cable)<br>48 V (Power supply)                                                                                           |
| Test voltage                                  | 2000 V (Power supply)<br>max. 700 V AC (Data cable)                                                                                 |
| Smallest bending radius, fixed installation   | ≥ 93 mm                                                                                                                             |
| Smallest bending radius, movable installation | ≥ 93 mm                                                                                                                             |
| Dynamic load capacity (bending)               | 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)                                                                                                            |

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|                                    |                |
|------------------------------------|----------------|
| Ambient temperature (installation) | 0 °C ... 50 °C |
|------------------------------------|----------------|

## Environmental and real-life conditions

### Ambient conditions

|                      |      |
|----------------------|------|
| Degree of protection | IP65 |
|                      | IP67 |

## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing

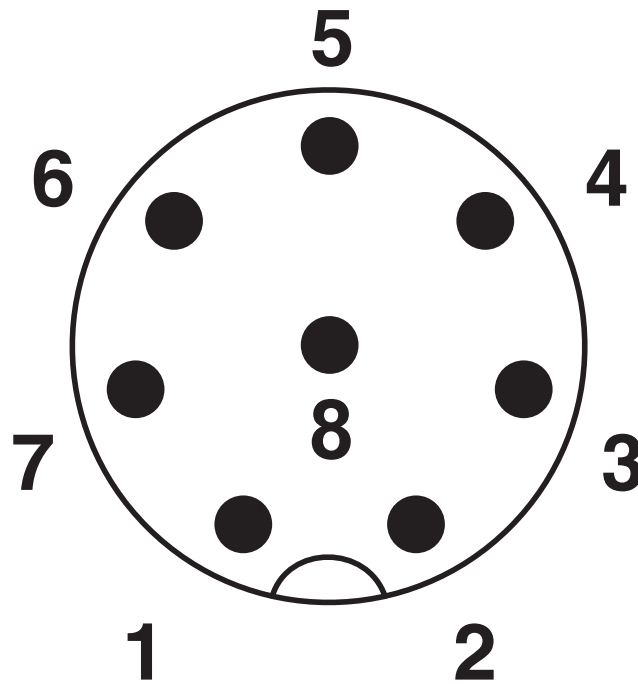


M12 x 1 socket, straight, shielded

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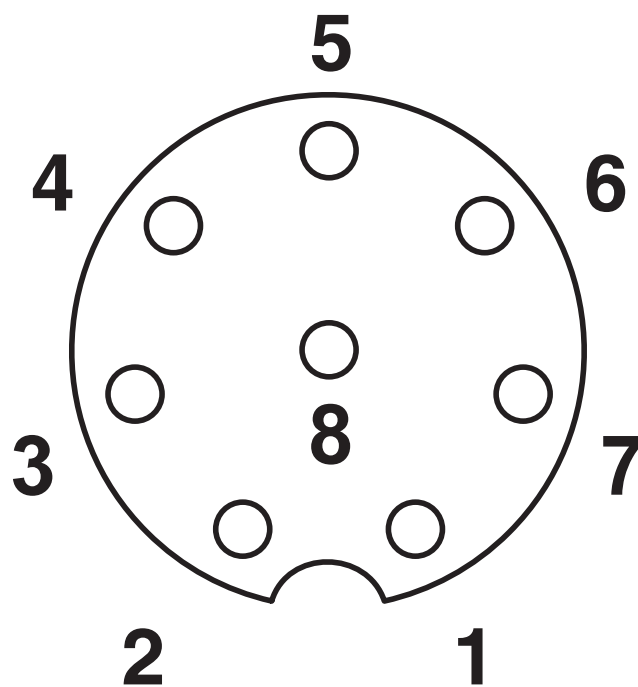
<https://www.phoenixcontact.com/us/products/1065682>

Schematic diagram



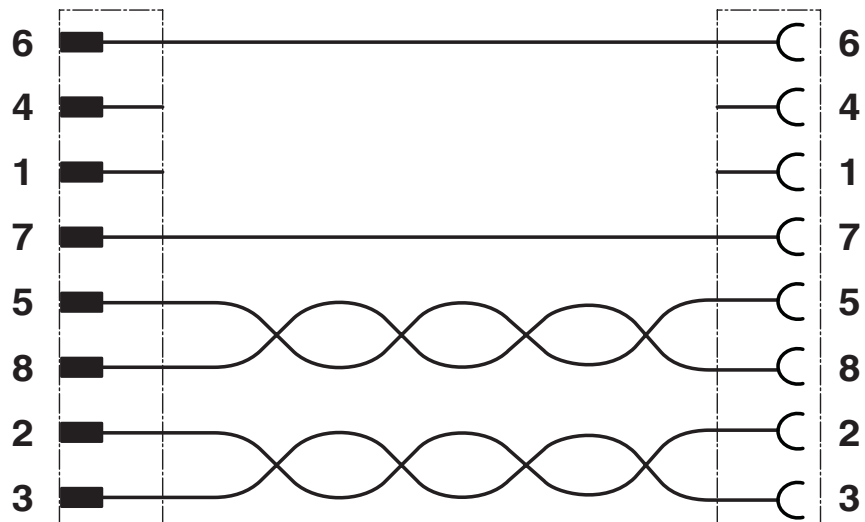
Pin assignment M12 plug, 8-pos., view plug side

Schematic diagram



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

Circuit diagram



Contact assignment of the M12 connector and the M12 socket

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 27060307 |

### 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-E                                   |
|                                        | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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