

## Bus system cable - SAC-4P-M12MSD/ 1,0-933/M12MSD - 1524365

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Bus system cable, PROFINET CAT5 (100 Mbps), 4-position, PVC/PVC, green RAL 6018, shielded, Plug straight M12, coding: D, on Plug straight M12, coding: D, cable length: 1 m



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                                    |
| GTIN         | <br>4 046356 021449 |
| GTIN         | 4046356021449                                                                                           |

### Technical data

#### Dimensions

|                 |     |
|-----------------|-----|
| Length of cable | 1 m |
|-----------------|-----|

#### Ambient conditions

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

#### General

|                       |                                                                                                                                                                                                |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note                  | This product corresponds to the PROFINET Cabling and Interconnection Technology Guideline for PROFINET regulations, version 2.00, order no: 2.252, Chapter 10.1 Cord Sets for Balanced Cabling |
| Rated current at 40°C | 4 A                                                                                                                                                                                            |
| Rated voltage         | 48 V AC                                                                                                                                                                                        |
|                       | 60 V DC                                                                                                                                                                                        |
| Number of positions   | 4                                                                                                                                                                                              |
| Insulation resistance | ≥ 100 MΩ                                                                                                                                                                                       |
| Coding                | D - data                                                                                                                                                                                       |
| Signal type/category  | PROFINET CAT5 (IEC 11801), 100 Mbps                                                                                                                                                            |
| Status display        | No                                                                                                                                                                                             |

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### Technical data

#### General

|                                         |       |
|-----------------------------------------|-------|
| Overvoltage category                    | II    |
| Degree of pollution                     | 3     |
| Insertion/withdrawal cycles             | ≥ 100 |
| Transmission characteristics (category) | CAT5  |

#### Material

|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Flammability rating according to UL 94 | V0                                          |
| Contact material                       | CuSn                                        |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | PA 6.6                                      |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Material, knurls                       | Zinc die-cast, nickel-plated                |
| Sealing material                       | NBR                                         |

#### Standards and Regulations

|                                        |    |
|----------------------------------------|----|
| Flammability rating according to UL 94 | V0 |
|----------------------------------------|----|

#### Cable

|                                               |                                                    |
|-----------------------------------------------|----------------------------------------------------|
| Cable abbreviation                            | 2YY(ST)CY                                          |
| UL AWM style                                  | 21694                                              |
| 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)                           |

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### Technical data

#### Cable

|                                       |                                                 |
|---------------------------------------|-------------------------------------------------|
| 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                                           |
| 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) |

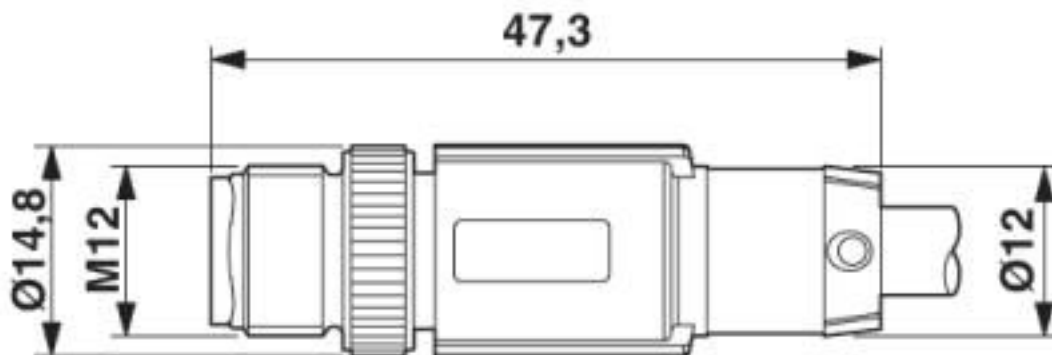
#### Environmental Product Compliance

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

### Drawings

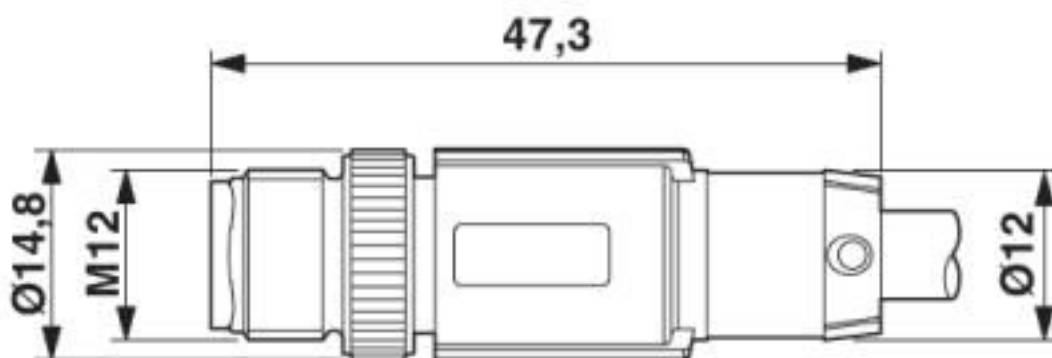
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Dimensional drawing



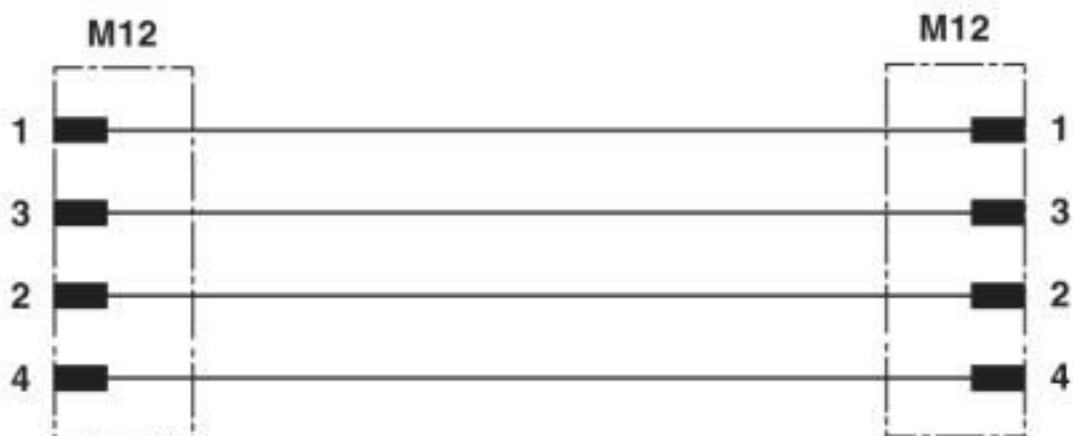
Plug, M12 x 1, straight, shielded

Dimensional drawing



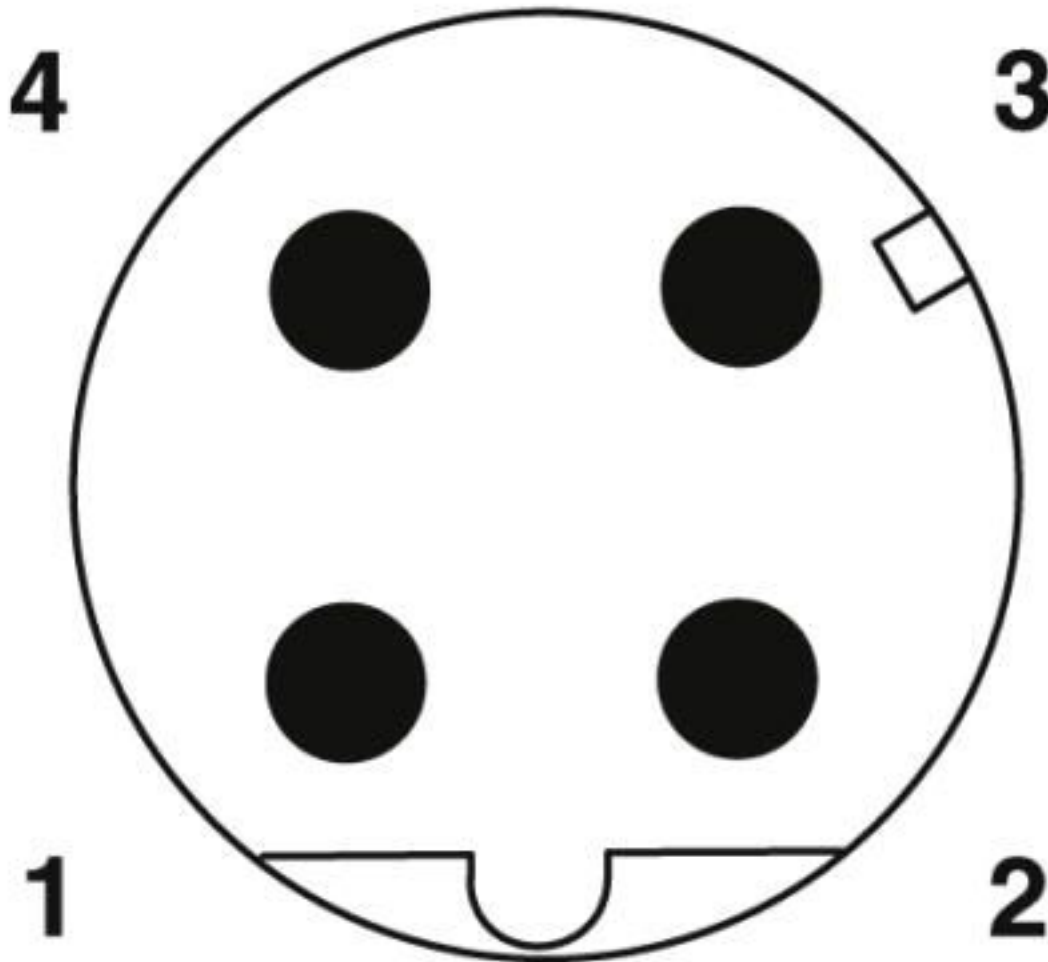
Plug, M12 x 1, straight, shielded

Circuit diagram



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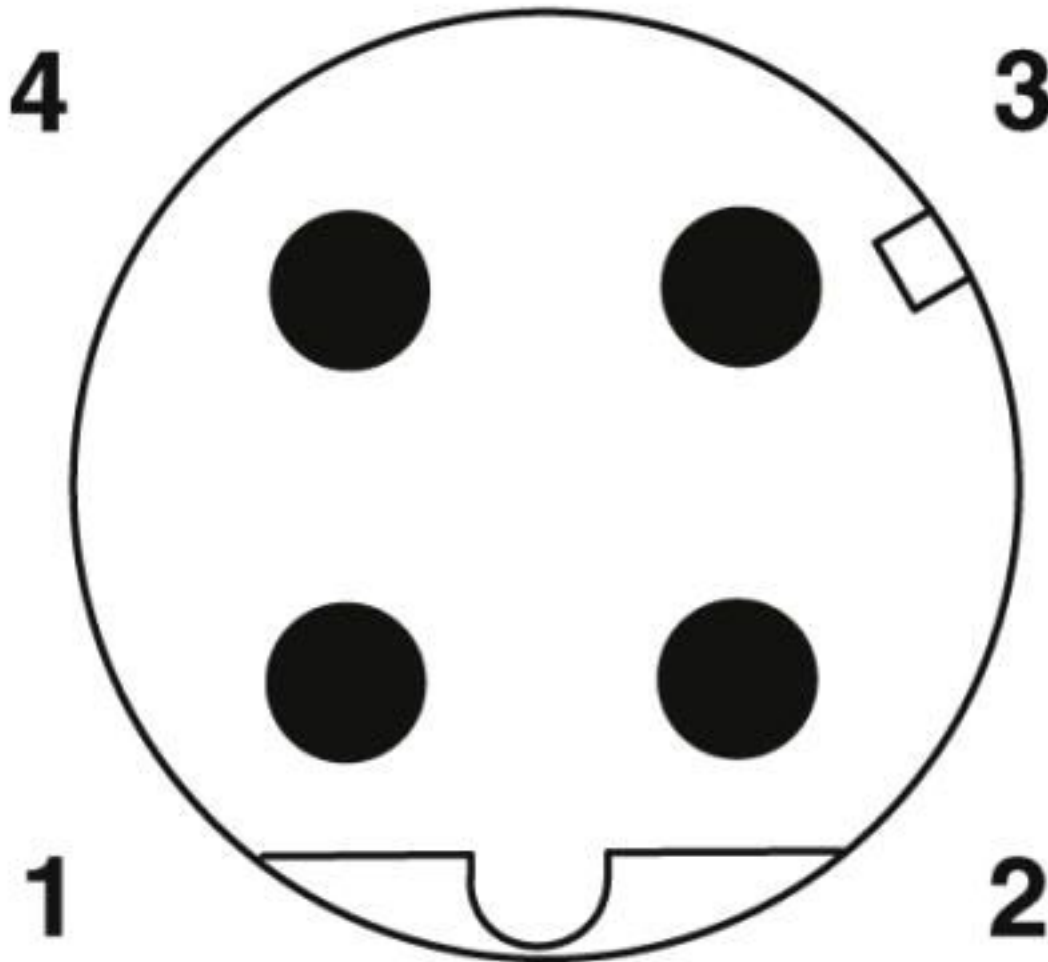
Schematic diagram



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

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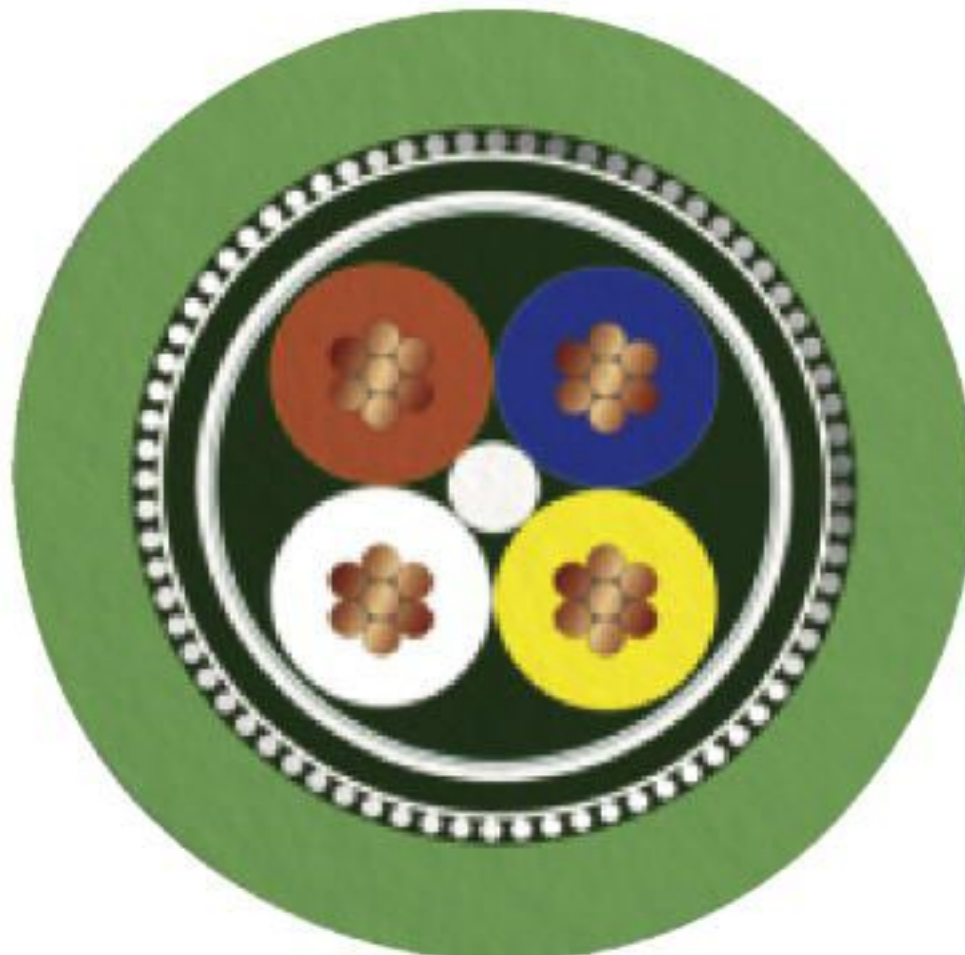
Schematic diagram



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

## Bus system cable - SAC-4P-M12MSD/ 1,0-933/M12MSD - 1524365

Cable cross section



PROFINET PVC stranded CAT5 [93B]

### Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060308 |
| 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 8.0    | 27279218 |
| eCl@ss 9.0    | 27060308 |

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### Classifications

#### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000830 |
| ETIM 3.0 | EC001855 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC002599 |
| ETIM 6.0 | EC001262 |
| ETIM 7.0 | EC001262 |

#### UNSPSC

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

### Approvals

#### Approvals

#### Approvals

#### EAC-RoHS / EAC

#### Ex Approvals

#### Approval details

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

|     |            |                          |
|-----|------------|--------------------------|
| EAC | <b>EAC</b> | RU C-<br>DE.BL08.B.00286 |
|-----|------------|--------------------------|

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