

## Bus system cable - SAC-3P-M12MS/ 0,3-961/M12FS VA - 1419102

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Bus system cable, PROFIBUS PA, PROFIBUS PA, 3-position, PVC, blue RAL 5015, shielded, Plug straight M12, A-coded, on Socket straight M12, A-coded, Cable length: 0.3 m, For Ex area with high-grade steel knurl



### Key commercial data

|                      |          |
|----------------------|----------|
| Packing unit         | 1 1      |
| Custom tariff number | 85444290 |
| Country of origin    | Poland   |

### Technical data

#### Dimensions

|  |       |
|--|-------|
| Length of cable                            | 0.3 m |
| Stripping length of the free conductor end | 50 mm |

#### Ambient conditions

|                                 |                                  |
|---------------------------------|----------------------------------|
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket) |
| Degree of protection            | IP65                             |
|                                 | IP67                             |
|                                 | IP68                             |
|                                 | IP69K                            |

#### General

|                        |  |
|------------------------|--|
| Note                   | For applications in circuits of intrinsic safety protection type "i". Electrical values following EN 60079-14. |
| Rated current at 40 °C | 4 A  |
| Rated voltage          | 60 V   |
| Number of positions    | 3  |

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### Technical data

#### General

|                             |                        |
|-----------------------------|------------------------|
| Contact resistance          | ≤ 5 mΩ                 |
| Coding                      | B - inverse            |
| Signal type/category        | PROFIBUS PA            |
| Status display              | No                     |
| Surge voltage category      | II                     |
| Pollution degree            | 3                      |
| Insertion/withdrawal cycles | ≥ 100                  |
| Torque                      | 0.4 Nm (M12 connector) |

#### Material

|   |   |
|---|---|
| Inflammability class according to UL 94 | HB  |
| Contact material                        | CuSn  |
| Contact surface material                | Ni/Au                                       |
| Contact carrier material                | TPU GF                                      |
| Material of grip body                   | TPU, hardly inflammable, self-extinguishing |
| Material, knurls                        | High-grade steel                            |
| Sealing material                        | NBR   |

#### Pin assignment

|  |                                     |
|--|-------------------------------------|
| Position = wire color (signal) = position (optional) | 1 (Plug) = OG (DATA+) = 1 (Socket)  |
|  | 3 (Plug) = BU (DATA-) = 3 (Socket)  |
|  | 4 (Plug) = SR (shield) = 4 (Socket) |

#### Cable

|                                    |   |
|------------------------------------|---|
| Cable type                         | Fieldbus FOUNDATION/PROFIBUS PA, blue             |
| Cable type (abbreviation)          | 961   |
| Cable structure                    | 2xAWG18/7 + 1xAWG20/7                             |
| Conductor cross section            | 2x 0.75 mm <sup>2</sup> (signal line)             |
|                                    | 1x 0.5 mm <sup>2</sup> (Drain wire)               |
| AWG signal line                    | 18  |
| Conductor structure signal line    | 7x 0.40 mm  |
| Core diameter including insulation | 2.24 mm ±0.05 mm                                  |
| Thickness, insulation              | 0.5 mm (Core insulation)                          |
|                                    | 1 mm (Outer cable sheath)                         |
| Wire colors                        | Blue, orange                                      |
| Twisted pairs                      | 2 cores to the pair                               |
| Overall twist                      | One pair with one drain wire and fillers for core |
| Shielding                          | Plastic-coated aluminum foil with a drain wire    |
| Optical shield covering            | 100 %   |

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### Technical data

#### Cable

|   |                              |
|---|------------------------------|
| External sheath, color                      | blue RAL 5015                |
| External cable diameter                     | 7.42 mm                      |
| External cable diameter D                   | 7.5 mm ±0.25 mm              |
| Smallest bending radius, fixed installation | 75 mm                        |
| Cable weight                                | 56.552 kg/km                 |
| Outer sheath, material                      | PVC                          |
| Material conductor insulation               | PO (signal line)             |
| Conductor material                          | Tin-plated Cu litz wires     |
| Conductor resistance                        | 19.2 Ω/km (signal line)      |
|   | 26 Ω/km (shield)             |
| Working capacitance                         | 148 nF (core-shield)         |
|   | 78 nF (core-core)            |
| Wave impedance                              | 100 Ω (At 31.25 kHz)         |
| Signal speed                                | 0.66 c                       |
| Nominal voltage, cable                      | 300 V                        |
| Special properties                          | UL standards PLTC-ER and ITC |
| Flame resistance                            | UL 1685 (CSA FT 4)           |
| Ambient temperature (operation)             | -30 °C ... 105 °C (Cable)    |

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27060307 |
| eCl@ss 4.1 | 27060307 |
| eCl@ss 5.0 | 27061801 |
| eCl@ss 5.1 | 27060307 |
| eCl@ss 6.0 | 27279218 |
| eCl@ss 7.0 | 27279218 |
| eCl@ss 8.0 | 27279218 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 2.0 | EC000830 |
| ETIM 3.0 | EC000830 |
| ETIM 4.0 | EC001855 |
| ETIM 5.0 | EC001855 |

#### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 6.01 | 26121616 |
|-------------|----------|

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## Classifications

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 7.0901 | 26121616 |
| UNSPSC 11     | 26121604 |
| UNSPSC 12.01  | 26121616 |
| UNSPSC 13.2   | 26121616 |

## Approvals

### Approvals

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Approvals

GOST

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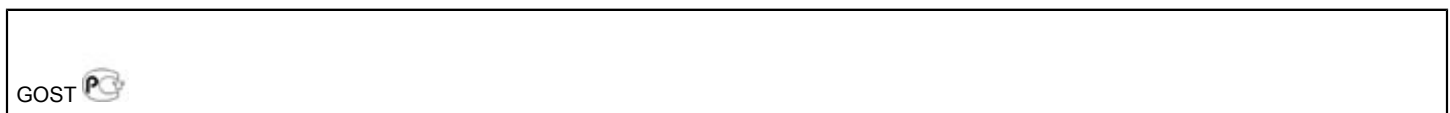
Ex Approvals

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Approvals submitted

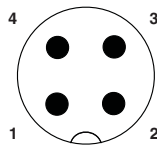
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### Approval details



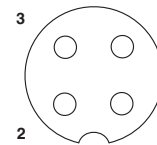
## Drawings

Schematic diagram



Pin assignment M12 plug, 3-pos., A-coded, view male side

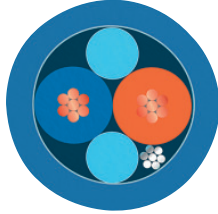
Schematic diagram



Pin assignment M12 socket, 3-pos., A-coded, view female side

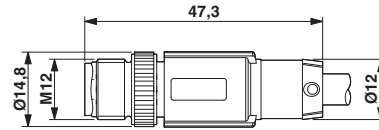
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Cable cross section



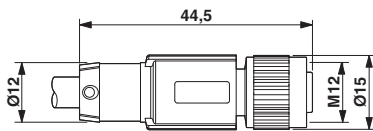
Fieldbus FOUNDATION/PROFIBUS PA, blue [961]

Dimensioned drawing



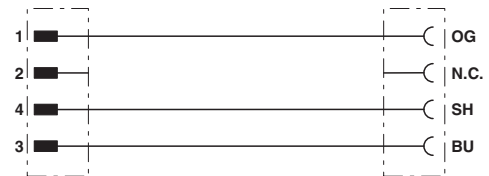
M12 x 1 plug, straight

Dimensioned drawing



M12 x 1 socket, straight

Circuit diagram



Contact assignment of the M12 connector and the M12 socket