

## Bus system cable - SAC-3P-M12MS/ 2,0-961/M12FS VA - 1419105

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://download.phoenixcontact.com>)



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: 2 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                            | 2 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  |

## Bus system cable - SAC-3P-M12MS/ 2,0-961/M12FS VA - 1419105

### 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 %   |

## Bus system cable - SAC-3P-M12MS/ 2,0-961/M12FS VA - 1419105

### 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 |
|-------------|----------|

# Bus system cable - SAC-3P-M12MS/ 2,0-961/M12FS VA - 1419105

## Classifications

### UNSPSC

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

## Approvals

### Approvals

---

Approvals

GOST

---

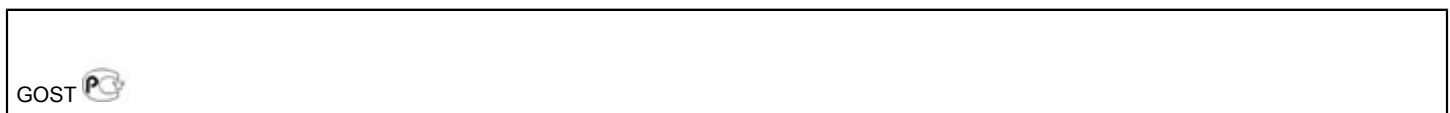
Ex Approvals

---

Approvals submitted

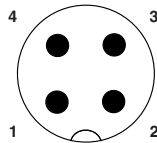
---

### Approval details



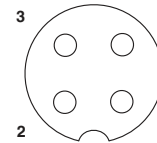
## Drawings

Schematic diagram



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

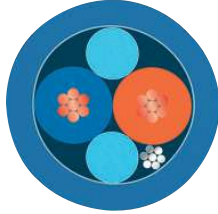
Schematic diagram



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

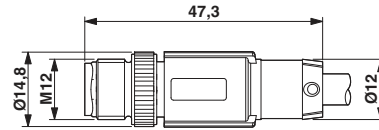
# Bus system cable - SAC-3P-M12MS/ 2,0-961/M12FS VA - 1419105

Cable cross section



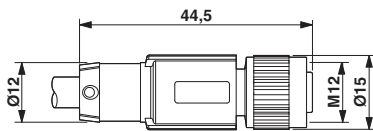
Fieldbus FOUNDATION/PROFIBUS PA, blue [961]

Dimensioned drawing



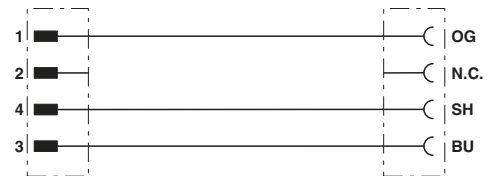
M12 x 1 plug, straight

Dimensioned drawing



M12 x 1 socket, straight

Circuit diagram



Contact assignment of the M12 connector and the M12 socket