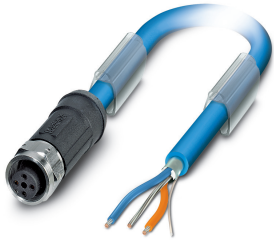


## Bus system cable - SAC-3P-15,0-961/M12FS VA - 1419085


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://phoenixcontact.com/download>)



Bus system cable, PROFIBUS PA (31.25 kbps), 3-position, PVC, blue RAL 5015, shielded, free cable end, on Socket straight M12, coding: A, cable length: 15 m, For Ex area with high-grade steel knurl



### Key Commercial Data

|                                      |   |
|--------------------------------------|---|
| Packing unit                         | 1 pc  |
| GTIN                                 | <br>4 046356 541527 |
| GTIN                                 | 4046356541527   |
| Weight per Piece (excluding packing) | 980.000 g   |
| Custom tariff number                 | 85444290  |
| Country of origin                    | Germany   |

### Technical data

#### Dimensions

|  |       |
|--|-------|
| Length of cable                            | 15 m  |
| Stripping length of the free conductor end | 50 mm |

#### Ambient conditions

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

#### General

## Bus system cable - SAC-3P-15,0-961/M12FS VA - 1419085

### Technical data

#### 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               | 48 V AC<br>60 V DC   |
| Number of positions         | 3  |
| Color handle area           | black  |
| Coding                      | B - inverse  |
| Signal type/category        | PROFIBUS PA, 31.25 kbps  |
| Status display              | No   |
| Overvoltage category        | II   |
| Degree of pollution         | 3  |
| Insertion/withdrawal cycles | ≥ 100  |
| Torque                      | 0.4 Nm (M12 connector)   |

#### Material

|  |   |
|--|---|
| Flammability rating 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                       | Stainless steel                             |
| Sealing material                       | NBR   |

#### Pin assignment

|   |                          |
|---|--------------------------|
| Contact   Color (signal designation)   Contact (optional) | 1 (Socket)   OG (DATA+)  |
|   | 3 (Socket)   BU (DATA-)  |
|   | 4 (Socket)   SR (shield) |

#### Standards and Regulations

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

#### 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)<br>1x 0.5 mm <sup>2</sup> (Drain wire) |
| AWG signal line                 | 18   |
| Conductor structure signal line | 7x 0.40 mm   |

## Bus system cable - SAC-3P-15,0-961/M12FS VA - 1419085

### Technical data

#### Cable

|   |   |
|---|---|
| Core diameter including insulation          | 2.24 mm ±0.05 mm                                  |
| Thickness, insulation                       | 0.5 mm  |
| 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 %   |
| External sheath, color                      | blue RAL 5015                                     |
| Outer sheath thickness                      | 1 mm  |
| External cable diameter D                   | 7.5 mm ±0.25 mm                                   |
| Smallest bending radius, fixed installation | 75 mm   |
| Cable weight                                | 56.552 kg/km                                      |
| Tensile strength GRP                        | 260 N   |
| Outer sheath, material                      | PVC   |
| Material conductor insulation               | PO (Signal line)                                  |
| Conductor material                          | Tin-plated Cu litz wires                          |
| Conductor resistance                        | ≤ 19.35 Ω/km (Signal line)                        |
|   | 26 Ω/km (shield)                                  |
| Working capacitance                         | 78 nF (at 1 kHz)                                  |
| Cable capacity                              | 147 pF/m (at 1 kHz, core/shield)                  |
|   | ≤ 3.94 pF/m (capacitance unbalance)               |
| Signal speed                                | 0.66 c  |
| Shield attenuation                          | 3 dB/km (at 39 kHz)                               |
| Cable impedance                             | 100 Ω ±20 % (At 31.25 kHz)                        |
| Conductor inductance                        | 0.6233 μH/m                                       |
| Nominal voltage, cable                      | 300 V   |
| Special properties                          | UL standards PLTC-ER and ITC                      |
| Flame resistance                            | UL 1685 (CSA FT 4)                                |
|   | UL 1685 (vertical tray)                           |
|   | UL 1666 (riser)                                   |
| Ambient temperature (operation)             | -40 °C ... 105 °C (cable, fixed installation)     |

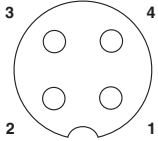
#### Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally Friendly Use Period = 50 years  |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

#### Drawings

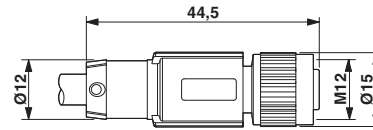
## Bus system cable - SAC-3P-15,0-961/M12FS VA - 1419085

Schematic diagram



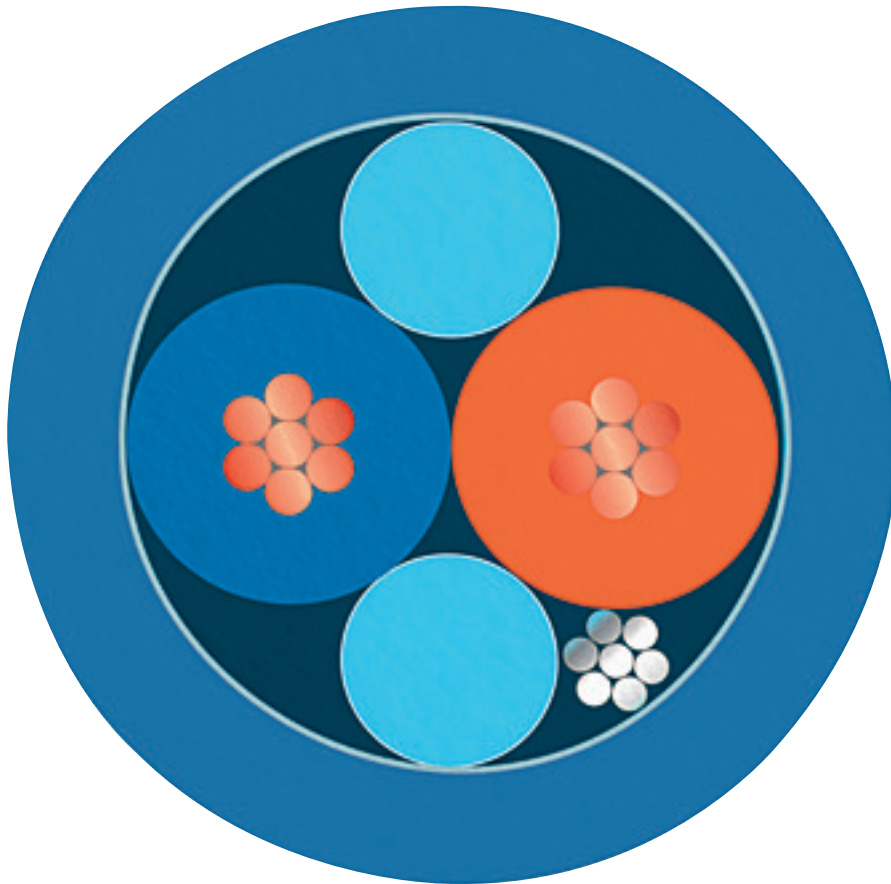
Pin assignment M12 socket, 3-pos., A-coded, view female side

Dimensional drawing



M12 x 1 socket, straight

Cable cross section



Fieldbus FOUNDATION/PROFIBUS PA, blue [961]

## Bus system cable - SAC-3P-15,0-961/M12FS VA - 1419085

### Classifications

#### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27060308 |
| eCl@ss 11.0   | 27060307 |
| eCl@ss 4.0    | 27060300 |
| eCl@ss 4.1    | 27060300 |
| eCl@ss 5.0    | 27060300 |
| eCl@ss 5.1    | 27060300 |
| eCl@ss 6.0    | 27279200 |
| eCl@ss 7.0    | 27279218 |
| eCl@ss 9.0    | 27060308 |

#### ETIM

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

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 26121616 |
| UNSPSC 7.0901 | 26121616 |
| UNSPSC 11     | 26121604 |
| UNSPSC 12.01  | 26121616 |
| 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

---

## Bus system cable - SAC-3P-15,0-961/M12FS VA - 1419085

### Approvals

#### Approval details

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

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

### Accessories

#### Accessories

##### Circular connector (cable-side)

##### Data connector - SACC-FS-4QO SH PBPA SCO - 1413934



Data connector, PROFIBUS PA (31.25 kbps), 2-position, halogen-free, shielded, Socket straight M12 SPEEDCON, Coding: A, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

##### Data connector - SACC-MS-4QO SH PBPA SCO - 1413933



Data connector, PROFIBUS PA (31.25 kbps), 2-position, halogen-free, shielded, Plug straight M12 SPEEDCON, Coding: A, Insulation displacement connection, knurl material: Zinc die-cast, nickel-plated, external cable diameter 5 mm ... 9.7 mm

### Corrugated pipe

##### Protective hose - WP-PA HF 13,0 BK - 3240681



Polyamide protective hose, inflammability class V0, UV resistant

## Bus system cable - SAC-3P-15,0-961/M12FS VA - 1419085

### Accessories

Protective hose - WP-PA HF-HB 13,0 BK - 3240839



Polyamide protective hose, inflammability class HB, UV resistant

---

### Cutting tools

Cable-cutting tool - CUTFOX 12 - 1212128



Cable cutter, for copper and aluminum up to 12 mm diameter (up to 35 mm<sup>2</sup>)

---

Diagonal cutter - CUTFOX-S VDE - 1212207



Diagonal cutter for hard (piano wire) and soft wires, VDE 1000 V AC/1500 V DC tested

---

### Electronics pliers

Diagonal cutter - MICROFOX-SP-1 - 1212487



Electronic diagonal cutter, tapered head, without chamfer, with opening spring, non-reflective phosphate-treated surface, punched version

---

### Screwdriver tools

## Bus system cable - SAC-3P-15,0-961/M12FS VA - 1419085

### Accessories

Adapter insert - TSD-M SAC-BIT ADAPTER - 1212600



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

---

Adapter - SAC BIT M12-W14 - 1212513



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a hexagonal knurl wrench size of 14 mm, with 4 mm hexagonal drive

---

### Stripping tool

Stripping tool - WIREFOX 4 - 1212156



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

---

Stripping tool - WIREFOX-E 4 - 1212704



Stripping tool, for cables and conductors (especially for rubber and silicone insulations) from 0.1 - 4 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

---

Stripping tool - WIREFOX 10 - 1212150



Stripping tool, for cables and conductors from 0.02 - 10 mm<sup>2</sup>, self-adjusting, stripping length of up to 18 mm, cutting capacity of up to 10 mm<sup>2</sup> stranded/1.5 mm<sup>2</sup> solid, replaceable stripping blade

## Bus system cable - SAC-3P-15,0-961/M12FS VA - 1419085

### Accessories

#### Torque tool

Torque screwdriver - TSD 04 SAC - 1208429



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

---

Torque screwdriver - TSD-M 1,2NM - 1212224



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

---

Stripping tool - VS-CABLE-STRIP-VARIO - 1657407



Stripping tool, for the multi-level stripping of shielded cables

---

Protective hose adapter - WP-CTA POM 13,0 BK - 1422884



Protective hose adapter, for corrugated hoses with a nominal size of 13 (10 x 13), corrugated in parallel

---