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

1419092

https://www.phoenixcontact.com/gb/products/1419092

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Bus system cable, PROFIBUS PA (31.25 kbps), 3-position, PVC, blue RAL 5015, shielded, Plug straight M12, coding: A, on free cable end, cable length: 2 m, For Ex area with high-grade steel knurl

## Commercial data

| | |
|---|---|
| Item number | 1419092 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | BF1CCG |
| Product key | BF1CCG |
| Catalog page | Page 430 (C-2-2019) |
| GTIN | 4046356541596 |
| Weight per piece (including packing) | 153.7 g |
| Weight per piece (excluding packing) | 144.1 g |
| Customs tariff number | 85444290 |
| Country of origin | PL |

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## Technical data

### Notes

| | |
|---|---|
| General | For applications in circuits of intrinsic safety protection type "i". Electrical values following EN 60079-14. |

### Product properties

| | |
|---|---|
| Product type | Data cable preassembled |
| Application | Process technology |
| Sensor type | PROFIBUS PA |
| Number of positions | 3 |
| No. of cable outlets | 1 |
| Shielded | yes |
| Coding | A |

Insulation characteristics

| | |
|---|---|
| Overvoltage category | II |
| Degree of pollution | 3 |

### Interfaces

| | |
|---|---|
| Bus system | PROFIBUS PA |
| Signal type/category | PROFIBUS PA, 31.25 kbps |

### Signaling

| | |
|---|---|
| Status display | no |
| Status display present | No |

### Electrical properties

| | |
|---|---|
| Nominal voltage $U_N$ | 48 V AC |
| | 60 V DC |
| Nominal current $I_N$ | 4 A |
| Transmission medium | Copper |

### Mechanical properties

Mechanical data

| | |
|---|---|
| Insertion/withdrawal cycles | ≥ 100 |

### Material specifications

| | |
|---|---|
| Flammability rating according to UL 94 | HB |
| Seal material | NBR |

### Connection data

Pin assignment

| | |
|---|---|
| | 1 (Plug) \| OG (DATA+) |

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| | |
|---|---|
| Contact \| Color (signal designation) \| Contact (optional) | 3 (Plug) \| BU (DATA-) |
| | 4 (Plug) \| SR (shield) |

## Connector

### Connection 1

| | |
|---|---|
| Type | Plug straight M12 |
| Number of positions | 3 |
| Coding type | A (Standard) |
| Material | CuSn (Contact) |
| | Ni/Au (Contact surface) |
| | TPU GF (Contact carriers) |
| | TPU, hardly inflammable, self-extinguishing (Grip body) |
| | Stainless steel (Screw connection) |
| Ambient temperature (operation) | -25 °C ... 90 °C |

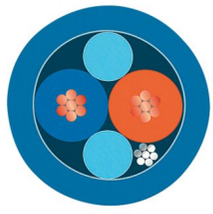
### Connection 2

| | |
|---|---|
| Type | free cable end |

## Cable/line

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

### Fieldbus FOUNDATION/PROFIBUS PA, blue [961]

| | |
|---|---|
| Dimensional drawing |  |
| Cable weight | 56.552 kg/km |
| Number of positions | 2 |
| Shielded | yes |
| Cable type | Fieldbus FOUNDATION/PROFIBUS PA, blue [961] |
| Conductor structure | 2xAWG18/7 + 1xAWG20/7 |
| Signal speed | 0.66 c |
| Conductor structure signal line | 7x 0.40 mm |
| AWG signal line | 18 |
| Conductor cross section | 2x 0.75 mm² (Signal line) |
| | 1x 0.5 mm² (Drain wire) |
| Wire diameter incl. insulation | 2.24 mm ±0.05 mm |
| External cable diameter | 7.50 mm ±0.25 mm |
| Outer sheath, material | PVC |
| External sheath, color | blue RAL 5015 |

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| | |
|---|---|
| Conductor material | Tin-plated Cu litz wires |
| Material wire insulation | PO (Signal line) |
| Single wire, color | blue, orange |
| Thickness, insulation | 0.50 mm |
| Thickness, outer sheath | 1.00 mm |
| Twisted pairs | 2 cores to the pair |
| Overall twist | One pair with one drain wire and fillers for core |
| Optical shield covering | 100 % |
| Max. conductor resistance | ≤ 19.35 Ω/km (Signal line) |
| | 26 Ω/km (shield) |
| Cable capacity | 147 pF/m (at 1 kHz, core/shield) |
| | ≤ 3.94 pF/m (capacitance unbalance) |
| Working capacitance | 78 nF (at 1 kHz) |
| Cable impedance | 100 Ω ±20 % (At 31.25 kHz) |
| Nominal voltage, cable | 300 V |
| Smallest bending radius, fixed installation | 75 mm |
| Tensile strength | 260 N |
| Shield attenuation | 3.00 dB/km (at 39 kHz) |
| Flame resistance | UL 1685 (CSA FT 4) |
| | UL 1685 (vertical tray) |
| | UL 1666 (riser) |
| Special properties | UL standards PLTC-ER and ITC |
| Ambient temperature (operation) | -40 °C ... 105 °C (cable, fixed installation) |

## Environmental and real-life conditions

### Ambient conditions

| | |
|---|---|
| Degree of protection | IP65 |
| | IP67 |
| | IP68 |
| | IP69K |

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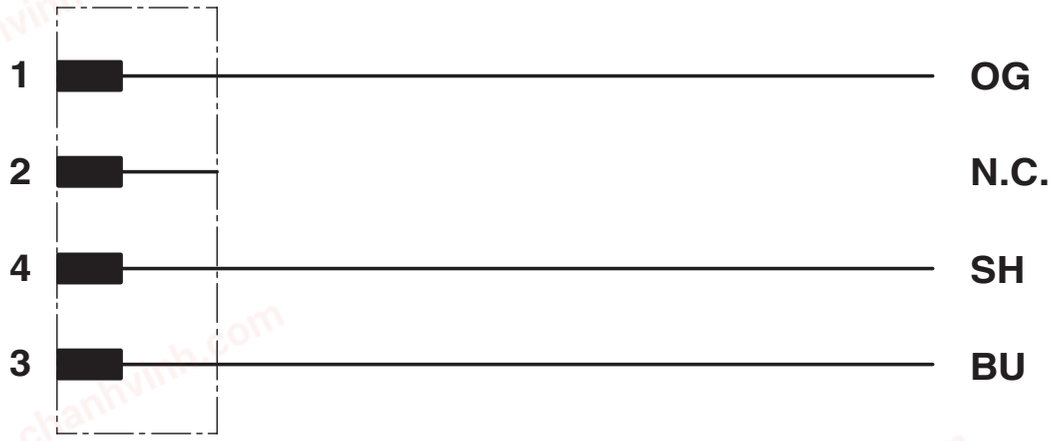
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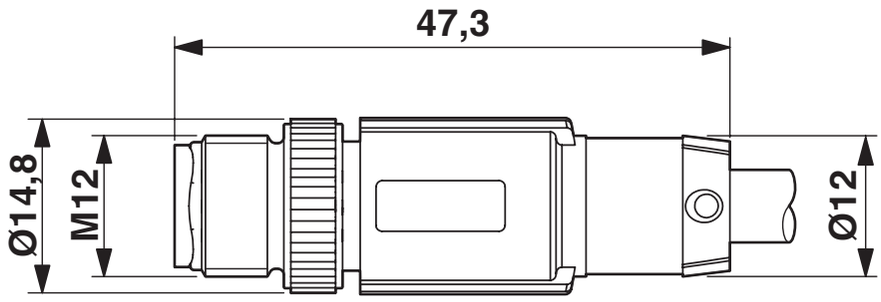
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## Drawings

Circuit diagram




Dimensional drawing




Plug, M12 x 1, straight, shielded

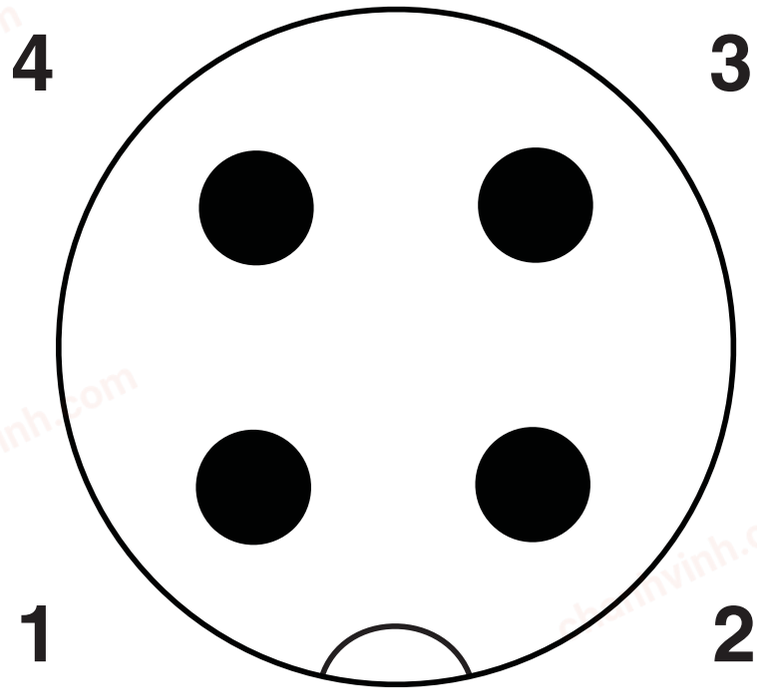
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Schematic diagram




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

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## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/gb/products/1419092

**EAC-RoHS**
Approval ID: RU D-DE.HB35.B.00387

**cULus Listed**
Approval ID: E221474

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## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-11.0 | 27060307 |
| ECLASS-12.0 | 27060307 |
| ECLASS-13.0 | 27060307 |

### ETIM

| | |
|---|---|
| ETIM 9.0 | EC001855 |

### 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% |

EF3.0 Climate Change

| | |
|---|---|
| CO2e kg | 1.639 kg CO2e |

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