

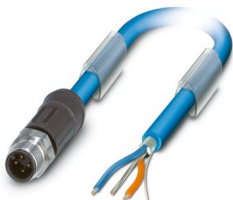
# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

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 documentation. Our general terms of use for downloads are valid.



Bus system cable, PROFIBUS PA (31.25 kbps), 3-position, PVC, blue RAL 5015, shielded (Plastic-coated aluminum foil with a drain wire), Plug straight M12, coding: A, on free cable end, cable length: 5 m, For Ex area with high-grade steel knurl

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1419093             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 1 pc                |
| Sales key                            | BF04                |
| Product key                          | BF1CCG              |
| Catalog page                         | Page 430 (C-2-2019) |
| GTIN                                 | 4046356541602       |
| Weight per piece (including packing) | 358.1 g             |
| Weight per piece (excluding packing) | 358.1 g             |
| Customs tariff number                | 85444290            |
| Country of origin                    | PL                  |

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

## Technical data

### Notes

|         |                                                                                                                   |
|---------|-------------------------------------------------------------------------------------------------------------------|
| General | For applications in circuits of intrinsic safety protection type "i".<br>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 | $\geq 100$ |
|-----------------------------|------------|

### Material specifications

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

### Connection data

#### Pin assignment

1 (Plug) | OG (DATA+)

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

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)<br>Ni/Au (Contact surface)<br>TPU GF (Contact carriers)<br>TPU, hardly inflammable, self-extinguishing (Grip)<br>Stainless steel (Screw connection) |
| Ambient temperature (operation) | -25 °C ... 90 °C                                                                                                                                                   |

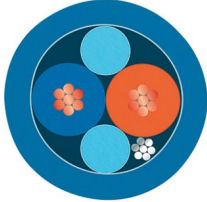
### Connection 2

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

## Cable/line

|              |     |
|--------------|-----|
| Cable length | 5 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 mm <sup>2</sup> (Signal line)<br>1x 0.5 mm <sup>2</sup> (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                                                                        |

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

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

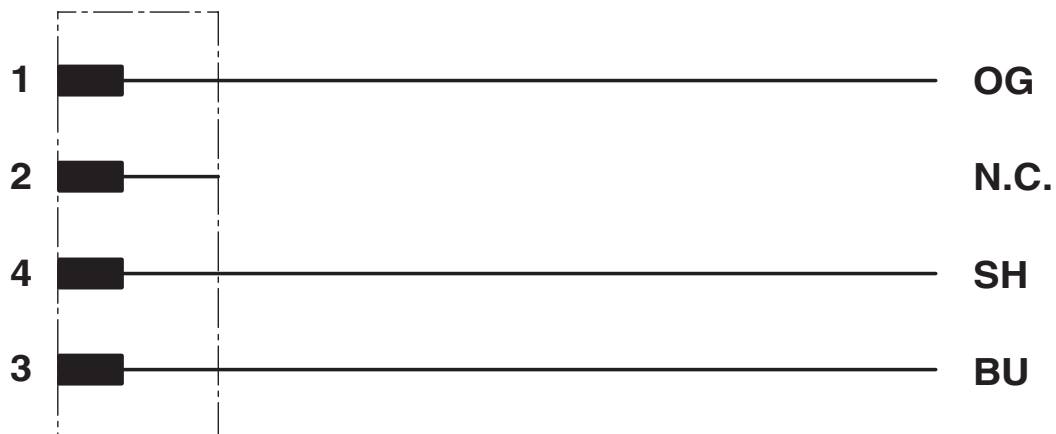
## Environmental and real-life conditions

### Ambient conditions

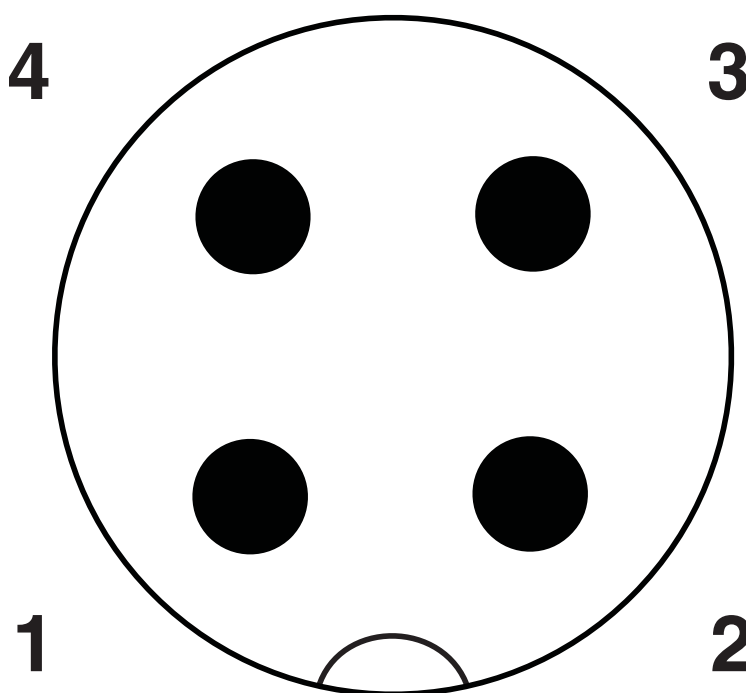
|                      |       |
|----------------------|-------|
| Degree of protection | IP65  |
|                      | IP67  |
|                      | IP68  |
|                      | IP69K |

## Drawings

Circuit diagram



Schematic diagram



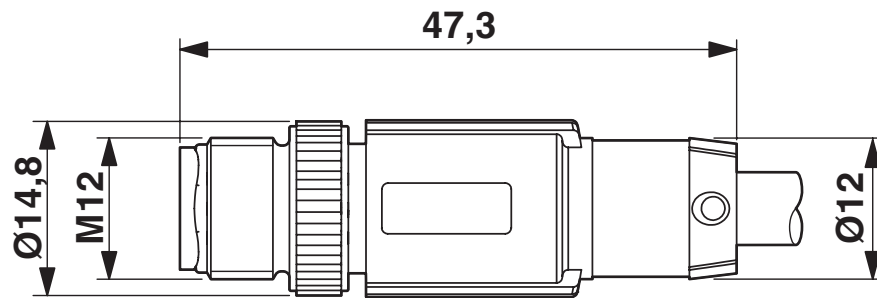
# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

Dimensional drawing



Plug, M12 x 1, straight, shielded

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

## Approvals

 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1419093>



**EAC-RoHS**

Approval ID: RU D-DE.HB35.B.00387



**cULus Listed**

Approval ID: E221474

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 26121600 |
|-------------|----------|

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

## 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%               |

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

## Accessories

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

1422884

<https://www.phoenixcontact.com/us/products/1422884>



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

---

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

3240681

<https://www.phoenixcontact.com/us/products/3240681>



Protective hose, material: PA 6, UV-resistant: yes, flexible, degree of protection: IP68, color: black, flammability rating in acc. with UL 94: V0, inner diameter: 10 mm, Total length: 50 m

## SAC-3P-M12MS/ 5,0-961 VA - Bus system cable

1419093

<https://www.phoenixcontact.com/us/products/1419093>



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

3240839

<https://www.phoenixcontact.com/us/products/3240839>



Protective hose, material: PA 6, UV-resistant: yes, flexible, degree of protection: IP68, color: black, flammability rating in acc. with UL 94: HB, inner diameter: 10 mm, Total length: 50 m

---

## SACC-M12FS-4QO SH PBPA - Data connector

1413934

<https://www.phoenixcontact.com/us/products/1413934>



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

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

## SACC-M12MS-4QO SH PBPA - Data connector

1413933

<https://www.phoenixcontact.com/us/products/1413933>



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

---

## TSD 04 SAC - Torque screwdriver

1208429

<https://www.phoenixcontact.com/us/products/1208429>



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

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

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

1212224

<https://www.phoenixcontact.com/us/products/1212224>



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

---

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

1212600

<https://www.phoenixcontact.com/us/products/1212600>



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

## SAC-3P-M12MS/ 5,0-961 VA - Bus system cable

1419093

<https://www.phoenixcontact.com/us/products/1419093>



### SAC BIT M12-W14 - Tool

1212513

<https://www.phoenixcontact.com/us/products/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

---

### CUTFOX 12 - Cable-cutting tool

1212128

<https://www.phoenixcontact.com/us/products/1212128>



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

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

## CUTFOX-S VDE - Diagonal cutter

1212207

<https://www.phoenixcontact.com/us/products/1212207>



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

---

## VS-CABLE-STRIP-VARIO - Stripping tool

1657407

<https://www.phoenixcontact.com/us/products/1657407>

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



# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

## MICROFOX-SP-1 - Diagonal cutter

1212487

<https://www.phoenixcontact.com/us/products/1212487>



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

---

## WIREFOX 4 - Stripping tool

1212156

<https://www.phoenixcontact.com/us/products/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

# SAC-3P-M12MS/ 5,0-961 VA - Bus system cable



1419093

<https://www.phoenixcontact.com/us/products/1419093>

## WIREFOX-E 4 - Stripping tool

1212704

<https://www.phoenixcontact.com/us/products/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

---

## WIREFOX 10 - Stripping tool

1212150

<https://www.phoenixcontact.com/us/products/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

---

Phoenix Contact 2024 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)