

# SAC-4P- 2,0-680/M12FS FDN - Sensor/actuator cable



1095831

<https://www.phoenixcontact.com/us/products/1095831>

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Sensor/actuator cable, 4-position, PVC, gray, shielded, free cable end, on Socket straight M12, coding: A, cable length: 2 m, Foil shielding plus drain wire

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1095831                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 1 pc                           |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | BF13                           |
| Product key                          | BF1IEB                         |
| GTIN                                 | 4055626927824                  |
| Weight per piece (including packing) | 22.22 g                        |
| Weight per piece (excluding packing) | 22.22 g                        |
| Country of origin                    | US                             |

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## Technical data

### Product properties

|                      |                       |
|----------------------|-----------------------|
| Product type         | Sensor/actuator cable |
| Application          | Standard, U.S. cables |
| Number of positions  | 4                     |
| No. of cable outlets | 1                     |
| Shielded             | yes                   |
| Coding               | A                     |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 00 |
|------------------|----|

### Insulation characteristics

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

### Material specifications

|                               |                                             |
|-------------------------------|---------------------------------------------|
| Seal material                 | NBR                                         |
| Material of grip body         | TPU, hardly inflammable, self-extinguishing |
| Contact material              | CuSn                                        |
| Contact surface material      | Ni/Au                                       |
| Contact carrier material      | TPU GF                                      |
| Material for screw connection | Zinc die-cast, nickel-plated                |

### Electrical properties

|                       |                           |
|-----------------------|---------------------------|
| Insulation resistance | $\geq 10 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 250 V AC                  |
|                       | 250 V DC                  |
| Nominal current $I_N$ | 4 A                       |

### Mechanical properties

#### Mechanical data

|                             |            |
|-----------------------------|------------|
| Insertion/withdrawal cycles | $\geq 100$ |
|-----------------------------|------------|

### Signaling

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

### Connection data

#### Conductor connection

|                   |                        |
|-------------------|------------------------|
| Tightening torque | 0.4 Nm (M12 connector) |
|-------------------|------------------------|

### Connector

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## Connection 1

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

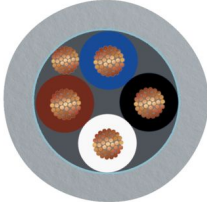
## Connection 2

|                     |                     |
|---------------------|---------------------|
| Type                | Socket straight M12 |
| Number of positions | 4                   |
| Coding type         | A                   |

## Cable/line

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

PVC, gray, 105°C [680]

|                                               |                                                                                     |
|-----------------------------------------------|-------------------------------------------------------------------------------------|
| Dimensional drawing                           |  |
| Cable weight                                  | 45.42 kg/km                                                                         |
| UL AWM Style                                  | 2517 (105 °C / 300 V)                                                               |
| Number of positions                           | 4                                                                                   |
| Shielded                                      | yes                                                                                 |
| Cable type                                    | PVC, gray, 105°C [680]                                                              |
| AWG signal line                               | 22                                                                                  |
| Wire diameter incl. insulation                | 1.27 mm ±0.03 mm                                                                    |
| External cable diameter                       | 5.08 mm ±0.2 mm                                                                     |
| Outer sheath, material                        | PVC                                                                                 |
| External sheath, color                        | gray                                                                                |
| Conductor material                            | Tin-plated Cu litz wires                                                            |
| Material wire insulation                      | PVC (Signal line)                                                                   |
| Single wire, color                            | brown, white, blue, black                                                           |
| Type of pair shielding                        | Plastic-coated aluminum foil, aluminum side inside                                  |
| Overall twist                                 | Conductors, fillers, and drain wire are twisted with left-hand lay                  |
| Max. conductor resistance                     | max. 51.1 Ω/km (20 °C)                                                              |
| Insulation resistance                         | ≥ (550 M Ohms/m @ 500V)                                                             |
| Nominal voltage, cable                        | 300 V                                                                               |
| Minimum bending radius, flexible installation | 8 x D                                                                               |
| Smallest bending radius, movable installation | 41 mm                                                                               |
| Flame resistance                              | FT4                                                                                 |
| Other resistance                              | UV resistant                                                                        |
| Special properties                            | UL standards PLTC and ITC                                                           |
| Ambient temperature (operation)               | -30 °C ... 105 °C (cable, fixed installation)                                       |

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## Environmental and real-life conditions

### Ambient conditions

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| Degree of protection            | IP65                                           |
|                                 | IP67                                           |
|                                 | IP68                                           |
| Ambient temperature (operation) | -25 °C ... 90 °C (Plug / socket)               |
|                                 | -40 °C ... 80 °C (cable, fixed installation)   |
|                                 | -5 °C ... 80 °C (Cable, flexible installation) |

## Standards and regulations

|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M12 connector   |
| Standards/specifications | IEC 61076-2-101 |

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## Drawings

Dimensional drawing



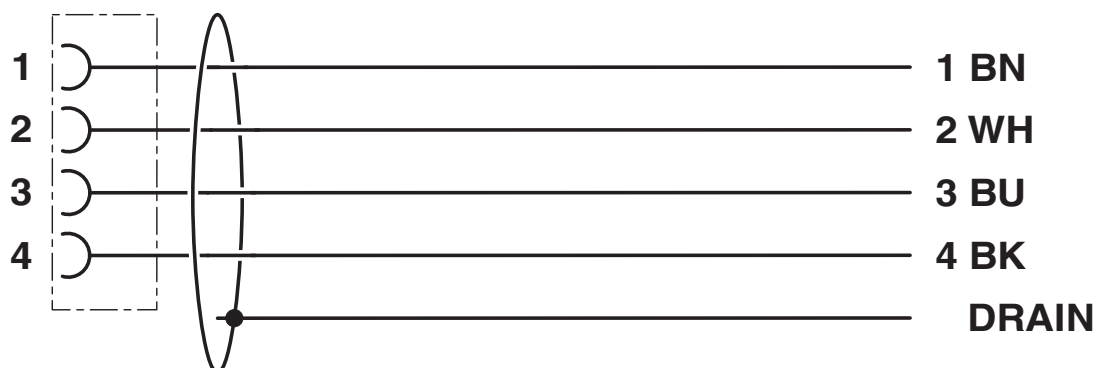
M12 x 1 socket, straight

Schematic diagram



Pin assignment M12 socket, 4-pos., A-coded, view female side

Circuit diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1095831>

|  |                            |                                |                                |                               |
|--|----------------------------|--------------------------------|--------------------------------|-------------------------------|
|  | <b>UL Listed</b>           |                                |                                |                               |
|  | Approval ID: FILE E 221474 |                                |                                |                               |
|  |                            | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG             |
|  |                            | 300 V                          | 4 A                            | -                             |
|  |                            |                                |                                | Cross section mm <sup>2</sup> |
|  |                            |                                |                                | -                             |

|  |                            |                                |                                |                               |
|--|----------------------------|--------------------------------|--------------------------------|-------------------------------|
|  | <b>cUL Listed</b>          |                                |                                |                               |
|  | Approval ID: FILE E 221474 |                                |                                |                               |
|  |                            | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG             |
|  |                            | 300 V                          | 4 A                            | -                             |
|  |                            |                                |                                | Cross section mm <sup>2</sup> |
|  |                            |                                |                                | -                             |

|                     |
|---------------------|
| <b>cULus Listed</b> |
|---------------------|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27060311 |
| ECLASS-12.0 | 27060311 |
| ECLASS-13.0 | 27060311 |

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 31251501 |
|-------------|----------|

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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-50                                                                                                                                                                                                                           |
|                                        | An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required. |

### EU REACH SVHC

|                                     |                            |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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## Accessories

### PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

<https://www.phoenixcontact.com/us/products/1430873>

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



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### SAC-M12-EXCLIP-M - Locking clip

1558988

<https://www.phoenixcontact.com/us/products/1558988>

Locking clip for the pin side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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### PROT-M12 MS-PA-CHAIN - Screw plug

1430899

<https://www.phoenixcontact.com/us/products/1430899>

M12 sealing cap with fixing band, for sensor cables, for free M12 sockets



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### SAC-M12-EXCLIP-F - Locking clip

1558991

<https://www.phoenixcontact.com/us/products/1558991>

Locking clip for the socket side of sensor/actuator cables with M12 connector and M12 connectors for assembly, for knurl diameter: 15 mm or for Allen key with a wrench size of 14 mm, prevents the disconnection of plug-in connections without tools



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## 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

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## 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

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## 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

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## SAC BIT M12-D15 - Tool

1208432

<https://www.phoenixcontact.com/us/products/1208432>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a knurl diameter of 15 mm, for 4 mm hexagonal drive

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