

# SAC-2P- 2,0-910/M12FSB - Bus system cable



1507298

<https://www.phoenixcontact.com/gb/products/1507298>

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Bus system cable, PROFIBUS (12 Mbps), 2-position, PUR halogen-free, red lilac RAL 4001, shielded, free cable end, on Socket straight M12, coding: B, cable length: 2 m

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1507298       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | AF1CKC        |
| Product key                          | AF1CKC        |
| GTIN                                 | 4017918900120 |
| Weight per piece (including packing) | 140.1 g       |
| Weight per piece (excluding packing) | 139 g         |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Notes

|         |  |
|---------|--|
| General | Further products with variable cable lengths can be found in the accessories section |
|---------|--|

### Product properties

|                      |                         |
|----------------------|-------------------------|
| Product type         | Data cable preassembled |
| Application          | Standard                |
| Sensor type          | PROFIBUS                |
| Number of positions  | 2                       |
| No. of cable outlets | 1                       |
| Shielded             | yes                     |
| Coding               | B                       |

### Insulation characteristics

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

### Interfaces

|                      |                                |
|----------------------|--------------------------------|
| Bus system           | PROFIBUS                       |
| Signal type/category | PROFIBUS, 12 Mbps (max. 100 m) |

### Signaling

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

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 48 V AC                    |
|                       | 60 V DC                    |
| Nominal current $I_N$ | 4 A                        |
| Transmission medium   | Copper                     |
| Transmission speed    | 12 Mbps (max. 100 m)       |

### Mechanical properties

#### Mechanical data

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

### Material specifications

|                          |   |
|--------------------------|---|
| Seal material            | NBR   |
| Material of grip body    | TPU, hardly inflammable, self-extinguishing |
| Contact material         | CuSn  |
| Contact surface material | Ni/Au                                       |

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|                               |                              |
|-------------------------------|------------------------------|
| Contact carrier material      | TPU GF                       |
| Material for screw connection | Zinc die-cast, nickel-plated |

## Connection data

### Connection assignment

|   |                           |
|---|---------------------------|
| Contact   Color (signal designation)   Contact (optional) | 2 (Socket)   GN (A cable) |
|   | 4 (Socket)   RD (B cable) |

## Connector

### Connection 1

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


### Connection 2

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

## Cable/line

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

### PROFIBUS [910]

|                                 |  |
|---------------------------------|--|
| Dimensional drawing             |  |
| Cable weight                    | 90 kg/km   |
| UL AWM Style                    | 21198 (80°C/300 V)   |
| Number of positions             | 2  |
| Shielded                        | yes  |
| Cable type                      | PROFIBUS [910]   |
| Conductor structure             | 1x2xAWG24/19   |
| Conductor structure signal line | 19x 0.13 mm  |
| AWG signal line                 | 24   |
| Conductor cross section         | 2x 0.25 mm <sup>2</sup> (Signal line)  |
| Wire diameter incl. insulation  | 2.55 mm ±0.07 mm   |
| External cable diameter         | 7.80 mm ±0.2 mm  |
| Outer sheath, material          | PUR  |
| External sheath, color          | red lilac RAL 4001   |
| Conductor material              | Tin-plated Cu litz wires   |
| Material, filler                | PP   |
| Material wire insulation        | Foam-Skin PP   |
| Single wire, color              | red, green   |

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|   |   |
|---|---|
| Overall twist                                 | 2 cores with 2 fillers to the core  |
| Optical shield covering                       | 85 %  |
| Max. conductor resistance                     | ≤ 78.6 Ω/km   |
| Insulation resistance                         | ≥ 5 GΩ*km   |
| Wave impedance                                | 150 Ω ±10 % (3 MHz ... 20 MHz)  |
| Cable capacity                                | nom. 30 pF/m  |
| Nominal voltage, cable                        | 300 V   |
| Test voltage Core/Core                        | 1500 V (50 Hz, 1 min.)  |
| Test voltage Core/Shield                      | 1500.00 V (50 Hz, 1 min.)   |
| Smallest bending radius, fixed installation   | 40 mm   |
| Smallest bending radius, movable installation | 65 mm   |
| Dynamic load capacity (bending)               | <p>Max. bending cycles: 4000000, Bending radius: 65 mm, Traversing path: 4.5 m, Traversing rate: 3 m/s, Acceleration: 3 m/s<sup>2</sup>, Ambient temperature: -20 °C ... 60 °C</p> <p>Max. bending cycles: 5000000, Bending radius: 80 mm, Traversing path: 4.5 m, Traversing rate: 3 m/s, Acceleration: 3 m/s<sup>2</sup>, Ambient temperature: -20 °C ... 60 °C</p> |
| Shield attenuation                            | ≤ 0.049 dB/m (at 16 MHz)  |
| Halogen-free                                  | <p>in accordance with DIN VDE 0472 part 815</p> <p>according to IEC 60754-1</p>   |
| Flame resistance                              | <p>UL 1581, Section 1060 and UL 2556, Section 9.3 (FT1)</p> <p>UL 1581, Section 1100 and UL 2556, Section 9.1 (HFT/FT2)</p> <p>IEC 60332-1-2</p>  |
| Other resistance                              | Low adhesion  |
| Ambient temperature (operation)               | <p>-40 °C ... 80 °C (cable, fixed installation)</p> <p>-30 °C ... 70 °C (Cable, flexible installation)</p> <p>-20 °C ... 60 °C (for installation)</p> <p>-20 °C ... 60 °C (cable, drag chain applications)</p>  |

## Environmental and real-life conditions

### Ambient conditions

|   |                                  |
|---|----------------------------------|
| Degree of protection  | <p>IP65</p> <p>IP67</p>          |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 90 °C (Plug / socket) |

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## Drawings

Dimensional drawing



M12 x 1 socket, straight, shielded

Schematic diagram



Pin assignment M12 socket, 5-pos., B-coded, female side

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Circuit diagram



Contact assignment of the M12 socket

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1507298>

|  <b>UL Listed</b><br>Approval ID: FILE E 221474 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine  |                       |                       |                   |                             |
|  | 300 V                 | 4 A                   | -                 | -                           |

|  <b>cUL Listed</b><br>Approval ID: FILE E 221474 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine   |                       |                       |                   |                             |
|   | 300 V                 | 4 A                   | -                 | -                           |

|  <b>EAC-RoHS</b><br>Approval ID: RU D-DE.HB35.B.00387 |  |  |  |  |
|--|--|--|--|--|
|--|--|--|--|--|

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060307 |
| ECLASS-15.0 | 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 | 1.349 kg CO2e |
|---------|---------------|

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PHOENIX CONTACT Ltd  
Halesfield 13, Telford  
Shropshire, TF7 4PG  
01952 681700  
[info@phoenixcontact.co.uk](mailto:info@phoenixcontact.co.uk)