

# SAC-4P- 5,0-PUR/M12FRS PE - Power cable



1408853

<https://www.phoenixcontact.com/us/products/1408853>

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Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket angled M12, coding: S, cable length: 5 m, for AC current up to 12 A/690 V

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Protection against incorrect connection using special S-coding
- Our standard: robust halogen-free PUR cable

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1408853       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF05          |
| Product key                          | AF1CCP        |
| GTIN                                 | 4046356843799 |
| Weight per piece (including packing) | 480 g         |
| Weight per piece (excluding packing) | 574.8 g       |
| Customs tariff number                | 85444290      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                      |               |
|----------------------|---------------|
| Product type         | Power cable   |
| Application          | Energy supply |
| Number of positions  | 4             |
| No. of cable outlets | 1             |
| Shielded             | no            |
| Coding               | S             |

### Insulation characteristics

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

### Material specifications

|  |                              |
|--|------------------------------|
| Flammability rating according to UL 94 | V0                           |
| Material of grip body                  | PP                           |
| Contact material                       | CuZn                         |
| Contact surface material               | Ni/Au                        |
| Contact carrier material               | PA                           |
| Material for screw connection          | Zinc die-cast, nickel-plated |

### Electrical properties

|                       |                            |
|-----------------------|----------------------------|
| Insulation resistance | $\geq 100 \text{ M}\Omega$ |
| Nominal voltage $U_N$ | 690 V AC                   |
| Nominal current $I_N$ | 12 A                       |

### Mechanical properties

#### Mechanical data

|                             |       |
|-----------------------------|-------|
| Insertion/withdrawal cycles | > 100 |
|-----------------------------|-------|

### Connector

#### Connection 1

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

#### Connection 2

|             |                   |
|-------------|-------------------|
| Type        | Socket angled M12 |
| Coding type | S (Power)         |

### Cable/line

|              |     |
|--------------|-----|
| Cable length | 5 m |
|--------------|-----|

#### PUR halogen-free black [PUR]

|              |          |
|--------------|----------|
| Cable weight | 92 kg/km |
|--------------|----------|

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|   |  |
|---|--|
| UL AWM Style                                  | 80°C/1000 V  |
| Number of positions                           | 4  |
| Shielded                                      | no   |
| Cable type                                    | PUR halogen-free black [PUR]   |
| Conductor structure, voltage supply           | 44x 0.20 mm  |
| AWG power supply                              | 16   |
| Conductor cross-section                       | 4x 1.5 mm <sup>2</sup>   |
| Wire diameter incl. insulation                | 2.35 mm ±0.05 mm   |
| External cable diameter                       | 7.40 mm ±0.25 mm   |
| Outer sheath, material                        | PUR  |
| External sheath, color                        | black-gray RAL 7021  |
| Conductor material                            | Bare Cu litz wires   |
| Material wire insulation                      | PP   |
| Single wire, color                            | black 1, black 2, black 3, green/yellow  |
| Thickness, insulation                         | ≥ 0.31 mm  |
| Thickness, outer sheath                       | approx. 0.85 mm  |
| Overall twist                                 | 4 wires, twisted   |
| Max. conductor resistance                     | ≤ 14.1 Ω/km (at 20 °C)   |
| Insulation resistance                         | ≥ 1 GΩ*km (at 20 °C)   |
| Nominal voltage, cable                        | ≤ 1000 V AC  |
| Test voltage                                  | ≥ 10000 V AC (Spark test)  |
| Minimum bending radius, fixed installation    | 5 x D  |
| Minimum bending radius, flexible installation | 10 x D   |
| Smallest bending radius, fixed installation   | 37 mm  |
| Smallest bending radius, movable installation | 74 mm  |
| Dynamic load capacity (bending)               | Max. bending cycles: 5000000, Bending radius: 10 x D, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s <sup>2</sup> |
| Dynamic load capacity (torsion)               | Torsion: ±180 °/m, Torsion cycles: 500000, Torsional frequency: 35 cycles/min.   |
| Halogen-free                                  | in accordance with DIN VDE 0472 part 815<br>in accordance with DIN EN 50267-2-1  |
| Flame resistance                              | According to UL 758/1581 (Cable Flame)<br>in accordance with UL 758/1581 FT2<br>according to DIN EN 60332-2-2                          |
| Resistance to oil                             | according to DIN EN 60811-404, 168 h at 100 °C<br>according to UL 758, 168 h at 60 °C  |
| Other resistance                              | Hydrolysis and microbe resistant as per VDE 0282 section 10<br>Low adhesion<br>abrasion-resistant<br>Resistant to salt water           |
| Ambient temperature (operation)               | -50 °C ... 85 °C (cable, fixed installation)<br>-30 °C ... 85 °C (Cable, flexible installation)  |

## Environmental and real-life conditions

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## Ambient conditions

|   |  |
|---|--|
| Degree of protection  | IP65   |
|   | IP67 (without preloading, as additional test in accordance with IEC 60529) |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 85 °C (Plug / socket)   |

## Standards and regulations

|                          |                 |
|--------------------------|-----------------|
| Standard designation     | M12 connector   |
| Standards/specifications | IEC 61076-2-111 |

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## Drawings

Dimensional drawing



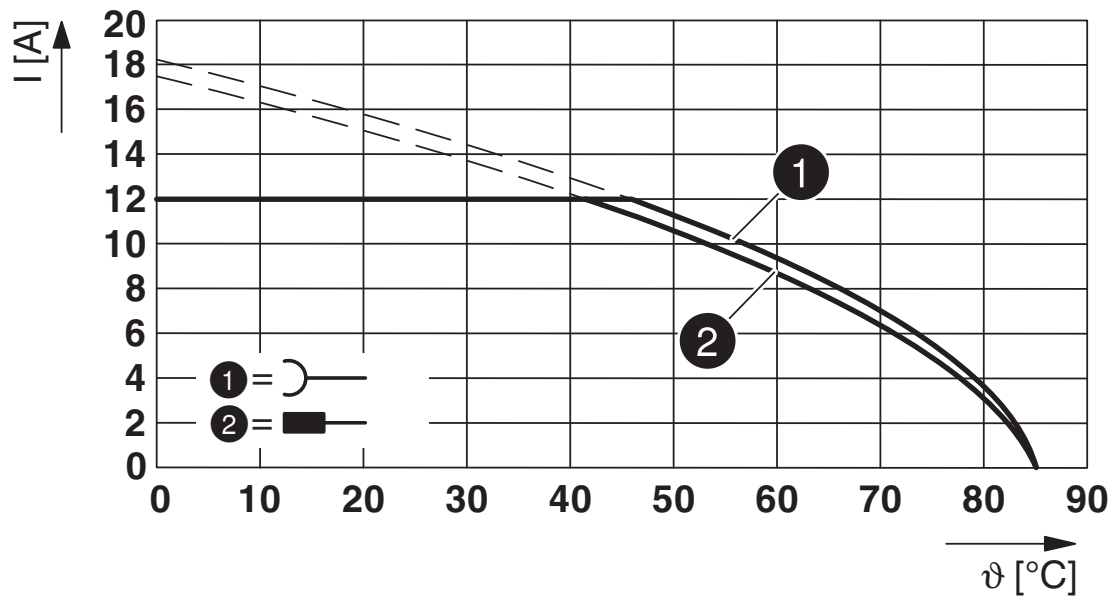
M12 x 1 socket, angled

Schematic diagram



Pin assignment of M12 socket, 4-pos., S-coded, socket side view

Diagram



Base curve

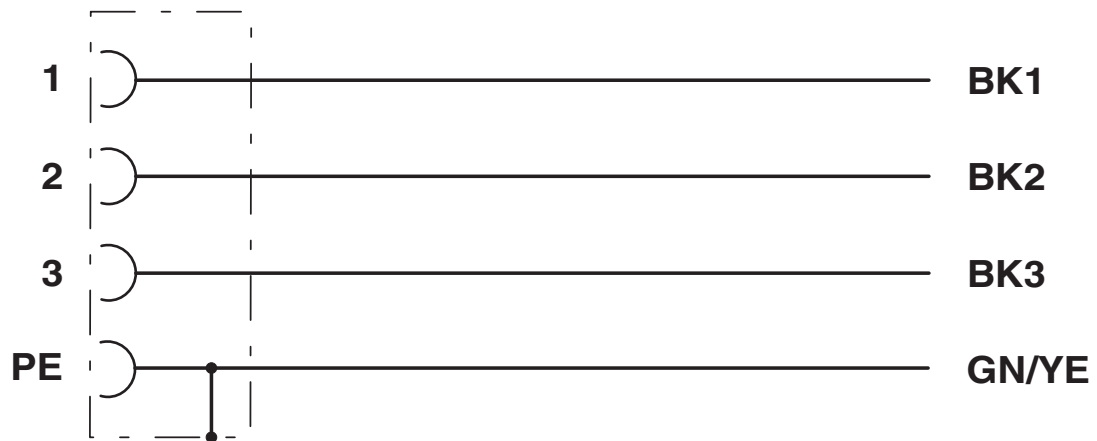
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Circuit diagram



Contact assignment of the M12 socket

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## Approvals

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|  <b>UL Listed</b><br>Approval ID: FILE E 468743 |                       |                       |                   |                             |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
|  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine  |                       |                       |                   |                             |
|  | 600 V                 | 12 A                  | - 16              | - 16                        |

|  <b>cUL Listed</b><br>Approval ID: FILE E 468743 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine   |                       |                       |                   |                             |
|   | 600 V                 | 12 A                  | - 16              | -                           |

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

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060327 |
| ECLASS-15.0 | 27060327 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | 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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 7.354 kg CO2e |
|---------|---------------|

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