

# SAC-6P- 3,0-PUR/M12FRM PE - Power cable



1414907

<https://www.phoenixcontact.com/us/products/1414907>

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Power cable, 6-position, PUR halogen-free, black-gray RAL 7021, free cable end, on Socket angled M12, coding: M, cable length: 3 m, for AC current up to 8 A/690 V

## Your advantages

- Easy and safe: 100 % electrically tested plug-in components
- Protection against mismatching, thanks to special M-coding
- Our standard: robust halogen-free PUR cable

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1414907       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | BF05          |
| Product key                          | AF1CGP        |
| GTIN                                 | 4055626035383 |
| Weight per piece (including packing) | 464.21 g      |
| Weight per piece (excluding packing) | 464.21 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  | 6             |
| No. of cable outlets | 1             |
| Shielded             | no            |
| Coding               | M             |

### 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 $I_N$ | 8 A                        |

### Connector

#### Connection 1

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

#### Connection 2

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

### Cable/line

|              |     |
|--------------|-----|
| Cable length | 3 m |
|--------------|-----|

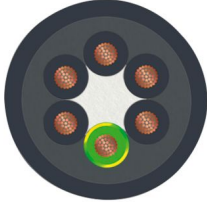
PUR halogen-free black [PUR]

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|                                               |                                                                                                                          |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Dimensional drawing                           |                                        |
| Cable weight                                  | 130 kg/km                                                                                                                |
| Number of positions                           | 6                                                                                                                        |
| Shielded                                      | no                                                                                                                       |
| Cable type                                    | PUR halogen-free black [PUR]                                                                                             |
| Conductor structure, voltage supply           | 44x 0.20 mm                                                                                                              |
| AWG power supply                              | 16                                                                                                                       |
| Conductor cross section                       | 6x 1.5 mm²                                                                                                               |
| Wire diameter incl. insulation                | 2.35 mm ±0.1 mm                                                                                                          |
| External cable diameter                       | 8.80 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, black 4, black 5, green/yellow                                                                |
| Thickness, insulation                         | ≥ 0.36 mm                                                                                                                |
| Thickness, outer sheath                       | approx. 0.90 mm                                                                                                          |
| 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                                  | ≥ 3000 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   | 44 mm                                                                                                                    |
| Smallest bending radius, movable installation | 88 mm                                                                                                                    |
| Dynamic load capacity (bending)               | Max. bending cycles: 5000000, Bending radius: 10xD, Traversing path: 10 m, Traversing rate: 3 m/s, Acceleration: 10 m/s² |
| 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>according to DIN EN 60754-1                                                  |
| Flame resistance                              | 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                                                                           |
| Other resistance                              | Hydrolysis and microbe resistant as per VDE 0282 section 10<br>Low adhesion<br>abrasion-resistant                        |

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|                                 |                                                 |
|---------------------------------|-------------------------------------------------|
|                                 | Resistant to salt water                         |
| Ambient temperature (operation) | -50 °C ... 85 °C (cable, fixed installation)    |
|                                 | -30 °C ... 85 °C (Cable, flexible installation) |

## Environmental and real-life conditions

### 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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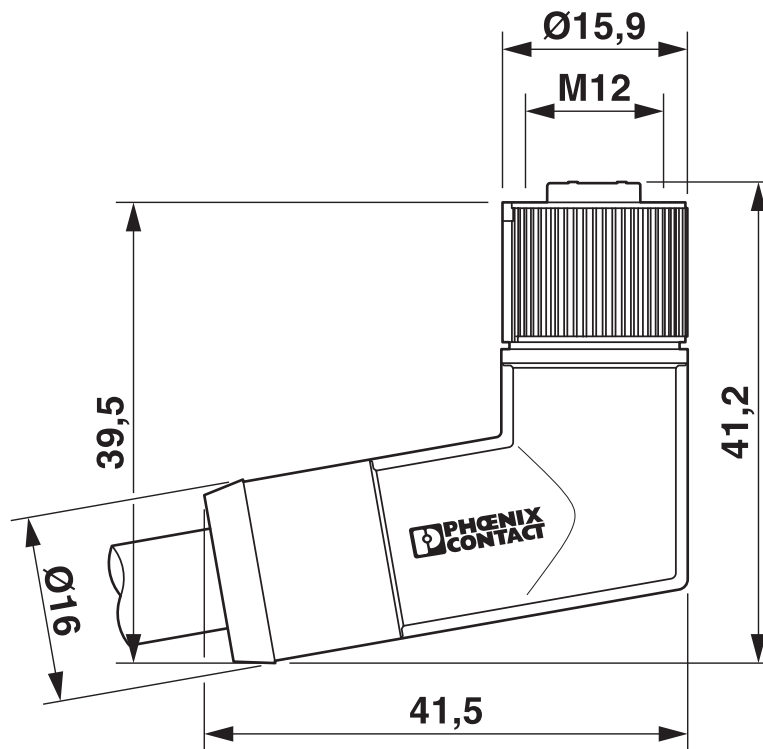


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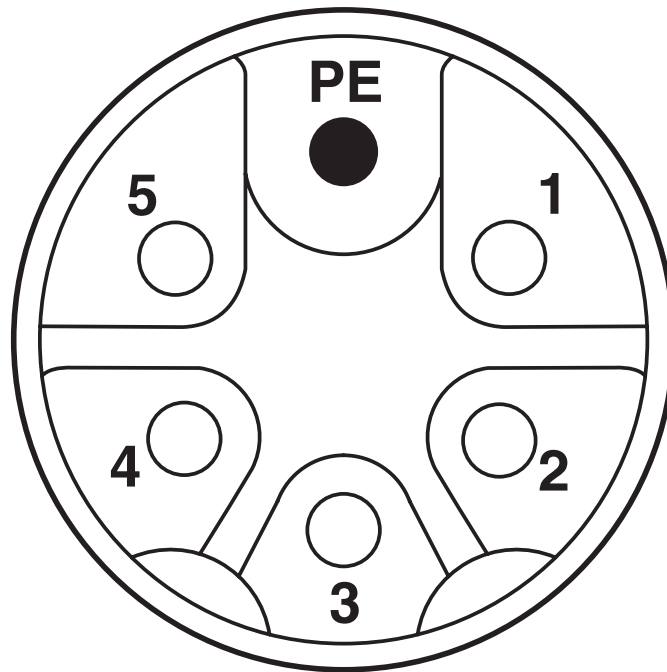
## Drawings

Dimensional drawing



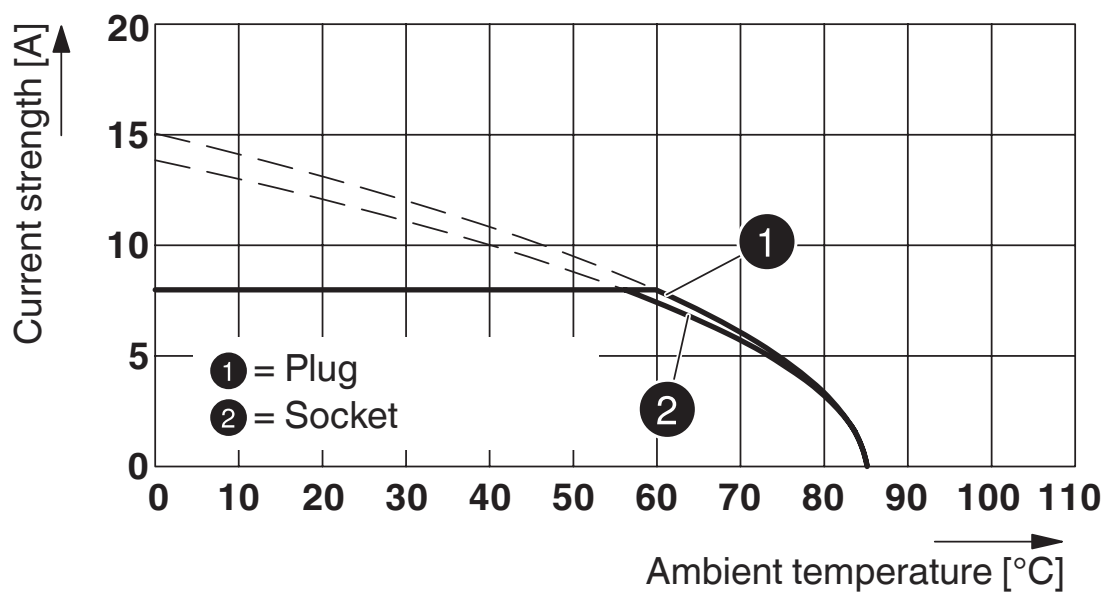
M12 x 1 socket, angled

Schematic diagram



Pin assignment of M12 socket, 6-pos., M-coded, socket side view

Diagram



Derating diagram

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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: E468743 |                                |                   |                               |
|-------|----------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------|-------------------------------|
|       | Nominal voltage U <sub>N</sub>                                                                                             | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| keine |                                                                                                                            |                                |                   |                               |
|       | 600 V                                                                                                                      | 10 A                           | - 16              | - 16                          |

|       |  <b>cUL Listed</b><br>Approval ID: E468743 |                                |                   |                               |
|-------|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------|-------------------------------|
|       | Nominal voltage U <sub>N</sub>                                                                                              | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| keine |                                                                                                                             |                                |                   |                               |
|       | 600 V                                                                                                                       | 10 A                           | - 16              | -                             |

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## Classifications

### ECLASS

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

### 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                                 | 6.95 kg CO2e                             |

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