# SAC-4P-M12MRT/ 1,0-PUR/M12FRT - Power cable

1415196

https://www.phoenixcontact.com/us/products/1415196

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Power cable, 4-position, PUR halogen-free, black-gray RAL 7021, Plug angled M12, coding: T, on Socket angled M12, coding: T, cable length: 1 m, For direct current up to 12 A/63 V

## Your advantages

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

## Commercial data

| | |
|---|---|
| Item number | 1415196 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Note | Made to order (non-returnable) |
| Sales key | BF05 |
| Product key | AF1CCQ |
| GTIN | 4055626041216 |
| Weight per piece (including packing) | 128.1 g |
| Weight per piece (excluding packing) | 128.1 g |
| Customs tariff number | 85444290 |
| Country of origin | PL |

# Technical data

## Product properties

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

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 | ≥ 100 MΩ |
| Nominal voltage $U_N$ | 63 V DC |
| Nominal current $I_N$ | 12 A |

## Mechanical properties

Mechanical data

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

## Connector

Connection 1

| | |
|---|---|
| Type | Plug angled M12 |
| Coding type | T (Power) |

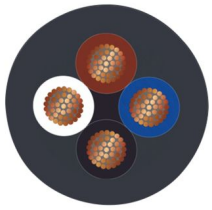
Connection 2

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

## Cable/line

| | |
|---|---|
| Cable length | 1 m |

PUR halogen-free black [PUR]

| | |
|---|---|
| Dimensional drawing |  |
| Cable weight | 83 kg/km |
| UL AWM Style | 20549 / 10493 (80°C/300 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 mm² |
| Wire diameter incl. insulation | 2.2 mm ±0.05 mm |
| External cable diameter | 6.75 mm ±0.2 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 | brown, white, blue, black |
| Thickness, insulation | ≥ 0.26 mm |
| Thickness, outer sheath | approx. 0.70 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 | ≤ 300 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 | 34 mm |
| Smallest bending radius, movable installation | 68 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/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 |
| | in accordance with DIN EN 50267-2-1 |
| Flame resistance | According to UL 758/1581 (Cable Flame) |
| | in accordance with UL 758/1581 FT2 |
| | according to DIN EN 60332-2-2 |

| | |
|---|---|
| Resistance to oil | according to DIN EN 60811-404, 168 h at 100 °C |
| | according to UL 758, 168 h at 60 °C |
| Other resistance | Hydrolysis and microbe resistant as per VDE 0282 section 10 |
| | Low adhesion |
| | abrasion-resistant |
| | Resistant to salt water |
| Special properties | Flexible cable conduit capable |
| Ambient temperature (operation) | -50 °C ... 85 °C (cable, fixed installation) |
| | -30 °C ... 85 °C (Cable, flexible installation) |

## Environmental and real-life conditions

### Ambient conditions

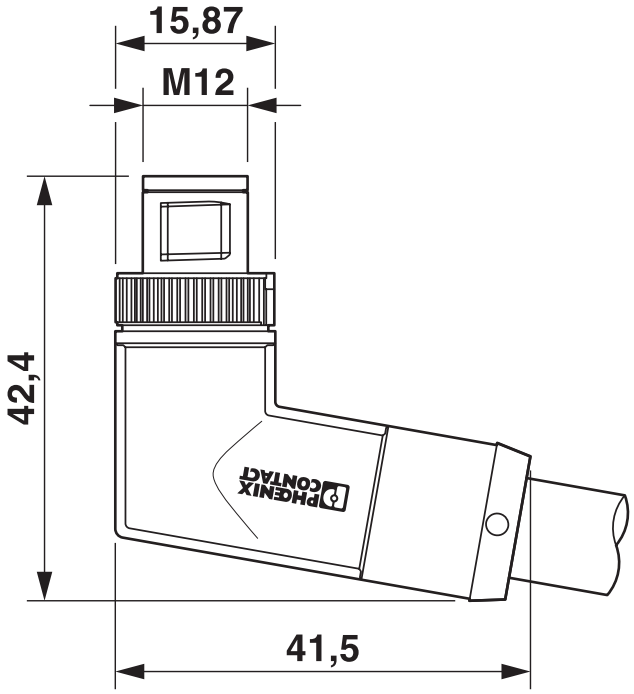
| | |
|---|---|
| Degree of protection | IP65 |
| | IP67 |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 85 °C (Plug / socket) |

## Standards and regulations

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

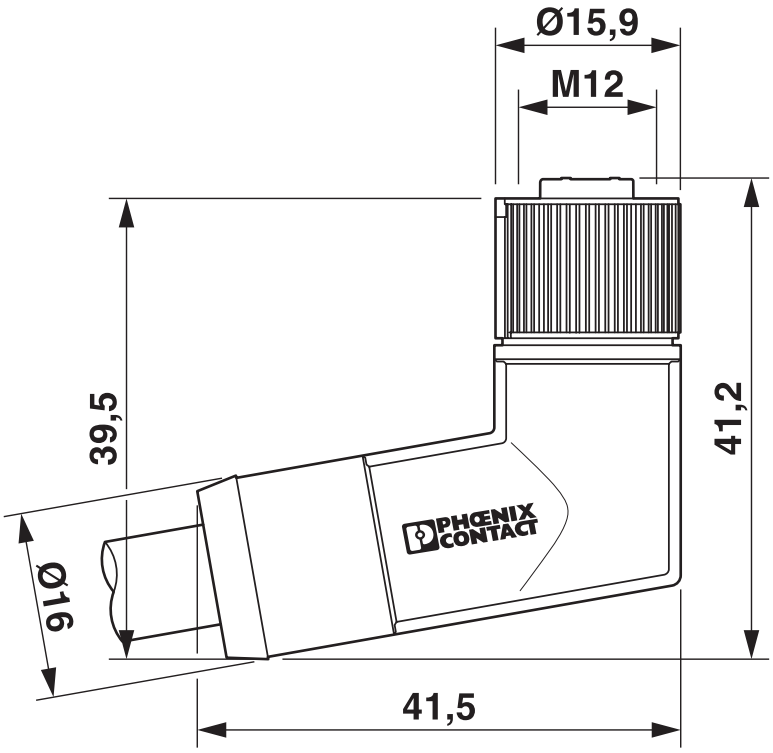
## Drawings

Dimensional drawing



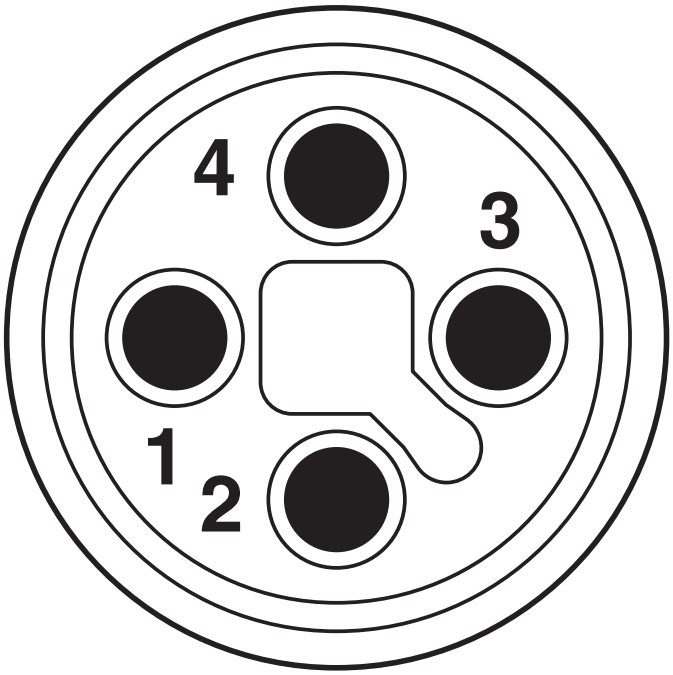

M12 x 1 male plug, angled

Dimensional drawing



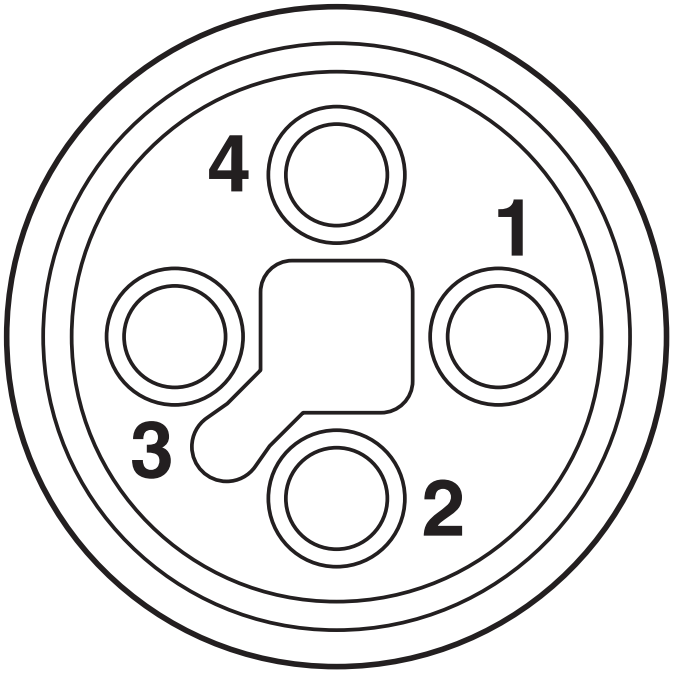

M12 x 1 socket, angled

Schematic diagram



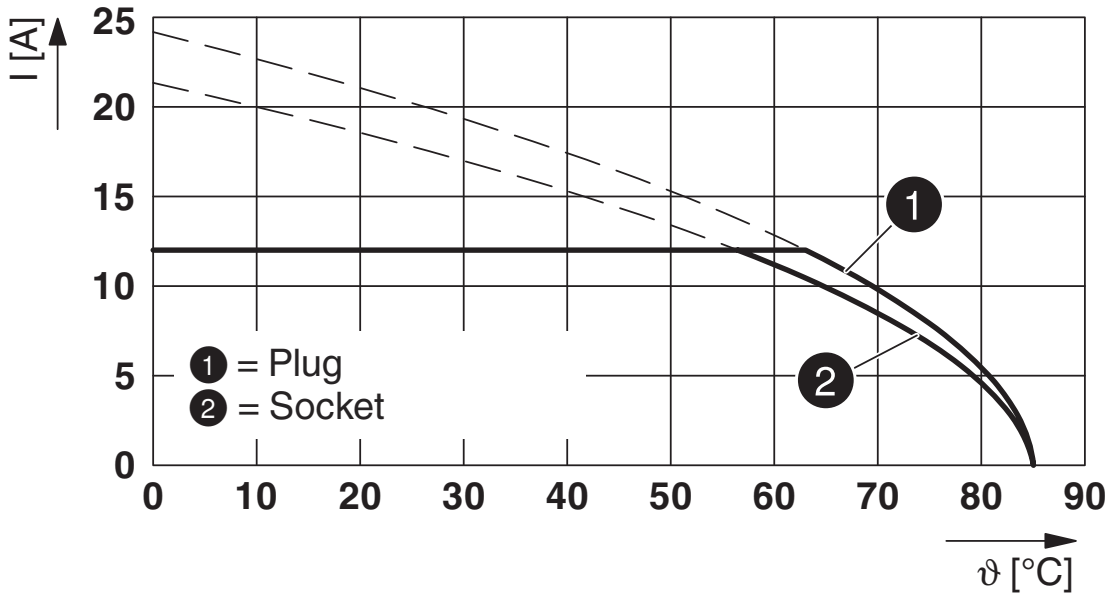

Pin assignment for M12 plug, 4-pos., T-coded, view of plug side

Schematic diagram



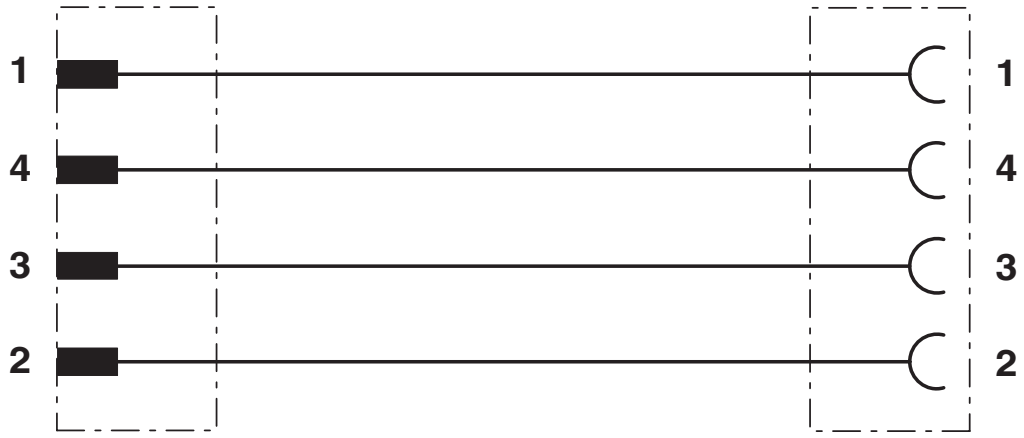

Pin assignment of M12 socket, 4-pos., T-coded, socket side view

Diagram




Base curve

Circuit diagram




Contact assignment of M12 connector/socket

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1415196

**UL Listed**
Approval ID: E468743

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| keine | | | | |
| | 63 V | 12 A | - 16 | - 16 |

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|---|---|---|---|---|
| keine | | | | |
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**EAC-RoHS**
Approval ID: RU D-DE.HB35.B.00387

## Classifications

### ECLASS

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

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC001855 |

### UNSPSC

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

## 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 | 8.623 kg CO2e |


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