

# SAC-4PM12MSD/1,0-936/BP-M12FSD - Device connector rear mounting



1557219

<https://www.phoenixcontact.com/us/products/1557219>

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Device connector rear mounting, degree of protection: IP65/IP67/IP69K, cable length: 1 m, number of positions: 4, connection method: Bus line, PROFINET, 1x4xAWG22/7, SF/TQ, black RAL 9005

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1557219                        |
| Packing unit                         | 1 pc                           |
| Minimum order quantity               | 10 pc                          |
| Note                                 | Made to order (non-returnable) |
| Product key                          | ABQDGI                         |
| GTIN                                 | 4046356287883                  |
| Weight per piece (including packing) | 118.5 g                        |
| Weight per piece (excluding packing) | 109.571 g                      |
| Country of origin                    | PL                             |

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## Technical data

### Notes

|                    |   |
|--------------------|---|
| Order information: | Lock nut is included in the scope of delivery |
|--------------------|---|

### Mounting

|               |               |
|---------------|---------------|
| Mounting type | Rear mounting |
|---------------|---------------|

### Product properties

|                     |                                   |
|---------------------|-----------------------------------|
| Product type        | Circular connectors (device side) |
| Application         | Data                              |
| Number of positions | 4                                 |
| Coding              | D                                 |
| Thread type         | M12                               |

### Insulation characteristics

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

### Material specifications

|  |   |
|--|---|
| Flammability rating according to UL 94 | V0  |
| Seal material                          | NBR   |
| Material of grip body                  | TPU, hardly inflammable, self-extinguishing |
| Contact material                       | CuSn  |
| Contact surface material               | Ni/Au                                       |
| Contact carrier material               | PA 6.6                                      |
| Material for screw connection          | Zinc die-cast, nickel-plated                |

### Electrical properties

|                       |  |
|-----------------------|--|
| Nominal voltage $U_N$ | 48 V AC  |
| Nominal current $I_N$ | 4 A (Plug/socket in accordance with IEC 61076-2-101, cable technical data is to be observed) |

### Connection data

#### Conductor connection

|                         |          |
|-------------------------|----------|
| Connection method       | Bus line |
| Contact connection type | Pin      |

### Mechanical properties

#### Mechanical data

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

### Connector

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## Connection 1

|             |  |
|-------------|--|
| Type        | Flush-type male connector straight M12 |
| Coding type | D (Data)                               |

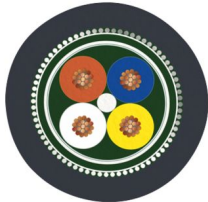
## Connection 2

|             |                                 |
|-------------|---------------------------------|
| Type        | Flush-type female connector M12 |
| Coding type | D (Data)                        |

## Cable/line

|              |        |
|--------------|--------|
| Cable length | 1.00 m |
|--------------|--------|

### PROFINET RADOX® railway application CAT5 reinforced [936]

|                                 |   |
|---------------------------------|---|
| Dimensional drawing             |  |
| Cable weight                    | 81 g/m  |
| Number of positions             | 4   |
| Shielded                        | yes   |
| Cable type                      | PROFINET RADOX® railway application CAT5 reinforced [936]                           |
| Conductor structure             | 1x4xAWG22/7, SF/TQ  |
| Signal speed                    | 66 c  |
| Conductor structure signal line | 7x 0.25 mm  |
| AWG signal line                 | 22  |
| Conductor cross-section         | 4x 0.34 mm <sup>2</sup>   |
| Wire diameter incl. insulation  | 1.95 mm   |
| External cable diameter         | 7.25 mm ±0.3 mm   |
| Outer sheath, material          | PE-X  |
| External sheath, color          | black RAL 9005  |
| Conductor material              | silver-plated Cu litz wires   |
| Material wire insulation        | PE-X  |
| Single wire, color              | white-blue, orange-yellow   |
| Thickness, outer sheath         | ≥ 0.80 mm   |
| Overall twist                   | Star quad   |
| Optical shield covering         | 100 %   |
| Max. conductor resistance       | ≤ 54.4 Ω/km   |
| Coupling resistance             | 200.00 mΩ/m (f ≤ 30 MHz)  |
| Wave impedance                  | 100 Ω ±5 Ω (f = 100 MHz)  |
| Working capacitance             | ≤ 65 pF (Line-line)   |

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|   |  |
|---|--|
|   | ≤ 100 pF (Line-shield)                               |
| Nominal voltage, cable                        | 300 V AC   |
| Test voltage                                  | 2000 V AC (50 Hz, 5 minutes)                         |
| Minimum bending radius, fixed installation    | 6 x D  |
| Minimum bending radius, flexible installation | 10 x D   |
| Smallest bending radius, fixed installation   | 44 mm  |
| Smallest bending radius, movable installation | 73 mm  |
| Near end crosstalk attenuation (NEXT)         | 80 dB (with 1 MHz)                                   |
|   | 76 dB (at 4 MHz)                                     |
|   | 67 dB (at 10 MHz)                                    |
|   | 60 dB (at 31.5 MHz)                                  |
|   | 56 dB (at 62.5 MHz)                                  |
|   | 53 dB (at 100 MHz)                                   |
| Return attenuation (RL)                       | 35 dB (at 4 MHz)                                     |
|   | 35 dB (at 10 MHz)                                    |
|   | 35 dB (at 31.5 MHz)                                  |
|   | 33 dB (at 62.5 MHz)                                  |
|   | 33 dB (at 100 MHz)                                   |
| Remote crosstalk attenuation (FEXT)           | 80 dB (with 1 MHz)                                   |
|   | 70 dB (at 4 MHz)                                     |
|   | 65 dB (at 10 MHz)                                    |
|   | 58 dB (at 31.5 MHz)                                  |
|   | 59 dB (at 62.5 MHz)                                  |
|   | 67 dB (at 100 MHz)                                   |
| Shield attenuation                            | 2 dB (with 1 MHz)                                    |
|   | 4 dB (at 4 MHz)                                      |
|   | 6.5 dB (at 10 MHz)                                   |
|   | 10.5 dB (at 31.5 MHz)                                |
|   | 14 dB (at 62.5 MHz)                                  |
|   | 18 dB (at 100 MHz)                                   |
|   | 40.00 dB (30 MHz ≤ f ≤ 100 MHz)                      |
| Halogen-free                                  | in accordance with EN 50267-2-1                      |
| Flame resistance                              | IEC 60332-1-2  |
|   | EN 50266   |
|   | EN 60332-3-25  |
|   | NF C32-070, 2.1                                      |
|   | NF C32-070, 2.2                                      |
|   | UL 1685, 12 (FT4)                                    |
|   | in accordance with ISO 6722-1 5.22 (UN ECE-R 118.01) |
| Fume corrosiveness                            | EN 50267-2-2   |
| Fume toxicity                                 | BS 6853 B.1  |
|   | EN 50305, 9.2  |

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|                                      |  |
|--------------------------------------|--|
| Concentration of fumes               | BS 6853 D.8.7  |
|                                      | EN 61034-2   |
|                                      | UL 1685, 12 (FT4)  |
| Resistance to oil                    | according to IRM 902, 72 h at 100 °C                       |
| Fire protection in rail vehicles     | BS 6853 (Category Ia, Ib, II)                              |
|                                      | GM/RT 2130 (Category Ia, Ib, II)                           |
|                                      | EN 45545 (Risk level HL1 - HL3)                            |
|                                      | DIN 5510 (Fire protection level 1, 2, 3, 4)                |
|                                      | NF F16-101 (Category A1, A2, B)                            |
|                                      | NF F16-101 (Class C/F0)                                    |
|                                      | NFPA 130   |
| UNI CEI 11170 (Risk level LR1 - LR4) |  |
| Other resistance                     | Resistance to fuels (according to IRM 903, 168 h at 70 °C) |
| Ambient temperature (operation)      | -50 °C ... 90 °C (cable, fixed installation)               |
|                                      | -40 °C ... 90 °C (Cable, flexible installation)            |

## Environmental and real-life conditions

### Ambient conditions

|   |   |
|---|---|
| Degree of protection  | IP65  |
|   | IP67  |
|   | IP65/IP67/IP69K                                 |
| Ambient temperature (operation) (male connector/female connector) | -25 °C ... 90 °C (Plug / socket)                |
| Ambient temperature (operation) (Cable, fixed installation)       | -40 °C ... 90 °C (cable, fixed installation)    |
| Ambient temperature (operation) (Cable, flexible installation)    | -25 °C ... 90 °C (Cable, flexible installation) |

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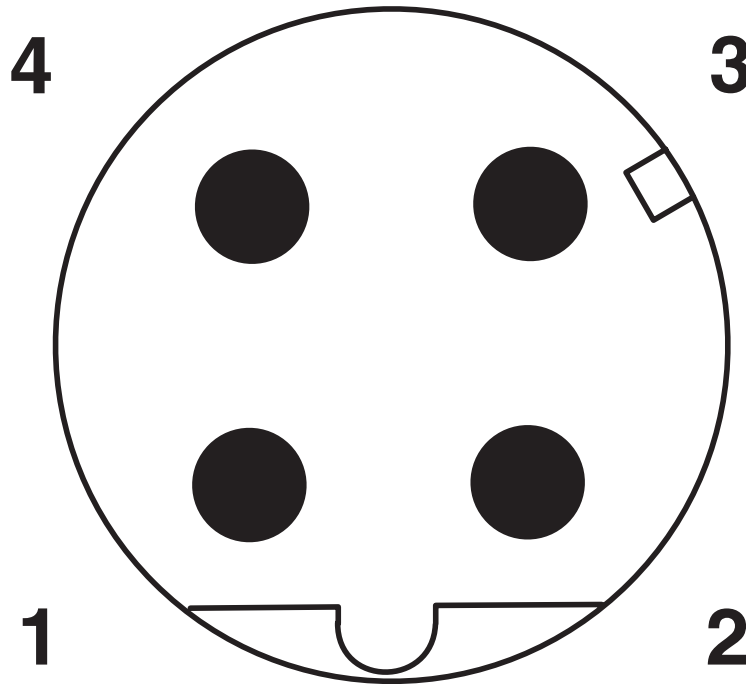


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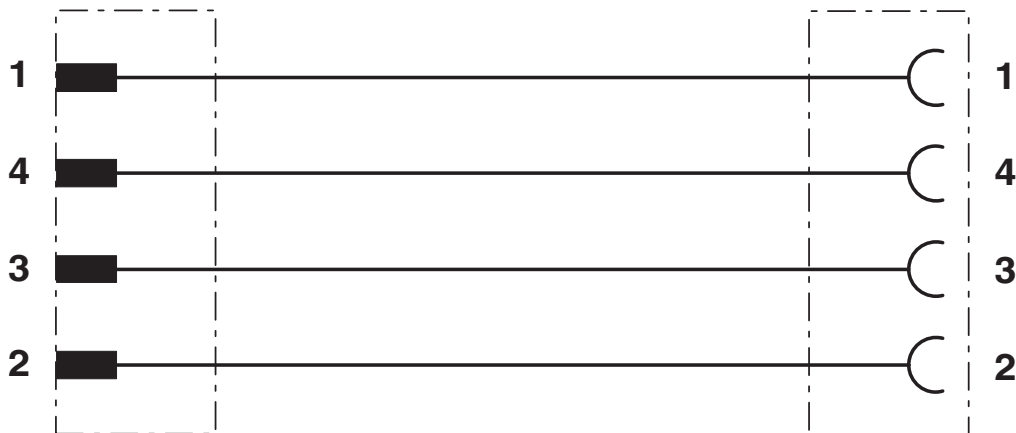
## Drawings

Schematic diagram



Pin assignment M12 male connector, 4-pos., D-coded, male side

Circuit diagram



Circuit diagram

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1557219>



**EAC**

Approval ID: 19060508

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27060311 |
| ECLASS-15.0 | 27060311 |

### 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  |
| Exemption                               | 6(c) |

### 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.) | Lead(CAS: 7439-92-1)                 |
| SCIP                                | 7930f33e-a315-4077-b357-f3acc2a918ab |

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