

### Mechanical and electrical data

#### Mechanical data

|                                    |   |
|------------------------------------|---|
| Housing material:                  | Copper zinc alloy (CuZn), die-cast zinc (GD-Zn)                                   |
| Housing surface:                   | Nickel-plated/thick layer passivated (can be coated)                              |
| Insulating body:                   | Polyamide (PA 66)   |
| Contact material:                  | Copper zinc alloy (CuZn)  |
| Contact surface:                   | Nickel-plated (Ni) with gold coating (Au)   |
| Contact connection method:         | Crimp version   |
| Sealing and O-ring:                | Fluorocarbon rubber (FKM)   |
| Ambient temperature:               | -40°C ... 130°C   |
| Cable entry:                       | Cable and coupler connectors for an outer cable diameter of 7.5 - 18 mm, shielded |
| Type of locking:                   | M23 SPEEDCON screw locking  |
| Mech. insertion/withdrawal cycles: | Default: 100  |
| Protection class:                  | IP67 when locked  |

#### Electrical data

| Number of positions                                  |                       | 13 (4+4+4+PE), CAT5 |              |              |              | 13 (8+4+PE)  |              |              |              |   |     |   |     |
|--|-----------------------|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---|-----|---|-----|
| Contacts   |                       | 4                   | +            | 4            | +            | 4            | +            | PE           | 8            | + | 4   | + | PE  |
| Contact Ø  | [mm]                  | 0.8                 |              | 1.0          |              | 2.0          |              | 2.0          | 1.0          |   | 2.0 |   | 2.0 |
| <b>Litz wire cross sections</b>                      |                       |                     |              |              |              |              |              |              |              |   |     |   |     |
| Cable and coupler connectors:                        |                       |                     |              |              |              |              |              |              |              |   |     |   |     |
|  | Max. cable Ø of 18 mm | [mm <sup>2</sup> ]  | 0.08 ... 0.5 | 0.06 ... 1.0 | 0.25 ... 4.0 | 0.25 ... 4.0 | 0.06 ... 1.0 | 0.25 ... 4.0 | 0.25 ... 4.0 |   |     |   |     |
| Device connectors:                                   |                       | [mm <sup>2</sup> ]  | 0.08 ... 0.5 | 0.06 ... 1.0 | 0.25 ... 4.0 | 0.25 ... 4.0 | 0.06 ... 1.0 | 0.25 ... 4.0 | 0.25 ... 4.0 |   |     |   |     |
| Nominal current per contact at 25°C <sup>1)</sup>    |                       |                     | 3.6          | 8            | 30           | -            | 8            | 30           | -            |   |     |   |     |
| <b>Specifications according to DIN EN 61984:2009</b> |                       |                     |              |              |              |              |              |              |              |   |     |   |     |
| Rated voltage  | [V AC/DC]             | 50                  | 50           | 630/850      | -            | 50           | 630/850      | -            |              |   |     |   |     |
| Test/surge voltage                                   | [kV AC]               | 1.5                 | 1.5          | 6            | -            | 1.5          | 6            | -            |              |   |     |   |     |
| Surge voltage category                               |                       |                     | III          |              |              |              | III          |              |              |   |     |   |     |
| Pollution degree <sup>2)</sup>                       |                       |                     | 3            |              |              |              | 3            |              |              |   |     |   |     |
| Installation height                                  |                       | [m]                 | Up to 3000   |              |              |              | Up to 3000   |              |              |   |     |   |     |
| Cable clamping area <sup>3)</sup>                    |                       | Max. Ø [mm]         | 18           |              |              |              | 18           |              |              |   |     |   |     |

<sup>1)</sup> The effective current carrying capacity must be determined using a derating curve, if necessary, according to the application.

<sup>2)</sup> The values specified assume that the connector pair is correctly locked and is only disconnected for testing and maintenance purposes. If the connector is unlocked and exposed to ambient conditions, and if there is a danger of pollution, the connector must be sealed using a protective cap ≥ IP54.

<sup>3)</sup> The cable clamping areas specified on the following pages may vary depending on the cable material/structure. Selection and testing is the responsibility of the user.

| Contact chamber numbering<br>(view of plug-in side) |     |  |        |  |
|---|-----|--|--------|--|
| Number of positions                                 | Pin |  | Socket |  |
| 13-pos., CAT5<br>(4 + 4 + 4 + PE)<br>Crimp          |     |  |        |  |
| 13-pos.<br>(8 + 4 + PE)<br>Crimp                    |     |  |        |  |

# Connectors

## M23 - hybrid connectors

### Selection guide

M23 hybrid connectors up to 30 A/630 V AC/850 V DC, crimp ranges up to 4 mm<sup>2</sup>

- Cable connectors
- Coupler connectors
- Device connectors (device flanges)

The connectors are supplied pre-assembled and are complemented by the respective crimp contacts.

The product chart provides an overview of the available components.

### Connector type

#### Cable connectors

SPEEDCON fast locking system, see page 104.

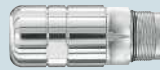
M23 x 1 standard interlocking, see page 105.



Shielded

#### Coupler connectors

See page 106.



Shielded

#### Device connectors

Straight, see page 107.



Angled, rotatable, flange dimensions: 26 mm x 26 mm, see page 108.



Angled, rotatable, flange dimensions: 28 mm x 28 mm, see page 108.



Shielded

## Crimp contacts

## Socket contacts

Turned, see page 109.



## Tools/accessories

Crimping pliers with digital display for turned crimp contacts, see page 159.



All housings can be fitted with pin or socket crimp contacts

## Pin contacts

Turned, see page 109.



## Accessories

Color rings for individually marking the connectors, see page 164.

**Note:**

For reasons of safety, only socket contacts may be used in the live part of the connector.

# Connectors

## M23 - hybrid connectors

### M23 cable connector, hybrid, SPEEDCON fast locking system

- 4 x power + PE, 4 x signal, 4 x data
- 4 x power + PE, 8 x signal

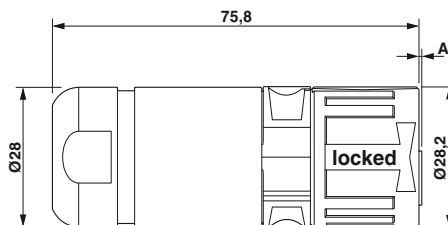


Cable connector, socket assembly



Cable connector, pin assembly

| Description  | Cable clamping area | Ordering data           |             |            |             | Ordering data           |             |            |             |
|--|---------------------|-------------------------|-------------|------------|-------------|-------------------------|-------------|------------|-------------|
|  |                     | Order No.               | Pcs. / Pkt. | Order No.  | Pcs. / Pkt. | Order No.               | Pcs. / Pkt. | Order No.  | Pcs. / Pkt. |
|  |                     | 4 x signal + CAT5       |             | 8 x signal |             | 4 x signal + CAT5       |             | 8 x signal |             |
| <b>Cable connector</b> , with contact carrier, <b>without</b> contacts, crimp connection |                     |                         |             |            |             |                         |             |            |             |
| Universal gasket   | 7.5 mm ... 18 mm    | 1621517                 | 1           | 1621524    | 1           | 1621529                 | 1           | 1621534    | 1           |
|  | 7.5 mm ... 9 mm     | 1621520                 | 1           | 1621525    | 1           | 1621530                 | 1           | 1621535    | 1           |
|  | 9 mm ... 12 mm      | 1621521                 | 1           | 1621526    | 1           | 1621531                 | 1           | 1621536    | 1           |
|  | 12 mm ... 15 mm     | 1621522                 | 1           | 1621527    | 1           | 1621532                 | 1           | 1621537    | 1           |
|  | 15 mm ... 18 mm     | 1621523                 | 1           | 1621528    | 1           | 1621533                 | 1           | 1621538    | 1           |
|  |                     | Accessories             |             |            |             | Accessories             |             |            |             |
| Crimp contacts   |                     | See page 109            |             |            |             | See page 109            |             |            |             |
| Color rings, 50 pcs. in set (to be ordered separately)                                   |                     | See Catalog 2, page 367 |             |            |             | See Catalog 2, page 367 |             |            |             |



Pin version: dimension A = 0.2 mm, socket version: dimension A = 0 mm

**M23 cable connector, hybrid, standard interlocking**

- 4 x power + PE, 4 x signal, 4 x data
- 4 x power + PE, 8 x signal

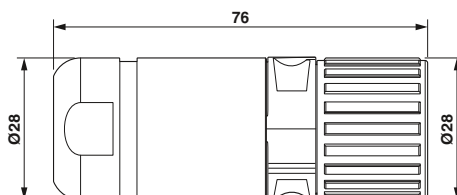


**Cable connector, socket assembly**



**Cable connector, pin assembly**

|  |                     | Ordering data           |             |            |             | Ordering data           |             |            |             |
|--|---------------------|-------------------------|-------------|------------|-------------|-------------------------|-------------|------------|-------------|
| Description  | Cable clamping area | Order No.               | Pcs. / Pkt. | Order No.  | Pcs. / Pkt. | Order No.               | Pcs. / Pkt. | Order No.  | Pcs. / Pkt. |
|  |                     | 4 x signal + CAT5       |             | 8 x signal |             | 4 x signal + CAT5       |             | 8 x signal |             |
| <b>Cable connector, with contact carrier, without contacts, crimp connection</b> |                     |                         |             |            |             |                         |             |            |             |
| Universal gasket   | 7.5 mm ... 18 mm    | 1621997                 | 1           | 1622002    | 1           | 1622007                 | 1           | 1622012    | 1           |
|  | 7.5 mm ... 9 mm     | 1621998                 | 1           | 1622003    | 1           | 1622008                 | 1           | 1622013    | 1           |
|  | 9 mm ... 12 mm      | 1621999                 | 1           | 1622004    | 1           | 1622009                 | 1           | 1622014    | 1           |
|  | 12 mm ... 15 mm     | 1622000                 | 1           | 1622005    | 1           | 1622010                 | 1           | 1622015    | 1           |
|  | 15 mm ... 18 mm     | 1622001                 | 1           | 1622006    | 1           | 1622011                 | 1           | 1622016    | 1           |
|  |                     | Accessories             |             |            |             | Accessories             |             |            |             |
| <b>Crimp contacts</b>  |                     | See page 109            |             |            |             | See page 109            |             |            |             |
| <b>Color rings, 50 pcs. in set (to be ordered separately)</b>                    |                     | See Catalog 2, page 367 |             |            |             | See Catalog 2, page 367 |             |            |             |



# Connectors

## M23 - hybrid connectors

### M23 coupler connector, hybrid

- 4 x power + PE, 4 x signal, 4 x data
- 4 x power + PE, 8 x signal

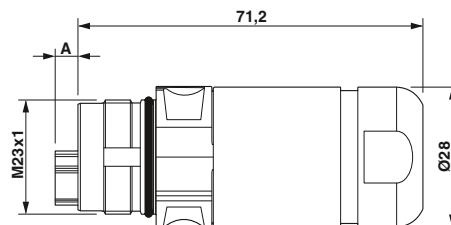


Coupler connector,  
socket assembly



Coupler connector,  
pin assembly

| Description  | Cable clamping area | Ordering data           |             |            |             | Ordering data           |             |            |             |
|--|---------------------|-------------------------|-------------|------------|-------------|-------------------------|-------------|------------|-------------|
|  |                     | Order No.               | Pcs. / Pkt. | Order No.  | Pcs. / Pkt. | Order No.               | Pcs. / Pkt. | Order No.  | Pcs. / Pkt. |
|  |                     | 4 x signal + CAT5       |             | 8 x signal |             | 4 x signal + CAT5       |             | 8 x signal |             |
| <b>Coupler connector, with contact carrier, without contacts, crimp connection</b> |                     |                         |             |            |             |                         |             |            |             |
| Universal gasket   | 7.5 mm ... 18 mm    | 1621539                 | 1           | 1621544    | 1           | 1621549                 | 1           | 1621554    | 1           |
|  | 7.5 mm ... 9 mm     | 1621540                 | 1           | 1621545    | 1           | 1621550                 | 1           | 1621555    | 1           |
|  | 9 mm ... 12 mm      | 1621541                 | 1           | 1621546    | 1           | 1621551                 | 1           | 1621556    | 1           |
|  | 12 mm ... 15 mm     | 1621542                 | 1           | 1621547    | 1           | 1621552                 | 1           | 1621557    | 1           |
|  | 15 mm ... 18 mm     | 1621543                 | 1           | 1621548    | 1           | 1621553                 | 1           | 1621558    | 1           |
|  |                     | Accessories             |             |            |             | Accessories             |             |            |             |
| Crimp contacts   |                     | See page 109            |             |            |             | See page 109            |             |            |             |
| Color rings, 50 pcs. in set (to be ordered separately)                             |                     | See Catalog 2, page 367 |             |            |             | See Catalog 2, page 367 |             |            |             |



Pin version: dimension A = 4.7 mm, socket version:  
dimension A = 0 mm

**M23 device connector, hybrid, straight**

- 4 x power + PE, 4 x signal, 4 x data
- 4 x power + PE, 8 x signal

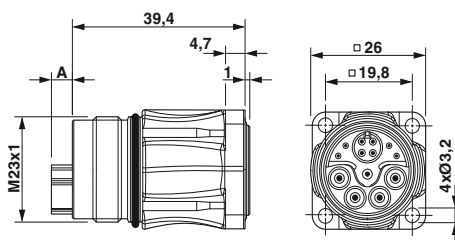


Device connector, straight, socket assembly

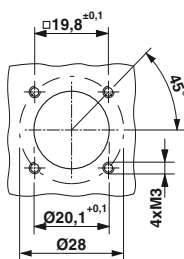


Device connector, straight, pin assembly

| Description  | Ordering data     |   |            |             | Ordering data     |   |            |             |  |
|--|-------------------|---|------------|-------------|-------------------|---|------------|-------------|--|
|  | Order No.         | Pcs. / Pkt.                             | Order No.  | Pcs. / Pkt. | Order No.         | Pcs. / Pkt.                             | Order No.  | Pcs. / Pkt. |  |
| Device connector, with contact carrier, without contacts | 4 x signal + CAT5 |   | 8 x signal |             | 4 x signal + CAT5 |   | 8 x signal |             |  |
| Flange dimensions: 26 mm x 26 mm                         | 1621567           | 1                                       | 1621568    | 1           | 1621569           | 1                                       | 1621570    | 1           |  |
| Crimp contacts   |                   | Accessories                             |            |             |                   | Accessories                             |            |             |  |
| Color rings, 50 pcs. in set (to be ordered separately)   |                   | See page 109<br>See Catalog 2, page 367 |            |             |                   | See page 109<br>See Catalog 2, page 367 |            |             |  |



Pin version: dimension A = 4.75 mm, socket version: dimension A = 0 mm



Installation dimensions



# Connectors

## M23 - hybrid connectors

### M23 device connector, hybrid, angled, rotatable

- 4 x power + PE, 4 x signal, 4 x data
- 4 x power + PE, 8 x signal
- Housing can be freely rotated by 310°

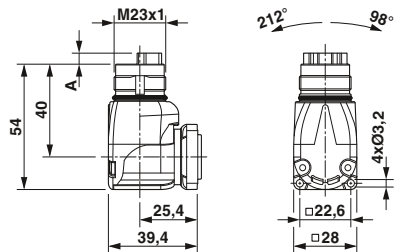


Device connector, angled, rotatable, socket assembly

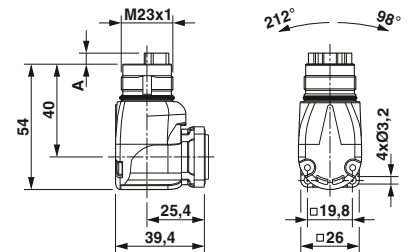


Device connector, angled, rotatable, pin assembly

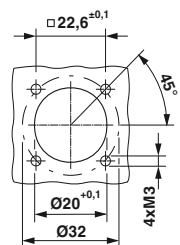
| Description   | Ordering data           |             |            |             | Ordering data           |             |            |             |
|---|-------------------------|-------------|------------|-------------|-------------------------|-------------|------------|-------------|
|   | Order No.               | Pcs. / Pkt. | Order No.  | Pcs. / Pkt. | Order No.               | Pcs. / Pkt. | Order No.  | Pcs. / Pkt. |
| <b>Device connector</b> , with contact carrier, <b>without</b> contacts | 4 x signal + CAT5       |             | 8 x signal |             | 4 x signal + CAT5       |             | 8 x signal |             |
| Flange dimensions: 26 mm x 26 mm  | 1621563                 | 1           | 1621564    | 1           | 1621565                 | 1           | 1621566    | 1           |
| <b>Device connector</b> , with contact carrier, <b>without</b> contacts | 4 x signal + CAT5       |             | 8 x signal |             | 4 x signal + CAT5       |             | 8 x signal |             |
| Flange dimensions: 28 mm x 28 mm  | 1621559                 | 1           | 1621560    | 1           | 1621561                 | 1           | 1621562    | 1           |
|   | Accessories             |             |            |             | Accessories             |             |            |             |
| <b>Crimp contacts</b>   | See page 109            |             |            |             | See page 109            |             |            |             |
| <b>Color rings, 50 pcs. in set (to be ordered separately)</b>           | See Catalog 2, page 367 |             |            |             | See Catalog 2, page 367 |             |            |             |



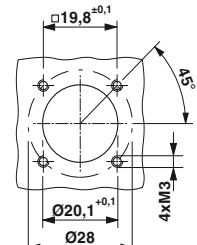
Pin version: dimension A = 4.7 mm, socket version: dimension A = 0 mm



Pin version: dimension A = 4.7 mm, socket version: dimension A = 0 mm



Installation dimensions



Installation dimensions

## Crimp contacts



Crimp contacts, socket



Crimp contacts, pin

| Description               | Connection cross section [mm <sup>2</sup> ]   | Ordering data |           |             | Ordering data |           |             |
|---------------------------|---|---------------|-----------|-------------|---------------|-----------|-------------|
|                           |   | Type          | Order No. | Pcs. / Pkt. | Type          | Order No. | Pcs. / Pkt. |
| <b>Contacts, Ø 0.8 mm</b> | 0.08 mm <sup>2</sup> ... 0.25 mm <sup>2</sup> | SF-08KS010    | 1621571   | 100         | SF-08KP010    | 1621574   | 100         |
|                           | 0.34 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>  | SF-08KS020    | 1621573   | 100         | SF-08KP020    | 1621575   | 100         |
| <b>Contacts, Ø 1.0 mm</b> | 0.06 mm <sup>2</sup> ... 0.25 mm <sup>2</sup> | ST-10KS010    | 1618239   | 100         | ST-10KP010    | 1618255   | 100         |
|                           | 0.34 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>  | ST-10KS020    | 1618251   | 100         | ST-10KP020    | 1618256   | 100         |
|                           | 0.5 mm <sup>2</sup> ... 1.0 mm <sup>2</sup>   | ST-10KS030    | 1618254   | 100         | ST-10KP030    | 1618261   | 100         |
| <b>Contacts, Ø 2.0 mm</b> | 0.25 mm <sup>2</sup> ... 1.0 mm <sup>2</sup>  | SF-20KS021    | 1621576   | 50          | SF-20KP021    | 1621579   | 50          |
|                           | 1.0 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>   | SF-20KS022    | 1621577   | 50          | SF-20KP022    | 1621580   | 50          |
|                           | 2.5 mm <sup>2</sup> ... 4.0 mm <sup>2</sup>   | SF-20KS023    | 1621578   | 50          | SF-20KP023    | 1621581   | 50          |

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