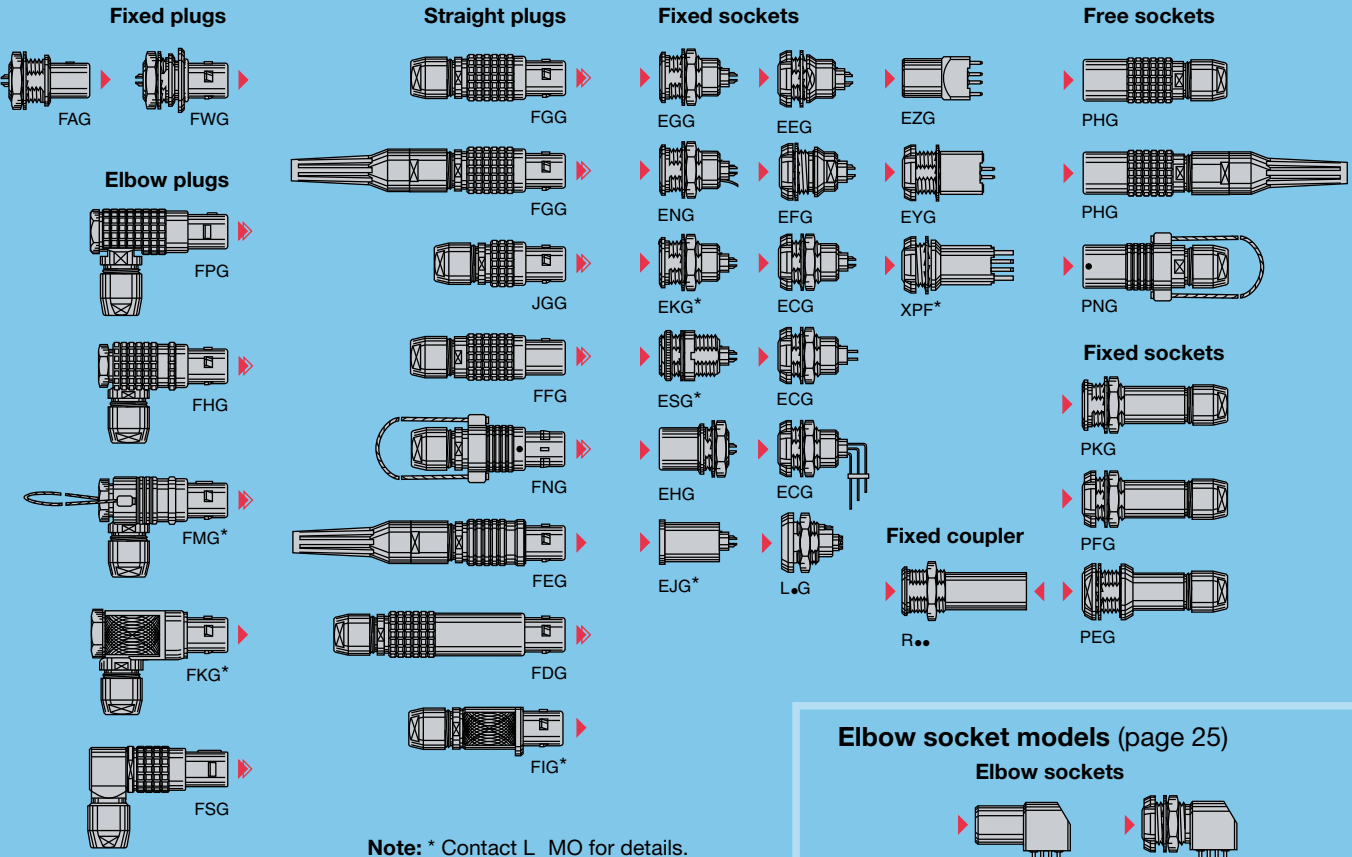


# B Series

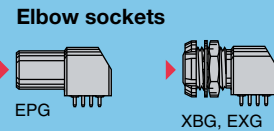
B series connectors provide the following main features:

- security of the Push-Pull self-latching system
- solder, crimp or print contacts (straight or elbow)
- multiple key options to avoid cross mating of similar connectors
- 360° screening for full MC shielding.
- multipole types 2 to 64 contacts
- high packing density for space savings
- keying system («G» key standard) for connector alignment

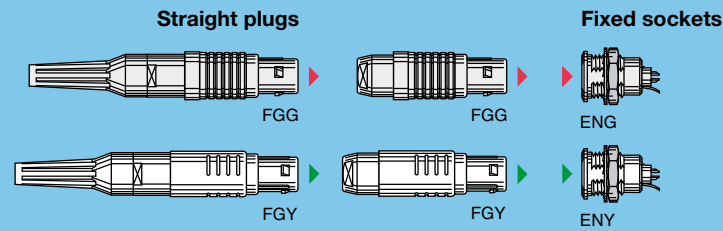
## Metal housing models (page 14)



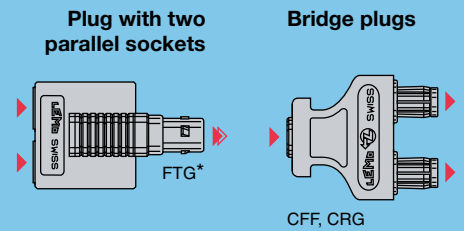
## Elbow socket models (page 25)



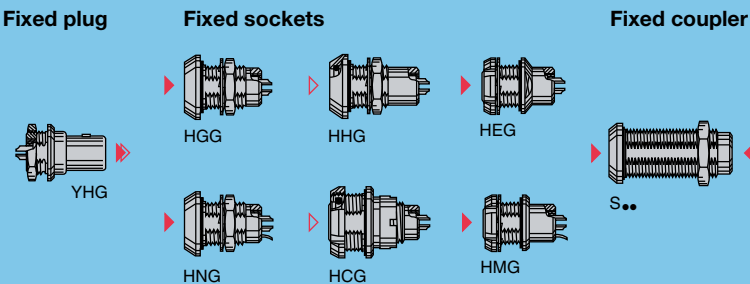
## Plastic housing models (page 28)



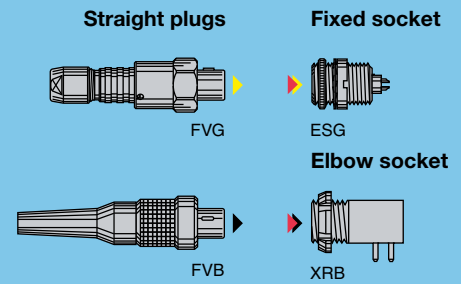
## Bridge models (page 34)



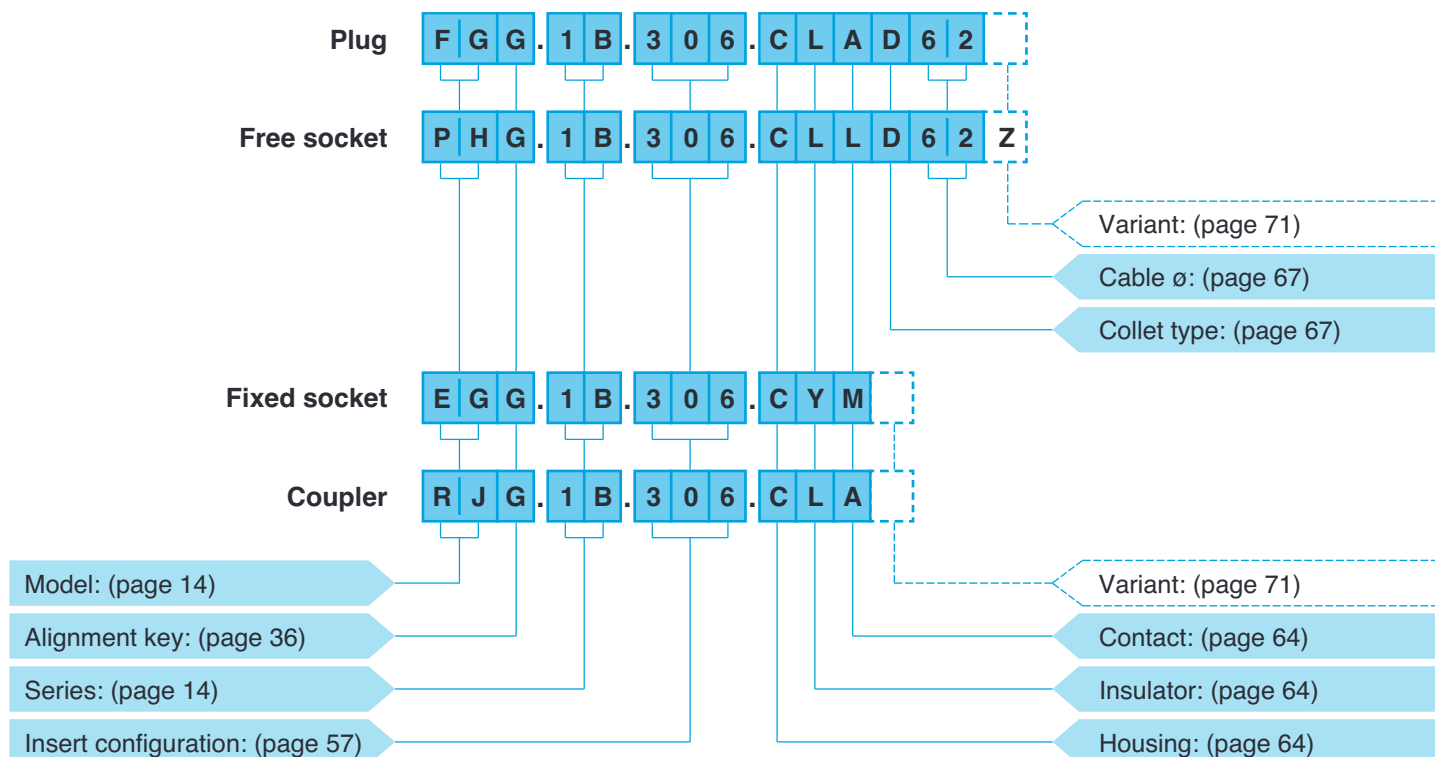
## Watertight or vacuumtight models (page 30)



## Threaded-latching models (page 35)



## Part Numbering System



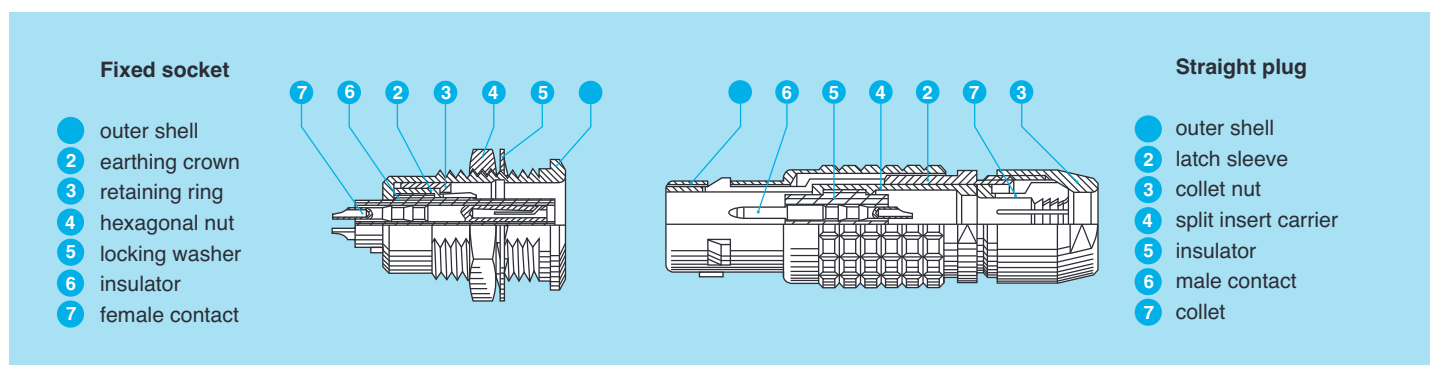
**FGG.1B.306.CLAD62** = straight plug with key (G) and cable collet, 1B series, multipole type with 6 contacts, outer shell in chrome-plated brass, PEEK insulator, male solder contacts, D type collet for 6.0 mm diameter cable.

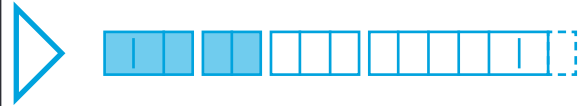
**PHG.1B.306.CLLD62Z** = free socket with key (G) and cable collet, 1B series, multipole type with 6 contacts, outer shell in chrome-plated brass, PEEK insulator, female solder contacts, D type collet for 6.0 mm diameter cable and nut for fitting a bend relief.

**EGG.1B.306.CYM** = fixed socket, nut fixing, with key (G), 1B series, multipole type with 6 contacts, outer shell in chrome-plated brass, PEEK extended insulator, female crimp contacts.

**RJG.1B.306.CLA** = straight fixed coupler with keys (J) at the flange end and key (G) at the other end, 1B series, multipole type with 6 contacts, outer shell in chrome-plated brass, PEEK insulator, male-female contacts.

## Part Section Showing Internal Components





## Metal housing models

### Technical Characteristics

#### Mechanical and Climatical

| Characteristics                         | Value                       | Standard             |
|---|-----------------------------|----------------------|
| Endurance <sup>1)</sup>                 | > 5000 cycles <sup>2)</sup> | IEC 60512-5 test 9a  |
| Humidity                                | up to 95% at 60° C          |                      |
| Temperature range                       | - 55° C, + 250° C           |                      |
| Resistance to vibrations                | 10-2000 Hz, 15g             | IEC 60512-4 test 6d  |
| Shock resistance                        | 100 g, 6 ms                 | IEC 60512-4 test 6c  |
| Salt spray corrosion test <sup>3)</sup> | > 1000h                     | IEC 60512-6 test 11f |
| Protection index (mated)                | IP 50                       | IEC 60529            |
| Climatical category                     | 55/175/21                   | IEC 60068-1          |

#### Electrical

| Characteristics      | Value     | Standard |               |
|----------------------|-----------|----------|---------------|
| Shielding efficiency | at 10 MHz | > 75 dB  | IEC 60169-1-3 |
|                      | at 1 GHz  | > 40 dB  | IEC 60169-1-3 |

#### Note:

the various tests have been carried out with FGG and EGG connector pairs, with chrome-plated brass shell and PEEK insulator.

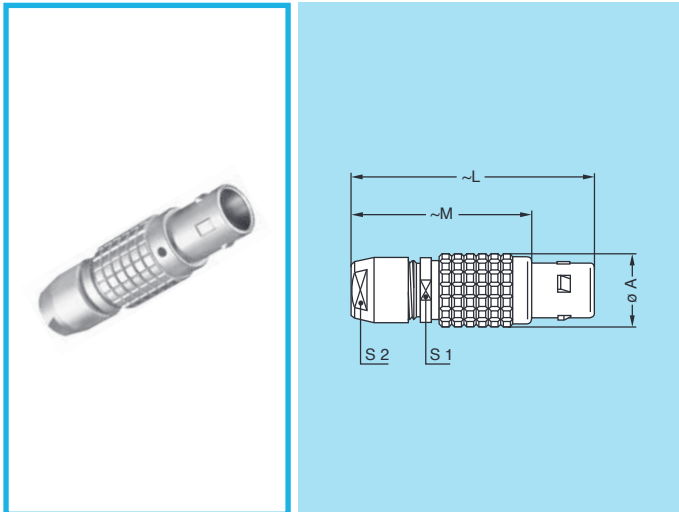
Detailed electrical characteristics, as well as materials and treatment are presented in the chapter Technical Characteristics on page 182.

<sup>1)</sup> see page 189, contact resistance after mating cycles. See page 185, mechanical endurance latching force.

<sup>2)</sup> 1000 cycles for FEG models.

<sup>3)</sup> for chrome plated product («C» material code).

### FGG Straight plug, key (G) or keys (A...M and R), cable collet

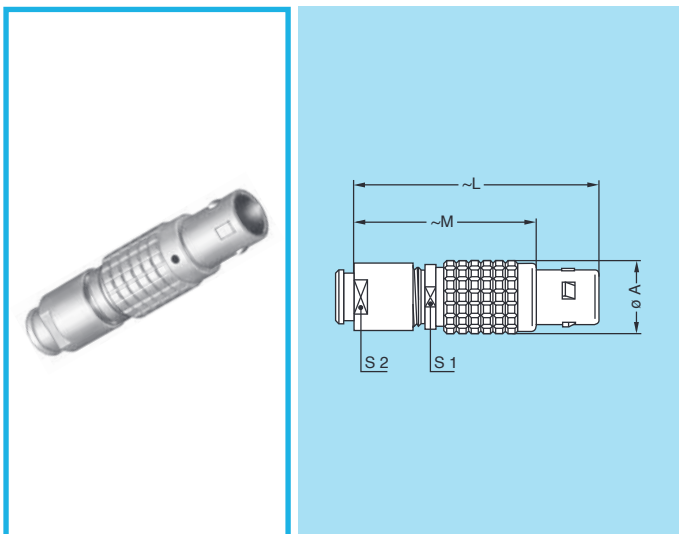


| Reference |                  | Dimensions (mm) |       |      |      |    |
|-----------|------------------|-----------------|-------|------|------|----|
| Model     | Series           | A               | L     | M    | S1   | S2 |
| FGG       | 00 <sup>1)</sup> | 6.4             | 28.5  | 20.5 | 5.5  | 5  |
| FGG       | 0B               | 9.5             | 36.0  | 26.0 | 8.0  | 7  |
| FGG       | 1B               | 12.0            | 43.0  | 32.0 | 10.0 | 9  |
| FGG       | XB               | 13.0            | 44.0  | 33.5 | 11.0 | 10 |
| FGG       | 2B               | 15.0            | 50.0  | 38.0 | 13.0 | 12 |
| FGG       | 3B               | 18.0            | 58.0  | 43.0 | 15.0 | 14 |
| FGG       | 4B               | 25.0            | 75.0  | 57.0 | 21.0 | 20 |
| FGG       | 5B               | 35.0            | 103.0 | 78.0 | 31.0 | 30 |

**M1** Cable assembly (page 169)

**Note:** <sup>1)</sup> the surface design of the 00 series is different.

### FGG Straight plug, key (G) or keys (A...M), cable collet and nut for fitting a bend relief <sup>2)</sup>



| Reference |                  | Dimensions (mm) |      |      |      |    |
|-----------|------------------|-----------------|------|------|------|----|
| Model     | Series           | A               | L    | M    | S1   | S2 |
| FGG       | 00 <sup>1)</sup> | 6.4             | 28.7 | 20.7 | 5.5  | 6  |
| FGG       | 0B               | 9.5             | 35.0 | 25.0 | 8.0  | 7  |
| FGG       | 1B               | 12.0            | 42.0 | 31.0 | 10.0 | 9  |
| FGG       | XB               | 13.0            | 47.5 | 37.0 | 11.0 | 10 |
| FGG       | 2B               | 15.0            | 49.0 | 37.0 | 13.0 | 12 |
| FGG       | 3B               | 18.0            | 56.5 | 41.5 | 15.0 | 15 |
| FGG       | 4B               | 25.0            | 71.0 | 53.0 | 21.0 | 20 |

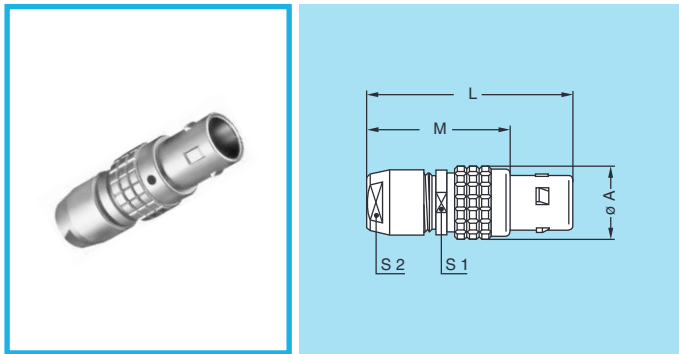
**M1** Cable assembly (page 169)

**Note:** <sup>1)</sup> the surface design of the 00 series is different.

**Note:** <sup>2)</sup> to order, add a «Z» at the end of the reference. The bend relief must be ordered separately (see page 145).



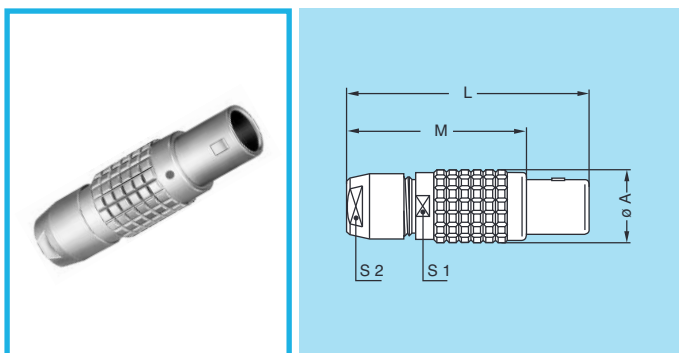
### JGG Straight plug, short version, key G), cable collet



| Reference  |           | Dimensions (mm) |    |    |    |    |
|------------|-----------|-----------------|----|----|----|----|
| Model      | Series    | A               | L  | M  | S1 | S2 |
| <b>JGG</b> | <b>0B</b> | 9.5             | 32 | 22 | 8  | 7  |

**M4** Cable assembly (page 171)

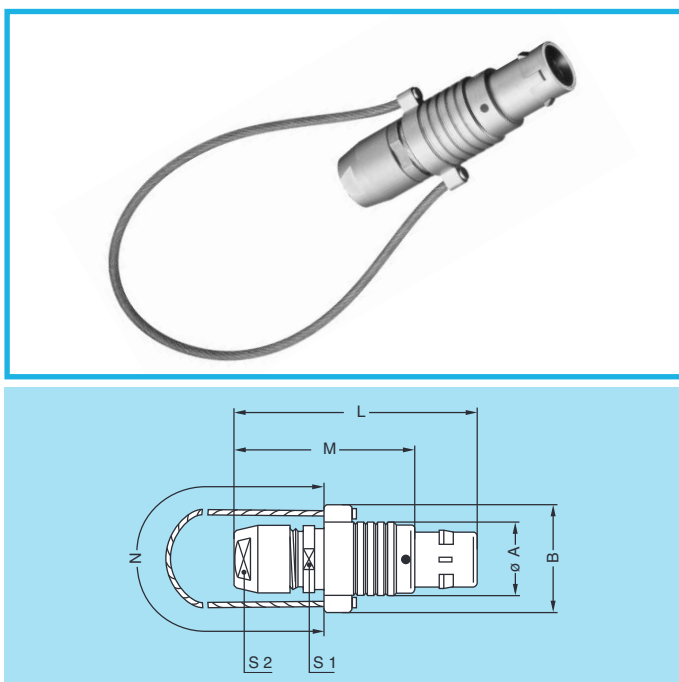
### FFG Straight plug, non-latching, key G) or keys A...M), cable collet



| Reference  |           | Dimensions (mm) |    |    |    |    |
|------------|-----------|-----------------|----|----|----|----|
| Model      | Series    | A               | L  | M  | S1 | S2 |
| <b>FFG</b> | <b>0B</b> | 9.5             | 36 | 26 | 8  | 7  |
| <b>FFG</b> | <b>1B</b> | 12.0            | 43 | 32 | 10 | 9  |
| <b>FFG</b> | <b>2B</b> | 15.0            | 50 | 38 | 13 | 12 |
| <b>FFG</b> | <b>3B</b> | 18.0            | 58 | 43 | 15 | 14 |
| <b>FFG</b> | <b>4B</b> | 25.0            | 75 | 57 | 21 | 20 |

**M1** Cable assembly (page 169)

### FNG Straight plug, key G) or keys A...M and R), cable collet and lanyard release

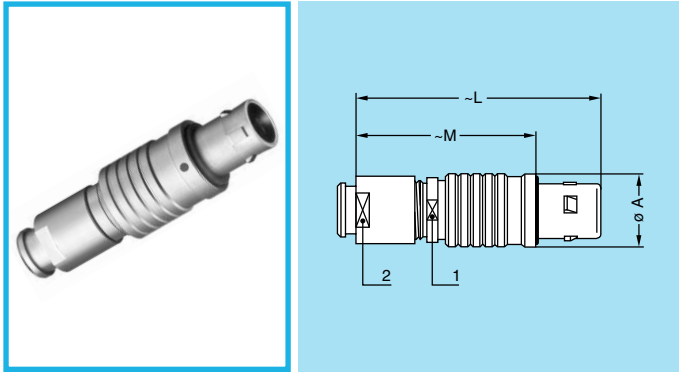


| Reference  |           | Dimensions (mm) |      |       |      |     |    |    |
|------------|-----------|-----------------|------|-------|------|-----|----|----|
| Model      | Series    | A               | B    | L     | M    | N   | S1 | S2 |
| <b>FNG</b> | <b>0B</b> | 9.5             | 15.5 | 36.0  | 26.0 | 140 | 8  | 7  |
| <b>FNG</b> | <b>1B</b> | 12.0            | 18.0 | 43.0  | 32.0 | 140 | 10 | 9  |
| <b>FNG</b> | <b>2B</b> | 15.0            | 21.0 | 49.0  | 37.0 | 160 | 13 | 12 |
| <b>FNG</b> | <b>3B</b> | 18.0            | 25.0 | 58.0  | 43.0 | 190 | 15 | 14 |
| <b>FNG</b> | <b>4B</b> | 25.0            | 32.0 | 75.0  | 57.0 | 230 | 21 | 20 |
| <b>FNG</b> | <b>5B</b> | 35.0            | 42.0 | 103.0 | 78.0 | 300 | 31 | 30 |

**M1** Cable assembly (page 169)

**Note:** cable material: stainless steel with Polyamide sheath.

**FEG** Straight plug, key **G**) or keys **A...L**), cable collet, front seal and nut for fitting a bend relief <sup>1)</sup>  
(IP 54 protection index when mated)

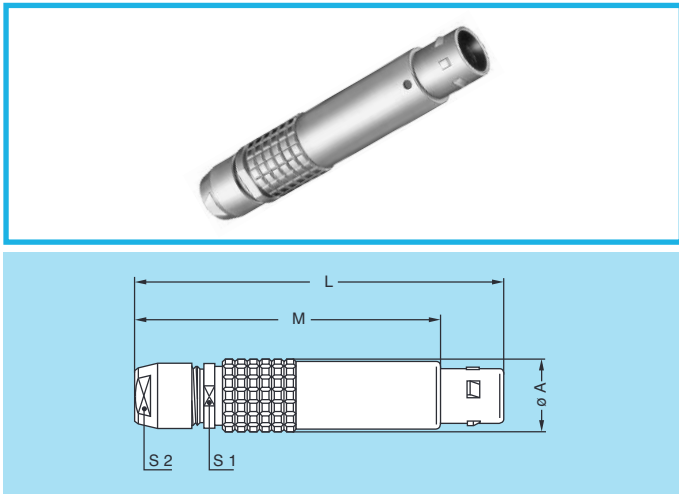


| Reference |        | Dimensions (mm) |      |      |    |    |
|-----------|--------|-----------------|------|------|----|----|
| Model     | Series | A               | L    | M    | S1 | S2 |
| FEG       | 0B     | 11.0            | 35.0 | 25.0 | 8  | 7  |
| FEG       | 1B     | 13.5            | 42.0 | 33.0 | 10 | 9  |
| FEG       | 2B     | 16.5            | 48.0 | 36.0 | 13 | 12 |
| FEG       | 3B     | 19.0            | 56.5 | 41.5 | 15 | 15 |

**M1** Cable assembly (page 169)

**Note:** <sup>1)</sup> to order, add a «Z» at the end of the reference. The bend relief must be ordered separately (see page 145).

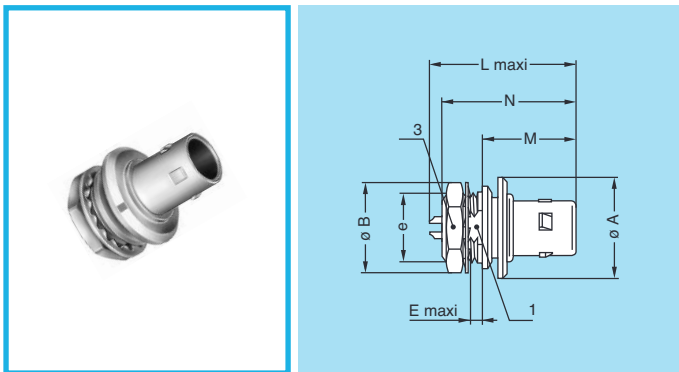
**FDG** Straight plug, long version, key **G**) or keys **A...L**), cable collet



| Reference |        | Dimensions (mm) |    |    |    |    |
|-----------|--------|-----------------|----|----|----|----|
| Model     | Series | A               | L  | M  | S1 | S2 |
| FDG       | 1B     | 12              | 68 | 57 | 10 | 9  |
| FDG       | 2B     | 15              | 79 | 67 | 13 | 12 |

**M2** Cable assembly (page 171)

**FWG** Fixed plug, nut fixing, key **G**) or keys **A...L**)



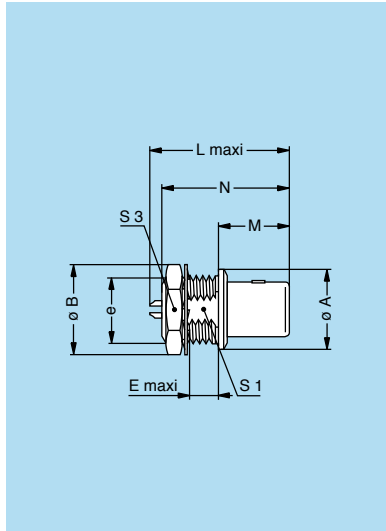
| Reference |        | Dimensions (mm) |      |         |     |      |      |                 |      |    |
|-----------|--------|-----------------|------|---------|-----|------|------|-----------------|------|----|
| Model     | Series | A               | B    | e       | E   | L    | M    | N <sup>1)</sup> | S1   | S3 |
| FWG       | 0B     | 14.0            | 12.4 | M9x0.6  | 1.8 | 22.5 | 14.5 | 19.5            | 8.2  | 11 |
| FWG       | 1B     | 18.0            | 15.8 | M12x1.0 | 2.9 | 24.9 | 17.0 | 24.8            | 10.5 | 14 |
| FWG       | 2B     | 19.5            | 19.2 | M15x1.0 | 4.1 | 28.6 | 18.0 | 27.3            | 13.5 | 17 |
| FWG       | 3B     | 25.0            | 25.0 | M18x1.0 | 4.2 | 32.1 | 23.0 | 31.5            | 16.5 | 22 |

**P9** Panel cut-out (page 157)

**Note:** <sup>1)</sup> maximum length with crimp contacts



### FAG Fixed plug, non-latching, nut fixing, key (G) or keys (A...M and R)



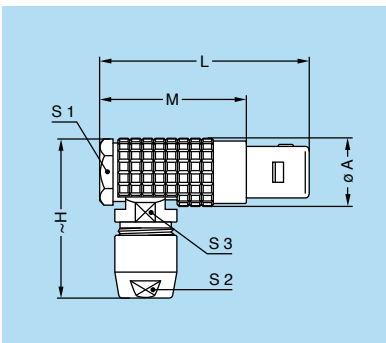
| Reference |        | Dimensions (mm) |      |         |     |      |      |                 |      |    |
|-----------|--------|-----------------|------|---------|-----|------|------|-----------------|------|----|
| Model     | Series | A               | B    | e       | E   | L    | M    | N <sup>1)</sup> | S1   | S3 |
| FAG       | 00     | 8               | 10.2 | M7x0.5  | 2.9 | 18.1 | 9.0  | 15.0            | 6.3  | 9  |
| FAG       | 0B     | 10              | 12.4 | M9x0.6  | 4.2 | 20.8 | 11.5 | 18.9            | 8.2  | 11 |
| FAG       | 1B     | 14              | 15.8 | M12x1.0 | 5.4 | 25.2 | 12.5 | 21.6            | 10.5 | 14 |
| FAG       | 2B     | 18              | 19.2 | M15x1.0 | 6.0 | 28.7 | 13.8 | 23.9            | 13.5 | 17 |
| FAG       | 3B     | 22              | 25.0 | M18x1.0 | 5.8 | 32.1 | 17.0 | 30.2            | 16.5 | 22 |
| FAG       | 4B     | 29              | 34.0 | M25x1.0 | 6.8 | 37.1 | 20.5 | 34.7            | 23.5 | 30 |
| FAG       | 5B     | 40              | 40.0 | M35x1.0 | 6.8 | 47.1 | 28.0 | 42.8            | 33.5 | —  |

**P1** Panel cut-out (page 157)

**Note:** The 5B series is delivered without locking washer or tapered washer and with a round nut.

**Note:** <sup>1)</sup> maximum length with crimp contacts.

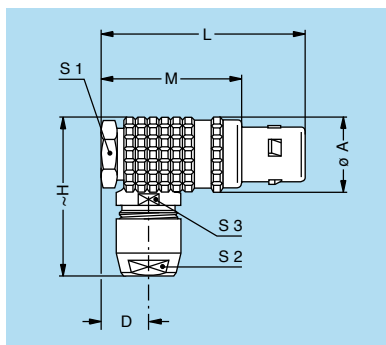
### FPG Elbow (90°) plug, key (G) or keys (A...M and R), cable collet



| Reference |        | Dimensions (mm) |    |      |      |      |    |      |
|-----------|--------|-----------------|----|------|------|------|----|------|
| Model     | Series | A               | H  | L    | M    | S1   | S2 | S3   |
| FPG       | 00     | 7.5             | 18 | 24.5 | 16.5 | 6.5  | 5  | 5.5  |
| FPG       | 0B     | 9.5             | 23 | 30.0 | 20.0 | 8.0  | 7  | 8.0  |
| FPG       | 1B     | 12.0            | 29 | 36.0 | 25.0 | 11.0 | 9  | 10.0 |
| FPG       | 2B     | 15.0            | 35 | 41.5 | 29.5 | 13.5 | 12 | 13.0 |

**M3** Cable assembly (page 169)

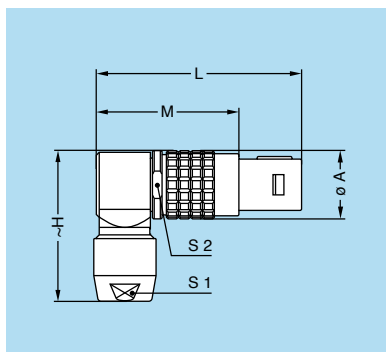
### FHG Elbow (90°) plug, key (G) or keys (A...M and R), cable collet



| Reference |        | Dimensions (mm) |    |    |    |    |    |    |    |  |
|-----------|--------|-----------------|----|----|----|----|----|----|----|--|
| Model     | Series | A               | D  | H  | L  | M  | S1 | S2 | S3 |  |
| FHG       | 3B     | 19              | 10 | 37 | 50 | 35 | 17 | 14 | 15 |  |
| FHG       | 4B     | 26              | 15 | 52 | 67 | 49 | 22 | 20 | 21 |  |
| FHG       | 5B     | 36              | 21 | 74 | 90 | 65 | 32 | 30 | 31 |  |

**M3** Cable assembly (page 169)

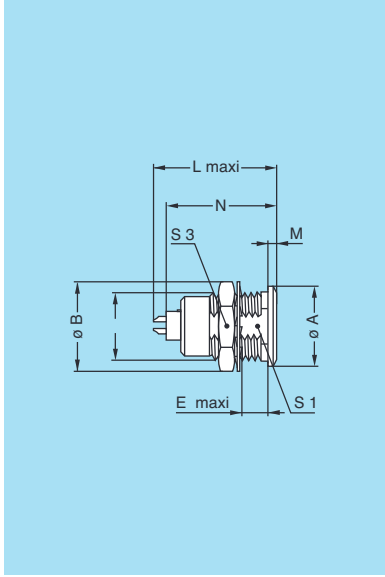
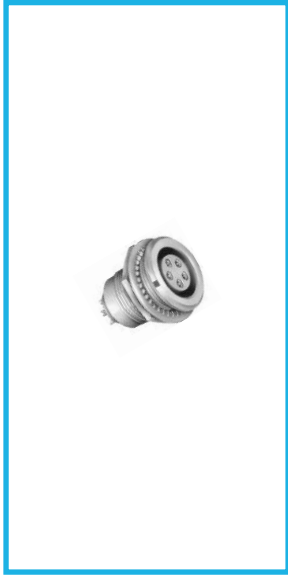
### FSG Anglissimo right angle plug, key (G) or keys (A...M), cable collet



| Reference |        | Dimensions (mm) |      |      |      |    |    |
|-----------|--------|-----------------|------|------|------|----|----|
| Model     | Series | A               | H    | L    | M    | S1 | S2 |
| FSG       | 00     | 8.0             | 18.1 | 24.8 | 16.8 | 5  | 7  |
| FSG       | 0B     | 10.0            | 22.4 | 30.3 | 20.3 | 7  | 9  |
| FSG       | 1B     | 12.0            | 26.4 | 36.5 | 25.5 | 9  | 11 |
| FSG       | 2B     | 16.5            | 34.5 | 44.0 | 32.0 | 12 | 15 |
| FSG       | 3B     | 20.0            | 39.2 | 52.4 | 37.4 | 14 | 19 |

**M5** Cable assembly (page 170)

### EGG Fixed socket, nut fixing, key G) or keys A...M and R)



| Reference |                  | Dimensions (mm) |      |         |      |      |     |                 |      |    |
|-----------|------------------|-----------------|------|---------|------|------|-----|-----------------|------|----|
| Model     | Series           | A               | B    | e       | E    | L    | M   | N <sup>1)</sup> | S1   | S3 |
| EGG       | 00               | 8               | 10.2 | M7x0.5  | 6.0  | 15.5 | 1.0 | 13.7            | 6.3  | 9  |
| EGG       | 0B               | 10              | 12.4 | M9x0.6  | 7.0  | 20.7 | 1.2 | 19.1            | 8.2  | 11 |
| EGG       | 1B               | 14              | 15.8 | M12x1.0 | 7.5  | 23.0 | 1.5 | 21.1            | 10.5 | 14 |
| EGG       | XB               | 16              | 19.0 | M14x1.0 | 7.0  | 23.5 | 1.5 | 20.0            | 12.5 | 17 |
| EGG       | 2B <sup>2)</sup> | 18              | 19.2 | M15x1.0 | 8.5  | 26.7 | 1.8 | 24.6            | 13.5 | 17 |
| EGG       | 3B               | 22              | 25.0 | M18x1.0 | 11.5 | 30.7 | 2.0 | 28.1            | 16.5 | 22 |
| EGG       | 4B               | 28              | 34.0 | M25x1.0 | 12.0 | 35.7 | 2.5 | 34.1            | 23.5 | 30 |
| EGG       | 5B               | 40              | 40.0 | M35x1.0 | 11.0 | 43.5 | 3.0 | 39.6            | 33.5 | –  |

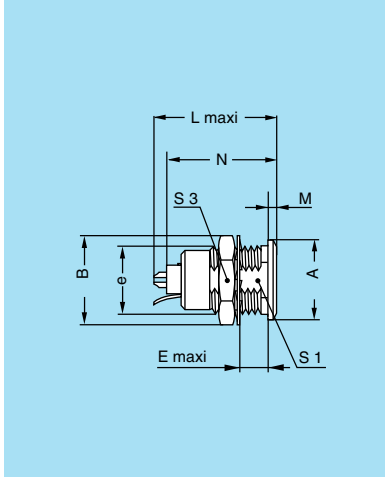
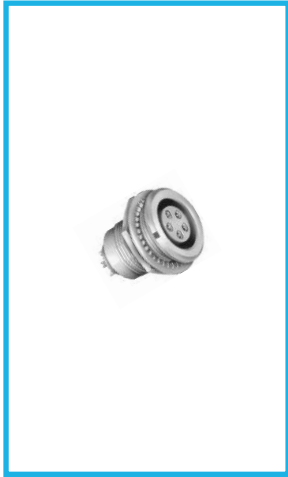
**P1** Panel cut-out (page 157)

**Note:** The 5B series is delivered with a tapered washer and a round nut.

**Note:** <sup>1)</sup> maximum length with crimp contacts.

<sup>2)</sup> EGG.2B.304.CLL and EGG.2B.307.CLL are UL 508A under file E119802.

### ENG Fixed socket with earthing tag, nut fixing, key G) or keys A...M)



| Reference |                  | Dimensions (mm) |      |         |      |      |     |                 |      |    |
|-----------|------------------|-----------------|------|---------|------|------|-----|-----------------|------|----|
| Model     | Series           | A               | B    | e       | E    | L    | M   | N <sup>1)</sup> | S1   | S3 |
| ENG       | 00               | 8               | 10.2 | M7x0.5  | 6.0  | 15.5 | 1.0 | 13.7            | 6.3  | 9  |
| ENG       | 0B               | 10              | 12.4 | M9x0.6  | 7.0  | 20.7 | 1.2 | 19.1            | 8.2  | 11 |
| ENG       | 1B <sup>2)</sup> | 14              | 15.8 | M12x1.0 | 7.5  | 23.0 | 1.5 | 21.1            | 10.5 | 14 |
| ENG       | 2B               | 18              | 19.2 | M15x1.0 | 8.5  | 26.7 | 1.8 | 24.6            | 13.5 | 17 |
| ENG       | 3B               | 22              | 25.0 | M18x1.0 | 11.5 | 30.7 | 2.0 | 28.1            | 16.5 | 22 |
| ENG       | 4B               | 28              | 34.0 | M25x1.0 | 12.0 | 35.7 | 2.5 | 34.1            | 23.5 | 30 |

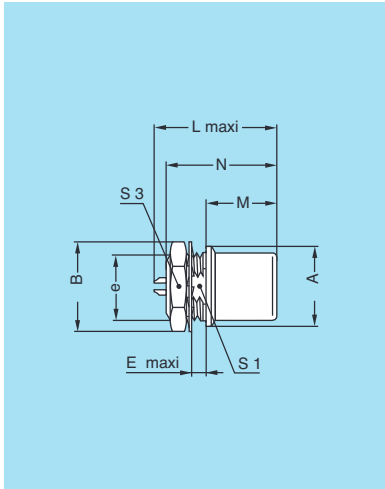
**P1** Panel cut-out (page 157)

**Note:**

<sup>1)</sup> maximum length with crimp contacts.

<sup>2)</sup> for the 1B series the earthing tag is on the same side of the key.

### EHG Fixed socket, nut fixing, key G) or keys A...M and R), and protruding shell



| Reference |        | Dimensions (mm) |      |         |     |      |      |                 |      |    |
|-----------|--------|-----------------|------|---------|-----|------|------|-----------------|------|----|
| Model     | Series | A               | B    | e       | E   | L    | M    | N <sup>1)</sup> | S1   | S3 |
| EHG       | 00     | 8               | 10.2 | M7x0.5  | 2.0 | 15.5 | 8.5  | 13.7            | 6.3  | 9  |
| EHG       | 0B     | 10              | 12.4 | M9x0.6  | 2.0 | 19.5 | 12.5 | 19.1            | 8.2  | 11 |
| EHG       | 1B     | 14              | 15.8 | M12x1.0 | 4.0 | 21.7 | 12.0 | 21.1            | 10.5 | 14 |
| EHG       | 2B     | 18              | 19.2 | M15x1.0 | 5.1 | 22.7 | 12.5 | 24.6            | 13.5 | 17 |
| EHG       | 3B     | 22              | 25.0 | M18x1.0 | 7.1 | 30.7 | 13.5 | 30.3            | 16.5 | 22 |
| EHG       | 5B     | 40              | 40.0 | M35x1.0 | 2.5 | 43.5 | 28.0 | 38.5            | 33.5 | –  |

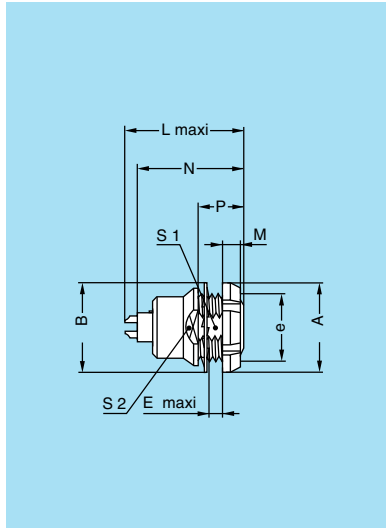
**P1** Panel cut-out (page 157)

**Note:** The 5B series is delivered without locking washer or tapered washer and with a round nut.

**Note:** <sup>1)</sup> maximum length with crimp contacts.



### EEG Fixed socket, nut fixing, key G) or keys A...M and R) (back panel mounting)



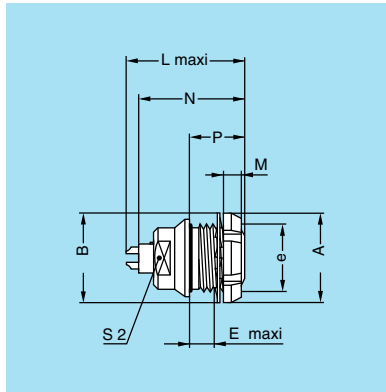
| Reference |        | Dimensions (mm) |      |         |      |      |     |                 |      |      |      |
|-----------|--------|-----------------|------|---------|------|------|-----|-----------------|------|------|------|
| Model     | Series | A               | B    | e       | E    | L    | M   | N <sup>1)</sup> | P    | S1   | S2   |
| EEG       | 00     | 10              | 9.5  | M7x0.5  | 2.3  | 15.5 | 2.5 | 13.7            | 6.0  | 6.3  | 7.5  |
| EEG       | 0B     | 12              | 12.5 | M9x0.6  | 2.4  | 20.7 | 2.5 | 19.1            | 6.3  | 8.2  | 9.0  |
| EEG       | 1B     | 16              | 16.0 | M12x1.0 | 6.5  | 23.0 | 3.5 | 21.1            | 11.0 | 10.5 | 13.0 |
| EEG       | 2B     | 20              | 20.0 | M15x1.0 | 4.3  | 26.7 | 3.5 | 24.6            | 9.0  | 13.5 | 15.0 |
| EEG       | 3B     | 24              | 25.0 | M18x1.0 | 6.1  | 30.7 | 4.5 | 28.1            | 12.0 | 16.5 | 20.0 |
| EEG       | 4B     | 30              | 32.1 | M25x1.0 | 10.6 | 35.7 | 4.5 | 34.1            | 16.5 | 23.5 | 26.0 |
| EEG       | 5B     | 41              | 40.0 | M35x1.0 | 13.5 | 43.5 | 5.0 | 39.6            | 19.5 | 33.5 | 38.0 |

**P1** Panel cut-out (page 157)

**Note:** The 3B, 4B and 5B series are delivered with a conical nut. The 5B series is delivered without locking washer or tapered washer.

**Note:** <sup>1)</sup> maximum length with crimp contacts.

### EFG Fixed socket, nut fixing, key G) or keys A...M), with two flats on the shell and O-ring (back panel mounting)

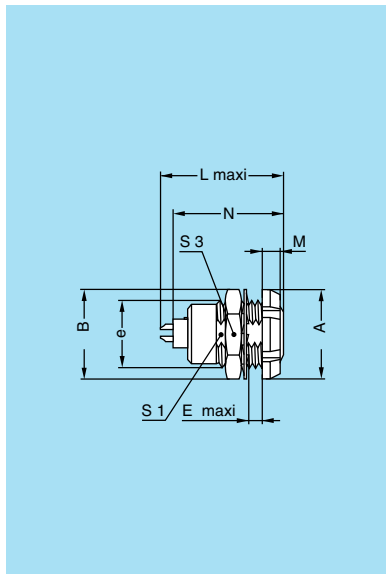


| Reference |        | Dimensions (mm) |      |        |     |      |     |                 |   |    |  |
|-----------|--------|-----------------|------|--------|-----|------|-----|-----------------|---|----|--|
| Model     | Series | A               | B    | e      | E   | L    | M   | N <sup>1)</sup> | P | S2 |  |
| EFG       | 0B     | 12              | 12.5 | M9x0.6 | 5.5 | 20.7 | 2.5 | 19.1            | 9 | 8  |  |

**P2** Panel cut-out (page 157)

**Note:** <sup>1)</sup> maximum length with crimp contacts.

### ECG Fixed socket with two nuts, key G) or keys A...M and R) (back panel mounting)



| Reference |        | Dimensions (mm) |      |         |      |      |     |                 |      |    |  |
|-----------|--------|-----------------|------|---------|------|------|-----|-----------------|------|----|--|
| Model     | Series | A               | B    | e       | E    | L    | M   | N <sup>1)</sup> | S1   | S3 |  |
| ECG       | 00     | 10              | 10.2 | M7x0.5  | 4.3  | 13.7 | 2.5 | 13.7            | 6.3  | 9  |  |
| ECG       | 0B     | 12              | 12.4 | M9x0.6  | 5.5  | 20.7 | 2.5 | 19.1            | 8.2  | 11 |  |
| ECG       | 1B     | 16              | 15.8 | M12x1.0 | 6.0  | 23.0 | 3.5 | 21.1            | 10.5 | 14 |  |
| ECG       | XB     | 18              | 19.0 | M14x1.0 | 6.0  | 23.5 | 3.5 | 20.0            | 12.5 | 17 |  |
| ECG       | 2B     | 20              | 19.2 | M15x1.0 | 6.5  | 26.7 | 3.5 | 24.6            | 13.5 | 17 |  |
| ECG       | 3B     | 24              | 25.0 | M18x1.0 | 9.0  | 30.7 | 4.5 | 28.1            | 16.5 | 22 |  |
| ECG       | 4B     | 30              | 34.0 | M25x1.0 | 10.0 | 35.7 | 4.5 | 32.6            | 23.5 | 30 |  |
| ECG       | 5B     | 41              | 40.0 | M35x1.0 | 9.0  | 43.5 | 5.0 | 39.6            | 33.5 | -  |  |

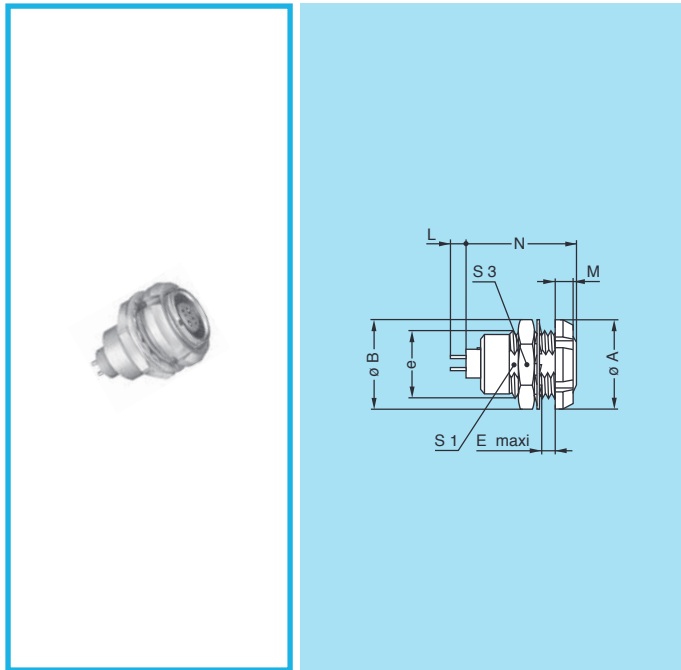
**P1** Panel cut-out (page 157)

**Note:** The 3B, 4B and 5B series are delivered with a conical nut. The 5B series is delivered with a tapered washer and a round nut.

**Note:** <sup>1)</sup> maximum length with crimp contacts.



### ECG Fixed socket with two nuts, key (G) or keys (A...F and R) and straight contact for printed circuit (back panel mounting)



| Reference |        | Dimensions (mm) |      |         |      |     |      |      |    |
|-----------|--------|-----------------|------|---------|------|-----|------|------|----|
| Model     | Series | A               | B    | e       | E    | M   | N    | S1   | S3 |
| ECG       | 00     | 10              | 10.2 | M7x0.5  | 4.3  | 2.5 | 13.7 | 6.3  | 9  |
| ECG       | 0B     | 12              | 12.4 | M9x0.6  | 5.5  | 2.5 | 16.1 | 8.2  | 11 |
| ECG       | 1B     | 16              | 15.8 | M12x1.0 | 6.0  | 3.5 | 19.8 | 10.5 | 14 |
| ECG       | XB     | 18              | 19.0 | M14x1.0 | 6.0  | 3.5 | 20.0 | 12.5 | 17 |
| ECG       | 2B     | 20              | 19.2 | M15x1.0 | 6.5  | 3.5 | 21.8 | 13.5 | 17 |
| ECG       | 3B     | 24              | 25.0 | M18x1.0 | 9.0  | 4.5 | 25.8 | 16.5 | 22 |
| ECG       | 4B     | 30              | 34.0 | M25x1.0 | 10.0 | 4.5 | 29.8 | 23.5 | 30 |
| ECG       | 5B     | 41              | 40.0 | M35x1.0 | 9.0  | 5.0 | 36.8 | 33.5 | -  |

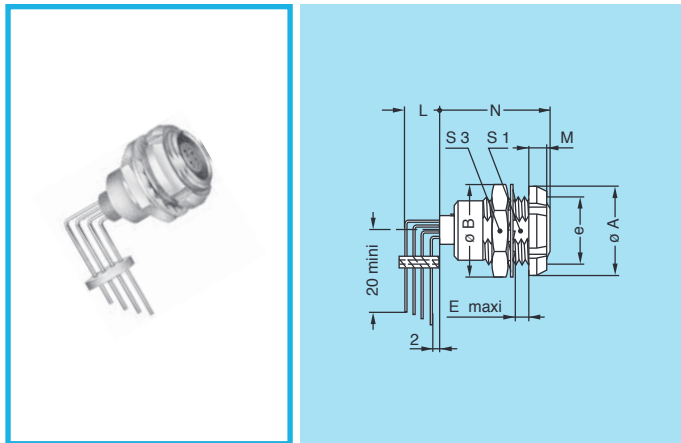
**P1** Panel cut-out (page 157)

**P15** PCB drilling pattern (page 160)

**Note:** The 3B, 4B and 5B series are delivered with a conical nut. The 5B series is delivered with a tapered washer and a round nut.

**Note:** This contact type is available for E●● socket models fitted with female contacts. Length «L» depends on the number of contacts, see table on page 163.

### ECG Fixed socket with two nuts, key (G) or keys (A...F) with elbow (90°) contact for printed circuit (back panel mounting)



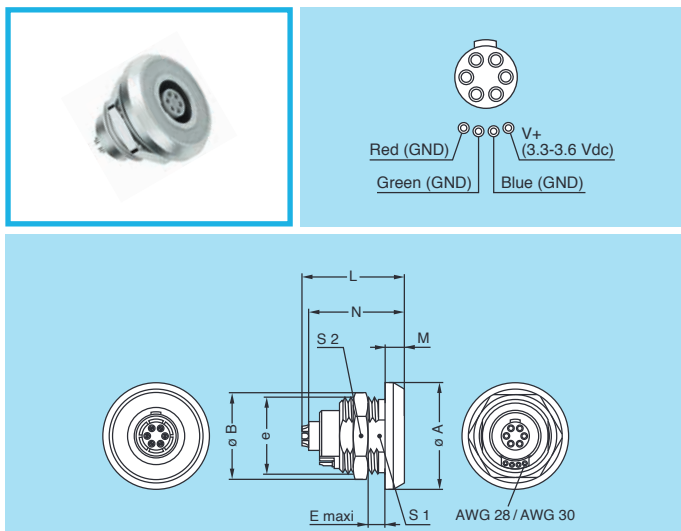
| Reference |        | Dimensions (mm) |      |         |     |     |                  |      |    |
|-----------|--------|-----------------|------|---------|-----|-----|------------------|------|----|
| Model     | Series | A               | B    | e       | E   | M   | N <sub>max</sub> | S1   | S3 |
| ECG       | 0B     | 12              | 12.4 | M9x0.6  | 5.5 | 2.5 | 18.3             | 8.2  | 11 |
| ECG       | 1B     | 16              | 15.8 | M12x1.0 | 6.0 | 3.5 | 20.3             | 10.5 | 14 |
| ECG       | 2B     | 20              | 19.2 | M15x1.0 | 6.5 | 3.5 | 24.3             | 13.5 | 17 |
| ECG       | 3B     | 24              | 25.0 | M18x1.0 | 9.0 | 4.5 | 27.8             | 16.5 | 22 |

**P1** Panel cut-out (page 157)

**P17** PCB drilling pattern (page 164)

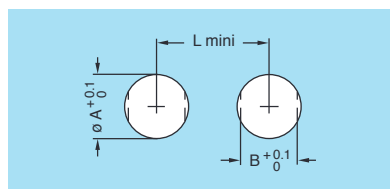
**Note:** The 3B series is delivered with a conical nut.

### LoG Fixed socket, nut fixing, key (G) or keys (A...L)



| Reference |        | Dimensions (mm) |      |          |     |      |   |      |      |    |
|-----------|--------|-----------------|------|----------|-----|------|---|------|------|----|
| Model     | Series | A               | B    | e        | E   | L    | M | N    | S1   | S2 |
| LoG       | 0B     | 19              | 18.0 | M13x0.75 | 4.0 | 20.7 | 4 | 19.1 | 11.5 | 16 |
| LoG       | 1B     | 22              | 20.2 | M15x1.00 | 6.5 | 23.0 | 4 | 21.1 | 13.5 | 16 |
| LoG       | 2B     | 25              | 27.0 | M20x1.00 | 7.5 | 26.7 | 4 | 24.6 | 18.5 | 24 |

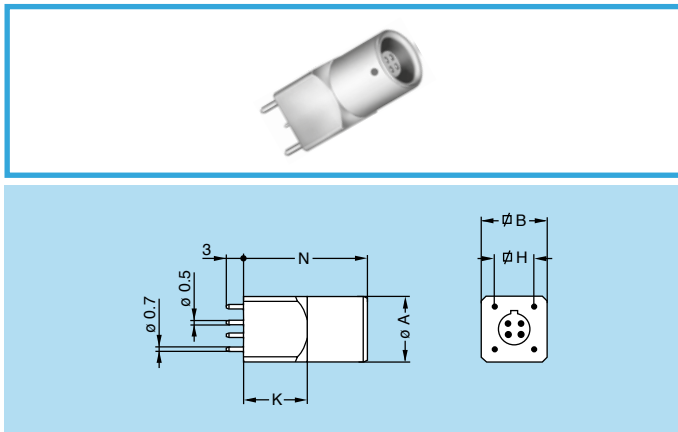
**Note:** Only available with solder or crimp contacts. LEG model is with LED flange, LNG model is with narrow LED flange and LMG model is with single standby LED flange.



| Series | Dim. (mm) |      |    |
|--------|-----------|------|----|
|        | A         | B    | L  |
| 0B     | 13.1      | 11.6 | 24 |
| 1B     | 15.1      | 13.6 | 26 |
| 2B     | 20.1      | 18.6 | 29 |



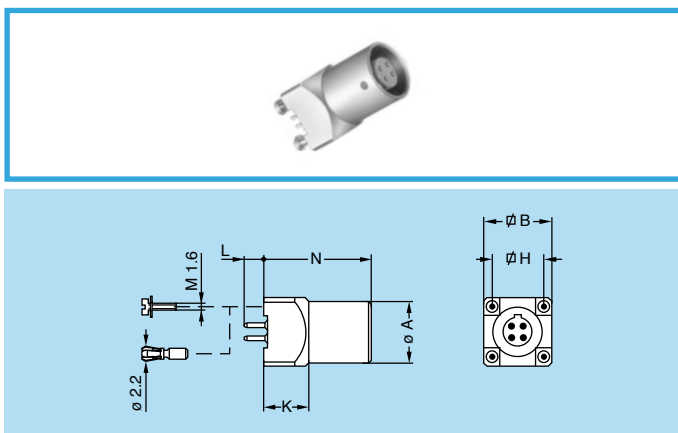
### EZG Straight socket for printed circuit, key (G) or keys (A, B)



| Reference  |           | Dimensions (mm) |   |      |   |    |
|------------|-----------|-----------------|---|------|---|----|
| Model      | Series    | A               | B | H    | K | N  |
| <b>EZG</b> | <b>00</b> | 6.8             | 7 | 5.08 | 7 | 14 |

**P15**+**P16** PCB drilling pattern (pages 160 and 163)

### EZG Straight socket for printed circuit, key (G) or keys (A...F)

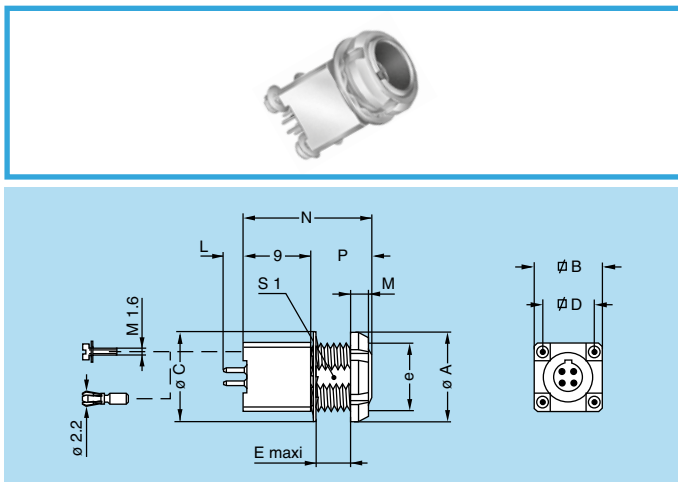


| Reference  |           | Dimensions (mm) |    |       |   |      |
|------------|-----------|-----------------|----|-------|---|------|
| Model      | Series    | A               | B  | H     | K | N    |
| <b>EZG</b> | <b>0B</b> | 9               | 10 | 7.62  | 8 | 15.0 |
| <b>EZG</b> | <b>1B</b> | 11              | 12 | 7.62  | 8 | 19.0 |
| <b>EZG</b> | <b>2B</b> | 14              | 15 | 10.16 | 9 | 22.5 |

**P15**+**P16** PCB drilling pattern (pages 160 and 163)

**Note:** Length «L» depends on the number of contacts, see page 163. Add letter «B» at the end of the reference to order with integrated harpoon pins (1.6 mm PCB thickness) (only for 0B and 1B series).

### EYG Fixed socket for printed circuit, nut fixing, key (G) or keys (A...F) (back panel mounting)



| Reference  |           | Dimensions (mm) |    |      |       |         |     |     |      |      |      |
|------------|-----------|-----------------|----|------|-------|---------|-----|-----|------|------|------|
| Model      | Series    | A               | B  | C    | D     | e       | M   | N   | P    | S1   |      |
| <b>EYG</b> | <b>0B</b> | 12              | 10 | 12.5 | 7.62  | M9x0.6  | 2.6 | 2.5 | 15.0 | 6.0  | 8.2  |
| <b>EYG</b> | <b>1B</b> | 14              | 12 | 16.0 | 7.62  | M11x0.5 | 5.0 | 3.5 | 19.0 | 10.0 | -    |
| <b>EYG</b> | <b>2B</b> | 20              | 15 | 19.5 | 10.16 | M15x1.0 | 7.5 | 3.5 | 22.5 | 13.5 | 13.5 |

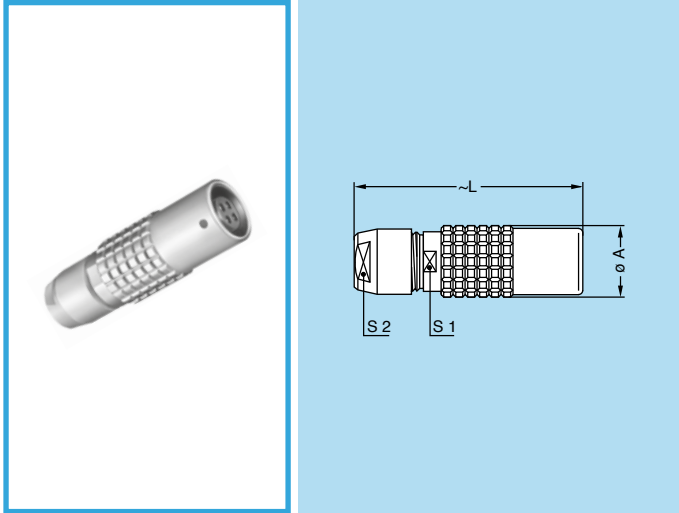
**P1** Panel cut-out 0B and 2B series (page 157)

**P10** Panel cut-out 1B series (page 157)

**P15**+**P16** PCB drilling pattern (pages 160 and 163)

**Note:** Length «L» depends on the number of contacts, see page 163. Add letter «B» at the end of the reference to order with integrated harpoon pins (1.6 mm PCB thickness) (only for 0B and 1B series).

### PHG Free socket, key (G) or keys (A...M and R), cable collet

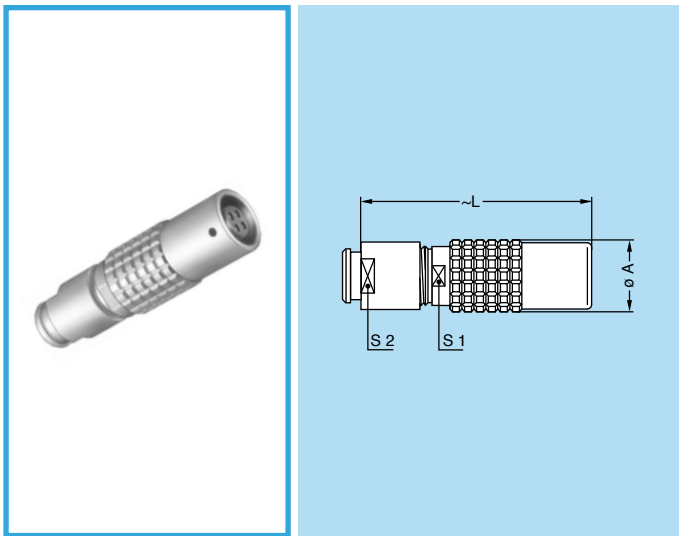


| Reference |                  | Dimensions (mm) |      |      |    |
|-----------|------------------|-----------------|------|------|----|
| Model     | Series           | A               | L    | S1   | S2 |
| PHG       | 00 <sup>1)</sup> | 6.8             | 26.0 | 5.5  | 5  |
| PHG       | 0B               | 9.5             | 35.5 | 8.0  | 7  |
| PHG       | 1B               | 12.5            | 40.5 | 10.0 | 9  |
| PHG       | XB               | 13.0            | 46.0 | 11.0 | 10 |
| PHG       | 2B               | 16.5            | 47.0 | 13.0 | 12 |
| PHG       | 3B               | 19.0            | 56.0 | 15.0 | 14 |
| PHG       | 4B               | 26.0            | 73.0 | 21.0 | 20 |
| PHG       | 5B               | 36.0            | 99.0 | 31.0 | 30 |

**M1** Cable assembly (page 169)

**Note:** <sup>1)</sup> the surface design of the 00 series is different.

### PHG Free socket, key (G) or keys (A...M), cable collet and nut for fitting a bend relief <sup>2)</sup>



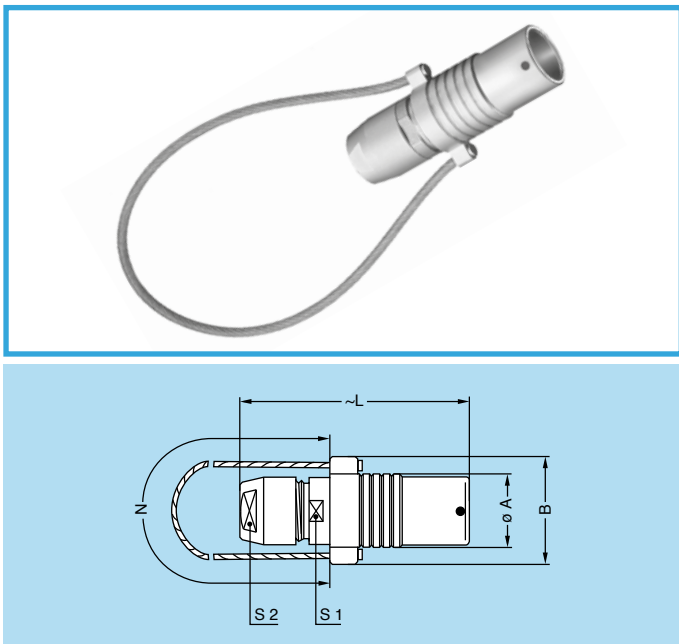
| Reference |                  | Dimensions (mm) |      |      |    |
|-----------|------------------|-----------------|------|------|----|
| Model     | Series           | A               | L    | S1   | S2 |
| PHG       | 00 <sup>1)</sup> | 6.8             | 34.0 | 5.5  | 6  |
| PHG       | 0B               | 9.5             | 34.5 | 8.0  | 7  |
| PHG       | 1B               | 12.5            | 39.5 | 10.0 | 9  |
| PHG       | XB               | 13.0            | 49.5 | 11.0 | 10 |
| PHG       | 2B               | 16.5            | 46.0 | 13.0 | 12 |
| PHG       | 3B               | 19.0            | 54.5 | 15.0 | 15 |
| PHG       | 4B               | 26.0            | 69.0 | 21.0 | 20 |

**M1** Cable assembly (page 169)

**Note:** <sup>1)</sup> the surface design of the 00 series is different.

**Note:** <sup>2)</sup> to order, add a «Z» at the end of the reference. The bend relief must be ordered separately (see page 145).

### PNG Free socket, nut fixing, key (G) or keys (A...L and R), cable collet with lanyard release



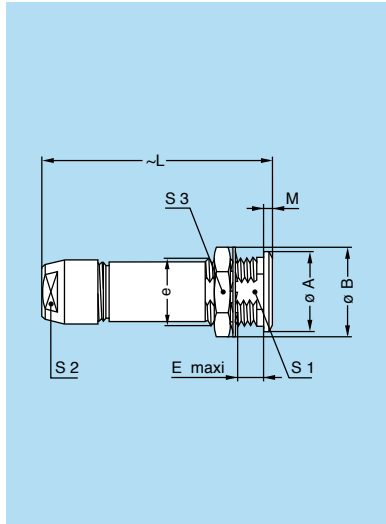
| Reference |        | Dimensions (mm) |      |      |     |    |    |
|-----------|--------|-----------------|------|------|-----|----|----|
| Model     | Series | A               | B    | L    | N   | S1 | S2 |
| PNG       | 1B     | 12.4            | 18.4 | 40.5 | 140 | 10 | 9  |
| PNG       | 2B     | 16.5            | 22.5 | 47.0 | 160 | 13 | 12 |
| PNG       | 3B     | 19.0            | 26.0 | 56.0 | 190 | 15 | 14 |
| PNG       | 4B     | 26.0            | 33.0 | 73.0 | 230 | 21 | 20 |
| PNG       | 5B     | 36.0            | 43.0 | 99.0 | 300 | 31 | 30 |

**M1** Cable assembly (page 169)

**Note:** cable material: stainless steel with Polyamide sheath.



### PKG Fixed socket, nut fixing, key (G) or keys (A...M and R), cable collet



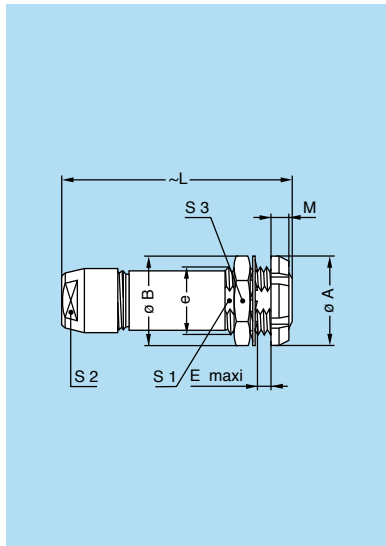
| Reference |        | Dimensions (mm) |      |         |      |      |     |      |    |    |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|----|
| Model     | Series | A               | B    | e       | E    | L    | M   | S1   | S2 | S3 |
| PKG       | 00     | 8               | 10.2 | M7x0.5  | 6.5  | 26.0 | 1.0 | 6.3  | 5  | 9  |
| PKG       | 0B     | 10              | 12.4 | M9x0.6  | 7.0  | 35.5 | 1.2 | 8.2  | 7  | 11 |
| PKG       | 1B     | 14              | 15.8 | M12x1.0 | 7.5  | 40.5 | 1.5 | 10.5 | 9  | 14 |
| PKG       | 2B     | 18              | 19.2 | M15x1.0 | 8.5  | 47.0 | 1.8 | 13.5 | 12 | 17 |
| PKG       | 3B     | 22              | 25.0 | M18x1.0 | 11.5 | 56.0 | 2.0 | 16.5 | 14 | 22 |
| PKG       | 4B     | 28              | 34.0 | M25x1.0 | 12.0 | 73.0 | 2.5 | 23.5 | 20 | 30 |
| PKG       | 5B     | 40              | 40.0 | M35x1.0 | 11.0 | 99.0 | 3.0 | 33.5 | 30 | -  |

**P1** Panel cut-out (page 157)

**M1** Cable assembly (page 169)

**Note:** the 5B series is delivered with a tapered washer and a round nut.

### PFG Fixed socket, with two nuts, key (G) or keys (A...M and R), cable collet (back panel mounting)



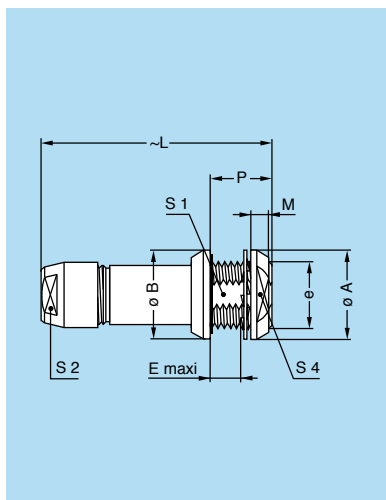
| Reference |        | Dimensions (mm) |      |         |      |      |     |      |    |    |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|----|
| Model     | Series | A               | B    | e       | E    | L    | M   | S1   | S2 | S3 |
| PFG       | 00     | 10              | 10.2 | M7x0.5  | 5.3  | 26.0 | 2.5 | 6.3  | 5  | 9  |
| PFG       | 0B     | 12              | 12.4 | M9x0.6  | 5.0  | 35.5 | 2.5 | 8.2  | 7  | 11 |
| PFG       | 1B     | 16              | 15.8 | M12x1.0 | 5.0  | 40.5 | 3.5 | 10.5 | 9  | 14 |
| PFG       | 2B     | 20              | 19.2 | M15x1.0 | 6.5  | 47.0 | 3.5 | 13.5 | 12 | 17 |
| PFG       | 3B     | 24              | 25.0 | M18x1.0 | 9.0  | 56.0 | 4.5 | 16.5 | 14 | 22 |
| PFG       | 4B     | 30              | 34.0 | M25x1.0 | 11.0 | 73.0 | 4.5 | 23.5 | 20 | 30 |
| PFG       | 5B     | 41              | 40.0 | M35x1.0 | 10.0 | 99.0 | 5.0 | 33.5 | 30 | -  |

**P1** Panel cut-out (page 157)

**M1** Cable assembly (page 169)

**Note:** the 3B, 4B and 5B series are delivered with a conical nut. The 5B series is delivered with a tapered washer and a round nut.

### PEG Fixed socket, nut fixing, key (G) or keys (A...L), cable collet (back panel mounting)



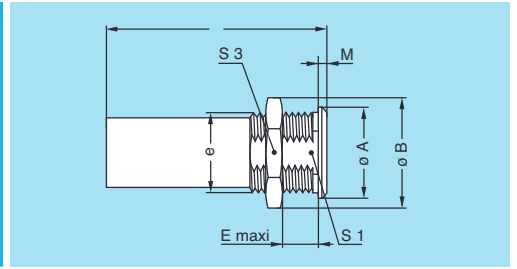
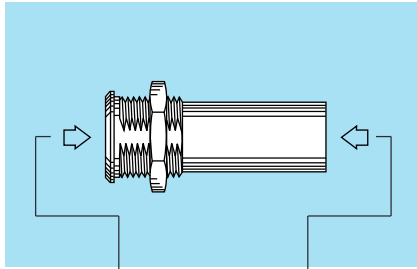
| Reference |        | Dimensions (mm) |    |         |      |    |     |    |      |    |    |
|-----------|--------|-----------------|----|---------|------|----|-----|----|------|----|----|
| Model     | Series | A               | B  | e       | E    | L  | M   | P  | S1   | S2 | S4 |
| PEG       | 3B     | 24              | 25 | M18x1.0 | 5.0  | 56 | 4.5 | 12 | 16.5 | 14 | 20 |
| PEG       | 4B     | 32              | 34 | M25x1.0 | 12.5 | 73 | 5.0 | 20 | 23.5 | 20 | 27 |

**P1** Panel cut-out (page 157)

**M1** Cable assembly (page 169)

**Note:** this model has an o-ring on the flange.

**R Fixed coupler, nut fixing, key G) or keys A and J) at the flange end and keys J, K or M) at the other end**



Example

Alignment key see page 36.

| Reference               |           | Contacts        | Dimensions (mm) |      |          |      |    |     |      |    |
|-------------------------|-----------|-----------------|-----------------|------|----------|------|----|-----|------|----|
| Model                   | Series    | Type            | A               | B    | e        | E    | L  | M   | S1   | S3 |
| <b>RGG<sup>1)</sup></b> | <b>0B</b> | female – female | 12              | 13.8 | M10x0.75 | 8.0  | 34 | 2.0 | 9.0  | 12 |
| <b>RGG<sup>2)</sup></b> | <b>0B</b> | female – female | 12              | 13.8 | M10x0.75 | 8.0  | 43 | 2.0 | 9.0  | 12 |
| <b>RJG</b>              | <b>0B</b> | male – female   | 12              | 13.8 | M10x0.75 | 8.0  | 34 | 2.0 | 9.0  | 12 |
| <b>RGJ</b>              | <b>0B</b> | female – male   | 12              | 13.8 | M10x0.75 | 8.0  | 34 | 2.0 | 9.0  | 12 |
| <b>RAK</b>              | <b>0B</b> | female – male   | 12              | 13.8 | M10x0.75 | 8.0  | 34 | 2.0 | 9.0  | 12 |
| <b>RGM</b>              | <b>0B</b> | female – male   | 12              | 13.8 | M10x0.75 | 8.0  | 34 | 2.0 | 9.0  | 12 |
| <b>RGG<sup>3)</sup></b> | <b>1B</b> | female – female | 16              | 19.2 | M14x1.00 | 8.5  | 47 | 2.5 | 12.5 | 17 |
| <b>RJG</b>              | <b>1B</b> | male – female   | 16              | 19.2 | M14x1.00 | 8.5  | 39 | 2.5 | 12.5 | 17 |
| <b>RGJ</b>              | <b>1B</b> | female – male   | 16              | 19.2 | M14x1.00 | 8.5  | 39 | 2.5 | 12.5 | 17 |
| <b>RJG</b>              | <b>2B</b> | male – female   | 20              | 21.5 | M16x1.00 | 12.0 | 44 | 4.0 | 15.0 | 19 |
| <b>RGJ</b>              | <b>2B</b> | female – male   | 20              | 21.5 | M16x1.00 | 12.0 | 44 | 4.0 | 15.0 | 19 |
| <b>RGJ</b>              | <b>3B</b> | female – male   | 25              | 27.0 | M20x1.00 | 32.0 | 53 | 4.0 | 18.5 | 24 |
| <b>RGJ</b>              | <b>4B</b> | female – male   | 34              | 34.0 | M25x1.00 | 50.0 | 65 | 4.0 | 23.5 | 30 |

**P4** Panel cut-out (page 157)

**Note:**

- 1) only available with two contacts.
- 2) RGG.0B only available from 3 till 5 contacts.
- 3) RGG.1B only available till 7 contacts.

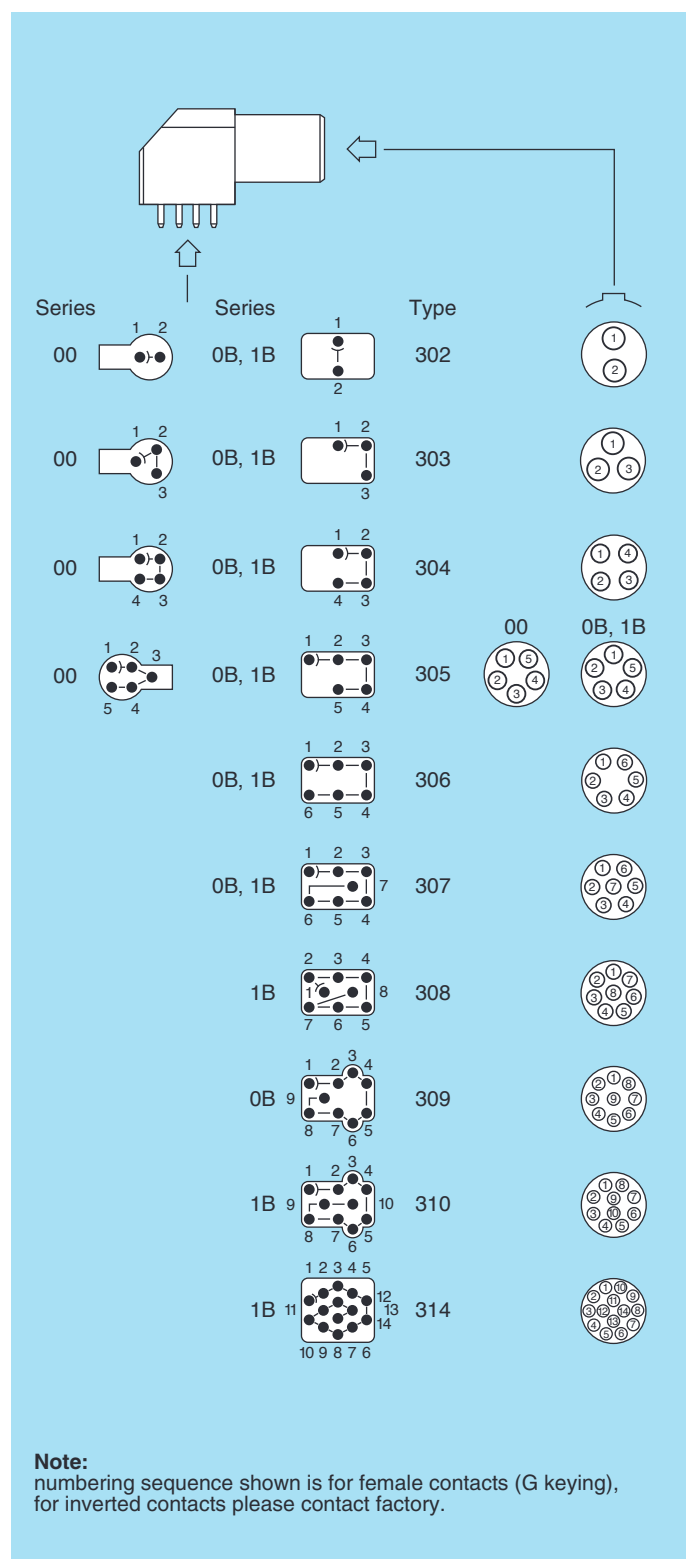
For this fixed coupler, the first contact type mentioned is always the one at the flange end. On request, these couplers can be produced in other series, with other keys.



## Elbow socket models

### Technical Characteristics

#### Types



#### Materials and Treatment

| Component      | Material | Surface Treat. (µm) |    |     |
|----------------|----------|---------------------|----|-----|
|                |          | Cu                  | Ni | Au  |
| Housing        | PPS      | -                   |    |     |
|                | Brass    | 0.5                 | 3  | -   |
| Metallic parts | Brass    | 0.5                 | 3  | -   |
| Earthing crown | Bronze   | 0.5                 | 3  | -   |
| Insulator      | PEEK     | -                   |    |     |
| Female contact | Bronze   | 0.5                 | 3  | 1.5 |

#### Note:

The surface treatment standards are as follows:  
- Nickel: SAE AMS QQ N 290. - Gold: ISO 27874

#### Electrical

| Model   | Series | Types           | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>1)</sup><br>Contact-shell | Rated current (A) <sup>1)</sup> |
|---------|--------|-----------------|--|--|---------------------------------|
| EPG-XBG | 00     | 302-303-304-305 | 1.00   | 1.00   | 2.0                             |
| EPG-EXG | 0B     | 302             | 1.45   | 1.20   | 4.5                             |
| EPG-EXG | 0B     | 303             | 1.70   | 1.60   | 4.5                             |
| EPG-EXG | 0B     | 304             | 1.30   | 1.10   | 4.5                             |
| EPG-EXG | 0B     | 305             | 1.25   | 1.20   | 4.5                             |
| EPG-EXG | 0B     | 306             | 1.25   | 1.20   | 2.5                             |
| EPG-EXG | 0B     | 307             | 1.00   | 1.00   | 2.0                             |
| EPG-EXG | 0B     | 309             | 0.60   | 0.50   | 1.5                             |
| EPG-EXG | 1B     | 302             | 1.70   | 1.45   | 4.5                             |
| EPG-EXG | 1B     | 303             | 1.60   | 1.85   | 4.5                             |
| EPG-EXG | 1B     | 304             | 1.70   | 1.80   | 4.5                             |
| EPG-EXG | 1B     | 305             | 1.30   | 1.55   | 4.5                             |
| EPG-EXG | 1B     | 306             | 1.35   | 1.45   | 4.5                             |
| EPG-EXG | 1B     | 307             | 1.45   | 1.45   | 2.0                             |
| EPG-EXG | 1B     | 308             | 1.30   | 1.30   | 2.0                             |
| EPG-EXG | 1B     | 310             | 1.00   | 1.00   | 1.5                             |
| EPG     | 1B     | 314             | 1.00   | 1.30   | 1.0                             |

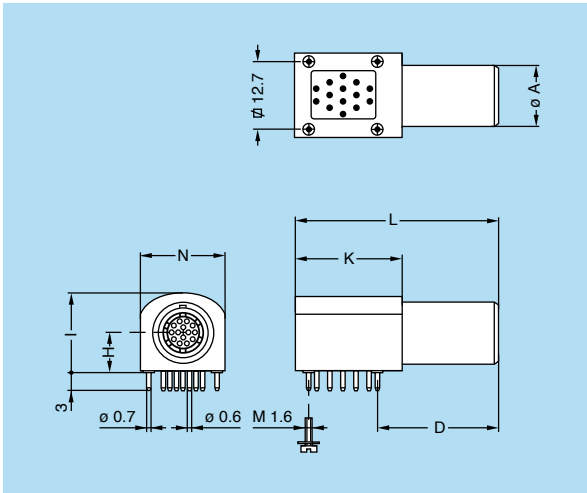
#### Note:

<sup>1)</sup> see calculation method, caution and suggested standard on page 190.

**P18** PCB drilling pattern (page 165)

**P19** PCB drilling pattern (page 165)

**EPG Elbow (90°) socket for printed circuit, key (G) or keys (A...F) (solder or screw fixing)**

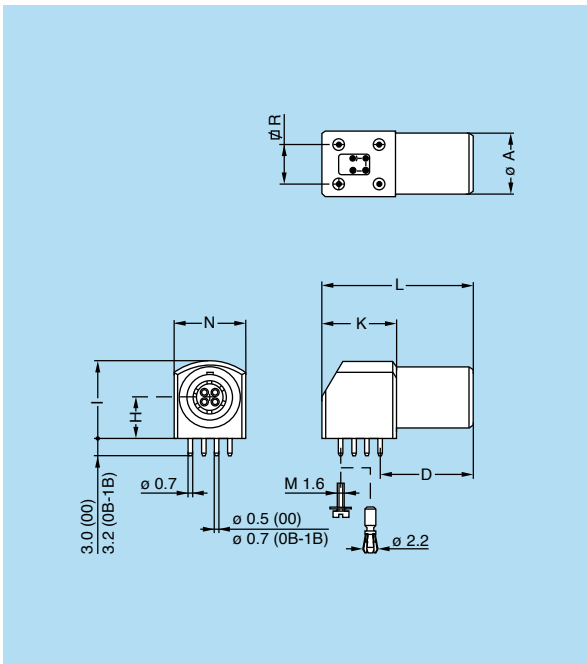


| Part number           | Dimensions (mm) |    |     |      |    |    |      |
|-----------------------|-----------------|----|-----|------|----|----|------|
|                       | A               | D  | H   | I    | K  | L  | N    |
| <b>EPG.1B.314.NLN</b> | 11              | 21 | 7.7 | 14.3 | 19 | 36 | 15.4 |

**P20** PCB drilling pattern (page 165)

**Note:** to replace the 4 ground pins by 4 screws (M1.6) add an «S» to the end of the part number. (e.g.: PG.1B.314.NLNS)

**EPG Elbow (90°) socket for printed circuit, key (G) or keys (A...F) (solder, screw or harpoon fixing)**



| Part number           | Dimensions (mm) |      |     |      |      |    |      |      |
|-----------------------|-----------------|------|-----|------|------|----|------|------|
|                       | A               | D    | H   | I    | K    | L  | N    | R    |
| <b>EPG.00.302.HLN</b> | 6.8             | 11.5 | 3.5 | 7.0  | 8.7  | 19 | 7.1  | 5.08 |
| <b>EPG.00.303.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.00.304.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.00.305.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.0B.302.HLN</b> | 9.0             | 14.6 | 6.7 | 12.6 | 13.3 | 25 | 11.7 | 7.62 |
| <b>EPG.0B.303.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.0B.304.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.0B.305.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.0B.306.HLN</b> | 11.0            | 16.6 | 7.5 | 14.0 | 13.3 | 27 | 12.6 | 7.62 |
| <b>EPG.0B.307.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.0B.309.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.1B.302.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.1B.303.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.1B.304.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.1B.305.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.1B.306.HLN</b> | 11.0            | 16.6 | 7.5 | 14.0 | 13.3 | 27 | 12.6 | 7.62 |
| <b>EPG.1B.307.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.1B.308.HLN</b> |                 |      |     |      |      |    |      |      |
| <b>EPG.1B.310.HLN</b> |                 |      |     |      |      |    |      |      |

**Note:** In the 0B and 1B series, it is possible to replace the 4 ground pins by 4 screws (M1.6) add an «S» to the end of the part number. (e.g.: PG.0B.307.HLNS). A second alternative is to add an «B» at the end of the part number ( PG.0B.307.HLNB), the connector is delivered with integrated harpoon pins for rapidly assembly (1.6 mm PCB thickness).

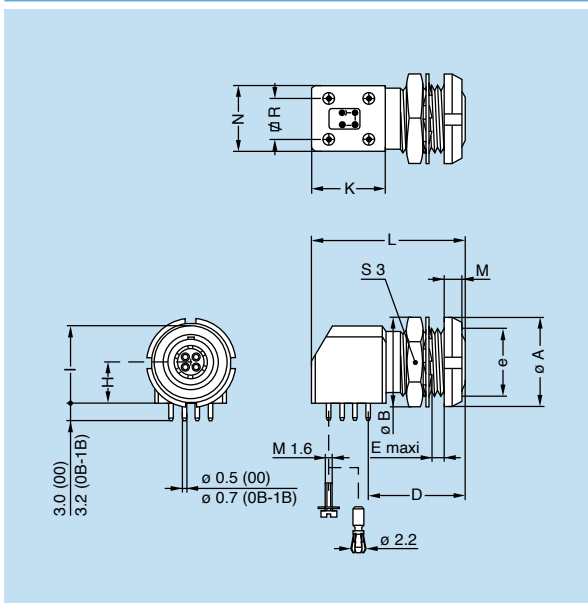
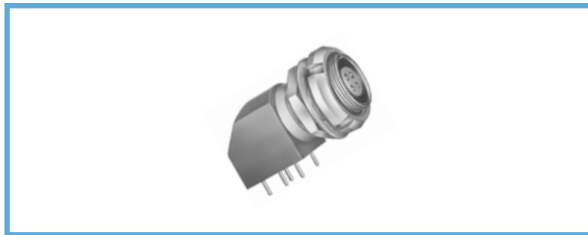
**P18** PCB drilling pattern 00 series (page 165)

**P19** PCB drilling pattern 0B, 1B series (page 165)



**EXG Elbow (90°) socket for printed circuit with two nuts, key (G) or keys (A...F) (solder, screw or harpoon fixing) (back panel mounting)**

**XBG Elbow (90°) socket fixing nut for printed circuit, key (G) or keys (A, B) (back panel mounting)**



**Note:** In the 0B and 1B series, it is possible to replace the 4 ground pins by 4 screws (M1.6) add an «S» to the end of the part number. (e.g.: EXG.0B.307.HLNS).

A second alternative is to add an «B» at the end of the part number (EXG.0B.307.HLNB), the connector is delivered with integrated harpoon pins for rapidly assembly (1.6 mm PCB thickness).

| Part number           | Dimensions (mm) |      |      |         |     |     |      |      |    |     |      |      |    |
|-----------------------|-----------------|------|------|---------|-----|-----|------|------|----|-----|------|------|----|
|                       | A               | B    | D    | e       | E   | H   | I    | K    | L  | M   | N    | R    | S3 |
| <b>XBG.00.302.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>XBG.00.303.HLN</b> | 10              | 10.2 | 11.5 | M7x0.5  | 2.1 | 3.5 | 7.0  | 8.7  | 19 | 2.5 | 7.1  | 5.08 | 9  |
| <b>XBG.00.304.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.0B.302.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.0B.303.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.0B.304.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.0B.305.HLN</b> | 12              | 12.4 | 14.6 | M9x0.6  | 4.5 | 6.7 | 12.6 | 13.3 | 25 | 2.5 | 11.7 | 7.62 | 11 |
| <b>EXG.0B.306.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.0B.307.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.0B.309.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.1B.302.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.1B.303.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.1B.304.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.1B.305.HLN</b> | 14              | 15.0 | 16.6 | M11x0.5 | 4.5 | 7.5 | 14.0 | 13.3 | 27 | 3.5 | 12.6 | 7.62 | 13 |
| <b>EXG.1B.306.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.1B.307.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.1B.308.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |
| <b>EXG.1B.310.HLN</b> |                 |      |      |         |     |     |      |      |    |     |      |      |    |

**P2** Panel cut-out 00, 0B series (page 157)

**P10** Panel cut-out 1B series (page 157)

**P18** PCB drilling pattern 00 series (page 165)

**P19** PCB drilling pattern 0B, 1B series (page 165)



# Plastic housing models

These connectors are particularly recommended for all applications requiring maximum electrical insulation when mated. The design, including a latch sleeve and a metal earthing crown, guarantees EMC screening efficiency to meet most requirements.

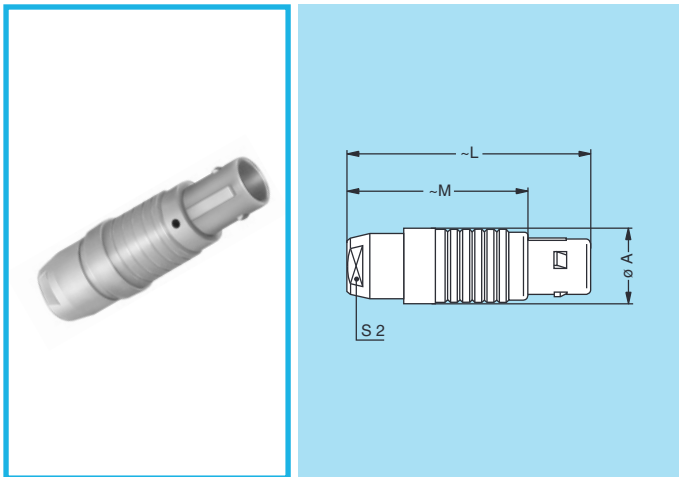
## Technical Characteristics

### Mechanical and Climatical

| Characteristics                        | Value              |                  |                  | Standard            |
|--|--------------------|------------------|------------------|---------------------|
|  | PEEK               | PSU              | PPSU             |                     |
| Colour                                 | natural (beige)    | white or grey    | cream            | –                   |
| Endurance <sup>1)</sup>                | > 5000 cycles      | > 5000 cycles    | > 5000 cycles    | IEC 60512-5 test 9a |
| Humidity                               | up to 95% at 60° C |                  |                  | –                   |
| Temperature range                      | - 50° C/+ 250° C   | - 50° C/+ 150° C | - 50° C/+ 180° C | –                   |
| Sterilization resistance <sup>2)</sup> | > 200 cycles       | ~20 cycles       | > 100 cycles     | IEC 60601-1 § 44.7  |
| Resistance to solvents                 | very good          | limited          | good             | –                   |

**Note:** <sup>1)</sup> see page 189, contact resistance after mating cycles. See page 185, mechanical endurance latching force. <sup>2)</sup> Steam sterilization.

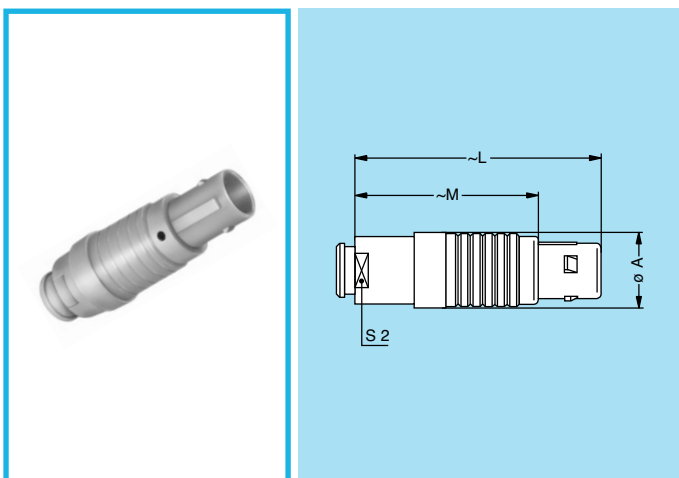
### FGG Straight plug, key G or J, cable collet, PEEK outer shell



| Reference |        | Dimensions (mm) |      |      |    |
|-----------|--------|-----------------|------|------|----|
| Model     | Series | A               | L    | M    | S2 |
| FGG       | B      | 11.0            | 37.4 | 27.4 | 8  |
| FGG       | 1B     | 13.5            | 43.0 | 32.0 | 10 |
| FGG       | 3B     | 19.0            | 62.0 | 47.0 | 15 |
| FGG       | 4B     | 26.0            | 78.5 | 60.5 | 20 |

**M1** Cable assembly (page 169)

### FGG Straight plug, key G or J, cable collet, PEEK outer shell and nut for fitting a bend relief <sup>1)</sup>



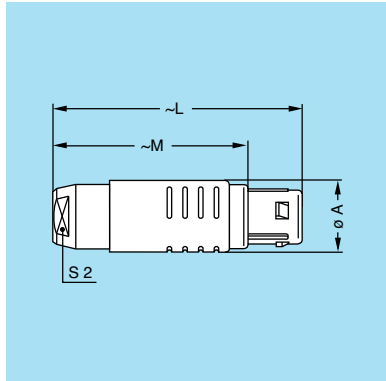
| Reference |        | Dimensions (mm) |      |      |    | Note on availability        |
|-----------|--------|-----------------|------|------|----|-----------------------------|
| Model     | Series | A               | L    | M    | S2 |                             |
| FGG       | 1B     | 13.5            | 42.2 | 31.2 | 10 | for all collet type         |
| FGG       | 4B     | 26.0            | 83.2 | 65.2 | 20 | only from collet M82 and up |

**M1** Cable assembly (page 169)

**Note:** <sup>1)</sup> to order, add a «Z» at the end of the reference. The bend relief must be ordered separately (see page 145).



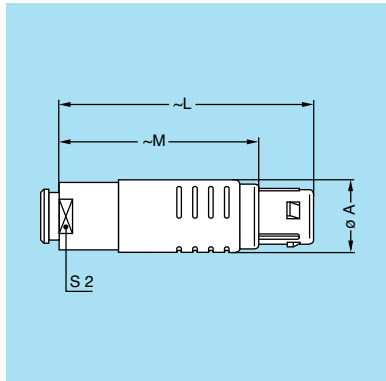
### FGY Straight plug, keys Y), cable collet and PSU or PPSU outer shell



| Reference |        | Dimensions (mm) |      |      |    |
|-----------|--------|-----------------|------|------|----|
| Model     | Series | A               | L    | M    | S2 |
| FGY       | 2B     | 16.5            | 50.5 | 39.5 | 13 |
| FGY       | 3B     | 19.0            | 58.0 | 43.0 | 15 |
| FGY       | 4B     | 26.0            | 76.2 | 58.2 | 20 |

**M1** Cable assembly (page 169)

### FGY Straight plug, keys Y), cable collet and PSU or PPSU outer shell and nut for fitting a bend relief <sup>1)</sup>

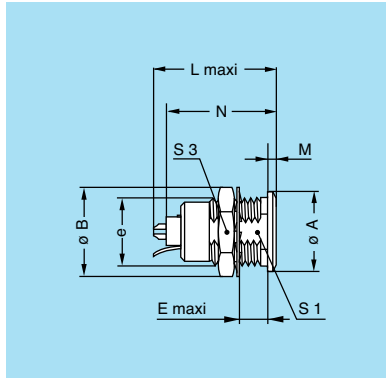


| Reference |        | Dimensions (mm) |      |      |    | Note on availability       |
|-----------|--------|-----------------|------|------|----|----------------------------|
| Model     | Series | A               | L    | M    | S2 |                            |
| FGY       | 2B     | 16.5            | 49.5 | 38.5 | 13 | only for collet M42 and up |
| FGY       | 3B     | 19.0            | 56.5 | 41.5 | 15 | only for collet D62 and up |
| FGY       | 4B     | 26.0            | 74.4 | 56.4 | 20 | only for collet D82 and up |

**M1** Cable assembly (page 169)

**Note:** <sup>1)</sup> to order, add a «Z» at the end of the reference. The bend relief must be ordered separately (see page 145).

### ENG Fixed socket with earthing tag, nut fixing, key G or J), PEEK outer shell

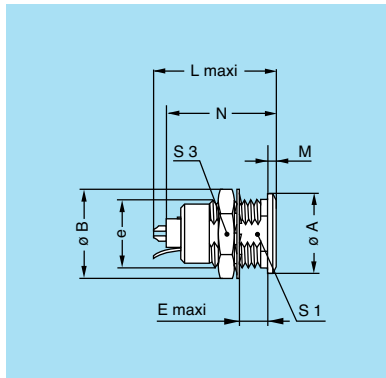
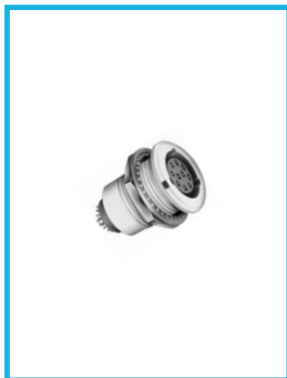


| Reference |        | Dimensions (mm) |      |         |      |      |     |                 |      |    |
|-----------|--------|-----------------|------|---------|------|------|-----|-----------------|------|----|
| Model     | Series | A               | B    | e       | E    | L    | M   | N <sup>1)</sup> | S1   | S3 |
| ENG       | B      | 11              | 12.5 | M9x0.6  | 6.4  | 20.7 | 1.8 | 16.5            | 8.2  | 11 |
| ENG       | 1B     | 14              | 15.8 | M12x1.0 | 7.5  | 23.0 | 1.5 | 21.1            | 10.5 | 14 |
| ENG       | 3B     | 22              | 25.0 | M18x1.0 | 11.5 | 30.7 | 2.0 | 28.1            | 16.5 | 22 |
| ENG       | 4B     | 28              | 34.0 | M25x1.0 | 12.0 | 35.7 | 2.5 | 32.6            | 23.5 | 30 |

**P1** Panel cut-out (page 157)

**Note:** <sup>1)</sup> maximum length with crimp contacts.

### ENY Fixed socket with earthing tag, nut fixing, keys Y), PSU or PPSU outer shell

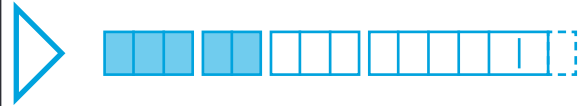


| Reference |        | Dimensions (mm) |      |         |      |      |     |                 |      |    |
|-----------|--------|-----------------|------|---------|------|------|-----|-----------------|------|----|
| Model     | Series | A               | B    | e       | E    | L    | M   | N <sup>1)</sup> | S1   | S3 |
| ENY       | 2B     | 18              | 19.2 | M15x1.0 | 8.5  | 26.7 | 1.8 | 24.6            | 13.5 | 17 |
| ENY       | 3B     | 22              | 25.0 | M18x1.0 | 11.5 | 30.7 | 2.0 | 28.1            | 16.5 | 22 |
| ENY       | 4B     | 28              | 34.0 | M25x1.0 | 12.0 | 35.7 | 2.5 | 32.6            | 23.5 | 30 |

**P1** Panel cut-out (page 157)

**Note:** <sup>1)</sup> maximum length with crimp contacts.

Other models with plastic outer shell are available on request.



## Watertight or vacuumtight models

These plug, socket and coupler models allow the device on which they are fitted to reach a protection index of IP68 as per IEC 60529. They are fully compatible with plugs of the same series and are widely used for portable radios, military, laboratory equipment, aviation, etc.

These models are identified by a letter «P» at the end of the reference.

Most of these models are also available in a vacuumtight version. Such models are identified by an additional letter «V» at the end of the part number (certificate on request).

Epoxy resin is used to seal these models.

## Technical Characteristics

### Mechanical and Climatical

| Characteristics                         | Value                                     | Standard             |
|---|---|----------------------|
| Endurance <sup>1)</sup>                 | > 5000 cycles                             | IEC 60512-5 test 9a  |
| Humidity                                | up to 95% at 60° C                        |                      |
| Temperature range                       | 00 to 1B                                  | - 20° C/+ 100° C     |
|   | 2B to 5B                                  | - 20° C/+ 80° C      |
| Salt spray corrosion test <sup>4)</sup> | > 1000h                                   | IEC 60512-6 test 11f |
| Climatical category                     | 20/80/21                                  | IEC 60068-1          |
| Leakage rate (He) <sup>2)</sup>         | < 10 <sup>-7</sup> mbar.l.s <sup>-1</sup> | IEC 60512-7 test 14b |

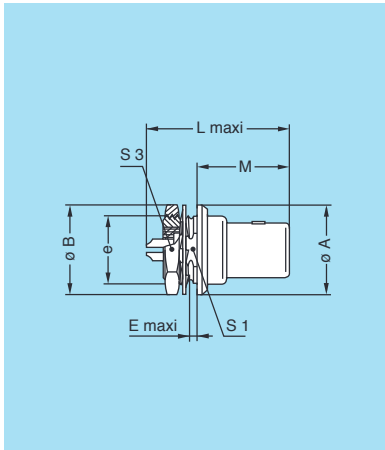
| Characteristics                          | Value | Standard |                      |
|--|-------|----------|----------------------|
| Maximum operating pressure <sup>3)</sup> | 00    | 60 bar   | IEC 60512-7 test 14d |
|  | 0B    | 60 bar   | IEC 60512-7 test 14d |
|  | 1B    | 60 bar   | IEC 60512-7 test 14d |
|  | 2B    | 40 bar   | IEC 60512-7 test 14d |
|  | 3B    | 30 bar   | IEC 60512-7 test 14d |
|  | 4B    | 15 bar   | IEC 60512-7 test 14d |
|  | 5B    | 5 bar    | IEC 60512-7 test 14d |

**Note:** <sup>1)</sup> see page 189, contact resistance after mating cycles. See page 185, mechanical endurance latching force.

<sup>2)</sup> only for vacuumtight models. Residual traces of grease used during (He) leak testing are on the o-ring. Please contact us for further details.

<sup>3)</sup> this value corresponds to the maximum allowed pressure difference for the assembled socket. <sup>4)</sup> for chrome plated product («C» material code).

## YHG Fixed plug, nut fixing, non-latching, key (G) or keys (A...M)



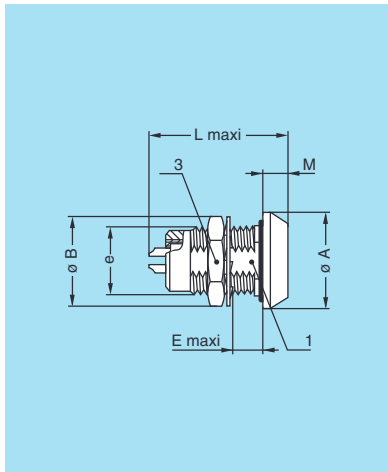
| Reference |        | Dimensions (mm) |      |         |     |      |      |      |    |
|-----------|--------|-----------------|------|---------|-----|------|------|------|----|
| Model     | Series | A               | B    | e       | E   | L    | M    | S1   | S3 |
| YHG       | 0B     | 13              | 12.4 | M9x0.6  | 2.4 | 24.1 | 14.2 | 8.2  | 11 |
| YHG       | 1B     | 16              | 15.8 | M12x1.0 | 3.9 | 28.0 | 16.2 | 10.5 | 14 |
| YHG       | 2B     | 19              | 19.2 | M15x1.0 | 5.5 | 33.1 | 17.8 | 13.5 | 17 |
| YHG       | 3B     | 22              | 25.0 | M18x1.0 | 5.1 | 38.2 | 22.2 | 16.5 | 22 |

**P9** Panel cut-out (page 157)

**Note:** this model does not include an O-ring behind the flange, it ensures only IP61 protection index. Consequently, it is not vacuumtight. Watertightness (when mated) is only ensured with HHG and HCG sockets.



### HGG Fixed socket, nut fixing, key G) or keys A...M and R), watertight or vacuumtight

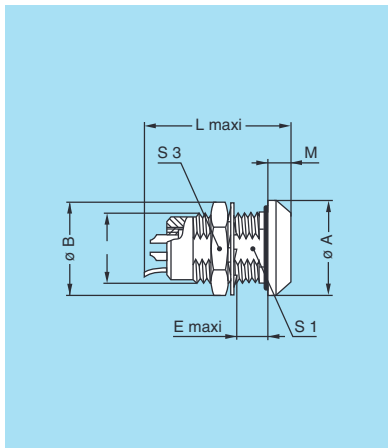


| Reference |        | Dimensions (mm) |      |         |      |      |     |      |    |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|
| Model     | Series | A               | B    | e       | E    | L    | M   | S1   | S3 |
| HGG       | 00     | 11              | 10.2 | M7x0.5  | 8.0  | 18.0 | 1.5 | –    | 9  |
| HGG       | 0B     | 13              | 12.4 | M9x0.6  | 7.0  | 21.5 | 3.0 | 8.2  | 11 |
| HGG       | 1B     | 18              | 15.8 | M12x1.0 | 7.0  | 26.6 | 4.5 | 10.5 | 14 |
| HGG       | 2B     | 20              | 19.2 | M15x1.0 | 8.0  | 31.6 | 4.0 | 13.5 | 17 |
| HGG       | 3B     | 25              | 25.0 | M18x1.0 | 11.5 | 36.1 | 4.0 | 16.5 | 22 |
| HGG       | 4B     | 34              | 34.0 | M25x1.0 | 11.0 | 43.1 | 4.0 | 23.5 | 30 |
| HGG       | 5B     | 45              | 40.0 | M35x1.0 | 11.0 | 53.6 | 5.0 | 33.5 | –  |

**P9** Panel cut-out (page 157)

**Note:** the 5B series is delivered with a tapered washer and a round nut.

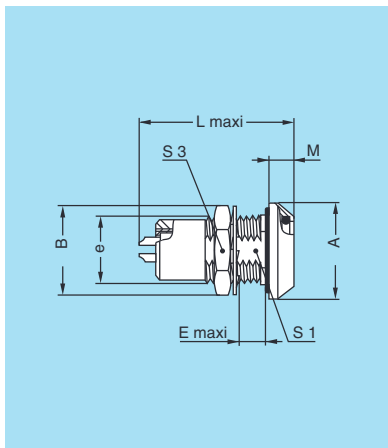
### HNG Fixed socket, nut fixing, with earthing tag, key G) or keys A...M), watertight or vacuumtight



| Reference |        | Dimensions (mm) |      |        |   |      |   |     |    |
|-----------|--------|-----------------|------|--------|---|------|---|-----|----|
| Model     | Series | A               | B    | e      | E | L    | M | S1  | S3 |
| HNG       | 0B     | 13              | 12.4 | M9x0.6 | 7 | 21.5 | 3 | 8.2 | 11 |

**P9** Panel cut-out (page 157)

### HHG Fixed socket, nut fixing, key G) or keys A...M), watertight or vacuumtight (watertight when mated)

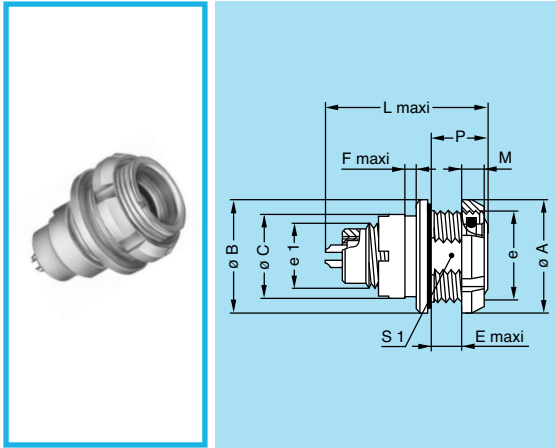


| Reference |        | Dimensions (mm) |      |         |      |      |     |      |    |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|
| Model     | Series | A               | B    | e       | E    | L    | M   | S1   | S3 |
| HHG       | 0B     | 13              | 12.4 | M9x0.6  | 7.0  | 24.5 | 4.8 | 8.2  | 11 |
| HHG       | 1B     | 18              | 15.8 | M12x1.0 | 7.0  | 30.3 | 5.2 | 10.5 | 14 |
| HHG       | 2B     | 22              | 19.2 | M15x1.0 | 8.0  | 35.6 | 6.0 | 13.5 | 17 |
| HHG       | 3B     | 25              | 25.0 | M18x1.0 | 11.5 | 41.3 | 7.2 | 16.5 | 22 |

**P9** Panel cut-out (page 157)

**Note:** this model ensures watertightness (IP66) in the mating area when mated with FGJ or similar plug.

**HCG** Fixed socket, nut fixing, key **G**) or keys **A...M**), watertight or vacuumtight (watertight when mated)  
(back panel mounting)

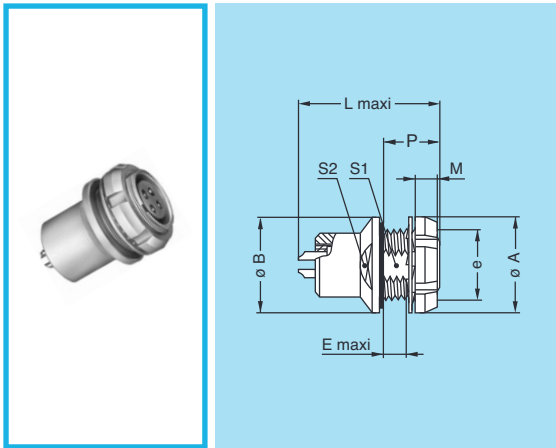


| Reference |        | Dimensions (mm) |    |      |         |         |     |     |      |     |      |      |
|-----------|--------|-----------------|----|------|---------|---------|-----|-----|------|-----|------|------|
| Model     | Series | A               | B  | C    | e       | e1      | E   | F   | L    | M   | P    | S1   |
| HCG       | B      | 18              | 18 | 12.0 | M14x1.0 | M9x0.6  | 3.9 | 1.0 | 24.5 | 3.5 | 7.5  | 12.5 |
| HCG       | 1B     | 20              | 20 | 14.5 | M16x1.0 | M12x1.0 | 6.2 | 2.0 | 30.3 | 3.5 | 10.0 | 14.5 |
| HCG       | 2B     | 24              | 24 | 17.5 | M19x1.0 | M14x1.0 | 6.7 | 1.5 | 35.6 | 3.5 | 11.3 | 17.0 |

**P3** Panel cut-out (page 157)

**Note:** this model ensures watertightness (IP66) in the mating area when mated with FGG or similar plug.

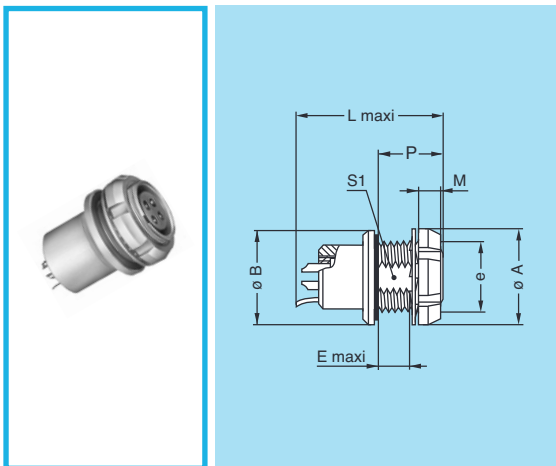
**HEG** Fixed socket, nut fixing, key **G**) or keys **A...M**), watertight or vacuumtight (back panel mounting)



| Reference |        | Dimensions (mm) |    |         |     |      |     |      |      |    |  |
|-----------|--------|-----------------|----|---------|-----|------|-----|------|------|----|--|
| Model     | Series | A               | B  | e       | E   | L    | M   | P    | S1   | S2 |  |
| HEG       |        | 10              | 11 | M7x0.5  | 2.5 | 18.2 | 2.5 | 6.0  | 6.3  | –  |  |
| HEG       | B      | 12              | 13 | M9x0.6  | 5.5 | 21.5 | 2.5 | 9.0  | 8.2  | –  |  |
| HEG       | 1B     | 16              | 18 | M12x1.0 | 6.5 | 26.6 | 3.5 | 11.0 | 10.5 | –  |  |
| HEG       | 2B     | 20              | 20 | M15x1.0 | 5.0 | 31.6 | 3.5 | 9.6  | 13.5 | 15 |  |

**P9** Panel cut-out (page 157)

**HMG** Fixed socket with earthing tag, nut fixing, key **G**) or keys **A...M**), watertight or vacuumtight  
(back panel mounting)



| Reference |                  | Dimensions (mm) |    |         |     |      |     |      |      |  |
|-----------|------------------|-----------------|----|---------|-----|------|-----|------|------|--|
| Model     | Series           | A               | B  | e       | E   | L    | M   | P    | S1   |  |
| HMG       |                  | 10              | 11 | M7x0.5  | 2.5 | 18.0 | 2.5 | 6.0  | 6.3  |  |
| HMG       | B                | 12              | 13 | M9x0.6  | 5.5 | 21.5 | 2.5 | 9.0  | 8.2  |  |
| HMG       | 1B               | 16              | 18 | M12x1.0 | 5.5 | 26.6 | 3.5 | 11.0 | 10.5 |  |
| HMG       | 2B <sup>1)</sup> | 20              | 20 | M15x1.0 | 5.5 | 31.6 | 3.5 | 9.6  | 13.5 |  |
| HMG       | 3B               | 24              | 25 | M18x1.0 | 7.5 | 36.1 | 4.5 | 14.0 | 16.5 |  |

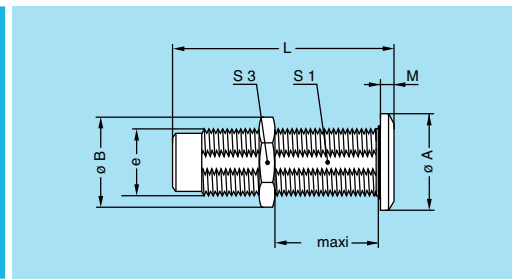
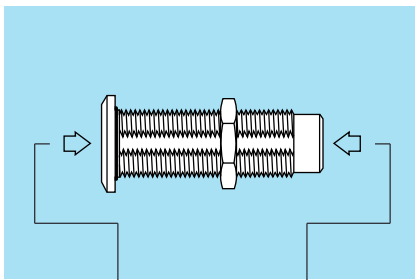
**P9** Panel cut-out (page 157)

**Note:** <sup>1)</sup> the surface design of the 2B series is different.

**Note:** The 3B series is delivered with a conical nut and without washer.



**S** Fixed coupler, nut fixing, key G) or keys A, B, J, K and L) at the flange end and key G) or keys A, B, J, K and L) at the other end, watertight or vacuumtight



Example

Alignment key see page 36.

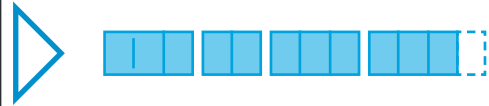
| Reference |        | Contacts<br>Type | Dimensions (mm) |      |          |    |    |     |      |    |
|-----------|--------|------------------|-----------------|------|----------|----|----|-----|------|----|
| Model     | Series |                  | A               | B    | e        | E  | L  | M   | S1   | S3 |
| SGJ       | 0B     | female – male    | 14              | 13.8 | M10x0.75 | 17 | 34 | 2.0 | 9.0  | 12 |
| SJG       | 0B     | male – female    | 14              | 13.8 | M10x0.75 | 17 | 34 | 2.0 | 9.0  | 12 |
| SGJ       | 1B     | female – male    | 17              | 15.8 | M12x1.00 | 28 | 39 | 2.5 | 10.5 | 14 |
| SJG       | 1B     | male – female    | 17              | 15.8 | M12x1.00 | 28 | 39 | 2.5 | 10.5 | 14 |
| SGJ       | 2B     | female – male    | 20              | 21.5 | M16x1.00 | 25 | 44 | 4.0 | 15.0 | 19 |
| SJG       | 2B     | male – female    | 20              | 21.5 | M16x1.00 | 25 | 44 | 4.0 | 15.0 | 19 |
| SGJ       | 3B     | female – male    | 25              | 27.0 | M20x1.00 | 30 | 53 | 4.0 | 18.5 | 24 |
| SJG       | 3B     | male – female    | 25              | 27.0 | M20x1.00 | 30 | 53 | 4.0 | 18.5 | 24 |
| SAK       | 3B     | female – male    | 25              | 27.0 | M20x1.00 | 30 | 53 | 4.0 | 18.5 | 24 |
| SBL       | 3B     | female – male    | 25              | 27.0 | M20x1.00 | 30 | 53 | 4.0 | 18.5 | 24 |
| SAK       | 4B     | female – male    | 34              | 34.0 | M25x1.00 | 50 | 65 | 4.0 | 23.5 | 30 |
| SBL       | 4B     | female – male    | 34              | 34.0 | M25x1.00 | 50 | 65 | 4.0 | 23.5 | 30 |
| SGJ       | 4B     | female – male    | 34              | 34.0 | M25x1.00 | 50 | 65 | 4.0 | 23.5 | 30 |
| SJG       | 4B     | male – female    | 34              | 34.0 | M25x1.00 | 50 | 65 | 4.0 | 23.5 | 30 |
| SGJ       | 5B     | female – male    | 45              | 40.0 | M35x1.00 | 58 | 80 | 5.0 | 33.5 | –  |
| SJG       | 5B     | male – female    | 45              | 40.0 | M35x1.00 | 58 | 80 | 5.0 | 33.5 | –  |
| SKA       | 5B     | male – female    | 45              | 40.0 | M35x1.00 | 58 | 80 | 5.0 | 33.5 | –  |
| SLB       | 5B     | male – female    | 45              | 40.0 | M35x1.00 | 58 | 80 | 5.0 | 33.5 | –  |
| SAK       | 5B     | female – male    | 45              | 40.0 | M35x1.00 | 58 | 80 | 5.0 | 33.5 | –  |
| SBL       | 5B     | female – male    | 45              | 40.0 | M35x1.00 | 58 | 80 | 5.0 | 33.5 | –  |

**P4** Panel cut-out (page 157)

**P9** Panel cut-out 1B series (page 157)

**Note:** The 5B series is delivered with a round nut.

**Note:** for this fixed coupler, the first contact type mentioned is always the one at the flange end. On request these couplers can be produced in other series, with other keys.



## Bridge models

### Technical Characteristics

#### Mechanical and Climatical

| Characteristics         | Value         | Standard            |
|-------------------------|---------------|---------------------|
| Endurance <sup>1)</sup> | > 1000 cycles | IEC 60512-5 test 9a |
| Working temperature     | maximum 90° C |                     |

**Note:** <sup>1)</sup> see page 189, contact resistance after mating cycles. See page 185, mechanical endurance latching force.

#### Materials and Treatment

| Component       | Material  | Surface treat. (µm) |    |     |     |
|-----------------|-----------|---------------------|----|-----|-----|
|                 |           | Cu                  | Ni | Cr  | Au  |
| Plastic housing | Polyamide | -                   |    |     |     |
| Metallic parts  | Brass     | 0.5                 | 3  | -   | -   |
|                 | Brass     | 0.5                 | 3  | 0.3 | -   |
| Insulator       | PEEK      | -                   |    |     |     |
| Male contact    | Brass     | 0.5                 | 3  | -   | 1.0 |
| Female contact  | Bronze    | 0.5                 | 3  | -   | 1.5 |

**Note:** the surface treatment standards are as follows:  
 - Nickel: SAE AMS QQ N 290, chrome: SAE AMS 2460, gold: ISO 27874

**Note:** the last letter of the part number indicates the colour of the housing.  
 Ex. G (standard) is grey. To obtain another colour, replace this letter by the letter corresponding to the selected colour (see table on page 72).

#### Electrical

| Characteristics    | Value  | Standard            |
|--------------------|--------|---------------------|
| Contact resistance | < 6 mΩ | IEC 60512-2 test 2a |

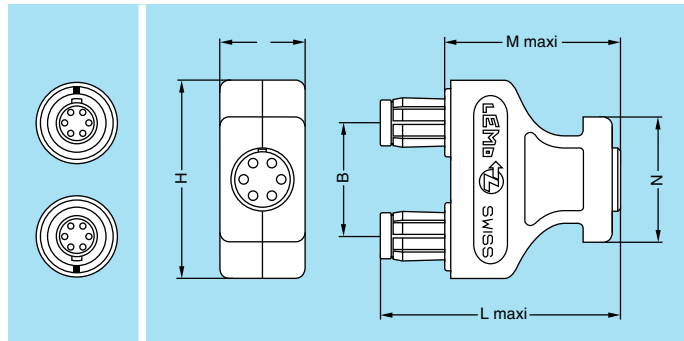
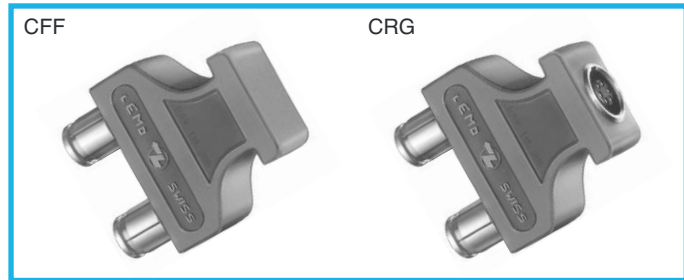
| Part number            | Series | Audio-Mono | Audio-Stereo | Test voltage (kV rms) <sup>1)2)</sup> | Rated current (A) |
|------------------------|--------|------------|--------------|---------------------------------------|-------------------|
| <b>CFF.0B.302.PLCG</b> | 0B     |            | -            | 1.05                                  | 4                 |
| <b>CRG.0B.302.PLEG</b> | 0B     |            | -            | 1.05                                  | 4                 |
| <b>CFF.0B.303.PLCG</b> | 0B     |            | -            | 0.80                                  | 4                 |
| <b>CRG.0B.303.PLEG</b> | 0B     |            | -            | 0.80                                  | 4                 |
| <b>CRG.0B.306.PLEG</b> | 0B     | -          |              | 0.40                                  | 2                 |
| <b>CFF.1B.303.PLCG</b> | 1B     |            | -            | 1.25                                  | 5                 |
| <b>CRG.1B.303.PLEG</b> | 1B     |            | -            | 1.25                                  | 5                 |
| <b>CFF.1B.306.PLCG</b> | 1B     | -          |              | 0.80                                  | 3                 |
| <b>CRG.1B.306.PLEG</b> | 1B     | -          |              | 0.80                                  | 3                 |

**Note:**

<sup>1)</sup> see calculation method, caution and suggested standard on page 190.  
<sup>2)</sup> lowest measured value; contact to contact or contact to shell.

#### CFF Bridge plug with two non-latching plugs

#### CRG Bridge plug with two non-latching plugs, and monitoring socket, key G) or keys A...M)



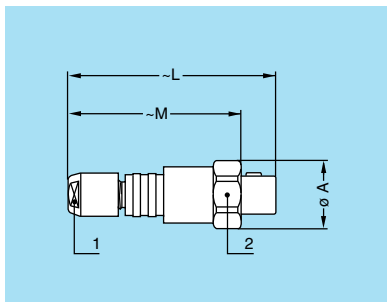
| Model          | Series    | Dimensions (mm) |    |      |      |      |      |
|----------------|-----------|-----------------|----|------|------|------|------|
|                |           | A               | B  | H    | L    | M    | N    |
| <b>CFF-CRG</b> | <b>0B</b> | 13.5            | 14 | 27.5 | 37.2 | 27.2 | 22.5 |
| <b>CFF-CRG</b> | <b>1B</b> | 15.0            | 20 | 35.0 | 42.0 | 31.0 | 22.0 |

**Note:** in order to provide the user with a coding system, the bridge plug housing, the double panel washers and the bend reliefs are available in nine colours.



## Threaded-latching models

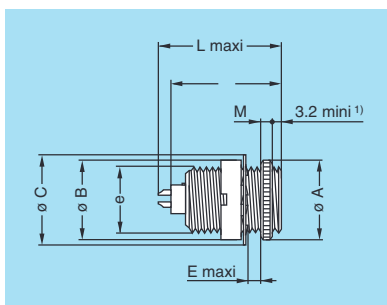
### FVG Straight plug, key G) or keys B), cable collet



| Reference  |           | Dimensions (mm) |      |    |    |    |
|------------|-----------|-----------------|------|----|----|----|
| Model      | Series    | A               | L    | M  | S1 | S2 |
| <b>FVG</b> | <b>00</b> | 9               | 28.5 | 24 | 5  | 8  |

**Note:** to be ordered with nut for fitting a bend relief to obtain the rating IP 64.

### ESG Fixed socket with two round nuts, key G) or keys B), long threaded shell (back panel mounting)

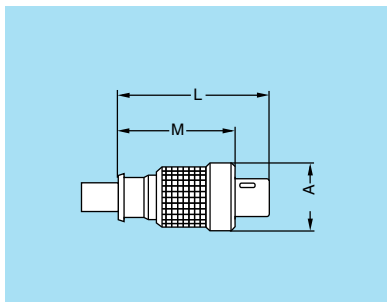


| Reference  |           | Dimensions (mm) |   |     |        |     |      |   |      |
|------------|-----------|-----------------|---|-----|--------|-----|------|---|------|
| Model      | Series    | A               | B | C   | e      | E   | L    | M | N    |
| <b>ESG</b> | <b>00</b> | 9               | 9 | 9.5 | M7x0.5 | 3.2 | 15.5 | 2 | 13.7 |

**P2** Panel cut-out (page 157)

**Note:** <sup>1)</sup> minimum length of free thread to ensure mating.

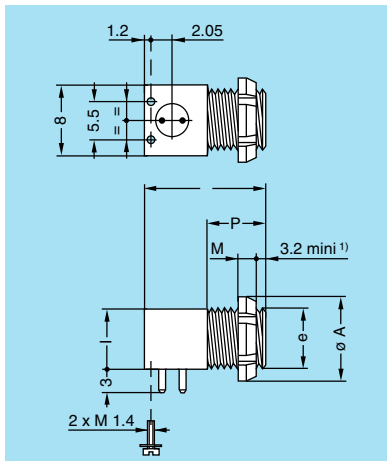
### FVB Straight plug, keys B), short shell for special cable crimping and for fitting a bend relief



| Reference  |           | Dimensions (mm) |    |      |
|------------|-----------|-----------------|----|------|
| Model      | Series    | A               | L  | M    |
| <b>FVB</b> | <b>00</b> | 9               | 20 | 15.4 |

**Note:** part number for microphone applications: FVB.00.303.NLAE24. After assembly the special bend relief GMF.00.018.D (to be ordered separately) is to be fitted.

### XRB Elbow 90° socket for printed circuit, keys B), short shell with one nut, screw fixing (back panel mounting)



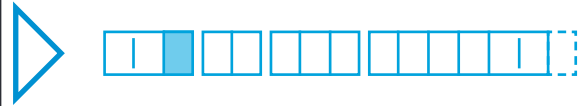
| Reference  |           | Dimensions (mm) |        |   |    |     |   |
|------------|-----------|-----------------|--------|---|----|-----|---|
| Model      | Series    | A               | e      | I | L  | M   | P |
| <b>XRB</b> | <b>00</b> | 10              | M7x0.5 | 7 | 14 | 2.5 | 7 |

**P2** Panel cut-out (page 157)

**P18** PCB drilling pattern for contact only (page 165)

**Note:** <sup>1)</sup> minimum length of free thread to ensure mating.

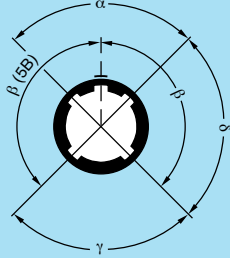


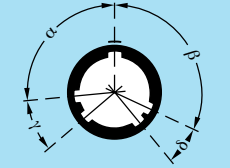


## Alignment Key B series)

### Alignment Key and Polarized Keying System

B series connector model part numbers are composed of three letters. The LAST LETTER indicates the key position and the contact type (male or female).

| Front view of a socket<br> | Ref.     | Nb of keys | Angles | Series |      |          | Ref.     | Nb of keys | Angles | Series |       |        |       |        | Contact type |        | Note |
|--|----------|------------|--------|--------|------|----------|----------|------------|--------|--------|-------|--------|-------|--------|--------------|--------|------|
|  |          |            |        | 00     | 0B   | 1B       |          |            |        | XB     | 2B    | 3B     | 4B    | 5B     | Plug         | Socket |      |
|  | <b>G</b> | 1          | –      | 0°     | 0°   | 0°       | <b>G</b> | 1          | –      | 0°     | 0°    | 0°     | 0°    | 0°     | male         | female |      |
| <b>A</b>   | 2        |            | 30°    | 30°    | 30°  | <b>A</b> | 2        |            | 30°    | 30°    | 30°   | 30°    | 30°   | male   | female       |        |      |
|  | 2        |            | 60°    | 60°    | 60°  |          | 2        |            | –      | 45°    | 45°   | 45°    | 45°   | male   | female       |        |      |
| <b>C</b>   | 2        |            | –      | 90°    | 90°  | <b>C</b> | 2        |            | –      | 60°    | 60°   | 60°    | 60°   | male   | female       |        |      |
| <b>D</b>   | 2        | $\beta$    | –      | 135°   | 135° | <b>D</b> | 2        | $\gamma$   | –      | 95°    | 95°   | 95°    | 95°   | male   | female       | ○      |      |
| <b>E</b>   | 2        | $\beta$    | –      | 145°   | 145° | <b>E</b> | 2        | $\beta$    | 120°   | 120°   | 120°  | 120°   | 120°  | male   | female       | ○      |      |
| <b>F</b>   | 2        | $\beta$    | –      | 155°   | 155° | <b>F</b> | 2        | $\beta$    | –      | 145°   | 145°  | 145°   | 145°  | male   | female       | ○      |      |
| <b>J</b>   | 2        | $\gamma$   | 45°    | 45°    | 45°  | <b>J</b> | 2        |            | –      | 37.5°  | 37.5° | 37.5°  | 37.5° | female | male         |        |      |
| <b>K</b>   | 2        | $\gamma$   | –      | 70°    | 70°  | <b>K</b> | 2        |            | –      | 52.5°  | 52.5° | 52.5°  | 52.5° | female | male         | ○      |      |
| <b>L</b>   | 2        | $\gamma$   | –      | 80°    | 80°  | <b>L</b> | 2        | $\gamma$   | –      | 70°    | 70°   | 70°    | 70°   | female | male         | ○      |      |
| <b>M</b>   | 2        | $\delta$   | –      | 110°   | –    | <b>M</b> | 2        | –          | –      | –      | –     | –      | –     | female | male         | ○      |      |
| <b>Y</b>   | 3        | –          | –      | –      | –    | <b>Y</b> | 3        | $\beta$    | –      | 112.5° | 126°  | 112.5° | –     | male   | female       | 1)     |      |
|  | 3        | –          | –      | –      | –    |          | 3        | $\gamma$   | –      | 100°   | 102°  | 147.5° | –     | male   | female       | 1)     |      |

| Front view of a socket<br> | Ref.     | Nb of keys | Angles   | Series |    |    | Ref. | Nb of keys | Angles   | Series |    |    |    |      | Contact type |        | Note   |
|--|----------|------------|----------|--------|----|----|------|------------|----------|--------|----|----|----|------|--------------|--------|--------|
|  |          |            |          | 00     | 0B | 1B |      |            |          | XB     | 2B | 3B | 4B | 5B   | Plug         | Socket |        |
|  | <b>R</b> |            | 5        |        | –  | –  | –    | <b>R</b>   | 5        |        | –  | –  | –  | –    | 95°          | male   | female |
|  |          | 5          | $\beta$  | –      | –  | –  | 5    |            | $\beta$  | –      | –  | –  | –  | 115° | male         | female |        |
|  |          | 5          | $\gamma$ | –      | –  | –  | 5    |            | $\gamma$ | –      | –  | –  | –  | 20°  | male         | female |        |
|  |          | 5          | $\delta$ | –      | –  | –  | 5    |            | $\delta$ | –      | –  | –  | –  | 30°  | male         | female |        |

**Note:** FTG, FGY, ENY models are not available with all the keys. Please consult pages corresponding to these models. For R models see explanation on page 24 and for S models see explanation on page 33.

**Note:** 1) only FGY and ENY models are available.

- First choice alternative
- Special order alternative



## Insert configuration (B, K and T series)

### Multipole

|   | Solder contacts |  | Reference | Series   | Contact ø (mm) | Contact type |       |                  |               | AWG           |       |      | Solder contact   |  | Crimp contact  |  | Rated current (A) <sup>1)</sup> |
|---|-----------------|--|-----------|----------|----------------|--------------|-------|------------------|---------------|---------------|-------|------|--|--|--|--|---------------------------------|
|   |                 |  |           |          |                | Solder       | Crimp | Print (straight) | Print (elbow) | Solder (max.) | Crimp |      | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>4)</sup><br>Contact-shell | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>4)</sup><br>Contact-shell |                                 |
|   |                 |  |           |          |                |              |       |                  |               |               | min.  | max. |  |  |  |  |                                 |
| 2 |                 |  | 302       | 00-TT    | 0.5            | ●            | ●     | ●                | ●             | 30            | 32    | 28   | 1.00   | 0.95   | 1.15   | 1.20   | 3.5                             |
|   |                 |  |           | 0B-0K-0T | 0.9            | ●            | ●     | ●                | ●             | 20            | 32    | 20   | 1.00   | 1.05   | 1.45   | 1.20   | 10.0 <sup>2)</sup>              |
|   |                 |  |           | 1B-1K-1T | 1.3            | ●            | ●     | ●                | ●             | 20            | 26    | 18   | 1.50   | 1.35   | 1.70   | 1.45   | 15.0 <sup>3)</sup>              |
|   |                 |  |           | 2B-2K-2T | 2.0            | ●            | ●     | ●                | ●             | 16            | 18    | 12   | 2.10   | 1.75   | 2.85   | 2.70   | 25.0 <sup>3)</sup>              |
|   |                 |  |           | 3B-3K-3T | 3.0            | ●            | ●     | ○                | –             | 12            | 14    | 10   | 2.10   | 1.55   | 2.30   | 1.80   | 35.0                            |
|   |                 |  |           | 5B-5K    | 6.0            | ●            | –     | –                | –             | 8             | –     | –    | 3.60   | 2.95   | –  | –  | 50.0                            |
| 3 |                 |  | 303       | 00-TT    | 0.5            | ●            | ●     | ●                | ●             | 30            | 32    | 28   | 0.80   | 0.95   | 1.35   | 1.10   | 3.0                             |
|   |                 |  |           | 0B-0K-0T | 0.9            | ●            | ●     | ●                | ●             | 20            | 32    | 20   | 1.20   | 0.90   | 1.70   | 1.60   | 8.0 <sup>2)</sup>               |
|   |                 |  |           | 1B-1K-1T | 1.3            | ●            | ●     | ●                | ●             | 20            | 26    | 18   | 1.30   | 1.55   | 1.60   | 1.85   | 12.0                            |
|   |                 |  |           | 2B-2K-2T | 1.6            | ●            | ●     | ●                | ●             | 18            | 22    | 14   | 2.40   | 1.85   | 1.90   | 1.90   | 17.0 <sup>3)</sup>              |
|   |                 |  |           | 3B-3K-3T | 2.0            | ●            | ●     | ●                | ○             | 16            | 18    | 12   | 1.90   | 1.50   | 3.20   | 2.65   | 25.0                            |
| 4 |                 |  | 304       | 00-TT    | 0.5            | ●            | ●     | ●                | ●             | 30            | 32    | 28   | 0.80   | 0.65   | 1.05   | 1.05   | 2.0                             |
|   |                 |  |           | 0B-0K-0T | 0.7            | ●            | ●     | ●                | ●             | 22            | 32    | 22   | 0.85   | 0.70   | 1.35   | 1.10   | 7.0 <sup>2)</sup>               |
|   |                 |  |           | 1B-1K-1T | 0.9            | ●            | ●     | ●                | ●             | 22            | 32    | 20   | 1.35   | 1.45   | 1.70   | 1.80   | 10.0 <sup>2)</sup>              |
|   |                 |  |           | 2B-2K-2T | 1.3            | ●            | ●     | ●                | ●             | 20            | 26    | 18   | 1.85   | 1.85   | 2.20   | 2.20   | 15.0 <sup>3)</sup>              |
|   |                 |  |           | 3B-3K-3T | 2.0            | ●            | ●     | ●                | ●             | 16            | 18    | 12   | 1.45   | 1.25   | 2.50   | 2.20   | 19.0                            |
|   |                 |  |           | 4B-4K    | 3.0            | ●            | ●     | ○                | –             | 12            | 14    | 10   | 2.10   | 1.50   | 1.80   | 1.20   | 30.0                            |
|   |                 |  |           | 5B-5K    | 4.0            | ●            | ●     | ○                | –             | 10            | 12    | 10   | 2.95   | 2.65   | 3.20   | 2.40   | 35.0                            |
| 5 |                 |  | 305       | 00-TT    | 0.35           | ●            | –     | ●                | –             | 30            | –     | –    | 0.70   | 1.00   | –  | –  | 1.7                             |
|   |                 |  |           |          |                |              |       |                  |               |               |       |      |  |  |  |  |                                 |

- First choice alternative
- Special order alternative

**Note:** 1) see calculation method, caution and suggested standard on page 190.  
 2) rated current = 6A for socket with elbow (90°) contact for printed circuit.  
 3) rated current = 12A for socket with elbow (90°) contact for printed circuit.  
 4) test voltage (kV) contact-shell is slightly lower for K and T series (values here are for B series).

## Multipole

|   | Solder contacts |  | Crimp contacts |          | Reference | Series | Contact ø (mm)  | Contact type     |               |               |       | AWG  |  |  | Solder contact   |  | Crimp contact      |  | Rated current (A) <sup>1)</sup> |
|---|-----------------|--|----------------|----------|-----------|--------|-----------------|------------------|---------------|---------------|-------|------|--|--|--|--|--------------------|--|---------------------------------|
|   |                 |  | Solder         | Crimp    |           |        |                 | Print (straight) | Print (elbow) | Solder (max.) | Crimp |      | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>5)</sup><br>Contact-shell | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>5)</sup><br>Contact-shell |                    |  |                                 |
|   |                 |  |                |          |           |        |                 |                  |               |               | min.  | max. |  |  |  |  |                    |  |                                 |
| 5 |                 |  | 305            | 0B-0K-0T | 0.7       | ●      | ●               | ●                | ●             | 22            | 32    | 22   | 1.00   | 0.70   | 1.25   | 1.20   | 6.5 <sup>2)</sup>  |  |                                 |
|   |                 |  |                | 1B-1K-1T | 0.9       | ●      | ●               | ●                | ●             | 22            | 32    | 20   | 1.25   | 1.15   | 1.30   | 1.55   | 9.0 <sup>2)</sup>  |  |                                 |
|   |                 |  |                | 2B-2K-2T | 1.3       | ●      | ●               | ●                | ●             | 20            | 26    | 18   | 1.75   | 1.60   | 2.15   | 2.15   | 14.0 <sup>3)</sup> |  |                                 |
|   |                 |  |                | 3B-3K-3T | 1.6       | ●      | ●               | ●                | ●             | 18            | 22    | 14   | 1.90   | 1.25   | 2.40   | 1.75   | 19.0               |  |                                 |
| 6 |                 |  | 306            | 0B-0K-0T | 0.5       | ●      | ○ <sup>4)</sup> | ●                | ●             | 28            | 32    | 28   | 0.85   | 0.65   | 1.40   | 1.20   | 2.5                |  |                                 |
|   |                 |  |                | 1B-1K-1T | 0.7       | ●      | ●               | ●                | ●             | 22            | 32    | 22   | 1.05   | 1.20   | 1.35   | 1.45   | 7.0 <sup>2)</sup>  |  |                                 |
| 6 |                 |  | 306            | 00-TT    | 0.35      | ●      | -               | -                | -             | 30            | -     | -    | 0.60   | 0.75   | -  | -  | 1.5                |  |                                 |
|   |                 |  |                | 2B-2K-2T | 1.3       | ●      | ●               | ●                | ●             | 20            | 26    | 18   | 1.35   | 1.45   | 2.00   | 2.35   | 12.0               |  |                                 |
|   |                 |  |                | 3B-3K-3T | 1.6       | ●      | ●               | ●                | ●             | 18            | 22    | 14   | 1.60   | 1.15   | 1.90   | 1.80   | 17.0               |  |                                 |
|   |                 |  |                | 4B-4K    | 2.0       | ●      | ●               | ○                | -             | 16            | 18    | 12   | 2.00   | 1.75   | 2.75   | 2.40   | 24.0               |  |                                 |
| 7 |                 |  | 307            | 0B-0K-0T | 0.5       | ●      | ○ <sup>4)</sup> | ●                | ●             | 28            | 32    | 28   | 0.80   | 0.70   | 1.40   | 1.20   | 2.5                |  |                                 |
|   |                 |  |                | 1B-1K-1T | 0.7       | ●      | ●               | ●                | ●             | 22            | 32    | 22   | 0.95   | 1.05   | 1.45   | 1.45   | 7.0 <sup>2)</sup>  |  |                                 |
|   |                 |  |                | 2B-2K-2T | 1.3       | ●      | ●               | ●                | ●             | 20            | 26    | 18   | 1.75   | 1.60   | 1.95   | 2.15   | 11.0               |  |                                 |
|   |                 |  |                | 3B-3K-3T | 1.6       | ●      | ●               | ●                | ○             | 18            | 22    | 14   | 1.70   | 1.25   | 2.00   | 2.05   | 15.0               |  |                                 |
|   |                 |  |                | 4B-4K    | 2.0       | ●      | ●               | ○                | -             | 16            | 18    | 12   | 2.00   | 1.80   | 1.50   | 1.35   | 20.0               |  |                                 |
| 8 |                 |  | 308            | 1B-1K-1T | 0.7       | ●      | ●               | ●                | ●             | 22            | 32    | 22   | 0.95   | 1.15   | 1.30   | 1.30   | 5.0                |  |                                 |
| 8 |                 |  | 308            | 2B-2K-2T | 0.9       | ●      | ●               | ●                | ●             | 22            | 32    | 20   | 1.50   | 1.25   | 1.95   | 1.95   | 10.0 <sup>2)</sup> |  |                                 |
|   |                 |  |                | 3B-3K-3T | 1.3       | ●      | ●               | ●                | ●             | 20            | 26    | 18   | 1.65   | 1.15   | 1.85   | 1.75   | 13.0               |  |                                 |
|   |                 |  |                |          |           |        |                 |                  |               |               |       |      |  |  |  |  |                    |  |                                 |

- First choice alternative
- Special order alternative

**Note:** 1) see calculation method, caution and suggested standard on page 190.  
 2) rated current = 6A for socket with elbow (90°) contact for printed circuit.  
 3) rated current = 12A for socket with elbow (90°) contact for printed circuit.  
 4) available only for connectors fitted with male contacts.  
 5) test voltage (kV) contact-shell is slightly lower for K and T series (values here are for B series).



## Multipole

|    | Solder contacts |  | Reference | Series   | Contact $\phi$ (mm) | Contact type |                 |                  |               | AWG           |          |          | Solder contact   |  | Crimp contact  |  | Rated current (A) <sup>1)</sup> |
|----|-----------------|--|-----------|----------|---------------------|--------------|-----------------|------------------|---------------|---------------|----------|----------|--|--|--|--|---------------------------------|
|    |                 |  |           |          |                     | Solder       | Crimp           | Print (straight) | Print (elbow) | Solder (max.) | Crimp    |          | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>4)</sup><br>Contact-shell | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>4)</sup><br>Contact-shell |                                 |
|    |                 |  |           |          |                     |              |                 |                  |               |               | min.     | max.     |  |  |  |  |                                 |
| 9  |                 |  | 309       | 0B-0K-0T | 0.5                 | ●            | ○ <sup>3)</sup> | ●                | ●             | 28            | 32       | 28       | 0.60   | 0.50   | 1.00   | 0.85   | 2.0                             |
|    |                 |  |           |          |                     |              |                 |                  |               |               |          |          |  |  |  |  |                                 |
| 9  |                 |  | 309       | 3B-3K-3T | 8x1.3<br>1x2.0      | ●            | ●               | ●                | –             | 20<br>16      | 26<br>18 | 18<br>12 | 1.35   | 1.05   | 1.10   | 1.05   | 6.0<br>15.0                     |
|    |                 |  |           |          |                     |              |                 |                  |               |               |          |          |  |  |  |  |                                 |
| 10 |                 |  | 310       | 1B-1K-1T | 0.5                 | ●            | ● <sup>3)</sup> | ●                | ●             | 28            | 32       | 28       | 0.90   | 1.50   | 1.20   | 1.80   | 2.5                             |
|    |                 |  |           | 2B-2K-2T | 0.9                 | ●            | ●               | ●                | ●             | 22            | 32       | 20       | 1.45   | 1.30   | 1.80   | 2.10   | 8.0 <sup>2)</sup>               |
|    |                 |  |           | 3B-3K-3T | 1.3                 | ●            | ●               | ●                | ●             | 20            | 26       | 18       | 1.25   | 0.90   | 1.50   | 1.80   | 12.0                            |
|    |                 |  |           | 4B-4K    | 1.6                 | ●            | ●               | ○                | –             | 18            | 22       | 14       | 1.85   | 1.30   | 1.90   | 1.95   | 17.0                            |
|    |                 |  |           | 5B-5K    | 3.0                 | ●            | ●               | ○                | –             | 12            | 14       | 10       | 2.35   | 2.30   | 2.65   | 3.20   | 20.0                            |
| 12 |                 |  | 312       | 0B-0K-0T | 0.35                | ●            | –               | ●                | –             | 30            | –        | –        | 0.80   | 1.00   | –  | –  | 1.5                             |
|    |                 |  |           |          |                     |              |                 |                  |               |               |          |          |  |  |  |  |                                 |
| 12 |                 |  | 312       | XB       | 0.7                 | ●            | –               | ●                | –             | 22            | 32       | 22       | 1.35   | 1.65   | –  | –  | 5.0                             |
|    |                 |  |           |          |                     |              |                 |                  |               |               |          |          |  |  |  |  |                                 |
| 12 |                 |  | 312       | 2B-2K-2T | 0.7                 | ●            | ●               | ●                | ●             | 22            | 32       | 22       | 1.25   | 1.35   | 1.65   | 2.00   | 7.0 <sup>2)</sup>               |
|    |                 |  |           | 3B-3K-3T | 0.9                 | ●            | ●               | ●                | ●             | 22            | 32       | 20       | 1.45   | 1.00   | 1.65   | 1.85   | 9.0                             |
|    |                 |  |           | 4B-4K    | 1.3                 | ●            | ●               | ○                | –             | 20            | 26       | 18       | 1.45   | 1.60   | 1.90   | 1.85   | 12.0                            |

- First choice alternative
- Special order alternative

**Note:** <sup>1)</sup> see calculation method, caution and suggested standard on page 190.  
<sup>2)</sup> rated current = 6A for socket with elbow (90°) contact for printed circuit.  
<sup>3)</sup> available only for connectors fitted with male contacts.  
<sup>4)</sup> test voltage (kV) contact-shell is slightly lower for K and T series (values here are for B series).

## Multipole

|    | Solder contacts |       | Crimp contacts   |               | Reference | Series | Contact ø (mm)  | Contact type  |       |      |  | AWG  |  |  | Solder contact |      | Crimp contact     |  | Rated current (A) <sup>1)</sup> |
|----|-----------------|-------|------------------|---------------|-----------|--------|-----------------|---------------|-------|------|--|--|--|--|----------------|------|-------------------|--|---------------------------------|
|    | Solder          | Crimp | Print (straight) | Print (elbow) |           |        |                 | Solder (max.) | Crimp |      | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>4)</sup><br>Contact-shell | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>4)</sup><br>Contact-shell |                |      |                   |  |                                 |
|    |                 |       |                  |               |           |        |                 |               | min.  | max. |  |  |  |  |                |      |                   |  |                                 |
| 14 |                 |       | 314              | 1B-1K-1T      | 0.5       | ●      | ● <sup>3)</sup> | ●             | ●     | 28   | 32   | 28   | 0.80   | 1.20   | 0.95           | 1.60 | 2.0               |  |                                 |
|    |                 |       |                  | 2B-2K-2T      | 0.7       | ●      | ●               | ●             | ●     | 22   | 32   | 22   | 1.15   | 1.35   | 1.55           | 1.55 | 6.5 <sup>2)</sup> |  |                                 |
|    |                 |       |                  | 3B-3K-3T      | 0.9       | ●      | ●               | ●             | ●     | 22   | 32   | 20   | 1.20   | 1.20   | 1.80           | 1.65 | 9.0 <sup>2)</sup> |  |                                 |
|    |                 |       |                  | 5B-5K         | 2.0       | ●      | ●               | ○             | –     | 16   | 18   | 12   | 2.10   | 2.00   | 2.85           | 2.95 | 18.0              |  |                                 |
| 16 |                 |       | 316              | 1B-1K-1T      | 0.5       | ●      | ● <sup>3)</sup> | ●             | ○     | 28   | 32   | 28   | 0.80   | 1.25   | 0.95           | 1.60 | 1.5               |  |                                 |
|    |                 |       |                  |               |           |        |                 |               |       |      |  |  |  |  |                |      |                   |  |                                 |
| 16 |                 |       | 316              | 2B-2K-2T      | 0.7       | ●      | ●               | ●             | ●     | 22   | 32   | 22   | 0.95   | 1.25   | 1.55           | 1.75 | 6.0               |  |                                 |
|    |                 |       |                  | 3B-3K-3T      | 0.9       | ●      | ●               | ●             | ●     | 22   | 32   | 20   | 1.20   | 0.85   | 1.80           | 1.50 | 8.0               |  |                                 |
|    |                 |       |                  | 4B-4K         | 0.9       | ●      | ●               | ●             | –     | 22   | 32   | 20   | 1.35   | 1.50   | 2.30           | 2.10 | 10.0              |  |                                 |
|    |                 |       |                  | 5B-5K         | 2.0       | ●      | ●               | ○             | –     | 16   | 18   | 12   | 1.85   | 1.95   | 2.45           | 3.05 | 12.0              |  |                                 |
| 18 |                 |       | 318              | 2B-2K-2T      | 0.7       | ●      | ●               | ●             | ●     | 22   | 32   | 22   | 0.85   | 1.20   | 1.45           | 2.10 | 5.5               |  |                                 |
|    |                 |       |                  | 3B-3K-3T      | 0.9       | ●      | ●               | ●             | ●     | 22   | 32   | 20   | 1.20   | 1.05   | 1.85           | 1.60 | 7.0               |  |                                 |
|    |                 |       |                  |               |           |        |                 |               |       |      |  |  |  |  |                |      |                   |  |                                 |
| 19 |                 |       | 319              | 2B-2K-2T      | 0.7       | ●      | ●               | ●             | ●     | 22   | 32   | 22   | 0.95   | 1.25   | 1.55           | 1.65 | 5.0               |  |                                 |
|    |                 |       |                  |               |           |        |                 |               |       |      |  |  |  |  |                |      |                   |  |                                 |
| 20 |                 |       | 320              | 3B-3K-3T      | 0.7       | ●      | ●               | ●             | ●     | 22   | 32   | 22   | 1.00   | 0.90   | 1.35           | 1.55 | 6.0               |  |                                 |
|    |                 |       |                  |               |           |        |                 |               |       |      |  |  |  |  |                |      |                   |  |                                 |

- First choice alternative
- Special order alternative

**Note:** 1) see calculation method, caution and suggested standard on page 190.  
 2) rated current = 6A for socket with elbow (90°) contact for printed circuit.  
 3) available only for connectors fitted with male contacts.  
 4) test voltage (kV) contact-shell is slightly lower for K and T series (values here are for B series).



## Multipole

|    | Solder contacts |  | Crimp contacts |          | Reference | Series | Contact ø (mm) | Contact type |       |                  |               | AWG           |       |      | Solder contact   |  | Crimp contact  |  | Rated current (A) <sup>1)</sup> |
|----|-----------------|--|----------------|----------|-----------|--------|----------------|--------------|-------|------------------|---------------|---------------|-------|------|--|--|--|--|---------------------------------|
|    |                 |  |                |          |           |        |                | Solder       | Crimp | Print (straight) | Print (elbow) | Solder (max.) | Crimp |      | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>2)</sup><br>Contact-shell | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>2)</sup><br>Contact-shell |                                 |
|    |                 |  |                |          |           |        |                |              |       |                  |               |               | min.  | max. |  |  |  |  |                                 |
| 20 |                 |  | 320            | 4B-4K    | 0.9       | ●      | ●              | ●            | –     | 22               | 32            | 20            | 1.35  | 1.00 | 1.05   | 0.95   | 8.0  |  |                                 |
|    |                 |  |                | 5B-5K    | 1.6       | ●      | ●              | ○            | –     | 18               | 22            | 14            | 1.90  | 1.70 | 2.20   | 2.40   | 10.0   |  |                                 |
| 22 |                 |  | 322            | XB       | 0.5       | ●      | –              | ●            | –     | 28               | –             | –             | 0.50  | 0.90 | –  | –  | 1.5  |  |                                 |
|    |                 |  |                |          |           |        |                |              |       |                  |               |               |       |      |  |  |  |  |                                 |
| 22 |                 |  | 322            | 3B-3K-3T | 0.7       | ●      | ●              | ●            | ○     | 22               | 32            | 22            | 1.00  | 0.90 | 1.70   | 1.45   | 5.5  |  |                                 |
|    |                 |  |                |          |           |        |                |              |       |                  |               |               |       |      |  |  |  |  |                                 |
| 24 |                 |  | 324            | 3B-3K-3T | 0.7       | ●      | ●              | ●            | ●     | 22               | 32            | 22            | 0.95  | 0.80 | 1.35   | 1.35   | 4.0  |  |                                 |
|    |                 |  |                | 4B-4K    | 0.9       | ●      | ●              | ●            | –     | 22               | 32            | 20            | 1.20  | 1.45 | 1.80   | 2.05   | 7.0  |  |                                 |
| 26 |                 |  | 326            | 2B-2K-2T | 0.5       | ●      | –              | ●            | ●     | 28               | –             | –             | 0.95  | 1.30 | –  | –  | 2.0  |  |                                 |
|    |                 |  |                | 3B-3K-3T | 0.7       | ●      | ●              | ●            | ●     | 22               | 32            | 22            | 0.95  | 0.70 | 1.50   | 1.30   | 4.0  |  |                                 |
| 30 |                 |  | 330            | 3B-3K-3T | 0.7       | ●      | ●              | ●            | ●     | 22               | 32            | 22            | 0.80  | 0.70 | 1.35   | 1.20   | 3.5  |  |                                 |
|    |                 |  |                | 4B-4K    | 0.9       | ●      | ●              | ●            | –     | 22               | 32            | 20            | 0.95  | 0.85 | 1.75   | 1.45   | 5.0  |  |                                 |
|    |                 |  |                | 5B-5K    | 1.3       | ●      | ●              | ○            | –     | 20               | 26            | 18            | 1.45  | 1.60 | 2.05   | 2.45   | 8.0  |  |                                 |

- First choice alternative
- Special order alternative

**Note:** <sup>1)</sup> see calculation method, caution and suggested standard on page 190.  
<sup>2)</sup> test voltage (kV) contact-shell is slightly lower for K and T series (values here are for B series).

## Multipole

|    | Solder contacts |  | Crimp contacts |  | Reference | Series   | Contact ø (mm) | Contact type |       |                  |               | AWG           |       | Solder contact |  | Crimp contact  |  | Rated current (A) <sup>1)</sup> |  |
|----|-----------------|--|----------------|--|-----------|----------|----------------|--------------|-------|------------------|---------------|---------------|-------|----------------|--|--|--|---------------------------------|--|
|    |                 |  |                |  |           |          |                | Solder       | Crimp | Print (straight) | Print (elbow) | Solder (max.) | Crimp |                | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>2)</sup><br>Contact-shell | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact |                                 | Test voltage (kV rms) <sup>2)</sup><br>Contact-shell |
|    |                 |  |                |  |           |          |                |              |       |                  |               |               | min.  | max.           |  |  |  |                                 |  |
| 32 |                 |  |                |  | 332       | 2B-2K-2T | 0.5            | ●            | –     | ●                | ●             | 28            | –     | –              | 0.80   | 1.20   | –  | –                               | 1.5  |
|    |                 |  |                |  |           |          |                |              |       |                  |               |               |       |                |  |  |  |                                 |  |
| 32 |                 |  |                |  | 332       | 3B-3K-3T | 0.7            | ●            | ○     | ●                | ●             | 22            | 32    | 22             | 0.75   | 0.70   | –  | –                               | 3.0  |
|    |                 |  |                |  |           |          |                |              |       |                  |               |               |       |                |  |  |  |                                 |  |
| 40 |                 |  |                |  | 340       | 4B-4K    | 0.7            | ●            | ●     | ●                | –             | 22            | 32    | 22             | 0.90   | 0.90   | 1.30   | 1.30                            | 2.0  |
|    |                 |  |                |  |           |          |                |              |       |                  |               |               |       |                |  |  |  |                                 |  |
| 40 |                 |  |                |  | 340       | 5B-5K    | 1.3            | ●            | ●     | ○                | –             | 20            | 26    | 18             | 1.30   | 1.45   | 2.00   | 1.95                            | 7.0  |
|    |                 |  |                |  |           |          |                |              |       |                  |               |               |       |                |  |  |  |                                 |  |
| 48 |                 |  |                |  | 348       | 4B-4K    | 0.7            | ●            | ●     | ●                | –             | 22            | 32    | 22             | 0.70   | 0.70   | 1.00   | 1.00                            | 1.5  |
|    |                 |  |                |  |           |          |                |              |       |                  |               |               |       |                |  |  |  |                                 |  |
| 48 |                 |  |                |  | 348       | 5B-5K    | 1.3            | ●            | ●     | ●                | –             | 20            | 26    | 18             | 1.20   | 1.10   | 2.00   | 1.55                            | 6.0  |
|    |                 |  |                |  |           |          |                |              |       |                  |               |               |       |                |  |  |  |                                 |  |
| 50 |                 |  |                |  | 350       | 5B-5K    | 0.9            | ●            | ●     | ●                | –             | 22            | 32    | 20             | 1.30   | 1.60   | 1.20   | 1.45                            | 6.0  |
|    |                 |  |                |  |           |          |                |              |       |                  |               |               |       |                |  |  |  |                                 |  |

- First choice alternative
- Special order alternative

**Note:** <sup>1)</sup> see calculation method, caution and suggested standard on page 190.  
<sup>2)</sup> test voltage (kV) contact-shell is slightly lower for K and T series (values here are for B series).



## Multipole

|    |  |  | Reference | Series | Contact ø (mm) | Contact type |       |                  |               | AWG           |       |      | Solder contact   |  | Crimp contact  |  | Rated current (A) <sup>1)</sup> |
|----|--|--|-----------|--------|----------------|--------------|-------|------------------|---------------|---------------|-------|------|--|--|--|--|---------------------------------|
|    |  |  |           |        |                | Solder       | Crimp | Print (straight) | Print (elbow) | Solder (max.) | Crimp |      | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>2)</sup><br>Contact-shell | Test voltage (kV rms) <sup>1)</sup><br>Contact-contact | Test voltage (kV rms) <sup>2)</sup><br>Contact-shell |                                 |
|    |  |  |           |        |                |              |       |                  |               |               | min.  | max. |  |  |  |  |                                 |
| 54 |  |  | 354       | 5B-5K  | 0.9            | ●            | ●     | ●                | –             | 22            | 32    | 20   | 1.15   | 1.55   | 2.00   | 2.10   | 5.0                             |
|    |  |  |           |        |                |              |       |                  |               |               |       |      |  |  |  |  |                                 |
| 64 |  |  | 364       | 5B-5K  | 0.9            | ●            | ●     | ●                | –             | 22            | 32    | 20   | 1.30   | 1.55   | 1.35   | 1.85   | 3.0                             |
|    |  |  |           |        |                |              |       |                  |               |               |       |      |  |  |  |  |                                 |

- First choice alternative
- Special order alternative

**Note:** <sup>1)</sup> see calculation method, caution and suggested standard on page 190.  
<sup>2)</sup> test voltage (kV) contact-shell is slightly lower for K and T series (values here are for B series).





## Housings (B, K and T series)

| Ref.     | Outer shell and collet nut |                            | Latch sleeve + earthing crown |                      | Other metallic components |                 | Remarks  | Note |
|----------|----------------------------|----------------------------|-------------------------------|----------------------|---------------------------|-----------------|--|------|
|          | Material                   | Surf. treatment            | Material                      | Surf. treatment      | Material                  | Surf. treatment |  |      |
| <b>C</b> | Brass                      | chrome                     | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          |  | ●    |
| <b>N</b> | Brass                      | nickel                     | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          |  | ○    |
| <b>K</b> | Brass                      | black chrome <sup>3)</sup> | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          |  | ●    |
| <b>S</b> | Stainless steel            | –                          | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          |  | ●    |
| <b>T</b> | Stainless steel            | –                          | stainless steel               | –                    | brass                     | nickel          |  | ○    |
| <b>U</b> | Stainless steel            | –                          | stainless steel               | –                    | stainless steel           | –               |  | ○    |
| <b>L</b> | Aluminium alloy            | anodized                   | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          | <sup>1)</sup>                                  | ○    |
| <b>X</b> | Aluminium alloy            | nickel anthracite          | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          |  | ○    |
| <b>G</b> | PEEK (natural)             | –                          | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          | Only for FGG and ENG (B series)                | ●    |
| <b>P</b> | PSU                        | –                          | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          | Only for FGY and ENY (B series) <sup>1)</sup>  | ●    |
| <b>R</b> | PPSU                       | –                          | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          | Only for FGY and ENY (B series) <sup>1)</sup>  | ●    |
| <b>H</b> | PPS/brass                  | –/nickel                   | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          | Only for elbow sockets (B series)              | ●    |
| <b>P</b> | PA.6                       | –                          | brass/bronze                  | nickel <sup>2)</sup> | brass                     | nickel          | Only for CRF and CRG bridge plug <sup>1)</sup> | ●    |

**Note:** detailed characteristics of these materials and treatments are presented on page 182.

<sup>1)</sup> see «variant» for the colour.

<sup>2)</sup> in the K series, the latch sleeve is chrome-plated.

<sup>3)</sup> surface not conductive use socket with earthing tag (EN● and HM● model) to carry shield.

● First choice alternative  
○ Special order alternative



## Insulators (B, K and T series)

| Ref.     | Material | Contact type    | Remarks   | Note |
|----------|----------|-----------------|---|------|
| <b>Y</b> | PEEK     | Crimp           | extended design, with contacts that recess into insulator | ●    |
| <b>L</b> | PEEK     | Solder or print |   | ●    |

**Note:** detailed characteristics of these materials are presented on page 187.



## Contacts (B, K and T series)

### Soldering characteristics

- no need to order specific tools, a simple soldering iron is sufficient
- ideal for very small and fragile conductors
- contacts with solder cups to allow the solder to flow

**Note:** see page 188 for more information.

### Crimping characteristics

- practical, quick contact fixing outside the insulator
- possible use at high temperature
- need to order specific tools
- no risk of heating the insulator during the conductor-contact fixing
- high tensile strength
- totally lead-free solution



### Contacts reference for couplers R● S●● and TGL

| Ref.     | Contact type    | Remarks   |
|----------|-----------------|---|
|          | Male - Female   | contact configuration is explained on page 24, 33, 48 |
| <b>L</b> | Female - Male   | contact configuration is explained on page 24, 33, 48 |
| <b>M</b> | Female - Female | contact configuration is explained on page 24         |

### Contacts reference for plugs free or fixed sockets

| Contact type                              | Reference |          | Contact           |                    |                  | Conductor        |                                       |          |                    |                            |                    | F <sub>r</sub> <sup>1)</sup><br>(N) | Notes |
|---|-----------|----------|-------------------|--------------------|------------------|------------------|---------------------------------------|----------|--------------------|----------------------------|--------------------|-------------------------------------|-------|
|   | Male      | Female   | ø A<br>(mm)       | ø C<br>(mm)        | Form<br>per fig. | Solid            |                                       | Stranded |                    |                            |                    |                                     |       |
|   |           |          |                   |                    |                  | AWG<br>max.      | Section<br>max.<br>(mm <sup>2</sup> ) | AWG      |                    | Section (mm <sup>2</sup> ) |                    |                                     |       |
|   |           |          |                   |                    |                  |                  |                                       | min.     | max.               | min.                       | max.               |                                     |       |
| Solder<br><br>                            |           |          | 0.35              | 0.40               | –                | 28               | 0.09                                  | –        | 30                 | –                          | 0.05               | –                                   |       |
|   |           |          | 0.5 <sup>2)</sup> | 0.40 <sup>2)</sup> | –                | 28               | 0.09                                  | –        | 30                 | –                          | 0.05               | –                                   |       |
|   |           |          | 0.5               | 0.45 <sup>6)</sup> | –                | 28               | 0.09                                  | –        | 28                 | –                          | 0.09               | –                                   |       |
|   |           |          | 0.7               | 0.80               | –                | 22               | 0.34                                  | –        | 22 <sup>3)</sup>   | –                          | 0.34               | –                                   |       |
|   |           |          | 0.9               | 0.80 <sup>5)</sup> | –                | 22 <sup>5)</sup> | 0.34 <sup>5)</sup>                    | –        | 22 <sup>3)5)</sup> | –                          | 0.34 <sup>5)</sup> | –                                   |       |
|   |           | <b>L</b> | 1.3               | 1.00               | –                | 20               | 0.50                                  | –        | 20 <sup>3)</sup>   | –                          | 0.50               | –                                   | ●     |
|   |           |          | 1.6               | 1.40               | –                | 16               | 1.00                                  | –        | 18                 | –                          | 1.00               | –                                   |       |
|   |           |          | 2.0               | 1.80               | –                | 14               | 1.50                                  | –        | 16                 | –                          | 1.50               | –                                   |       |
|   |           |          | 3.0               | 2.70               | –                | 10               | 4.00                                  | –        | 12                 | –                          | 4.00               | –                                   |       |
|   |           |          | 4.0               | 3.70               | –                | 10               | 6.00                                  | –        | 10                 | –                          | 6.00               | –                                   |       |
|   |           | 6.0      | 5.20              | –                  | –                | –                | –                                     | –        | 8                  | –                          | 10.00              | –                                   |       |
| Crimp<br><br>fig. 1<br><br><br>fig. 2<br> | <b>C</b>  | <b>M</b> | 0.5 <sup>4)</sup> | 0.45               | 1                | –                | –                                     | 32       | 28                 | 0.035                      | 0.09               | 12                                  | ●     |
|   | <b>C</b>  | <b>M</b> | 0.7               | 0.80               | 1                | –                | –                                     | 26       | 22 <sup>3)</sup>   | 0.140                      | 0.34               | 22                                  | ●     |
|   | <b>B</b>  | <b>P</b> | 0.7               | 0.45               | 2                | –                | –                                     | 32       | 28                 | 0.035                      | 0.09               | 22                                  | ○     |
|   | <b>C</b>  | <b>M</b> | 0.9               | 1.10               | 1                | –                | –                                     | 24       | 20                 | 0.250                      | 0.50               | 30                                  | ●     |
|   | <b>B</b>  | <b>P</b> | 0.9               | 0.80               | 2                | –                | –                                     | 26       | 22 <sup>3)</sup>   | 0.140                      | 0.34               | 30                                  | ○     |
|   | <b>G</b>  | <b>U</b> | 0.9               | 0.45               | 2                | –                | –                                     | 32       | 28                 | 0.035                      | 0.09               | 30                                  | ○     |
|   | <b>C</b>  | <b>M</b> | 1.3               | 1.40               | 1                | –                | –                                     | 20       | 18                 | 0.500                      | 1.00               | 40                                  | ●     |
|   | <b>B</b>  | <b>P</b> | 1.3               | 1.10               | 2                | –                | –                                     | 24       | 20                 | 0.250                      | 0.50               | 40                                  | ○     |
|   | <b>G</b>  | <b>U</b> | 1.3               | 0.80               | 2                | –                | –                                     | 26       | 22 <sup>3)</sup>   | 0.140                      | 0.34               | 40                                  | ○     |
|   | <b>C</b>  | <b>M</b> | 1.6               | 1.90               | 1                | –                | –                                     | 18       | 14 <sup>3)</sup>   | 1.000                      | 1.50               | 50                                  | ●     |
|   | <b>B</b>  | <b>P</b> | 1.6               | 1.40               | 2                | –                | –                                     | 22       | 18                 | 0.340                      | 1.00               | 50                                  | ○     |
|   | <b>C</b>  | <b>M</b> | 2.0               | 2.40               | 1                | –                | –                                     | 16       | 12 <sup>3)</sup>   | 1.500                      | 2.50               | 65                                  | ●     |
|   | <b>B</b>  | <b>P</b> | 2.0               | 1.90               | 2                | –                | –                                     | 18       | 14                 | 1.000                      | 1.50               | 65                                  | ○     |
|   | <b>C</b>  | <b>M</b> | 3.0               | 3.20               | 1                | –                | –                                     | 14       | 10 <sup>3)</sup>   | 2.500                      | 4.00               | 75                                  | ●     |
| <b>C</b>                                  | <b>M</b>  | 4.0      | 4.00              | 1                  | –                | –                | 12                                    | 10       | 4.000              | 6.00                       | 90                 | ●                                   |       |

**Note:**

- 1) contact retention force in the insulator (according to IEC 60512-8 test 15 a).
- 2) for 00/TT multipole series.
- 3) for a given AWG, the diameter of some stranded conductor designs is larger than the solder cup diameter. Make sure that the maximum conductor diameter is smaller than ø C.
- 4) for 00 /TT multipole series or for 0B/0T and 1B/1T series with male contacts.
- 5) for 0B.302/0B.303, 0K.302/0K.303 and 0T.302/0T.303 ø C = 1.0 mm, AWG max 20, section max (mm<sup>2</sup>) 0.50.
- 6) for 00/TT and 1B/1K/1T series, according to manufacturing and plating tolerance ø C min = 0.43 mm.

● First choice alternative      ○ Special order alternative

### Contacts reference for plugs, free or fixed sockets

| Contact type             | Reference |          | Contact   |             |                  | Conductor   |                                       |          |      | F <sub>r</sub> <sup>1)</sup><br>(N) | Notes |                            |
|--------------------------|-----------|----------|---|-------------|------------------|-------------|---------------------------------------|----------|------|-------------------------------------|-------|----------------------------|
|                          | Male      | Female   | ø A<br>(mm)   | ø C<br>(mm) | Form<br>per fig. | Solid       |                                       | Stranded |      |                                     |       |                            |
|                          |           |          |   |             |                  | AWG<br>max. | Section<br>max.<br>(mm <sup>2</sup> ) | AWG      |      |                                     |       | Section (mm <sup>2</sup> ) |
|                          |           |          |   |             |                  |             |                                       | min.     | max. | min.                                | max.  |                            |
| <b>Print</b><br>         | <b>D</b>  | <b>N</b> | L dimensions and C are detailed in the section on PCB drilling pattern. See page 163. |             |                  |             |                                       |          |      |                                     |       | ●                          |
| <b>Print (elbow)</b><br> | <b>V</b>  | <b>V</b> | L dimensions and C are detailed in the section on PCB drilling pattern. See page 164. |             |                  |             |                                       |          |      |                                     |       | ●                          |

**Note:** <sup>1)</sup> contact retention force in the insulator (according to IEC 60512-8 test 15 a).

● First choice alternative    ○ Special order alternative



## Collets (B, K and T series)

### D and M type collets for B series

D type



M type



|           | Reference |      | Collet $\varnothing$ |                 | Cable $\varnothing$ |       | Notes    |
|-----------|-----------|------|----------------------|-----------------|---------------------|-------|----------|
|           | Type      | Code | $\varnothing$ A      | $\varnothing$ B | max.                | min.  |          |
| <b>00</b> | D         | 22   | 2.2                  | –               | 2.2                 | 1.4   |          |
|           | D         | 27   | 2.7                  | –               | 2.7                 | > 2.2 |          |
|           | D         | 35   | 3.5                  | 2.8             | 3.5                 | > 2.7 | 8) 9)    |
| <b>0B</b> | D         | 22   | 2.1                  | –               | 2.2                 | 1.4   | 2)       |
|           | D         | 32   | 3.2                  | –               | 3.2                 | > 2.2 |          |
|           | D         | 42   | 4.2                  | –               | 4.2                 | > 3.2 |          |
|           | D         | 52   | 5.2                  | 4.7             | 5.2                 | > 4.2 | 8) 9)    |
|           | D         | 56   | 5.6                  | 4.7             | 5.6                 | > 5.2 | 1) 8) 9) |
| <b>1B</b> | M         | 27   | 2.7                  | –               | 2.7                 | > 2.2 |          |
|           | M         | 31   | 3.1                  | –               | 3.1                 | > 2.7 |          |
|           | D         | 42   | 4.2                  | –               | 4.2                 | 3.1   |          |
|           | D         | 52   | 5.2                  | –               | 5.2                 | > 4.2 |          |
|           | D         | 62   | 6.2                  | –               | 6.2                 | > 5.2 | 9)       |
|           | D         | 72   | 7.2                  | 6.2             | 7.2                 | > 6.2 | 8) 9)    |
|           | D         | 76   | 7.6                  | 6.9             | 7.6                 | > 7.2 | 1) 8) 9) |
| <b>XB</b> | D         | 52   | 5.2                  | 7.2             | 5.0                 | 4.4   |          |
|           | D         | 62   | 6.2                  | 7.2             | 6.0                 | 5.4   |          |
|           | D         | 72   | 7.2                  | 7.2             | 7.0                 | 6.4   |          |
|           | D         | 82   | 8.2                  | 7.2             | 8.0                 | 7.4   | 1)       |
| <b>2B</b> | M         | 21   | 2.1                  | –               | 2.2                 | 1.4   | 3)       |
|           | M         | 32   | 3.1                  | –               | 3.2                 | > 2.2 | 3)       |
|           | D         | 42   | 4.2                  | –               | 4.2                 | > 3.2 |          |
|           | D         | 52   | 5.2                  | –               | 5.2                 | > 4.2 |          |
|           | D         | 62   | 6.2                  | –               | 6.2                 | > 5.2 |          |
|           | D         | 72   | 7.2                  | –               | 7.2                 | > 6.2 |          |
|           | D         | 82   | 8.2                  | –               | 8.2                 | > 7.2 | 9)       |
|           | D         | 92   | 9.2                  | 8.6             | 9.2                 | > 8.2 | 8) 9)    |
|           | D         | 99   | 9.9                  | 8.6             | 9.9                 | > 9.2 | 1) 8) 9) |

|           | Reference |      | Collet $\varnothing$ |                 | Cable $\varnothing$ |        | Notes     |
|-----------|-----------|------|----------------------|-----------------|---------------------|--------|-----------|
|           | Type      | Code | $\varnothing$ A      | $\varnothing$ B | max.                | min.   |           |
| <b>3B</b> | M         | 52   | 5.2                  | –               | 5.2                 | > 4.2  | 4)        |
|           | D         | 62   | 6.2                  | –               | 6.2                 | 4.9    |           |
|           | D         | 72   | 7.7                  | –               | 7.7                 | > 6.2  |           |
|           | D         | 92   | 9.2                  | –               | 9.2                 | > 7.7  | 10)       |
|           | D         | 10   | 10.2                 | –               | 10.0                | > 9.2  | 10)       |
|           | D         | 11   | 11.0                 | –               | 11.0                | > 10.0 | 10)       |
| <b>4B</b> | D         | 12   | 12.0                 | 10.2            | 12.0                | > 11.0 | 1) 8) 10) |
|           | M         | 62   | 6.2                  | –               | 6.2                 | > 5.2  | 5)        |
|           | M         | 72   | 7.2                  | –               | 7.2                 | > 6.2  | 5)        |
|           | M         | 82   | 8.2                  | –               | 8.2                 | > 7.2  | 5)        |
|           | M         | 92   | 9.2                  | 8.6             | 9.2                 | > 8.2  | 6)        |
|           | D         | 10   | 10.8                 | –               | 10.5                | 9.1    |           |
|           | D         | 12   | 12.3                 | –               | 12.0                | 10.6   |           |
|           | D         | 13   | 13.8                 | 12.5            | 13.5                | 12.1   | 10)       |
|           | D         | 15   | 15.3                 | 12.5            | 15.0                | 13.6   | 7) 10)    |
|           | D         | 16   | 16.3                 | 12.5            | 16.0                | 15.1   | 1) 10)    |
| <b>5B</b> | D         | 11   | 11.8                 | –               | 11.5                | 9.6    |           |
|           | D         | 13   | 13.8                 | –               | 13.5                | 11.6   |           |
|           | D         | 15   | 15.8                 | –               | 15.5                | 13.6   | 7)        |
|           | D         | 17   | 17.8                 | –               | 17.5                | 15.6   | 1)        |
|           | D         | 19   | 19.8                 | –               | 19.5                | 17.6   | 1)        |
|           | D         | 21   | 21.8                 | –               | 21.5                | 19.6   | 1) 10)    |
|           | D         | 23   | 23.8                 | 21.8            | 23.5                | 21.6   | 1) 10)    |
|           | D         | 25   | 25.3                 | 21.8            | 25.0                | 23.6   | 1) 10)    |

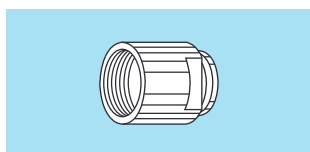
**Note:** all dimensions are in millimetres.

- 1) these collets cannot be used for connector models with nut for fitting a bend relief. No bend relief available for this cable size.
- 2) the inner diameter of the smallest bend relief available is 2.5 mm (in TPU) / 1.7 mm (in silicone).
- 3) for 0B bend relief.
- 4) for 1B bend relief.
- 5) for 2B bend relief.
- 6) for 4B bend relief.
- 7) the inner diameter of the largest bend relief available is 14.5 mm.
- 8) for FSG model, standard cable diameter reduced as follow: 0B series (D52) = 4.7 mm, 2B series (D92) = 8.6 mm. For larger diameter use a "K" type collet, please check online Part Search for additional details.
- 9) maximum internal cable bundle diameter for FPG models: 00 = 2.9 mm, 0B = 4.4 mm, 1B = 5.4 mm, 2B = 7.4 mm.
- 10) maximum internal cable bundle diameter for FHG models: 3B = 8.5 mm, 4B = 12 mm, 5B = 20 mm.

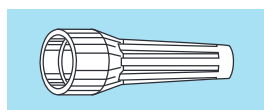


## Variant (B, K and T series)

### Bend relief for B series models with collet

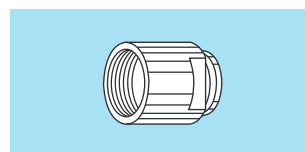


Need to be ordered

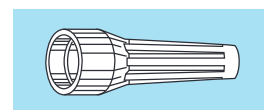


|           | Ref.     | Collet |                        | Need to be ordered separately<br>(see pages 145 and 146) |
|-----------|----------|--------|------------------------|--|
|           |          | Type   | Code                   |  |
| <b>00</b> | <b>Z</b> | D      | 22 to 35               | GMA.00.●●●●●●<br>GMB.00.●●●●●●                           |
| <b>0B</b> | <b>Z</b> | D      | 22 to 52               | GMA.0B.●●●●●●  |
| <b>1B</b> | <b>Z</b> | M      | 27 and 31              | GMA.1B.●●●●●●  |
|           |          | D      | 42 to 72               | GMA.1B.●●●●●●  |
| <b>XB</b> | <b>Z</b> | D      | 52 to 72               | GMA.1B.●●●●●●  |
| <b>2B</b> | <b>Z</b> | M      | 21 and 32              | GMA.0B.●●●●●●  |
|           |          | D      | 42 to 92               | GMA.2B.●●●●●●  |
| <b>3B</b> | <b>Z</b> | M      | 52                     | GMA.1B.●●●●●●  |
|           |          | D      | 62 to 10               | GMA.3B.●●●●●●  |
| <b>4B</b> | <b>Z</b> | M      | 62 to 82               | GMA.2B.●●●●●●  |
|           |          | M      | 92                     | GMA.4B.●●●●●●  |
|           |          | D      | 10 to 15 <sup>1)</sup> | GMA.4B.●●●●●●  |
| <b>5B</b> | <b>Z</b> | D      | 11 to 15 <sup>1)</sup> | GMA.4B.●●●●●●  |

### Bend relief for K series models with collet



Need to be ordered



|           | Ref.     | Collet |                        | Need to be ordered separately<br>(see pages 145 and 146) |
|-----------|----------|--------|------------------------|--|
|           |          | Type   | Code                   |  |
| <b>0K</b> | <b>Z</b> | C      | 10 to 50               | GMA.0B.●●●●●●  |
| <b>1K</b> | <b>Z</b> | C      | 15 to 65               | GMA.1B.●●●●●●  |
|           |          | K      | 70 to 85               | GMA.2B.●●●●●●  |
| <b>2K</b> | <b>Z</b> | C      | 15 to 85               | GMA.2B.●●●●●●  |
|           |          | K      | 90 to 10               | GMA.3B.●●●●●●  |
| <b>3K</b> | <b>Z</b> | C      | 30 to 10               | GMA.3B.●●●●●●  |
|           |          | K      | 11 to 15 <sup>2)</sup> | GMA.4B.●●●●●●  |
| <b>4K</b> | <b>Z</b> | C      | 50 to 15 <sup>3)</sup> | GMA.4B.●●●●●●  |
| <b>5K</b> | <b>Z</b> | C      | 10 to 14               | GMA.4B.●●●●●●  |

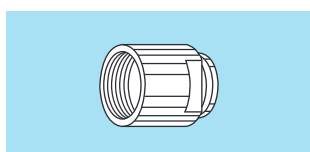
**Note:** all dimensions are in millimetres.

<sup>1)</sup> for D15 see page 67.

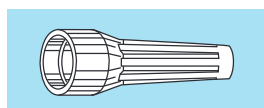
<sup>2)</sup> for K15 see page 68.

<sup>3)</sup> for C15 see page 69.

### Bend relief for T series models with collet



Need to be ordered



|           | Ref.     | Collet |           | Need to be ordered separately<br>(see pages 145 and 146) |
|-----------|----------|--------|-----------|--|
|           |          | Type   | Code      |  |
| <b>TT</b> | <b>Z</b> | C      | 27 and 31 | GMB.00.●●●●●●  |
| <b>0T</b> | <b>Z</b> | C      | 10 to 45  | GMA.0B.●●●●●●  |
|           |          | K      | 50 to 65  | GMA.1B.●●●●●●  |
| <b>1T</b> | <b>Z</b> | C      | 15 to 65  | GMA.1B.●●●●●●  |
|           |          | K      | 70 to 85  | GMA.2B.●●●●●●  |

|           | Ref.     | Collet |                        | Need to be ordered separately<br>(see pages 145 and 146) |
|-----------|----------|--------|------------------------|--|
|           |          | Type   | Code                   |  |
| <b>2T</b> | <b>Z</b> | C      | 15 to 85               | GMA.2B.●●●●●●  |
|           |          | K      | 90 to 10               | GMA.3B.●●●●●●  |
| <b>3T</b> | <b>Z</b> | C      | 30 to 10               | GMA.3B.●●●●●●  |
|           |          | K      | 11 to 15 <sup>4)</sup> | GMA.4B.●●●●●●  |

**Note:** all dimensions are in millimetres.

<sup>4)</sup> for K15 see page 70.

### Colour of the bridge plug shells and connectors shell made of plastic material and aluminium alloys

| Ref. | Colour  | Bridge plug and plastic shell |      |      | Aluminium alloys |  |
|------|---------|-------------------------------|------|------|------------------|--|
|      |         | PSU                           | PPSU | PA.6 | Anodized colour  | Anodized colour for bend relief collet nut |
| A    | blue    |                               |      | ●    | ●                |  |
| B    | white   | ●                             |      | ●    |                  |  |
| G    | grey    | ●                             |      | ●    |                  |  |
| J    | yellow  |                               |      | ●    | ●                |  |
| M    | brown   |                               |      | ●    |                  |  |
| N    | black   |                               |      | ●    | ●                |  |
| R    | red     |                               |      | ●    | ●                |  |
| S    | orange  |                               |      | ●    |                  |  |
| T    | natural |                               |      |      | ●                |  |
| V    | green   |                               |      | ●    | ●                |  |
| L    | black   |                               |      |      |                  | ●  |
| X    | natural |                               |      |      |                  | ●  |
| F    | cream   |                               | ●    |      |                  |  |

**Note:** other anodizing colours are available for connectors with collet nut for bend relief. Please consult us.

### Watertight and vacuumtight socket and coupler models (B, K and T series) (not connected)

|          | Reference  |             | Model                                  |
|----------|------------|-------------|--|
|          | Watertight | Vacuumtight |  |
| <b>B</b> | P          | PV          | YH●, HG●, HN●, HH●, HC●, HE●, HM●, S●● |
| <b>K</b> | P          | PV          | HG●, HE●, S●●                          |
| <b>T</b> | P          | PV          | HG●, HE●, HM●                          |

### O-ring and gasket material (K and T series)

Standard connectors are delivered with silicone o-ring and gaskets. The vacuumtight models, identified with the letter «PV», are delivered with Viton® gaskets. Other gaskets material can be delivered upon special request.

| Ref.     | O-ring material                             |
|----------|---|
| <b>H</b> | FPM (Viton®)                                |
| <b>E</b> | EPDM  |
| <b>D</b> | FPM (Viton®) and collet nut for bend relief |

## Product safety notice

**PLEASE READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY AND CONSULT ALL RELEVANT NATIONAL AND INTERNATIONAL SAFETY REGULATIONS FOR YOUR APPLICATION. IMPROPER HANDLING, CABLE ASSEMBLY, OR WRONG USE OF CONNECTORS CAN RESULT IN HAZARDOUS SITUATIONS.**

### 1. SHOCK AND FIRE HAZARD

Incorrect wiring, the use of damaged components, presence of foreign objects (such as metal debris), and / or residue (such as cleaning fluids), can result in short circuits, overheating, and / or risk of electric shock. Mated components should never be disconnected while live as this may result in an exposed electric arc and local overheating, resulting in possible damage to components.

### 2. HANDLING

Connectors and their components should be visually inspected for damage prior to installation and assembly. Suspect components should be rejected or returned to the factory for verification. Connector assembly and installation should only be carried out by properly trained personnel. Proper tools must be used during installation and / or assembly in order to obtain safe and reliable performance.


### 3. USE

Connectors with exposed contacts should never be live (or on the current supply side of a circuit). Under general conditions voltages above 30 VAC and 42 VDC are considered hazardous and proper measures should be taken to eliminate all risk of transmission of such voltages to any exposed metal part of the connector.

### 4. TEST AND OPERATING VOLTAGES

The maximum admissible operating voltage depends upon the national or international standards in force for the application in question. Air and creepage distances impact the operating voltage; reference values are indicated in the catalog however these may be influenced by PC board design and / or wiring harnesses. The test voltage indicated in the catalog is 75% of the mean breakdown voltage; the test is applied at 500 V/s and the test duration is 1 minute.

### 5. CE MARKING

CE marking  means that the appliance or equipment bearing it complies with the protection requirements of one or several European safety directives.

CE marking  applies to complete products or equipment, **but not to electromechanical components, such as connectors.**

### 6. PRODUCT IMPROVEMENTS

The LEMO Group reserves the right to modify and improve to our products or specifications without providing prior notification.

### 7. WARNING (Prop 65 State of California)

Proposition 65 requires businesses to provide warnings to Californians about significant exposures to chemicals that cause cancer, birth defects or other reproductive harm. LEMO products are exempt from proposition 65 warnings because they are manufactured, marketed, and sold solely for commercial and industrial use. For further information, please visit <https://www.lemo.com/quality/LEMO-Prop-65-compliance-declaration.pdf>.

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