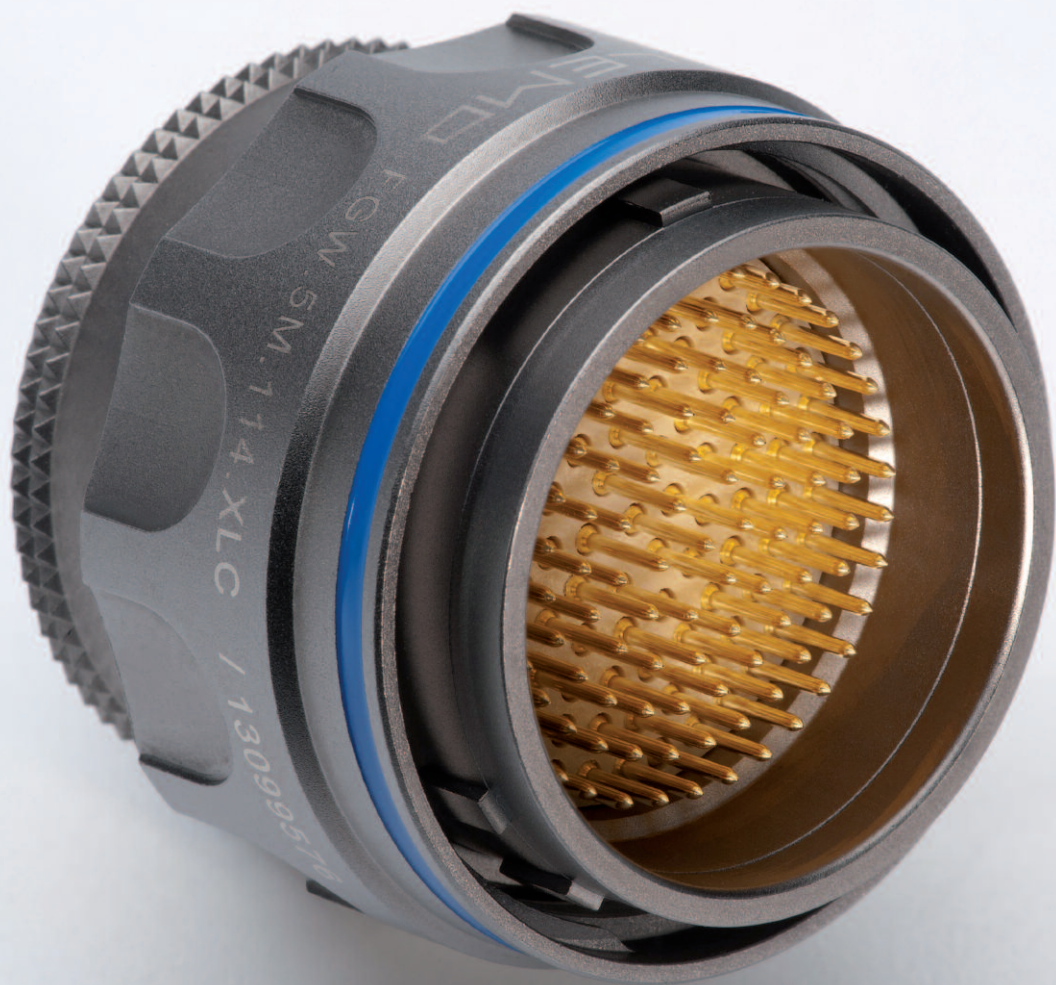


# M SERIES CONNECTORS RATCHET COUPLING

**m** SERIES



 **LEMO**



## Introduction

This catalogue gives the complete description of LEMO M series connectors. M series connectors are lightweight triple-start ratchet coupling type connectors designed for avionics, aerospace, military, security, motorsport and heavy duty applications.

The LEMO manufacturing programme has been extended to almost 40 series divided into 7 product families with specific mating and environmental characteristics. Each series includes a wide variety of plug, socket and coupler models, available in contact configurations adapted to all round cables. Watertight models are also available. Since LEMO connectors are perfectly screened and designed to guarantee very low resistance to shell electrical continuity, they are particularly adapted to applications where electromagnetic compatibility (EMC) is important.

## Technical Characteristics

### Materials and Treatments

| Component            | Shell material code |   | Material (Standard)                   | Surface treatment (µm) |    |     |        |    |      |    | Notes |    |
|----------------------|---------------------|---|---------------------------------------|------------------------|----|-----|--------|----|------|----|-------|----|
|                      | X                   | C |                                       | chrome                 |    |     | nickel |    | gold |    |       |    |
|                      |                     |   |                                       | Cu                     | Ni | Cr  | Cu     | Ni | Cu   | Ni |       | Au |
| Outer shell          |                     |   | Brass (UNS C 38500)                   | 0.5                    | 3  | 0.3 | –      | –  | –    | –  | –     | 1) |
|                      |                     |   | Aluminium alloy (AA 6262A or AA 6023) | –                      | –  | –   | –      | 5  | –    | –  | –     |    |
| Conical nut          |                     |   | Brass (UNS C 38500)                   | 0.5                    | 3  | 0.3 | –      | –  | –    | –  | –     |    |
|                      |                     |   | Aluminium alloy (AA 6262A or AA 6023) | anodized               |    |     |        |    |      |    |       |    |
| Earthing crown       |                     |   | Bronze (UNS C 54400) or special brass | –                      | –  | –   | –      | –  | 0.5  | –  | 1.5   |    |
| Coupling nut         |                     |   | Brass (UNS C 38500)                   | –                      | –  | –   | 0.5    | 3  | –    | –  | –     |    |
|                      |                     |   | Aluminium alloy (AA 6262A or AA 6023) | –                      | –  | –   | 0.5    | 3  | –    | –  | –     |    |
| Ratchet              |                     |   | Special PEEK                          | –                      | –  | –   | 0.5    | 3  | –    | –  | –     |    |
| Hexagonal nut        |                     |   | Brass (UNS C 38500)                   | –                      | –  | –   | 0.5    | 3  | –    | –  | –     |    |
|                      |                     |   | Aluminium alloy (AA 6262A or AA 6023) | anodized natural       |    |     |        |    |      |    |       |    |
| Male crimp contact   |                     |   | Brass (UNS C 34500)                   | –                      | –  | –   | –      | –  | 0.5  | 3  | 1.0   |    |
| Female crimp contact |                     |   | Bronze (UNS C 54400)                  | –                      | –  | –   | –      | –  | 0.5  | 3  | 1.5   |    |
| Clips                |                     |   | Cu-Be or special steel                | without treatment      |    |     |        |    |      |    |       |    |
| Insulator            |                     |   | PEEK                                  | –                      |    |     |        |    |      |    |       |    |
| O-ring and gaskets   |                     |   | FPM/FKM (Viton®)                      | –                      |    |     |        |    |      |    |       |    |
| Sealing resin        |                     |   | Epoxy (Araldite® or Stycast®)         | –                      |    |     |        |    |      |    |       |    |
| Cable rear seal      |                     |   | Fluorosilicone                        | –                      |    |     |        |    |      |    |       |    |
| Spring               |                     |   | Stainless steel                       | –                      |    |     |        |    |      |    |       |    |

**Notes:** standards for surface treatment are as follows: chrome-plated FS QQ-C-320B; nickel-plated FS QQ-N-290A or MIL-C-26074C; gold-plated ISO 4523. 1) anthracite colour.

### Environmental performance

| Characteristics               | Value                                                      | IEC international    | MIL-spec tests               |
|-------------------------------|------------------------------------------------------------|----------------------|------------------------------|
| Operating temperature (mated) | - 55° C/+200° C                                            |                      |                              |
| Ingress protection index      | IP 68 (at 2 m, 15 hr)                                      | IEC 60529            |                              |
| Fungus                        | Satisfied - by material analysis                           |                      | MIL-STD 810F-508.5           |
| Flammability                  | 60 sec. front and back face                                |                      | EIA-364-104A                 |
| Fluid contamination 1)        | Fuels, gasoline, hydraulic oils, solvents, de-icing        |                      | MIL-STD-810F method 504      |
| Sand and dust 2)              | 6 hr, 55° C, blowing < 150 µm dust                         |                      | MIL-STD 810F-510.4           |
| Lightning strike              | 10 K amps - 6 times                                        |                      | EIA-364-75                   |
| Altitude-low temp 3)          | -65° C; 40'000 feet and 400 VAC                            |                      | EIA-364-105A                 |
| Salt fog 4)                   | Alum. shell (slight pitting after 48h), Brass shell (500h) | IEC 60512-6 test 11f | EIA-364-26                   |
| Thermal shock                 | 5 cycles: -65° C to +150° C                                | IEC 60512-11-4       | EIA-364-32 test condition IV |
| Altitude immersion            | No moisture on contacts                                    |                      | EIA-364-03                   |
| Air leakage 5)                | < 10 <sup>-7</sup> mbar. l/sec (Helium)                    | IEC 60512-7 14 b     | MIL-STD-1344 method 1008.1   |
| Humidity                      | 21 days at 95%                                             | IEC 60068-2          | EIA-364-31 method IV         |

#### Note:

- Connectors immersed at both 70°C and 25°C according to specification. Connectors are then inspected, no visual signs of damage seen.  
Fuels: Kerosene, JP4, (Nato F40) at 70°C +/- 2°C. Gasoline: ASTM 4814. Hydraulic oils: Mineral oil based MIL-H-5606.  
Solvents: Isopropanol. De-icing fluids: 25% ethylene glycol.
- No signs of damage, connectors opened and closed without difficulty. Dust or sand was not inside connector.
- Wired mated connectors = no voltage breakdown, shell to all contacts (connected together) w/400 VAC after 1 hour at 65° C at 40'000 feet altitude.
- Corrosion resistance. Inspection: salt deposits shall be removed by gentle wash in running water with light brushing using soft brush.  
Aluminium Shell (material code: X) max: 96 hours. Brass shell (material code: C) over 500 hours.
- Only for vacuumtight model (HE•)

## Electrical performance

| Characteristics                                     | Value                                                       | IEC international   | MIL-spec tests |
|-----------------------------------------------------|-------------------------------------------------------------|---------------------|----------------|
| Insulation resist. (at ambient temp.) <sup>6)</sup> | > 10 <sup>12</sup> Ω, > 10 <sup>10</sup> Ω (after humidity) | IEC 60512-2 test 3a | EIA-364-21     |
| Dielectric withstanding volt. (sea level)           | See table page 16-17                                        | IEC 60512-2 test 4a | EIA-364-20     |
| Contact resistance                                  | See table below <sup>7)</sup>                               | IEC 60512-2 test 2a | EIA-364-06     |
| Current rating                                      | See insulator configuration page 16-17                      | IEC 60512-3 test 5a |                |
| Shell to shell conductivity                         | < 1.5 mΩ                                                    | IEC 60512-2-6       | EIA-364-83     |
| Shielding effectiveness, low frequency              | ≥ 80 dB up to 1GHz                                          |                     | EIA-364-66     |
| Shielding effectiveness, high frequency             | ≥ 70 dB (3GHz), ≥ 58 dB (6GHz), ≥ 40 dB (10GHz)             |                     | EIA-364-66     |

**Note:** <sup>6)</sup> After humidity test: 21 days at 95% RH according to IEC 60068-2. Insulation resistance measured between the contacts and contact/shell.

| Contact resistance <sup>7)</sup><br>IEC 60512-2 test 2a |       |       |       | Value       |
|---------------------------------------------------------|-------|-------|-------|-------------|
| 0.5                                                     | 0.7   | 0.9   | 1.3   | ∅ A<br>(mm) |
| ≤ 8.7                                                   | ≤ 6.1 | ≤ 4.8 | ≤ 3.6 | mΩ          |

**Notes:** <sup>7)</sup> after 5000 mating cycles and the salt spray test according to IEC 60512-6 test 11 f.

## Mechanical performance

| Characteristics              | Value                                     | IEC international    | MIL-spec tests                   |
|------------------------------|-------------------------------------------|----------------------|----------------------------------|
| Endurance                    | 3000 cycles (1000 cycles for 5M series)   | IEC 60512-5 test 9a  | EIA-364-09                       |
| Gunfire vibration            | 25 to 2000 Hz, 3 axis (Apache helicopter) |                      | MIL-STD-810F method 519.5        |
| Vibration-Sine <sup>8)</sup> | 30 g, 3 axis, 12 hr                       |                      | MIL-STD-202 method 204-G         |
| Vibration-Random             | 50-2000 Hz, 37.8 g rms-3 axes; 4h amb     | IEC 60512-6-4        | EIA-364-28 test cond. V letter I |
| Shock                        | 300 g - 3 msec                            | IEC 60512-6-3        | EIA-364-27 condition D           |
| Acceleration                 | 50 g acceleration                         |                      | MIL-STD-1344 - 2011-1, A         |
| Contact retention            | > 22 N (∅ 0.7 mm), > 30 N (∅ 0.9 mm)      | IEC 60512-8 test 15a |                                  |
| Torque                       | See table below                           |                      |                                  |

**Note:** <sup>8)</sup> Amplitude: 30G. Frequency: 10 to 2000 Hz. Time per axis: 4 hours (X, Y, Z). No signal discontinuity above 1 μs.

| Series | Coupling torque<br>tightning (N.cm) | Coupling torque<br>untightning (N.cm) | Series | Coupling torque<br>tightning (N.cm) | Coupling torque<br>untightning (N.cm) |
|--------|-------------------------------------|---------------------------------------|--------|-------------------------------------|---------------------------------------|
| 0M     | 4                                   | 5                                     | TM     | tbc                                 | tbc                                   |
| 1M     | 10                                  | 11                                    | 4M     | 26                                  | 25                                    |
| 2M     | 20                                  | 14                                    | LM     | 48                                  | 43                                    |
| 3M     | 34                                  | 29                                    | 5M     | 91 <sup>9)</sup>                    | 54                                    |

**Note:** <sup>9)</sup> Higher value due to very high contact density

## M Series

The M Series connector offers a new innovative design for avionics, aerospace, military, security, motorsport and heavy duty applications.

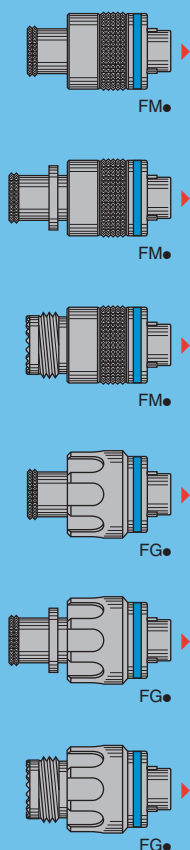
Made of high-strength aluminium, this connector is one of the lightest and most compact of the LEMO product line. A one-grip ratchet screw system enables quick and secure coupling of the connectors. The arctic grip makes it easy to manipulate the connector while wearing gloves or when the connector is located in a difficult to access area.

### Features

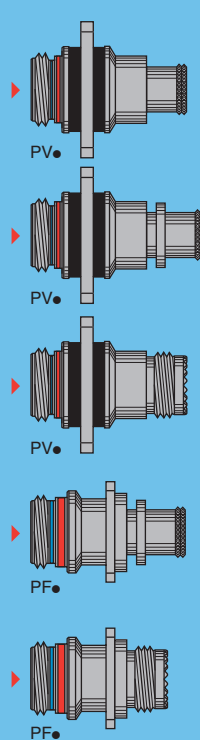
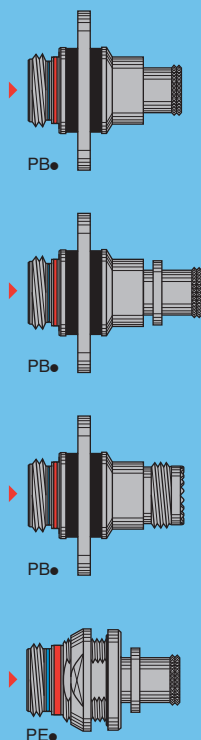
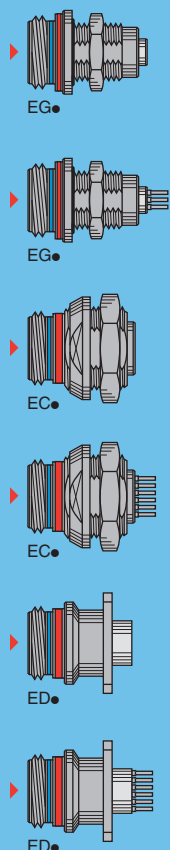
- Ratchet-coupling mechanism
- Compact design for space savings
- Oil and fuel resistant
- 360° screening for full EMC shielding
- Colour coding / keying
- Scoop proof
- Threaded for MIL-DTL-38999L backshell
- Quick mating: less than 3/4 turn to seat
- Lightweight
- High vibration and shock resistance
- Sealed to IP68 when mated
- Reverse sex configuration
- Pin configuration from 2 to 114 contacts

### Metal housing models (page 5)

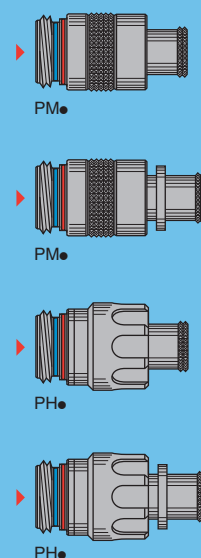
#### Straight plugs



#### Fixed sockets

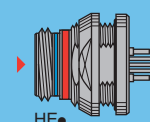


#### Free sockets

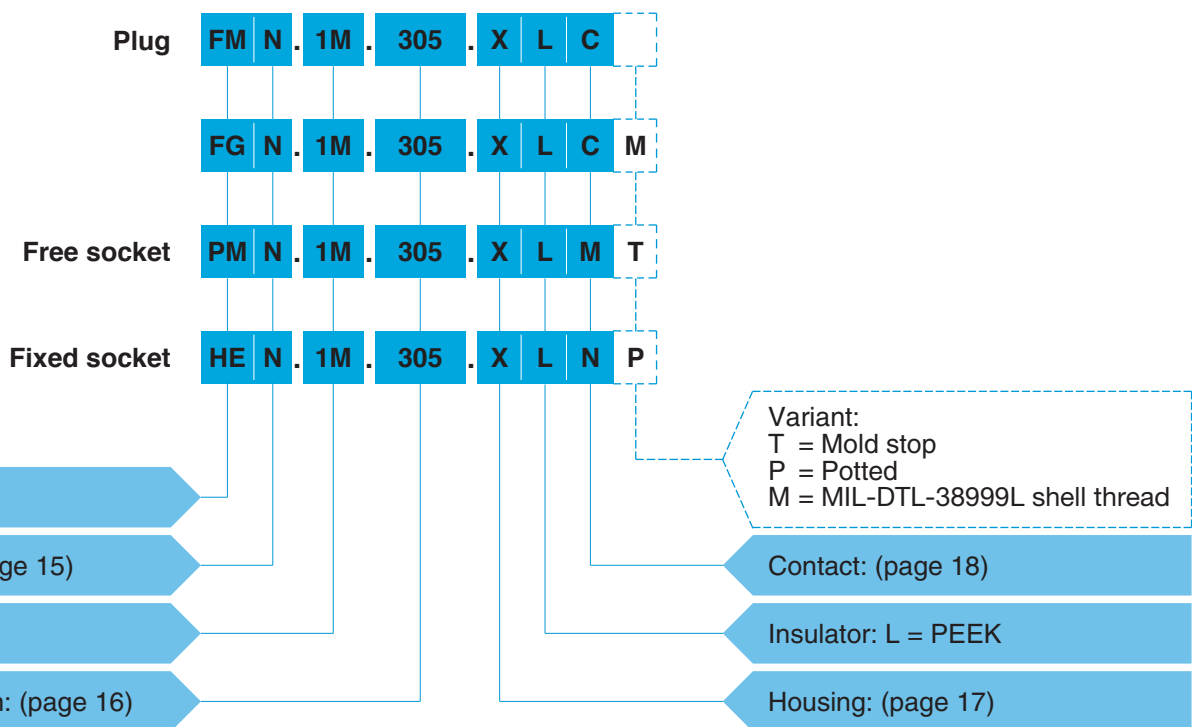


### Watertight model (unmated)

#### Fixed socket



## Part Numbering System



## Part Number Example

### Straight plug:

**FMN.1M.305.XLC** = straight plug with key (N), 1M series, multipole type with 5 contacts, outer shell in anthracite nickel-plated aluminium alloy, PEEK insulator, male crimp contacts.

### Straight plug:

**FGN.1M.305.XLCM** = straight plug with key (N), arctic grip, 1M series, multipole type with 5 contacts, outer shell in anthracite nickel-plated aluminium alloy, PEEK insulator, male crimp contacts and with MIL-DTL-38999L thread for additional backshell (not supplied).

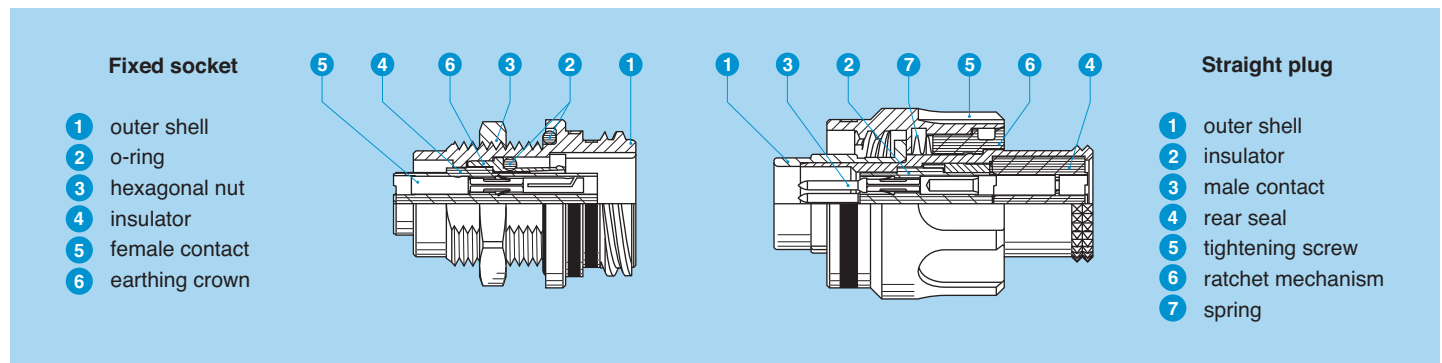
### Free socket:

**PMN.1M.305.XLMT** = free socket with key (N), 1M series, multipole type with 5 contacts, outer shell in anthracite nickel-plated aluminium alloy, PEEK insulator, female crimp contacts and mold stop.

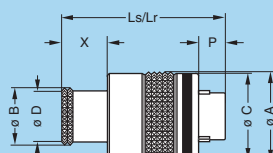
### Fixed socket:

**HEN.1M.305.XLNP** = fixed socket, nut fixing, with key (N), 1M series, multipole type with 5 contacts, outer shell in anthracite nickel-plated aluminium alloy, PEEK insulator, female print contacts, watertight.

## Part Section Showing Internal Components



## Metal housing models

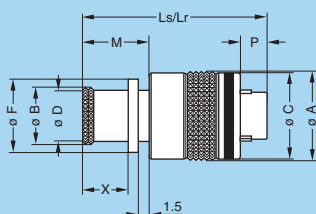


### FM● Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip

| Reference |        | Dimensions (mm) |      |      |      |      |      |     |     |
|-----------|--------|-----------------|------|------|------|------|------|-----|-----|
| Model     | Series | A               | B    | C    | D    | Ls   | Lr   | P   | X   |
| FM●       | 0M     | 13.1            | 8.8  | 12.7 | 8.0  | 24.1 | 24.1 | 3.9 | 6.7 |
| FM●       | 1M     | 14.6            | 10.5 | 14.2 | 9.7  | 24.1 | 24.1 | 3.9 | 6.7 |
| FM●       | 2M     | 17.6            | 14.0 | 17.2 | 13.0 | 24.5 | 24.5 | 3.9 | 7.1 |
| FM●       | 3M     | 19.6            | 16.0 | 19.2 | 15.0 | 24.5 | 24.5 | 3.9 | 7.1 |
| FM●       | TM     | 22.5            | 17.9 | 22.0 | 16.7 | 28.6 | 28.6 | 3.4 | 7.6 |
| FM●       | 4M     | 25.0            | 20.7 | 24.5 | 19.5 | 28.6 | 28.6 | 3.4 | 7.6 |
| FM●       | LM     | 28.5            | 23.9 | 28.0 | 22.7 | 28.6 | 28.6 | 3.4 | 7.6 |
| FM●       | 5M     | 34.0            | 29.7 | 33.5 | 28.5 | 28.6 | 28.6 | 3.4 | 7.6 |

Part number example: FMN.1M.305.XLC

Note: Ls = standard gender, Lr = reverse gender

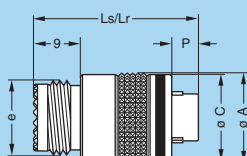


### FM● Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip and mold stop

| Reference |        | Dimensions (mm) |      |      |      |      |      |      |      |     |     |
|-----------|--------|-----------------|------|------|------|------|------|------|------|-----|-----|
| Model     | Series | A               | B    | C    | D    | F    | Ls   | Lr   | M    | P   | X   |
| FM●       | 0M     | 13.1            | 8.8  | 12.7 | 8.0  | 10.7 | 27.1 | 27.1 | 9.7  | 3.9 | 6.7 |
| FM●       | 1M     | 14.6            | 10.5 | 14.2 | 9.7  | 12.4 | 27.1 | 27.1 | 9.7  | 3.9 | 6.7 |
| FM●       | 2M     | 17.6            | 14.0 | 17.2 | 13.0 | 15.5 | 27.5 | 27.5 | 10.1 | 3.9 | 7.1 |
| FM●       | 3M     | 19.6            | 16.0 | 19.2 | 15.0 | 17.5 | 27.5 | 27.5 | 10.1 | 3.9 | 7.1 |
| FM●       | TM     | 22.5            | 17.9 | 22.0 | 16.7 | 19.8 | 31.6 | 31.6 | 10.6 | 3.4 | 7.6 |
| FM●       | 4M     | 25.0            | 20.7 | 24.5 | 19.5 | 22.6 | 31.6 | 31.6 | 10.6 | 3.4 | 7.6 |
| FM●       | LM     | 28.5            | 23.9 | 28.0 | 22.7 | 25.8 | 31.6 | 31.6 | 10.6 | 3.4 | 7.6 |
| FM●       | 5M     | 34.0            | 29.7 | 33.5 | 28.5 | 31.4 | 31.6 | 31.6 | 10.6 | 3.4 | 7.6 |

Part number example: FMN.1M.305.XLCT

Note: Ls = standard gender, Lr = reverse gender

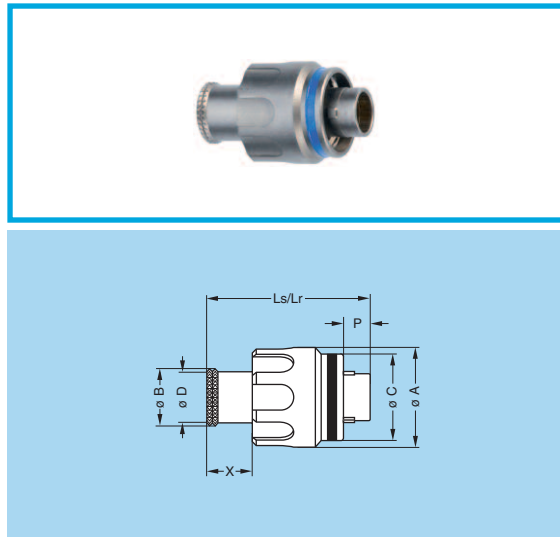


### FM● Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with MIL-DTL-38999L shell thread

| Reference |        | Dimensions (mm) |      |         |      |      |     |                    |
|-----------|--------|-----------------|------|---------|------|------|-----|--------------------|
| Model     | Series | A               | C    | e       | Ls   | Lr   | P   | Code <sup>1)</sup> |
| FM●       | 1M     | 14.6            | 14.2 | M12x1.0 | 26.4 | 26.4 | 3.9 | A                  |
| FM●       | 2M     | 17.6            | 17.2 | M15x1.0 | 26.4 | 26.4 | 3.9 | B                  |
| FM●       | 3M     | 19.6            | 19.2 | M18x1.0 | 26.4 | 26.4 | 3.9 | C                  |
| FM●       | TM     | 22.5            | 22.0 | M18x1.0 | 30.0 | 30.0 | 3.4 | C                  |
| FM●       | 4M     | 25.0            | 24.5 | M22x1.0 | 30.0 | 30.0 | 3.4 | D                  |
| FM●       | LM     | 28.5            | 28.0 | M25x1.0 | 30.0 | 30.0 | 3.4 | E                  |
| FM●       | 5M     | 34.0            | 33.5 | M31x1.0 | 30.0 | 30.0 | 3.4 | G                  |

Part number example: FMN.1M.305.XLCM

Note: Ls = standard gender, Lr = reverse gender. <sup>1)</sup> MIL-DTL-38999L shell size code (backshell not supplied)

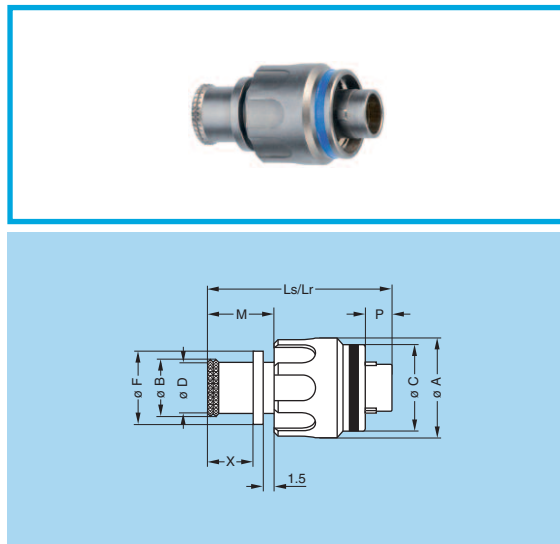


### FG● Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip

| Reference |        | Dimensions (mm) |      |      |      |      |      |     |     |
|-----------|--------|-----------------|------|------|------|------|------|-----|-----|
| Model     | Series | A               | B    | C    | D    | Ls   | Lr   | P   | X   |
| FG●       | 0M     | 14.4            | 8.8  | 12.7 | 8.0  | 24.1 | 24.1 | 3.9 | 6.7 |
| FG●       | 1M     | 15.9            | 10.5 | 14.2 | 9.7  | 24.1 | 24.1 | 3.9 | 6.7 |
| FG●       | 2M     | 18.9            | 14.0 | 17.2 | 13.0 | 24.5 | 24.5 | 3.9 | 7.1 |
| FG●       | 3M     | 20.9            | 16.0 | 19.2 | 15.0 | 24.5 | 24.5 | 3.9 | 7.1 |
| FG●       | TM     | 23.4            | 17.9 | 22.0 | 16.7 | 28.6 | 28.6 | 3.4 | 7.6 |
| FG●       | 4M     | 25.9            | 20.7 | 24.5 | 19.5 | 28.6 | 28.6 | 3.4 | 7.6 |
| FG●       | LM     | 29.4            | 23.9 | 28.0 | 22.7 | 28.6 | 28.6 | 3.4 | 7.6 |
| FG●       | 5M     | 34.9            | 29.7 | 33.5 | 28.5 | 28.6 | 28.6 | 3.4 | 7.6 |

Part number example: FGN.1M.305.XLC

**Note:** Ls = standard gender, Lr = reverse gender

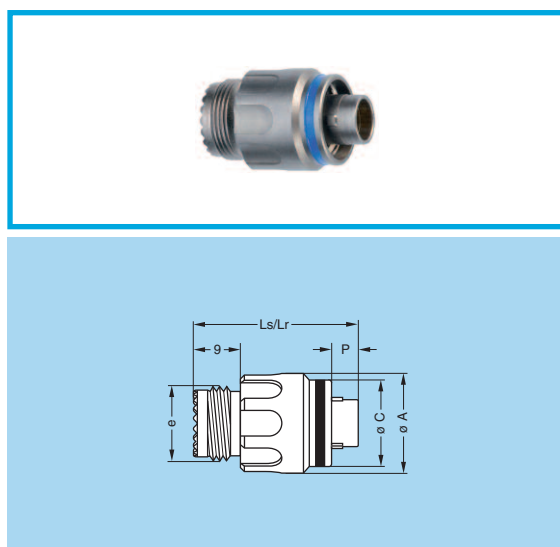


### FG● Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip and mold stop

| Reference |        | Dimensions (mm) |      |      |      |      |      |      |      |     |     |
|-----------|--------|-----------------|------|------|------|------|------|------|------|-----|-----|
| Model     | Series | A               | B    | C    | D    | F    | Ls   | Lr   | M    | P   | X   |
| FG●       | 0M     | 14.4            | 8.8  | 12.7 | 8.0  | 10.7 | 27.1 | 27.1 | 9.7  | 3.9 | 6.7 |
| FG●       | 1M     | 15.9            | 10.5 | 14.2 | 9.7  | 12.4 | 27.1 | 27.1 | 9.7  | 3.9 | 6.7 |
| FG●       | 2M     | 18.9            | 14.0 | 17.2 | 13.0 | 15.5 | 27.5 | 27.5 | 10.1 | 3.9 | 7.1 |
| FG●       | 3M     | 20.9            | 16.0 | 19.2 | 15.0 | 17.5 | 27.5 | 27.5 | 10.1 | 3.9 | 7.1 |
| FG●       | TM     | 23.4            | 17.9 | 22.0 | 16.7 | 19.8 | 31.6 | 31.6 | 10.6 | 3.4 | 7.6 |
| FG●       | 4M     | 25.9            | 20.7 | 24.5 | 19.5 | 22.6 | 31.6 | 31.6 | 10.6 | 3.4 | 7.6 |
| FG●       | LM     | 29.4            | 23.9 | 28.0 | 22.7 | 25.8 | 31.6 | 31.6 | 10.6 | 3.4 | 7.6 |
| FG●       | 5M     | 34.9            | 29.7 | 33.5 | 28.5 | 31.4 | 31.6 | 31.6 | 10.6 | 3.4 | 7.6 |

Part number example: FGN.1M.305.XLCT

**Note:** Ls = standard gender, Lr = reverse gender

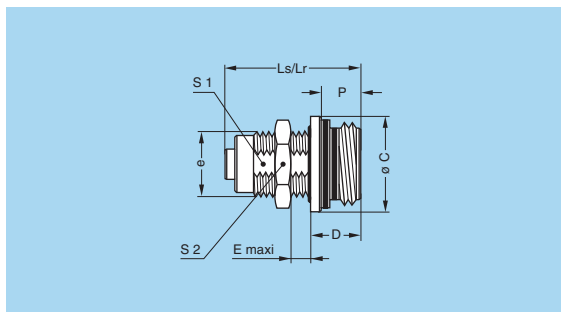


### FG● Straight plug, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip and with MIL-DTL-38999L shell thread

| Reference |        | Dimensions (mm) |      |         |      |      |     |                    |
|-----------|--------|-----------------|------|---------|------|------|-----|--------------------|
| Model     | Series | A               | C    | e       | Ls   | Lr   | P   | Code <sup>1)</sup> |
| FG●       | 1M     | 15.9            | 14.2 | M12x1.0 | 26.4 | 26.4 | 3.9 | A                  |
| FG●       | 2M     | 18.9            | 17.2 | M15x1.0 | 26.4 | 26.4 | 3.9 | B                  |
| FG●       | 3M     | 20.9            | 19.2 | M18x1.0 | 26.4 | 26.4 | 3.9 | C                  |
| FG●       | TM     | 23.4            | 22.0 | M18x1.0 | 30.0 | 30.0 | 3.4 | C                  |
| FG●       | 4M     | 25.9            | 24.5 | M22x1.0 | 30.0 | 30.0 | 3.4 | D                  |
| FG●       | LM     | 29.4            | 28.0 | M25x1.0 | 30.0 | 30.0 | 3.4 | E                  |
| FG●       | 5M     | 34.9            | 33.5 | M31x1.0 | 30.0 | 30.0 | 3.4 | G                  |

Part number example: FGN.1M.305.XLCM

**Note:** Ls = standard gender, Lr = reverse gender. <sup>1)</sup> MIL-DTL-38999L shell size code (backshell not supplied)



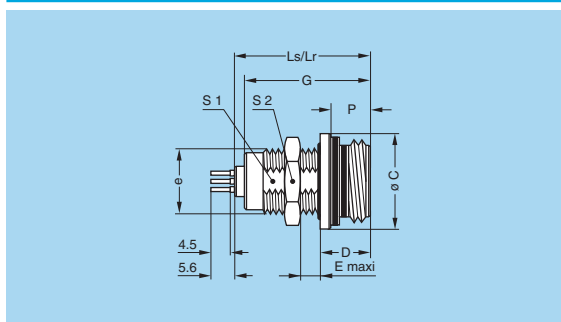
### EG● Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X)

| Reference |        | Dimensions (mm) |     |         |     |      |      |     |      |      |
|-----------|--------|-----------------|-----|---------|-----|------|------|-----|------|------|
| Model     | Series | C               | D   | e       | E   | Ls   | Lr   | P   | S1   | S2   |
| EG●       | 0M     | 12.7            | 6.8 | M9x0.6  | 5.0 | 18.1 | 18.1 | 5.3 | 8.2  | 11.0 |
| EG●       | 1M     | 14.2            | 6.8 | M11x1.0 | 4.5 | 18.1 | 18.1 | 5.3 | 9.5  | 13.0 |
| EG●       | 2M     | 17.2            | 6.8 | M14x1.0 | 4.5 | 18.1 | 18.1 | 5.3 | 12.5 | 17.0 |
| EG●       | 3M     | 19.2            | 6.8 | M16x1.0 | 4.0 | 18.1 | 18.1 | 5.3 | 14.5 | 19.0 |
| EG●       | TM     | 22.0            | 9.4 | M18x1.0 | 4.0 | 19.8 | 21.7 | 7.9 | 16.5 | 22.0 |
| EG●       | 4M     | 24.5            | 9.4 | M21x1.0 | 4.0 | 19.8 | 21.7 | 7.9 | 19.5 | 25.0 |
| EG●       | LM     | 28.0            | 9.4 | M24x1.0 | 4.0 | 19.8 | 21.7 | 7.9 | 22.5 | 30.0 |
| EG●       | 5M     | 33.5            | 9.4 | M30x1.0 | 4.0 | 19.8 | 21.7 | 7.9 | 28.5 | 36.0 |

Part number example: EGN.1M.305.XLM

Panel cut-out (page 23).

Note: Ls = standard gender, Lr = reverse gender



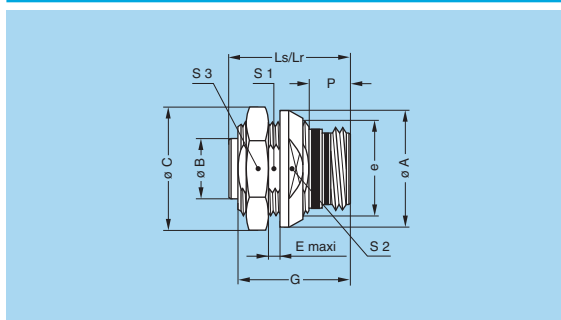
### EG● Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X) for printed circuit

| Reference |        | Dimensions (mm) |     |         |     |      |      |      |     |      |      |
|-----------|--------|-----------------|-----|---------|-----|------|------|------|-----|------|------|
| Model     | Series | C               | D   | e       | E   | G    | Ls   | Lr   | P   | S1   | S2   |
| EG●       | 0M     | 12.7            | 6.8 | M9x0.6  | 5.0 | 16.8 | 18.1 | 18.1 | 5.3 | 8.2  | 11.0 |
| EG●       | 1M     | 14.2            | 6.8 | M11x1.0 | 4.5 | 16.8 | 18.1 | 18.1 | 5.3 | 9.5  | 13.0 |
| EG●       | 2M     | 17.2            | 6.8 | M14x1.0 | 4.5 | 16.8 | 18.1 | 18.1 | 5.3 | 12.5 | 17.0 |
| EG●       | 3M     | 19.2            | 6.8 | M16x1.0 | 4.0 | 16.8 | 18.1 | 18.1 | 5.3 | 14.5 | 19.0 |
| EG●       | TM     | 22.0            | 9.4 | M18x1.0 | 4.0 | 18.9 | 19.8 | 21.7 | 7.9 | 16.5 | 22.0 |
| EG●       | 4M     | 24.5            | 9.4 | M21x1.0 | 4.0 | 18.9 | 19.8 | 21.7 | 7.9 | 19.5 | 25.0 |
| EG●       | LM     | 28.0            | 9.4 | M24x1.0 | 4.0 | 18.9 | 19.8 | 21.7 | 7.9 | 22.5 | 30.0 |
| EG●       | 5M     | 33.5            | 9.4 | M30x1.0 | 4.0 | 18.9 | 19.8 | 21.7 | 7.9 | 28.5 | 36.0 |

Part number example: EGN.1M.305.XLN

Panel cut-out (page 23).

Note: Ls = standard gender, Lr = reverse gender



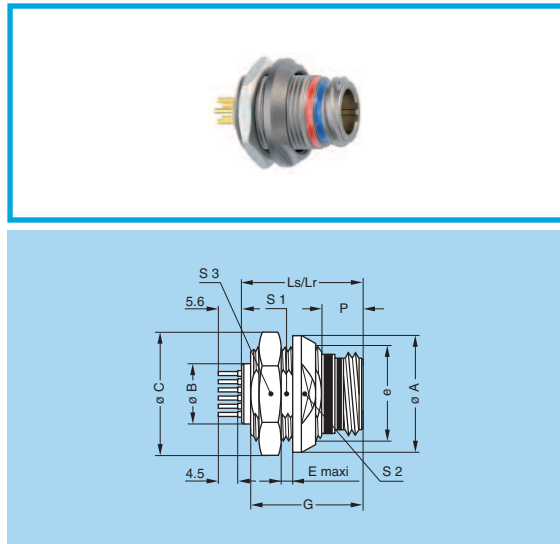
### EC● Fixed socket with two nuts, key (N) or keys (P, R, S, T, U, V, W and X)

| Reference |        | Dimensions (mm) |       |      |     |          |      |      |      |     |      |      |      |
|-----------|--------|-----------------|-------|------|-----|----------|------|------|------|-----|------|------|------|
| Model     | Series | A               | B     | C    | E   | e        | G    | Ls   | Lr   | P   | S1   | S2   | S3   |
| EC●       | 0M     | 17              | 4.72  | 18.2 | 5.0 | M13x0.75 | 16.8 | 18.1 | 18.1 | 5.3 | 11.5 | 14.0 | 16.0 |
| EC●       | 1M     | 18              | 5.95  | 19.2 | 5.0 | M14x1.00 | 16.8 | 18.1 | 18.1 | 5.3 | 12.5 | 16.0 | 17.0 |
| EC●       | 2M     | 21              | 8.95  | 21.5 | 4.0 | M17x1.00 | 16.8 | 18.1 | 18.1 | 5.3 | 15.5 | 18.0 | 19.0 |
| EC●       | 3M     | 23              | 10.95 | 25.0 | 4.0 | M19x1.00 | 16.8 | 18.1 | 18.1 | 5.3 | 17.5 | 20.0 | 22.0 |
| EC●       | TM     | 27              | 12.30 | 28.0 | 2.5 | M22x1.00 | 18.9 | 19.8 | 21.7 | 7.9 | 20.5 | 23.0 | 25.0 |
| EC●       | 4M     | 29              | 13.95 | 34.0 | 2.5 | M24x1.00 | 18.9 | 19.8 | 21.7 | 7.9 | 22.5 | 25.0 | 30.0 |
| EC●       | LM     | 33              | 17.95 | 36.0 | 2.5 | M28x1.00 | 18.9 | 19.8 | 21.7 | 7.9 | 26.5 | 29.0 | 32.0 |
| EC●       | 5M     | 38              | 22.90 | 41.0 | 2.5 | M33x1.00 | 18.9 | 19.8 | 21.7 | 7.9 | 31.5 | 34.0 | 37.0 |

Part number example: ECN.1M.305.XLM

Panel cut-out (page 23).

Note: Ls = standard gender, Lr = reverse gender



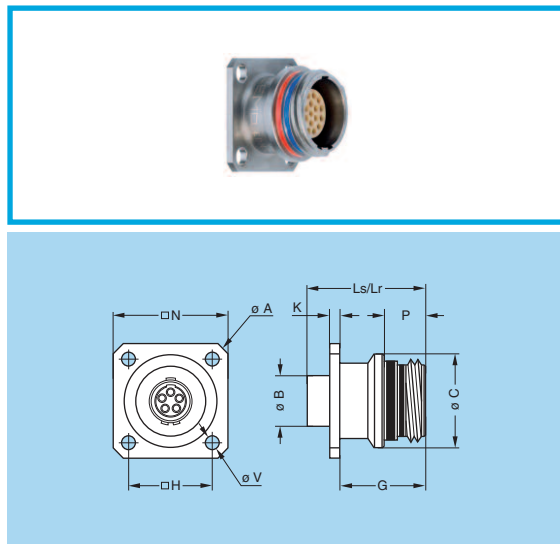
## EC● Fixed socket with two nuts, key (N) or keys (P, R, S, T, U, V, W and X) for printed circuit

| Reference |        | Dimensions (mm) |       |      |     |          |      |      |      |     |      |      |      |
|-----------|--------|-----------------|-------|------|-----|----------|------|------|------|-----|------|------|------|
| Model     | Series | A               | B     | C    | E   | e        | G    | Ls   | Lr   | P   | S1   | S2   | S3   |
| EC●       | 0M     | 17              | 4.72  | 18.2 | 5.0 | M13x0.75 | 16.8 | 18.1 | 18.1 | 5.3 | 11.5 | 14.0 | 16.0 |
| EC●       | 1M     | 18              | 5.95  | 19.2 | 5.0 | M14x1.00 | 16.8 | 18.1 | 18.1 | 5.3 | 12.5 | 16.0 | 17.0 |
| EC●       | 2M     | 21              | 8.95  | 21.5 | 4.0 | M17x1.00 | 16.8 | 18.1 | 18.1 | 5.3 | 15.5 | 18.0 | 19.0 |
| EC●       | 3M     | 23              | 10.95 | 25.0 | 4.0 | M19x1.00 | 16.8 | 18.1 | 18.1 | 5.3 | 17.5 | 20.0 | 22.0 |
| EC●       | TM     | 27              | 12.30 | 28.0 | 2.5 | M22x1.00 | 18.9 | 19.8 | 21.7 | 7.9 | 20.5 | 23.0 | 25.0 |
| EC●       | 4M     | 29              | 13.95 | 34.0 | 2.5 | M24x1.00 | 18.9 | 19.8 | 21.7 | 7.9 | 22.5 | 25.0 | 30.0 |
| EC●       | LM     | 33              | 17.95 | 36.0 | 2.5 | M28x1.00 | 18.9 | 19.8 | 21.7 | 7.9 | 26.5 | 29.0 | 32.0 |
| EC●       | 5M     | 38              | 22.90 | 41.0 | 2.5 | M33x1.00 | 18.9 | 19.8 | 21.7 | 7.9 | 31.5 | 34.0 | 37.0 |

Part number example: ECN.1M.305.XLN

Panel cut-out (page 23).

Note: Ls = standard gender, Lr = reverse gender



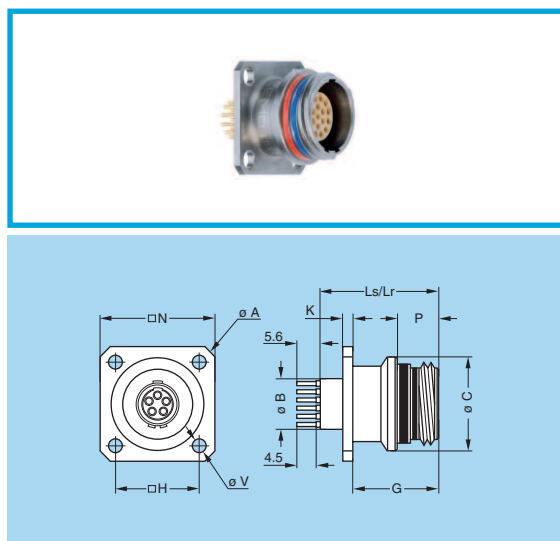
## ED● Fixed socket with square flange, key (N) or keys (P, R, S, T, U, V, W and X) for printed circuit

| Reference |        | Dimensions (mm) |       |      |      |      |     |      |      |      |     |     |
|-----------|--------|-----------------|-------|------|------|------|-----|------|------|------|-----|-----|
| Model     | Series | A               | B     | C    | G    | H    | K   | Ls   | Lr   | N    | P   | V   |
| ED●       | 0M     | 20.6            | 4.72  | 12.7 | 12.8 | 11.0 | 1.5 | 18.1 | 18.1 | 16.0 | 5.3 | 2.7 |
| ED●       | 1M     | 23.8            | 5.95  | 14.2 | 12.8 | 12.9 | 1.5 | 18.1 | 18.1 | 18.4 | 5.3 | 3.3 |
| ED●       | 2M     | 26.9            | 8.95  | 17.2 | 12.8 | 15.1 | 1.5 | 18.1 | 18.1 | 20.6 | 5.3 | 3.3 |
| ED●       | 3M     | 29.0            | 10.95 | 19.2 | 12.8 | 16.6 | 1.5 | 18.1 | 18.1 | 22.1 | 5.3 | 3.3 |
| ED●       | TM     | 31.4            | 12.30 | 22.0 | 14.5 | 18.3 | 2.0 | 19.8 | 21.7 | 23.8 | 7.9 | 3.3 |
| ED●       | 4M     | 34.6            | 13.95 | 24.5 | 14.5 | 20.6 | 2.0 | 19.8 | 21.7 | 26.1 | 7.9 | 3.3 |
| ED●       | LM     | 38.0            | 17.95 | 28.0 | 14.5 | 23.0 | 2.0 | 19.8 | 21.7 | 28.5 | 7.9 | 3.3 |
| ED●       | 5M     | 43.7            | 22.90 | 33.5 | 14.5 | 27.0 | 2.0 | 19.8 | 21.7 | 32.5 | 7.9 | 3.3 |

Part number example: EDN.1M.305.XLM

Panel cut-out (page 23).

Note: Ls = standard gender, Lr = reverse gender



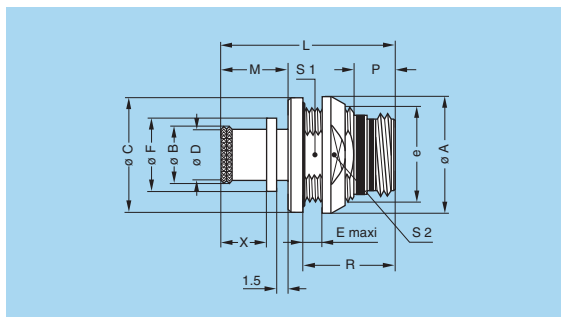
## ED● Fixed socket with square flange, key (N) or keys (P, R, S, T, U, V, W and X) for printed circuit

| Reference |        | Dimensions (mm) |       |      |      |      |     |      |      |      |     |     |  |
|-----------|--------|-----------------|-------|------|------|------|-----|------|------|------|-----|-----|--|
| Model     | Series | A               | B     | C    | G    | H    | K   | Ls   | Lr   | N    | P   | V   |  |
| ED●       | 0M     | 20.6            | 4.72  | 12.7 | 12.8 | 11.0 | 1.5 | 18.1 | 18.1 | 16.0 | 5.3 | 2.7 |  |
| ED●       | 1M     | 23.8            | 5.95  | 14.2 | 12.8 | 12.9 | 1.5 | 18.1 | 18.1 | 18.4 | 5.3 | 3.3 |  |
| ED●       | 2M     | 26.9            | 8.95  | 17.2 | 12.8 | 15.1 | 1.5 | 18.1 | 18.1 | 20.6 | 5.3 | 3.3 |  |
| ED●       | 3M     | 29.0            | 10.95 | 19.2 | 12.8 | 16.6 | 1.5 | 18.1 | 18.1 | 22.1 | 5.3 | 3.3 |  |
| ED●       | TM     | 31.4            | 12.30 | 22.0 | 14.5 | 18.3 | 2.0 | 19.8 | 21.7 | 23.8 | 7.9 | 3.3 |  |
| ED●       | 4M     | 34.6            | 13.95 | 24.5 | 14.5 | 20.6 | 2.0 | 19.8 | 21.7 | 26.1 | 7.9 | 3.3 |  |
| ED●       | LM     | 38.0            | 17.95 | 28.0 | 14.5 | 23.0 | 2.0 | 19.8 | 21.7 | 28.5 | 7.9 | 3.3 |  |
| ED●       | 5M     | 43.7            | 22.90 | 33.5 | 14.5 | 27.0 | 2.0 | 19.8 | 21.7 | 32.5 | 7.9 | 3.3 |  |

Part number example: EDN.1M.305.XLN

Panel cut-out (page 23).

Note: Ls = standard gender, Lr = reverse gender



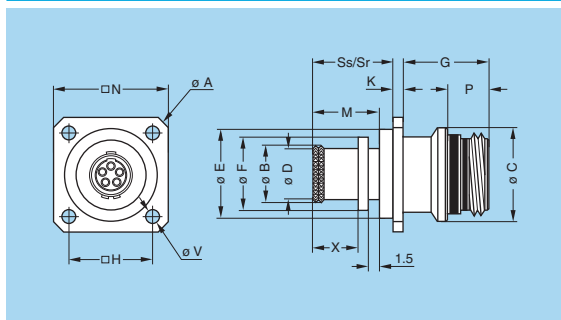
## PE● Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X) and mold stop (back panel mounting)

| Reference |        | Dimensions (mm) |      |      |      |     |          |      |      |      |     |      |      |    |  |
|-----------|--------|-----------------|------|------|------|-----|----------|------|------|------|-----|------|------|----|--|
| Model     | Series | A               | B    | C    | D    | E   | e        | LS   | Lr   | M    | P   | R    | S1   | S2 |  |
| PE●       | 0M     | 17              | 8.8  | 16.8 | 8.0  | 5.0 | M13x0.75 | 25.6 | 25.6 | 9.7  | 5.3 | 13.8 | 11.5 | 14 |  |
| PE●       | 1M     | 18              | 10.5 | 17.8 | 9.7  | 5.0 | M14x1.00 | 25.6 | 25.6 | 9.7  | 5.3 | 13.8 | 12.5 | 16 |  |
| PE●       | 2M     | 21              | 14.0 | 20.8 | 13.0 | 5.0 | M17x1.00 | 26.0 | 26.0 | 10.1 | 5.3 | 13.8 | 15.5 | 18 |  |
| PE●       | 3M     | 23              | 16.0 | 22.8 | 15.0 | 5.0 | M19x1.00 | 26.0 | 26.0 | 10.1 | 5.3 | 13.8 | 17.5 | 20 |  |
| PE●       | TM     | 27              | 17.9 | 25.8 | 16.7 | 4.0 | M22x1.00 | 29.5 | 30.1 | 10.6 | 7.9 | 16.9 | 20.5 | 23 |  |
| PE●       | 4M     | 29              | 20.7 | 27.8 | 19.5 | 4.0 | M24x1.00 | 29.5 | 30.1 | 10.6 | 7.9 | 16.9 | 22.5 | 25 |  |
| PE●       | LM     | 33              | 23.9 | 31.8 | 22.7 | 4.0 | M28x1.00 | 29.5 | 30.1 | 10.6 | 7.9 | 16.9 | 26.5 | 29 |  |
| PE●       | 5M     | 38              | 29.7 | 36.8 | 28.5 | 4.0 | M33x1.00 | 29.5 | 30.1 | 10.6 | 7.9 | 16.9 | 31.5 | 34 |  |

Part number example: PEN.1M.305.XLMT

Panel cut-out (page 23).

**Note:** this model is only available with mold stop. The dimensions «F» and «X» are the same as the PB● models. Ls = standard gender, Lr = reverse gender.



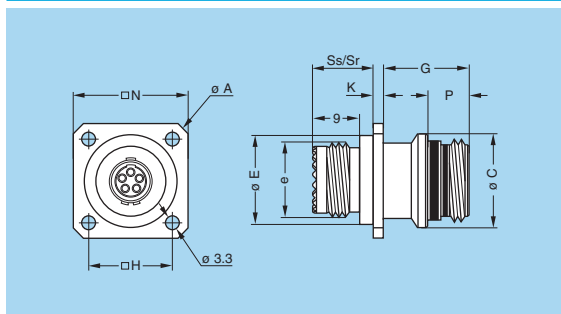
## PF● Fixed socket with square flange, key (N) or keys (P, R, S, T, U, V, W and X) and mold stop

| Reference |        | Dimensions (mm) |      |      |      |      |      |      |      |     |      |      |      |     |  |
|-----------|--------|-----------------|------|------|------|------|------|------|------|-----|------|------|------|-----|--|
| Model     | Series | A               | B    | C    | D    | E    | F    | G    | H    | K   | N    | Ss   | Sr   | V   |  |
| PF●       | 0M     | 20.6            | 8.8  | 12.7 | 8.0  | 10.7 | 10.7 | 12.8 | 11.0 | 1.5 | 16.0 | 11.3 | 11.3 | 2.7 |  |
| PF●       | 1M     | 23.8            | 10.5 | 14.2 | 9.7  | 12.4 | 12.4 | 12.8 | 12.9 | 1.5 | 18.4 | 11.3 | 11.3 | 3.3 |  |
| PF●       | 2M     | 26.9            | 14.0 | 17.2 | 13.0 | 15.5 | 15.5 | 12.8 | 15.1 | 1.5 | 20.6 | 11.7 | 11.7 | 3.3 |  |
| PF●       | 3M     | 29.0            | 16.0 | 19.2 | 15.0 | 17.5 | 17.5 | 12.8 | 16.6 | 1.5 | 22.1 | 11.7 | 11.7 | 3.3 |  |
| PF●       | TM     | 31.4            | 17.9 | 22.0 | 16.7 | 19.8 | 19.8 | 14.5 | 18.3 | 2.0 | 23.8 | 13.0 | 13.6 | 3.3 |  |
| PF●       | 4M     | 34.6            | 20.7 | 24.5 | 19.5 | 22.6 | 22.6 | 14.5 | 20.6 | 2.0 | 26.1 | 13.0 | 13.6 | 3.3 |  |
| PF●       | LM     | 38.0            | 23.9 | 28.0 | 22.7 | 25.8 | 25.8 | 14.5 | 23.0 | 2.0 | 28.5 | 13.0 | 13.6 | 3.3 |  |
| PF●       | 5M     | 47.0            | 29.7 | 33.5 | 28.5 | 33.0 | 31.4 | 14.5 | 29.4 | 2.0 | 37.0 | 13.0 | 13.6 | 3.3 |  |

Part number example: PFN.1M.305.XLMT

Panel cut-out (page 23).

**Note:** this model is only available with mold stop. The dimensions «M», «P» and «X» are the same as the PB● models. Ss = standard gender, Sr = reverse gender.



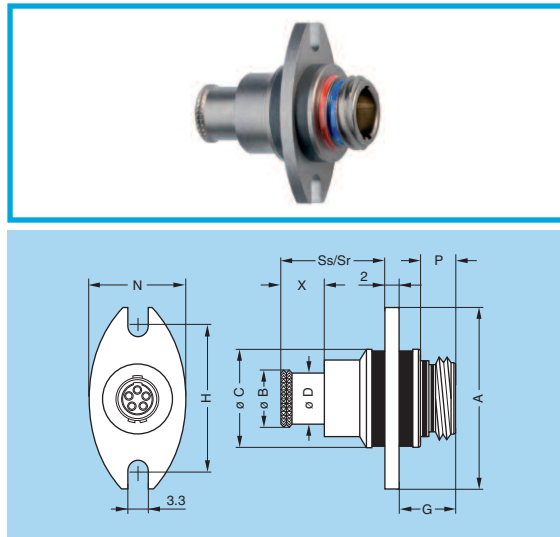
## PF● Fixed socket with square flange, key (N) or keys (P, R, S, T, U, V, W and X) with MIL-DTL-38999L shell thread

| Reference |        | Dimensions (mm) |      |         |      |      |      |     |      |      |      |                    |
|-----------|--------|-----------------|------|---------|------|------|------|-----|------|------|------|--------------------|
| Model     | Series | A               | C    | e       | E    | G    | H    | K   | N    | Ss   | Sr   | Code <sup>1)</sup> |
| PF●       | 1M     | 23.8            | 14.2 | M12x1.0 | 12.4 | 12.8 | 12.9 | 1.5 | 18.4 | 12.2 | 12.2 | A                  |
| PF●       | 2M     | 26.9            | 17.2 | M15x1.0 | 15.5 | 12.8 | 15.1 | 1.5 | 20.6 | 12.2 | 12.2 | B                  |
| PF●       | 3M     | 29.0            | 19.2 | M18x1.0 | 17.5 | 12.8 | 16.6 | 1.5 | 22.1 | 12.2 | 12.2 | C                  |
| PF●       | TM     | 31.4            | 22.0 | M18x1.0 | 19.8 | 14.5 | 18.3 | 2.0 | 23.8 | 11.7 | 13.6 | C                  |
| PF●       | 4M     | 34.6            | 24.5 | M22x1.0 | 22.6 | 14.5 | 20.6 | 2.0 | 26.1 | 11.7 | 13.6 | D                  |
| PF●       | LM     | 38.0            | 28.0 | M25x1.0 | 25.8 | 14.5 | 23.0 | 2.0 | 28.5 | 11.7 | 13.6 | E                  |
| PF●       | 5M     | 47.0            | 33.5 | M31x1.0 | 33.0 | 14.5 | 29.4 | 2.0 | 37.0 | 11.7 | 13.6 | G                  |

Part number example: PFN.1M.305.XLMM

Panel cut-out (page 23).

**Note:** Ss = standard gender, Sr = reverse gender. <sup>1)</sup> MIL-DTL-38999L shell size code (backshell not supplied)



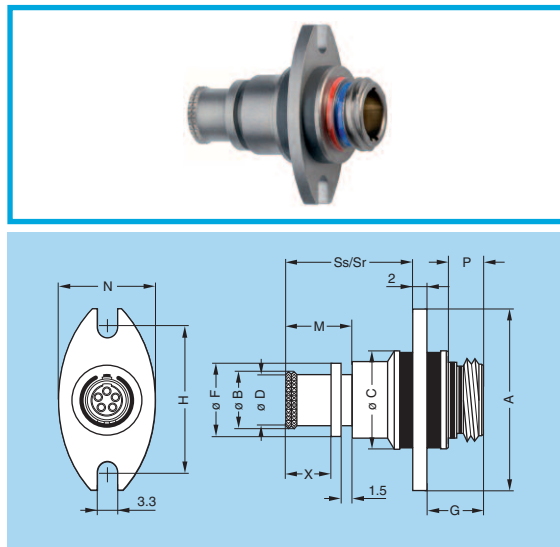
**PB● Fixed socket with antivibration flange, key (N) or keys (P, R, S, T, U, V, W and X), 2 holes fixing**

| Reference |        | Dimensions (mm) |      |      |      |      |      |      |     |      |      |     |
|-----------|--------|-----------------|------|------|------|------|------|------|-----|------|------|-----|
| Model     | Series | A               | B    | C    | D    | G    | H    | N    | P   | Ss   | Sr   | X   |
| PB●       | 0M     | 27.0            | 8.8  | 14.5 | 8.0  | 8.3  | 21.4 | 16.0 | 5.3 | 15.3 | 15.3 | 6.7 |
| PB●       | 1M     | 29.0            | 10.5 | 16.5 | 9.7  | 8.3  | 23.4 | 18.0 | 5.3 | 15.3 | 15.3 | 6.7 |
| PB●       | 2M     | 32.0            | 14.0 | 19.5 | 13.0 | 8.3  | 26.4 | 21.0 | 5.3 | 15.7 | 15.7 | 7.1 |
| PB●       | 3M     | 35.0            | 16.0 | 21.5 | 15.0 | 8.3  | 29.0 | 23.0 | 5.3 | 15.7 | 15.7 | 7.1 |
| PB●       | TM     | 38.5            | 17.9 | 24.5 | 16.7 | 11.0 | 32.5 | 26.0 | 7.9 | 15.2 | 17.1 | 7.6 |
| PB●       | 4M     | 41.0            | 20.7 | 27.5 | 19.5 | 11.0 | 35.0 | 29.0 | 7.9 | 15.2 | 17.1 | 7.6 |
| PB●       | LM     | 44.0            | 23.9 | 30.5 | 22.7 | 11.0 | 38.0 | 32.0 | 7.9 | 15.2 | 17.1 | 7.6 |
| PB●       | 5M     | 51.0            | 29.7 | 37.5 | 28.5 | 11.0 | 45.0 | 39.0 | 7.9 | 15.2 | 17.1 | 7.6 |

Part number example: PBN.1M.305.XLM

Panel cut-out (page 23).

Note: Ss = standard gender, Sr = reverse gender



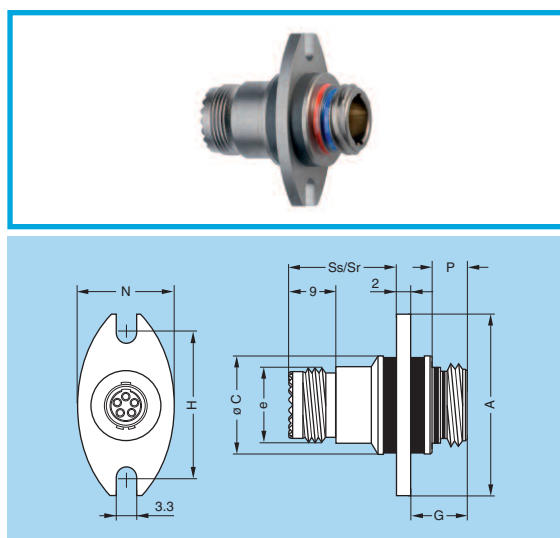
**PB● Fixed socket with antivibration flange, key (N) or keys (P, R, S, T, U, V, W and X), 2 holes fixing and mold stop**

| Reference |        | Dimensions (mm) |      |      |      |      |      |      |      |    |     |      |      |     |
|-----------|--------|-----------------|------|------|------|------|------|------|------|----|-----|------|------|-----|
| Model     | Series | A               | B    | C    | D    | F    | G    | H    | M    | N  | P   | Ss   | Sr   | X   |
| PB●       | 0M     | 27.0            | 8.8  | 14.5 | 8.0  | 10.7 | 8.3  | 21.4 | 9.7  | 16 | 5.3 | 18.3 | 18.3 | 6.7 |
| PB●       | 1M     | 29.0            | 10.5 | 16.5 | 9.7  | 12.4 | 8.3  | 23.4 | 9.7  | 18 | 5.3 | 18.3 | 18.3 | 6.7 |
| PB●       | 2M     | 32.0            | 14.0 | 19.5 | 13.0 | 15.5 | 8.3  | 26.4 | 10.1 | 21 | 5.3 | 18.7 | 18.7 | 7.1 |
| PB●       | 3M     | 35.0            | 16.0 | 21.5 | 15.0 | 17.5 | 8.3  | 29.0 | 10.1 | 23 | 5.3 | 18.7 | 18.7 | 7.1 |
| PB●       | TM     | 38.5            | 17.9 | 24.5 | 16.7 | 19.8 | 11.0 | 32.5 | 10.6 | 26 | 7.9 | 18.2 | 18.2 | 7.6 |
| PB●       | 4M     | 41.0            | 20.7 | 27.5 | 19.5 | 22.6 | 11.0 | 35.0 | 10.6 | 29 | 7.9 | 18.2 | 18.2 | 7.6 |
| PB●       | LM     | 44.0            | 23.9 | 30.5 | 22.7 | 25.8 | 11.0 | 38.0 | 10.6 | 32 | 7.9 | 18.2 | 18.2 | 7.6 |
| PB●       | 5M     | 51.0            | 29.7 | 37.5 | 28.5 | 31.4 | 11.0 | 45.0 | 10.6 | 39 | 7.9 | 18.2 | 18.2 | 7.6 |

Part number example: PBN.1M.305.XLMT

Panel cut-out (page 23).

Note: Ss = standard gender, Sr = reverse gender



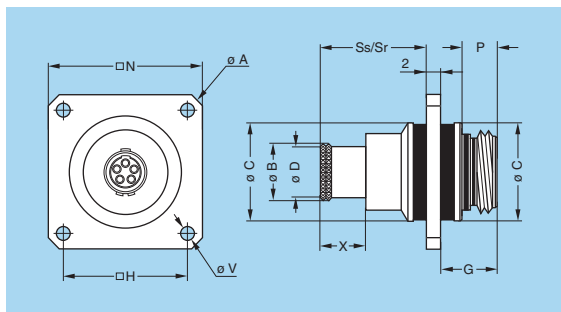
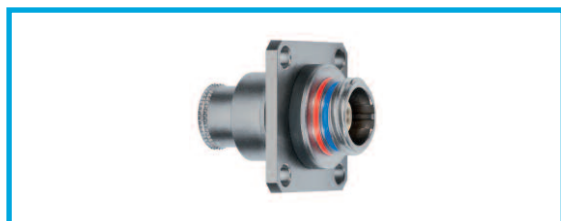
**PB● Fixed socket with antivibration flange, key (N) or keys (P, R, S, T, U, V, W and X), 2 holes fixing with MIL-DTL-38999L shell thread**

| Reference |        | Dimensions (mm) |      |         |      |      |      |     |      |      |                    |
|-----------|--------|-----------------|------|---------|------|------|------|-----|------|------|--------------------|
| Model     | Series | A               | C    | e       | G    | H    | N    | P   | Ss   | Sr   | Code <sup>1)</sup> |
| PB●       | 1M     | 29.0            | 16.5 | M12x1.0 | 8.3  | 23.4 | 18.0 | 5.3 | 17.2 | 17.2 | A                  |
| PB●       | 2M     | 32.0            | 19.5 | M15x1.0 | 8.3  | 26.4 | 21.0 | 5.3 | 17.2 | 17.2 | B                  |
| PB●       | 3M     | 35.0            | 21.5 | M18x1.0 | 8.3  | 29.0 | 23.0 | 5.3 | 17.2 | 17.2 | C                  |
| PB●       | TM     | 38.5            | 24.5 | M18x1.0 | 11.0 | 32.5 | 26.0 | 7.9 | 16.2 | 17.1 | C                  |
| PB●       | 4M     | 41.0            | 27.5 | M22x1.0 | 11.0 | 35.0 | 29.0 | 7.9 | 16.2 | 17.1 | D                  |
| PB●       | LM     | 44.0            | 30.5 | M25x1.0 | 11.0 | 38.0 | 32.0 | 7.9 | 16.2 | 17.1 | E                  |
| PB●       | 5M     | 51.0            | 37.5 | M31x1.0 | 11.0 | 45.0 | 39.0 | 7.9 | 16.2 | 17.1 | G                  |

Part number example: PBN.1M.305.XLMM

Panel cut-out (page 23).

Note: Ss = standard gender, Sr = reverse gender. <sup>1)</sup> MIL-DTL-38999L shell size code (backshell not supplied)



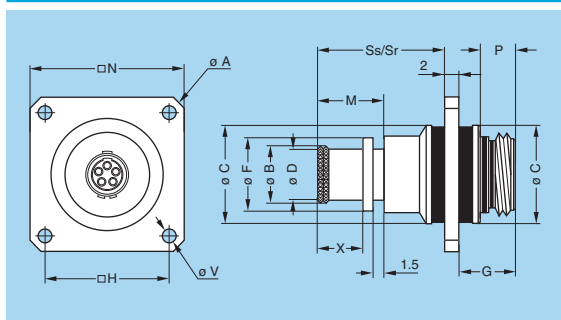
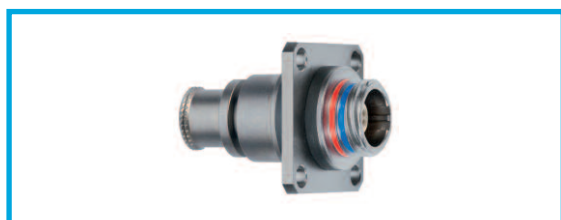
### PV● Fixed socket with antivibration square flange, key (N) or keys (P, R, S, T, U, V, W and X)

| Reference |        | Dimensions (mm) |      |      |      |      |      |      |     |      |      |     |     |
|-----------|--------|-----------------|------|------|------|------|------|------|-----|------|------|-----|-----|
| Model     | Series | A               | B    | C    | D    | G    | H    | N    | P   | Ss   | Sr   | V   | X   |
| PV●       | 0M     | 26.9            | 8.8  | 14.5 | 8.0  | 8.3  | 15.1 | 20.6 | 5.3 | 15.3 | 15.3 | 2.7 | 6.7 |
| PV●       | 1M     | 31.4            | 10.5 | 16.5 | 9.7  | 8.3  | 18.3 | 23.8 | 5.3 | 15.3 | 15.3 | 3.3 | 6.7 |
| PV●       | 2M     | 34.6            | 14.0 | 19.5 | 13.0 | 8.3  | 20.6 | 26.1 | 5.3 | 15.7 | 15.7 | 3.3 | 7.1 |
| PV●       | 3M     | 38.0            | 16.0 | 21.5 | 15.0 | 8.3  | 23.0 | 28.5 | 5.3 | 15.7 | 15.7 | 3.3 | 7.1 |
| PV●       | TM     | 40.3            | 17.9 | 24.5 | 16.7 | 11.0 | 24.6 | 30.1 | 7.9 | 15.2 | 17.1 | 3.3 | 7.6 |
| PV●       | 4M     | 43.7            | 20.7 | 27.5 | 19.5 | 11.0 | 27.0 | 32.5 | 7.9 | 15.2 | 17.1 | 3.3 | 7.6 |
| PV●       | LM     | 47.1            | 23.9 | 30.5 | 22.7 | 11.0 | 29.4 | 34.9 | 7.9 | 15.2 | 17.1 | 3.3 | 7.6 |
| PV●       | 5M     | 54.9            | 29.7 | 37.5 | 28.5 | 11.0 | 34.9 | 40.4 | 7.9 | 15.2 | 17.1 | 3.3 | 7.6 |

Part number example: PVN.1M.305.XLM

Panel cut-out (page 23).

Note: Ss = standard gender, Sr = reverse gender



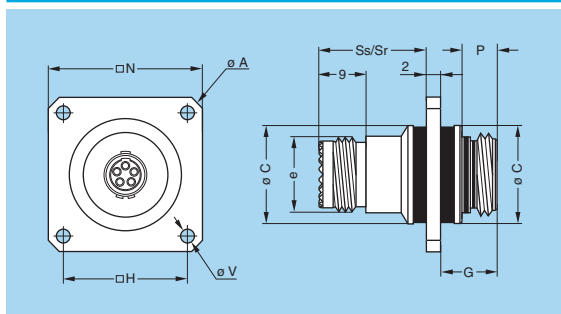
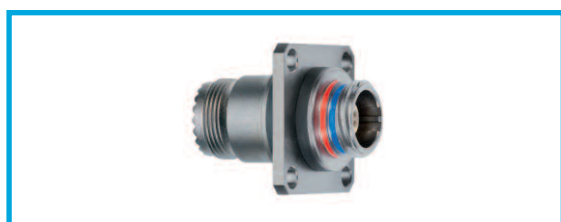
### PV● Fixed socket with antivibration square flange, key (N) or keys (P, R, S, T, U, V, W and X) and mold stop

| Reference |        | Dimensions (mm) |      |      |      |      |      |      |      |      |     |      |      |     |
|-----------|--------|-----------------|------|------|------|------|------|------|------|------|-----|------|------|-----|
| Model     | Series | A               | B    | C    | D    | F    | G    | H    | M    | N    | P   | Ss   | Sr   | X   |
| PV●       | 0M     | 26.9            | 8.8  | 14.5 | 8.0  | 10.7 | 8.3  | 15.1 | 9.7  | 20.6 | 5.3 | 18.3 | 18.3 | 6.7 |
| PV●       | 1M     | 31.4            | 10.5 | 16.5 | 9.7  | 12.4 | 8.3  | 18.3 | 9.7  | 23.8 | 5.3 | 18.3 | 18.3 | 6.7 |
| PV●       | 2M     | 34.6            | 14.0 | 19.5 | 13.0 | 15.5 | 8.3  | 20.6 | 10.1 | 26.1 | 5.3 | 18.7 | 18.7 | 7.1 |
| PV●       | 3M     | 38.0            | 16.0 | 21.5 | 15.0 | 17.5 | 8.3  | 23.0 | 10.1 | 28.5 | 5.3 | 18.7 | 18.7 | 7.1 |
| PV●       | TM     | 40.3            | 17.9 | 24.5 | 16.7 | 19.8 | 11.0 | 24.6 | 10.6 | 30.1 | 7.9 | 18.2 | 18.2 | 7.6 |
| PV●       | 4M     | 43.7            | 20.7 | 27.5 | 19.5 | 22.6 | 11.0 | 27.0 | 10.6 | 32.5 | 7.9 | 18.2 | 18.2 | 7.6 |
| PV●       | LM     | 47.1            | 23.9 | 30.5 | 22.7 | 25.8 | 11.0 | 29.4 | 10.6 | 34.9 | 7.9 | 18.2 | 18.2 | 7.6 |
| PV●       | 5M     | 54.9            | 29.7 | 37.5 | 28.5 | 31.4 | 11.0 | 34.9 | 10.6 | 40.4 | 7.9 | 18.2 | 18.2 | 7.6 |

Part number example: PVN.1M.305.XLMT

Panel cut-out (page 23).

Note: Ss = standard gender, Sr = reverse gender. The dimension «V» is the same as the PV● models without mold stop.



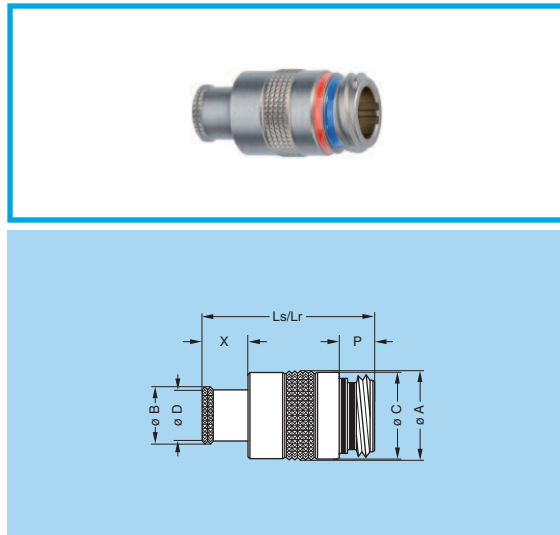
### PV● Fixed socket with antivibration square flange, key (N) or keys (P, R, S, T, U, V, W and X) with MIL-DTL-38999L shell thread

| Reference |        | Dimensions (mm) |      |         |      |      |      |     |      |      |     |                    |  |
|-----------|--------|-----------------|------|---------|------|------|------|-----|------|------|-----|--------------------|--|
| Model     | Series | A               | C    | e       | G    | H    | N    | P   | Ss   | Sr   | V   | Code <sup>1)</sup> |  |
| PV●       | 1M     | 31.4            | 16.5 | M12x1.0 | 8.3  | 18.3 | 23.8 | 5.3 | 17.2 | 17.2 | 3.3 | A                  |  |
| PV●       | 2M     | 34.6            | 19.5 | M15x1.0 | 8.3  | 20.6 | 26.1 | 5.3 | 17.2 | 17.2 | 3.3 | B                  |  |
| PV●       | 3M     | 38.0            | 21.5 | M18x1.0 | 8.3  | 23.0 | 28.5 | 5.3 | 17.2 | 17.2 | 3.3 | C                  |  |
| PV●       | TM     | 40.3            | 24.5 | M18x1.0 | 11.0 | 24.6 | 30.1 | 7.9 | 16.2 | 17.1 | 3.3 | C                  |  |
| PV●       | 4M     | 43.7            | 27.5 | M22x1.0 | 11.0 | 27.0 | 32.5 | 7.9 | 16.2 | 17.1 | 3.3 | D                  |  |
| PV●       | LM     | 47.1            | 30.5 | M25x1.0 | 11.0 | 29.4 | 34.9 | 7.9 | 16.2 | 17.1 | 3.3 | E                  |  |
| PV●       | 5M     | 54.9            | 37.5 | M31x1.0 | 11.0 | 34.9 | 40.4 | 7.9 | 16.2 | 17.1 | 3.3 | G                  |  |

Part number example: PVN.1M.305.XLMM

Panel cut-out (page 23).

Note: Ss = standard gender, Sr = reverse gender. <sup>1)</sup> MIL-DTL-38999L shell size code (backshell not supplied)



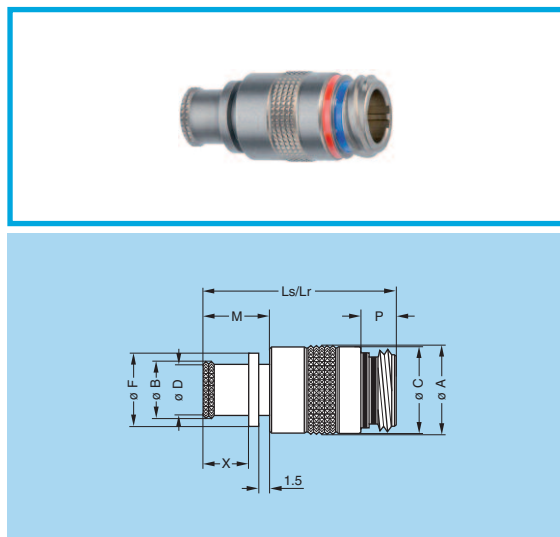
### PM● Free socket, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip

| Reference |        | Dimensions (mm) |      |      |      |      |      |     |     |
|-----------|--------|-----------------|------|------|------|------|------|-----|-----|
| Model     | Series | A               | B    | C    | D    | Ls   | Lr   | P   | X   |
| PM●       | 0M     | 13.1            | 8.8  | 12.7 | 8.0  | 25.6 | 25.6 | 5.3 | 6.7 |
| PM●       | 1M     | 14.6            | 10.5 | 14.2 | 9.7  | 25.6 | 25.6 | 5.3 | 6.7 |
| PM●       | 2M     | 17.6            | 14.0 | 17.2 | 13.0 | 26.0 | 26.0 | 5.3 | 7.1 |
| PM●       | 3M     | 19.6            | 16.0 | 19.2 | 15.0 | 26.0 | 26.0 | 5.3 | 7.1 |
| PM●       | TM     | 22.5            | 17.9 | 22.0 | 16.7 | 28.2 | 30.1 | 7.9 | 7.6 |
| PM●       | 4M     | 25.0            | 20.7 | 24.5 | 19.5 | 28.2 | 30.1 | 7.9 | 7.6 |
| PM●       | LM     | 28.5            | 23.9 | 28.0 | 22.7 | 28.2 | 30.1 | 7.9 | 7.6 |
| PM●       | 5M     | 34.0            | 29.7 | 33.5 | 28.5 | 28.2 | 30.1 | 7.9 | 7.6 |

Part number example: PMN.1M.305.XLM

Panel cut-out (page 23).

Note: Ls = standard gender, Lr = reverse gender



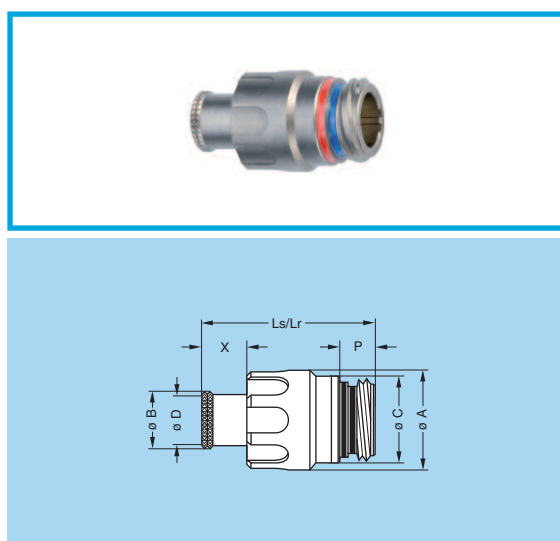
### PM● Free socket, key (N) or keys (P, R, S, T, U, V, W and X) with knurled grip and mold stop

| Reference |        | Dimensions (mm) |      |      |      |      |      |      |      |     |     |
|-----------|--------|-----------------|------|------|------|------|------|------|------|-----|-----|
| Model     | Series | A               | B    | C    | D    | F    | Ls   | Lr   | M    | P   | X   |
| PM●       | 0M     | 13.1            | 8.8  | 12.7 | 8.0  | 10.7 | 28.6 | 28.6 | 9.7  | 5.3 | 6.7 |
| PM●       | 1M     | 14.6            | 10.5 | 14.2 | 9.7  | 12.4 | 28.6 | 28.6 | 9.7  | 5.3 | 6.7 |
| PM●       | 2M     | 17.6            | 14.0 | 17.2 | 13.0 | 15.5 | 29.0 | 29.0 | 10.1 | 5.3 | 7.1 |
| PM●       | 3M     | 19.6            | 16.0 | 19.2 | 15.0 | 17.5 | 29.0 | 29.0 | 10.1 | 5.3 | 7.1 |
| PM●       | TM     | 22.5            | 17.9 | 22.0 | 16.7 | 19.8 | 31.2 | 31.2 | 10.6 | 7.9 | 7.6 |
| PM●       | 4M     | 25.0            | 20.7 | 24.5 | 19.5 | 22.6 | 31.2 | 31.2 | 10.6 | 7.9 | 7.6 |
| PM●       | LM     | 28.5            | 23.9 | 28.0 | 22.7 | 25.8 | 31.2 | 31.2 | 10.6 | 7.9 | 7.6 |
| PM●       | 5M     | 34.0            | 29.7 | 33.5 | 28.5 | 31.4 | 31.2 | 31.2 | 10.6 | 7.9 | 7.6 |

Part number example: PMN.1M.305.XLMT

Panel cut-out (page 23).

Note: Ls = standard gender, Lr = reverse gender



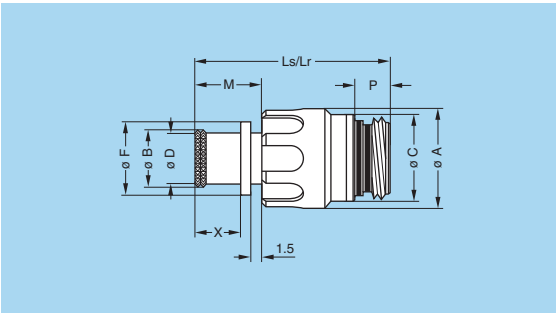
### PH● Free socket, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip

| Reference |        | Dimensions (mm) |      |      |      |      |      |     |     |
|-----------|--------|-----------------|------|------|------|------|------|-----|-----|
| Model     | Series | A               | B    | C    | D    | Ls   | Lr   | P   | X   |
| PH●       | 0M     | 14.4            | 8.8  | 12.7 | 8.0  | 25.6 | 25.6 | 5.3 | 6.7 |
| PH●       | 1M     | 15.9            | 10.5 | 14.2 | 9.7  | 25.6 | 25.6 | 5.3 | 6.7 |
| PH●       | 2M     | 18.9            | 14.0 | 17.2 | 13.0 | 26.0 | 26.0 | 5.3 | 7.1 |
| PH●       | 3M     | 20.9            | 16.0 | 19.2 | 15.0 | 26.0 | 26.0 | 5.3 | 7.1 |
| PH●       | TM     | 23.4            | 17.9 | 22.0 | 16.7 | 28.2 | 30.1 | 7.9 | 7.6 |
| PH●       | 4M     | 25.9            | 20.7 | 24.5 | 19.5 | 28.2 | 30.1 | 7.9 | 7.6 |
| PH●       | LM     | 29.4            | 23.9 | 28.0 | 22.7 | 28.2 | 30.1 | 7.9 | 7.6 |
| PH●       | 5M     | 34.9            | 29.7 | 33.5 | 28.5 | 28.2 | 30.1 | 7.9 | 7.6 |

Part number example: PHN.1M.305.XLM

Panel cut-out (page 23).

Note: Ls = standard gender, Lr = reverse gender



**PH● Free socket, key (N) or keys (P, R, S, T, U, V, W and X) with arctic grip and mold stop**

| Reference |        | Dimensions (mm) |      |      |      |      |      |      |      |     |     |
|-----------|--------|-----------------|------|------|------|------|------|------|------|-----|-----|
| Model     | Series | A               | B    | C    | D    | F    | Ls   | Lr   | M    | P   | X   |
| PH●       | 0M     | 14.4            | 8.8  | 12.7 | 8.0  | 10.7 | 28.6 | 28.6 | 9.7  | 5.3 | 6.7 |
| PH●       | 1M     | 15.9            | 10.5 | 14.2 | 9.7  | 12.4 | 28.6 | 28.6 | 9.7  | 5.3 | 6.7 |
| PH●       | 2M     | 18.9            | 14.0 | 17.2 | 13.0 | 15.5 | 29.0 | 29.0 | 10.1 | 5.3 | 7.1 |
| PH●       | 3M     | 20.9            | 16.0 | 19.2 | 15.0 | 17.5 | 29.0 | 29.0 | 10.1 | 5.3 | 7.1 |
| PH●       | TM     | 23.4            | 17.9 | 22.0 | 16.7 | 19.8 | 31.2 | 31.2 | 10.6 | 7.9 | 7.6 |
| PH●       | 4M     | 25.9            | 20.7 | 24.5 | 19.5 | 22.6 | 31.2 | 31.2 | 10.6 | 7.9 | 7.6 |
| PH●       | LM     | 29.4            | 23.9 | 28.0 | 22.7 | 25.8 | 31.2 | 31.2 | 10.6 | 7.9 | 7.6 |
| PH●       | 5M     | 34.9            | 29.7 | 33.5 | 28.5 | 31.4 | 31.2 | 31.2 | 10.6 | 7.9 | 7.6 |

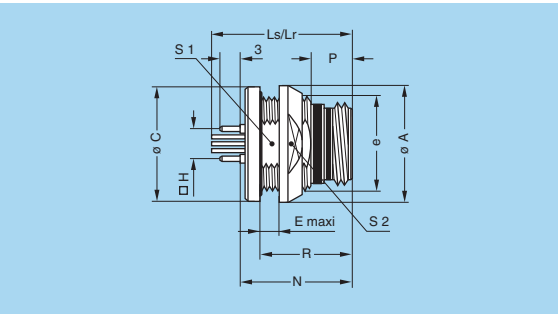
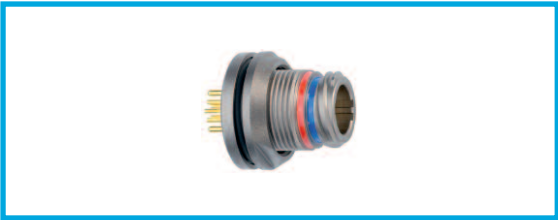
**Part number example:** PHN.1M.305.XLMT

Panel cut-out (page 23).

**Note:** Ls = standard gender, Lr = reverse gender



Watertight model (unmated)

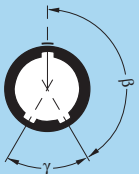
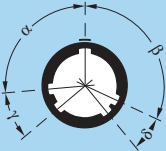


**HE●** Fixed socket, nut fixing, key (N) or keys (P, R, S, T, U, V, W and X) for printed circuit, watertight (back panel mounting)

| Reference |        | Dimensions (mm) |      |          |     |       |      |      |      |     |      |      |    |
|-----------|--------|-----------------|------|----------|-----|-------|------|------|------|-----|------|------|----|
| Model     | Series | A               | C    | e        | E   | H     | Ls   | Lr   | N    | P   | R    | S1   | S2 |
| HE●       | 0M     | 17              | 16.8 | M13x0.75 | 5.0 | 5.08  | 20.8 | 21.0 | 16.8 | 5.3 | 13.8 | 11.5 | 14 |
| HE●       | 1M     | 18              | 17.8 | M14x1.00 | 5.0 | 7.62  | 20.8 | 21.0 | 16.8 | 5.3 | 13.8 | 12.5 | 16 |
| HE●       | 2M     | 21              | 20.8 | M17x1.00 | 5.0 | 8.89  | 20.8 | 21.0 | 16.8 | 5.3 | 13.8 | 15.5 | 18 |
| HE●       | 3M     | 23              | 22.8 | M19x1.00 | 5.0 | 10.16 | 20.8 | 21.0 | 16.8 | 5.3 | 13.8 | 17.5 | 20 |
| HE●       | TM     | 27              | 25.8 | M22x1.00 | 4.0 | 12.70 | 24.6 | 24.6 | 19.9 | 7.9 | 16.9 | 20.5 | 23 |
| HE●       | 4M     | 29              | 27.8 | M24x1.00 | 4.0 | 13.97 | 24.6 | 24.6 | 19.9 | 7.9 | 16.9 | 22.5 | 25 |
| HE●       | LM     | 33              | 31.8 | M28x1.00 | 4.0 | 16.51 | 24.6 | 24.6 | 19.9 | 7.9 | 16.9 | 26.5 | 29 |
| HE●       | 5M     | 38              | 36.8 | M33x1.00 | 4.0 | 20.32 | 24.6 | 24.6 | 19.9 | 7.9 | 16.9 | 31.5 | 34 |

**Part number example:** HEN.1M.305.XLNP  
Panel cut-out (page 23). PCB drilling pattern (page 24).  
**Note:** Ls = standard gender, Lr = reverse gender

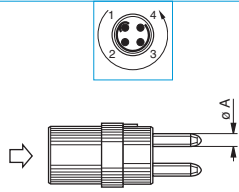
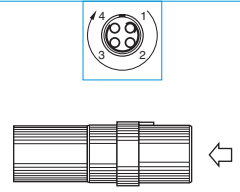
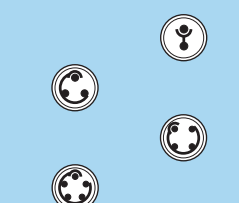
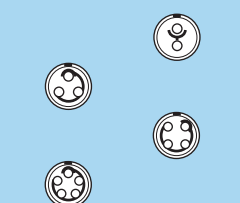
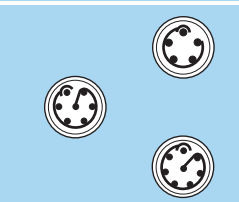
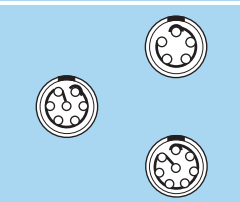
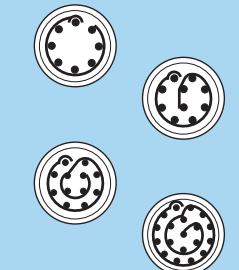
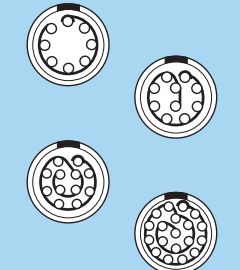
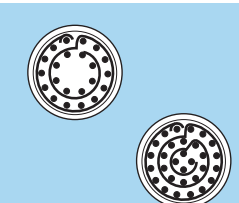
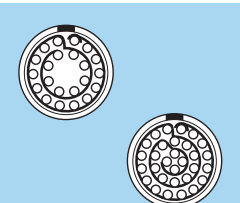
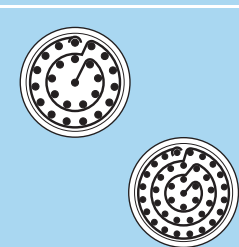
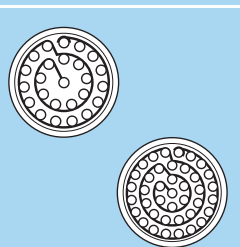
M series connector model part numbers are composed of three letters. The LAST LETTER indicates the keys corresponding to a particular contact type.

|          |                                                                                                                  |        |            |          |          |             |              |             |              |        |
|----------|------------------------------------------------------------------------------------------------------------------|--------|------------|----------|----------|-------------|--------------|-------------|--------------|--------|
| OM to 3M | <p>Front view of a socket</p>   | Model  | Nb of keys | Angles   |          | Colour code | Contact type |             |              |        |
|          |                                                                                                                  |        |            | $\beta$  | $\gamma$ |             | Plug         | Socket      |              |        |
|          |                                                                                                                  | ●●N    | 3          | 165°     | 30°      | blue        | male         | female      |              |        |
|          |                                                                                                                  | ●●P    |            | 150°     | 60°      | yellow      |              |             |              |        |
|          |                                                                                                                  | ●●U    |            | 130°     | 100°     | green       |              |             |              |        |
|          |                                                                                                                  | ●●S    |            | 155°     | 50°      | red         |              |             |              |        |
| ●●T      | 135°                                                                                                             | 90°    |            | orange   |          |             |              |             |              |        |
| TM to 5M | <p>Front view of a socket</p>  | Model  | Nb of keys | Angles   |          |             |              | Colour code | Contact type |        |
|          |                                                                                                                  |        |            | $\alpha$ | $\beta$  | $\gamma$    | $\delta$     |             | Plug         | Socket |
|          |                                                                                                                  | ●●W    | 5          | 95°      | 115°     | 35°         | 25°          | blue        | male         | female |
|          |                                                                                                                  | ●●R    |            | 105°     | 115°     | 30°         | 20°          | yellow      |              |        |
|          |                                                                                                                  | ●●X    |            | 100°     | 125°     | 40°         | 20°          | red         |              |        |
|          |                                                                                                                  | ●●V    |            | 110°     | 120°     | 35°         | 25°          | orange      |              |        |
|          |                                                                                                                  | female | male       |          |          |             |              |             |              |        |



## Insert configuration

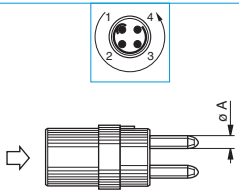
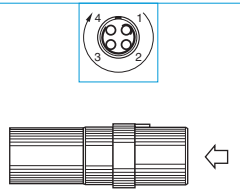
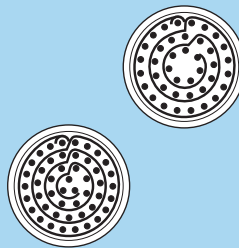
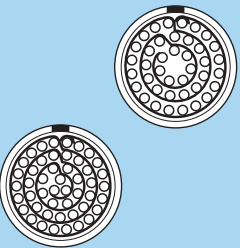
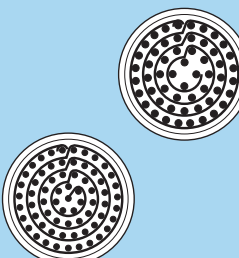
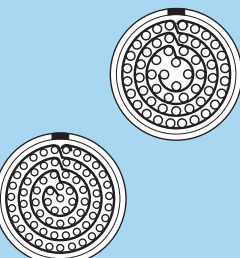
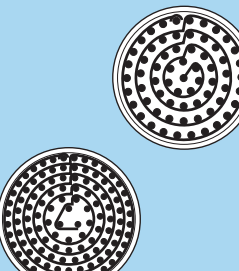
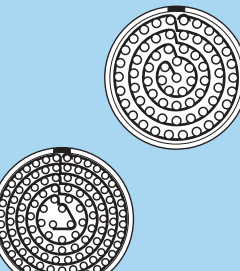
### Multipole

|    | <br>Male crimp contacts<br>for plug | <br>Female crimp contacts<br>for sockets | Reference | Number of contacts | ø A (mm) | Contact type |   | AWG      | 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> |
|----|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------|--------------------|----------|--------------|---|----------|--------------------------------------------------------|------------------------------------------------------|---------------------------------|
| 0M |                                     |                                          | 302       | 2                  | 0.9      | ●            | ● | 20-22-24 | 1.45                                                   | 1.00                                                 | 10.0                            |
|    |                                                                                                                      |                                                                                                                           | 303       | 3                  | 0.9      | ●            | ● | 20-22-24 | 1.70                                                   | 1.40                                                 | 8.0                             |
|    |                                                                                                                      |                                                                                                                           | 304       | 4                  | 0.7      | ●            | ● | 22-24-26 | 1.35                                                   | 0.90                                                 | 7.0                             |
|    |                                                                                                                      |                                                                                                                           | 305       | 5                  | 0.7      | ●            | ● | 22-24-26 | 1.25                                                   | 1.00                                                 | 6.5                             |
| 1M |                                    |                                         | 305       | 5                  | 0.9      | ●            | ● | 20-22-24 | 1.30                                                   | 1.30                                                 | 9.0                             |
|    |                                                                                                                      |                                                                                                                           | 307       | 7                  | 0.7      | ●            | ● | 22-24-26 | 1.45                                                   | 1.20                                                 | 7.0                             |
|    |                                                                                                                      |                                                                                                                           | 308       | 8                  | 0.7      | ●            | ● | 22-24-26 | 1.30                                                   | 1.10                                                 | 5.0                             |
| 2M |                                   |                                        | 308       | 8                  | 0.9      | ●            | ● | 20-22-24 | 1.95                                                   | 1.10                                                 | 10.0                            |
|    |                                                                                                                      |                                                                                                                           | 310       | 10                 | 0.9      | ●            | ● | 20-22-24 | 1.80                                                   | 1.20                                                 | 8.0                             |
|    |                                                                                                                      |                                                                                                                           | 312       | 12                 | 0.7      | ●            | ● | 22-24-26 | 1.65                                                   | 1.15                                                 | 7.0                             |
|    |                                                                                                                      |                                                                                                                           | 319       | 19                 | 0.7      | ●            | ● | 22-24-26 | 1.20                                                   | 1.00                                                 | 4.0                             |
| 3M |                                   |                                        | 322       | 22                 | 0.7      | ●            | ● | 22-24-26 | tbd                                                    | tbd                                                  | tbd                             |
|    |                                                                                                                      |                                                                                                                           | 330       | 30                 | 0.7      | ●            | ● | 22-24-26 | 1.10                                                   | 1.00                                                 | 3.5                             |
| TM |                                   |                                        | 325       | 25                 | 0.9      | ●            | ● | 20-22-24 | tbd                                                    | tbd                                                  | tbd                             |
|    |                                                                                                                      |                                                                                                                           | 340       | 40                 | 0.7      | ●            | ● | 22-24-26 | tbd                                                    | tbd                                                  | tbd                             |

**Note:** <sup>1)</sup> Test voltage according to IEC 60512-2 test 4a. <sup>2)</sup> For EG●, EC●, ED●, HE● socket.



## Multipole

|    | <br>Male crimp contacts<br>for plug | <br>Female crimp contacts<br>for sockets | Reference | Number of contacts | ø A (mm) | Contact type |                                | AWG      | 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> |
|----|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------|--------------------|----------|--------------|--------------------------------|----------|--------------------------------------------------------|------------------------------------------------------|---------------------------------|
|    |                                                                                                                      |                                                                                                                           |           |                    |          | Crimp        | Print (straight) <sup>2)</sup> |          |                                                        |                                                      |                                 |
| 4M |                                     |                                          | 340       | 40                 | 0.7      | ●            | ●                              | 22-24-26 | 1.20                                                   | 1.35                                                 | 3.5                             |
|    |                                                                                                                      |                                                                                                                           | 348       | 48                 | 0.7      | ●            | ●                              | 22-24-26 | 1.10                                                   | 1.35                                                 | 3.0                             |
| LM |                                    |                                         | 355       | 55                 | 0.9      | ●            | ●                              | 20-22-24 | tbd                                                    | tbd                                                  | tbd                             |
|    |                                                                                                                      |                                                                                                                           | 368       | 68                 | 0.7      | ●            | ●                              | 22-24-26 | tbd                                                    | tbd                                                  | tbd                             |
| 5M |                                   |                                        | 366       | 66                 | 0.9      | ●            | ●                              | 20-22-24 | tbd                                                    | tbd                                                  | tbd                             |
|    |                                                                                                                      |                                                                                                                           | 114       | 114                | 0.7      | ●            | ●                              | 22-24-26 | 1.37                                                   | 1.34                                                 | 2.0                             |

**Note:** <sup>1)</sup> Test voltage according to IEC 60512-2 test 4a. <sup>2)</sup> For EG●, EC●, ED●, HE● socket.



## Housings

| Ref. | Outer shell     |                      |
|------|-----------------|----------------------|
|      | Material        | Surface treatment    |
| C    | Brass           | Chrome               |
| X    | Aluminium alloy | Nickel <sup>1)</sup> |

**Note:** <sup>1)</sup> anthracite colour.



## Contacts

### Crimp contacts for plugs, free or fixed sockets

There are 2 forms of crimp barrels:

- per fig. 1, the standard design
- per fig. 2, with reduced crimp barrel for small conductors.

Fig. 1

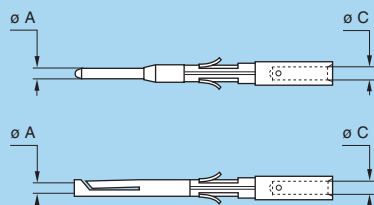
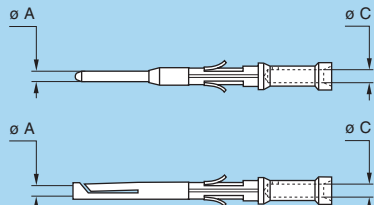


Fig. 2



| Ref. | Contact type        | Ref. | Contact type          |
|------|---------------------|------|-----------------------|
| C    | Male crimp (fig. 1) | M    | Female crimp (fig. 1) |
| B    | Male crimp (fig. 2) | P    | Female crimp (fig. 2) |
| D    | Male straight print | N    | Female straight print |

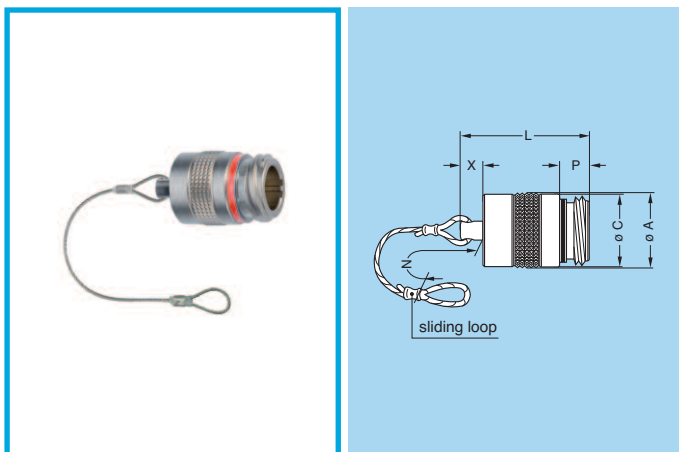
### Dimension of crimp barrels

|           | Type    | Contact                            |                                    |                  | Ref. contact type |        | Conductor |      |                            |       | Part number       |                     |
|-----------|---------|------------------------------------|------------------------------------|------------------|-------------------|--------|-----------|------|----------------------------|-------|-------------------|---------------------|
|           |         | <math>\varnothing A</math><br>(mm) | <math>\varnothing C</math><br>(mm) | Form<br>per fig. | Male              | Female | AWG       |      | Section (mm <sup>2</sup> ) |       | For male contacts | For female contacts |
|           |         |                                    |                                    |                  |                   |        | min.      | max. | min.                       | max.  |                   |                     |
| <b>0M</b> | 302-303 | 0.9                                | 1.10                               | 1                | C                 | M      | 24        | 20   | 0.204                      | 0.616 | FGN.0M.560.ZZC    | EGN.0M.660.ZZM      |
|           |         | 0.9                                | 0.87                               | 2                | B                 | P      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.561.ZZC    | EGN.0M.661.ZZM      |
|           | 304-305 | 0.7                                | 0.87                               | 1                | C                 | M      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.555.ZZC    | EGN.0M.655.ZZM      |
|           |         | 0.7                                | 0.44                               | 2                | B                 | P      | 32        | 28   | 0.032                      | 0.092 | FGN.0M.556.ZZC    | EGN.0M.656.ZZM      |
| <b>1M</b> | 305     | 0.9                                | 1.10                               | 1                | C                 | M      | 24        | 20   | 0.204                      | 0.616 | FGN.0M.560.ZZC    | EGN.0M.660.ZZM      |
|           |         | 0.9                                | 0.87                               | 2                | B                 | P      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.561.ZZC    | EGN.0M.661.ZZM      |
|           | 307-308 | 0.7                                | 0.87                               | 1                | C                 | M      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.555.ZZC    | EGN.0M.655.ZZM      |
|           |         | 0.7                                | 0.44                               | 2                | B                 | P      | 32        | 28   | 0.032                      | 0.092 | FGN.0M.556.ZZC    | EGN.0M.656.ZZM      |
| <b>2M</b> | 308-310 | 0.9                                | 1.10                               | 1                | C                 | M      | 24        | 20   | 0.204                      | 0.616 | FGN.0M.560.ZZC    | EGN.0M.660.ZZM      |
|           |         | 0.9                                | 0.87                               | 2                | B                 | P      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.561.ZZC    | EGN.0M.661.ZZM      |
|           | 312-319 | 0.7                                | 0.87                               | 1                | C                 | M      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.555.ZZC    | EGN.0M.655.ZZM      |
|           |         | 0.7                                | 0.44                               | 2                | B                 | P      | 32        | 28   | 0.032                      | 0.092 | FGN.0M.556.ZZC    | EGN.0M.656.ZZM      |
| <b>3M</b> | 322-330 | 0.7                                | 0.87                               | 1                | C                 | M      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.555.ZZC    | EGN.0M.655.ZZM      |
|           |         | 0.7                                | 0.44                               | 2                | B                 | P      | 32        | 28   | 0.032                      | 0.092 | FGN.0M.556.ZZC    | EGN.0M.656.ZZM      |
| <b>TM</b> | 325     | 0.9                                | 1.10                               | 1                | C                 | M      | 24        | 20   | 0.204                      | 0.616 | FGN.0M.560.ZZC    | EGW.TM.660.ZZM      |
|           |         | 0.9                                | 0.87                               | 2                | B                 | P      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.561.ZZC    | EGW.TM.661.ZZM      |
|           | 340     | 0.7                                | 0.87                               | 1                | C                 | M      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.555.ZZC    | EGW.TM.655.ZZM      |
|           |         | 0.7                                | 0.44                               | 2                | B                 | P      | 32        | 28   | 0.032                      | 0.092 | FGN.0M.556.ZZC    | EGW.TM.656.ZZM      |
| <b>4M</b> | 340-348 | 0.7                                | 0.87                               | 1                | C                 | M      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.555.ZZC    | EGW.TM.655.ZZM      |
|           |         | 0.7                                | 0.44                               | 2                | B                 | P      | 32        | 28   | 0.032                      | 0.092 | FGN.0M.556.ZZC    | EGW.TM.656.ZZM      |
| <b>LM</b> | 355     | 0.9                                | 1.10                               | 1                | C                 | M      | 24        | 20   | 0.204                      | 0.616 | FGN.0M.560.ZZC    | EGW.TM.660.ZZM      |
|           |         | 0.9                                | 0.87                               | 2                | B                 | P      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.561.ZZC    | EGW.TM.661.ZZM      |
|           | 368     | 0.7                                | 0.87                               | 1                | C                 | M      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.555.ZZC    | EGW.TM.655.ZZM      |
|           |         | 0.7                                | 0.44                               | 2                | B                 | P      | 32        | 28   | 0.032                      | 0.092 | FGN.0M.556.ZZC    | EGW.TM.656.ZZM      |
| <b>5M</b> | 366     | 0.9                                | 1.10                               | 1                | C                 | M      | 24        | 20   | 0.204                      | 0.616 | FGN.0M.560.ZZC    | EGW.TM.660.ZZM      |
|           |         | 0.9                                | 0.87                               | 2                | B                 | P      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.561.ZZC    | EGW.TM.661.ZZM      |
|           | 114     | 0.7                                | 0.87                               | 1                | C                 | M      | 26        | 22   | 0.128                      | 0.382 | FGN.0M.555.ZZC    | EGW.TM.655.ZZM      |
|           |         | 0.7                                | 0.44                               | 2                | B                 | P      | 32        | 28   | 0.032                      | 0.092 | FGN.0M.556.ZZC    | EGW.TM.656.ZZM      |

**Note:** according to IEC 60352-2 standard, it is strongly not recommended to crimp monostrand cables.

## Accessories

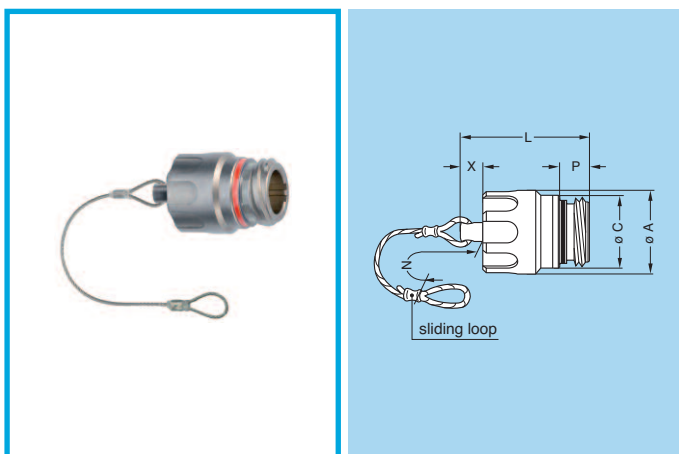
### BMF Blanking caps for plugs



| Part number    | Dimensions (mm) |      |      |       |     |      |
|----------------|-----------------|------|------|-------|-----|------|
|                | A               | C    | L    | N     | P   | X    |
| BMF.0M.100.XAV | 13.1            | 12.7 | 24.6 | 85.0  | 5.3 | 6.0  |
| BMF.1M.100.XAV | 14.6            | 14.2 | 24.6 | 85.0  | 5.3 | 6.0  |
| BMF.2M.100.XAV | 17.6            | 17.2 | 24.6 | 85.0  | 5.3 | 6.0  |
| BMF.3M.100.XAV | 19.6            | 19.2 | 24.6 | 120.0 | 5.3 | 6.0  |
| BMF.TM.100.XAV | 22.5            | 22.0 | 31.1 | 120.0 | 7.9 | 10.0 |
| BMF.4M.100.XAV | 25.0            | 24.5 | 31.1 | 120.0 | 7.9 | 10.0 |
| BMF.LM.100.XAV | 28.5            | 28.0 | 31.1 | 150.0 | 7.9 | 10.0 |
| BMF.5M.100.XAV | 34.0            | 33.5 | 31.1 | 150.0 | 7.9 | 10.0 |

**Note:** this cap is suitable for use with any alignment key configuration.

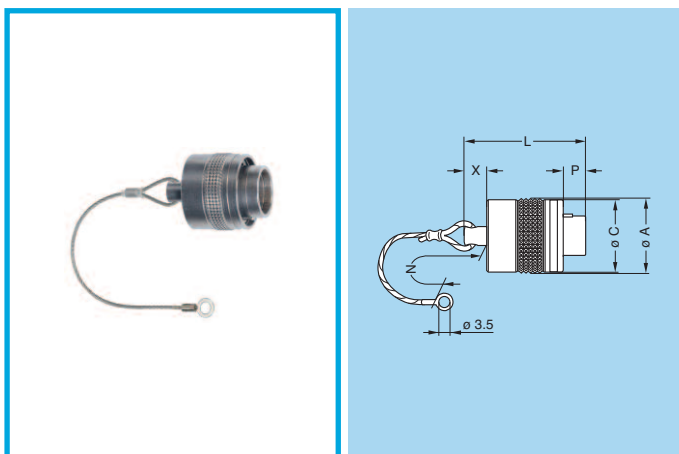
### BGF Blanking caps for plugs



| Part number    | Dimensions (mm) |      |      |       |     |      |
|----------------|-----------------|------|------|-------|-----|------|
|                | A               | C    | L    | N     | P   | X    |
| BGF.0M.100.XAV | 14.4            | 12.7 | 24.6 | 85.0  | 5.3 | 6.0  |
| BGF.1M.100.XAV | 15.9            | 14.2 | 24.6 | 85.0  | 5.3 | 6.0  |
| BGF.2M.100.XAV | 18.9            | 17.2 | 24.6 | 85.0  | 5.3 | 6.0  |
| BGF.3M.100.XAV | 20.9            | 19.2 | 24.6 | 120.0 | 5.3 | 6.0  |
| BGF.TM.100.XAV | 23.4            | 22.0 | 31.1 | 120.0 | 7.9 | 10.0 |
| BGF.4M.100.XAV | 25.9            | 24.5 | 31.1 | 120.0 | 7.9 | 10.0 |
| BGF.LM.100.XAV | 29.4            | 28.0 | 31.1 | 150.0 | 7.9 | 10.0 |
| BGF.5M.100.XAV | 34.9            | 33.5 | 31.1 | 150.0 | 7.9 | 10.0 |

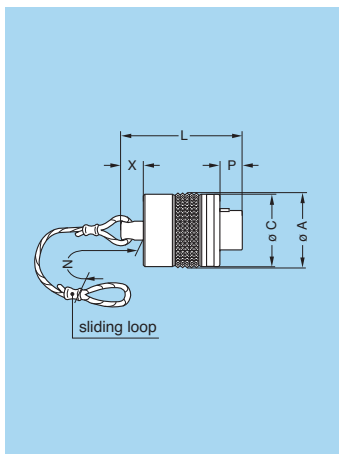
**Note:** this cap is suitable for use with any alignment key configuration.

### BME Blanking caps for fixed sockets



| Part number    | Dimensions (mm) |      |      |       |     |      |
|----------------|-----------------|------|------|-------|-----|------|
|                | A               | C    | L    | N     | P   | X    |
| BME.0M.200.XAZ | 13.1            | 12.7 | 23.4 | 85.0  | 3.9 | 6.0  |
| BME.1M.200.XAZ | 14.6            | 14.2 | 23.4 | 85.0  | 3.9 | 6.0  |
| BME.2M.200.XAZ | 17.6            | 17.2 | 23.4 | 85.0  | 3.9 | 6.0  |
| BME.3M.200.XAZ | 19.6            | 19.2 | 23.4 | 120.0 | 3.9 | 6.0  |
| BME.TM.200.XAZ | 22.5            | 22.0 | 31.0 | 120.0 | 3.4 | 10.0 |
| BME.4M.200.XAZ | 25.0            | 24.5 | 31.0 | 120.0 | 3.4 | 10.0 |
| BME.LM.200.XAZ | 28.5            | 28.0 | 31.0 | 150.0 | 3.4 | 10.0 |
| BME.5M.200.XAZ | 34.0            | 33.5 | 31.0 | 150.0 | 3.4 | 10.0 |

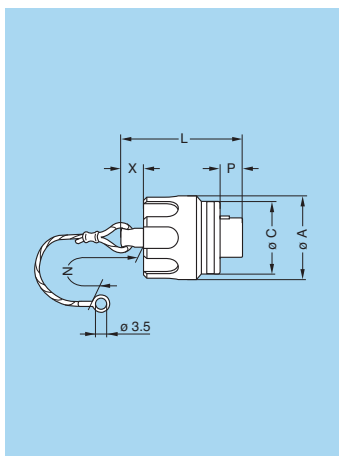
**Note:** this cap is suitable for use with any alignment key configuration.



## BMF Blanking caps for free sockets

| Part number    | Dimensions (mm) |      |      |       |     |      |
|----------------|-----------------|------|------|-------|-----|------|
|                | A               | C    | L    | N     | P   | X    |
| BMF.0M.200.XAZ | 13.1            | 12.7 | 23.4 | 85.0  | 3.9 | 6.0  |
| BMF.1M.200.XAZ | 14.6            | 14.2 | 23.4 | 85.0  | 3.9 | 6.0  |
| BMF.2M.200.XAZ | 17.6            | 17.2 | 23.4 | 85.0  | 3.9 | 6.0  |
| BMF.3M.200.XAZ | 19.6            | 19.2 | 23.4 | 120.0 | 3.9 | 6.0  |
| BMF.4M.200.XAZ | 22.5            | 22.0 | 31.0 | 120.0 | 3.4 | 10.0 |
| BMF.5M.200.XAZ | 25.0            | 24.5 | 31.0 | 120.0 | 3.4 | 10.0 |
| BMF.LM.200.XAZ | 28.5            | 28.0 | 31.0 | 150.0 | 3.4 | 10.0 |
| BMF.5M.200.XAZ | 34.0            | 33.5 | 31.0 | 150.0 | 3.4 | 10.0 |

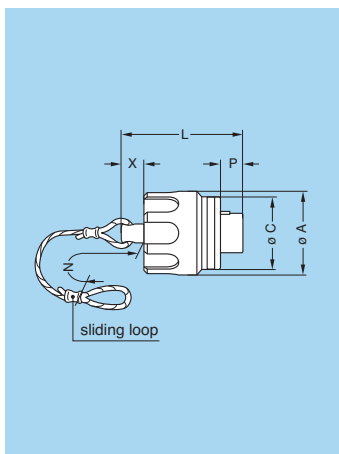
**Note:** this cap is suitable for use with any alignment key configuration.



## BGE Blanking caps for fixed sockets

| Part number    | Dimensions (mm) |      |      |       |     |      |
|----------------|-----------------|------|------|-------|-----|------|
|                | A               | C    | L    | N     | P   | X    |
| BGE.0M.200.XAZ | 14.4            | 12.7 | 23.4 | 85.0  | 3.9 | 6.0  |
| BGE.1M.200.XAZ | 15.9            | 14.2 | 23.4 | 85.0  | 3.9 | 6.0  |
| BGE.2M.200.XAZ | 18.9            | 17.2 | 23.4 | 85.0  | 3.9 | 6.0  |
| BGE.3M.200.XAZ | 20.9            | 19.2 | 23.4 | 120.0 | 3.9 | 6.0  |
| BGE.4M.200.XAZ | 23.4            | 22.0 | 31.0 | 120.0 | 3.4 | 10.0 |
| BGE.5M.200.XAZ | 25.9            | 24.5 | 31.0 | 120.0 | 3.4 | 10.0 |
| BGE.LM.200.XAZ | 29.4            | 28.0 | 31.0 | 150.0 | 3.4 | 10.0 |
| BGE.5M.200.XAZ | 34.9            | 33.5 | 31.0 | 150.0 | 3.4 | 10.0 |

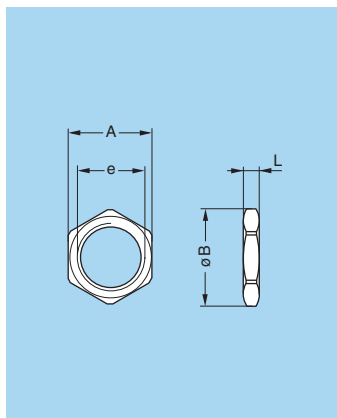
**Note:** this cap is suitable for use with any alignment key configuration.



## BGF Blanking caps for free sockets

| Part number    | Dimensions (mm) |      |      |       |     |      |
|----------------|-----------------|------|------|-------|-----|------|
|                | A               | C    | L    | N     | P   | X    |
| BGF.0M.200.XAZ | 14.4            | 12.7 | 23.4 | 85.0  | 3.9 | 6.0  |
| BGF.1M.200.XAZ | 15.9            | 14.2 | 23.4 | 85.0  | 3.9 | 6.0  |
| BGF.2M.200.XAZ | 18.9            | 17.2 | 23.4 | 85.0  | 3.9 | 6.0  |
| BGF.3M.200.XAZ | 20.9            | 19.2 | 23.4 | 120.0 | 3.9 | 6.0  |
| BGF.4M.200.XAZ | 23.4            | 22.0 | 31.0 | 120.0 | 3.4 | 10.0 |
| BGF.5M.200.XAZ | 25.9            | 24.5 | 31.0 | 120.0 | 3.4 | 10.0 |
| BGF.LM.200.XAZ | 29.4            | 28.0 | 31.0 | 150.0 | 3.4 | 10.0 |
| BGF.5M.200.XAZ | 34.9            | 33.5 | 31.0 | 150.0 | 3.4 | 10.0 |

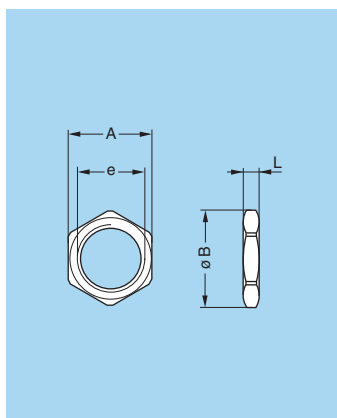
**Note:** this cap is suitable for use with any alignment key configuration.



### GEA Hexagonal nuts for EC• model

| Part number   | Series | Dimensions (mm) |      |          |     |
|---------------|--------|-----------------|------|----------|-----|
|               |        | A               | B    | e        | L   |
| GEA.0M.241.RL | 0M     | 16              | 18.2 | M13x0.75 | 2.5 |
| GEA.0E.240.RL | 1M     | 17              | 19.2 | M14x1.00 | 2.5 |
| GEA.2M.241.RL | 2M     | 19              | 21.5 | M17x1.00 | 3.0 |
| GEA.3M.241.RL | 3M     | 25              | 22.0 | M19x1.00 | 3.0 |
| GEA.TM.241.RL | TM     | 25              | 28.0 | M22x1.00 | 3.0 |
| GEA.4M.241.RL | 4M     | 30              | 34.0 | M24x1.00 | 3.0 |
| GEA.LM.241.RL | LM     | 32              | 36.0 | M28x1.00 | 3.0 |
| GEA.5M.241.RL | 5M     | 37              | 41.0 | M33x1.00 | 3.0 |

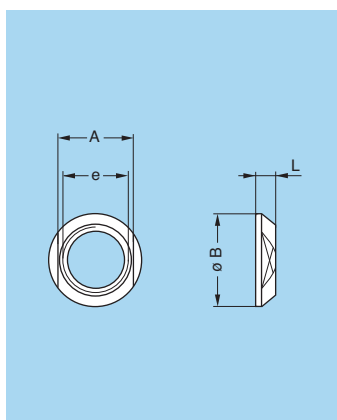
● Material: Nickel-plated brass (3 µm)



### GEA Hexagonal nuts for EG• model

| Part number   | Series | Dimensions (mm) |      |          |     |
|---------------|--------|-----------------|------|----------|-----|
|               |        | A               | B    | e        | L   |
| GEA.0S.240.RL | 0M     | 11              | 12.4 | M9x0.60  | 2.0 |
| GEA.1M.240.RL | 1M     | 13              | 14.5 | M11x1.00 | 2.5 |
| GEA.0E.240.RL | 2M     | 17              | 19.2 | M14x1.00 | 2.5 |
| GEA.1E.240.RL | 3M     | 19              | 21.5 | M16x1.00 | 3.0 |
| GEA.3S.240.RL | TM     | 22              | 25.0 | M18x1.00 | 3.0 |
| GEA.4M.240.RL | 4M     | 25              | 28.0 | M21x1.00 | 4.0 |
| GEA.3S.240.RL | LM     | 30              | 34.0 | M24x1.00 | 5.0 |
| GEA.5M.240.RL | 5M     | 36              | 40.5 | M30x1.00 | 5.0 |

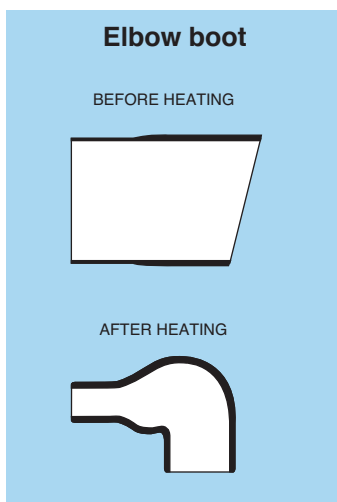
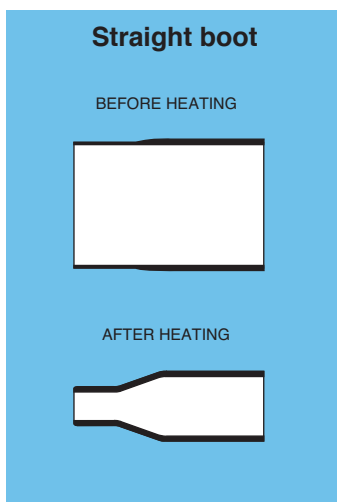
● Material: Nickel-plated brass (3 µm)



### GEC Conical nut for models HE•, EC•, PE•

| Part number   | Series | Dimensions (mm) |    |          |     |
|---------------|--------|-----------------|----|----------|-----|
|               |        | A               | B  | e        | L   |
| GEC.0M.240.RN | 0M     | 14              | 17 | M13x0.75 | 3.2 |
| GEC.0E.240.RN | 1M     | 16              | 18 | M14x1.00 | 3.0 |
| GEC.2M.240.RN | 2M     | 18              | 21 | M17x1.00 | 3.2 |
| GEC.3M.240.RN | 3M     | 20              | 23 | M19x1.00 | 3.2 |
| GEC.TM.240.RN | TM     | 23              | 27 | M22x1.00 | 5.0 |
| GEC.4M.240.RN | 4M     | 25              | 29 | M24x1.00 | 5.0 |
| GEC.LM.240.RN | LM     | 29              | 33 | M28x1.00 | 5.0 |
| GEC.5M.240.RN | 5M     | 34              | 38 | M33x1.00 | 5.0 |

● Material: Anodized aluminium alloy



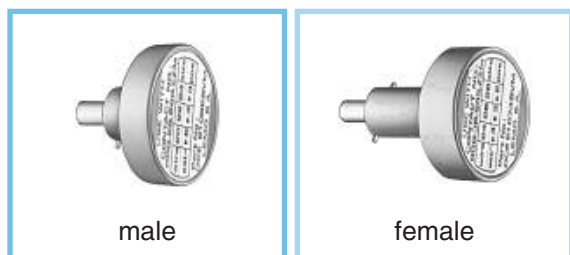
### Heatshrink boot

| Supplier | Part number   |               | Series | Cable ø min. (mm) |
|----------|---------------|---------------|--------|-------------------|
|          | Straight      | Elbow 90°     |        |                   |
| Raychem® | 202A111-25/86 | 222A111-25/86 | 0M-2M  | 3.8               |
|          | 202A121-25/86 | 222A121-25/86 | 2M-4M  | 5.3               |
|          | 202A142-25/86 | 222A142-25/86 | 4M-5M  | 7.4               |

**Note:**  
request modified elastomer resistant to fluids with hot melt sealant.

## Tooling

### DCE Positioners for crimp contacts



These positioners are suitable for use with both manual and pneumatic crimping tools according to the MIL-C-22520/7-01 standard.

Fig. 1

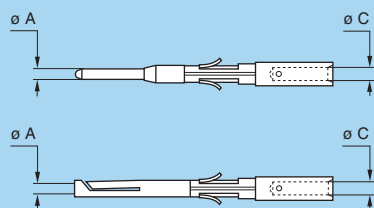
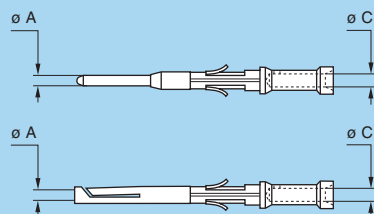
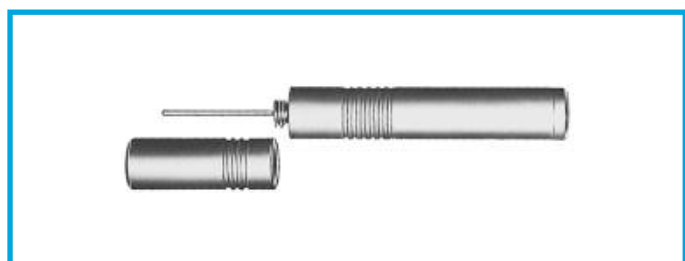


Fig. 2



**Note:** a wide variation of strand number and diameter combinations are quoted as being AWG, some of which do not have a large enough cross section to guarantee a crimp as per either MIL-C-22520/1-01 or /7-01. Our technical department is at your disposal to study and propose a solution to all your applications.

|           | Type    | Contact                 |                         |                  | Positioners part number |                     |
|-----------|---------|-------------------------|-------------------------|------------------|-------------------------|---------------------|
|           |         | $\varnothing A$<br>(mm) | $\varnothing C$<br>(mm) | Form<br>per fig. | For male contacts       | For female contacts |
| <b>0M</b> | 302-303 | 0.9                     | 1.10                    | 1                | DCE.91.090.5MVC         | DCE.91.090.3MVM     |
|           |         | 0.9                     | 0.87                    | 2                |                         |                     |
|           | 304-305 | 0.7                     | 0.87                    | 1                | DCE.91.070.5MVC         | DCE.91.070.3MVM     |
|           |         | 0.7                     | 0.44                    | 2                |                         |                     |
| <b>1M</b> | 305     | 0.9                     | 1.10                    | 1                | DCE.91.090.5MVC         | DCE.91.090.3MVM     |
|           |         | 0.9                     | 0.87                    | 2                |                         |                     |
|           | 307-308 | 0.7                     | 0.87                    | 1                | DCE.91.070.5MVC         | DCE.91.070.3MVM     |
|           |         | 0.7                     | 0.44                    | 2                |                         |                     |
| <b>2M</b> | 308-310 | 0.9                     | 1.10                    | 1                | DCE.91.090.5MVC         | DCE.91.090.3MVM     |
|           |         | 0.9                     | 0.87                    | 2                |                         |                     |
|           | 312-319 | 0.7                     | 0.87                    | 1                | DCE.91.070.5MVC         | DCE.91.070.3MVM     |
|           |         | 0.7                     | 0.44                    | 2                |                         |                     |
| <b>3M</b> | 322-330 | 0.7                     | 0.87                    | 1                | DCE.91.070.5MVC         | DCE.91.070.3MVM     |
|           |         | 0.7                     | 0.44                    | 2                |                         |                     |
| <b>TM</b> | 325     | 0.9                     | 1.10                    | 1                | DCE.91.090.5MVC         | DCE.91.09T.5MVM     |
|           |         | 0.9                     | 0.87                    | 2                |                         |                     |
|           | 340     | 0.7                     | 0.87                    | 1                | DCE.91.070.5MVC         | DCE.91.07T.5MVM     |
|           |         | 0.7                     | 0.44                    | 2                |                         |                     |
| <b>4M</b> | 340-348 | 0.7                     | 0.87                    | 1                | DCE.91.070.5MVC         | DCE.91.07T.5MVM     |
|           |         | 0.7                     | 0.44                    | 2                |                         |                     |
| <b>LM</b> | 355     | 0.9                     | 1.10                    | 1                | DCE.91.090.5MVC         | DCE.91.09T.5MVM     |
|           |         | 0.9                     | 0.87                    | 2                |                         |                     |
|           | 368     | 0.7                     | 0.87                    | 1                | DCE.91.070.5MVC         | DCE.91.07T.5MVM     |
|           |         | 0.7                     | 0.44                    | 2                |                         |                     |
| <b>5M</b> | 366     | 0.9                     | 1.10                    | 1                | DCE.91.090.5MVC         | DCE.91.09T.5MVM     |
|           |         | 0.9                     | 0.87                    | 2                |                         |                     |
|           | 114     | 0.7                     | 0.87                    | 1                | DCE.91.070.5MVC         | DCE.91.07T.5MVM     |
|           |         | 0.7                     | 0.44                    | 2                |                         |                     |



### DCF Extractors for crimp contacts

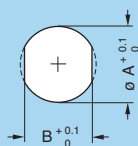
| Contact<br>$\varnothing$ | Part number    |
|--------------------------|----------------|
| 0.9                      | DCF.93.090.4LT |
| 0.7                      | DCF.93.070.4LT |

**Note:** this model is used for male and female contacts.

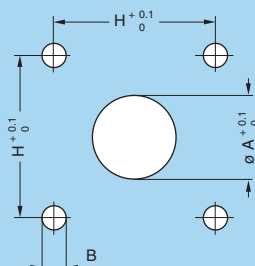
## Panel Cut-out

### Panel cut-outs

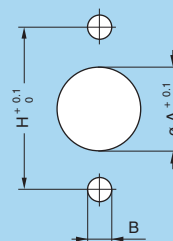
EG●-EC●-HE●-PE●



ED●-PV●-PF●



PB●



### Cut-outs

| Series | EG●             |      | EC●             |      | HE●             |      | PE●             |      | ED●             |      |      | PB●             |      |      | PV●             |      |      | PF●             |      |      |
|--------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|------|-----------------|------|------|-----------------|------|------|-----------------|------|------|
|        | $\varnothing A$ | B    | $\varnothing A$ | B    | $\varnothing A$ | B    | $\varnothing A$ | B    | $\varnothing A$ | B    | H    | $\varnothing A$ | B    | H    | $\varnothing A$ | B    | H    | $\varnothing A$ | B    | H    |
| 0M     | 9.1             | 8.3  | 13.1            | 11.6 | 13.1            | 11.6 | 13.1            | 11.6 | 5.1             | M2.5 | 11.0 | 14.8            | M3.0 | 21.4 | 14.8            | M2.5 | 15.1 | 10.8            | M2.5 | 11.0 |
| 1M     | 11.1            | 9.6  | 14.1            | 12.6 | 14.1            | 12.6 | 14.1            | 12.6 | 6.1             | M3.0 | 12.9 | 16.8            | M3.0 | 23.4 | 16.8            | M3.0 | 18.3 | 12.5            | M3.0 | 12.9 |
| 2M     | 14.1            | 12.6 | 17.1            | 15.6 | 17.1            | 15.6 | 17.1            | 15.6 | 9.1             | M3.0 | 15.1 | 19.8            | M3.0 | 26.4 | 19.8            | M3.0 | 20.6 | 15.6            | M3.0 | 15.1 |
| 3M     | 16.1            | 14.6 | 19.1            | 17.6 | 19.1            | 17.6 | 19.1            | 17.6 | 11.1            | M3.0 | 16.4 | 21.8            | M3.0 | 29.0 | 21.8            | M3.0 | 23.0 | 18.1            | M3.0 | 16.6 |
| TM     | 18.1            | 16.6 | 22.1            | 20.6 | 22.1            | 20.6 | 22.1            | 20.6 | 12.5            | M3.0 | 18.3 | 24.8            | M3.0 | 32.5 | 24.8            | M3.0 | 24.6 | 19.9            | M3.0 | 18.3 |
| 4M     | 21.1            | 19.6 | 24.1            | 22.6 | 24.1            | 22.6 | 24.1            | 22.6 | 14.1            | M3.0 | 20.6 | 27.8            | M3.0 | 35.0 | 27.8            | M3.0 | 27.0 | 22.7            | M3.0 | 20.6 |
| LM     | 24.1            | 22.6 | 28.1            | 26.6 | 28.1            | 26.6 | 28.1            | 26.6 | 18.1            | M3.0 | 23.0 | 30.8            | M3.0 | 38.0 | 30.8            | M3.0 | 25.4 | 25.9            | M3.0 | 23.0 |
| 5M     | 30.1            | 28.6 | 33.1            | 31.6 | 33.1            | 31.6 | 33.1            | 31.6 | 23.2            | M3.0 | 27.0 | 37.8            | M3.0 | 45.0 | 37.8            | M3.0 | 34.9 | 33.1            | M3.0 | 29.4 |

### Mounting nut torque (on panel)

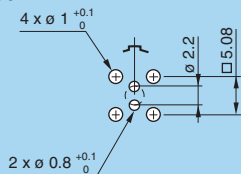
| Series | Torque (Nm) |
|--------|-------------|
| 0M     | 1.0         |
| 1M     | 1.5         |
| 2M     | 2.0         |
| 3M     | 2.5         |

| Series | Torque (Nm) |
|--------|-------------|
| TM     | 4.0         |
| 4M     | 5.0         |
| LM     | 6.5         |
| 5M     | 8.0         |

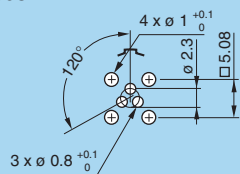
## PCB drilling pattern

### Fixed socket with straight print contact (HE●)

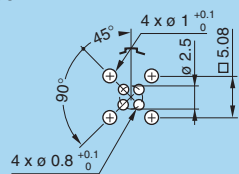
0M.302



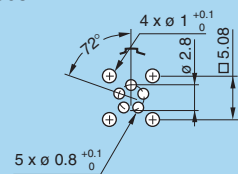
0M.303



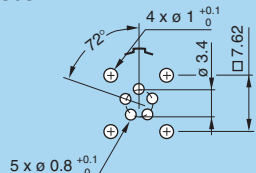
0M.304



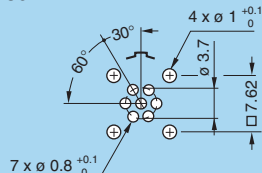
0M.305



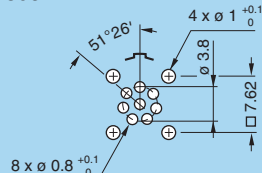
1M.305



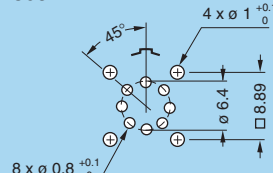
1M.307



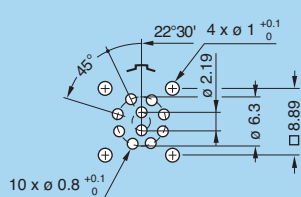
1M.308



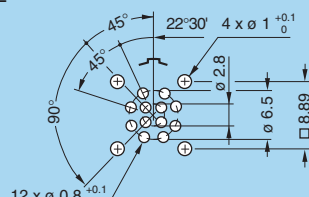
2M.308



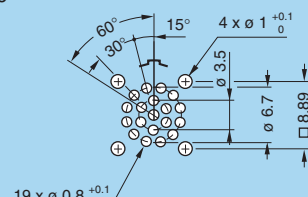
2M.310



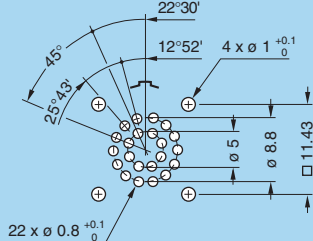
2M.312



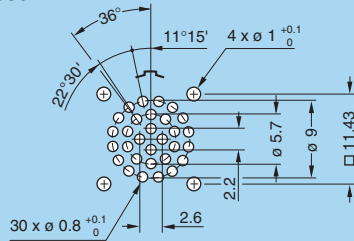
2M.319



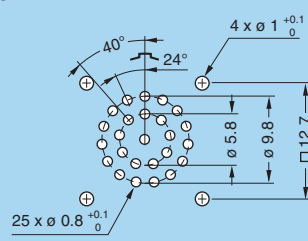
3M.322



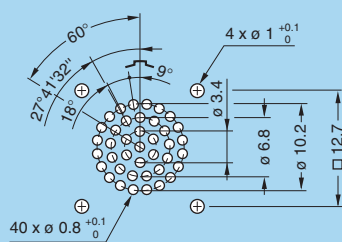
3M.330



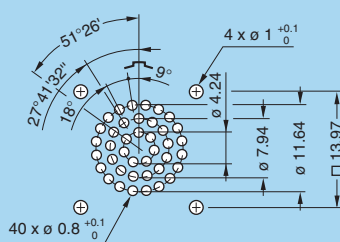
TM.325



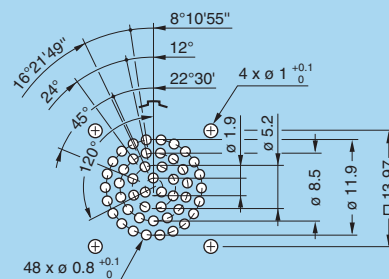
TM.340



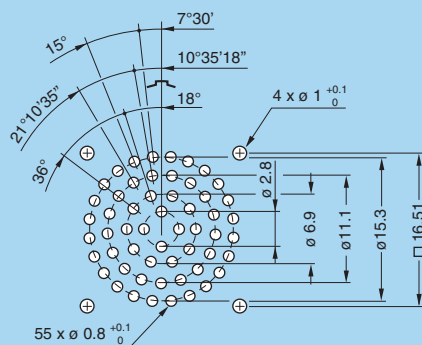
4M.340



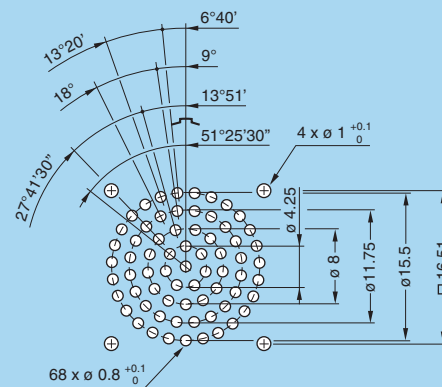
4M.348



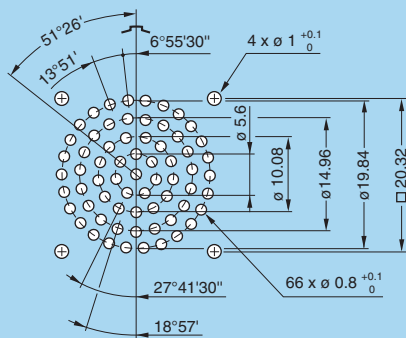
LM.355



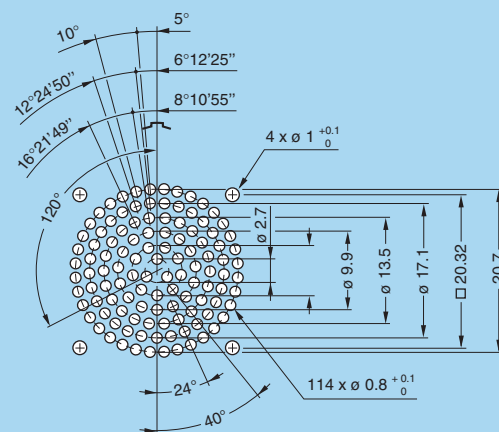
LM.368



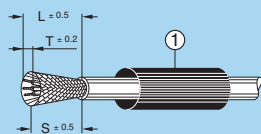
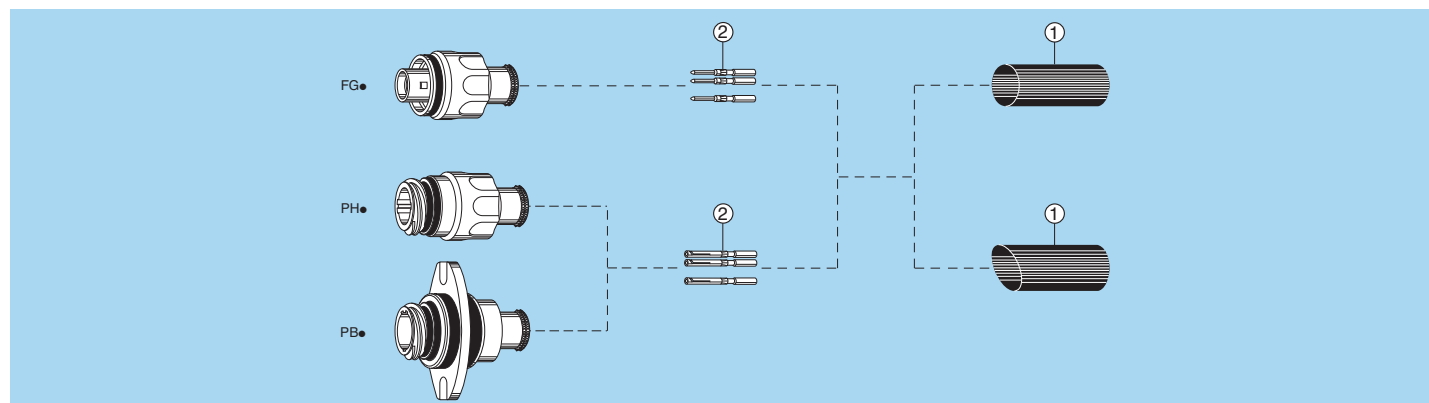
5M.366



5M.114



## Assembly instructions for plugs and sockets



### 1. Cable preparation

First place the heatshrink boot ① over the cable. Strip the cable according to dimensions of the table, then widen the shield.

| Series   | L  | S  | T   |
|----------|----|----|-----|
| 0M to 5M | 20 | 15 | 3.5 |

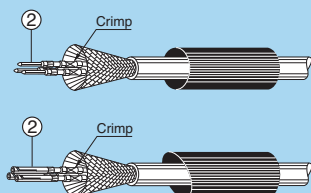
Note: dimensions are in mm.

### 2. Cable termination

**2.1** With shielded cables, widen and pull the shield all the way to the back. Fix the appropriate positioner onto the crimping tool and set the selector to the number corresponding to the AWG of the conductor used as indicated on the positioner label.

Fit the conductor into the contact ②; make sure it is visible through the contact's inspection hole.

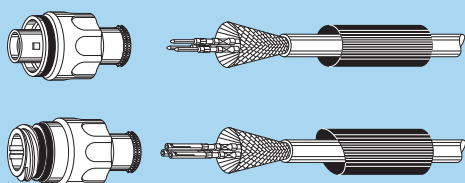
Slide the conductor-contact assembly into the open crimping tool; make sure that the contact is pushed fully into the positioner. Close the tool. Remove from crimping tool and check that conductor is secure in contact and shows in inspection hole.



**2.2** Arrange the conductor-contact assemblies according to the markings, into the rear cable seal.

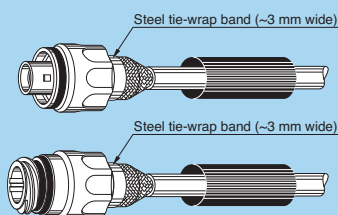
Push them deeply into the insulator, using tweezers if necessary; check that all the contacts are correctly located in the insulator: 1) by verifying the alignment of the contacts at the front of the insulator and 2) by gently pulling on each conductor.

Verification should also be made using the appropriate retention testing tool.

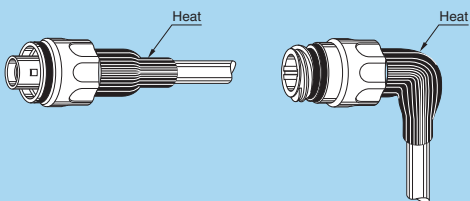


**2.3** Bring the shield around the rear of connector.

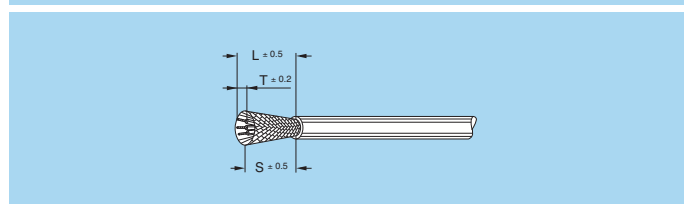
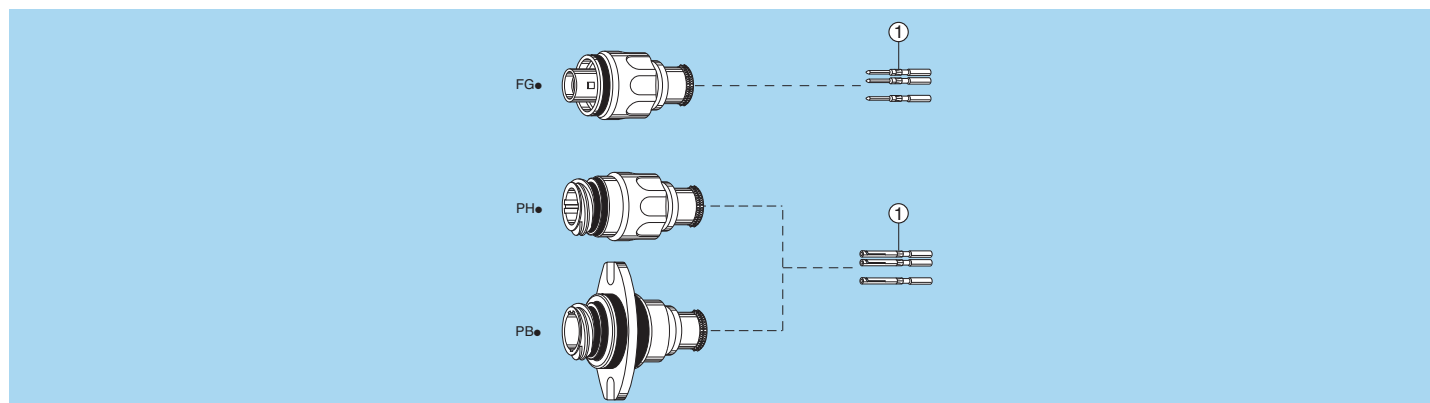
Secure it with a band-it tie-wrap (not furnished) to fix the shield in place. Cut off the possible shield surplus.



**2.4** Put the heatshrink boot in place and heat gently until it retracts.



## Assembly instructions for plugs and sockets (with optional mold stop)



### 1. Cable preparation

Strip the cable according to dimensions of the table, then widen the shield.

| Series   | L  | S  | T   |
|----------|----|----|-----|
| OM to 5M | 20 | 15 | 3.5 |

**Note:** dimensions are in mm.

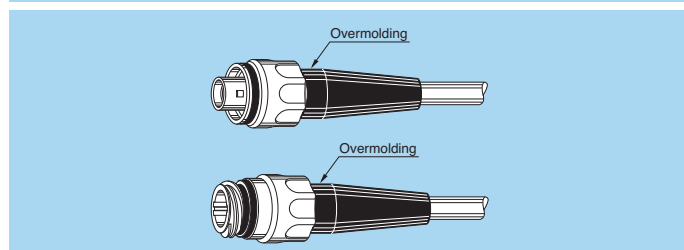
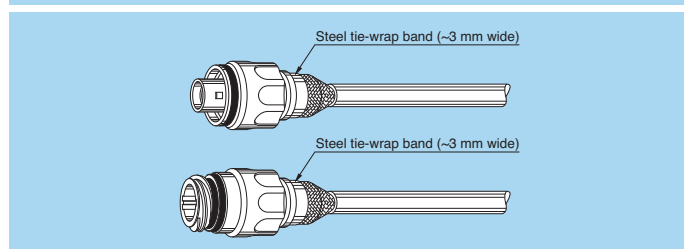
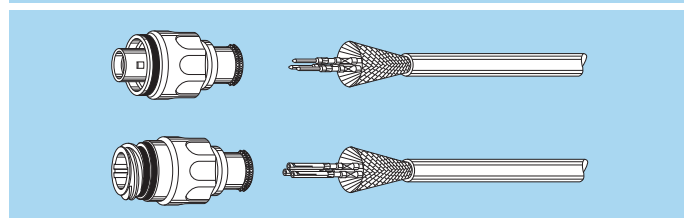
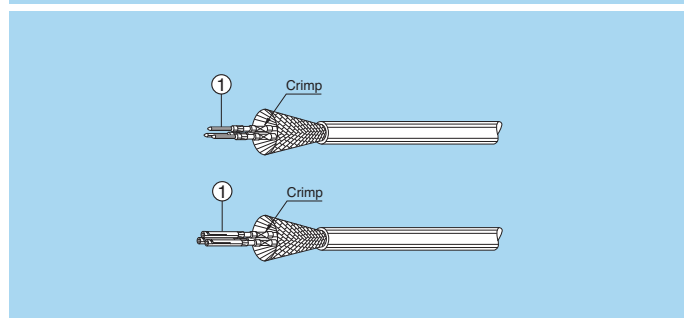
### 2. Cable termination

**2.1** With shielded cables, widen and pull the shield all the way to the back. Fix the appropriate positioner onto the crimping tool and set the selector to the number corresponding to the AWG of the conductor used as indicated on the positioner label. Fit the conductor into the contact ①; make sure it is visible through the contact's inspection hole. Slide the conductor-contact assembly into the open crimping tool; make sure that the contact is pushed fully into the positioner. Close the tool. Remove from crimping tool and check that conductor is secure in contact and shows in inspection hole.

**2.2** Arrange the conductor-contact assemblies according to the markings, into the rear cable seal. Push them deeply into the insulator, using tweezers if necessary; check that all the contacts are correctly located in the insulator: 1) by verifying the alignment of the contacts at the front of the insulator and 2) by gently pulling on each conductor. Verification should also be made using the appropriate retention testing tool.

**2.3** Bring the shield around the rear of connector until the mold stop. Secure it with a band-it tie-wrap (not furnished) to fix the shield in place. Cut off the possible shield surplus.

**2.4** Custom overmold cable assembly.



## Notes

## 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

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