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General Production Program

- Connectors**
- Single contact from 2 to 150 Amps
Coaxial 50 and 75 Ω
Coaxial 50 Ω (NIM-CAMAC)
Coaxial 50 Ω for frequency → 12 GHz
Multicoaxial 50 and 75 Ω
 - Multicontact from 2 to 106 contacts
High Voltage 3, 5, 8, 10, 15, 30 and 50 kV cc
Multi High Voltage 3, 5, and 10 kV cc
Triaxial 50 and 75 Ω
 - Quadrax
Mixed: High Voltage (HV) + Low Voltage (LV)
Mixed: Coax + LV
Mixed: Triax + LV
Thermocouple
Multithermocouple
Fiber optic singlemode
Fiber optic multimode
Mixed: fiber optic + LV
Mixed: fiber optic + coax + LV
Fiber optic singlemode OPTABALL®
Fluidic
Multifluidic
Mixed: fluidic + LV
Subminiature
 - Miniature
Plastic
 - Printed circuit board
 - Remote handling
 - Watertight
 - Sealed (pressure and/or vacuum)
 - With plastic outer shell
 - With aluminium outer shell
 - With stainless steel outer shell
 - With special radiation resistant insulator material
 - With screw thread coupling for very high pressure
 - With microswitch

- Patch Panels**
- For audio-mono applications: triax
 - For audio-mono applications: 3 contacts
 - For audio-stereo applications: quadrax
 - For audio-stereo applications: 6 contacts
 - For video applications: coax 75 Ω

Patch Panels For video HDTV applications: 3 coax 75 Ω + 2LV
For fiber optic applications

Adaptors For BNC, C, UHF, N, CINCH, GEN-RADIO connectors
For TNC, SMA connectors

- Accessories**
- Insulator for crimp contacts
 - Crimp contacts
 - Coaxial contacts
 - Triaxial contacts
 - Fiber optic contacts
 - Fiber optic ferrules
 - Caps and bend relief
 - Insulating washers
 - Double plastic panel washers
 - Locking washers
 - Tapered washers
 - Hexagonal nuts
 - Conical nuts
 - Round nuts
 - Notched nuts
 - Grounding washers
 - Lead-through with cable collet

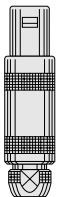


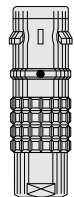

- Tooling**
- Wrenches
 - Wrenches for assembling plug
 - Assembly tool
 - Pliers
 - Tap
 - Crimping tools
 - Positioners
 - Crimping dies
 - Extractors
 - Insertion testing tool for crimp contacts
 - Fiber optic termination workstation
 - Fiber optic polishing tools

On request

- Filtered connectors
- Connectors with special alloy housing
- Mixed special connectors
- Assembly onto cable

- Connectors, accessories and tools found in this catalog.

Main Characteristics and Types

| |   | |   | |  |
|----------|---|------------|---|------------------|---|
| Series | STANDARD | WATERTIGHT | KEYED | KEYED WATERTIGHT | SCREW |
| | 01 (Minax) | 0E to 6E | 00 (multicontact) | 0K to 5K | 03 |
| | 00 (NIM-CAMAC) | 3T | 0B to 5B | 0F to 5F | 0V to 5V |
| | 00 (single contact) | 4M | 2G/5G | 3N to 5N | 0W to 5W |
| | 05 / R0 | | | | 2U to 5U |
| | 0S to 6S | | | | |
| | 0A / 4A | | | | |
| | 1D / 2C | | | | |
| | 1Y-3Y-6Y | | | | |
| Latching | Push-Pull | | | | Screw |
| Key | Stepped insert (Half-Moon) | | Key (G) or other key-way code | | Key (G) or stepped insert (Half-Moon) |
| Shell | Metal or plastic | | | | Metal |
| Insert | Hermaphroditic or cylindrical | | Cylindrical | | Hermaphroditic or cylindrical |
| Contact | Solder or printed circuit | | Solder, crimp or printed circuit | | Solder (crimp or printed circuit) |

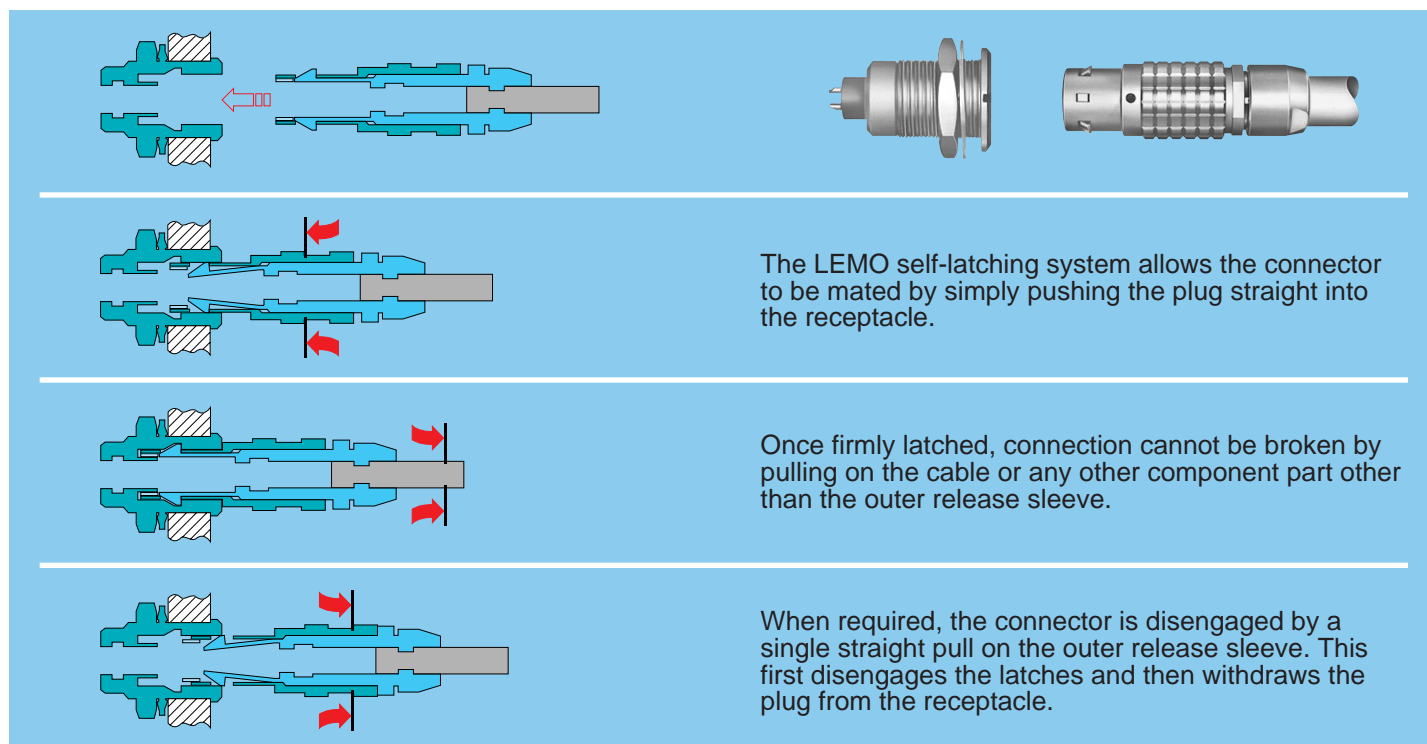
Series and Types

| | Series | Types | | | | | | | | | | | | | | | | | | | | |
|------------------|----------|----------------|--------------|--------------|--------------|--------------|---------------|---------------|--------|----------|---------------|-------------|---------------|----------------|-------------|----------|-------------|---------|---------------|------------------|--------------|---|
| | | Single contact | Coaxial 50 Ω | Coaxial 75 Ω | Multicontact | High Voltage | Triaxial 50 Ω | Triaxial 75 Ω | Quadrx | Multi HV | Multi Coaxial | Mixed HV+LV | Mixed Coax+LV | Mixed Triax+LV | Fiber Optic | Multi FO | Mixed FO+LV | Fluidic | Multi fluidic | Mixed fluidic+LV | Thermocouple | |
| Standard | 01 | | ● | | | | | | | | | | | | | | | | | | | |
| | 00 | ● | ● | | | | ● | | | | | | | | | | | ● | | | | |
| | 05 | | | | | ● | | | | | | | | | | | | | | | | |
| | R0 | | ● | | | | | | | | | | | | | | | | | | | |
| | 0A | | ● | ● | | | | | | | | | | | | | | | | | | |
| | 0S | ● | ● | | ● | ● | ● | | | | | | | | | | | | | | | ● |
| | 1S | ● | ● | ● | ● | ● | ● | | | | | | | | | | | | | | | ● |
| | 2S | ● | ● | ● | ● | ● | ● | ● | | | | ● | | | | | | | | | | ● |
| | 3S | ● | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | | | | | | | | | |
| | 4S | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | | | | | | | |
| | 5S | ● | ● | ● | ● | | | | | ● | ● | ● | ● | ● | | | | | | | | |
| | 6S | | | | ● | | | | | | ● | | ● | | | | | | | | | |
| | 1D | | | | | | | | ● | | | | | | | | | | | | | |
| | 2C | | ● | | ● | | | | | | | | | | | | | | | | | |
| 4A | | | | | | | ● | | | | | | | | | | | | | | | |
| 1Y-3Y-6Y | | | | | ● | | | | | | | | | | | | | | | | | |
| Watertight | 0E | ● | ● | | ● | ● | | | | | | | | | | | | | | | ● | |
| | 1E | ● | ● | ● | ● | ● | | | | | | | | | | | | | | | ● | |
| | 2E | ● | ● | ● | ● | ● | ● | | | | ● | | | | | | | | | | ● | |
| | 3E | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | | | | | | | | | | |
| | 4E | ● | ● | ● | ● | | ● | ● | | | | ● | ● | | | | | | | | | |
| | 5E | ● | | | ● | | | | ● | ● | ● | ● | ● | | | | | | | | | |
| | 6E | | | | ● | | | | | ● | | ● | | | | | | | | | | |
| | 3T | | | ● | | | | ● | | | | | | | | | | | | | | |
| 4M | | | | | | ● | ● | | | | | | | | | | | | | | | |
| Keyed | 00 | | | | ● | | | | | | | | | | ● | | | | | | ● | |
| | 0B | | | | ● | | | | | | | | | | ● | | | ● | | | ● | |
| | 1B | | | | ● | | | | | | ● | | | | | | | | | | ● | |
| | 2B | | | | ● | | | | ● | ● | ● | ● | ● | ● | | | ● | | ● | ● | ● | |
| | 3B | | | | ● | | | | | ● | ● | ● | ● | ● | | ● | ● | | ● | ● | ● | |
| | 4B | | | | ● | | | | ● | ● | ● | ● | ● | ● | | ● | ● | | ● | ● | ● | |
| | 5B | | | | ● | | | | ● | ● | ● | ● | ● | ● | | ● | ● | | ● | ● | ● | |
| | 2G | | | | ● | | | | | | | | | | | | | | | | | |
| 5G | | | | | | | | ● | | | | | | | | | | | | | | |
| Keyed watertight | 0K | | | | ● | | | | | | | | | | ● | | | ● | | | ● | |
| | 1K | | | | ● | | | | | | ● | | | | | | | | | | ● | |
| | 2K | | | | ● | | | | | ● | ● | ● | ● | ● | | | ● | | ● | ● | ● | |
| | 3K | | | ● | ● | | | | | | ● | ● | ● | ● | | ● | ● | | ● | ● | ● | |
| | 4K | | | | ● | | | | ● | ● | ● | ● | ● | ● | | ● | ● | | ● | ● | ● | |
| | 5K | | | | ● | | | | ● | ● | ● | ● | ● | ● | | ● | ● | | ● | ● | ● | |
| | 0F to 5F | | | | ● | | | | | | | | | | | | | | | | | |
| 3N to 5N | | | | ● | | | | | | | | | | | | | | | | | | |
| Screw | 03 | | ● | | ● | | | | | | | | | | | | | | | | | |
| | 0V | ● | ● | | ● | | ● | | | | | | | | | | | | | | ● | |
| | 1V | ● | ● | ● | ● | | ● | | | | | | | | | | | | | | ● | |
| | 2V | ● | ● | ● | ● | | ● | ● | | | | ● | | | | | | | | | ● | |
| | 3V | ● | ● | ● | ● | | ● | ● | ● | | ● | ● | ● | | | | | | | | | |
| | 4V | ● | ● | ● | ● | | ● | ● | | | | ● | ● | | | | | | | | | |
| | 5V | ● | | | ● | | | | ● | ● | ● | ● | ● | | | | | | | | | |
| | 0W to 5W | | | | ● | | | | | | ● | ● | ● | ● | | | ● | | | | ● | ● |
| 2U to 5U | | | | ● | | | | | | | | | | ● | ● | ● | | | | | | |

Note: ● = included in this catalog, ● = available but not included in this catalog.

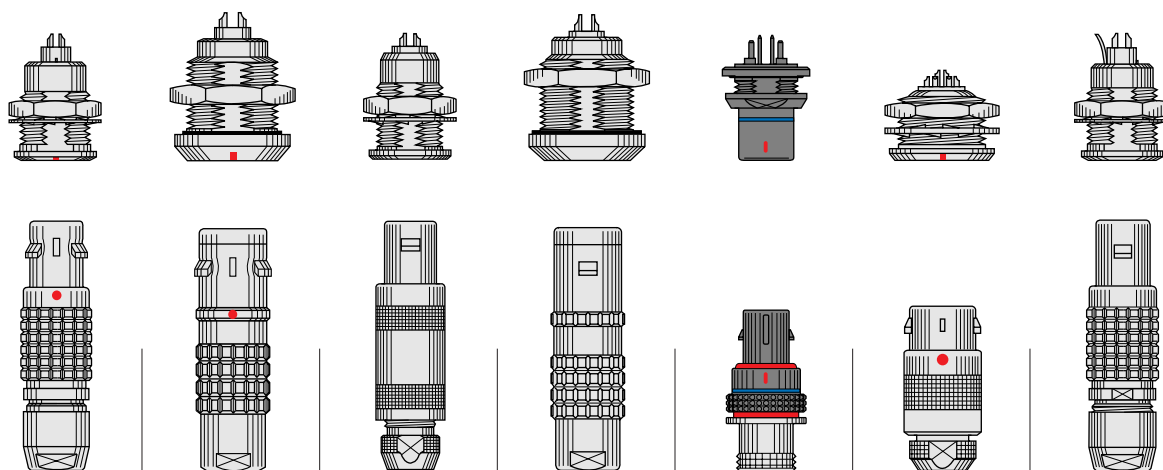
LEMO's Push-Pull Self-Latching Connection System

This self-latching system is renowned worldwide for its easy and quick mating and unmating features. It provides absolute security against vibration, shock or pull on the cable, and facilitates operation in a very limited space.



Single contact and Multicontact Connectors Production Program

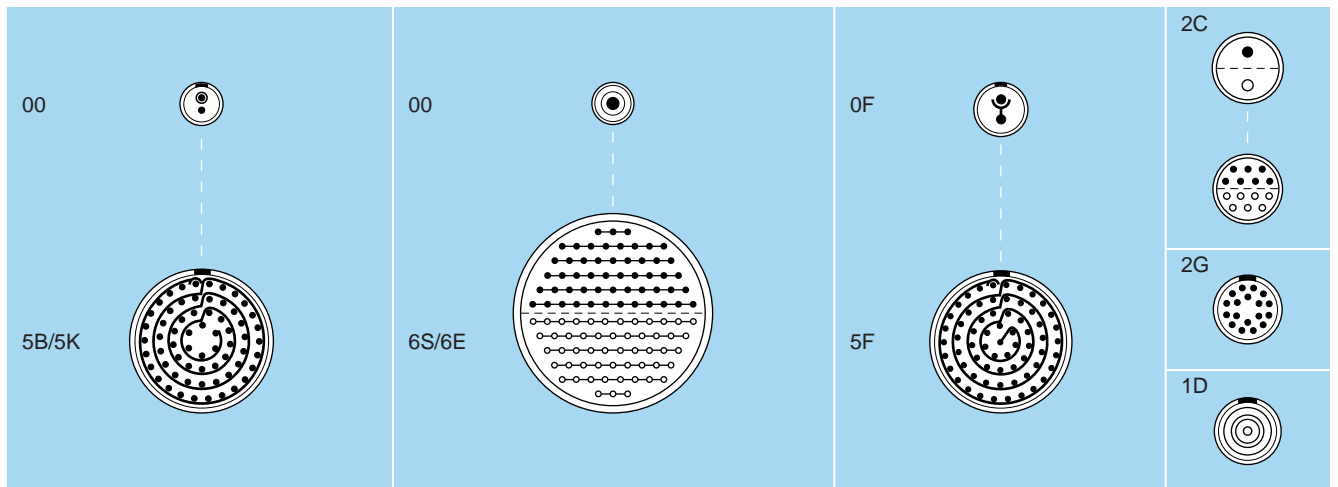
The production program is divided into seven families of connectors. Their main characteristics and features are shown below.



| | | | | | | | |
|----------------|----------------------------------|------------------|--------------------------------|---------------------------|--------------------------|---------------------------|-----------------------|
| Series | 00 multicontact 0B to 5B | 0K to 5K | 00 single contact 0S to 6S | 0E to 6E | 0F to 5F | 2C/2G | 1D |
| Latching | Push-Pull | | | | | | |
| Shell | Metal or plastic | Metal | Metal or plastic | Metal | Metal | | |
| Feature | Keyed | Keyed watertight | Hermaphroditic insert | Watertight hermaphroditic | Light compact | Shortened version | 4 concentric contacts |
| Insulator type | Multicontact | | Multicontact or single contact | | Multicontact | | Quadrax |
| Contact type | Solder, crimp or printed circuit | | Solder or printed circuit | | Crimp or printed circuit | Solder or printed circuit | Solder |
| Page | 13 to 40 | 41 to 54 | 67 to 90 | 91 to 102 | 125 to 140 | 141 to 156 | 157 to 164 |

Series and contact configurations

| Number of contacts | Series | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|--------|-------|-------|-------|-------|-------|-------|----|-------|-------|-------|-------|-------|-------|-------|----|----|----|----|----|----|----|----|----|---|
| | 00 | 0B-0K | 1B-1K | 2B-2K | 3B-3K | 4B-4K | 5B-5K | 00 | 0S-0E | 1S-1E | 2S-2E | 3S-3E | 4S-4E | 5S-5E | 6S-6E | 0F | 1F | 2F | 3F | 4F | 5F | 2C | 2G | 1D | |
| 1 | | | | | | | ● | | ● | ● | ● | ● | ● | ● | | | | | | | | | | | |
| 2 | ● | ● | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | | ● | | | | | | | ● | | |
| 3 | ● | ● | ● | ● | ● | | | | ● | ● | ● | ● | ● | ● | | ● | | ● | | | | | ● | | |
| 4 | ● | ● | ● | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | | ● | | | | | ● | | ● |
| 5 | | ● | ● | ● | ● | | | | | ● | ● | ● | ● | ● | | | ● | | | | | | | | |
| 6 | | ● | ● | ● | ● | ● | | | | ● | ● | ● | ● | ● | | | | | | | | | ● | | |
| 7 | | ● | ● | ● | ● | ● | | | | | ● | ● | ● | ● | | | | ● | | | | | | | |
| 8 | | | ● | ● | ● | ● | | | | | ● | ● | ● | ● | | | | ● | | | | | ● | | |
| 9 | | ● | | ● | ● | | | | | | | ● | ● | ● | | | | ● | | | | | | | |
| 10 | | | ● | ● | ● | ● | ● | | | | ● | ● | ● | ● | | | | | ● | | | | ● | | |
| 12 | | | | ● | ● | ● | | | | | | ● | ● | ● | ● | | | | ● | | | | ● | | |
| 13 | | | | | | | | | | | | | ● | ● | | | | | | | | | | | |
| 14 | | | ● | ● | ● | | | | | | | ● | ● | ● | | | | | | | | | ● | | |
| 16 | | | ● | ● | ● | ● | ● | | | | | ● | ● | ● | ● | | | | | | | | | | |
| 18 | | | | ● | ● | ● | | | | | | ● | ● | ● | ● | | | | | | | | | ● | |
| 19 | | | | ● | | | | | | | | | | | | | | ● | | | | | | | |
| 20 | | | | | ● | ● | ● | | | | | | ● | ● | ● | | | | | | | | | | |
| 22 | | | | | ● | ● | | | | | | | ● | ● | ● | | | | ● | | | | | | |
| 24 | | | | | ● | ● | | | | | | | ● | ● | ● | | | | | ● | | | | | |
| 26 | | | | ● | ● | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | ● | ● | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | ● | ● | ● | | | | | | | ● | ● | | | | | ● | | | | | |
| 32 | | | | ● | | | | | | | | | | ● | ● | ● | | | | | | | | | |
| 36 | | | | | | | | | | | | | | ● | ● | ● | | | | | | | | | |
| 40 | | | | | | ● | ● | | | | | | | ● | ● | ● | | | | | ● | | | | |
| 44 | | | | | | | ● | ● | | | | | | ● | ● | ● | | | | | ● | | | | |
| 48 | | | | | | | | ● | ● | | | | | ● | ● | | | | | | | | | | |
| 50 | | | | | | | | | ● | ● | | | | | ● | | | | | | | | ● | | |
| 54 | | | | | | | | | | ● | | | | | | | | | | | | | ● | | |
| 55 | | | | | | | | | | | | | | | | | | | | | | | ● | | |
| 60 | | | | | | | | | | | | | | | ● | | | | | | | | | | |
| 62 | | | | | | | | | | | | | | | ● | | | | | | | | | | |
| 64 | | | | | | ● | | | | | | | | | ● | | | | | | | | ● | | |
| 66 | | | | | | | | | | | | | | | | | | | | | | | ● | | |
| 72 | | | | | | | | | | | | | | | ● | | | | | | | | | | |
| 106 | | | | | | | | | | | | | | | ● | | | | | | | | | | |



Note: ● = available contact configuration

Introduction

This catalog gives the complete description of LEMO single contact and multicontact type connectors. Our manufacturing program has been extended to almost 40 series divided into seven product families, each product with specific mating and environmental characteristics.

Each series includes a wide variety of plug, receptacle, coup-ler and bridge plug models, available in contact configurations adapted to all round cables, including up to 106 conductors, and a maximum diameter of 30 mm. Vacuum-tight 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.

A large number of accessories, as well as tooling for cable assembly, are available.

The Standard Series

The characteristic feature of these connector series is the hermaphroditic insulator in the multicontact version. They include principally the 0S and 6S series, as well as the 00 single contact series. The following series, explained in a separate chapter, also belong to this group: The 1D quadrax type, with four concentric contacts used for audio-stereo applications; and The 2C multicontact type, shortened version of connector for space saving.

The Watertight Series

These series are watertight (IEC 60529/IP 68) when mated and assembled to an appropriate cable. They include the 0E to 6E series and are available in the same types as the S series.

The Keyed Series

Compared to previous series, keyed connectors offer a variety of new features:

- alignment key preventing all errors in alignment;
- polarized keying system, the various keying alternatives preventing unwanted cross mating of otherwise similar connectors;
- higher contact density; and
- possible use of crimp contacts to reduce cable assembly time.

These connector series, also including some vacuum-tight models, range from 0B to 5B.

The 00 multicontact and 2G (shortened version of the 2B series) for space saving also belong to these series.

The Watertight Keyed Series

These connector series combine the characteristics of The **Watertight Series** and the technical features of the keyed series.

This product family includes the 0K to 5K series (IEC 60529/IP 68), available in the same types as the 0B to 5B series and the 0F to 5F series (IP 67), specially designed for applications requiring minimum weight, small size and splash-proofness.


Patch Panels

LEMO patch panels have been specifically developed to meet the requirements of radio and television broadcasting companies to facilitate the switching of large numbers of audio mono signals (0B series multicontact three contacts) or audio stereo (1B series multicontact six contacts and 1D series quadrax type) on 19" panels. On the front side connection is made either by LEMO bridge plugs with or without a monitoring output. On the rear side connection onto the panel is either by plugs specific to the existing system or permanent cable assemblies.

UL Recognition

Many of our connectors are recognized by the Underwriters Laboratories (UL). This recognition is the result of tests carried out on products (product standards) according to the safety hazards for human life and property.


Our products are tested principally for certain properties with regard to flammability and toxicity.


This marking is only used for components incorporated in a complete product or equipment. The approval of the complete equipment is easier if the component bears the  Recognized Component Mark.

The listed connectors are subject to a follow-up procedure carried out under the responsibility of UL. The Follow-up is carried out by sampling.

The recognition and the follow-up apply to the insulator raw material (PEEK) as much as the actual connectors.

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.**

General Characteristics

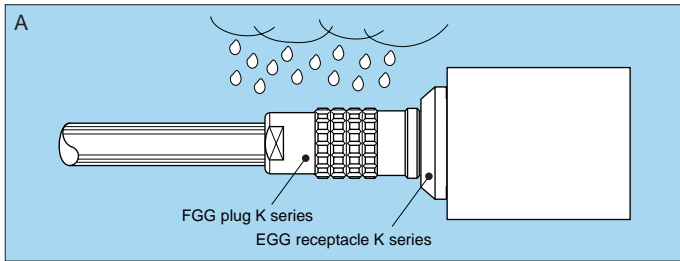
Selection of watertight connectors

For the selection of watertight connector series or watertight (or vacuum-tight) receptacle models, the conditions and the environment specific to the application should be carefully considered.

Two typical situations may occur:

A) Connectors are either used for outdoor applications or in an environment exposed to splashing water.

The selected **series** must be **watertight when mated**. The K or E series should be selected. For example an FGG plug and an EGG receptacle of the K series or an FFA plug and an ERA receptacle of the E series.

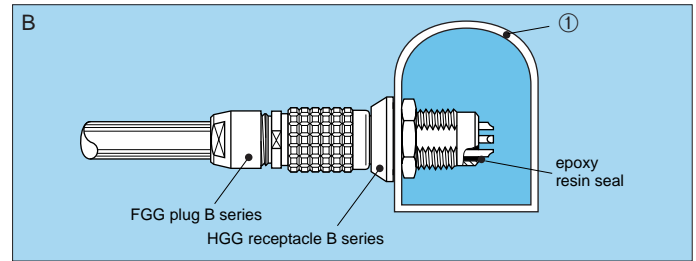


B) The inside of the container ① is under vacuum or filled with pressurized gas. No leakage is allowed between the outside and the inside of this container.

A **watertight or vacuum-tight** receptacle should be selected, depending on the requirements. To give you an example: an FGG plug and a HGG receptacle of the B series or an FFA plug and a HGP receptacle of the S series. Watertight receptacles are guaranteed to IP 68 protection index. They allow the device on which they are fitted to reach the specified protection index. Measurements are carried out unmated **without electrical power**.

Vacuum-tight receptacles are assembled according to a special assembly procedure and are fully tested with a helium leakage detector.

A and B situations may be simultaneously present. In this case, an FGG plug and an HGG receptacle of the K series or an FFA plug and an HGP receptacle of the E series should be selected.



IP 68 watertight cable assembly

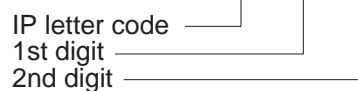
All K and E series models with cable collet can be made watertight to IP 68 protection index for applications

requiring up to 10 bars if assembled onto appropriate cable. Please consult us for instructions.

Definition of degree of protection (IP code)

IEC 60529 outlines an international classification system for the sealing effectiveness of enclosures of electrical equipment against the intrusion into the equipment of foreign bodies (i.e., tools, dust, fingers) and moisture. This classification system utilizes the letters «IP» (Ingress Protection) followed by two digits.

Example: IP 64 = IP 6 4



Degree of protection - First digit

The first digit of the IP code indicates the degree that persons are protected against contact with moving parts and the degree that equipment is protected against solid foreign bodies intruding into an enclosure.

- 0 No special protection
- 1 Protection from a large part of the body such as hand or from solid objects greater than 50 mm in diameter
- 2 Protection against objects not greater than 80 mm in length and 12 mm in diameter
- 3 Protection from entry by tools, wires, etc., with a diameter or thickness greater than 2.5 mm
- 4 Protection from entry by solid objects with a diameter or thickness greater than 1.0 mm
- 5 Protection from the amount of dust that would interfere with the operation of the equipment
- 6 Dust-tight

Degree of protection - Second digit

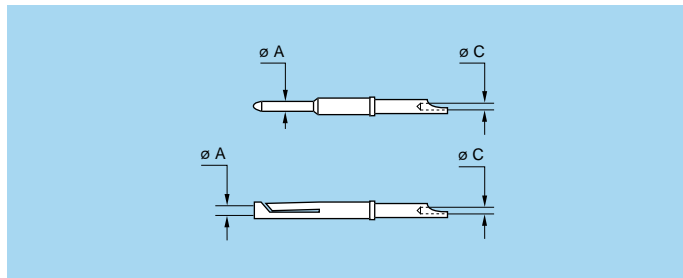
Second digit indicates the degree of protection of the equipment inside the enclosure against the harmful entry of various forms of moisture (e.g. dripping, spraying, submersion, etc.)

- 0 No special protection
- 1 Protection from vertically dripping water
- 2 Protection from dripping water when tilted up to 15°
- 3 Protection from sprayed water
- 4 Protection from splashed water
- 5 Protection from water projected from a nozzle
- 6 Protection against heavy seas, or powerful jets of water
- 7 Protection against temporary immersion
- 8 Protection against complete continuous submersion in water

Selection of contact types

Solder contacts

The conductor bucket of these contacts is machined at an angle to form a cup into which the solder can flow.



Note:

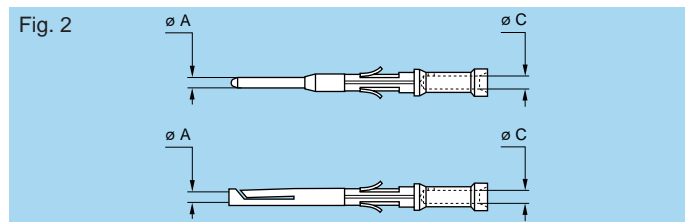
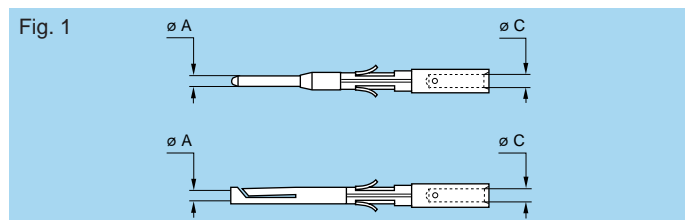
- 1) For S, E, 2C, 2G and 1D series
- 2) For 00 multicontact series
- 3) For a given AWG, the diameter of some stranded conductor designs is larger than the solder cup diameter. Make sure that the maximum conductor diameter is smaller than $\varnothing C$.

| Contact | | Conductor | | | |
|-------------------------|-------------------------|-----------|--------------------------------|------------------|--------------------------------|
| $\varnothing A$ (mm) | $\varnothing C$ (mm) | Solid | | Stranded | |
| | | AWG max. | Section max (mm ²) | AWG max. | Section max (mm ²) |
| 0.5 ²⁾ | 0.40 ²⁾ | 28 | 0.09 | 30 | 0.05 |
| 0.5 | 0.45 | 28 | 0.09 | 28 | 0.09 |
| 0.7 ¹⁾ | 0.60 ¹⁾ | 24 | 0.25 | 26 | 0.14 |
| 0.7 | 0.80 | 22 | 0.34 | 22 ³⁾ | 0.34 |
| 0.9 | 0.80 | 22 | 0.34 | 22 ³⁾ | 0.34 |
| 1.3 | 1.00 | 20 | 0.50 | 20 ³⁾ | 0.50 |
| 1.6 | 1.40 | 16 | 1.00 | 18 | 1.00 |
| 2.0 | 1.80 | 14 | 1.50 | 16 | 1.50 |
| 3.0 | 2.70 | 10 | 4.00 | 12 | 4.00 |
| 4.0 | 3.70 | 10 | 6.00 | 10 | 6.00 |
| 5.0 | 5.20 | – | – | 8 | 10.00 |
| 6.0 | 5.20 | – | – | 8 | 10.00 |
| 8.0 | 7.00 | – | – | 4 | 16.00 |
| 12.0 | 6.20 | – | – | 6 | 16.00 |

Crimp contacts

The crimp contacts are designed to be crimped with the standard four-indent method according to MIL-C-22520F, class 1, type 1.

Contacts are provided in two forms: with a standard crimp barrel for large conductors (see fig. 1), or with a reduced crimp barrel for smaller conductors (see fig. 2).



Note: 1) For a given AWG, the diameter of some stranded conductor designs is larger than the solder cup diameter. Make sure that the maximum conductor diameter is smaller than $\varnothing C$.

| Contact | | | Conductor stranded | | | | Fr (N) |
|-------------------------|-------------------------|---------------|--------------------|------------------|----------------------------|------|-----------|
| $\varnothing A$ (mm) | $\varnothing C$ (mm) | Form per fig. | AWG stranded | | Section (mm ²) | | |
| | | | min. | max. | min. | max. | |
| 0.5 | 0.45 | 1 | 32 | 28 | 0.035 | 0.09 | 12 |
| 0.7 | 0.80 | 1 | 26 | 22 ¹⁾ | 0.140 | 0.34 | 22 |
| | 0.45 | 2 | 32 | 28 | 0.035 | 0.09 | |
| 0.9 | 1.10 | 1 | 24 | 20 | 0.250 | 0.50 | 30 |
| | 0.80 | 2 | 26 | 22 ¹⁾ | 0.140 | 0.34 | |
| | 0.45 | 2 | 32 | 28 | 0.035 | 0.09 | |
| 1.3 | 1.40 | 1 | 20 | 18 | 0.500 | 1.00 | 40 |
| | 1.10 | 2 | 24 | 20 | 0.250 | 0.50 | |
| | 0.80 | 2 | 26 | 22 ¹⁾ | 0.140 | 0.34 | |
| 1.6 | 1.90 | 1 | 18 | 14 ¹⁾ | 1.000 | 1.50 | 50 |
| | 1.40 | 2 | 22 | 18 | 0.340 | 1.00 | |
| 2.0 | 2.40 | 1 | 16 | 12 ¹⁾ | 1.500 | 2.50 | 65 |
| | 1.90 | 2 | 18 | 14 | 1.000 | 1.50 | |
| 3.0 | 2.90 | 1 | 14 | 10 ¹⁾ | 2.500 | 4.00 | 75 |
| 4.0 | 4.00 | 1 | 12 | 10 | 4.000 | 6.00 | 90 |

A detailed range of conductor dimensions that can be crimped into our contacts is given on the table at right. See also the section on tooling (pages 183 to 188).

Note: Fr = mean contact retention force in the insulator (according to IEC 60512-8 test 15a).

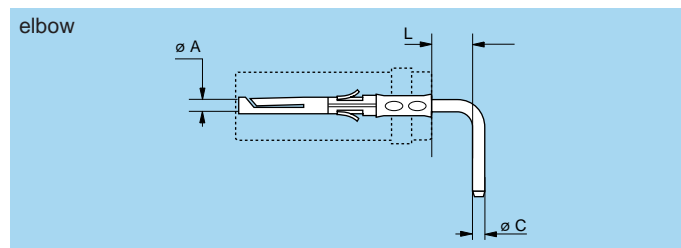
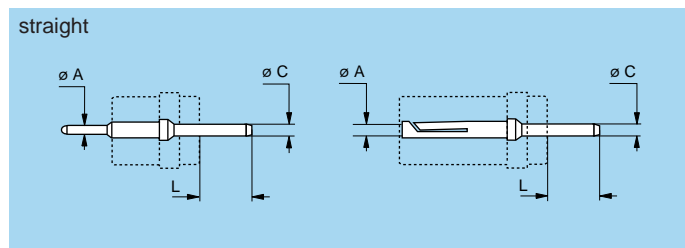
Printed circuit contacts

Printed circuit contacts are available in straight or elbow versions for certain connector types. Connection is possible by soldering on flexible or rigid printed circuit boards.

Straight printed circuit contacts are gold-plated which guarantees optimum soldering, even after longterm storage.

rantees optimum soldering, even after longterm storage.

Printed circuit elbow contacts include a tinned copper wire crimped into a contact. L dimensions and C \varnothing are detailed in the section on PCB drilling patterns.



Series specification by cable diameter

| Series | Cable diameter range (mm) | | | | | | | | | | | |
|------------------|---------------------------|------|---------------|------|---------------|------|---------------|------|---------------|------|----------------------|------|
| | C type collet | | D type collet | | K type collet | | L type collet | | M type collet | | With heatshrink boot | |
| | min. | max. | min. | max. | min. | max. | min. | max. | min. | max. | min. | max. |
| 00 ¹⁾ | - | - | 1.1 | 3.4 | - | - | - | - | - | - | - | - |
| 0B | - | - | 1.5 | 5.5 | - | - | - | - | - | - | - | - |
| 1B | - | - | 3.1 | 7.5 | - | - | - | - | 2.2 | 3.0 | - | - |
| 2B | - | - | 4.1 | 9.7 | - | - | - | - | 1.5 | 4.0 | - | - |
| 3B | - | - | 5.1 | 11.7 | - | - | - | - | 4.1 | 5.0 | - | - |
| 4B | - | - | 9.1 | 16.0 | - | - | - | - | 5.1 | 9.0 | - | - |
| 5B | - | - | 9.6 | 25.0 | - | - | - | - | - | - | - | - |
| 0K | 1.0 | 5.0 | - | - | - | - | - | - | - | - | - | - |
| 1K | 1.3 | 6.5 | - | - | 6.6 | 8.5 | - | - | - | - | - | - |
| 2K | 1.3 | 8.5 | - | - | 8.6 | 11.0 | - | - | - | - | - | - |
| 3K | 2.6 | 10.5 | - | - | 10.6 | 15.0 | - | - | - | - | - | - |
| 4K | 4.8 | 15.0 | - | - | 15.6 | 23.5 | - | - | - | - | - | - |
| 5K | 9.6 | 23.5 | - | - | - | - | - | - | - | - | - | - |
| 00 ²⁾ | 1.1 | 3.0 | - | - | 3.0 | 4.1 | 1.3 | 3.0 | - | - | - | - |
| 0S | 1.3 | 4.3 | - | - | 3.8 | 6.7 | 1.3 | 4.3 | - | - | - | - |
| 1S | 1.3 | 6.7 | - | - | 6.1 | 8.5 | 1.3 | 6.5 | - | - | - | - |
| 2S | 1.3 | 8.5 | - | - | 8.1 | 10.5 | 1.7 | 8.5 | - | - | - | - |
| 3S | 2.5 | 10.5 | - | - | 11.1 | 13.0 | 3.1 | 10.5 | - | - | - | - |
| 4S | 4.1 | 13.0 | - | - | 13.1 | 22.0 | 4.1 | 13.0 | - | - | - | - |
| 5S | 6.1 | 22.0 | - | - | 22.1 | 30.0 | 8.1 | 21.0 | - | - | - | - |
| 6S | 11.1 | 30.0 | - | - | - | - | 11.1 | 30.0 | - | - | - | - |
| 0E | 1.0 | 5.0 | - | - | - | - | - | - | - | - | - | - |
| 1E | 1.3 | 6.5 | - | - | 6.6 | 8.5 | - | - | - | - | - | - |
| 2E | 1.3 | 8.5 | - | - | 8.6 | 11.0 | - | - | - | - | - | - |
| 3E | 2.6 | 10.5 | - | - | 10.6 | 15.0 | - | - | - | - | - | - |
| 4E | 4.8 | 15.0 | - | - | 15.6 | 23.5 | - | - | - | - | - | - |
| 5E | 9.6 | 23.5 | - | - | - | - | - | - | - | - | - | - |
| 6E | 13.0 | 30.0 | - | - | - | - | - | - | - | - | - | - |
| 0F | - | - | - | - | - | - | - | - | - | - | 3.8 | 11 |
| 1F | - | - | - | - | - | - | - | - | - | - | 3.8 | 13 |
| 2F | - | - | - | - | - | - | - | - | - | - | 3.8 | 16 |
| 3F | - | - | - | - | - | - | - | - | - | - | 3.8 | 18 |
| 4F | - | - | - | - | - | - | - | - | - | - | 5.3 | 25 |
| 5F | - | - | - | - | - | - | - | - | - | - | 7.4 | 34 |
| 2C | 2.2 | 7.9 | - | - | - | - | 0.8 | 8.1 | - | - | - | - |
| 2G | - | - | 4.5 | 7.9 | - | - | - | - | - | - | - | - |
| 1D | - | - | 3.1 | 7.5 | - | - | - | - | - | - | - | - |

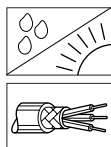
Note:

1) For multicontact only

2) For single contact only; crimping (type E) is also available for cables from 1.8 to 3.0 mm.

Part Numbering System

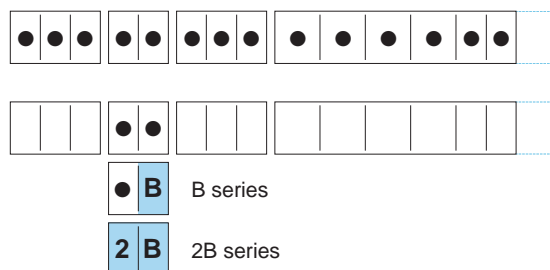
Series



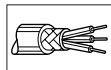
Connectors series can be selected according to environmental requirements or the particular characteristics of each application, such as indoor or outdoor applications, etc.

See table on p. 5 (single contact and multicontact connectors production progr.) and p. 8 (selection of watertight connectors). The size of the series can be defined by the number of conductors, the conductor diameter and the cable jacket diameter.

See table on p. 6 (series and contact configurations) and p. 10 (acceptable cable diameters).

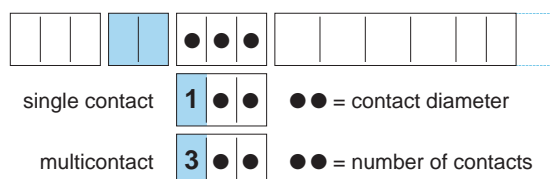


Type

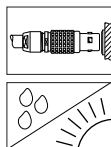


Contact arrangements (type) within a given size can be defined according to the cable design (single contact or multicontact) and the required electrical characteristics (rated current).

See type tables in each series.



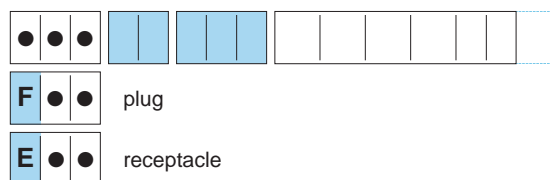
Model



Models within a given series can be selected according to the application and the panel mounting conditions.

See models available in each series.

When available make the right key-way selection.

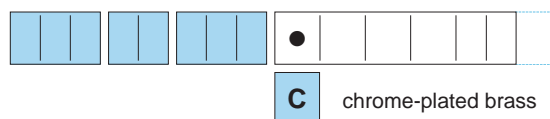


Housing material



The housing material and surface finish depends on the environmental requirements.

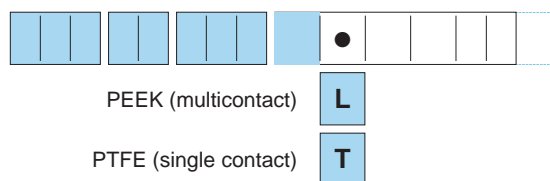
See material available in each series.



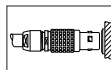
Insulator material

The insulator material should be selected according to the insulator type.

See material available in each series.



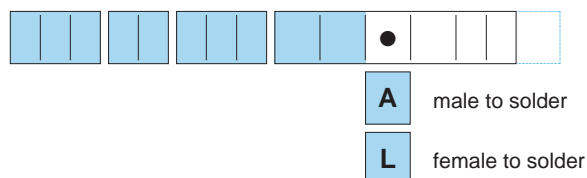
Contact



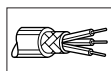
The contact type can be selected according to the model (male or female), conductor retention (solder or crimp) or the application (straight or elbow printed circuit).

See contact available in each series.

Verify again the contact size matches with the conductor diameter.



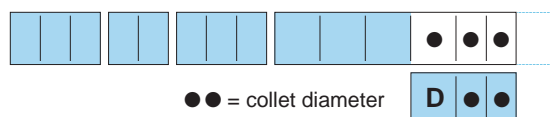
Collet



Different clamping systems are proposed in various diameters for screened or unscreened cables.

See collets type of each series and p. 10 (acceptable cable diameter).

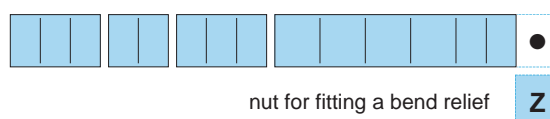
Not applicable for receptacles E●● or H●●.



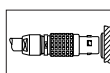
Variant

Several variants are available according to special requirements of the application (bend relief backnut, etc.).

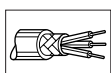
See variant in each series.



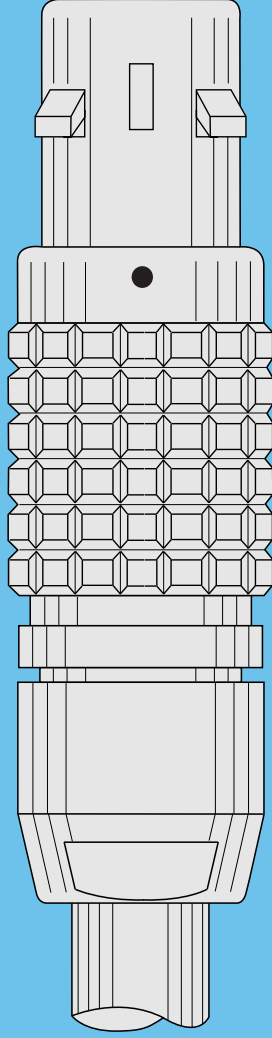
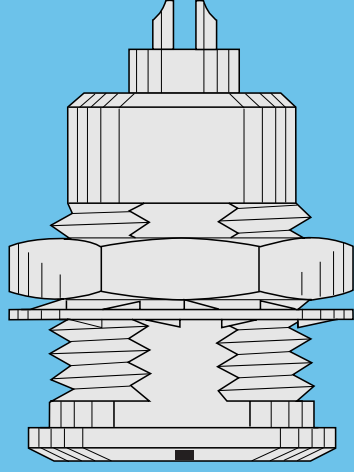
= Environment



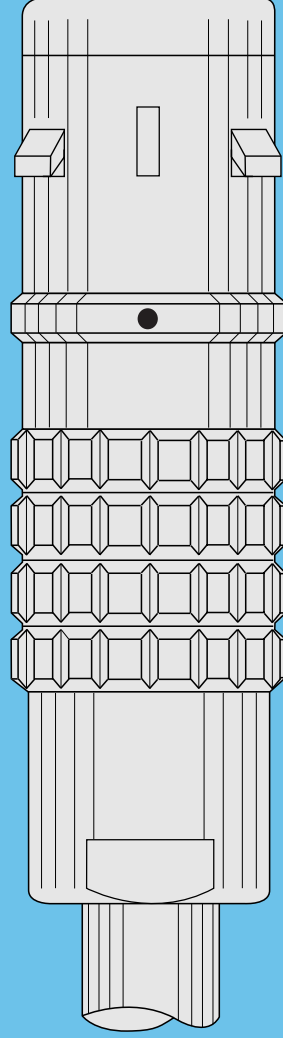
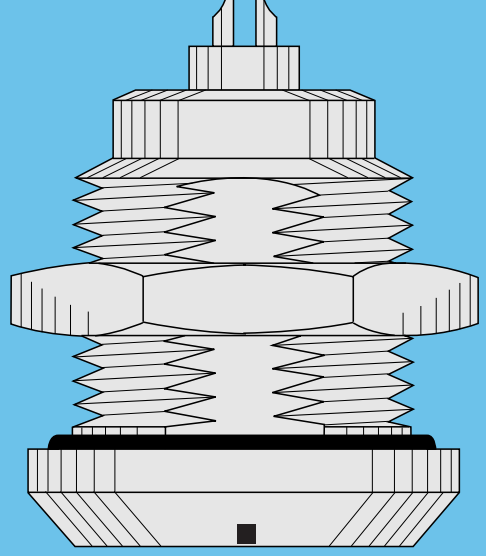
= Application



= Cable



B SERIES



K SERIES (watertight)

B Series

B series connectors provide the following main features:

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

Interconnections

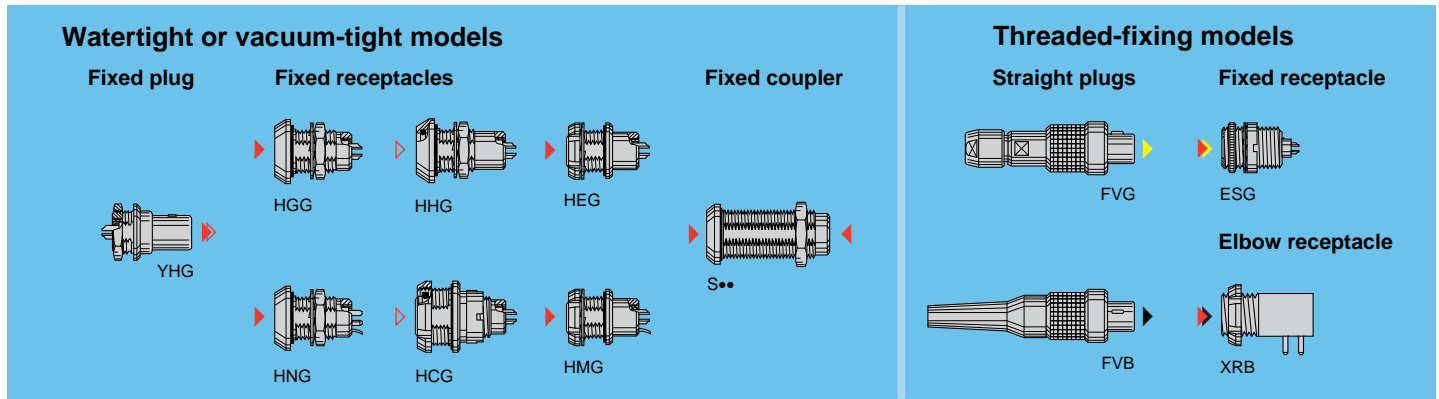
| Fixed plugs | Straight plugs | Fixed receptacles | Fixed receptacles |
|-------------|----------------|-------------------|-------------------|
| FWG | FGG | EGG | PKG |
| FBG | FGG | ENG | PFG |
| FAG | FCG | EKG | PEG |
| Elbow plugs | FFG | ESG | EYG |
| FHG | FNG | EHG | XPF |
| FMG | FEG | EJG | EPG |
| FKG | FDG | EBG | EXG |
| | FYG | EEG | XBG |
| | FZG | EFG | PHG |
| | FIG | ECG | PNG |
| | | | PFG |
| | | | PNG |
| | | | FTG |
| | | | CRG |
| | | | CFF |

| Fixed receptacles | Fixed receptacles with microswitch |
|-------------------|------------------------------------|
| R•• | EMG |
| | EMG |

| Elbow receptacles | Free receptacles |
|-------------------|------------------|
| EPG | PHG |
| EXG | PNG |
| XBG | FTG |
| | CRG |
| | CFF |

| Plastic housing models | | | | | | | | |
|--|-------------------|-------------------|-----|-----|-----|-----|-----|--|
| <table border="1"> <thead> <tr> <th>Straight plugs</th> <th>Fixed receptacles</th> </tr> </thead> <tbody> <tr> <td> FGG</td> <td> ENG</td> </tr> <tr> <td> FGY</td> <td> ENY</td> </tr> <tr> <td> FGY</td> <td></td> </tr> </tbody> </table> | Straight plugs | Fixed receptacles | FGG | ENG | FGY | ENY | FGY | |
| Straight plugs | Fixed receptacles | | | | | | | |
| FGG | ENG | | | | | | | |
| FGY | ENY | | | | | | | |
| FGY | | | | | | | | |

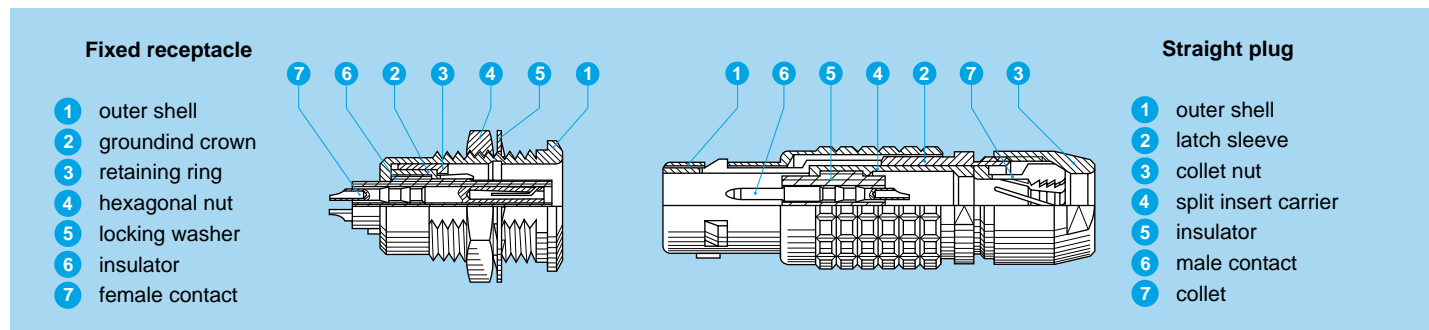
Interconnections



Model Description

- CFF** Bridge plug with two non-latching plugs
CRG Bridge plug with two non-latching plugs, and monitoring receptacle and key (G) or keys (A...M)
- EBG** Fixed receptacle, nut fixing, round flange, key (G) or keys (A...L and R), screw fixing (back panel mounting)
ECG Fixed receptacle with two nuts, key (G) or keys (A...M and R) (back panel mounting)
ECG Fixed receptacle with two nuts, key (G) or keys (A...F and R) and straight contact for printed circuit (back panel mounting)
ECG Fixed receptacle with two nuts, key (G) or keys (A...F) with elbow (90°) contact for printed circuit (back panel mounting)
EEG Fixed receptacle, nut fixing, key (G) or keys (A...M and R) (back panel mounting)
EFG Fixed receptacle, nut fixing, key (G) or keys (A...M), with two flats on the shell and O-ring (back panel mounting)
EGG Fixed receptacle, nut fixing, key (G) or keys (A...M and R)
EHG Fixed receptacle, nut fixing, key (G) or keys (A...M and R), and protruding shell
EJG Fixed receptacle, press or adhesive fit, key (G) or keys (A...M)
EKG Fixed receptacle, nut fixing, key (G) or keys (A...L and R), special alignment mark on the front
EMG Fixed receptacle, nut fixing, microswitch, key (G) or keys (A...L)
EMG Fixed receptacle, with two nuts, microswitch, key (G) or keys (A...L)
ENG Fixed receptacle with grounding tab, nut fixing, with key (G) or keys (A...M)
ENG Fixed receptacle with grounding tab, nut fixing, key (G or J), PEEK outer shell
ENY Fixed receptacle with grounding tab, nut fixing, keys (Y), PSU or PPSU outer shell
EPG Elbow (90°) receptacle for printed circuit, key (G) or keys (A...F) (solder or screw fixing)
ESG Fixed receptacle with two round nuts, key (G) or keys (A...L), long threaded shell (back panel mounting)
EXG Elbow (90°) receptacle for printed circuit with two nuts, key (G) or keys (A...F) (solder or screw fixing)
EYG Fixed receptacle for printed circuit, nut fixing, key (G) or keys (A...F) (back panel mounting)
EZG Straight receptacle for printed circuit, key (G) or keys (A...F)
- FAG** Fixed plug, non-latching, nut fixing, key (G) or keys (A...M and R)
FBG Fixed plug, nut fixing, round flange, key (G) or keys (A...L and R), screw fixing
FCG Straight plug, key (G) or keys (A...L and R), cable collet and safety locking ring
FDG Straight plug, long version, key (G) or keys (A...L), cable collet
FEG Straight plug, key (G) or keys (A...L), cable collet, front seal and nut for fitting a bend relief
FFG Straight plug, non-latching, key (G) or keys (A...M), cable collet
FGG Straight plug, key (G) or keys (A...M and R), cable collet
FGG Straight plug, key (G) or keys (A...M), cable collet and nut for fitting a bend relief
FGG Straight plug, key (G or J), cable collet, PEEK outer shell
FGY Straight plug, keys (Y), cable collet and PSU or PPSU outer shell
FGY Straight plug, keys (Y), cable collet and PSU or PPSU outer shell and nut for fitting a bend relief
FHG Elbow (90°) plug, key (G) or keys (A...M and R), cable collet
FIG Straight plug for remote handling, key (G) or keys (A...L and R), special alignment mark, knurled handling surface, cable collet
FKG Elbow (90°) plug for remote handling, key (G) or keys (A...L), special alignment mark, knurled handling surface, cable collet
FMG Elbow (90°) plug, key (G) or keys (A...M), cable collet and lanyard release
FNG Straight plug, key (G) or keys (A...M and R), cable collet and lanyard release
FTG Straight plug, key (G) and two parallel receptacles
FYG Straight plug, conical shell, key (G) or keys (A...M), cable collet
FVB Straight plug, keys (B), threaded-fixing for special cable crimping
FVG Straight plug, key (G) or keys (A, B), cable collet, threaded-fixing
FWG Fixed plug, nut fixing, key (G) or keys (A...L)
FZG Straight plug for remote handling, key (G) or keys (A...L and R), cable collet
HCG Fixed receptacle, nut fixing, key (G) or keys (A...M), watertight or vacuum-tight (back panel mounting)
- HEG** Fixed receptacle, nut fixing, key (G) or keys (A...M), or vacuum-tight (back panel mounting)
HGG Fixed receptacle, nut fixing, key (G) or keys (A...M and R), watertight or vacuum-tight
HHG Fixed receptacle, nut fixing, key (G) or keys (A...M), watertight or vacuum-tight
HMG Fixed receptacle with grounding tab, nut fixing, key (G) or keys (A...M), watertight or vacuum-tight (back panel mounting)
HNG Fixed receptacle, nut fixing, with grounding tab, key (G) or keys (A...M), watertight or vacuum-tight
PEG Fixed receptacle, nut fixing, key (G) or keys (A...L), cable collet (back panel mounting)
PFG Fixed receptacle, with two nuts, key (G) or keys (A...M and R), cable collet (back panel mounting)
PHG Free receptacle, key (G) or keys (A...M and R), cable collet
PHG Free receptacle, key (G) or keys (A...M), cable collet and nut for fitting a bend relief
PKG Fixed receptacle, nut fixing, key (G) or keys (A...M and R), cable collet
PNG Free receptacle, nut fixing, key (G) or keys (A...L and R), cable collet with lanyard release
R•• Fixed coupler, nut fixing, key (G) or keys (A and J) at the flange end and keys (J, K or M) at the other end
S•• Fixed coupler, nut fixing, key (G) or keys (A, B, J, K and L) at the flange end and key (G) or keys (A, B, J, K and L) at the other end, watertight or vacuum-tight
XBG Elbow (90°) receptacle fixing nut for printed circuit, key (G) or keys (A, B) (back panel mounting)
XPF Fixed receptacle, nut fixing, long shell, keys (F) for printed circuit (back panel mounting)
XRB Elbow (90°) receptacle fixing nut for printed circuit, keys (B), short shell, threaded-fixing (back panel mounting)
YHG Fixed plug, nut fixing, non-latching, key (G) or keys (A...M)

Part Section Showing Internal Components



Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | Standard |
|---------------------------------|------------------|----------------------|
| Endurance | > 5000 cycles | IEC 60512-5 test 9a |
| Humidity | up 95% to 140° F | |
| Temperature range ¹⁾ | -67° F, +482° F | |
| Resistance to vibration | 10-2000 Hz, 15 g | IEC 60512-4 test 6d |
| Shock resistance | 100 g, 6 ms | IEC 60512-4 test 6c |
| Salt spray corrosion test | > 144h | IEC 60512-6 test 11f |
| Protection index (mated) | IP50 | IEC 60529 |
| Climatic category ¹⁾ | 55/175/21 | IEC 60068-1 |

Electrical

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

Note:
The various tests have been carried out with FGG and EGG connector pairs, with chrome-plated brass shell and PEEK insulator. Detailed electrical characteristics, as well as materials and treatment are presented in the chapter Technical Characteristics on page 197.
¹⁾ For watertight or vacuum-tight models see page 37.

Available Models (series and types)

| Model | Multicontact | | | | | | |
|-------------------|--------------|----|----|----|----|----|----|
| | 00 | 0B | 1B | 2B | 3B | 4B | 5B |
| CFF | | ● | ● | | | | |
| CRG | | ● | ● | | | | |
| EBG | | | | | | | ● |
| ECG | ● | ● | ● | ● | ● | ● | ● |
| ECG ²⁾ | | ● | ● | ● | ● | | |
| EEG | ● | ● | ● | ● | ● | | ● |
| EFG | | ● | | | | | |
| EGG | ● | ● | ● | ● | ● | ● | ● |
| EHG | ● | ● | ● | ● | ● | | ● |
| EJG | | ● | ● | ● | | | |
| EKG | | | | ● | ● | ● | ● |
| EMG | | ● | ● | ● | | | |
| ENG | | ● | ● | ● | ● | ● | |
| ENG ³⁾ | | | ● | | ● | ● | |
| ENY ⁴⁾ | | | | ● | ● | | |
| EPG | ● | ● | ● | | | | |
| ESG | ● | | ● | | | | |
| EXG | | ● | ● | | | | |
| EYG | | ● | ● | | | | |
| EZG | ● | ● | ● | ● | | | |

| Model | Multicontact | | | | | | |
|-------------------------|--------------|----|----|----|----|----|----|
| | 00 | 0B | 1B | 2B | 3B | 4B | 5B |
| FAG | ● | ● | ● | ● | ● | ● | ● |
| FBG | | | | | | | ● |
| FCG | | | ● | | | ● | ● |
| FDG | | | ● | ● | | | |
| FEG | | | ● | ● | ● | | |
| FFG | | ● | ● | ● | ● | ● | |
| FGG | ● | ● | ● | ● | ● | ● | ● |
| FGG ⁵⁾ | ● | ● | ● | ● | ● | ● | ● |
| FGG ³⁾ | | | ● | | ● | ● | |
| FGY ^{4) 6)} | | | | ● | ● | | |
| FGY ^{4) 5) 6)} | | | | ● | ● | | |
| FHG | ● | ● | ● | ● | ● | ● | ● |
| FIG | | | | ● | ● | ● | ● |
| FKG | | | | | ● | ● | |
| FMG | | ● | | | | | |
| FNG | | ● | ● | ● | ● | ● | ● |
| FTG ¹⁾ | | ● | | | | | |
| FVB | ● | | | | | | |
| FVG | ● | | | | | | |
| FWG | | | ● | ● | | | |

| Model | Multicontact | | | | | | |
|-------------------|--------------|----|----|----|----|----|----|
| | 00 | 0B | 1B | 2B | 3B | 4B | 5B |
| FYG | | ● | | | | | |
| FZG | | | | ● | ● | ● | ● |
| HCG | | ● | ● | ● | | | |
| HEG | | | | ● | | | |
| HGG | ● | ● | ● | ● | ● | ● | ● |
| HHG | | ● | ● | ● | ● | | |
| HMG | | ● | ● | | ● | | |
| HNG | | ● | | | | | |
| PEG | | | | | ● | ● | |
| PHG | ● | ● | ● | ● | ● | ● | ● |
| PHG ⁵⁾ | ● | ● | ● | ● | ● | ● | ● |
| PKG | ● | ● | ● | ● | ● | ● | ● |
| PNG | | | ● | ● | ● | ● | ● |
| R●● | | ● | ● | ● | ● | ● | ● |
| S●● | | ● | ● | ● | ● | ● | ● |
| XBG | ● | | | | | | |
| XRB | ● | | | | | | |
| XPF | | ● | | | | | |
| YHG | | ● | ● | ● | ● | | |

Note:

CFF, CRG, EMG, EPG, EXG and FTG models are not available in all types. Please consult pages corresponding to the models.

- ¹⁾ only available with «G» key
- ²⁾ with elbow (90°) printed circuit contact
- ³⁾ with PEEK outer shell
- ⁴⁾ only available with «Y» key
- ⁵⁾ with nut for fitting a bend relief
- ⁶⁾ with PSU or PPSU outer shell
- = available models by series and types

Alignment Key and Polarized Keying System

B series connector model part numbers are composed of three letters. The LAST LETTER indicates the key position and the contact type (male or female). For example, straight plugs with «G» key or A, B, C, D, E, F, R or Y keys, are fitted with male contacts, whereas with J, K, L, M keys, plugs are fitted with female contacts.

Receptacles with «G» key or A, B, C, D, E, F, R or Y keys, are fitted with female contacts; whereas with J, K, L, M keys, receptacles are fitted with male contacts.

| Front view of a receptacle | Model | # of keys | Series | | | Angles | Series | | | | Contact type | | | Note | | |
|--------------------------------|-------|-----------|--------|------|------|--------|--------|--------|-------|--------|--------------|-------------|-------------|-----------------|------------|-----------------------|
| | | | Angles | 00 | 0B | | 1B | Angles | 2B | 3B | 4B | 5B | Plug | | Receptacle | Coupler ¹⁾ |
| | | | | | | | | | | | | | | | | |
| ●●G | 1 | | 0° | 0° | 0° | | 0° | 0° | 0° | 0° | male | female | male-female | ● | | |
| ●●A | 2 | α | 30° | 30° | 30° | α | 30° | 30° | 30° | 30° | male | female | male-female | ● | | |
| ●●B | 2 | | 60° | 60° | 60° | | 45° | 45° | 45° | 45° | male | female | male-female | ● | | |
| ●●C | 2 | | – | 90° | 90° | | 60° | 60° | 60° | 60° | male | female | male-female | ● | | |
| ●●D | 2 | | – | 135° | 135° | | γ | 95° | 95° | 95° | 95° | male | female | male-female | ○ | |
| ●●E | 2 | β | – | 145° | 145° | β | 120° | 120° | 120° | 120° | male | female | male-female | ○ | | |
| ●●F | 2 | | – | 155° | 155° | | 145° | 145° | 145° | 145° | male | female | male-female | ○ | | |
| ●●J | 2 | γ | 45° | 45° | 45° | α | 37.5° | 37.5° | 37.5° | 37.5° | female | male | female-male | ● | | |
| ●●K | 2 | | – | 70° | 70° | | 52.5° | 52.5° | 52.5° | 52.5° | female | male | female-male | ○ | | |
| ●●L | 2 | | – | 80° | 80° | | γ | 70° | 70° | 70° | 70° | female | male | female-male | ○ | |
| ●●M | 2 | δ | – | 110° | – | – | – | – | – | female | male | female-male | ○ | | | |
| ●●Y | 3 | – | – | – | – | β | 112.5° | 126° | – | – | male | female | – | ● ²⁾ | | |
| | | | | | | γ | 100° | 102° | – | – | – | – | – | – | – | – |

| Front view of a receptacle | Model | # of keys | Series | | | Angles | Series | | | | Contact type | | | Note | | |
|--------------------------------|-------|-----------|--------|----|----|--------|--------|--------|----|-----|--------------|--------|-------------|------|------------|-----------------------|
| | | | Angles | 00 | 0B | | 1B | Angles | 2B | 3B | 4B | 5B | Plug | | Receptacle | Coupler ¹⁾ |
| | | | | | | | | | | | | | | | | |
| ●●R | 5 | α | – | – | – | α | – | – | – | 95° | male | female | male-female | ● | | |
| | | | β | – | – | – | β | – | – | – | | | | | 115° | |
| | | | γ | – | – | – | γ | – | – | – | | | | | 20° | |
| | | | δ | – | – | – | δ | – | – | – | | | | | 30° | |

Note:

FTG, FGY, ENY models are not available with all the keys. Please consult pages corresponding to these models.

For R●● models see explanation on page 32 and for S●● models see explanation on page 39.

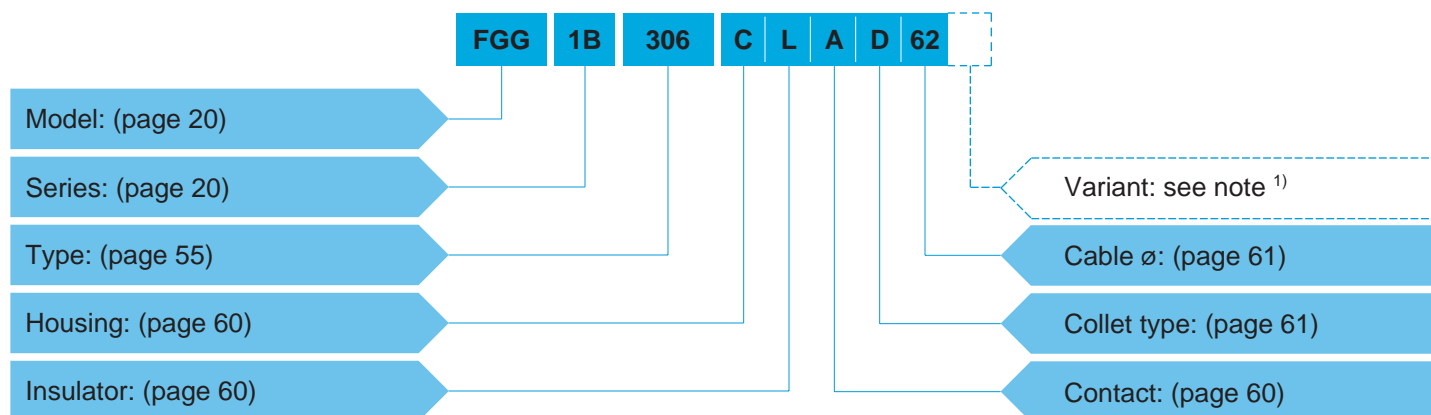
¹⁾ The first contact type mentioned is always the one at the flange end.

²⁾ Only FGY and ENY models are available.

● First choice alternative ○ Special order alternative

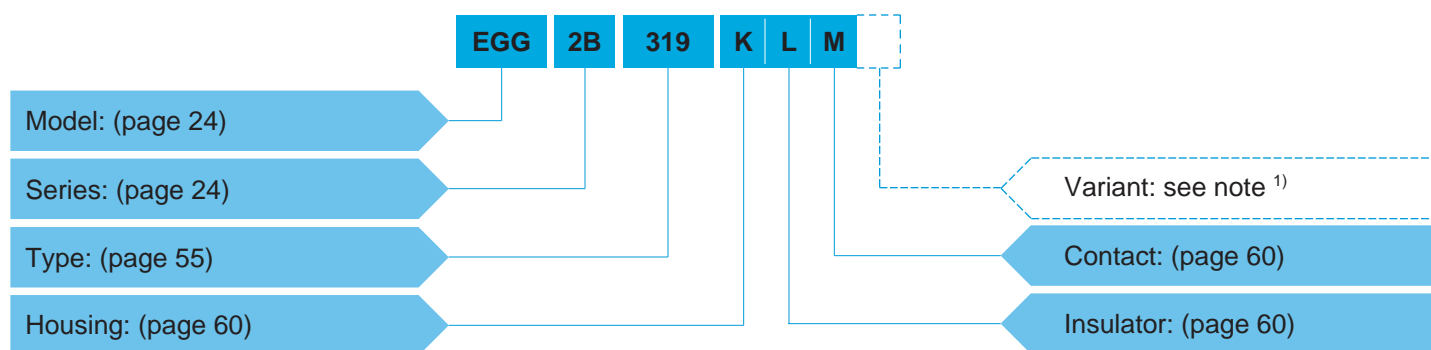
Part Number Example

Straight plug with cable collet



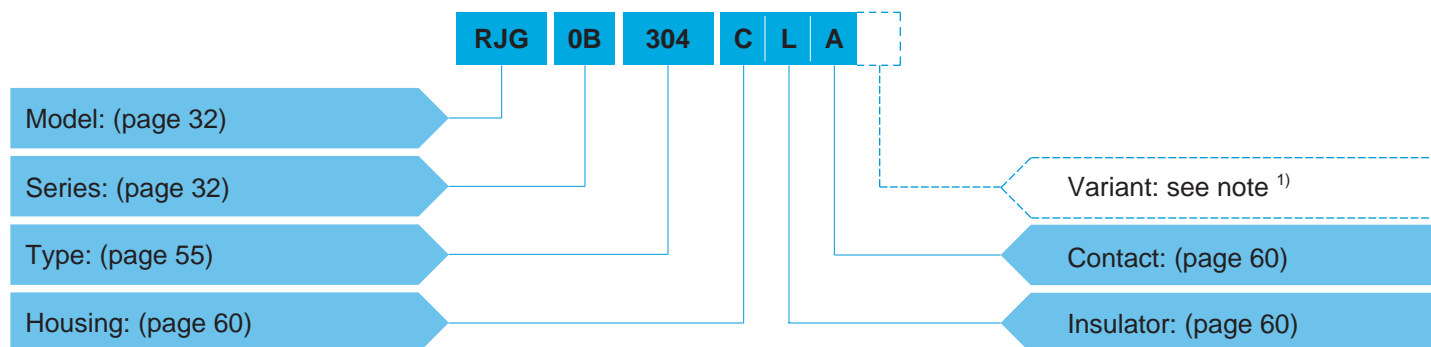
FGG.1B.306.CLAD62 = straight plug with key (G) and cable collet, 1B series, multicontact type with 6 contacts, outer shell in chrome-plated brass, PEEK insulator, male solder contacts, D type collet for 6.0 mm diameter cable.

Fixed receptacle



EGG.2B.319.KLM = fixed receptacle, nut fixing, with key (G), 2B series, multicontact type with 19 contacts, black chrome-plated brass outer shell, PEEK insulator, female crimp contacts.

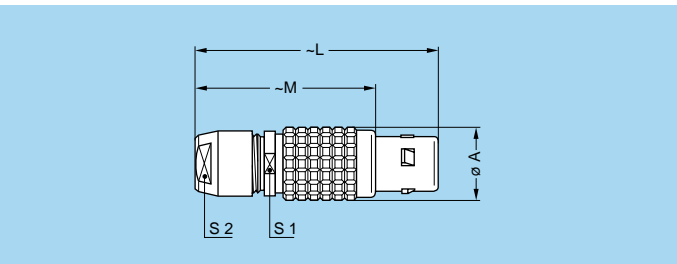
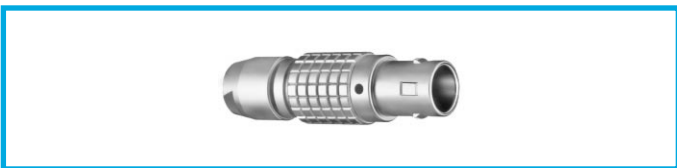
Fixed coupler



RJG.0B.304.CLA = straight fixed coupler with keys (J) at the flange end and key (G) at the other end, 0B series, multicontact type with 4 contacts, chrome-plated brass outer shell, PEEK insulator, male-female contacts.

Note: ¹⁾ The «Variant» position in the reference is used to specify either the presence of a collet nut for fitting the bend relief, or the anodized color of the housing in aluminium alloy, or the color of the bridge plug housing.
 For models with collet nut for fitting the bend relief, a «Z» should be indicated and a bend relief can be ordered separately as indicated in the «Accessories» section. An order for a connector with bend relief should thus include two part numbers.
 For the various housings available in colors, the corresponding letter in the part number for the color is indicated on page 66.
 For the watertight models of receptacle, the letter «P» is used; for the vacuum-tight models of receptacle the letters «PV» shall be indicated.

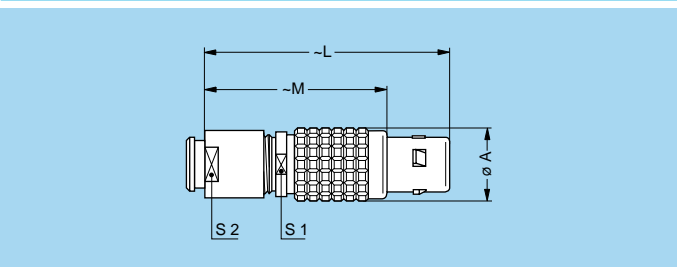
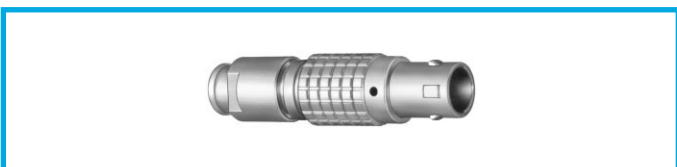
Models - Series



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

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

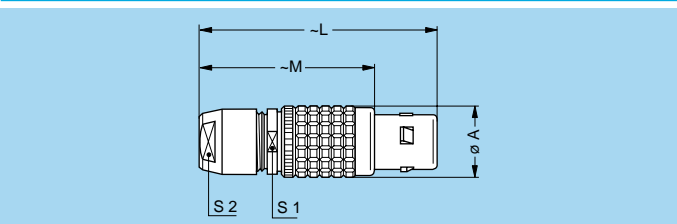
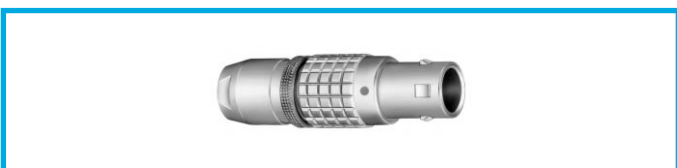
Note: ¹⁾ The surface design of the 00 series is different.



FGG Straight plug, key (G) or keys (A...M), cable collet and nut for fitting a bend relief

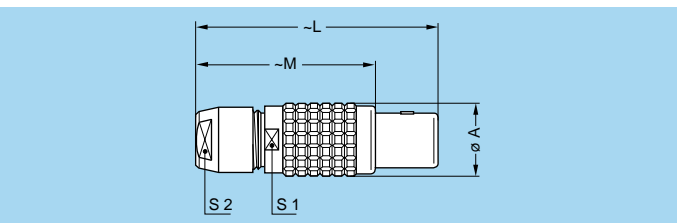
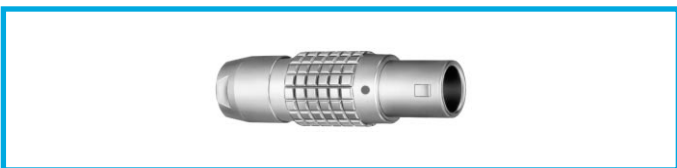
| Reference | | Dimensions (mm) | | | | |
|-----------|------------------|-----------------|------|------|------|----|
| Model | Series | A | L | M | S1 | S2 |
| FGG | 00 ¹⁾ | 6.4 | 27.5 | 18.5 | 5.5 | 5 |
| FGG | 0B | 9.5 | 35.0 | 25.0 | 8.0 | 7 |
| FGG | 1B | 12.0 | 42.0 | 33.0 | 10.0 | 9 |
| FGG | 2B | 15.0 | 48.0 | 36.0 | 13.0 | 12 |
| FGG | 3B | 18.0 | 56.5 | 41.5 | 15.0 | 15 |
| FGG | 4B | 25.0 | 71.0 | 53.0 | 21.0 | 20 |

Note: ¹⁾ The surface design of the 00 series is different. The bend relief must be ordered separately (see page 175).



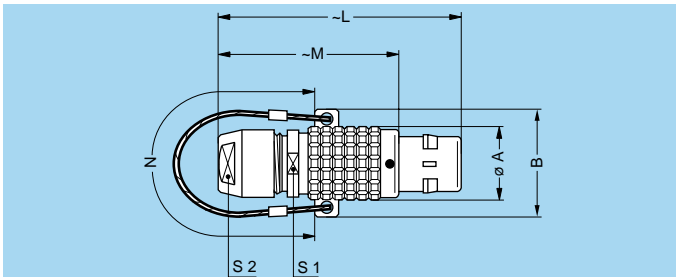
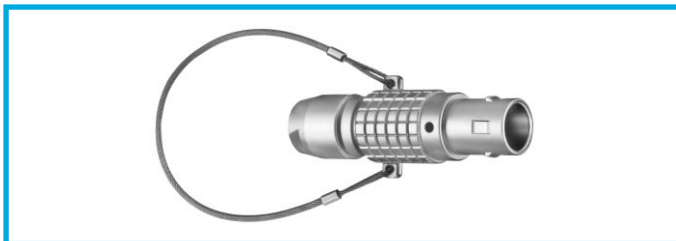
FCG Straight plug, key (G) or keys (A...L and R), cable collet and safety locking ring

| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|-----|----|----|----|
| Model | Series | A | L | M | S1 | S2 |
| FCG | 1B | 12 | 43 | 32 | 10 | 9 |
| FCG | 4B | 25 | 75 | 57 | 21 | 20 |
| FCG | 5B | 35 | 103 | 78 | 31 | 30 |



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

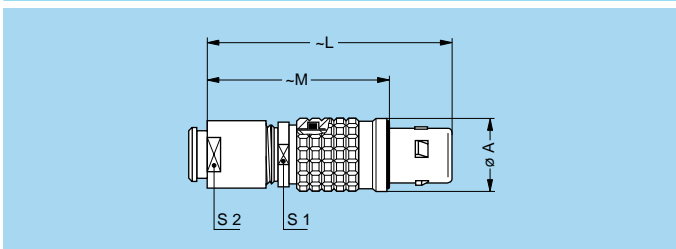
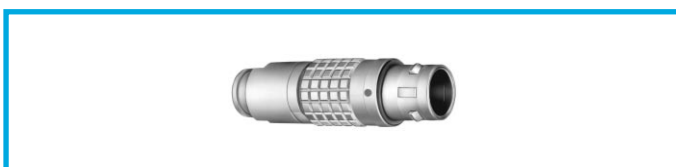
| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|----|----|----|----|
| Model | Series | A | L | M | S1 | S2 |
| FFG | 0B | 9.5 | 36 | 26 | 8 | 7 |
| FFG | 1B | 12.0 | 43 | 32 | 10 | 9 |
| FFG | 2B | 15.0 | 49 | 37 | 13 | 12 |
| FFG | 3B | 18.0 | 58 | 43 | 15 | 14 |
| FFG | 4B | 25.0 | 75 | 57 | 21 | 20 |



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

| Reference | | Dimensions (mm) | | | | | | |
|-----------|--------|-----------------|------|-------|------|-----|----|----|
| Model | Series | A | B | L | M | N | S1 | S2 |
| FNG | 0B | 9.5 | 19.4 | 28.5 | 20.5 | 140 | 8 | 7 |
| FNG | 1B | 12.0 | 19.4 | 43.0 | 32.0 | 140 | 10 | 9 |
| FNG | 2B | 15.0 | 22.6 | 49.0 | 37.0 | 160 | 13 | 12 |
| FNG | 3B | 18.0 | 25.6 | 58.0 | 43.0 | 190 | 15 | 14 |
| FNG | 4B | 25.0 | 35.2 | 75.0 | 57.0 | 230 | 21 | 20 |
| FNG | 5B | 35.0 | 47.0 | 103.0 | 78.0 | 300 | 31 | 30 |

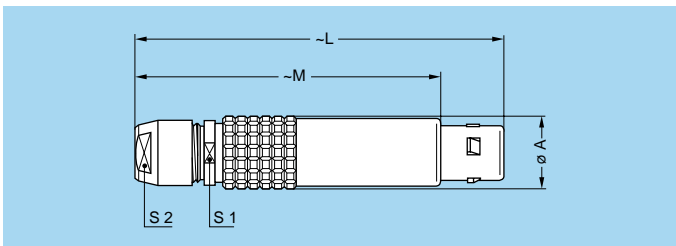
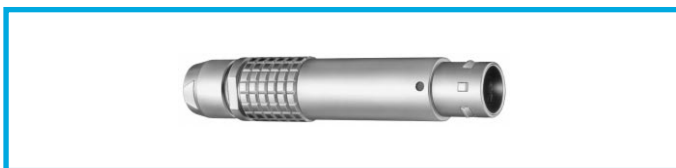
Note: Cable material: stainless steel with PVC sheath.
The outer shell of the FNG.0B model is similar to the FMG.0B model.



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

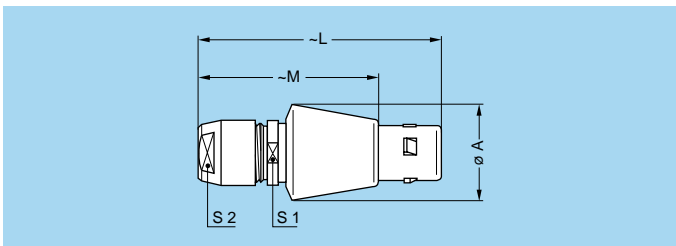
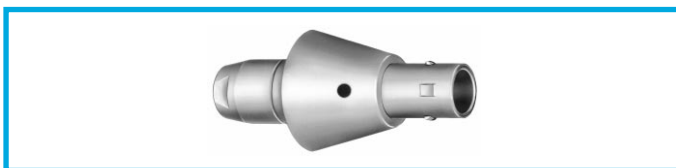
| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|------|------|----|----|
| Model | Series | A | L | M | S1 | S2 |
| FEG | 1B | 13.5 | 42.0 | 33.0 | 10 | 9 |
| FEG | 2B | 16.5 | 48.0 | 36.0 | 13 | 12 |
| FEG | 3B | 19.0 | 56.5 | 41.5 | 15 | 15 |

Note: The bend relief must be ordered separately (see page 175).



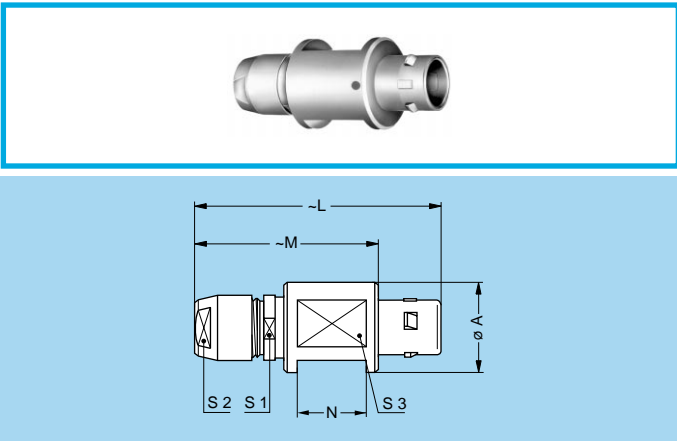
FDG Straight plug, long version, key (G) or keys (A...L), cable collet

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



FYG Straight plug, conical shell, key (G) or keys (A...M), cable collet

| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|----|----|----|----|
| Model | Series | A | L | M | S1 | S2 |
| FYG | 0B | 15.5 | 36 | 26 | 8 | 7 |



FZG Straight plug for remote handling, key (G) or keys (A...L and R), cable collet

| Reference | | Dimensions (mm) | | | | | | |
|-----------|--------|-----------------|-----|----|----|----|----|----|
| Model | Series | A | L | M | N | S1 | S2 | S3 |
| FZG | 2B | 20 | 49 | 37 | 15 | 13 | 12 | 15 |
| FZG | 3B | 22 | 58 | 43 | 18 | 15 | 14 | 18 |
| FZG | 4B | 30 | 75 | 57 | 25 | 21 | 20 | 25 |
| FZG | 5B | 40 | 103 | 78 | 35 | 31 | 30 | 35 |

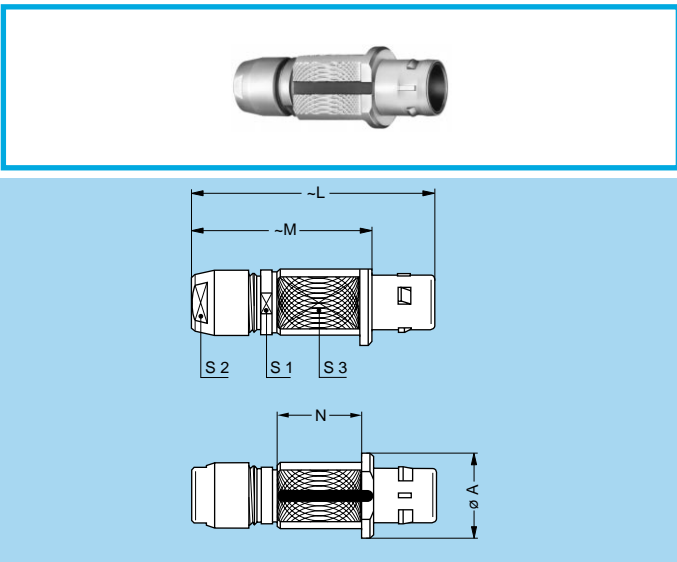
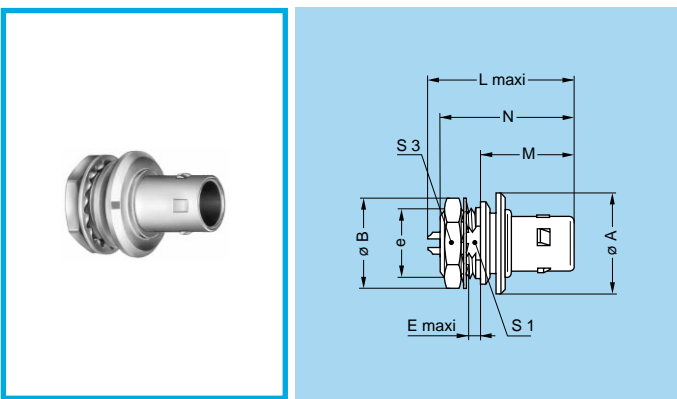


FIG Straight plug for remote handling, key (G) or keys (A...L and R), special alignment mark, knurled handling surface, cable collet

| Reference | | Dimensions (mm) | | | | | | |
|-----------|--------|-----------------|-----|----|------|----|----|----|
| Model | Series | A | L | M | N | S1 | S2 | S3 |
| FIG | 2B | 20 | 49 | 37 | 17.5 | 13 | 12 | 15 |
| FIG | 3B | 22 | 58 | 43 | 21.5 | 15 | 14 | 18 |
| FIG | 4B | 30 | 75 | 57 | 28.5 | 21 | 20 | 25 |
| FIG | 5B | 40 | 103 | 78 | 41.0 | 31 | 30 | 35 |

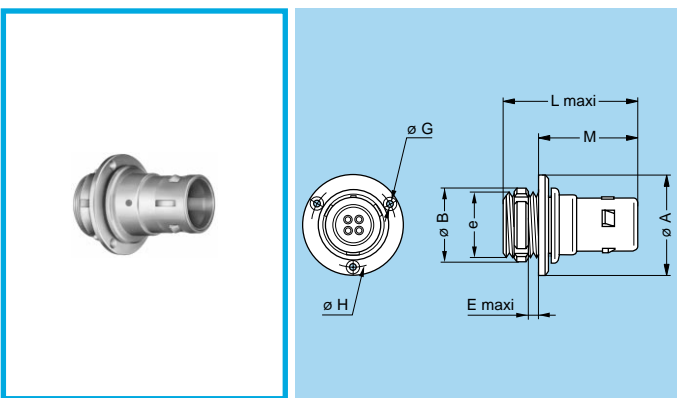


FWG Fixed plug, nut fixing, key (G) or keys (A...L)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|----|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| FWG | 1B | 18.0 | 16.0 | M12x1.0 | 3.0 | 24.9 | 17 | 24.8 | 10.5 | 14 |
| FWG | 2B | 19.5 | 19.5 | M15x1.0 | 5.2 | 28.6 | 18 | 27.3 | 13.5 | 17 |

Panel cut-out: **P9**

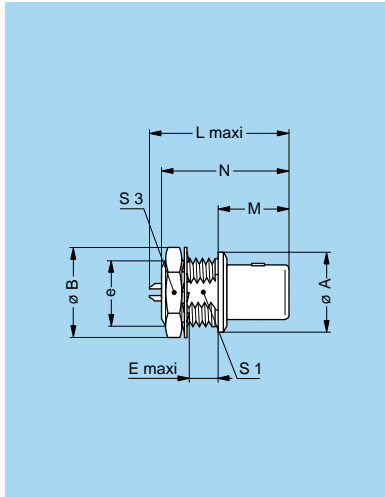
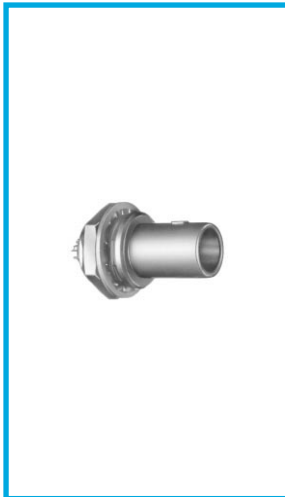
Note: 1) Maximum length with crimp contacts



FBG Fixed plug, nut fixing, round flange, key (G) or keys (A...L and R), screw fixing

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|----|---------|---|---|----|------|------|
| Model | Series | A | B | e | E | G | H | L | M |
| FBG | 5B | 54 | 40 | M35x1.0 | 9 | 3 | 47 | 61.5 | 44.5 |

Panel cut-out: **P8**

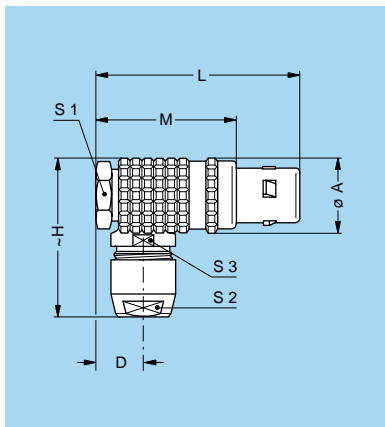
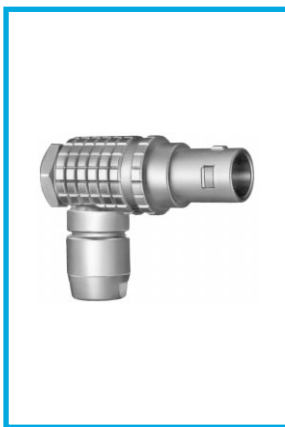


FAG Fixed plug, non-latching, nut fixing, key (G) or keys (A...M and R)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|------|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| FAG | 00 | 8 | 10.3 | M7x0.5 | 2.0 | 16.9 | 9.0 | 15.5 | 6.3 | 9 |
| FAG | 0B | 10 | 12.5 | M9x0.6 | 3.5 | 21.1 | 11.2 | 19.8 | 8.2 | 11 |
| FAG | 1B | 14 | 16.0 | M12x1.0 | 7.0 | 24.9 | 12.5 | 23.3 | 10.5 | 14 |
| FAG | 2B | 18 | 19.5 | M15x1.0 | 7.0 | 28.6 | 13.8 | 26.8 | 13.5 | 17 |
| FAG | 3B | 22 | 25.2 | M18x1.0 | 8.0 | 32.1 | 17.0 | 30.3 | 16.5 | 22 |
| FAG | 4B | 28 | 32.0 | M25x1.0 | 8.0 | 36.6 | 20.5 | 34.8 | 23.5 | 30 |
| FAG | 5B | 40 | 40.0 | M35x1.0 | 7.0 | 47.4 | 28.0 | 43.8 | 33.5 | — |

Note: ¹⁾ Maximum length with crimp contacts. The 5B series is delivered without locking washer or tapered washer and with a round nut.

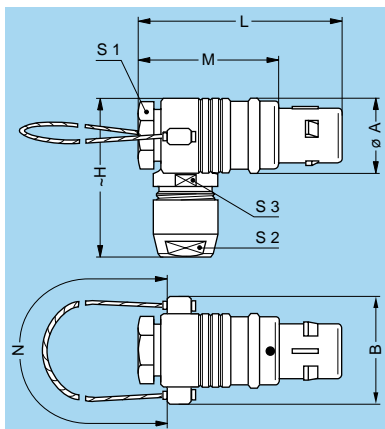
Panel cut-out: **P1**



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

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|------------------|-----------------|------|----|------|------|----|----|------|
| Model | Series | A | D | H | L | M | S1 | S2 | S3 |
| FHG | 00 ¹⁾ | 7.7 | 5.2 | 18 | 24.5 | 16.5 | 7 | 5 | 5.5 |
| FHG | 0B | 11.0 | 6.5 | 23 | 30.0 | 20.0 | 9 | 7 | 8.0 |
| FHG | 1B | 13.5 | 8.0 | 28 | 36.0 | 25.0 | 11 | 9 | 10.0 |
| FHG | 2B | 16.5 | 9.0 | 34 | 41.5 | 29.5 | 14 | 12 | 13.0 |
| FHG | 3B | 19.0 | 10.0 | 37 | 50.0 | 35.0 | 17 | 14 | 15.0 |
| FHG | 4B | 26.0 | 15.0 | 52 | 67.0 | 49.0 | 22 | 20 | 21.0 |
| FHG | 5B | 36.0 | 21.0 | 74 | 90.0 | 65.0 | 32 | 30 | 31.0 |

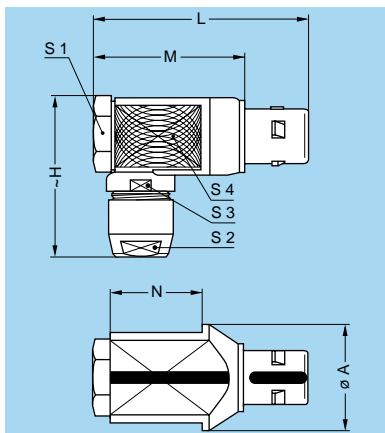
Note: ¹⁾ The surface design of the 00 series is different.



FMG Elbow (90°) plug, key (G) or keys (A...M), cable collet and lanyard release

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|----|------|------|-----|----|----|----|
| Model | Series | A | B | H | L | M | N | S1 | S2 | S3 |
| FMG | 0B | 11 | 17 | 26 | 31.6 | 21.6 | 140 | 10 | 7 | 8 |

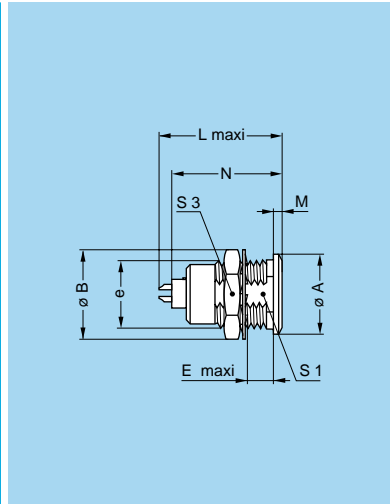
Note: Dimension D is the same as for the FHG model. Cable material: stainless steel with PVC sheath.



FKG Elbow (90°) plug for remote handling, key (G) or keys (A...L), special alignment mark, knurled handling surface, cable collet

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|----|----|------|----|----|----|----|
| Model | Series | A | H | L | M | N | S1 | S2 | S3 | S4 |
| FKG | 3B | 25 | 37 | 50 | 35 | 21.0 | 17 | 14 | 15 | 21 |
| FKG | 4B | 51 | 52 | 67 | 49 | 28.5 | 22 | 20 | 21 | 28 |

Note: Dimension D is the same as for the FHG model.

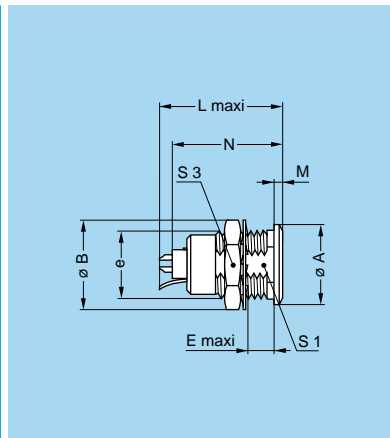


EGG Fixed receptacle, nut fixing, key (G) or keys (A...M and R)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| EGG | 00 | 8 | 10.3 | M7x0.5 | 5.5 | 15.5 | 1.0 | 13.7 | 6.3 | 9 |
| EGG | 0B | 10 | 12.5 | M9x0.6 | 7.0 | 20.7 | 1.2 | 19.1 | 8.2 | 11 |
| EGG | 1B | 14 | 16.0 | M12x1.0 | 7.5 | 23.0 | 1.5 | 21.1 | 10.5 | 14 |
| EGG | 2B | 18 | 19.5 | M15x1.0 | 8.5 | 26.7 | 1.8 | 24.6 | 13.5 | 17 |
| EGG | 3B | 22 | 25.0 | M18x1.0 | 11.5 | 30.7 | 2.0 | 28.1 | 16.5 | 22 |
| EGG | 4B | 28 | 32.0 | M25x1.0 | 12.0 | 35.7 | 2.5 | 32.6 | 23.5 | 30 |
| EGG | 5B | 40 | 40.0 | M35x1.0 | 11.0 | 43.5 | 3.0 | 39.6 | 33.5 | - |

Panel cut-out: **P1**

Note: 1) Maximum length with crimp contacts.
The 5B series is delivered with a tapered washer and a round nut.

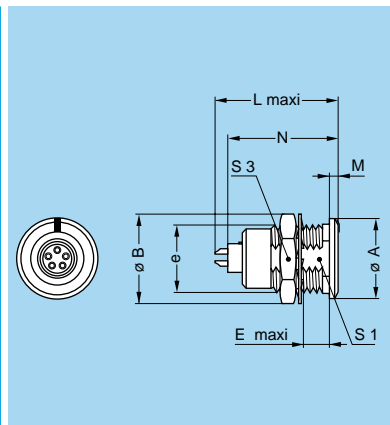


ENG Fixed receptacle with grounding tab, nut fixing, key (G) or keys (A...M)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|------------------|-----------------|------|---------|------|------|-----|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| ENG | 0B | 10 | 12.5 | M9x0.6 | 7.0 | 20.7 | 1.2 | 19.1 | 8.2 | 11 |
| ENG | 1B ²⁾ | 14 | 16.0 | M12x1.0 | 7.5 | 23.0 | 1.5 | 21.1 | 10.5 | 14 |
| ENG | 2B | 18 | 19.5 | M15x1.0 | 8.5 | 26.7 | 1.8 | 24.6 | 13.5 | 17 |
| ENG | 3B | 22 | 25.0 | M18x1.0 | 11.5 | 30.7 | 2.0 | 28.1 | 16.5 | 22 |
| ENG | 4B | 28 | 32.0 | M25x1.0 | 12.0 | 35.7 | 2.5 | 32.6 | 23.5 | 30 |

Panel cut-out: **P1**

Note: 1) Maximum length with crimp contacts.
2) For the 1B series the grounding tab is on the upper side.

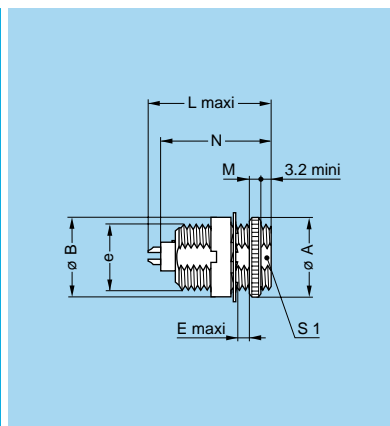


EKG Fixed receptacle, nut fixing, key (G) or keys (A...L and R), special alignment mark on the front

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| EKG | 2B | 18 | 19.5 | M15x1.0 | 8.5 | 26.7 | 1.8 | 24.6 | 13.5 | 17 |
| EKG | 3B | 22 | 25.0 | M18x1.0 | 11.5 | 30.7 | 2.0 | 28.1 | 16.5 | 22 |
| EKG | 4B | 28 | 32.0 | M25x1.0 | 12.0 | 35.7 | 2.5 | 32.6 | 23.5 | 30 |
| EKG | 5B | 40 | 40.0 | M35x1.0 | 11.0 | 43.5 | 3.0 | 39.6 | 33.5 | - |

Panel cut-out: **P1**

Note: 1) Maximum length with crimp contacts.
The 5B series is delivered with a tapered washer and a round nut.

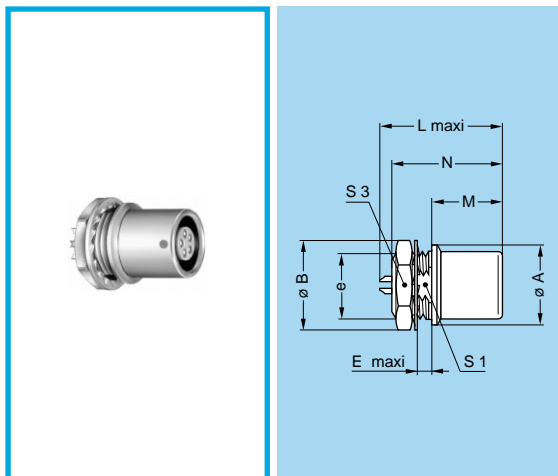


ESG Fixed receptacle with two round nuts, key (G) or keys (A...L), long threaded shell (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|------|---|-----------------|------|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 |
| ESG | 00 | 9.5 | 9 | M7x0.5 | 4.0 | 15.5 | 2 | 13.7 | - |
| ESG | 1B | 14.0 | 14 | M12x1.0 | 8.0 | 23.0 | 2 | 21.1 | 10.5 |

Panel cut-out: **P1** 1B series Panel cut-out: **P2** 00 series

Note: 1) Maximum length with crimp contacts.

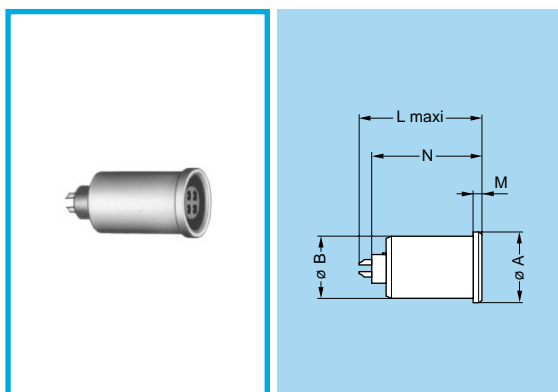


EHG Fixed receptacle, nut fixing, key (G) or keys (A...M and R), and protruding shell

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|------|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| EHG | 00 | 8.8 | 10.3 | M7x0.5 | 2.0 | 15.5 | 8.5 | 13.7 | 6.3 | 9 |
| EHG | 0B | 10.0 | 12.5 | M9x0.6 | 2.5 | 19.5 | 12.5 | 19.1 | 8.2 | 11 |
| EHG | 1B | 14.0 | 16.0 | M12x1.0 | 4.2 | 21.7 | 12.0 | 20.8 | 10.5 | 14 |
| EHG | 2B | 18.0 | 19.5 | M15x1.0 | 5.2 | 22.7 | 12.5 | 24.3 | 13.5 | 17 |
| EHG | 3B | 22.0 | 25.0 | M18x1.0 | 4.2 | 30.7 | 12.5 | 27.8 | 16.5 | 22 |
| EHG | 5B | 40.0 | 40.0 | M35x1.0 | 2.5 | 43.5 | 28.5 | 40.3 | 33.5 | — |

Panel cut-out: **P1**

Note: ¹⁾ Maximum length with crimp contacts.
The 5B series is delivered without locking washer or tapered washer and with a round nut.

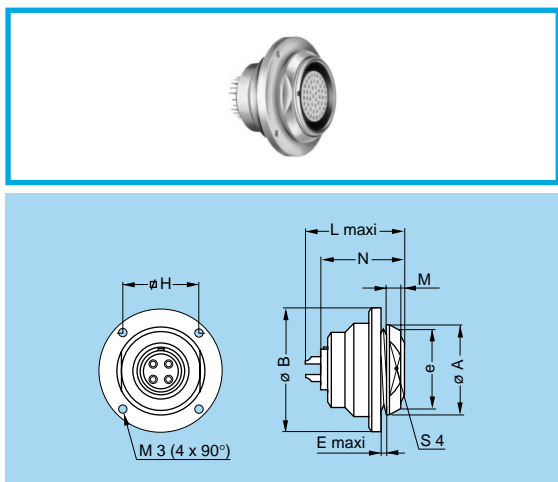


EJG Fixed receptacle, press or adhesive fit, key (G) or keys (A...M)

| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|-------|------|-----|-----------------|
| Model | Series | A | B | L | M | N ¹⁾ |
| EJG | 0B | 9.2 | 8.35 | 20.7 | 1.5 | 19.1 |
| EJG | 1B | 12.5 | 11.20 | 23.0 | 1.5 | 21.1 |
| EJG | 2B | 16.5 | 14.00 | 26.7 | 1.5 | 24.6 |

Panel cut-out: **P5**

Note: ¹⁾ Maximum length with crimp contacts.

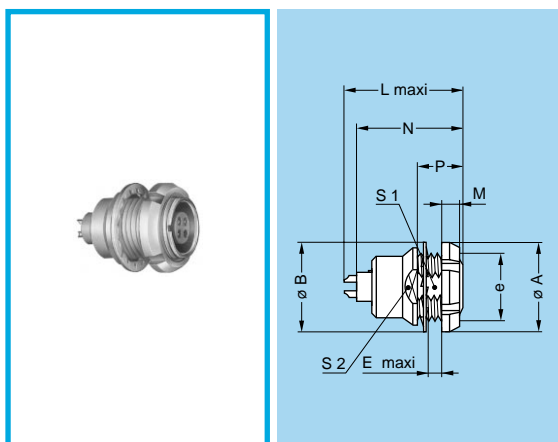


EBG Fixed receptacle, nut fixing, round flange, key (G) or keys (A...L and R), screw fixing (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|----|------|-----|-----------------|----|
| Model | Series | A | B | e | E | H | L | M | N ¹⁾ | S4 |
| EBG | 5B | 41 | 54 | M35x1.0 | 4.0 | 34 | 43.5 | 5.0 | 39.6 | 37 |

Panel cut-out: **P6**

Note: ¹⁾ Maximum length with crimp contacts.

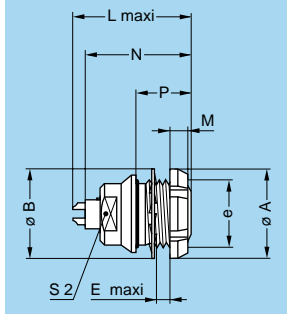


EEG Fixed receptacle, nut fixing, key (G) or keys (A...M and R) (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|-----------------|------|------|------|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | P | S1 | S2 |
| EEG | 00 | 10 | 9.5 | M7x0.5 | 2.3 | 15.5 | 2.5 | 13.7 | 6.0 | 6.3 | 7.5 |
| EEG | 0B | 12 | 12.5 | M9x0.6 | 2.4 | 20.7 | 2.5 | 19.1 | 6.3 | 8.2 | 9.0 |
| EEG | 1B | 16 | 16.0 | M12x1.0 | 6.0 | 23.0 | 3.5 | 21.1 | 11.0 | 10.5 | 13.0 |
| EEG | 2B | 20 | 20.0 | M15x1.0 | 3.0 | 26.7 | 3.5 | 24.6 | 9.0 | 13.5 | 15.0 |
| EEG | 3B | 24 | 25.0 | M18x1.0 | 5.0 | 30.7 | 4.5 | 28.1 | 12.0 | 16.5 | 20.0 |
| EEG | 5B | 41 | 40.0 | M35x1.0 | 13.5 | 43.5 | 5.0 | 39.6 | 19.5 | 33.5 | 38.0 |

Note: ¹⁾ Maximum length with crimp contacts.
The 3B and 5B series are delivered with a conical nut.
The 5B series is delivered without locking washer or tapered washer.

Panel cut-out: **P1**

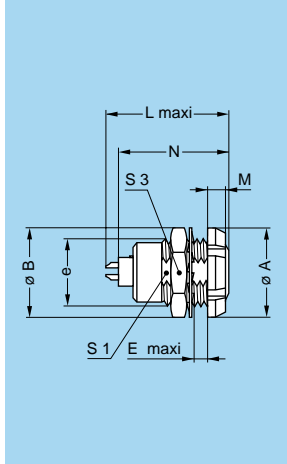


EFG Fixed receptacle, nut fixing, key (G) or keys (A...M), with two flats on the shell and O-ring (back panel mounting)

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

Panel cut-out: **P2**

Note: ¹⁾ Maximum length with crimp contacts.



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

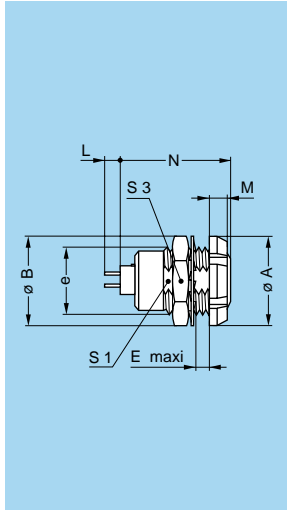
| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| ECG | 00 | 10 | 9.5 | M7x0.5 | 4.3 | 13.7 | 2.5 | 13.7 | 6.3 | 9 |
| ECG | 0B | 12 | 12.5 | M9x0.6 | 5.5 | 20.7 | 2.5 | 19.1 | 8.2 | 11 |
| ECG | 1B | 16 | 16.0 | M12x1.0 | 6.0 | 23.0 | 3.5 | 21.1 | 10.5 | 14 |
| ECG | 2B | 20 | 20.0 | M15x1.0 | 6.5 | 26.7 | 3.5 | 24.6 | 13.5 | 17 |
| ECG | 3B | 24 | 25.0 | M18x1.0 | 9.0 | 30.7 | 4.5 | 28.1 | 16.5 | 22 |
| ECG | 4B | 30 | 32.0 | M25x1.0 | 10.0 | 35.7 | 4.5 | 32.6 | 23.5 | 30 |
| ECG | 5B | 41 | 40.0 | M35x1.0 | 9.0 | 43.5 | 5.0 | 39.6 | 33.5 | — |

Note: ¹⁾ Maximum length with crimp contacts.

The 3B, 4B and 5B series are delivered with a conical nut.

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

Panel cut-out: **P1**



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

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|-----|------|------|----|--|
| Model | Series | A | B | e | E | M | N | S1 | S3 | |
| ECG | 00 | 10 | 9.5 | M7x0.5 | 4.3 | 2.5 | 13.7 | 6.3 | 9 | |
| ECG | 0B | 12 | 12.5 | M9x0.6 | 5.5 | 2.5 | 16.4 | 8.2 | 11 | |
| ECG | 1B | 16 | 16.0 | M12x1.0 | 6.0 | 3.5 | 19.8 | 10.5 | 14 | |
| ECG | 2B | 20 | 20.0 | M15x1.0 | 6.5 | 3.5 | 21.8 | 13.5 | 17 | |
| ECG | 3B | 24 | 25.0 | M18x1.0 | 9.0 | 4.5 | 25.8 | 16.5 | 22 | |
| ECG | 4B | 30 | 32.0 | M25x1.0 | 10.0 | 4.5 | 29.8 | 23.5 | 30 | |
| ECG | 5B | 41 | 40.0 | M35x1.0 | 9.0 | 5.0 | 36.8 | 33.5 | — | |

Panel cut-out:

P1

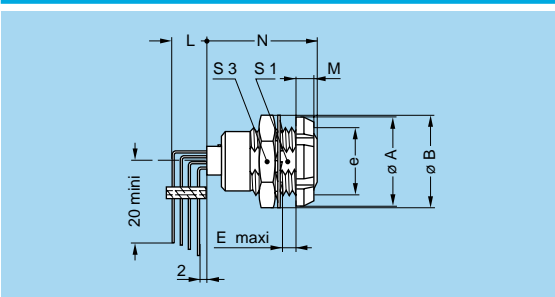
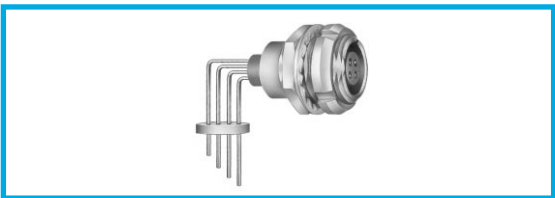
PCB drilling pattern:

P15

Note: This contact type is available for E● receptacle models fitted with female contacts. Length «L» depends on the number of contacts, see table on page 192.

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

The 3B, 4B and 5B series are delivered with a conical nut.



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

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|-----|------------------|------|----|--|
| Model | Series | A | B | e | E | M | N _{max} | S1 | S3 | |
| ECG | 0B | 12 | 12.5 | M9x0.6 | 2.4 | 2.5 | 18.3 | 8.2 | 11 | |
| ECG | 1B | 16 | 16.0 | M12x1.0 | 6.0 | 3.5 | 20.3 | 10.5 | 14 | |
| ECG | 2B | 20 | 20.0 | M15x1.0 | 6.5 | 3.5 | 22.3 | 13.5 | 17 | |
| ECG | 3B | 24 | 25.0 | M18x1.0 | 9.0 | 4.5 | 25.8 | 16.5 | 22 | |

Panel cut-out: **P1**

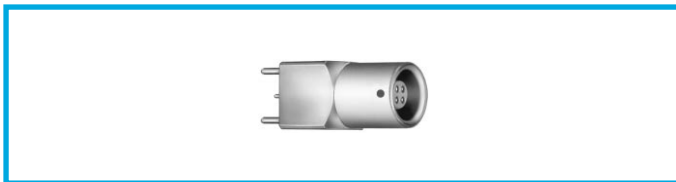
PCB drilling pattern: **P17**

Note: This female contact type is available for all back panel mounting receptacle models.

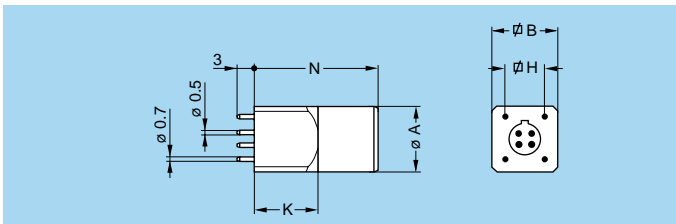
Length «L» depends on the number of contacts, see PCB drilling pattern on page 193.

For male contacts, receptacles are available upon request, with J, K or L keys.

The 3B series is delivered with a conical nut.



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

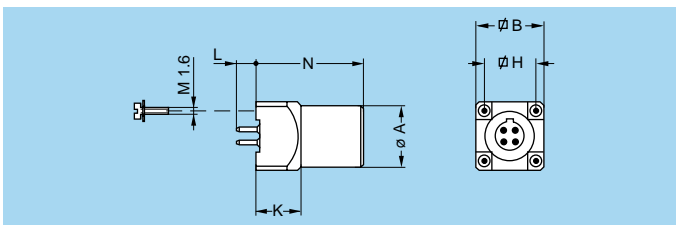


| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|---|------|---|----|
| Model | Series | A | B | H | K | N |
| EZG | 00 | 6.8 | 7 | 5.08 | 7 | 14 |

PCB drilling pattern: **P15** + **P16**



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



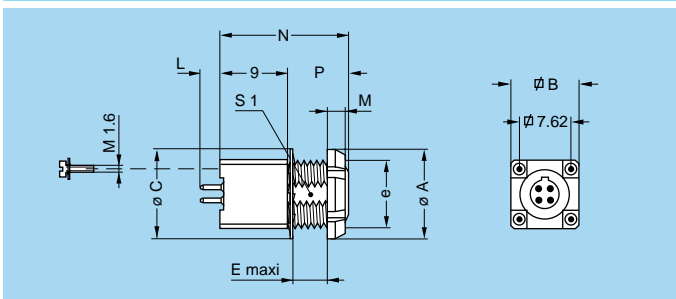
| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|----|-------|---|------|
| Model | Series | A | B | H | K | N |
| EZG | 0B | 9 | 10 | 7.62 | 8 | 15.0 |
| EZG | 1B | 11 | 12 | 7.62 | 8 | 19.0 |
| EZG | 2B | 14 | 15 | 10.16 | 9 | 22.5 |

PCB drilling pattern: **P15** + **P16**

Note:
Length «L» depends on the number of contacts; see table on page 192.



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

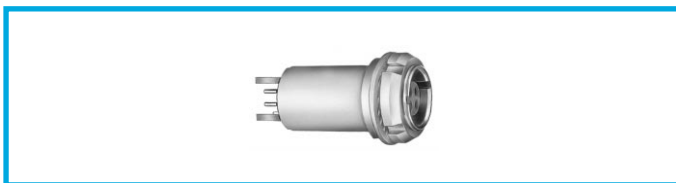


| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|------|---------|-----|-----|----|----|-----|
| Model | Series | A | B | C | e | E | M | N | P | S1 |
| EYG | 0B | 12 | 10 | 12.5 | M9x0.6 | 2.6 | 2.5 | 15 | 6 | 8.2 |
| EYG | 1B | 14 | 12 | 16.0 | M11x0.5 | 5.0 | 3.5 | 19 | 10 | - |

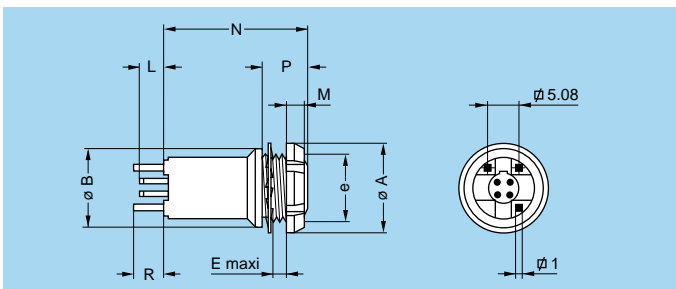
Panel cut-out: **P1** 0B series Panel cut-out: **P10** 1B series

PCB drilling pattern: **P15** + **P16**

Note:
Length «L» depends on the number of contacts; see table on page 192.



XPF Fixed receptacle, nut fixing, long shell, keys (F) for printed circuit (back panel mounting)



| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|----|--------|-----|-----|----|---|---|
| Model | Series | A | B | e | E | M | N | P | R |
| XPF | 0B | 12 | 11 | M9x0.6 | 1.5 | 2.5 | 19 | 5 | 4 |

Panel cut-out: **P2**

PCB drilling pattern: **P15** + **P16**

Note:
Length «L» depends on the number of contacts; see table on page 192.



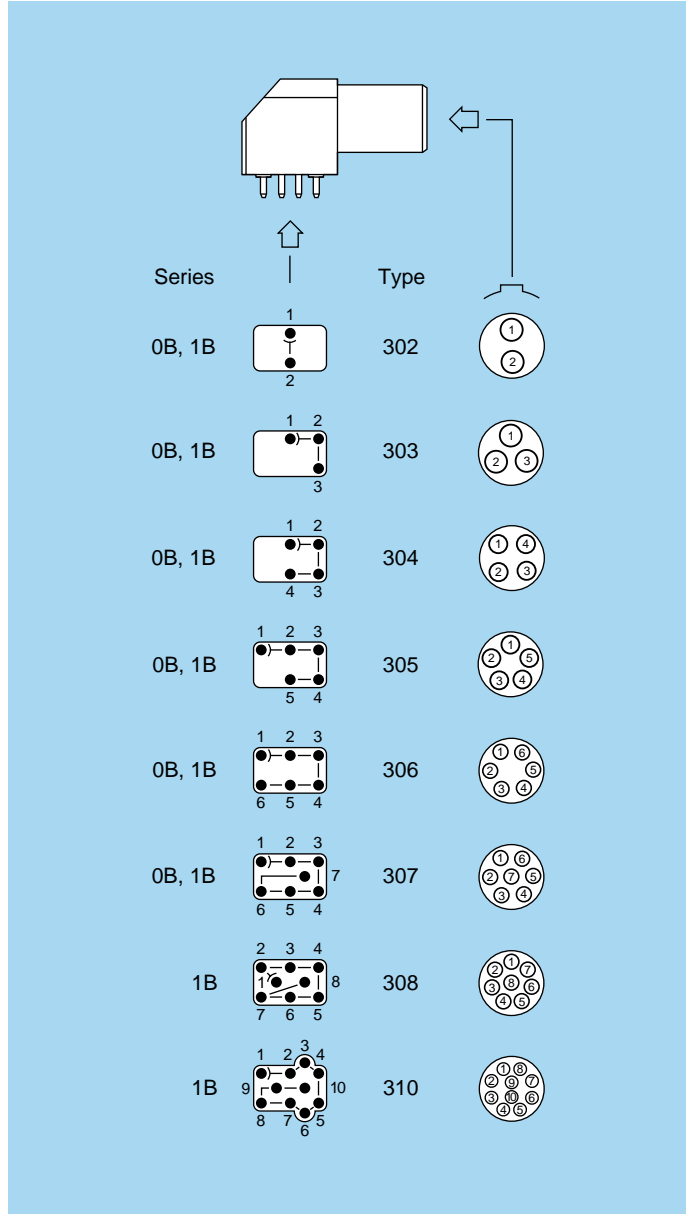
Elbow (90°) receptacles for printed circuit

These receptacle models are fixed onto the printed circuit either by soldering the four pins, or with four screws (M1.6) replacing the pins.

EXG receptacles are two nut fixing and are recommended in cases where a flexible printed circuit is used.

Technical Characteristics

Types



Materials and Treatment

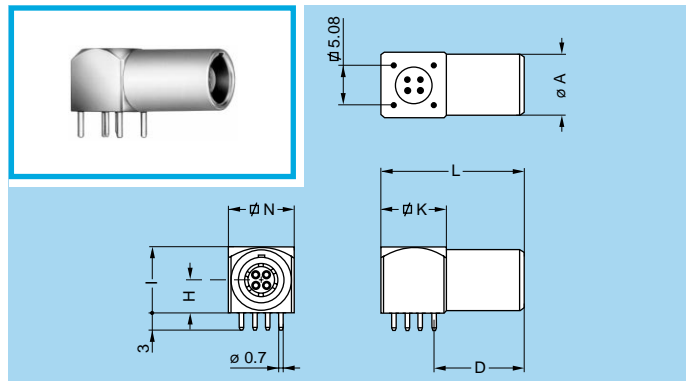
| Component | Material | Surface treat. (µm) | | |
|-----------------|----------|---------------------|----|-----|
| | | Cu | Ni | Au |
| Housing | PPS 1) | - | | |
| | Brass | 0.5 | 3 | - |
| Metallic parts | Brass | 0.5 | 3 | - |
| Grounding crown | Bronze | 0.5 | 3 | - |
| Insulator | PEEK | - | | |
| Female contact | Bronze | 0.5 | 3 | 1.5 |

Note: 1) Not used for all sizes.
The surface treatment standards are as follows:
Nickel: FS QQ-N-290A; Gold: ISO 4523.

Electrical

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

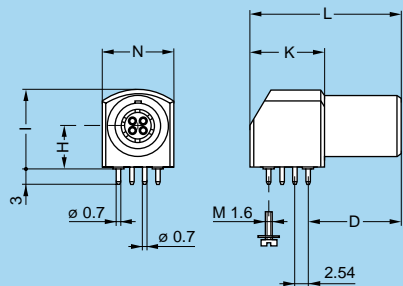
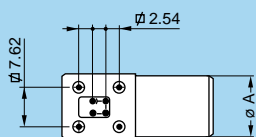
Note: 1) See calculation method, caution and suggested standard on page 204.



EPG Elbow (90°) receptacle for printed circuit, key (G) or keys (A, B)

| Reference | Dimensions (mm) | | | | | | |
|----------------|-----------------|----|-----|---|---|------|---|
| | A | D | H | I | K | L | N |
| EPG.00.302.NLN | 6.8 | 11 | 3.5 | 7 | 7 | 17.5 | 7 |
| EPG.00.303.NLN | | | | | | | |
| EPG.00.304.NLN | | | | | | | |

PCB drilling pattern: **P18**

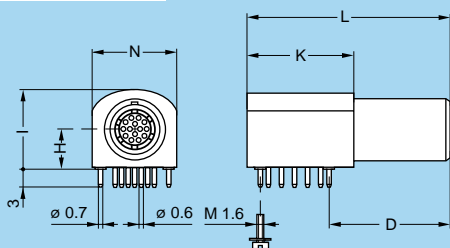
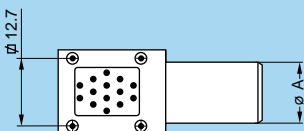


EPG Elbow (90°) receptacle for printed circuit, key (G) or keys (A...F) (solder or screw fixing)

| Reference | Dimensions (mm) | | | | | | |
|----------------|-----------------|------|-----|------|------|----|------|
| | A | D | H | I | K | L | N |
| EPG.0B.302.HLN | 9 | 14.5 | 6.9 | 12.7 | 13.2 | 25 | 11.6 |
| EPG.0B.303.HLN | | | | | | | |
| EPG.0B.304.HLN | | | | | | | |
| EPG.0B.305.HLN | | | | | | | |
| EPG.0B.306.HLN | | | | | | | |
| EPG.0B.307.HLN | | | | | | | |
| EPG.1B.302.HLN | | | | | | | |
| EPG.1B.303.HLN | | | | | | | |
| EPG.1B.304.HLN | | | | | | | |
| EPG.1B.305.HLN | | | | | | | |
| EPG.1B.306.HLN | | | | | | | |
| EPG.1B.307.HLN | | | | | | | |
| EPG.1B.308.HLN | | | | | | | |
| EPG.1B.310.HLN | | | | | | | |

PCB drilling pattern: **P19**

Note: To replace the four ground pins by four screws (M1.6) add an «S» to the end of the part number. (e.g.: EPG.0B.307.HLNS)

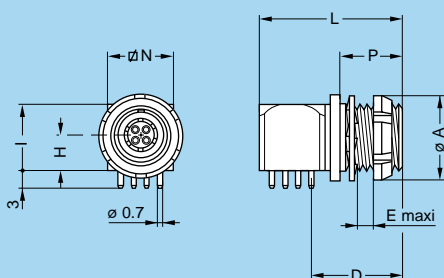
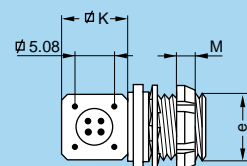
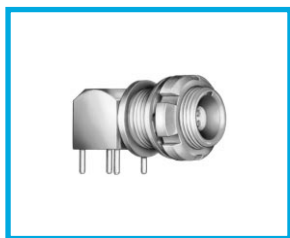


EPG Elbow (90°) receptacle for printed circuit, key (G) or keys (A...F) (solder or screw fixing)

| Reference | Dimensions (mm) | | | | | | |
|----------------|-----------------|----|-----|------|----|----|------|
| | A | D | H | I | K | L | N |
| EPG.1B.314.NLN | 11 | 21 | 7.7 | 14.3 | 19 | 36 | 15.4 |

PCB drilling pattern: **P20**

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

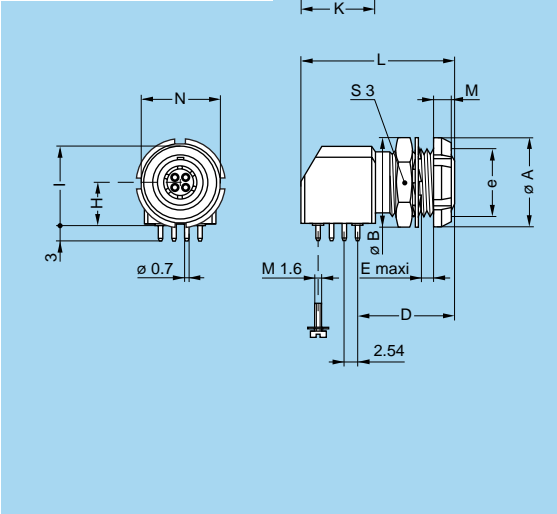
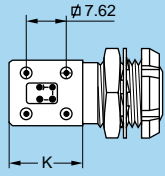
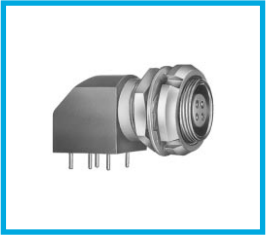


XBG Elbow (90°) receptacle fixing nut for printed circuit, key (G) or keys (A, B) (back panel mounting)

| Reference | Dimensions (mm) | | | | | | | | | | |
|----------------|-----------------|------|-------|-----|-----|---|---|------|-----|---|---|
| | A | D | e | E | H | I | K | L | M | N | P |
| XBG.00.302.NLN | 10 | 11.5 | 7x0.5 | 1.8 | 3.5 | 7 | 7 | 17.5 | 2.5 | 7 | 9 |
| XBG.00.303.NLN | | | | | | | | | | | |
| XBG.00.304.NLN | | | | | | | | | | | |

Panel cut-out: **P2**

PCB drilling pattern: **P18**



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

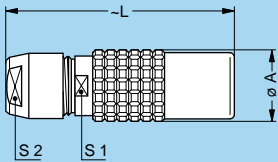
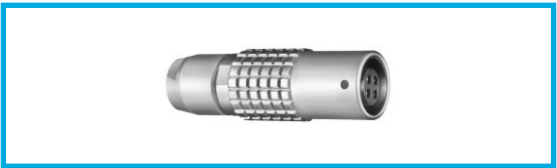
| Reference | Dimensions (mm) | | | | | | | | | | | |
|----------------|-----------------|------|------|---------|-----|-----|------|------|----|-----|------|----|
| | A | B | D | e | E | H | I | K | L | M | N | S3 |
| EXG.0B.302.HLN | | | | | | | | | | | | |
| EXG.0B.303.HLN | | | | | | | | | | | | |
| EXG.0B.304.HLN | 12 | 12.5 | 14.5 | M9x0.6 | 6.0 | 6.9 | 12.7 | 13.2 | 25 | 2.5 | 10.5 | 11 |
| EXG.0B.305.HLN | | | | | | | | | | | | |
| EXG.0B.306.HLN | | | | | | | | | | | | |
| EXG.0B.307.HLN | | | | | | | | | | | | |
| EXG.1B.302.HLN | | | | | | | | | | | | |
| EXG.1B.303.HLN | | | | | | | | | | | | |
| EXG.1B.304.HLN | 14 | 15.0 | 16.5 | M11x0.5 | 7.5 | 7.7 | 14.0 | 13.2 | 27 | 3.5 | 14.0 | 13 |
| EXG.1B.305.HLN | | | | | | | | | | | | |
| EXG.1B.306.HLN | | | | | | | | | | | | |
| EXG.1B.307.HLN | | | | | | | | | | | | |
| EXG.1B.308.HLN | | | | | | | | | | | | |
| EXG.1B.310.HLN | | | | | | | | | | | | |

Panel cut-out: **P2** 0B series

Panel cut-out: **P10** 1B series

PCB drilling pattern: **P19**

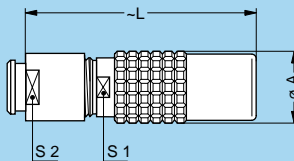
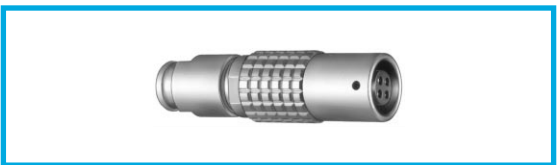
Note: To replace the four ground pins by four screws (M1.6) add an «S» to the end of the part number. (e.g.: EXG.0B.307.HLNS).



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

| Reference | | Dimensions (mm) | | | |
|-----------|------------------|-----------------|------|------|----|
| Model | Series | A | L | S1 | S2 |
| PHG | 00 ¹⁾ | 6.4 | 27.0 | 5.5 | 5 |
| PHG | 0B | 9.5 | 35.5 | 8.0 | 7 |
| PHG | 1B | 12.5 | 40.5 | 10.0 | 9 |
| PHG | 2B | 16.5 | 47.0 | 13.0 | 12 |
| PHG | 3B | 19.0 | 56.0 | 15.0 | 14 |
| PHG | 4B | 24.4 | 73.0 | 21.0 | 20 |
| PHG | 5B | 34.2 | 99.0 | 31.0 | 30 |

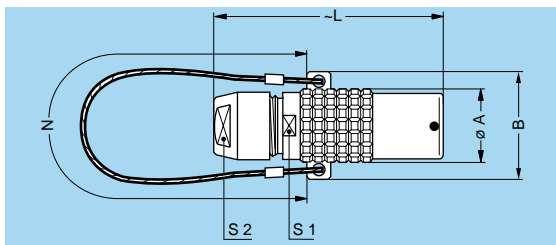
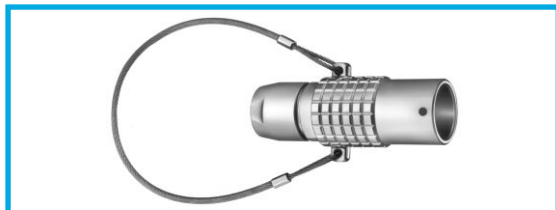
Note: 1) The surface design of the 00 series is different.



PHG Free receptacle, key (G) or keys (A...M), cable collet and nut for fitting a bend relief

| Reference | | Dimensions (mm) | | | |
|-----------|------------------|-----------------|------|------|----|
| Model | Series | A | L | S1 | S2 |
| PHG | 00 ¹⁾ | 6.4 | 26.0 | 5.5 | 5 |
| PHG | 0B | 9.5 | 34.5 | 8.0 | 7 |
| PHG | 1B | 12.5 | 39.5 | 10.0 | 9 |
| PHG | 2B | 16.5 | 46.0 | 13.0 | 12 |
| PHG | 3B | 19.0 | 54.5 | 15.0 | 15 |
| PHG | 4B | 24.4 | 69.0 | 21.0 | 20 |

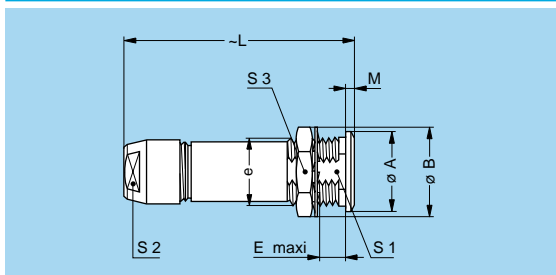
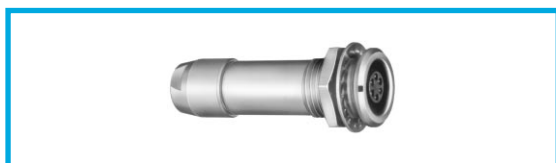
Note: 1) The surface design of the 00 series is different. The bend relief must be ordered separately (see page 175).



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

| Reference | | Dimensions (mm) | | | | | |
|-----------|--------|-----------------|------|------|-----|----|----|
| Model | Series | A | B | L | N | S1 | S2 |
| PNG | 1B | 12.5 | 20.0 | 40.5 | 140 | 10 | 9 |
| PNG | 2B | 16.5 | 24.2 | 47.0 | 160 | 13 | 12 |
| PNG | 3B | 19.0 | 26.6 | 56.0 | 190 | 15 | 14 |
| PNG | 4B | 26.0 | 36.2 | 73.0 | 230 | 21 | 20 |
| PNG | 5B | 36.0 | 48.0 | 99.0 | 300 | 31 | 30 |

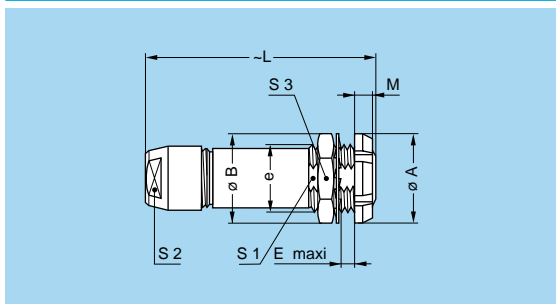
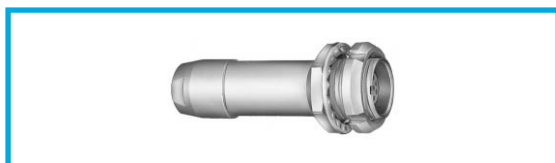
Note: Cable material: stainless steel with PVC sheath.



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

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|----|
| Model | Series | A | B | e | E | L | M | S1 | S2 | S3 |
| PKG | 00 | 8 | 10.3 | M7x0.5 | 6.5 | 27.0 | 1.0 | 6.3 | 5 | 9 |
| PKG | 0B | 10 | 12.5 | M9x0.6 | 7.0 | 35.5 | 1.2 | 8.2 | 7 | 11 |
| PKG | 1B | 14 | 16.0 | M12x1.0 | 7.5 | 40.5 | 1.5 | 10.5 | 9 | 14 |
| PKG | 2B | 18 | 19.5 | M15x1.0 | 8.5 | 47.0 | 1.8 | 13.5 | 12 | 17 |
| PKG | 3B | 22 | 25.0 | M18x1.0 | 11.5 | 56.0 | 2.0 | 16.5 | 14 | 22 |
| PKG | 4B | 28 | 32.0 | M25x1.0 | 12.0 | 73.0 | 2.5 | 23.5 | 20 | 30 |
| PKG | 5B | 40 | 40.0 | M35x1.0 | 11.0 | 99.0 | 3.0 | 33.5 | 30 | - |

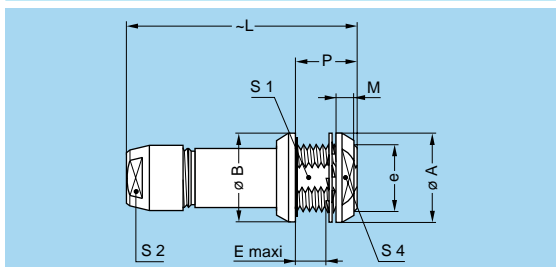
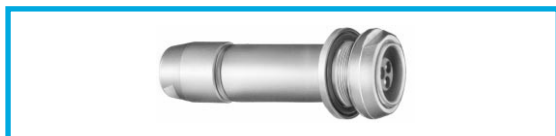
Note: The 5B series is delivered with a tapered washer and a round nut. Panel cut-out: **P1**



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

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|----|
| Model | Series | A | B | e | E | L | M | S1 | S2 | S3 |
| PFG | 00 | 8 | 10.3 | M7x0.5 | 5.3 | 27.0 | 2.5 | 6.3 | 5 | 9 |
| PFG | 0B | 12 | 12.5 | M9x0.6 | 5.0 | 35.5 | 2.5 | 8.2 | 7 | 11 |
| PFG | 1B | 16 | 16.0 | M12x1.0 | 5.0 | 40.5 | 3.5 | 10.5 | 9 | 14 |
| PFG | 2B | 20 | 20.0 | M15x1.0 | 6.5 | 47.0 | 3.5 | 13.5 | 12 | 17 |
| PFG | 3B | 24 | 25.0 | M18x1.0 | 9.0 | 56.0 | 4.5 | 16.5 | 14 | 22 |
| PFG | 4B | 30 | 32.0 | M25x1.0 | 11.0 | 73.0 | 4.5 | 23.5 | 20 | 30 |
| PFG | 5B | 41 | 40.0 | M35x1.0 | 10.0 | 99.0 | 5.0 | 33.5 | 30 | - |

Note: The 3B, 4B and 5B series are delivered with a conical nut. The 5B series is delivered with a tapered washer and a round nut. Panel cut-out: **P1**



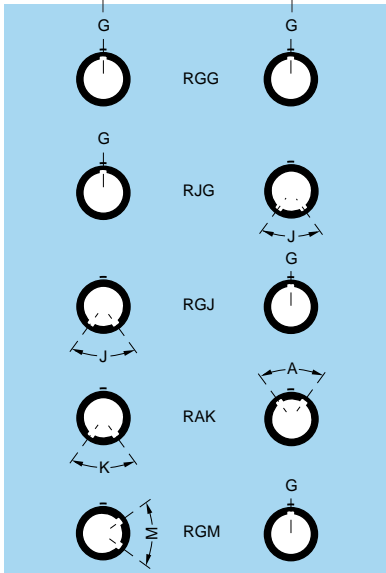
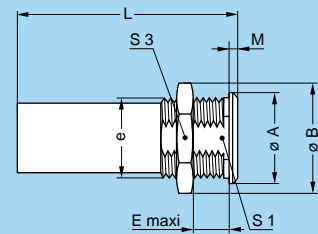
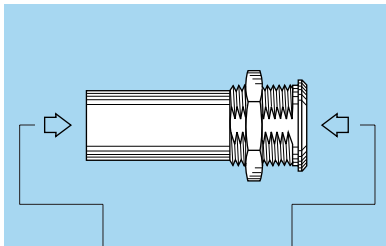
PEG Fixed receptacle, nut fixing, key (G) or keys (A...L), cable collet (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | | |
|-----------|--------|-----------------|----|---------|------|----|-----|------|----|----|----|
| Model | Series | A | B | e | E | L | M | S1 | S2 | S4 | P |
| PEG | 3B | 24 | 22 | M18x1.0 | 5.0 | 56 | 4.5 | 16.5 | 14 | 20 | 12 |
| PEG | 4B | 32 | 34 | M25x1.0 | 12.5 | 73 | 5.0 | 23.5 | 20 | 27 | 20 |

Panel cut-out: **P1**

Note: The 4B series has an o-ring on the flange.

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



| Reference | | Contacts Type | Dimensions (mm) | | | | | | | |
|-------------------|--------|------------------|-----------------|------|----------|------|----|-----|------|----|
| Model | Series | | A | B | e | E | L | M | S1 | S3 |
| RGG ¹⁾ | 0B | female – female | 12 | 13.8 | M10x0.75 | 8.0 | 34 | 2.0 | 9.0 | 12 |
| RGG ²⁾ | 0B | female – female | 12 | 13.8 | M10x0.75 | 8.0 | 43 | 2.0 | 9.0 | 12 |
| RJG | 0B | male – female | 12 | 13.8 | M10x0.75 | 8.0 | 34 | 2.0 | 9.0 | 12 |
| RGJ | | female – male | | | | | | | | |
| RAK | | female – male | | | | | | | | |
| RGM | | female – male | | | | | | | | |
| RGG ²⁾ | 1B | female – female | 16 | 19.5 | M14x1.00 | 8.5 | 47 | 2.5 | 12.5 | 17 |
| RJG | 1B | male – female | 16 | 19.5 | M14x1.00 | 8.5 | 39 | 2.5 | 12.5 | 17 |
| RGJ | | female – male | | | | | | | | |
| RJG | 2B | male – female | 20 | 21.8 | M16x1.00 | 12.0 | 44 | 4.0 | 15.0 | 19 |
| RGJ | | female – male | | | | | | | | |
| RGJ | 3B | female – male | 25 | 27.5 | M20x1.00 | 32.0 | 53 | 4.0 | 18.5 | 24 |
| RGJ | 4B | female – male | 34 | 32.0 | M25x1.00 | 50.0 | 65 | 4.0 | 23.5 | 30 |

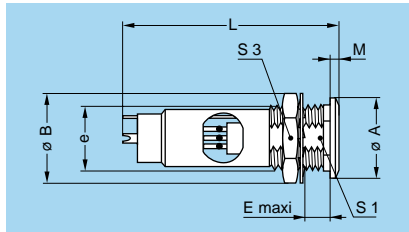
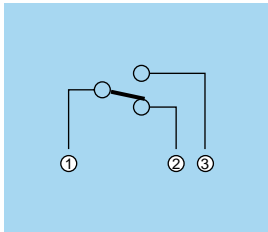
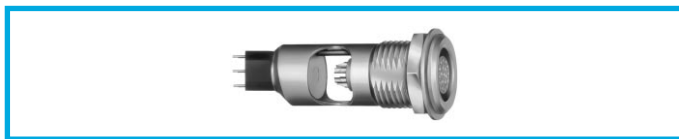
Panel cut-out:

P4

Note: ¹⁾ Only available with two contacts. ²⁾ Only available with three contacts.
For this fixed coupler, the first contact type mentioned is always the one at the flange end. On request, these couplers can be produced in other series, with other keys.

Models with microswitch

Some receptacles are available fitted with a microswitch. The microswitch is independent from the electrical contacts of the receptacle. The introduction of a plug into the receptacle activates the microswitch.

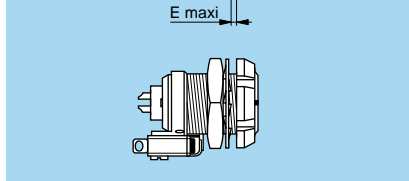
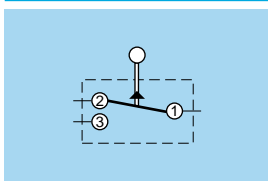
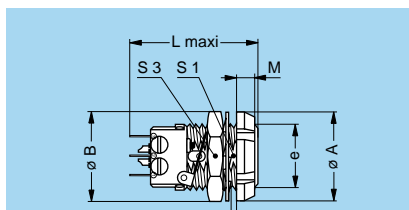


EMG Fixed receptacle, nut fixing, microswitch, key (G) or keys (A...L)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|----|-----|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| EMG | 0B | 10 | 12.5 | M9x0.6 | 5.5 | 35 | 1.2 | 8.2 | 11 |
| EMG | 1B | 14 | 16.0 | M12x1.0 | 7.0 | 38 | 1.5 | 10.5 | 14 |

Panel cut-out: **P1**

Note: Only available with 2 or 3 contacts (type 302, 303) in 0B series.
Only available with 3 or 6 contacts (type 303, 306) in 1B series.
For the microswitch: maximum operating voltage: 270 Veff/Vdc;
rated current: 8.5A/0.5A.



EMG Fixed receptacle, with two nuts, microswitch, key (G) or keys (A...L)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|-----|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| EMG | 2B | 20 | 19.5 | M15x1.0 | 2.2 | 26.7 | 3.5 | 13.5 | 17 |

Panel cut-out: **P1**

Note: For the microswitch: maximum operating voltage: 250 Veff/Vdc;
rated current: 7A/0.25A.

Bridge plug



The LEMO audio-video connector system consists of two receptacles, with or without microswitch, a bridge plug with or without output monitoring and a plug with or without bend relief. This system is already widely used in telecommunication equipment and in radio and television broadcasting centers.

The connectors of this system are fully compatible with all other connector models of the same series and type. However, when designing systems, it should be considered that the distance between the assembled nut-fixing models should correspond to that between the outputs of the bridge plug. In order to provide the user with a coding system, the bridge plug housing, the double panel washers and the bend reliefs are available in nine colors.

Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | Standard |
|---------------------|----------------|---------------------|
| Endurance | > 1000 cycles | IEC 60512-5 test 9a |
| Working temperature | maximum 194° F | |

Materials and Treatment

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

Note: The surface treatment standards are as follows:

- Nickel: FS QQ-N-290A
- Chrome: FS QQ-C-320B
- Gold: ISO 4523

Electrical

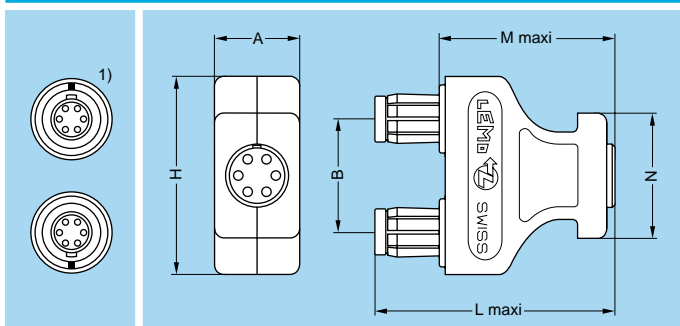
| Characteristics | Value | Standard |
|--------------------|--------|---------------------|
| Contact resistance | < 6 mΩ | IEC 60512-2 test 2a |

| Characteristics | Series | Audio-Mono | Audio-Stereo | Test voltage (kV rms) ¹⁾²⁾ | Rated current (A) |
|-----------------|--------|------------|--------------|---------------------------------------|-------------------|
| CFF.0B.302.PLCG | 0B | ● | - | 1.05 | 4 |
| CRG.0B.302.PLEG | 0B | ● | - | 1.05 | 4 |
| CFF.0B.303.PLCG | 0B | ● | - | 0.80 | 4 |
| CRG.0B.303.PLEG | 0B | ● | - | 0.80 | 4 |
| CRG.0B.306.PLEG | 0B | - | ● | 0.40 | 2 |
| CFF.1B.303.PLCG | 1B | ● | - | 1.25 | 5 |
| CRG.1B.303.PLEG | 1B | ● | - | 1.25 | 5 |
| CFF.1B.306.PLCG | 1B | - | ● | 0.80 | 3 |
| CRG.1B.306.PLEG | 1B | - | ● | 0.80 | 3 |

Note: The last letter of the part number indicates the color of the housing. Ex. G (standard) is grey. To obtain another color, replace this letter by the letter corresponding to the selected color (see table on page 66).

1) See calculation method, caution and suggested standard on page 204.

2) Lowest measured value; contact to contact or contact to shell.



CFF Bridge plug with two non-latching plugs

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

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

Note:

1) Receptacles are to be mounted with the keys mounted on the opposite side.

Plugs with parallel receptacles



These plug models have been designed to divide one or more signals originating from the same source to two different points. They are used in various fields of application, particularly in audio signal transmission.



FTG Straight plug, key (G) and two parallel receptacles

| Reference |
|-----------------|
| FTG.0B.302.PLFG |
| FTG.0B.303.PLFG |
| FTG.0B.304.PLFG |

Technical Characteristics

Electrical

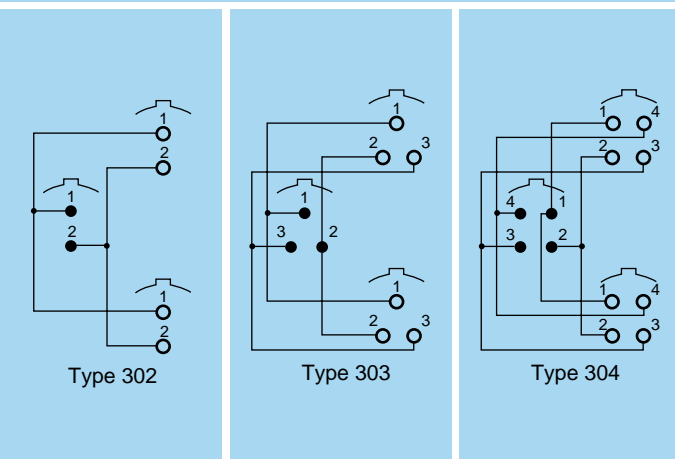
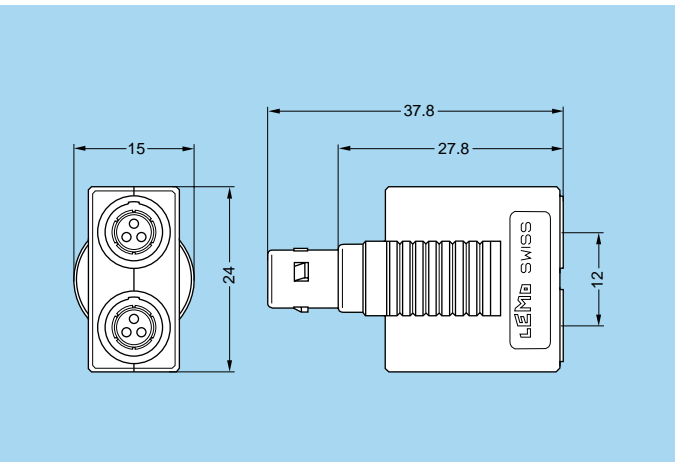
| Model | Number of contacts | Test voltage (kV rms) ¹⁾²⁾ | Nominal current (A) |
|-----------------|--------------------|---------------------------------------|---------------------|
| FTG.0B.302.PLFG | 2 | 1.05 | 4 |
| FTG.0B.303.PLFG | 3 | 0.80 | 4 |
| FTG.0B.304.PLFG | 4 | 0.80 | 3 |

Materials and Treatment

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

Note:
 1) See calculation method, caution and suggested standard on page 204.

2) Lowest measured value; contact to contact or contact to shell.
 The surface treatment standards are as follows:
 - Nickel: FS QQ-N-290A
 - Chrome: FS QQ-C-320B
 - Gold: ISO 4523



Plastic housing models

FGG, FGY, ENG and ENY plug and receptacle models are available with the outer shell and collet nut made with various insulating materials.

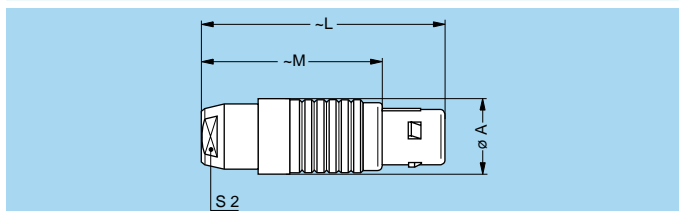
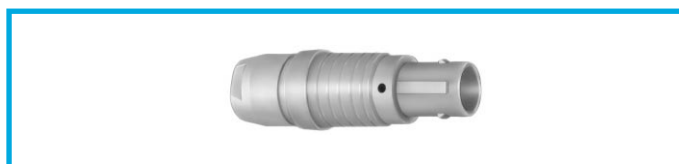
These connectors are particularly recommended for all applications requiring maximum electrical insulation when mated. The design, including a latch sleeve and a metal grounding crown, guarantees EMC screening efficiency to meet most require-

Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | | | Standard |
|--|---------------------|----------------|----------------|---------------------|
| | PEEK | PSU | PPSU | |
| Color | natural (beige) | white or grey | cream | – |
| Endurance | > 5000 cycles | > 5000 cycles | > 5000 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | | | – |
| Temperature range | -58° F/+482° F | -58° F/+302° F | -58° F/+356° F | – |
| Sterilization resistance ¹⁾ | > 200 cycles | ~20 cycles | > 100 cycles | IEC 60601-1 § 44.7 |
| Resistance to solvents | very good | limited | good | – |

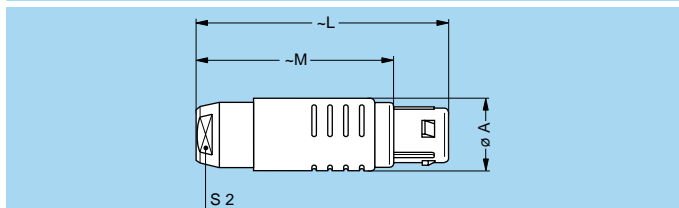
Note: ¹⁾ Steam sterilization



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

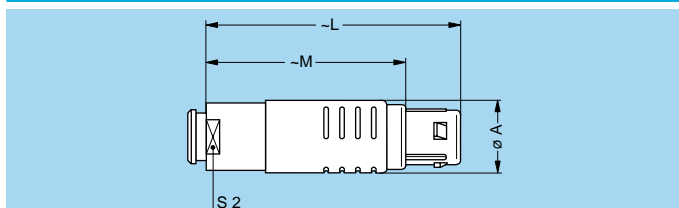
| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|----|
| Model | Series | A | L | M | S2 |
| FGG | 1B | 13.5 | 43.0 | 32.0 | 10 |
| FGG | 3B | 19.0 | 62.0 | 47.0 | 15 |
| FGG | 4B | 26.0 | 78.5 | 60.5 | 20 |

Note: Model also available with a nut for fitting a bend relief.



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

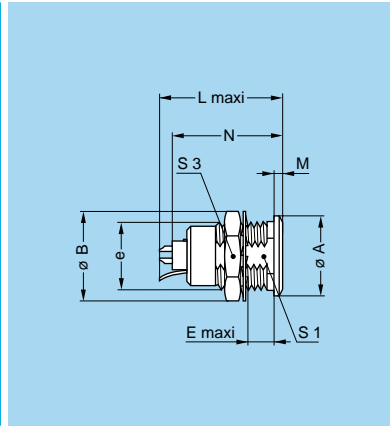
| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|----|
| Model | Series | A | L | M | S2 |
| FGY | 2B | 16.5 | 50.5 | 39.5 | 13 |
| FGY | 3B | 19.0 | 58.0 | 43.0 | 15 |



FGY Straight plug, keys (Y), cable collet and PSU or PPSU outer shell and nut for fitting a bend relief

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|----|
| Model | Series | A | L | M | S2 |
| FGY | 2B | 16.5 | 49.5 | 38.5 | 13 |
| FGY | 3B | 19.0 | 56.5 | 41.5 | 15 |

Note: The bend relief must be ordered separately (see page 175).

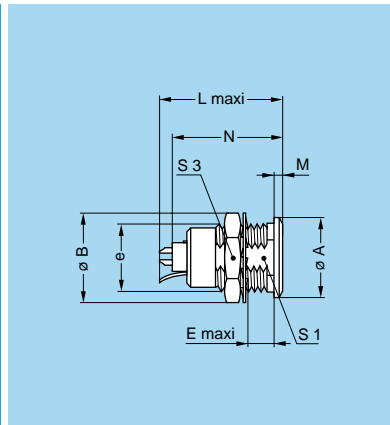


ENG Fixed receptacle with grounding tab, nut fixing, key (G or J), PEEK outer shell

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| ENG | 1B | 14 | 16.0 | M12x1.0 | 7.5 | 23.0 | 1.5 | 21.1 | 10.5 | 14 |
| ENG | 3B | 22 | 25.0 | M18x1.0 | 11.5 | 30.7 | 2.0 | 28.1 | 16.5 | 22 |
| ENG | 4B | 28 | 32.0 | M25x1.0 | 12.0 | 35.7 | 2.5 | 32.6 | 23.5 | 30 |

Panel cut-out: **P1**

Note: ¹⁾ Maximum length with crimp contacts.



ENY Fixed receptacle with grounding tab, nut fixing, keys (Y), PSU or PPSU outer shell

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| ENY | 2B | 18 | 19.5 | M15x1.0 | 8.5 | 26.7 | 1.8 | 24.6 | 13.5 | 17 |
| ENY | 3B | 22 | 25.0 | M18x1.0 | 11.5 | 30.7 | 2.0 | 28.1 | 16.5 | 22 |

Panel cut-out: **P1**

Note: ¹⁾ Maximum length with crimp contacts.

Note: Other models with plastic outer shell are available on request.

Watertight or vacuum-tight models

YHG, HGG, HCG, HNG, HHG, HMG and S●● plug, receptacle or coupler models allow the device on which they are fitted to reach a protection index of IP68 as per IEC 60529. They are fully compatible with plugs of the same series and are widely used for portable radios, military, laboratory equipment, aviation, etc.

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

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

Epoxy resin is used to seal these models.

Please refer to page 8 to locate the chapter on selecting watertight connectors.

Part number example:
 Watertight receptacle – HGG.1B.306.CLLP
 Vacuum-tight receptacle – HGG.1B.306.CLLPV

Technical Characteristics

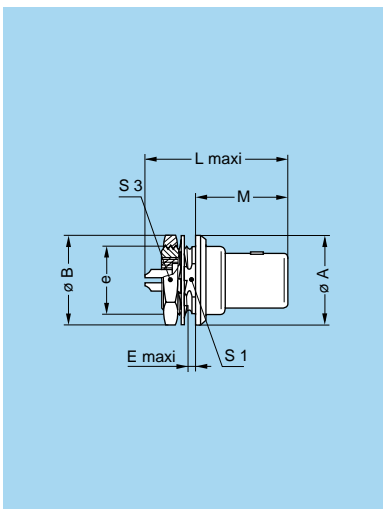
Mechanical and Climatic

| Charateristics | Value | Standard |
|--|---|----------------------|
| Endurance | > 5000 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | |
| Temperature range | -4° F/+176° F | |
| Salt spray corrosion test | > 144h | IEC 60512-6 test 11f |
| Protection index (mated) | IP 68 | IEC 60529 |
| Climatic category | 20/80/21 | IEC 60068-1 |
| Leakage rate (He) ¹⁾ | < 10 ⁻⁶ mbar.l.s ⁻¹ | IEC 60512-7 test 14b |
| Maximum operating pressure ²⁾ | 00 | 60 bars |
| | 0B | 60 bars |
| | 1B | 60 bars |
| | 2B | 40 bars |
| | 3B | 30 bars |
| | 4B | 15 bars |
| 5B | 5 bars | IEC 60512-7 test 14d |

Note:

¹⁾ Only for vacuum-tight models.

²⁾ This value corresponds to the maximum allowed pressure difference for the assembled receptacle.

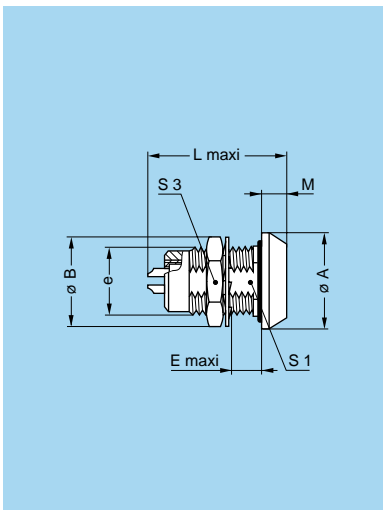


YHG Fixed plug, nut fixing, non-latching, key (G) or keys (A...M)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|------|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| YHG | 0B | 14.0 | 12.5 | M9x0.6 | 2.5 | 21.2 | 14.6 | 8.2 | 11 |
| YHG | 1B | 16.0 | 16.0 | M12x1.0 | 4.5 | 25.0 | 16.4 | 10.2 | 14 |
| YHG | 2B | 19.5 | 19.5 | M15x1.0 | 4.0 | 31.5 | 18.2 | 13.5 | 17 |
| YHG | 3B | 22.0 | 25.2 | M18x1.0 | 5.0 | 34.0 | 22.4 | 16.5 | 22 |

Panel cut-out: **P9**

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

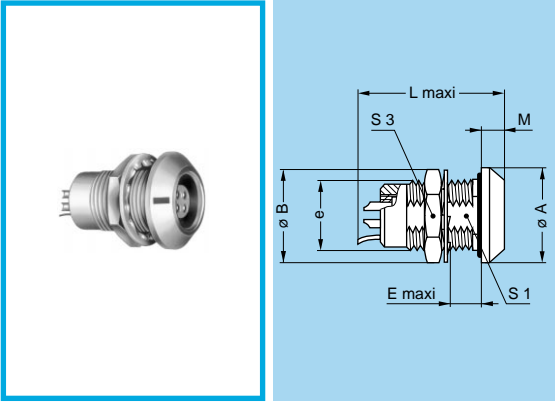


HGG Fixed receptacle, nut fixing, key (G) or keys (A...M and R), watertight or vacuum-tight

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| HGG | 00 | 11 | 10.3 | M7x0.5 | 8.0 | 18.3 | 1.5 | – | 9 |
| HGG | 0B | 13 | 12.5 | M9x0.6 | 7.0 | 20.7 | 3.0 | 8.2 | 11 |
| HGG | 1B | 18 | 16.0 | M12x1.0 | 7.0 | 26.0 | 4.5 | 10.5 | 14 |
| HGG | 2B | 20 | 19.5 | M15x1.0 | 8.0 | 29.7 | 4.0 | 13.5 | 17 |
| HGG | 3B | 25 | 25.0 | M18x1.0 | 11.5 | 36.2 | 4.0 | 16.5 | 22 |
| HGG | 4B | 34 | 32.0 | M25x1.0 | 11.0 | 44.7 | 4.0 | 23.5 | 30 |
| HGG | 5B | 45 | 40.0 | M35x1.0 | 11.0 | 51.7 | 5.0 | 33.5 | – |

Panel cut-out: **P9**

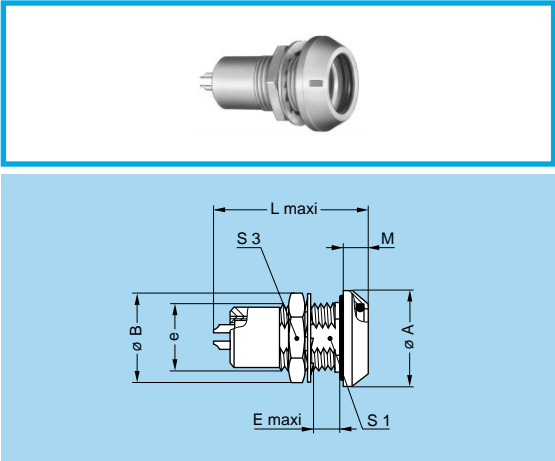
Note: The 5B series is delivered with a tapered washer and a round nut.



HNG Fixed receptacle, nut fixing, with grounding tab, key (G) or keys (A...M), watertight or vacuum-tight

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|--------|---|------|---|-----|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| HNG | 0B | 13 | 12.5 | M9x0.6 | 7 | 20.7 | 3 | 8.2 | 11 |

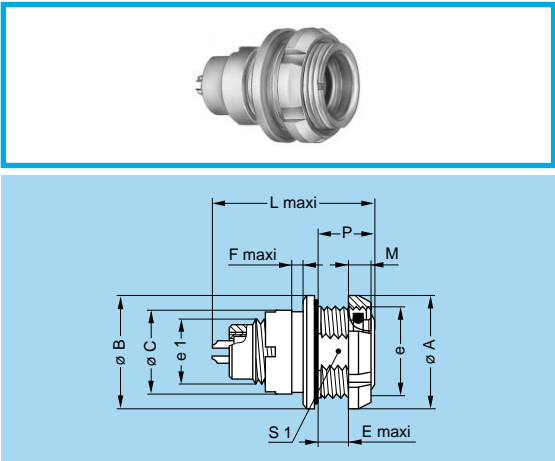
Panel cut-out: **P9**



HHG Fixed receptacle, nut fixing, key (G) or keys (A...M), watertight or vacuum-tight (watertight when mated)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| HHG | 0B | 13 | 12.5 | M9x0.6 | 7.0 | 23.7 | 4.8 | 8.2 | 11 |
| HHG | 1B | 18 | 16.0 | M12x1.0 | 7.0 | 29.7 | 5.2 | 10.5 | 14 |
| HHG | 2B | 22 | 19.5 | M15x1.0 | 8.0 | 33.7 | 6.0 | 13.5 | 17 |
| HHG | 3B | 25 | 25.2 | M18x1.0 | 11.5 | 41.4 | 7.2 | 16.5 | 22 |

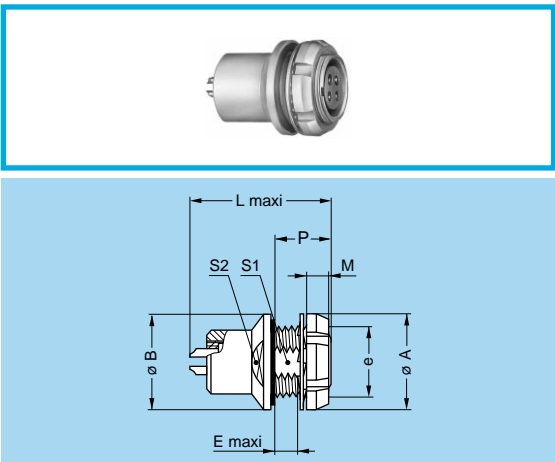
Panel cut-out: **P9**



HCG Fixed receptacle, nut fixing, key (G) or keys (A...M), watertight or vacuum-tight (watertight when mated) (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | | | |
|-----------|--------|-----------------|----|------|---------|---------|-----|-----|------|-----|------|------|
| Model | Series | A | B | C | e | e1 | E | F | L | M | P | S1 |
| HCG | 0B | 18 | 18 | 12.0 | M14x1.0 | M9x0.6 | 3.9 | 1.0 | 23.7 | 3.5 | 7.5 | 12.5 |
| HCG | 1B | 20 | 20 | 14.5 | M16x1.0 | M12x1.0 | 6.2 | 2.0 | 29.7 | 3.5 | 10.0 | 14.5 |
| HCG | 2B | 24 | 24 | 17.5 | M19x1.0 | M14x1.0 | 6.7 | 1.5 | 33.7 | 3.5 | 11.3 | 17.0 |

Panel cut-out: **P3**



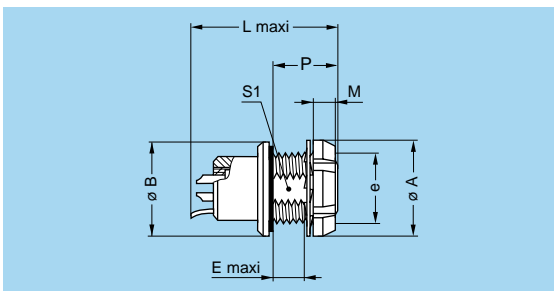
HEG Fixed receptacle, nut fixing, key (G) or keys (A...M), watertight or vacuum-tight (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|------|-----|-----|------|----|
| Model | Series | A | B | e | E | L | M | P | S1 | S2 |
| HEG | 2B | 20 | 20 | M15x1.0 | 5.4 | 33.7 | 3.5 | 9.6 | 13.5 | 15 |

Panel cut-out: **P9**



HMG Fixed receptacle with grounding tab, nut fixing, key (G) or keys (A...M), watertight or vacuum-tight (back panel mounting)

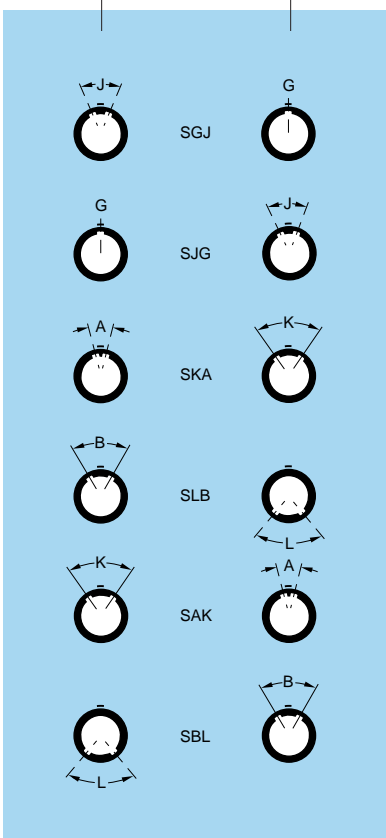
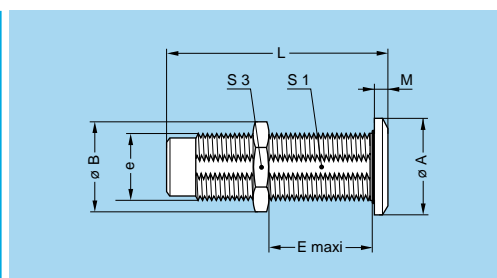
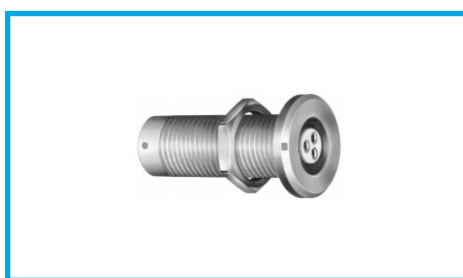
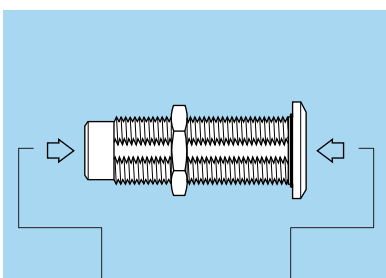


| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|------|-----|------|------|
| Model | Series | A | B | e | E | L | M | P | S1 |
| HMG | 0B | 12 | 13 | M9x0.6 | 4.7 | 20.7 | 2.5 | 9.0 | 8.2 |
| HMG | 1B | 16 | 18 | M12x1.0 | 5.5 | 26.0 | 3.5 | 11.0 | 10.5 |
| HMG | 3B | 24 | 25 | M18x1.0 | 7.5 | 36.2 | 4.5 | 13.6 | 16.5 |

Panel cut-out: **P9**

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

Fixed coupler, nut fixing, key (G) or keys (A, B, J, K and L) at the flange end and key (G) or keys (A, B, J, K and L) at the other end, watertight or vacuum-tight



| Reference | | Contacts | Dimensions (mm) | | | | | | | |
|-----------|--------|---------------|-----------------|------|----------|----|----|-----|------|----|
| Model | Series | Type | A | B | e | E | L | M | S1 | S3 |
| SGJ | 0B | female – male | 14 | 13.8 | M10x0.75 | 17 | 34 | 2.0 | 9.0 | 12 |
| SJG | | male – female | | | | | | | | |
| SGJ | 1B | female – male | 17 | 16.0 | M12x1.00 | 28 | 39 | 2.5 | 10.5 | 14 |
| SJG | | male – female | | | | | | | | |
| SGJ | 2B | female – male | 20 | 21.8 | M16x1.00 | 25 | 44 | 4.0 | 15.0 | 19 |
| SJG | | male – female | | | | | | | | |
| SGJ | 3B | female – male | 25 | 27.1 | M20x1.00 | 30 | 53 | 4.0 | 18.5 | 24 |
| SJG | | male – female | | | | | | | | |
| SAK | | female – male | | | | | | | | |
| SBL | | female – male | | | | | | | | |
| SAK | 4B | female – male | 34 | 32.0 | M25x1.00 | 50 | 65 | 4.0 | 23.5 | 30 |
| SBL | | female – male | | | | | | | | |
| SJG | | male – female | | | | | | | | |
| SGJ | 5B | female – male | 45 | 40.0 | M35x1.00 | 58 | 80 | 5.0 | 33.5 | – |
| SJG | | male – female | | | | | | | | |
| SKA | | male – female | | | | | | | | |
| SLB | | male – female | | | | | | | | |
| SAK | | female – male | | | | | | | | |
| SBL | | female – male | | | | | | | | |

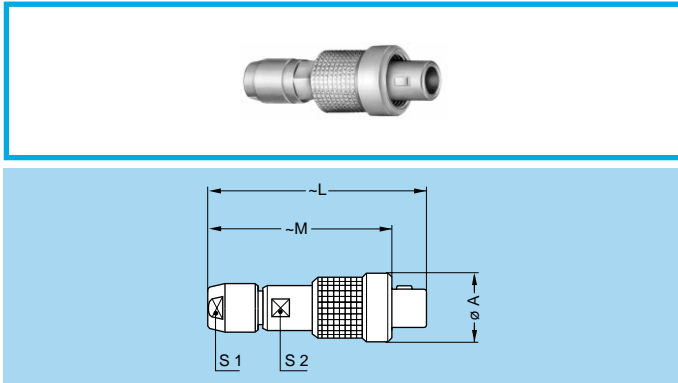
Panel cut-out: **P4**

Panel cut-out: **P9** 1B series

Note: For this fixed coupler, the first contact type mentioned is always the one at the flange end. On request these couplers can be produced in other series, with other keys. The 5B series is delivered with a round nut.

Threaded-fixing models

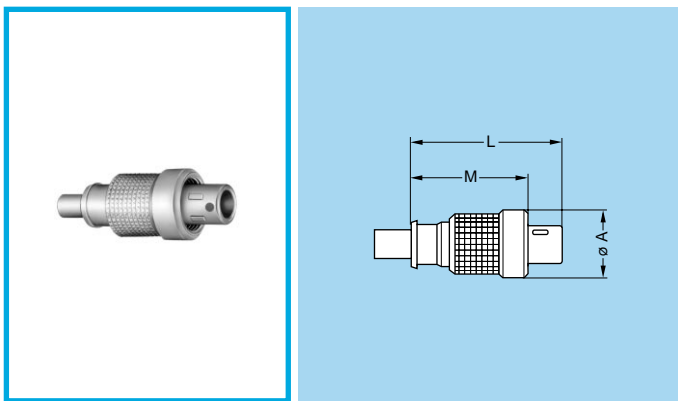
The 00 multicontact series includes two threaded-fixing plug models. These plugs can be mated with receptacles with a threaded front end (XRB or ESG). Plugs include an O-ring, guaranteeing an IP64 protection index when mated.



FVG Straight plug, key (G) or keys (A, B), cable collet, threaded-fixing

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

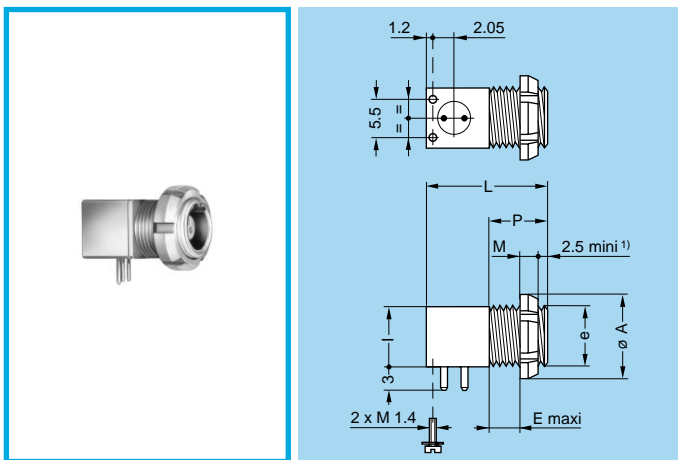
Note: To be ordered with nut for fitting a bend relief to obtain the rating IP 64.



FVB Straight plug, keys (B), threaded-fixing for special cable crimping

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

Note: After assembly the special bend relief GMF.00.018.D● (to be ordered separately) is to be fitted.

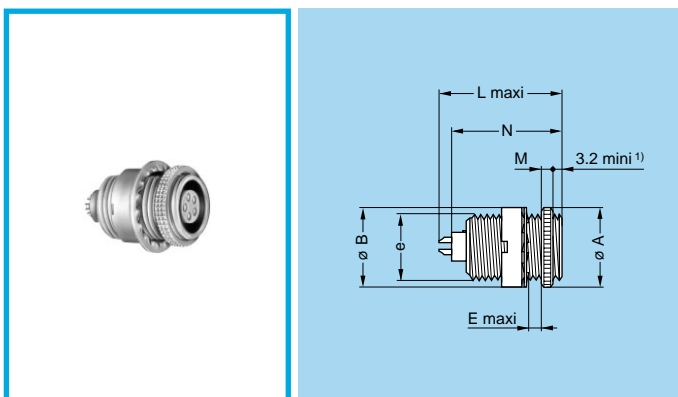


XRB Elbow (90°) receptacle fixing nut for printed circuit, keys (B), short shell, threaded-fixing (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | |
|-----------|--------|-----------------|--------|-----|---|----|-----|---|
| Model | Series | A | e | E | I | L | M | P |
| XRB | 00 | 10 | M7x0.5 | 1.8 | 7 | 14 | 2.5 | 7 |

Panel cut-out: **P2** PCB drilling pattern: **P18** for contact only

Note: 1) Minimum length of free thread to ensure mating.



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

| Reference | | Dimensions (mm) | | | | | | |
|-----------|--------|-----------------|---|--------|-----|------|---|------|
| Model | Series | A | B | e | E | L | M | N |
| ESG | 00 | 9.5 | 9 | M7x0.5 | 4.2 | 15.5 | 2 | 13.7 |

Panel cut-out: **P2**

Note: 1) Minimum length of free thread to ensure mating.

K Series

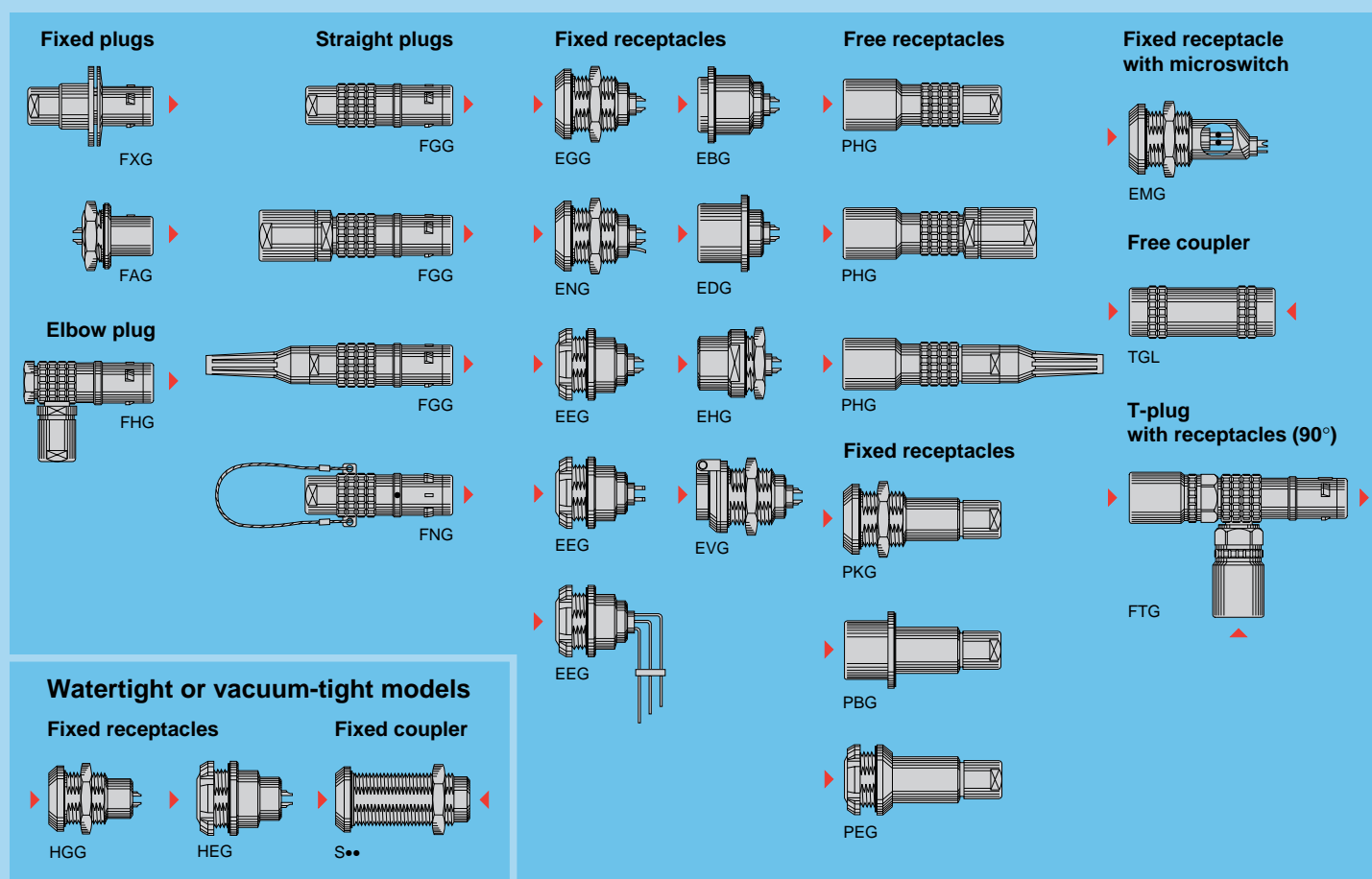
K series connectors have been specifically designed for outdoor applications.

They include an inner sleeve and two seals to prevent penetration of solids or liquids into the housing formed by the plug, free socket, fixed socket or coupler. All models of this series are watertight when mated to give a protection index of IP68 as per IEC 60529 standard (in mated condition) when correctly assembled to an appropriate cable (IP66 otherwise).

K series connectors have the same insulators as the B series and have the following main features:

- security of the Push-Pull latching system
- watertight connection (IP 68/IP 66)
- multicontact types 2 to 64 contacts
- solder, crimp or printed circuit (straight or elbow) contacts
- keying system («G» key standard) for connector alignment
- multiple key options to avoid cross mating of similar connectors
- high packing density for space savings
- 360° screening for full EMC shielding
- rugged housing for extreme working conditions.

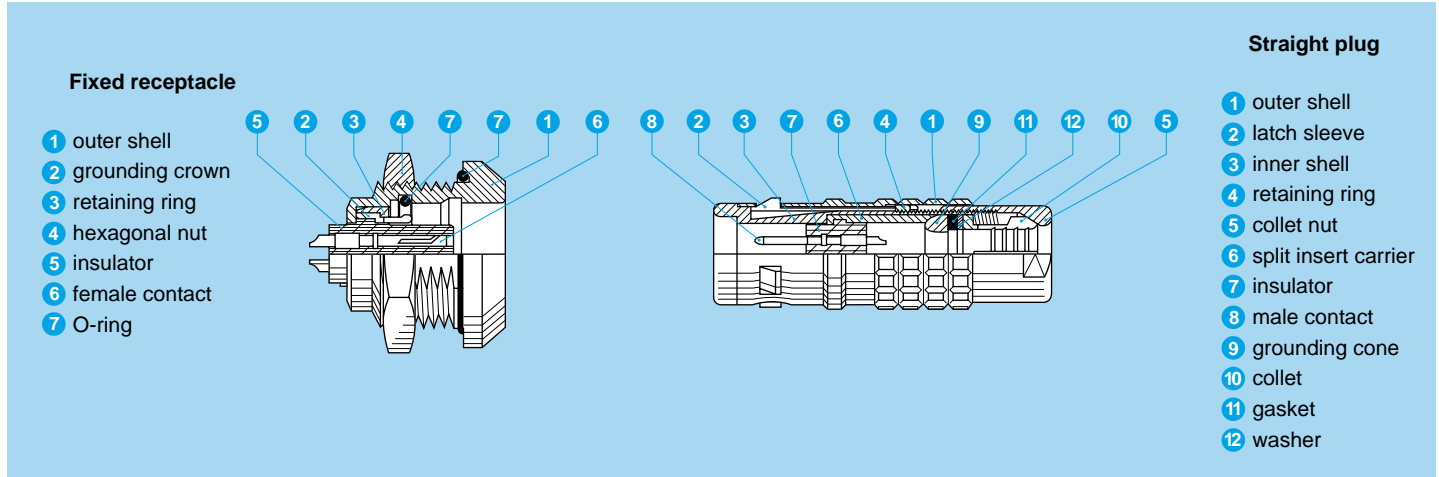
Interconnections



Model Description

| | | |
|---|---|--|
| EBG Fixed receptacle with square flange, key (G) or keys (A to F, L and R), screw fixing | EVG Fixed receptacle, nut fixing, key (G) or keys (A to F and L) and dust cap (spring loaded) | HGG Fixed receptacle, nut fixing, key (G) or keys (A to F and L), watertight or vacuum-tight |
| EDG Fixed receptacle with square flange, key (G) or keys (A to F, L and R), protruding shell and grounding tab, screw fixing | FAG Fixed plug, nut fixing, non-latching, key (G) or keys (A to F, L and R) | PBG Fixed receptacle, key (G) with square flange, cable collet, screw fixing |
| EEG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R), (back panel mounting) | FGG Straight plug, key (G) or keys (A to F, L and R), cable collet | PEG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R), cable collet (back panel mounting) |
| EEG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R) with straight printed circuit contacts for printed circuit (back panel mounting) | FGG Straight plug, key (G) or keys (A to F, L and R), cable collet and oversize cable collet | PHG Free receptacle, key (G) or keys (A to F, L and R), cable collet |
| EEG Fixed receptacle, nut fixing, key (G) or keys (A to F and R) with elbow (90°) contacts for printed circuit (back panel mounting) | FHG Elbow (90°) plug, key (G) or keys (A to F, L and R), cable collet | PHG Free receptacle, key (G) or keys (A to F, L and R), cable collet and oversize cable collet |
| EGG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R) | FNG Straight plug, key (G) or keys (A to F and L), cable collet and lanyard release | PHG Free receptacle, key (G) or keys (A to F, L and R), cable collet and nut for fitting a bend relief |
| EHG Fixed receptacle, nut fixing, key (G) or keys (A to F and L), protruding shell | FTG T-plug, key (G) with receptacles (90°), key (G) | PKG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R), cable collet |
| EMG Fixed receptacle, nut fixing, with micro-switch, key (G) or keys (A to F and L) | FXG Fixed plug with round flange, key (G) or keys (A to F, L and R), screw fixing | S•• Fixed coupler, nut fixing, key (G) or keys (L) at the flange end, and key (G) or keys (C or L) at the other end, watertight or vacuum-tight |
| ENG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R) and grounding tab | HEG Fixed receptacle, nut fixing, key (G) or keys (A to F and L), watertight or vacuum-tight (back panel mounting) | TGL Free coupler, key (G) on one side and keys (L) on the other |

Part Section Showing Internal Components



Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | Standard |
|-----------------------------------|---------------------|----------------------|
| Endurance | > 5000 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | |
| Temperature range ¹⁾²⁾ | -58° F, +392° F | |
| Resistance to vibrations | 10-2000 Hz, 15 g | IEC 60512-4 test 6d |
| Shock resistance | 100 g, 6 ms | IEC 60512-4 test 6c |
| Salt spray corrosion test | > 144h | IEC 60512-6 test 11f |
| Protection index (mated) | IP 68/IP 66 | IEC 60529 |
| Climatic category ¹⁾ | 50/175/21 | IEC 60068-1 |

Electrical

| Characteristics | Value | Standard |
|----------------------|-----------|----------|
| Shielding efficiency | at 10 MHz | > 95 dB |
| | at 1 GHz | > 80 dB |

Note:

The various tests have been carried out with FGG and EGG connector pairs, with chrome-plated brass shell, PEEK insulator and silicone O-ring. Detailed electrical characteristics, as well as materials and treatment are presented in the chapter Technical Characteristics on page 197.

¹⁾ For watertight or vacuum-tight models see page 52.

²⁾ Minimum operating temperature is -4°F for receptacles fitted with an FPM (Viton) O-ring.

Available Models (series and types)

| Model | Multicontact | | | | | |
|-------------------|--------------|----|----|----|----|----|
| | 0K | 1K | 2K | 3K | 4K | 5K |
| EBG | | | | ● | ● | ● |
| EDG | | | | ● | | |
| EEG | ● | ● | ● | ● | ● | |
| EEG ⁴⁾ | ● | ● | ● | ● | | |
| EGG | ● | ● | ● | ● | ● | ● |
| EHG | | ● | ● | | | |
| EMG | | | ● | | | |
| ENG | | | | ● | | |
| EVG | ● | | | | | |

| Model | Multicontact | | | | | |
|-------------------|--------------|----|----|----|----|----|
| | 0K | 1K | 2K | 3K | 4K | 5K |
| FAG | | | ● | ● | ● | ● |
| FGG | ● | ● | ● | ● | ● | ● |
| FGG ¹⁾ | | ● | ● | ● | ● | |
| FGG ²⁾ | ● | ● | ● | ● | ● | |
| FHG | ● | ● | ● | ● | ● | |
| FNG | | | ● | | ● | |
| FTG | | | ● | | | |
| FXG | | | | ● | ● | ● |
| HEG | ● | ● | ● | | | |

| Model | Multicontact | | | | | |
|-------------------|--------------|----|----|----|----|----|
| | 0K | 1K | 2K | 3K | 4K | 5K |
| HGG | ● | ● | ● | | | ● |
| PBG | | | | ● | | |
| PEG | ● | ● | ● | ● | | |
| PHG | ● | ● | ● | ● | ● | ● |
| PHG ¹⁾ | | ● | ● | ● | ● | |
| PHG ²⁾ | ● | ● | ● | ● | ● | |
| PKG | ● | ● | ● | ● | ● | ● |
| S●● | | | ● | | ● | ● |
| TGL ³⁾ | | | | ● | | |

Note:

- 1) With oversize cable collet.
 - 2) With nut for fitting a bend relief.
 - 3) The TGL model is not available in all types. Please consult the page corresponding to this model.
 - 4) With elbow (90°) printed circuit contacts.
- = available models by series and types

Alignment Key and Polarized Keying System

Part numbers for the keyed series are composed of three letters. The LAST LETTER indicates the key position and the contact type (male or female). For example, straight plugs with «G» key or A, B, C, D, E, F, R keys, are fitted with male contacts; whereas with L keys, plugs are fitted with female contacts.

Straight receptacles with «G» key or A, B, C, D, E, F, R keys, are fitted with female contacts; whereas with L keys, receptacles are fitted with male contacts.

| Front view of a receptacle | Model | # of keys | Angles | Series | | | | | | Contact type | | | Note |
|----------------------------|-------|-----------|--------|--------|------|------|------|------|------|--------------|-------------|-----------------------|------|
| | | | | 0K | 1K | 2K | 3K | 4K | 5K | Plug | Receptacle | Coupler ¹⁾ | |
| | ●●G | 1 | α | 0° | 0° | 0° | 0° | 0° | 0° | male | female | female-male | ● |
| | ●●A | 2 | | 30° | 30° | 30° | 30° | 30° | 30° | male | female | female-male | ● |
| | ●●B | 2 | | 45° | 45° | 45° | 45° | 45° | 45° | male | female | female-male | ● |
| | ●●C | 2 | | 60° | 60° | 60° | 60° | 60° | 60° | male | female | female-male | ● |
| | ●●D | 2 | β | 95° | 95° | 95° | 95° | 95° | 95° | male | female | female-male | ○ |
| | ●●E | 2 | | 120° | 120° | 120° | 120° | 120° | 120° | male | female | female-male | ○ |
| | ●●F | 2 | 145° | 145° | 145° | 145° | 145° | 145° | male | female | female-male | ○ | |
| | ●●L | 2 | γ | 75° | 75° | 75° | 75° | 75° | 75° | female | male | male-female | ○ |

| Front view of a receptacle | Model | # of keys | Angles | Series | | | | | | Contact type | | | Note | |
|----------------------------|-------|-----------|--------|--------|----|----|-----|------|----|--------------|------------|-----------------------|------|---|
| | | | | 0K | 1K | 2K | 3K | 4K | 5K | Plug | Receptacle | Coupler ¹⁾ | | |
| | ●●R | 5 | α | - | - | - | 95° | - | - | male | female | female-male | ● | |
| | | | | β | - | - | - | 115° | - | | | | | - |
| | | | | γ | - | - | - | 35° | - | | | | | - |
| | | | | δ | - | - | - | 25° | - | | | | | - |

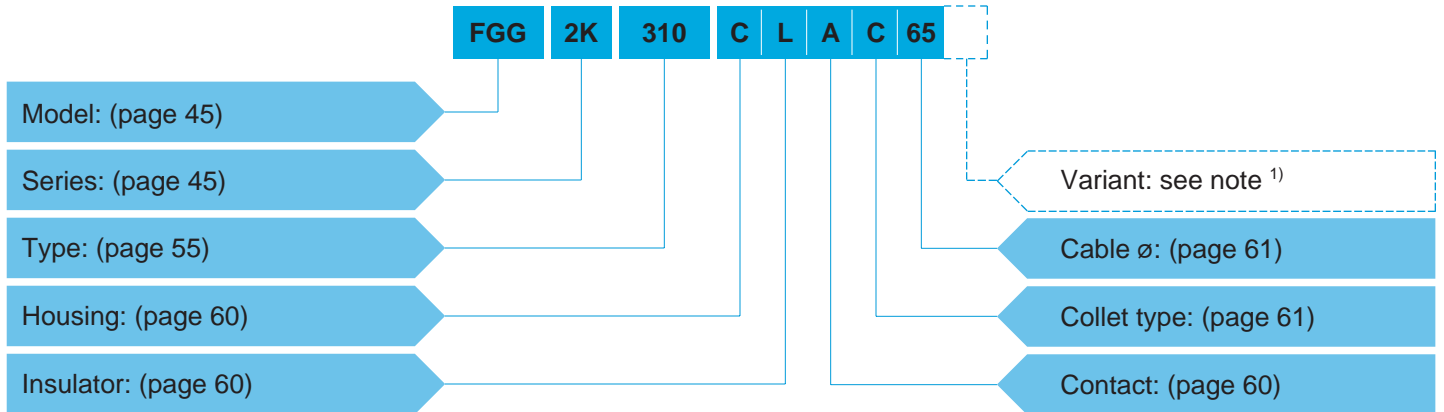
Note:

- S●● and TGL models are not available with all the keys.
- For S●● models see explication on page 53.
- Please consult the pages corresponding to these models.
- ¹⁾ The first contact type mentioned is always the one at the flange end.

- First choice alternative
- Special order alternative

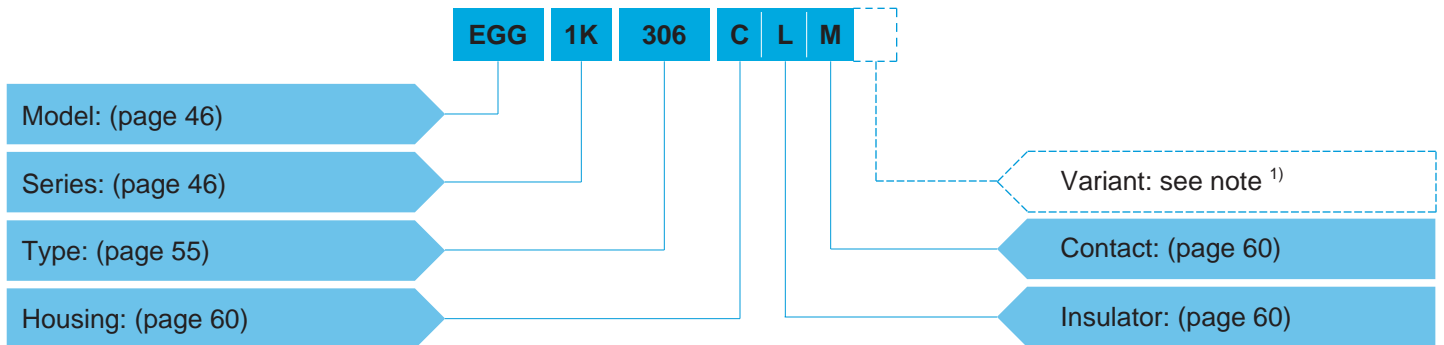
Part Number Example

Straight plug with cable collet



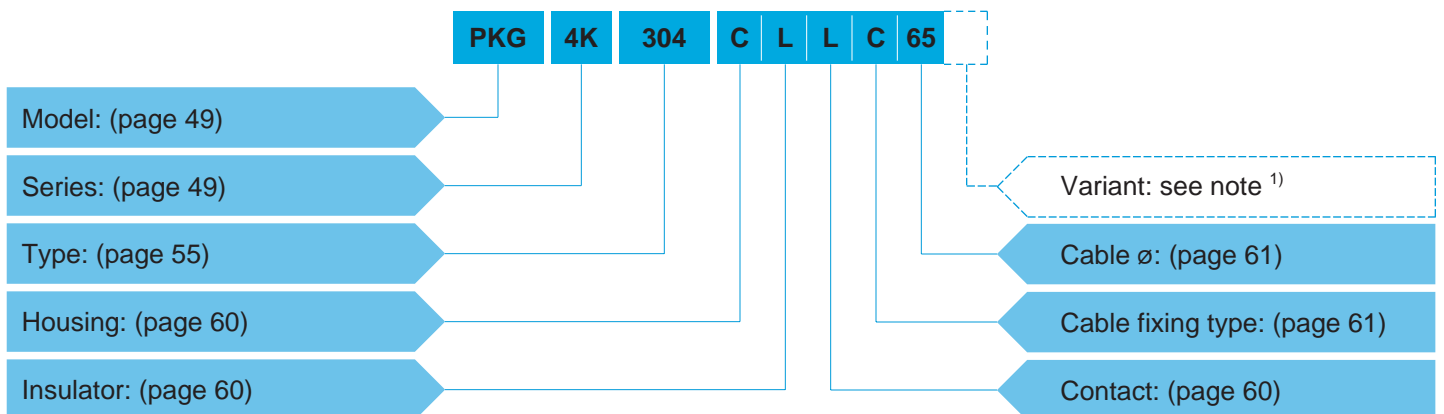
FGG.2K.310.CLAC65 = straight plug with key (G) and cable collet, 2K series, multicontact type with 10 contacts, outer shell in chrome-plated brass, PEEK insulator, male solder contacts, C type collet for 6.5 mm diameter cable.

Fixed receptacle



EGG.1K.306.CLM = fixed receptacle, nut fixing, with key (G), 1K series, multicontact type with 6 contacts, outer shell in chrome-plated brass, PEEK insulator, female crimp contacts.

Straight receptacle



PKG.4K.304.CLLC65 = straight receptacle, nut fixing, with key (G), 4K series, multicontact type with 4 contacts, outer shell in chrome-plated brass, PEEK insulator, female solder contacts, C type collet for 6.5 mm diameter cable.

Note: ¹⁾ The «Variant» position in the reference is used to specify either the presence of a collet nut for fitting the bend relief or the anodized color of the housing in aluminium alloy.

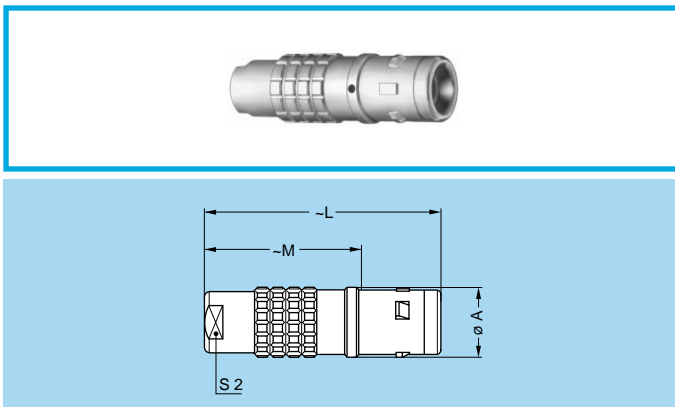
For models with collet nut for fitting the bend relief, a «Z» should be indicated and a bend relief can be ordered separately as indicated in the «Accessories» section. An order for a connector with bend relief should thus include two part numbers.

For the various housings available in colors, the corresponding letter in the part number for the color is indicated on page 66.

For the watertight models of receptacle, the letter «P» is used; for the vacuum-tight models of receptacle the letters «PV» shall be indicated.

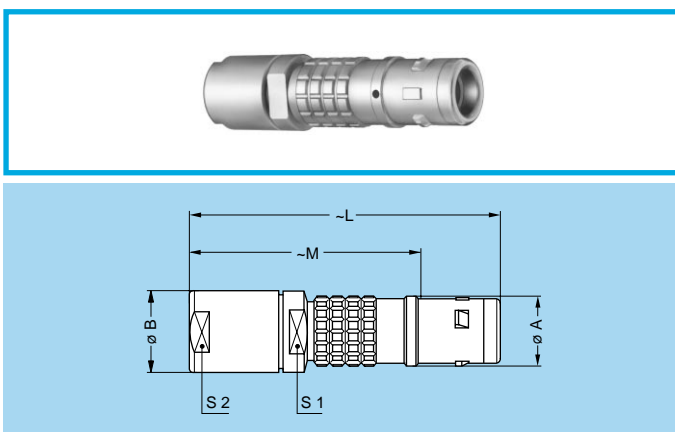
For the plug and receptacle that should be fitted with an FPM (Viton) O-ring the letter «H» shall be indicated.

Models - Series



FGG Straight plug, key (G) or keys (A to F, L and R), cable collet

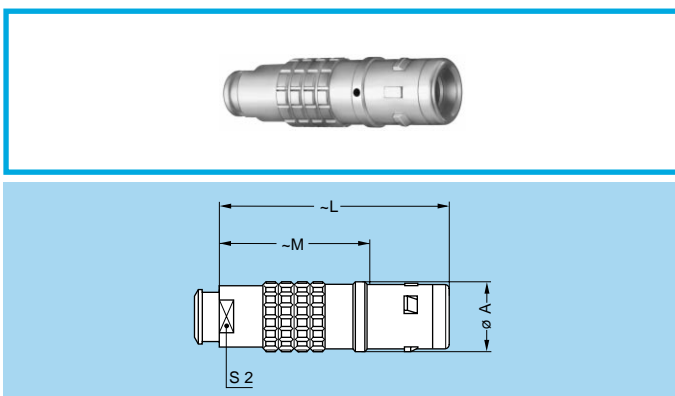
| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|----|------|----|
| Model | Series | A | L | M | S2 |
| FGG | 0K | 11 | 34 | 23.0 | 8 |
| FGG | 1K | 13 | 42 | 28.0 | 9 |
| FGG | 2K | 16 | 52 | 36.0 | 12 |
| FGG | 3K | 19 | 61 | 41.0 | 15 |
| FGG | 4K | 25 | 71 | 50.5 | 19 |
| FGG | 5K | 38 | 92 | 67.0 | 32 |



FGG Straight plug, key (G) or keys (A to F, L and R), cable collet and oversize cable collet

| Reference | | Dimensions (mm) | | | | | |
|-----------|--------|-----------------|------|-----|------|----|----|
| Model | Series | A | B | L | M | S1 | S2 |
| FGG | 1K | 13 | 14.5 | 55 | 41.0 | 12 | 12 |
| FGG | 2K | 16 | 17.0 | 65 | 49.0 | 15 | 15 |
| FGG | 3K | 19 | 22.0 | 80 | 60.0 | 19 | 19 |
| FGG | 4K | 25 | 36.0 | 105 | 84.5 | 30 | 32 |

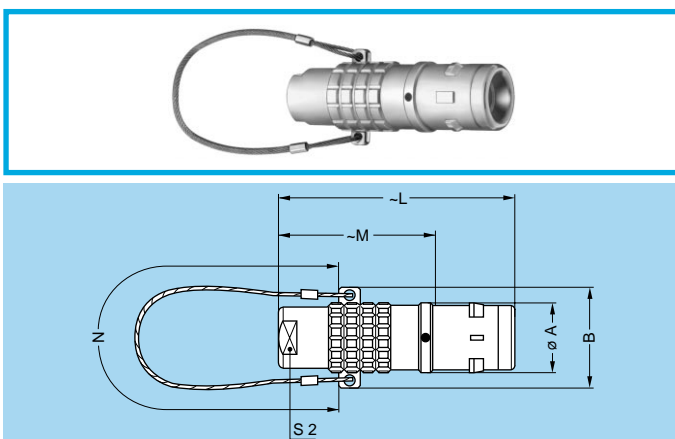
Note: The fitting of oversize collets onto this model allows them to be fitted to the cables that can be accommodated by the next housing size up.



FGG Straight plug, key (G) or keys (A to F, L and R), cable collet and nut for fitting a bend relief

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|----|------|----|
| Model | Series | A | L | M | S2 |
| FGG | 0K | 11 | 34 | 23.0 | 7 |
| FGG | 1K | 13 | 42 | 28.0 | 9 |
| FGG | 2K | 16 | 52 | 36.0 | 12 |
| FGG | 3K | 19 | 60 | 40.0 | 15 |
| FGG | 4K | 25 | 71 | 50.5 | 19 |

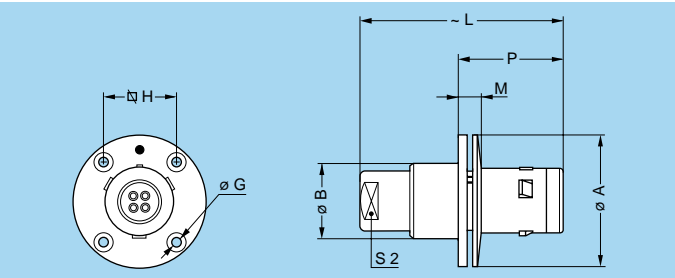
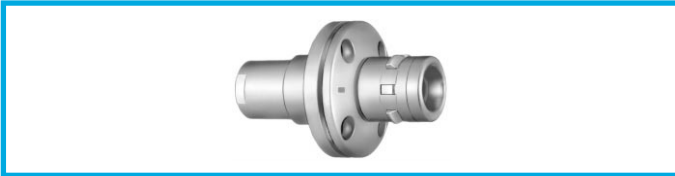
Note: The bend relief must be ordered separately (see page 175).



FNG Straight plug, key (G) or keys (A to F and L), cable collet and lanyard release

| Reference | | Dimensions (mm) | | | | | |
|-----------|--------|-----------------|------|----|------|-----|----|
| Model | Series | A | B | L | M | N | S2 |
| FNG | 2K | 16 | 23.6 | 52 | 36.0 | 160 | 12 |
| FNG | 4K | 25 | 35.2 | 71 | 50.5 | 230 | 19 |

Note: Cable material – stainless steel with PVC sheath.

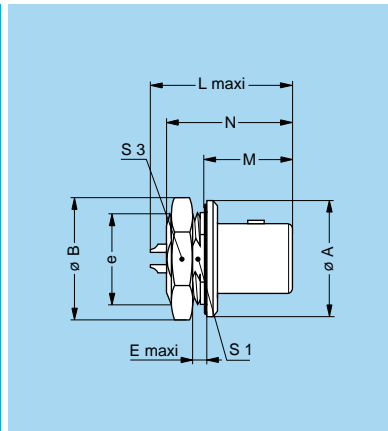


FXG Fixed plug with round flange, key (G) or keys (A to F, L and R) and screw fixing

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|-----|------|-----|------|------|----|
| Model | Series | A | B | G | H | L | M | P | S2 |
| FXG | 3K | 38 | 22.5 | 3.4 | 20.6 | 61 | 10.0 | 30.0 | 15 |
| FXG | 4K | 47 | 28.5 | 3.4 | 27.0 | 71 | 11.0 | 32.0 | 19 |
| FXG | 5K | 65 | 42.5 | 4.4 | 38.0 | 100 | 12.5 | 38.5 | 30 |

Panel cut-out: **P6**

Note: This model does not include an O-ring behind the flange, it allows the device on which it is fitted to reach only IP50 protection index. It does not have a cable collet.

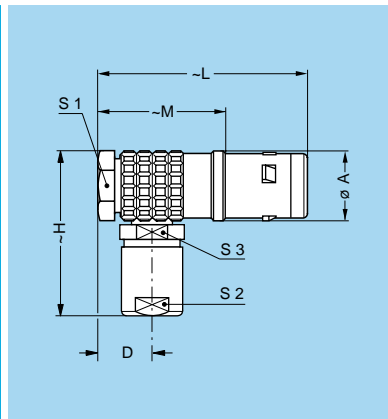


FAG Fixed plug, nut fixing, non-latching, key (G) or keys (A to F, L and R)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|------|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| FAG | 2K | 25 | 27.5 | M20x1.0 | 4.5 | 28.2 | 18.0 | 28.3 | 18.5 | 24 |
| FAG | 3K | 31 | 34.5 | M24x1.0 | 4.0 | 34.3 | 22.5 | 33.8 | 22.5 | 30 |
| FAG | 4K | 37 | 41.5 | M30x1.0 | 4.0 | 35.3 | 23.0 | 36.3 | 28.5 | 36 |
| FAG | 5K | 55 | 54.0 | M45x1.5 | 4.0 | 43.5 | 28.5 | 42.3 | 42.5 | - |

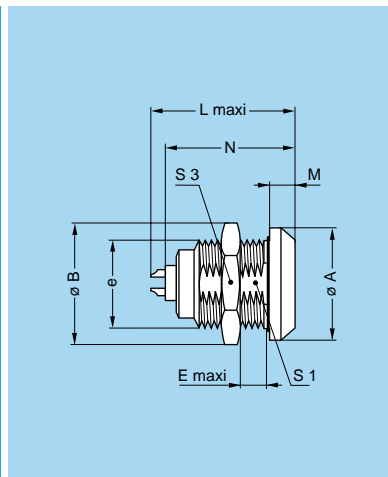
Panel cut-out: **P1**

Note: 1) Maximum length with crimp contacts.



FHG Elbow (90°) plug, key (G) or keys (A to F, L and R), cable collet

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|----|----|------|----|----|----|
| Model | Series | A | D | H | L | M | S1 | S2 | S3 |
| FHG | 0K | 11.5 | 7.6 | 27 | 36 | 25.0 | 10 | 8 | 8 |
| FHG | 1K | 14.0 | 8.8 | 33 | 43 | 29.0 | 12 | 9 | 10 |
| FHG | 2K | 17.5 | 10.5 | 40 | 51 | 35.0 | 15 | 12 | 13 |
| FHG | 3K | 21.0 | 11.5 | 47 | 60 | 40.0 | 18 | 15 | 15 |
| FHG | 4K | 27.5 | 15.5 | 57 | 72 | 51.5 | 24 | 19 | 20 |

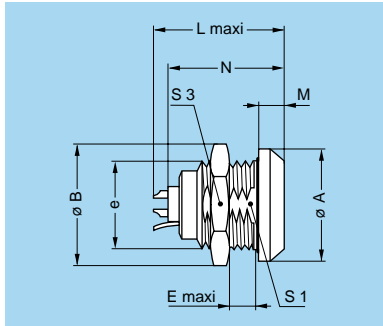
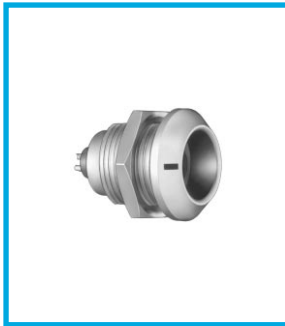


EGG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|----|------|-----|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| EGG | 0K | 18 | 19.5 | M14x1.0 | 6 | 21.7 | 4.0 | 20.1 | 12.5 | 17 |
| EGG | 1K | 20 | 21.5 | M16x1.0 | 9 | 27.0 | 4.5 | 25.1 | 14.5 | 19 |
| EGG | 2K | 25 | 27.5 | M20x1.0 | 9 | 30.7 | 5.0 | 28.6 | 18.5 | 24 |
| EGG | 3K | 31 | 34.5 | M24x1.0 | 11 | 36.2 | 6.0 | 33.6 | 22.5 | 30 |
| EGG | 4K | 37 | 41.5 | M30x1.0 | 9 | 40.2 | 6.5 | 37.1 | 28.5 | 36 |
| EGG | 5K | 55 | 54.0 | M45x1.5 | 10 | 47.5 | 9.0 | 43.6 | 42.5 | - |

Panel cut-out: **P1**

Note: 1) Maximum length with crimp contacts. The 5K series is delivered with a round nut.

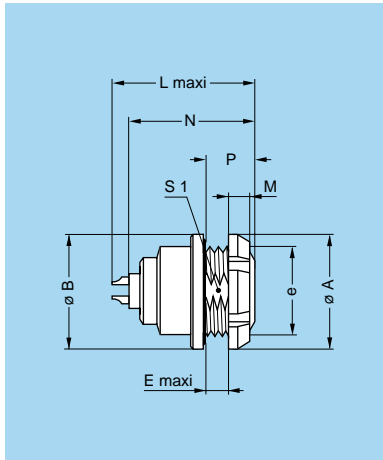


ENG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R) and grounding tab

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|---|-----------------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 |
| ENG | 3K | 31 | 34.7 | M24x1.0 | 11.3 | 36.2 | 6 | 33.6 | 22.5 | 30 |

Panel cut-out: **P1**

Note: 1) Maximum length with crimp contacts.

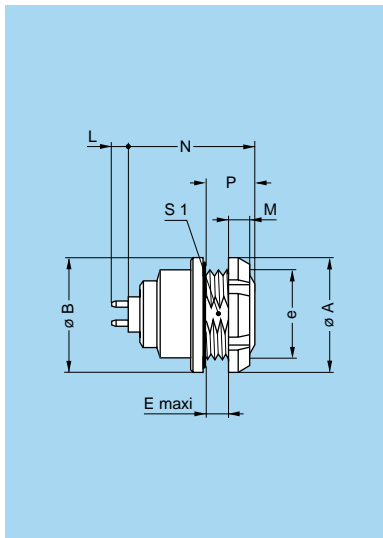


EEG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R) (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|------|-----|-----------------|------|------|--|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | P | S1 | |
| EEG | 0K | 18.0 | 18 | M14x1.0 | 3.4 | 21.7 | 3.5 | 20.1 | 7.0 | 12.5 | |
| EEG | 1K | 20.0 | 20 | M16x1.0 | 6.2 | 27.0 | 3.5 | 25.1 | 10.0 | 14.5 | |
| EEG | 2K | 25.0 | 25 | M20x1.0 | 5.0 | 30.7 | 3.5 | 28.6 | 10.0 | 18.5 | |
| EEG | 3K | 30.0 | 31 | M24x1.0 | 7.5 | 36.2 | 4.5 | 33.6 | 12.0 | 22.5 | |
| EEG | 4K | 41.5 | 37 | M30x1.0 | 6.0 | 40.2 | 7.0 | 37.1 | 13.5 | 28.5 | |

Panel cut-out: **P1**

Note: 1) Maximum length with crimp contacts. The 3K and 4K series are delivered with a conical nut.



EEG Fixed receptacle, nut fixing, key (G) or keys (A to F and R) with straight printed circuit contacts for printed circuit (back panel mounting)

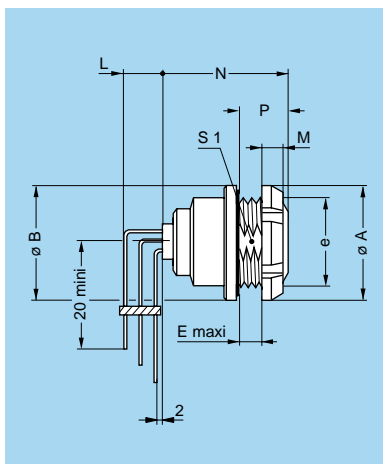
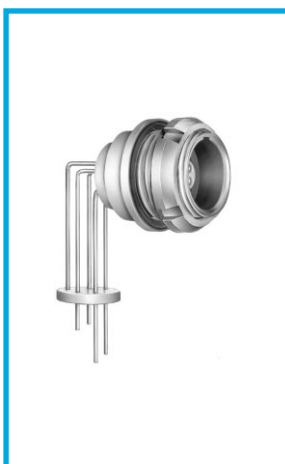
| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|-----|------|------|------|--|
| Model | Series | A | B | e | E | M | N | P | S1 | |
| EEG | 0K | 18.0 | 18 | M14x1.0 | 3.4 | 3.5 | 17.6 | 7.0 | 12.5 | |
| EEG | 1K | 20.0 | 20 | M16x1.0 | 6.2 | 3.5 | 23.8 | 10.0 | 14.5 | |
| EEG | 2K | 25.0 | 25 | M20x1.0 | 5.0 | 3.5 | 25.8 | 10.0 | 18.5 | |
| EEG | 3K | 30.0 | 31 | M24x1.0 | 7.5 | 4.5 | 31.3 | 12.0 | 22.5 | |
| EEG | 4K | 41.5 | 37 | M30x1.0 | 6.0 | 7.0 | 34.3 | 13.5 | 28.5 | |

Panel cut-out: **P1**

PCB drilling pattern: **P15**

Note: This contact type is available for E● receptacle models fitted with female contact.

Length «L» depends on the number of contacts, see table page 192. The 3K and 4K series are delivered with a conical nut.



EEG Fixed receptacle, nut fixing, key (G) or keys (A to F and R) with elbow (90°) contacts for printed circuit (back panel mounting)

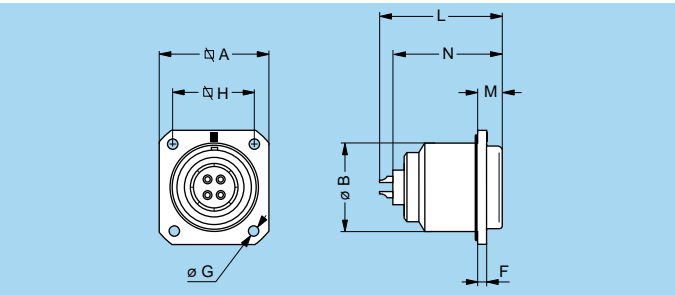
| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|-----|------|----|------|--|
| Model | Series | A | B | e | E | M | N | P | S1 | |
| EEG | 0K | 18 | 18 | M14x1.0 | 3.4 | 3.5 | 19.3 | 7 | 12.5 | |
| EEG | 1K | 20 | 20 | M16x1.0 | 6.2 | 3.5 | 24.3 | 10 | 14.5 | |
| EEG | 2K | 25 | 25 | M20x1.0 | 5.0 | 3.5 | 26.6 | 10 | 18.5 | |
| EEG | 3K | 30 | 31 | M24x1.0 | 7.5 | 4.5 | 31.3 | 12 | 22.5 | |

Panel cut-out: **P1**

PCB drilling pattern: **P17**

Note: Length «L» depends on the number of contacts, see PCB drilling pattern page 193.

The 3K series is delivered with a conical nut.

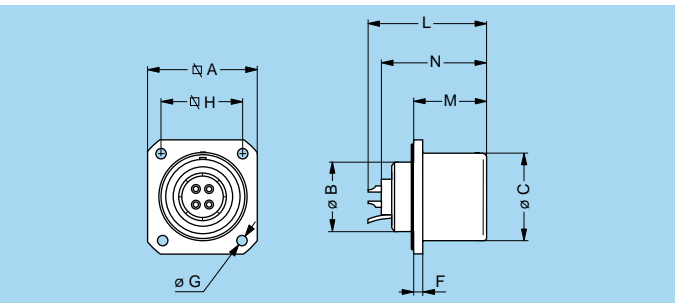
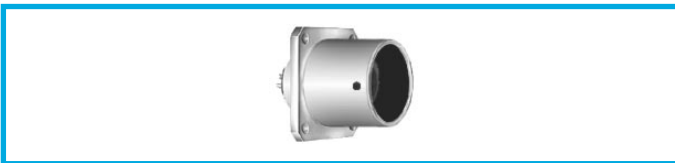


EBG Fixed receptacle with square flange, key (G) or keys (A to F, L and R) and screw fixing

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|----|---|-----|----|------|-----|-----------------|
| Model | Series | A | B | F | G | H | L | M | N ¹⁾ |
| EBG | 3K | 29 | 23 | 3 | 3.4 | 23 | 36.2 | 6.0 | 32.6 |
| EBG | 4K | 37 | 30 | 3 | 3.4 | 29 | 40.2 | 6.5 | 36.6 |
| EBG | 5K | 54 | 45 | 4 | 4.4 | 44 | 47.5 | 8.0 | 42.1 |

Panel cut-out: **P7**

Note: 1) Maximum length with crimp contacts.

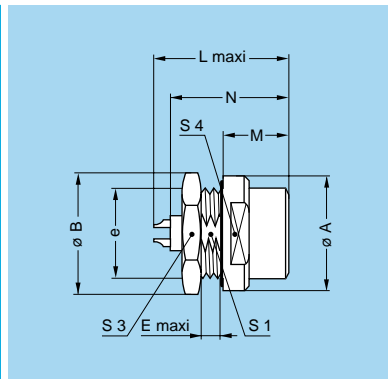


EDG Fixed receptacle with square flange, key (G) or keys (A to F, L and R), protruding shell and grounding tab, screw fixing

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|----|---|-----|----|------|------|-----------------|
| Model | Series | A | B | C | F | G | H | L | M | N ¹⁾ |
| EDG | 3K | 29 | 18 | 23 | 3 | 3.4 | 23 | 36.2 | 22.5 | 32.6 |

Panel cut-out: **P7**

Note: 1) Maximum length with crimp contacts.

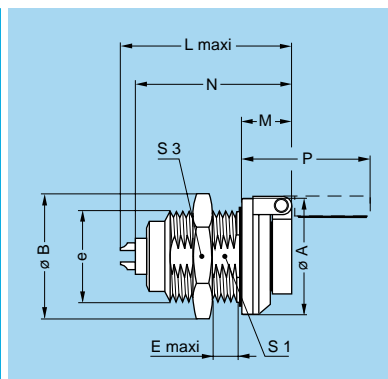


EHG Fixed receptacle, nut fixing, key (G) or keys (A to F and L), protruding shell

| Reference | | Dimensions (mm) | | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|------|-----------------|------|----|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | S1 | S3 | S4 |
| EHG | 1K | 20 | 21.5 | M16x1.0 | 1.5 | 27.0 | 15.5 | 25.1 | 14.5 | 19 | 17 |
| EHG | 2K | 25 | 27.5 | M20x1.0 | 1.5 | 30.7 | 17.0 | 27.1 | 18.5 | 24 | 20 |

Panel cut-out: **P1**

Note: 1) Maximum length with crimp contacts.

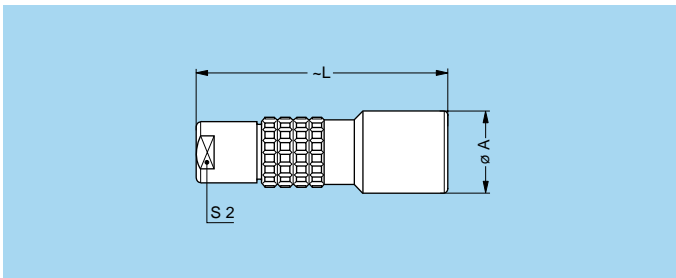
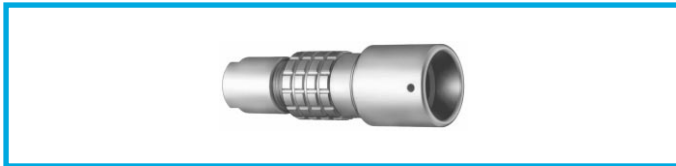


EVG Fixed receptacle, nut fixing, key (G) or keys (A to F and L) and dust cap (spring loaded)

| Reference | | Dimensions (mm) | | | | | | | | | |
|-----------|--------|-----------------|------|---------|---|------|-----|-----------------|------|------|----|
| Model | Series | A | B | e | E | L | M | N ¹⁾ | P | S1 | S3 |
| EVG | 0K | 18 | 19.5 | M14x1.0 | 6 | 24.8 | 7.2 | 23.3 | 21.6 | 12.5 | 17 |

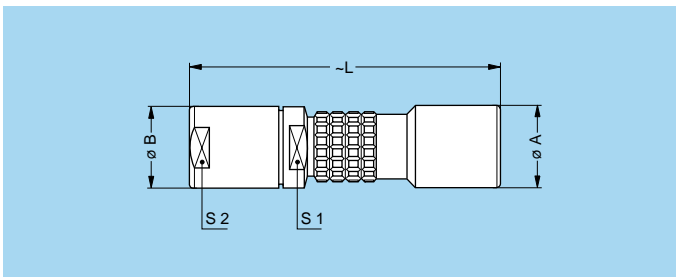
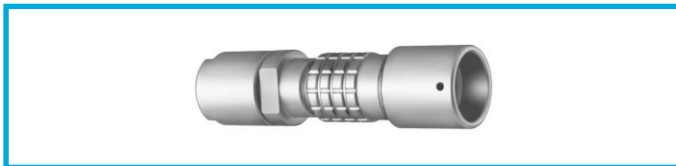
Panel cut-out: **P1**

Note: 1) Maximum length with crimp contacts.



PHG Free receptacle, key (G) or keys (A to F, L and R), cable collet

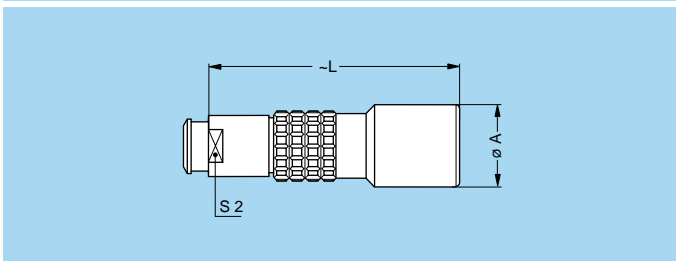
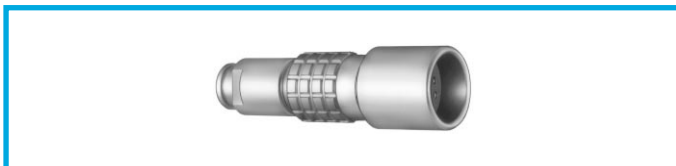
| Reference | | Dimensions (mm) | | |
|-----------|--------|-----------------|------|----|
| Model | Series | A | L | S2 |
| PHG | 0K | 13 | 34.0 | 8 |
| PHG | 1K | 15 | 45.0 | 9 |
| PHG | 2K | 19 | 54.0 | 12 |
| PHG | 3K | 23 | 65.0 | 15 |
| PHG | 4K | 29 | 75.5 | 19 |
| PHG | 5K | 42 | 95.0 | 32 |



PHG Free receptacle, key (G) or keys (A to F, L and R), cable collet and oversize cable collet

| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|------|-----|----|----|
| Model | Series | A | B | L | S1 | S2 |
| PHG | 1K | 15 | 14.5 | 58 | 12 | 12 |
| PHG | 2K | 19 | 17.0 | 67 | 15 | 15 |
| PHG | 3K | 23 | 22.0 | 84 | 19 | 19 |
| PHG | 4K | 29 | 36.0 | 109 | 30 | 32 |

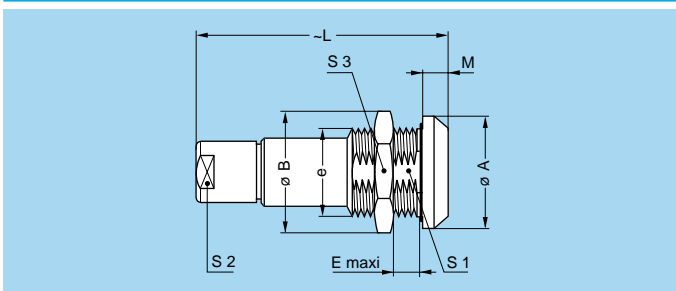
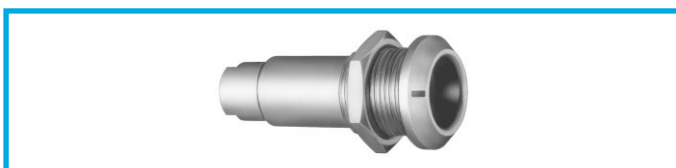
Note: The fitting of oversize collets onto this model allows them to be fitted to the cables that can be accommodated by the next housing size up.



PHG Free receptacle, key (G) or keys (A to F, L and R), cable collet and nut for fitting a bend relief

| Reference | | Dimensions (mm) | | |
|-----------|--------|-----------------|------|----|
| Model | Series | A | L | S2 |
| PHG | 0K | 13 | 34.0 | 7 |
| PHG | 1K | 15 | 45.0 | 9 |
| PHG | 2K | 19 | 54.0 | 12 |
| PHG | 3K | 23 | 64.0 | 15 |
| PHG | 4K | 29 | 75.5 | 19 |

Note: The bend relief must be ordered separately (see page 175).

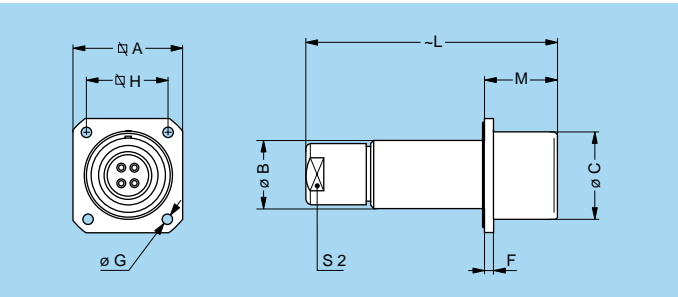
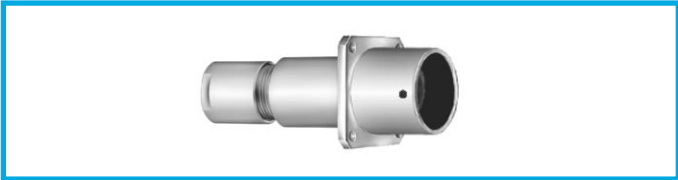


PKG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R), cable collet

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|----|------|-----|------|----|----|
| Model | Series | A | B | e | E | L | M | S1 | S2 | S3 |
| PKG | 0K | 18 | 19.5 | M14x1.0 | 6 | 34.0 | 4.0 | 12.5 | 8 | 17 |
| PKG | 1K | 20 | 21.5 | M16x1.0 | 9 | 45.0 | 4.5 | 14.5 | 9 | 19 |
| PKG | 2K | 25 | 27.5 | M20x1.0 | 9 | 54.0 | 5.0 | 18.5 | 12 | 24 |
| PKG | 3K | 31 | 34.5 | M24x1.0 | 11 | 65.0 | 6.0 | 22.5 | 15 | 30 |
| PKG | 4K | 37 | 41.5 | M30x1.0 | 9 | 75.5 | 6.5 | 28.5 | 19 | 36 |
| PKG | 5K | 55 | 54.0 | M45x1.0 | 15 | 95.0 | 9.0 | 42.5 | 32 | - |

Panel cut-out: **P1**

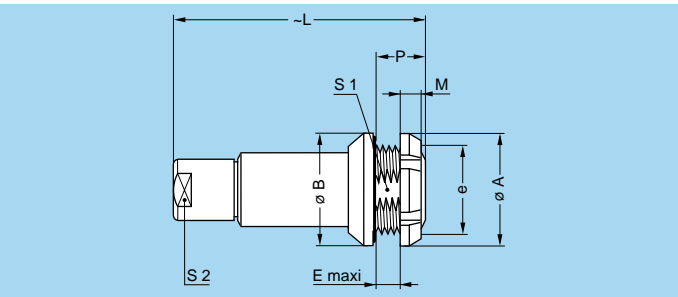
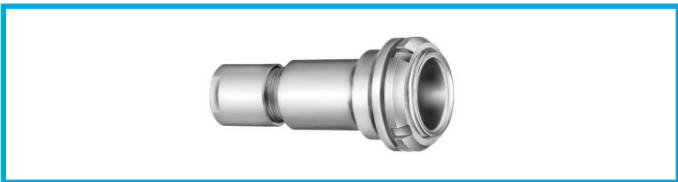
Note: The 5K series is delivered with a round nut.



PBG Fixed receptacle, key (G) with square flange, cable collet and screw fixing

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|----|---|-----|----|----|------|----|
| Model | Series | A | B | C | F | G | H | L | M | S2 |
| PBG | 3K | 29 | 19 | 23 | 3 | 3.4 | 23 | 65 | 22.5 | 15 |

Panel cut-out: **P7**



PEG Fixed receptacle, nut fixing, key (G) or keys (A to F, L and R), cable collet (back panel mounting)

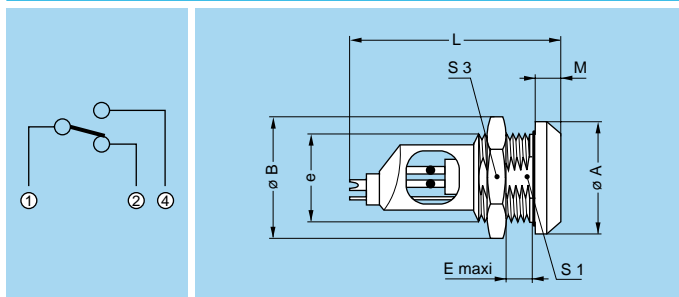
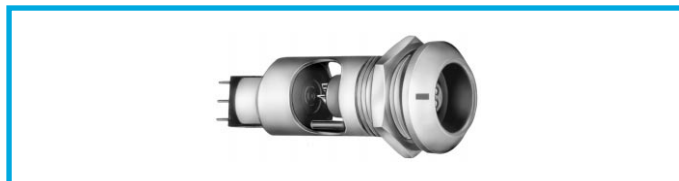
| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|----|-----|----|------|--|
| Model | Series | A | B | e | E | L | M | P | S1 | |
| PEG | 0K | 18 | 18 | M14x1.0 | 3.4 | 34 | 3.5 | 7 | 12.5 | |
| PEG | 1K | 20 | 20 | M16x1.0 | 6.2 | 45 | 3.5 | 10 | 14.5 | |
| PEG | 2K | 25 | 25 | M20x1.0 | 2.5 | 54 | 3.5 | 10 | 18.5 | |
| PEG | 3K | 30 | 31 | M24x1.0 | 7.5 | 65 | 4.5 | 12 | 22.5 | |

Panel cut-out: **P1**

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

Model with microswitch

Some receptacles are available fitted with a microswitch. The microswitch is independent from the electrical contacts of the receptacle. The introduction of a plug into the receptacle activates the microswitch.

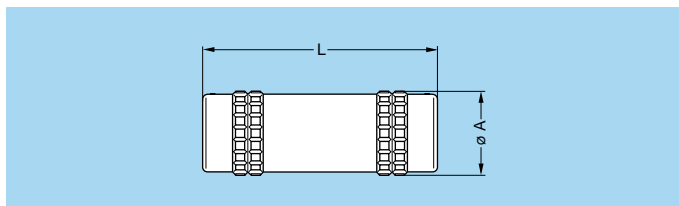


EMG Fixed receptacle, nut fixing, with microswitch, key (G) or keys (A to F and L)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|---------|---|----|---|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| EMG | 2K | 25 | 27.5 | M20x1.0 | 9 | 49 | 5 | 18.5 | 24 |

Panel cut-out: **P1**

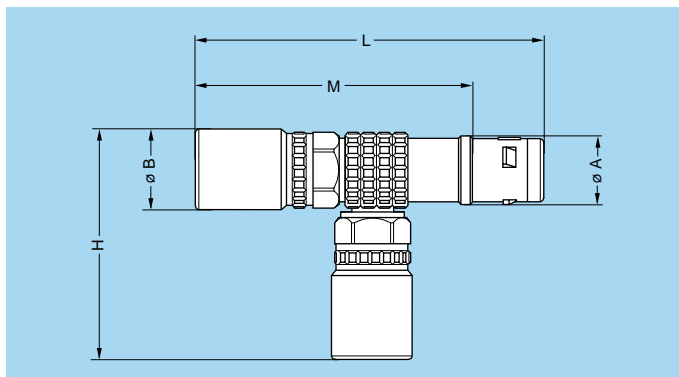
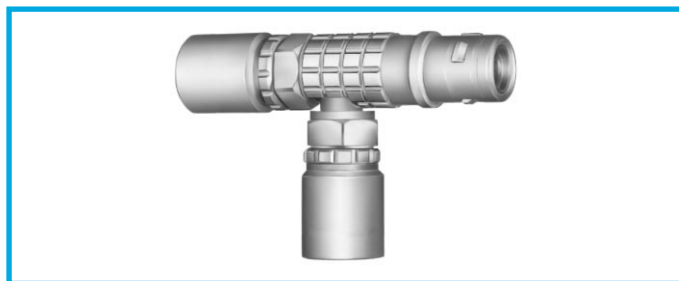
Note: For the microswitch – maximum operating voltage: 270 Veff/Vdc;
– rated current: 8.5A/0.5A.



TGL Free coupler, key (G) on one side and keys (L) on the other

| Reference | | Dim. (mm) | |
|-----------|--------|-----------|------|
| Model | Series | A | L |
| TGL | 3K | 24 | 64.2 |

Note: This model is only available in type 308, 310, 316, 318, 320 and 324.



FTG T-plug, key (G) with receptacles (90°), key (G)

| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|----|----|----|----|
| Model | Series | A | B | H | L | M |
| FTG | 2K | 16 | 19 | 48 | 77 | 60 |

Note: This model is only available in type 304.

Watertight or vacuum-tight models

HEG, HGG and S● receptacle or coupler models allow the device on which they are fitted to reach a protection index of IP68 as per IEC 60529. They are fully compatible with plugs of the same series and are widely used for portable radios, military, laboratory equipment, aviation, etc. These models are identified by a letter «P» at the end of the reference. Most of these models are also available in a vacuum-tight version. Such models are identified by an additional letter «V» at the end of the part number (certificate on request).

Epoxy resin is used to seal these models.

Please refer to page 8 to locate the chapter on selecting watertight connectors.

Part number example:
 Watertight receptacle – HGG.0K.304.CLLP
 Vacuum-tight receptacle – HGG.0K.304.CLLPV

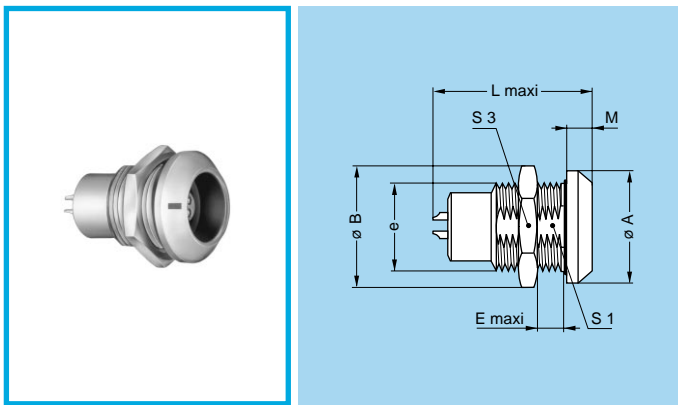
Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | Standard |
|--|---|----------------------|
| Endurance | > 5000 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | |
| Temperature range | -4° F/+176° F | |
| Salt spray corrosion test | > 144h | IEC 60512-6 test 11f |
| Protection index (mated) | IP 68 | IEC 60529 |
| Climatic category | 20/80/21 | IEC 60068-1 |
| Leakage rate (He) ¹⁾ | < 10 ⁻⁶ mbar.l.s ⁻¹ | IEC 60512-7 test 14b |
| Maximum operating pressure ²⁾ | 0K | 60 bars |
| | 1K | 60 bars |
| | 2K | 40 bars |
| | 4K | 15 bars |
| | 5K | 5 bars |
| | | IEC 60512-7 test 14d |

Note:

- 1) Only for vacuum-tight models.
- 2) This value corresponds to the maximum allowed pressure difference for the assembled receptacle.

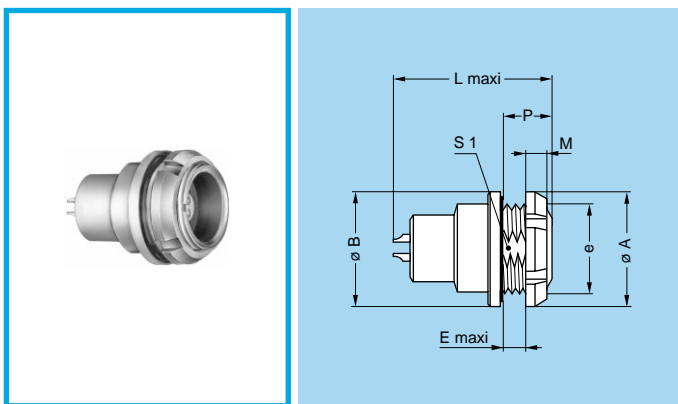


HGG Fixed receptacle, nut fixing, key (G) or keys (A to F and L), watertight or vacuum-tight

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| HGG | 0K | 18 | 19.5 | M14x1.0 | 5.5 | 21.7 | 4.0 | 12.5 | 17 |
| HGG | 1K | 20 | 21.5 | M16x1.0 | 9.0 | 30.0 | 4.5 | 14.5 | 19 |
| HGG | 2K | 25 | 27.5 | M20x1.0 | 13.0 | 33.7 | 5.0 | 18.5 | 24 |
| HGG | 5K | 55 | 54.0 | M45x1.5 | 10.0 | 55.7 | 9.0 | 42.5 | – |

Panel cut-out: **P1**

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

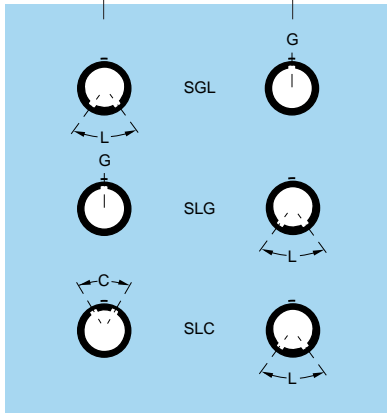
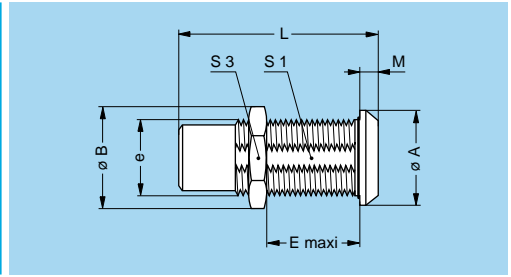
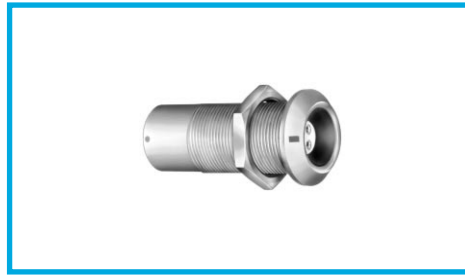
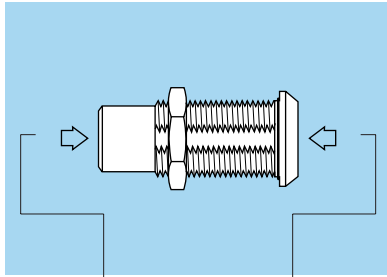


HEG Fixed receptacle, nut fixing, key (G) or keys (A to F and L), watertight or vacuum-tight (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|------|-----|----|------|
| Model | Series | A | B | e | E | L | M | P | S1 |
| HEG | 0K | 18 | 18 | M14x1.0 | 2.4 | 21.7 | 3.5 | 7 | 12.5 |
| HEG | 1K | 20 | 20 | M16x1.0 | 6.2 | 30.0 | 3.5 | 10 | 14.5 |
| HEG | 2K | 25 | 25 | M20x1.0 | 5.0 | 33.7 | 3.5 | 10 | 18.5 |

Panel cut-out: **P1**

S●● Fixed coupler, nut fixing, key (G) or keys (L) at the flange end, and key (G) or keys (C or L) at the other end, watertight or vacuum-tight



| Reference | | Contacts Type | Dimensions (mm) | | | | | | | |
|-----------|--------|------------------|-----------------|------|---------|----|------|-----|------|----|
| Model | Series | | A | B | e | E | L | M | S1 | S3 |
| SGL | 2K | female – male | 25 | 27.5 | M20x1.0 | 25 | 52.4 | 5.0 | 18.5 | 24 |
| SLG | 4K | male – female | 37 | 40.0 | M30x1.0 | 48 | 74.0 | 6.5 | 28.5 | 36 |
| SLC | | | | | | | | | | |
| SLC | 5K | male – female | 55 | 54.0 | M45x1.5 | 58 | 88.0 | 9.0 | 42.5 | – |

Panel cut-out: **P1**

Note: For this fixed coupler, the first contact type mentioned is always the one at the flange end. On request, these couplers can be produced in other series, with other keys, the 5K series is delivered with a round nut.

Type (B and K series)

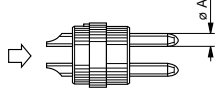
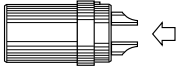
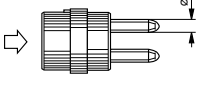
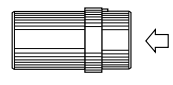






























Multicontact

| | | Male solder contacts | | Female solder contacts | | Reference | Number of contacts | ø A (mm) | Contact type | | | | Solder contact | | Crimp contact | | Rated current (A) ¹⁾ |
|----------|--|----------------------|-----|------------------------|-----|-----------|--------------------|----------|--------------|-------|----------------------------|-------------------------|--|--|--|--|---------------------------------|
| | | Male crimp contacts | | Female crimp contacts | | | | | Solder | Crimp | Printed circuit (straight) | Printed circuit (elbow) | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | |
| 00 | | | 302 | 2 | 0.5 | ● | ● | ● | ○ | 1.00 | 0.95 | 1.15 | 1.20 | 5.0 | | | |
| | | | 303 | 3 | 0.5 | ● | ● | ● | ○ | 0.80 | 0.95 | 1.35 | 1.10 | 3.0 | | | |
| | | | 304 | 4 | 0.5 | ● | ● | ● | ○ | 0.80 | 0.65 | 1.05 | 1.05 | 2.0 | | | |
| 0B 0K | | | 302 | 2 | 0.9 | ● | ● | ● | ● | 1.30 | 1.05 | 1.45 | 1.20 | 10.0 ²⁾ | | | |
| | | | 303 | 3 | 0.9 | ● | ● | ● | ● | 1.20 | 0.90 | 1.70 | 1.60 | 8.0 ²⁾ | | | |
| | | | 304 | 4 | 0.7 | ● | ● | ● | ● | 0.85 | 0.70 | 1.35 | 1.10 | 7.0 ²⁾ | | | |
| | | | 305 | 5 | 0.7 | ● | ● | ● | ● | 1.00 | 0.70 | 1.25 | 1.20 | 6.5 ²⁾ | | | |
| | | | 306 | 6 | 0.5 | ● | ● | ● | ● | 0.85 | 0.65 | 1.40 | 1.20 | 2.5 | | | |
| | | | 307 | 7 | 0.5 | ● | ● | ● | ● | 0.80 | 0.70 | 1.40 | 1.20 | 2.5 | | | |
| | | | 309 | 9 | 0.5 | ● | ● | ○ | ○ | 0.60 | 0.50 | 1.00 | 0.85 | 2.0 | | | |
| | | | | | | | | | | | | | | | | | |
| 1B 1K | | | 302 | 2 | 1.3 | ● | ● | ● | ● | 1.50 | 1.35 | 1.70 | 1.45 | 15.0 ³⁾ | | | |
| | | | 303 | 3 | 1.3 | ● | ● | ● | ● | 1.30 | 1.55 | 1.60 | 1.85 | 12.0 | | | |
| | | | 304 | 4 | 0.9 | ● | ● | ● | ● | 1.35 | 1.45 | 1.70 | 1.80 | 10.0 ²⁾ | | | |
| | | | 305 | 5 | 0.9 | ● | ● | ● | ● | 1.25 | 1.15 | 1.30 | 1.55 | 9.0 ²⁾ | | | |
| | | | 306 | 6 | 0.7 | ● | ● | ● | ● | 1.05 | 1.20 | 1.35 | 1.45 | 7.0 ²⁾ | | | |
| | | | 307 | 7 | 0.7 | ● | ● | ● | ● | 0.95 | 1.05 | 1.45 | 1.45 | 7.0 ²⁾ | | | |
| | | | 308 | 8 | 0.7 | ● | ● | ● | ● | 0.95 | 1.15 | 1.30 | 1.30 | 5.0 | | | |
| | | | 310 | 10 | 0.5 | ● | ● | ● | ● | 0.90 | 1.50 | 1.20 | 1.80 | 2.5 | | | |
| | | | 314 | 14 | 0.5 | ● | ● | ● | ● | 0.80 | 1.20 | 0.95 | 1.60 | 2.0 | | | |
| | | | 316 | 16 | 0.5 | ● | ● | ● | ○ | 0.80 | 1.25 | 0.95 | 1.60 | 1.5 | | | |

● First choice alternative ○ Special order alternative **Note:** 1) See calculation method, caution and suggested standard on page 204.
 2) Rated current = 6A for receptacle with elbow (90°) contact for printed circuit.
 3) Rated current = 12A for receptacle with elbow (90°) contact for printed circuit.

Multicontact

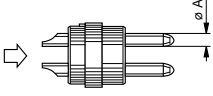
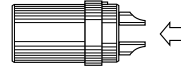
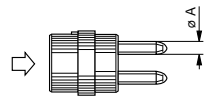
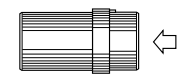


































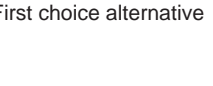
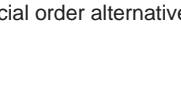
**2B
2K**

|  Male solder contacts | |  Female solder contacts | | Reference | Number of contacts | ø A (mm) | Contact type | | | | Solder contact | | Crimp contact | | Rated current (A) ¹⁾ |
|---|---|---|----|-----------|--------------------|----------|--------------|-------|----------------------------|-------------------------|--|--|--|--|---------------------------------|
|  Male crimp contacts | |  Female crimp contacts | | | | | Solder | Crimp | Printed circuit (straight) | Printed circuit (elbow) | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | |
|  |  | 302 | 2 | 2.0 | ● | ● | ● | ○ | 2.10 | 1.75 | 2.85 | 2.70 | 30.0 ³⁾ | | |
|  |  | 303 | 3 | 1.6 | ● | ● | ● | ● | 2.40 | 1.85 | 1.90 | 1.90 | 17.0 ³⁾ | | |
|  |  | 304 | 4 | 1.3 | ● | ● | ● | ● | 1.85 | 1.85 | 2.20 | 2.20 | 15.0 ³⁾ | | |
|  |  | 305 | 5 | 1.3 | ● | ● | ● | ● | 1.75 | 1.60 | 2.15 | 2.15 | 14.0 ³⁾ | | |
|  |  | 306 | 6 | 1.3 | ● | ● | ● | ● | 1.35 | 1.45 | 2.00 | 2.35 | 12.0 | | |
|  |  | 307 | 7 | 1.3 | ● | ● | ● | ● | 1.75 | 1.60 | 1.95 | 2.15 | 11.0 | | |
|  |  | 308 | 8 | 0.9 | ● | ● | ● | ● | 1.50 | 1.25 | 1.95 | 1.95 | 10.0 ²⁾ | | |
|  |  | 310 | 10 | 0.9 | ● | ● | ● | ● | 1.45 | 1.30 | 1.80 | 2.10 | 8.0 ²⁾ | | |
|  |  | 312 | 12 | 0.7 | ● | ● | ● | ● | 1.25 | 1.35 | 1.65 | 2.00 | 7.0 ²⁾ | | |
|  |  | 314 | 14 | 0.7 | ● | ● | ● | ● | 1.15 | 1.35 | 1.55 | 1.95 | 6.5 ²⁾ | | |
|  |  | 316 | 16 | 0.7 | ● | ● | ● | ● | 0.95 | 1.25 | 1.55 | 1.75 | 6.0 | | |
|  |  | 318 | 18 | 0.7 | ● | ● | ● | ● | 0.85 | 1.20 | 1.45 | 2.10 | 5.5 | | |
|  |  | 319 | 19 | 0.7 | ● | ● | ● | ● | 0.95 | 1.25 | 1.55 | 1.65 | 5.0 | | |
|  |  | 326 | 26 | 0.5 | ● | ● | ○ | — | 0.95 | 1.30 | 1.20 | 1.80 | 2.0 | | |
|  |  | 332 | 32 | 0.5 | ● | ● | ○ | — | 0.80 | 1.2 | 0.95 | 1.60 | 1.5 | | |

● First choice alternative ○ Special order alternative

Note: 1) See calculation method, caution and suggested standard on page 204.
 2) Rated current = 6A for receptacle with elbow (90°) contact for printed circuit.
 3) Rated current = 12A for receptacle with elbow (90°) contact for printed circuit.

Multicontact

| | |  Male solder contacts | |  Female solder contacts | | Reference | Number of contacts | ø A (mm) | Contact type | | | | Solder contact | | Crimp contact | | Rated current (A) ¹⁾ |
|---|---|---|-----|---|------------|-----------|--------------------|----------|--------------|--------------|----------------------------|-------------------------|--|--|--|--|---------------------------------|
| | |  Male crimp contacts | |  Female crimp contacts | | | | | Solder | Crimp | Printed circuit (straight) | Printed circuit (elbow) | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | |
| 3B 3K |  |  | 302 | 2 | 3.0 | ● | ● | ○ | – | 2.10 | 1.55 | 2.30 | 1.80 | 50.0 | | | |
| |  |  | 303 | 3 | 2.0 | ● | ● | ● | – | 1.90 | 1.50 | 3.20 | 2.65 | 25.0 | | | |
| |  |  | 304 | 4 | 2.0 | ● | ● | ● | – | 1.45 | 1.25 | 2.50 | 2.20 | 19.0 | | | |
| |  |  | 305 | 5 | 1.6 | ● | ● | ○ | – | 1.90 | 1.25 | 2.40 | 1.75 | 19.0 | | | |
| |  |  | 306 | 6 | 1.6 | ● | ● | ○ | – | 1.60 | 1.15 | 1.90 | 1.80 | 17.0 | | | |
| |  |  | 307 | 7 | 1.6 | ● | ● | ○ | – | 1.70 | 1.25 | 2.00 | 2.05 | 15.0 | | | |
| |  |  | 308 | 8 | 1.3 | ● | ● | ● | ○ | 1.65 | 1.15 | 1.85 | 1.75 | 13.0 | | | |
| |  |  | 309 | 8 1 | 1.3 2.0 | ● | ● | ● | – | 1.35 1.35 | 1.05 1.05 | 1.10 1.10 | 1.05 1.05 | 6.0 15.0 | | | |
| |  |  | 310 | 10 | 1.3 | ● | ● | ● | ○ | 1.25 | 0.90 | 1.50 | 1.80 | 12.0 | | | |
| |  |  | 312 | 12 | 0.9 | ● | ● | ● | ○ | 1.45 | 1.00 | 1.65 | 1.85 | 9.0 | | | |
| |  |  | 314 | 14 | 0.9 | ● | ● | ● | ● | 1.20 | 1.20 | 1.80 | 1.65 | 9.0 ²⁾ | | | |
| |  |  | 316 | 16 | 0.9 | ● | ● | ● | ● | 1.20 | 0.85 | 1.80 | 1.50 | 8.0 | | | |
| |  |  | 318 | 18 | 0.9 | ● | ● | ● | ● | 1.20 | 1.05 | 1.85 | 1.60 | 7.0 | | | |
| |  |  | 320 | 20 | 0.7 | ● | ● | ● | ● | 1.00 | 0.90 | 1.35 | 1.55 | 6.0 | | | |
| |  |  | 322 | 22 | 0.7 | ● | ● | ● | ○ | 1.00 | 0.90 | 1.70 | 1.45 | 5.5 | | | |
| |  |  | 324 | 24 | 0.7 | ● | ● | ● | ● | 0.95 | 0.80 | 1.35 | 1.35 | 4.0 | | | |
|  |  | 326 | 26 | 0.7 | ● | ● | ● | ○ | 0.95 | 0.70 | 1.50 | 1.30 | 4.0 | | | | |
|  |  | 330 | 30 | 0.7 | ● | ● | ● | ● | 0.80 | 0.70 | 1.35 | 1.20 | 3.5 | | | | |

● First choice alternative ○ Special order alternative

Note: 1) See calculation method, caution and suggested standard on page 204.

2) Rated current = 6A for receptacle with elbow (90°) contact for printed circuit.

Multicontact

| | | Reference | Number of contacts | ø A (mm) | Contact type | | | Solder contact | | Crimp contact | | Rated current (A) ¹⁾ |
|----------------------|------------------------|-----------|--------------------|----------|--------------|-------|----------------------------|--|--|--|--|---------------------------------|
| Male solder contacts | Female solder contacts | | | | Solder | Crimp | Printed circuit (straight) | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 4B 4K | | 304 | 4 | 3.0 | ● | ● | ○ | 2.10 | 1.50 | 1.80 | 1.20 | 30.0 |
| | | 306 | 6 | 2.0 | ● | ● | ○ | 2.00 | 1.75 | 2.75 | 2.40 | 24.0 |
| | | 307 | 7 | 2.0 | ● | ● | ○ | 2.00 | 1.80 | 1.50 | 1.35 | 20.0 |
| | | 310 | 10 | 1.6 | ● | ● | ○ | 1.85 | 1.30 | 1.90 | 1.95 | 17.0 |
| | | 312 | 12 | 1.3 | ● | ● | ○ | 1.45 | 1.60 | 1.90 | 1.85 | 12.0 |
| | | 316 | 16 | 0.9 | ● | ● | ● | 1.35 | 1.50 | 2.30 | 2.10 | 10.0 |
| | | 320 | 20 | 0.9 | ● | ● | ● | 1.35 | 1.00 | 1.05 | 0.95 | 8.0 |
| | | 324 | 24 | 0.9 | ● | ● | ● | 1.20 | 1.45 | 1.80 | 2.05 | 7.0 |
| | | 330 | 30 | 0.9 | ● | ● | ● | 0.95 | 0.85 | 1.75 | 1.45 | 5.0 |
| | | 340 | 40 | 0.7 | ● | ● | ● | 0.95 | 1.00 | 1.35 | 1.30 | 2.0 |

● First choice alternative ○ Special order alternative **Note:** 1) See calculation method, caution and suggested standard on page 204.

Multicontact

| | | Reference | Number of contacts | ø A (mm) | Contact type | | | Solder contact | | Crimp contact | | Rated current (A) ¹⁾ | |
|---|------------------------|-----------|--------------------|----------|--------------|-------|----------------------------|--|--|--|--|---------------------------------|------|
| | | | | | Solder | Crimp | Printed circuit (straight) | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | | |
| Male solder contacts | Female solder contacts | | | | | | | | | | | | |
| Male crimp contacts | Female crimp contacts | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 2px; color: blue; font-weight: bold;">5B</div> <div style="border: 1px solid black; padding: 2px; color: blue; font-weight: bold;">5K</div> </div> | | 302 | 2 | 6.0 | ● | - | - | 3.60 | 2.95 | - | - | 50.0 | |
| | | | 304 | 4 | 4.0 | ● | ● | ○ | 2.95 | 2.65 | 3.20 | 2.40 | 35.0 |
| | | | 310 | 10 | 3.0 | ● | ● | ○ | 2.35 | 2.30 | 2.65 | 3.20 | 20.0 |
| | | | 314 | 14 | 2.0 | ● | ● | ○ | 2.35 | 2.00 | 2.85 | 2.95 | 18.0 |
| | | | 316 | 16 | 2.0 | ● | ● | ○ | 1.85 | 1.95 | 2.45 | 3.05 | 12.0 |
| | | | 320 | 20 | 1.6 | ● | ● | ○ | 1.90 | 1.70 | 2.20 | 2.40 | 10.0 |
| | | | 330 | 30 | 1.3 | ● | ● | ○ | 1.45 | 1.60 | 2.05 | 2.45 | 8.0 |
| | | | 340 | 40 | 1.3 | ● | ● | ○ | 1.30 | 1.45 | 2.00 | 1.95 | 7.0 |
| | | | 348 | 48 | 1.3 | ● | ● | ○ | 1.20 | 1.10 | 2.00 | 1.55 | 6.0 |
| | | | 350 | 50 | 0.9 | ● | ● | ● | 1.30 | 1.60 | 1.20 | 1.45 | 6.0 |
| | | | 354 | 54 | 0.9 | ● | ● | ● | 1.15 | 1.55 | 2.00 | 2.10 | 5.0 |
| | | | 364 | 64 | 0.9 | ● | ● | ● | 1.30 | 1.55 | 1.35 | 1.85 | 3.0 |

● First choice alternative ○ Special order alternative **Note:** 1) See calculation method, caution and suggested standard on page 204.

Housings (B and K series)

| Ref. | Material | Surface treatment | | Note |
|------|-------------------------------|----------------------------|----------------------------------|------|
| | | Outer shell and collet nut | Latch sleeve and grounding crown | |
| C | Brass | chrome | nickel | ● |
| N | Brass | nickel | nickel | ○ |
| K | Brass | black chrome | nickel | ● |
| S | Stainless steel | without treatment | nickel-plated brass | ● |
| T | Stainless steel | without treatment | stainless steel | ○ |
| U | Stainless steel ¹⁾ | without treatment | stainless steel | ○ |
| L | Aluminium alloy ²⁾ | anodized | nickel-plated brass | ○ |
| H | PPS ³⁾ /brass | without treat./Ni | nickel-plated brass | ● |
| G | PEEK ⁴⁾ | without treatment | nickel-plated brass | ● |
| P | PA.6 ⁵⁾ | without treatment | nickel-plated brass | ● |
| P | PSU ⁶⁾ | without treatment | nickel-plated brass | ● |
| R | PPSU ⁷⁾ | without treatment | nickel-plated brass | ● |
| X | Avional ⁸⁾ | nickel | nickel-plated brass | ● |

Note: detailed characteristics of these materials and treatments are presented on page 198.

¹⁾ The other metallic parts are in stainless steel.

²⁾ The «variant» position of the reference is used to specify the anodized color.

³⁾ Only available for elbow (90°) receptacles for printed circuit of the B and S series.

⁴⁾ Only available for FGG and ENG models of the B series.

⁵⁾ Only for CFF and CRG bridge plugs.

⁶⁾ Only available for ENY and FGY models of the B series. For the color, see the «variant» position.

⁷⁾ Only available for ENY and FGY models of the B series.

⁸⁾ Anthracite color.

● First choice alternative ○ Special order alternative

Insulators (B and K series)

| Ref. | Material | Note |
|------|----------|---------------|
| L | PEEK | ¹⁾ |
| Y | PEEK | ²⁾ |

Note: Detailed characteristics of these materials are presented on page 201.

¹⁾ For solder or printed circuit contacts.

²⁾ Only for crimp contacts. For the type 3B.309; 4B.304; 4B.307; 4B.320; 5B.304 and 5B.350, the reference shall be «L» instead of «Y».

Contacts (B and K series)

Contacts for plugs, free or fixed receptacles

| Ref. | Contact type | Ref. | Contact type |
|------|-----------------------------------|------|-------------------------------------|
| A | Male solder | M | Female crimp (fig. 1) ¹⁾ |
| C | Male crimp (fig. 1) ¹⁾ | P | Female crimp (fig. 2) ¹⁾ |
| B | Male crimp (fig. 2) ¹⁾ | U | Female crimp (fig. 2) ¹⁾ |
| G | Male crimp (fig. 2) ¹⁾ | N | Female straight printed circuit |
| L | Female solder | V | Female elbow printed circuit |

Note: ¹⁾ There are two forms of crimp barrels. Please consult adjacent table for contact selection and the page 9.

Contacts for couplers, plug with receptacle and bridge plug

| Ref. | Contact type | Ref. | Contact type |
|------|----------------------|------|------------------------|
| A | Male - Female | F | Female - Female - Male |
| C | Male - Male | L | Female - Male |
| E | Male - Male - Female | | |

Note: The first contact type mentioned is always the one at the flange end.

Dimension of crimp barrels

| Contact | | | Ref. contact type | | Conductor | | | | | | | |
|----------|----------|---------------|-------------------|--------|-----------|------|----------------------------|------|--|--|--|--|
| ø A (mm) | ø C (mm) | Form per fig. | Male | Female | AWG | | Section (mm ²) | | | | | |
| | | | | | min. | max. | min. | max. | | | | |
| 0.5 | 0.45 | 1 | C | M | 32 | 28 | 0.035 | 0.09 | | | | |
| | | | | | | | | | | | | |
| 0.7 | 0.80 | 1 | C | M | 26 | 22 | 0.140 | 0.34 | | | | |
| | | | | | | | | | | | | |
| 0.9 | 0.45 | 2 | B | P | 32 | 28 | 0.035 | 0.09 | | | | |
| | | | | | | | | | | | | |
| | 1.10 | 1 | C | M | 24 | 20 | 0.250 | 0.50 | | | | |
| | | | | | | | | | | | | |
| 1.3 | 0.80 | 2 | B | P | 26 | 22 | 0.140 | 0.34 | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 1.6 | 1.40 | 1 | C | M | 20 | 18 | 0.500 | 1.00 | | | | |
| | | | | | | | | | | | | |
| 2.0 | 1.90 | 2 | B | P | 24 | 20 | 0.250 | 0.50 | | | | |
| | | | | | | | | | | | | |
| 3.0 | 2.40 | 1 | C | M | 18 | 14 | 1.500 | 2.50 | | | | |
| | | | | | | | | | | | | |
| 4.0 | 2.90 | 2 | B | P | 18 | 14 | 1.000 | 1.50 | | | | |
| | | | | | | | | | | | | |
| 4.0 | 4.00 | 1 | C | M | 14 | 10 | 2.500 | 4.00 | | | | |
| | | | | | | | | | | | | |

Collets (B and K series)

D and M type collets

| Reference | | Collet \varnothing | | Cable \varnothing | | Part number of the collet ¹⁾ | Part number of the reducer ²⁾ | Part number of the reducing cone ²⁾ | Part number of the collet nut | |
|-----------|----|----------------------|-----------------|---------------------|------|---|--|--|-------------------------------|---------------|
| | | $\varnothing A$ | $\varnothing B$ | max. | min. | | | | | |
| 00 | D | 17 | 1.7 | – | 1.6 | 1.1 | FGG.00.717.DN | – | – | FGG.00.130.LC |
| | D | 22 | 2.2 | – | 2.1 | 1.6 | FGG.00.722.DN | – | – | FGG.00.130.LC |
| | D | 27 | 2.7 | – | 2.6 | 2.1 | FGG.00.727.DN | – | – | FGG.00.130.LC |
| | D | 30 | 3.1 | 2.8 | 3.0 | 2.5 | FGG.00.730.DN | – | – | FGG.00.130.LC |
| | D | 35 | 3.5 | 2.8 | 3.4 | 2.9 | FGG.00.735.DN | – | – | FGG.00.130.LC |
| 0B | D | 21 | 2.1 | – | 2.0 | 1.5 | FGG.0B.721.DN | – | – | FGG.0B.130.LC |
| | D | 31 | 3.1 | – | 3.0 | 2.1 | FGG.0B.731.DN | – | – | FGG.0B.130.LC |
| | D | 42 | 4.2 | – | 4.0 | 3.1 | FGG.0B.742.DN | – | – | FGG.0B.130.LC |
| | D | 52 | 5.2 | 4.7 | 5.0 | 4.1 | FGG.0B.752.DN | – | – | FGG.0B.130.LC |
| | D | 56 | 5.6 | 4.7 | 5.5 | 5.1 | FGG.0B.756.DN ³⁾ | – | – | FGG.0B.132.LC |
| 1B | M | 27 | 2.7 | – | 2.6 | 2.2 | FFC.00.727.CN | FGG.1B.138.LN | FGG.1B.158.LN | FGG.1B.130.LC |
| | M | 31 | 3.1 | – | 3.0 | 2.6 | FFC.00.731.CN | FGG.1B.138.LN | FGG.1B.158.LN | FGG.1B.130.LC |
| | D | 42 | 4.2 | – | 4.0 | 3.1 | FGG.1B.742.DN | – | – | FGG.1B.130.LC |
| | D | 52 | 5.2 | – | 5.0 | 4.1 | FGG.1B.752.DN | – | – | FGG.1B.130.LC |
| | D | 62 | 6.2 | – | 6.0 | 5.1 | FGG.1B.762.DN | – | – | FGG.1B.130.LC |
| | D | 72 | 7.2 | 6.7 | 7.0 | 6.1 | FGG.1B.772.DN | – | – | FGG.1B.130.LC |
| | D | 76 | 7.6 | 6.7 | 7.5 | 7.1 | FGG.1B.776.DN ³⁾ | – | – | FGG.1B.132.LC |
| 2B | M | 21 | 2.1 | – | 2.0 | 1.5 | FGG.0B.721.DN | FGG.2B.138.LN | FGG.2B.158.LN | FGG.2B.130.LC |
| | M | 31 | 3.1 | – | 3.0 | 2.1 | FGG.0B.731.DN | FGG.2B.138.LN | FGG.2B.158.LN | FGG.2B.130.LC |
| | M | 42 | 4.2 | – | 4.0 | 3.1 | FGG.0B.742.DN | FGG.2B.138.LN | FGG.2B.158.LN | FGG.2B.130.LC |
| | D | 52 | 5.2 | – | 5.0 | 4.1 | FGG.2B.752.DN | – | – | FGG.2B.130.LC |
| | D | 62 | 6.2 | – | 6.0 | 5.1 | FGG.2B.762.DN | – | – | FGG.2B.130.LC |
| | D | 72 | 7.2 | – | 7.0 | 6.1 | FGG.2B.772.DN | – | – | FGG.2B.130.LC |
| | D | 82 | 8.2 | – | 8.0 | 7.1 | FGG.2B.782.DN | – | – | FGG.2B.130.LC |
| | D | 92 | 9.2 | 8.6 | 9.0 | 8.1 | FGG.2B.792.DN | – | – | FGG.2B.130.LC |
| | D | 99 | 9.9 | 8.6 | 9.7 | 9.1 | FGG.2B.799.DN ³⁾ | – | – | FGG.2B.132.LC |
| | 3B | M | 52 | 5.2 | – | 5.0 | 4.1 | FGG.1B.752.DN | FGG.3B.138.LN | FGG.3B.158.LN |
| D | | 62 | 6.2 | – | 6.0 | 5.1 | FGG.3B.762.DN | – | – | FGG.3B.130.LC |
| D | | 72 | 7.2 | – | 7.0 | 6.1 | FGG.3B.772.DN | – | – | FGG.3B.130.LC |
| D | | 82 | 8.2 | – | 8.0 | 7.1 | FGG.3B.782.DN | – | – | FGG.3B.130.LC |
| D | | 92 | 9.2 | – | 9.0 | 8.1 | FGG.3B.792.DN | – | – | FGG.3B.130.LC |
| D | | 10 | 10.2 | – | 10.0 | 9.1 | FGG.3B.710.DN | – | – | FGG.3B.130.LC |
| D | | 11 | 11.2 | 10.2 | 11.0 | 10.1 | FGG.3B.711.DN | – | – | FGG.3B.130.LC |
| D | | 12 | 11.9 | 10.2 | 11.7 | 11.1 | FGG.3B.712.DN ³⁾ | – | – | FGG.3B.132.LC |

Note:

- ¹⁾ For ordering collets separately.
- ²⁾ For ordering an M type collet, a reducer and its reducing cone should also be ordered.
- ³⁾ These collets cannot be used for connector models with nut for fitting a bend relief.

All dimensions are in millimeters.

D and M type collets

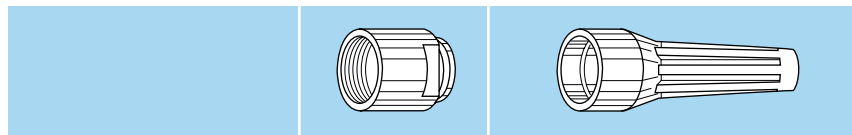


| | Reference | | Collet \varnothing | | Cable \varnothing | | Part number of the collet ¹⁾ | Part number of the reducer ²⁾ | Part number of the reducing cone ²⁾ | Part number of the collet nut |
|-----------|-----------|---------------|----------------------|-----------------|---------------------|------|---|--|--|-------------------------------|
| | Type | \varnothing | $\varnothing A$ | $\varnothing B$ | max. | min. | | | | |
| 4B | M | 62 | 6.2 | – | 6.0 | 5.1 | FGG.2B.762.DN | FGG.4B.138.LN | FGG.4B.158.LN | FGG.4B.130.LC |
| | M | 72 | 7.2 | – | 7.0 | 6.1 | FGG.2B.772.DN | FGG.4B.138.LN | FGG.4B.158.LN | FGG.4B.130.LC |
| | M | 82 | 8.2 | – | 8.0 | 7.1 | FGG.2B.782.DN | FGG.4B.138.LN | FGG.4B.158.LN | FGG.4B.130.LC |
| | M | 92 | 9.2 | 8.6 | 9.0 | 8.1 | FGG.2B.792.DN | FGG.4B.138.LN | FGG.4B.158.LN | FGG.4B.130.LC |
| | D | 10 | 10.8 | – | 10.5 | 9.1 | FGG.4B.710.DN | – | – | FGG.4B.130.LC |
| | D | 12 | 12.3 | – | 12.0 | 10.6 | FGG.4B.712.DN | – | – | FGG.4B.130.LC |
| | D | 13 | 13.8 | 12.5 | 13.5 | 12.1 | FGG.4B.713.DN | – | – | FGG.4B.130.LC |
| | D | 15 | 15.3 | 12.5 | 15.0 | 13.6 | FGG.4B.715.DN | – | – | FGG.4B.130.LC |
| | D | 16 | 16.3 | 12.5 | 16.0 | 15.1 | FGG.4B.716.DN ³⁾ | – | – | FGG.4B.132.LC |
| 5B | D | 11 | 11.8 | – | 11.5 | 9.6 | FGG.5B.711.DN | – | – | FGG.5B.130.LC |
| | D | 13 | 13.8 | – | 13.5 | 11.6 | FGG.5B.713.DN | – | – | FGG.5B.130.LC |
| | D | 15 | 15.8 | – | 15.5 | 13.6 | FGG.5B.715.DN | – | – | FGG.5B.130.LC |
| | D | 17 | 17.8 | – | 17.5 | 15.6 | FGG.5B.717.DN ³⁾ | – | – | FGG.5B.130.LC |
| | D | 19 | 19.8 | – | 19.5 | 17.6 | FGG.5B.719.DN ³⁾ | – | – | FGG.5B.130.LC |
| | D | 21 | 21.8 | – | 21.5 | 19.6 | FGG.5B.721.DN ³⁾ | – | – | FGG.5B.130.LC |
| | D | 23 | 23.8 | 21.8 | 23.5 | 21.6 | FGG.5B.723.DN ³⁾ | – | – | FGG.5B.130.LC |
| | D | 25 | 25.3 | 21.8 | 25.0 | 23.6 | FGG.5B.725.DN ³⁾ | – | – | FGG.5B.132.LC |

Note:

- 1) For ordering collet separately.
- 2) For ordering an M type collet, a reducer and its reducing cone should also be ordered.
- 3) These collets cannot be used for connector models with collet nut for fitting a bend relief.

Bend relief collet nut and bend relief

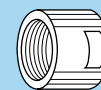
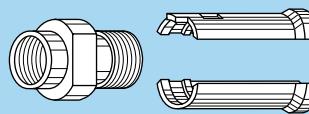


| | Reference | | Part number of the collet nut | Bend relief to be used ¹⁾ |
|-----------|-----------|---------------|-------------------------------|--------------------------------------|
| | Type | \varnothing | | |
| 00 | D | 17 to 35 | FFM.00.131.LC | GMA.00.●●●●●● GMB.00.●●●●●● |
| 0B | D | 21 to 52 | FFM.0B.130.LC | GMA.0B.●●●●●● |
| 1B | M | 27 and 31 | FFM.1B.130.LC | GMA.1B.●●●●●● |
| | D | 42 to 72 | FFM.1B.130.LC | GMA.1B.●●●●●● |
| 2B | M | 21 and 31 | FFM.2B.132.LC | GMA.0B.●●●●●● |
| | M | 42 | FFM.2B.130.LC | GMA.2B.●●●●●● |
| | D | 52 to 92 | FFM.2B.130.LC | GMA.2B.●●●●●● |
| 3B | M | 52 | FFM.3B.131.LC | GMA.1B.●●●●●● |
| | D | 62 to 11 | FFM.3B.130.LC | GMA.3B.●●●●●● |
| 4B | M | 62 and 72 | FFM.4B.132.LC | GMA.2B.●●●●●● |
| | M | 82 and 92 | FFM.4B.130.LC | GMA.4B.●●●●●● |
| | D | 10 to 15 | FFM.4B.130.LC | GMA.4B.●●●●●● |
| 5B | D | 11 to 15 | FFM.5B.130.LC | GMA.4B.●●●●●● |

Note: ¹⁾ The bend relief is to be ordered separately (see pages 175 and 176).

All dimensions are in millimeters.

C and K type collets



| | Reference | | Collet ø | | Cable ø | | Part number of the collet system ¹⁾ | Part number of the oversize collet and of the two split center-pieces ²⁾ | Part number of the collet nut ²⁾ |
|-----------|-----------|-----|----------|------|---------|----------------|--|---|---|
| | Type | ø | ø A | ø B | max. | min. | | | |
| OK | C | 10 | 1.6 | – | 1.2 | 1.0 | FFA.0E.710.CNS | – | FFA.0E.130.LC |
| | C | 15 | 1.6 | – | 1.5 | 1.3 | FFA.0E.715.CNS | – | FFA.0E.130.LC |
| | C | 20 | 2.1 | – | 2.0 | 1.6 | FFA.0E.720.CNS | – | FFA.0E.130.LC |
| | C | 25 | 3.1 | – | 2.5 | 2.1 | FFA.0E.725.CNS | – | FFA.0E.130.LC |
| | C | 30 | 3.1 | – | 3.0 | 2.6 | FFA.0E.730.CNS | – | FFA.0E.130.LC |
| | C | 35 | 4.2 | 4.2 | 3.5 | 3.1 | FFA.0E.735.CNS | – | FFA.0E.130.LC |
| | C | 40 | 4.2 | 4.2 | 4.0 | 3.6 | FFA.0E.740.CNS | – | FFA.0E.130.LC |
| | C | 45 | 5.2 | 5.2 | 4.5 | 4.1 | FFA.0E.745.CNS | – | FFA.0E.130.LC |
| | C | 50 | 5.2 | 5.2 | 5.0 | 4.6 | FFA.0E.750.CNS | – | FFA.0E.130.LC |
| 1K | C | 15 | 1.6 | – | 1.5 | 1.3 | FFA.1E.715.CNS | – | FFA.1E.130.LC |
| | C | 20 | 2.2 | – | 2.0 | 1.6 | FFA.1E.720.CNS | – | FFA.1E.130.LC |
| | C | 25 | 3.2 | – | 2.5 | 2.1 | FFA.1E.725.CNS | – | FFA.1E.130.LC |
| | C | 30 | 3.2 | – | 3.0 | 2.6 | FFA.1E.730.CNS | – | FFA.1E.130.LC |
| | C | 35 | 4.2 | – | 3.5 | 3.1 | FFA.1E.735.CNS | – | FFA.1E.130.LC |
| | C | 40 | 4.2 | – | 4.0 | 3.6 | FFA.1E.740.CNS | – | FFA.1E.130.LC |
| | C | 45 | 5.2 | – | 4.5 | 4.1 | FFA.1E.745.CNS | – | FFA.1E.130.LC |
| | C | 50 | 5.2 | – | 5.0 | 4.6 | FFA.1E.750.CNS | – | FFA.1E.130.LC |
| | C | 55 | 6.2 | 6.2 | 5.5 | 5.1 | FFA.1E.755.CNS | – | FFA.1E.130.LC |
| | C | 60 | 6.2 | 6.2 | 6.0 | 5.6 | FFA.1E.760.CNS | – | FFA.1E.130.LC |
| | C | 65 | 7.2 | 6.7 | 6.5 | 6.1 | FFA.1E.765.CNS | – | FFA.1E.130.LC |
| | K | 70 | 7.2 | – | 7.0 | 6.6 | FFA.2E.770.CNS | FFA.1K.137.LCN | FFA.2E.130.LC ²⁾ |
| | K | 75 | 8.2 | 8.2 | 7.5 | 7.1 | FFA.2E.775.CNS | FFA.1K.137.LCN | FFA.2E.130.LC ²⁾ |
| | K | 80 | 8.2 | 8.2 | 8.0 | 7.6 | FFA.2E.780.CNS | FFA.1K.137.LCN | FFA.2E.130.LC ²⁾ |
| K | 85 | 9.2 | 8.6 | 8.5 | 8.1 | FFA.2E.785.CNS | FFA.1K.137.LCN | FFA.2E.130.LC ²⁾ | |
| 2K | C | 15 | 2.2 | – | 1.5 | 1.3 | FFA.2E.715.CNS | – | FFA.2E.130.LC |
| | C | 20 | 2.2 | – | 2.0 | 1.6 | FFA.2E.720.CNS | – | FFA.2E.130.LC |
| | C | 25 | 3.2 | – | 2.5 | 2.1 | FFA.2E.725.CNS | – | FFA.2E.130.LC |
| | C | 30 | 3.2 | – | 3.0 | 2.6 | FFA.2E.730.CNS | – | FFA.2E.130.LC |
| | C | 35 | 4.2 | – | 3.5 | 3.1 | FFA.2E.735.CNS | – | FFA.2E.130.LC |
| | C | 40 | 4.2 | – | 4.0 | 3.6 | FFA.2E.740.CNS | – | FFA.2E.130.LC |
| | C | 45 | 5.2 | – | 4.5 | 4.1 | FFA.2E.745.CNS | – | FFA.2E.130.LC |
| | C | 50 | 5.2 | – | 5.0 | 4.6 | FFA.2E.750.CNS | – | FFA.2E.130.LC |
| | C | 55 | 6.2 | – | 5.5 | 5.1 | FFA.2E.755.CNS | – | FFA.2E.130.LC |
| | C | 60 | 6.2 | – | 6.0 | 5.6 | FFA.2E.760.CNS | – | FFA.2E.130.LC |
| | C | 65 | 7.2 | – | 6.5 | 6.1 | FFA.2E.765.CNS | – | FFA.2E.130.LC |
| | C | 70 | 7.2 | – | 7.0 | 6.6 | FFA.2E.770.CNS | – | FFA.2E.130.LC |
| | C | 75 | 8.2 | 8.2 | 7.5 | 7.1 | FFA.2E.775.CNS | – | FFA.2E.130.LC |
| | C | 80 | 8.2 | 8.2 | 8.0 | 7.6 | FFA.2E.780.CNS | – | FFA.2E.130.LC |
| | C | 85 | 9.2 | 8.6 | 8.5 | 8.1 | FFA.2E.785.CNS | – | FFA.2E.130.LC |
| | K | 90 | 9.2 | – | 9.0 | 8.6 | FFA.3E.790.CNS | FFA.2K.137.LCN | FFA.3E.130.LC ²⁾ |
| | K | 95 | 10.2 | 10.2 | 9.5 | 9.1 | FFA.3E.795.CNS | FFA.2K.137.LCN | FFA.3E.130.LC ²⁾ |
| | K | 10 | 10.2 | 10.2 | 10.0 | 9.6 | FFA.3E.710.CNS | FFA.2K.137.LCN | FFA.3E.130.LC ²⁾ |
| | K | 11 | 11.2 | 10.6 | 11.0 | 10.1 | FFA.3E.711.CNS | FFA.2K.137.LCN | FFA.3E.130.LC ²⁾ |

Note:

¹⁾ For ordering the collet system separately.

²⁾ For ordering the K type collet, the oversize collet and the split center-pieces, as well as the corresponding collet nut should also be ordered.

All dimensions are in millimeters.

C and K type collets



| Reference | | Collet \varnothing | | Cable \varnothing | | Part number of the collet system ¹⁾ | Part number of the oversize collet and of the two split center-pieces ²⁾ | Part number of the collet nut ²⁾ | |
|-----------|---------------|----------------------|-----------------|---------------------|------|--|---|---|-----------------------------|
| Type | \varnothing | $\varnothing A$ | $\varnothing B$ | max. | min. | | | | |
| 3K | C | 30 | 3.2 | – | 3.0 | 2.6 | FFA.3E.730.CNS | – | FFA.3E.130.LC |
| | C | 35 | 4.2 | – | 3.5 | 3.1 | FFA.3E.735.CNS | – | FFA.3E.130.LC |
| | C | 40 | 4.2 | – | 4.0 | 3.6 | FFA.3E.740.CNS | – | FFA.3E.130.LC |
| | C | 45 | 5.2 | – | 4.5 | 4.1 | FFA.3E.745.CNS | – | FFA.3E.130.LC |
| | C | 50 | 5.2 | – | 5.0 | 4.6 | FFA.3E.750.CNS | – | FFA.3E.130.LC |
| | C | 55 | 6.2 | – | 5.5 | 5.1 | FFA.3E.755.CNS | – | FFA.3E.130.LC |
| | C | 60 | 6.2 | – | 6.0 | 5.6 | FFA.3E.760.CNS | – | FFA.3E.130.LC |
| | C | 65 | 7.2 | – | 6.5 | 6.1 | FFA.3E.765.CNS | – | FFA.3E.130.LC |
| | C | 70 | 7.2 | – | 7.0 | 6.6 | FFA.3E.770.CNS | – | FFA.3E.130.LC |
| | C | 75 | 8.2 | – | 7.5 | 7.1 | FFA.3E.775.CNS | – | FFA.3E.130.LC |
| | C | 80 | 8.2 | – | 8.0 | 7.6 | FFA.3E.780.CNS | – | FFA.3E.130.LC |
| | C | 85 | 9.2 | – | 8.5 | 8.1 | FFA.3E.785.CNS | – | FFA.3E.130.LC |
| | C | 90 | 9.2 | – | 9.0 | 8.6 | FFA.3E.790.CNS | – | FFA.3E.130.LC |
| | C | 95 | 10.2 | 10.2 | 9.5 | 9.1 | FFA.3E.795.CNS | – | FFA.3E.130.LC |
| | C | 10 | 10.2 | 10.2 | 10.0 | 9.6 | FFA.3E.710.CNS | – | FFA.3E.130.LC |
| C | 11 | 11.2 | 11.2 | 10.5 | 10.1 | FFA.3E.711.CNS | – | FFA.3E.130.LC | |
| K | 11 | 12.3 | – | 12.0 | 10.6 | FFA.4E.711.CNS | FFA.3K.137.LCN | FFA.4E.130.LC ²⁾ | |
| K | 12 | 13.8 | 13.8 | 12.8 | 12.1 | FFA.4E.712.CNS | FFA.3K.137.LCN | FFA.4E.130.LC ²⁾ | |
| K | 13 | 13.8 | 13.8 | 13.5 | 12.9 | FFA.4E.713.CNS | FFA.3K.137.LCN | FFA.4E.130.LC ²⁾ | |
| K | 14 | 15.3 | 15.3 | 14.0 | 13.6 | FFA.4E.714.CNS | FFA.3K.137.LCN | FFA.4E.130.LC ²⁾ | |
| K | 15 | 15.3 | 15.3 | 15.0 | 14.1 | FFA.4E.715.CNS | FFA.3K.137.LCN | FFA.4E.130.LC ²⁾ | |
| 4K | C | 50 | 6.3 | – | 5.0 | 4.8 | FFA.4E.750.CNS | – | FFA.4E.130.LC |
| | C | 55 | 6.3 | – | 5.5 | 5.1 | FFA.4E.755.CNS | – | FFA.4E.130.LC |
| | C | 60 | 6.3 | – | 6.0 | 5.6 | FFA.4E.760.CNS | – | FFA.4E.130.LC |
| | C | 65 | 7.3 | – | 6.5 | 6.1 | FFA.4E.765.CNS | – | FFA.4E.130.LC |
| | C | 70 | 7.3 | – | 7.0 | 6.6 | FFA.4E.770.CNS | – | FFA.4E.130.LC |
| | C | 75 | 8.3 | – | 7.5 | 7.1 | FFA.4E.775.CNS | – | FFA.4E.130.LC |
| | C | 80 | 8.3 | – | 8.0 | 7.6 | FFA.4E.780.CNS | – | FFA.4E.130.LC |
| | C | 85 | 9.3 | – | 8.5 | 8.1 | FFA.4E.785.CNS | – | FFA.4E.130.LC |
| | C | 90 | 9.3 | – | 9.0 | 8.6 | FFA.4E.790.CNS | – | FFA.4E.130.LC |
| | C | 95 | 10.8 | – | 9.5 | 9.1 | FFA.4E.795.CNS | – | FFA.4E.130.LC |
| | C | 10 | 10.8 | – | 10.5 | 9.6 | FFA.4E.710.CNS | – | FFA.4E.130.LC |
| | C | 11 | 12.3 | – | 12.0 | 10.6 | FFA.4E.711.CNS | – | FFA.4E.130.LC |
| | C | 12 | 13.8 | 13.8 | 12.8 | 12.1 | FFA.4E.712.CNS | – | FFA.4E.130.LC |
| | C | 13 | 13.8 | 13.8 | 13.5 | 12.9 | FFA.4E.713.CNS | – | FFA.4E.130.LC |
| | C | 14 | 15.3 | 15.3 | 14.0 | 13.6 | FFA.4E.714.CNS | – | FFA.4E.130.LC |
| | C | 15 | 15.3 | 15.3 | 15.0 | 14.1 | FFA.4E.715.CNS | – | FFA.4E.130.LC |
| | K | 16 | 17.8 | – | 16.5 | 15.6 | FFA.4K.716.CNS | FFA.4K.137.LCN ³⁾ | FFA.4K.136.LC ²⁾ |
| | K | 17 | 17.8 | – | 17.5 | 16.6 | FFA.4K.717.CNS | FFA.4K.137.LCN | FFA.4K.136.LC ²⁾ |
| | K | 18 | 19.8 | – | 18.5 | 17.6 | FFA.4K.718.CNS | FFA.4K.137.LCN | FFA.4K.136.LC ²⁾ |
| | K | 19 | 19.8 | – | 19.5 | 18.6 | FFA.4K.719.CNS | FFA.4K.137.LCN | FFA.4K.136.LC ²⁾ |
| | K | 20 | 21.8 | – | 20.5 | 19.6 | FFA.4K.720.CNS | FFA.4K.137.LCN | FFA.4K.136.LC ²⁾ |
| | K | 21 | 21.8 | – | 21.5 | 20.6 | FFA.4K.721.CNS | FFA.4K.137.LCN | FFA.4K.136.LC ²⁾ |
| | K | 22 | 23.8 | 23.8 | 22.5 | 21.6 | FFA.4K.722.CNS | FFA.4K.137.LCN | FFA.4K.136.LC ²⁾ |
| K | 23 | 23.8 | 23.8 | 23.5 | 22.6 | FFA.4K.723.CNS | FFA.4K.137.LCN | FFA.4K.136.LC ²⁾ | |

Note:

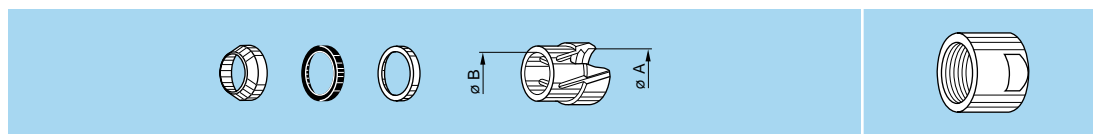
¹⁾ For ordering the collet system separately.

²⁾ For ordering the K type collet, the oversize collet and the split center-pieces, as well as the corresponding collet nut should also be ordered.

³⁾ In 4K series, the center-piece is made of one piece.

All dimensions are in millimeters.

C type collets

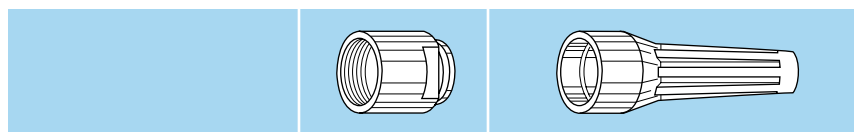


| Reference | Collet \varnothing | | Cable \varnothing | | Part number of the collet system ¹⁾ | Part number of the collet nut | | |
|-----------|----------------------|---------------|---------------------|-----------------|--|-------------------------------|----------------|---------------|
| | Type | \varnothing | $\varnothing A$ | $\varnothing B$ | | | max. | min. |
| 5K | C | 10 | 11.8 | – | 10.5 | 9.6 | FFA.5K.710.CNS | FFA.5K.130.LC |
| | C | 11 | 11.8 | – | 11.5 | 10.6 | FFA.5K.711.CNS | FFA.5K.130.LC |
| | C | 12 | 13.8 | – | 12.5 | 11.6 | FFA.5K.712.CNS | FFA.5K.130.LC |
| | C | 13 | 13.8 | – | 13.5 | 12.6 | FFA.5K.713.CNS | FFA.5K.130.LC |
| | C | 14 | 15.8 | – | 14.5 | 13.6 | FFA.5K.714.CNS | FFA.5K.130.LC |
| | C | 15 | 15.8 | – | 15.5 | 14.6 | FFA.5K.715.CNS | FFA.5K.130.LC |
| | C | 16 | 17.8 | – | 16.5 | 15.6 | FFA.5K.716.CNS | FFA.5K.130.LC |
| | C | 17 | 17.8 | – | 17.5 | 16.6 | FFA.5K.717.CNS | FFA.5K.130.LC |
| | C | 18 | 19.8 | – | 18.5 | 17.6 | FFA.5K.718.CNS | FFA.5K.130.LC |
| | C | 19 | 19.8 | – | 19.5 | 18.6 | FFA.5K.719.CNS | FFA.5K.130.LC |
| | C | 20 | 21.8 | – | 20.5 | 19.6 | FFA.5K.720.CNS | FFA.5K.130.LC |
| | C | 21 | 21.8 | – | 21.5 | 20.6 | FFA.5K.721.CNS | FFA.5K.130.LC |
| | C | 22 | 23.8 | 23.8 | 22.5 | 21.6 | FFA.5K.722.CNS | FFA.5K.130.LC |
| | C | 23 | 23.8 | 23.8 | 23.5 | 22.6 | FFA.5K.723.CNS | FFA.5K.130.LC |

Note:

¹⁾ For ordering the collet system separately.

Bend relief collet nut and bend relief



| Reference | Part number of the collet nut | | Bend relief to be used ¹⁾ | |
|-----------|-------------------------------|---------------|--------------------------------------|---------------|
| | Type | \varnothing | | |
| 0K | C | 10 to 50 | FFM.0E.130.LC | GMA.0B.●●●.●● |
| | K | 70 to 85 | FFM.2E.130.LC | GMA.2B.●●●.●● |
| 1K | C | 15 to 65 | FFM.1E.130.LC | GMA.1B.●●●.●● |
| | K | 90 to 11 | FFM.3E.130.LC | GMA.3B.●●●.●● |
| 2K | C | 15 to 85 | FFM.2E.130.LC | GMA.2B.●●●.●● |
| | K | 90 to 11 | FFM.3E.130.LC | GMA.3B.●●●.●● |
| 3K | C | 30 to 10 | FFM.3E.130.LC | GMA.3B.●●●.●● |
| | K | 11 to 15 | FFM.4E.130.LC | GMA.4B.●●●.●● |
| 4K | C | 50 to 15 | FFM.4E.130.LC | GMA.4B.●●●.●● |

Note: ¹⁾ The bend relief is to be ordered separately (see pages 175 and 176).

All dimensions are in millimeters.

▶

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| □ | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ | □ |
|---|---|---|---|---|---|---|---|---|---|---|---|

Variant (B and K series)

Color of the bridge plug shells and connectors shell made of plastic material

The «variant» position of the reference is used to specify the color of the shell according to the table below.

| Ref. | Color | Ref. | Color | Ref. | Color |
|-----------------|-------|------|--------|------|--------|
| A | blue | J | yellow | R | red |
| B ¹⁾ | white | M | brown | S | orange |
| G ¹⁾ | grey | N | black | V | green |

Note: ¹⁾ PSU connector shells are only available in white or grey colors. The variant position is also used to indicate epoxy filling of watertight and vacuum-tight receptacle models, the reference P is used.

Anodized color

The «variant» position of the reference is used to specify the anodized color according to the table below.

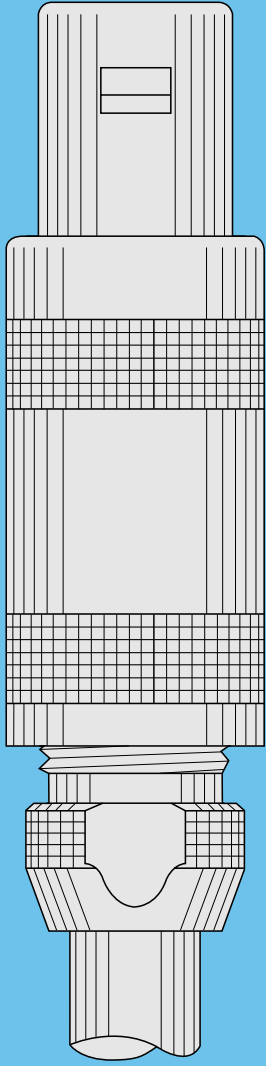
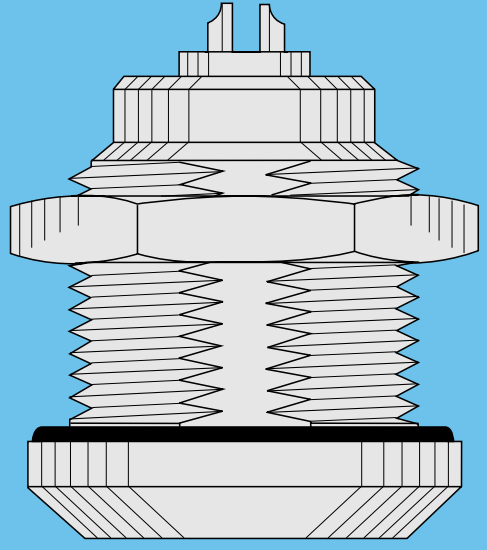
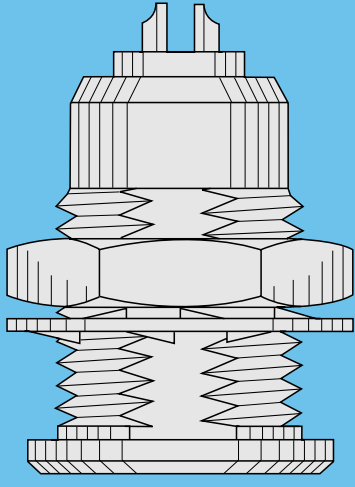
Part number for connector with standard collet nut

| Ref. | Anodized color | Ref. | Anodized color |
|------|----------------|------|----------------|
| A | blue | R | red |
| J | yellow | T | natural |
| N | black | V | green |

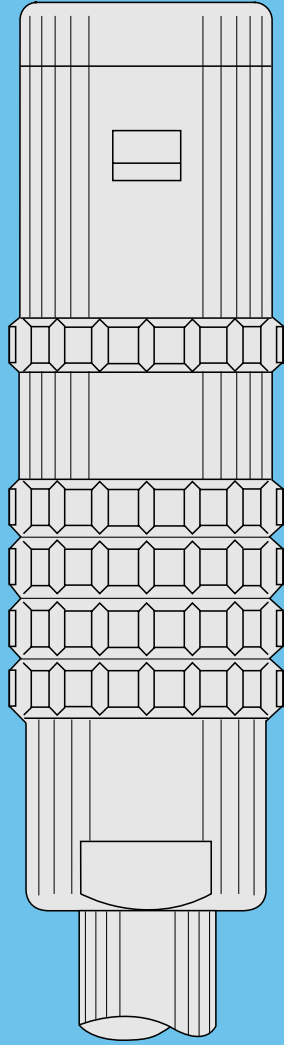
Part number for connector with collet nut for bend relief

| Ref. | Anodized color |
|------|----------------|
| L | black |
| X | natural |

Note: Other anodizing colors are available for connectors with collet nut for bend relief. Please consult us.



S SERIES



E SERIES (watertight)

S series

S series connectors have main features as follows:

- security of the Push-Pull self-latching system
- single contact types transmitting current up to 230 A and multicontact types with up to 106 contacts
- solder or printed circuit contacts (straight or elbow)
- polarization by stepped insert (half-moon) fitted with male and female contacts
- 360° screening for full EMC shielding
- wide range of models satisfying most applications.

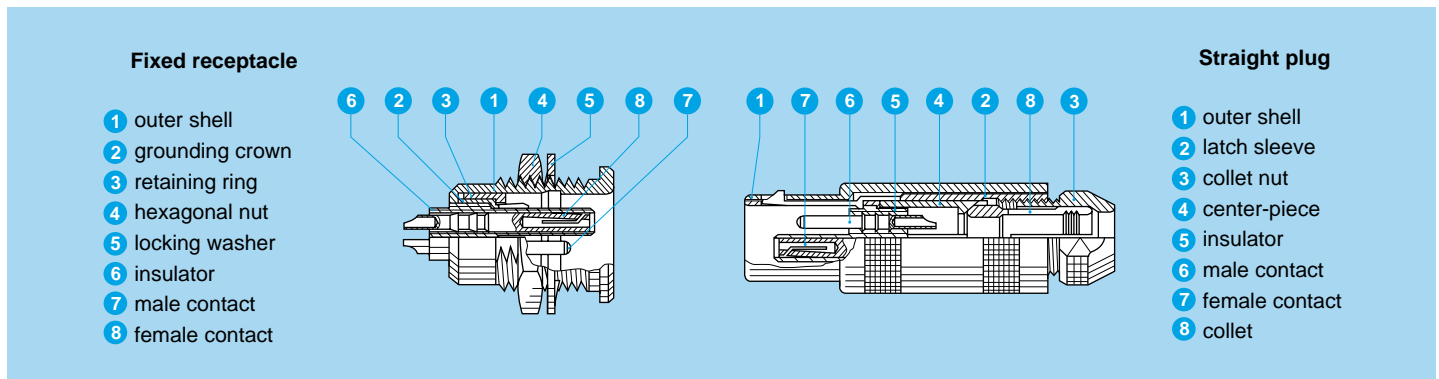
Interconnections

| Straight plugs | | Straight plugs | | Fixed receptacles | | Free receptacles | |
|--|----------|-------------------------|----------|--|-----|---|-----|
| | FFF | | FFA, FFP | | ERA | | EBC |
| | FFS | | FFA | | ERN | | ERT |
| | FZP | | FFA, FFP | | ERC | | EEP |
| Fixed plug | | | FFB | | ERS | | ERD |
| | FAA | | FFE | | EHP | | ERY |
| Elbow plugs | | | FFL | | EBD | | ECP |
| | FLA | | | | EBS | | ECP |
| | FLS | | | | | | EMD |
| Plastic housing models | | Fixed receptacle | | Elbow receptacles | | Fixed receptacles with microswitch | |
| Straight plugs | | | | | EPL | | ERM |
| | FFA, FFP | | | | EXP | | ERZ |
| | FFP | | | | | Plug with resistor | |
| | FFL | | | | | | FRT |
| | | | | Free coupler | | | |
| | | | | | RMA | | |
| Watertight or vacuum-tight models | | Fixed coupler | | Fixed coupler | | T-plug | |
| Fixed receptacles | | | | | RAD | | FTA |
| | HGP | | | | | | FTR |
| | EWB | | | Straight coupler with two plugs | | | |
| | HCP | | | | FEF | | |
| | HGW | | | | | | |

Model Description

| | | |
|---|---|---|
| EBC Fixed receptacle with square flange, protruding shell and screw fixing | EWB Fixed receptacle, nut fixing, with two flats on the flange, watertight or vacuum-tight | FLS Elbow (90°) plug for cable crimping |
| EBD Fixed receptacle with square flange and screw fixing | EXP Elbow (90°) receptacle for printed circuit with two nuts (back panel mounting) | FRT Straight plug with resistor |
| EBS Fixed receptacle with round flange and screw fixing | FAA Fixed plug non-latching, nut fixing | FTA T-plug with two in line receptacles |
| ECP Fixed receptacle with two nuts, long threaded shell (back panel mounting) | FEF Straight coupler with two plugs and front seal | FTR Elbow (90°) plug with receptacle |
| ECP Fixed receptacle with two nuts, long threaded shell, with straight contact for printed circuit (back panel mounting) | FFA Straight plug, cable collet and nut for fitting a bend relief | FZP Straight plug for remote handling, cable collet and inner anti-rotating device |
| ECP Fixed receptacle with two nuts, long threaded shell, with elbow (90°) contacts for printed circuit (back panel mounting) | FFA Straight plug, cable collet, PEEK or POM outer shell | HCP Fixed receptacle, nut fixing, watertight or vacuum-tight (back panel mounting) |
| EEP Fixed receptacle, nut fixing (back panel mounting) | FFB Straight plug, cable collet and safety locking ring | HGP Fixed receptacle, nut fixing, watertight or vacuum-tight |
| EHP Fixed receptacle, nut fixing, protruding shell | FFE Straight plug, cable collet, front seal and nut for fitting a bend relief | HGW Fixed receptacle, with back washer, watertight or vacuum-tight |
| EMD Fixed receptacle with two nuts and microswitch (back panel mounting) | FFF Straight plug, non-latching, cable collet | PCA Free receptacle, cable collet |
| EPL Elbow (90°) receptacle for printed circuit | FFL Straight plug, flats on latch sleeve, cable collet and inner anti-rotating device | PCA Free receptacle, with oversize cable collet |
| ERA Fixed receptacle, nut fixing | FFL Straight plug, cable collet, with PSU and PPSU outer shell, inner anti-rotating device and nut for fitting a bend relief | PCA Free receptacle, cable collet and nut for fitting a bend relief |
| ERC Fixed receptacle, nut fixing with slot in the flange | FFP Straight plug, cable collet and inner anti-rotating device | PCP Free receptacle, cable collet and inner anti-rotating device |
| ERD Fixed receptacle with two nuts (back panel mounting) | FFP Straight plug, cable collet and inner anti-rotating device and nut for fitting a bend relief | PCP Free receptacle, cable collet and inner anti-rotating device |
| ERM Fixed receptacle, nut fixing with microswitch | FFP Straight plug, cable collet, PEEK or POM outer shell and inner anti-rotating device | PSA Fixed receptacle, nut fixing, cable collet |
| ERN Fixed receptacle, nut fixing, with grounding tab | FFP Straight plug, cable collet, PEEK or POM outer shell, inner anti-rotating device and nut for fitting a bend relief | PSP Fixed receptacle, nut fixing, cable collet and inner anti-rotating device |
| ERN Fixed receptacle, nut fixing, with grounding tab, PEEK or POM outer shell | FFS Straight plug for cable crimping | PSS Free receptacle, nut fixing for cable crimping |
| ERS Fixed receptacle, nut fixing, long threaded shell, without flats | FLA Elbow (90°) plug, cable collet | PZP Free receptacle for remote handling, cable collet and inner anti-rotating device |
| ERT Fixed receptacle, force fit, with grounding tab | | RAD Fixed coupler, nut fixing |
| ERY Fixed receptacle, protruding shell, screw fixing on the panel (back panel mounting) | | RMA Free coupler |
| ERZ Fixed receptacle, nut fixing with double microswitch and printed circuit contacts | | SWH Fixed coupler, nut fixing, watertight or vacuum-tight |

Part Section Showing Internal Components



Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | Standard |
|---------------------------------|---------------------|----------------------|
| Endurance | > 5000 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | |
| Temperature range ¹⁾ | -67° F, +482° F | |
| Resistance to vibrations | 10-2000 Hz, 15 g | IEC 60512-4 test 6d |
| Shock resistance | 100 g, 6 ms | IEC 60512-4 test 6c |
| Salt spray corrosion test | > 144h | IEC 60512-6 test 11f |
| Protection index (mated) | IP 50 | IEC 60529 |
| Climatic category ¹⁾ | 55/175/21 | IEC 60068-1 |

Electrical

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

Note:

The various tests have been carried out with FFA and ERA connector pairs, with chrome-plated brass shell and PEEK insulator. Detailed electrical characteristics, as well as materials and treatment are presented in the chapter Technical Characteristics on page 197.

¹⁾ For watertight or vacuum-tight models: see page 88.

Available Models (series and types)

| Model | Single contact | | | | | | | Multicontact | | | | | | |
|--------|----------------|----|----|----|----|----|----|--------------|----|----|----|----|----|----|
| | 00 | 0S | 1S | 2S | 3S | 4S | 5S | 0S | 1S | 2S | 3S | 4S | 5S | 6S |
| EBC | | | ● | ● | ● | | ● | | ● | ● | ● | | ● | |
| EBD | | | | ● | | | | | ● | | | | | |
| EBS | | | ● | | | | | | ● | | | | | |
| ECP | | ● | ● | ● | ● | | | ● | ● | ● | ● | | | |
| ECP 1) | | | | | | | | ● | ● | ● | ● | | | |
| EEP | | | | ● | | | | | | ● | | | | |
| EHP | | ● | ● | | ● | | | ● | ● | | ● | | | |
| EMD | | | | | | | | | | ● | | | | |
| EPL | | ● | | | | | | ● | ● | | | | | |
| ERA | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| ERC | ● | ● | ● | | | | | ● | ● | | | | | |
| ERD | | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| ERM | | | | | | | | | ● | | | | | |
| ERN | | ● | ● | ● | ● | | | ● | ● | ● | ● | | | |
| ERN 2) | ● | ● | ● | ● | ● | | | ● | ● | ● | ● | | | |
| ERS | | ● | | | | | | ● | | | | | | |
| ERT | | | ● | | | | | | ● | | | | | |
| ERY | | | | ● | | | | | | ● | | | | |
| ERZ | | | | | | | | | ● | | | | | |
| EWB | | | ● | ● | | | | ● | ● | ● | | ● | | |
| EXP | | | | | | | | ● | ● | | | | | |
| FAA | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| FEF | | | | | | | | | | | | | ● | |
| FFA | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| FFA 3) | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| FFA 4) | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| FFA 6) | ● | | | | | | | | | | | | | |
| FFB | | | ● | ● | ● | | | ● | ● | ● | ● | | | |
| FFE | ● | ● | ● | ● | ● | | | ● | ● | ● | ● | | | |

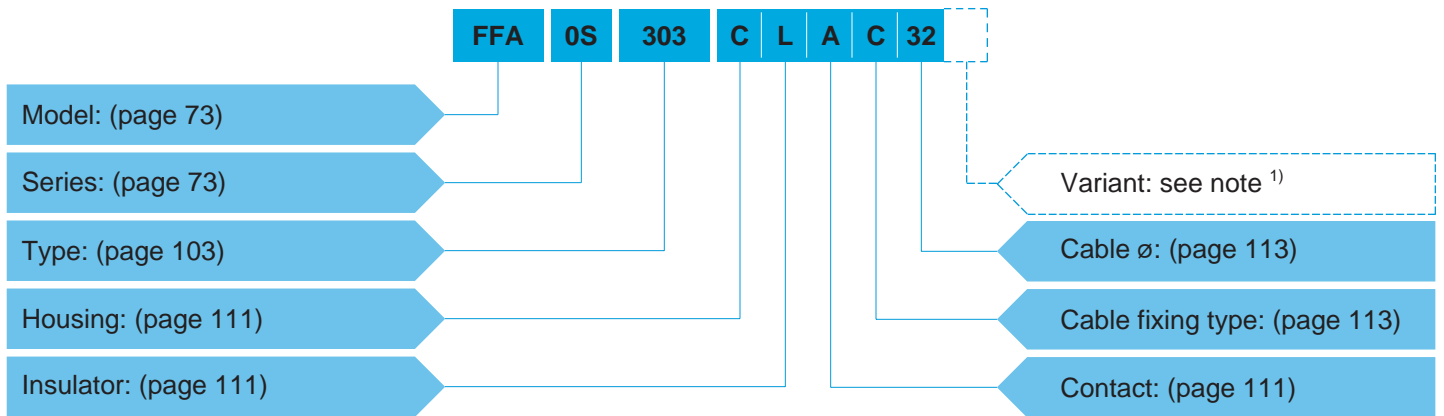
| Model | Single contact | | | | | | | Multicontact | | | | | | |
|--------|----------------|----|----|----|----|----|----|--------------|----|----|----|----|----|----|
| | 00 | 0S | 1S | 2S | 3S | 4S | 5S | 0S | 1S | 2S | 3S | 4S | 5S | 6S |
| FFF | ● | ● | ● | ● | | | | ● | ● | ● | | | | |
| FFL | | | | | | | | | | ● | | | | |
| FFL 5) | | | | | | | | | | ● | | | | |
| FFP | | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| FFP 4) | | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| FFP 2) | | ● | ● | ● | ● | | | ● | ● | ● | ● | | | |
| FFP 6) | | ● | ● | ● | ● | | | ● | ● | ● | ● | | | |
| FFS | ● | | | | | | | | | | | | | |
| FLA | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| FLS | ● | | | | | | | | | | | | | |
| FRT | ● | | | | | | | | | | | | | |
| FTA | ● | ● | ● | | | ● | | ● | ● | | | | | |
| FTR | ● | | | | | ● | ● | | | | | | | |
| FZP | | | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| HCP | | | ● | ● | | ● | | | ● | ● | | ● | | |
| HGP | | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● |
| HGW | | | | | | | | ● | ● | | | | | |
| PCA | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| PCA 3) | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| PCA 4) | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| PCP | | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| PCP 4) | | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| PSA | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● |
| PSP | | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| PSS | ● | | | | | | | | | | | | | |
| PZP | | | ● | ● | ● | | | | ● | ● | ● | | | |
| RAD | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● | |
| RMA | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● | |
| SWH | | ● | ● | ● | ● | | | ● | ● | ● | ● | ● | ● | ● |

Note:

- 1) With elbow (90°) printed circuit contact.
 - 2) With PEEK or POM outer shell.
 - 3) With oversize collet.
 - 4) With nut for fitting a bend relief.
 - 5) With PSU outer shell.
 - 6) With PEEK or POM outer shell.
- = available models by series and types

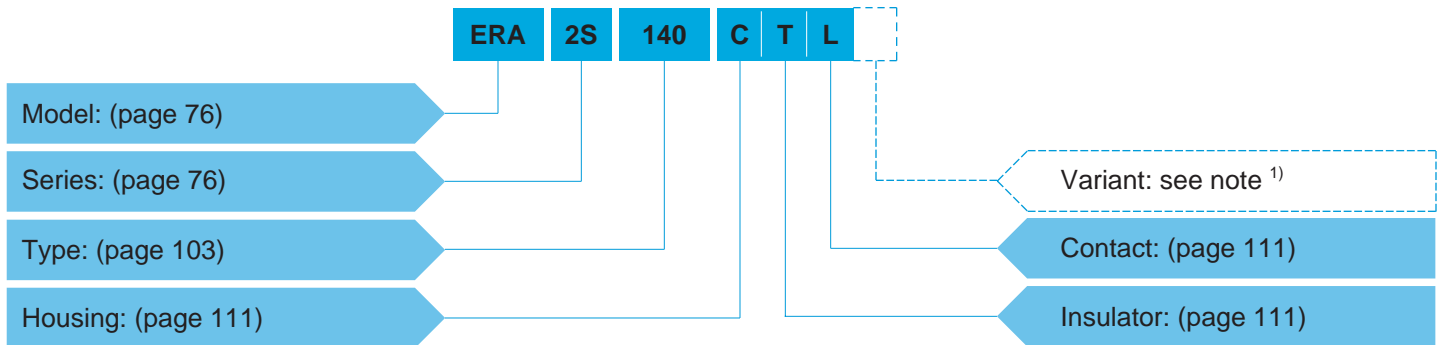
Part Number Example

Straight plug with cable collet



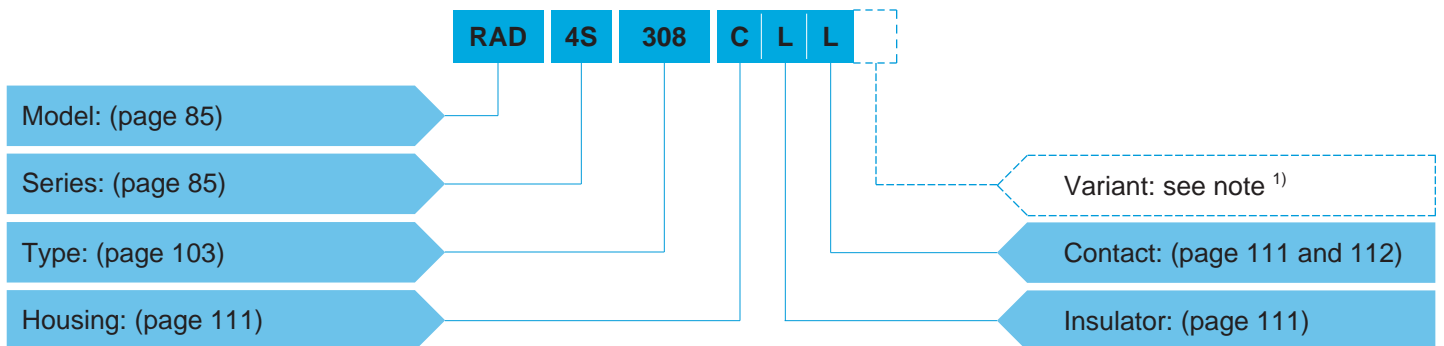
FFA.0S.303.CLAC32 = straight plug with cable collet, 0S series, multicontact type with three contacts, outer shell in chrome-plated brass, PEEK insulator, two male and one female solder contacts, C type collet for a 3.2 mm diameter cable.

Fixed receptacle



ERA.2S.140.CTL = fixed receptacle, nut fixing, 2S series, single contact type \varnothing 4.0 mm contacts, chrome-plated brass outer shell, PTFE insulator, female solder contact.

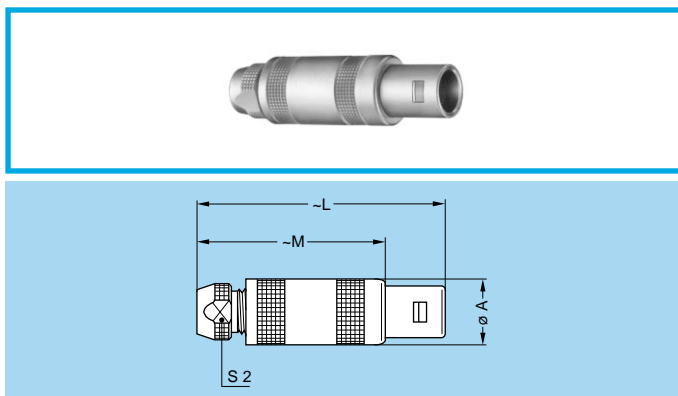
Fixed coupler



RAD.4S.308.CLL = straight coupler, nut fixing, 4S series, multicontact type with eight contacts, chrome-plated brass outer shell, PEEK insulator, four female and four male contacts each end.

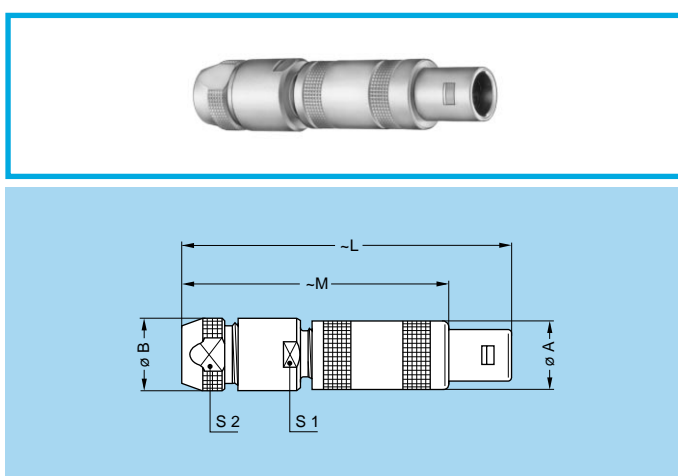
Note: ¹⁾ The «Variant» position of the part number is used to specify either the presence of a nut for fitting a bend relief, or the anodized color of the aluminium housings or the color of housings using plastic material.
 For models with collet nut for fitting a bend relief, a «Z» should be indicated and a bend relief can be ordered separately as indicated in the «Accessories» section. An order for a connector with bend relief should thus include two part numbers.
 For the various housings available in colors, the corresponding letter in the part number for the color is indicated on page 124.
 For the watertight models of receptacle, the letter «P» is used; for the vacuum-tight models of receptacle the letters «PV» shall be indicated.

Models - Series



FFA Straight plug, cable collet

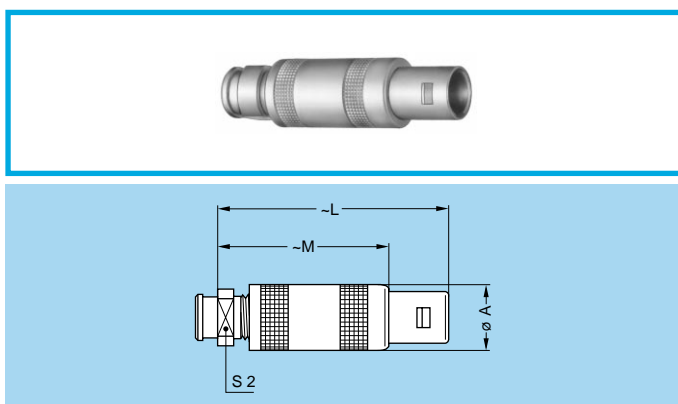
| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|-------|------|------|
| Model | Series | A | L | M | S2 |
| FFA | 00 | 6.4 | 26.0 | 18.0 | 4.5 |
| FFA | 0S | 9.0 | 34.5 | 24.5 | 6.5 |
| FFA | 1S | 12.0 | 42.5 | 31.5 | 8.5 |
| FFA | 2S | 14.8 | 52.0 | 40.0 | 11.0 |
| FFA | 3S | 17.8 | 61.0 | 46.0 | 14.0 |
| FFA | 4S | 24.8 | 77.0 | 59.0 | 19.0 |
| FFA | 5S | 35.1 | 103.0 | 78.0 | 29.0 |
| FFA | 6S | 46.0 | 106.0 | 81.0 | 38.0 |



FFA Straight plug with oversize cable collet

| Reference | | Dimensions (mm) | | | | | |
|-----------|--------|-----------------|------|-------|-------|------|------|
| Model | Series | A | B | L | M | S1 | S2 |
| FFA | 00 | 6.4 | 8.0 | 34.0 | 26.0 | 7.0 | 6.5 |
| FFA | 0S | 9.0 | 10.0 | 45.5 | 35.5 | 9.0 | 8.5 |
| FFA | 1S | 12.0 | 13.0 | 57.0 | 46.0 | 12.0 | 11.0 |
| FFA | 2S | 14.8 | 18.0 | 67.0 | 55.0 | 14.0 | 14.0 |
| FFA | 3S | 17.8 | 21.0 | 85.0 | 70.0 | 19.0 | 19.0 |
| FFA | 4S | 24.8 | 31.8 | 107.0 | 89.0 | 28.5 | 29.0 |
| FFA | 5S | 35.1 | 41.8 | 138.0 | 113.0 | 37.5 | 38.0 |

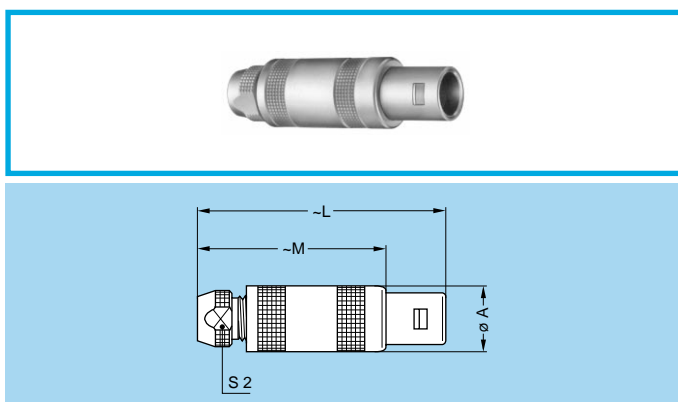
Note: The fitting of oversize collets onto this model allows them to be fitted to the cables that can be accommodated by the next housing size up.



FFA Straight plug, cable collet and nut for fitting a bend relief

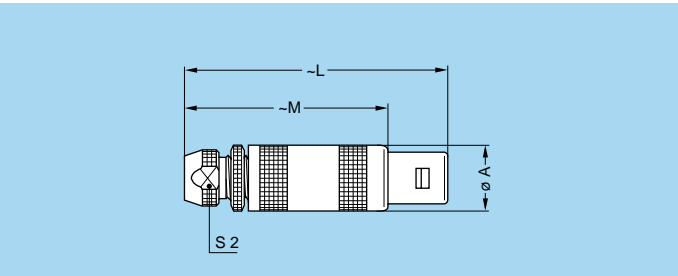
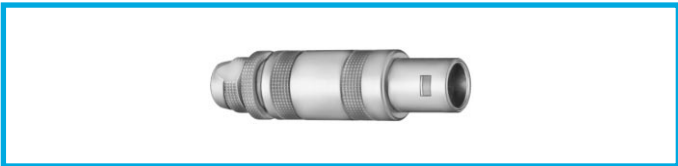
| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|----|
| Model | Series | A | L | M | S2 |
| FFA | 00 | 6.4 | 26.0 | 18.0 | 6 |
| FFA | 0S | 9.0 | 34.5 | 24.5 | 7 |
| FFA | 1S | 12.0 | 42.5 | 31.5 | 9 |
| FFA | 2S | 14.8 | 52.0 | 40.0 | 12 |
| FFA | 3S | 17.8 | 61.0 | 46.0 | 14 |
| FFA | 4S | 24.8 | 77.0 | 59.0 | 20 |

Note: The bend relief must be ordered separately (see page 175).



FFP Straight plug, cable collet and inner anti-rotating device

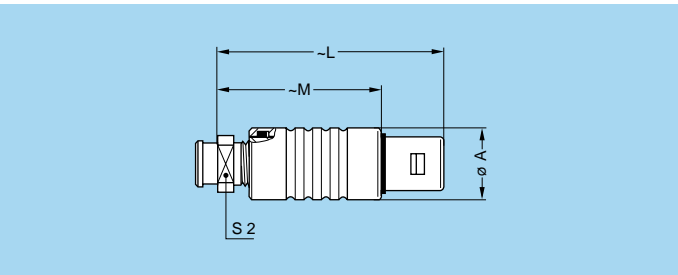
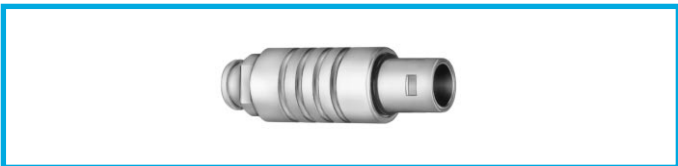
| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|------|
| Model | Series | A | L | M | S2 |
| FFP | 0S | 9.0 | 34.5 | 24.5 | 6.5 |
| FFP | 1S | 12.0 | 42.5 | 31.5 | 8.5 |
| FFP | 2S | 14.8 | 52.0 | 40.0 | 11.0 |
| FFP | 3S | 17.8 | 61.0 | 46.0 | 14.0 |
| FFP | 4S | 24.8 | 77.0 | 59.0 | 19.0 |



FFB Straight plug, cable collet and safety locking ring

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|------|
| Model | Series | A | L | M | S2 |
| FFB | 0S | 9.0 | 36.8 | 26.8 | 6.5 |
| FFB | 1S | 12.0 | 45.0 | 34.0 | 8.5 |
| FFB | 2S | 14.8 | 55.5 | 43.5 | 11.0 |
| FFB | 3S | 17.8 | 65.0 | 50.0 | 14.0 |

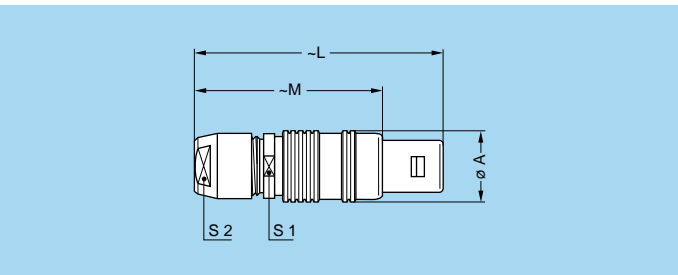
Note: Not available with nut for fitting a bend relief.



FFE Straight plug, cable collet, front seal and nut for fitting a bend relief (protected to IP54 when mated)

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|----|
| Model | Series | A | L | M | S2 |
| FFE | 00 | 7.4 | 26.0 | 18.0 | 6 |
| FFE | 0S | 10.0 | 34.5 | 24.5 | 7 |
| FFE | 1S | 13.0 | 42.5 | 31.5 | 9 |
| FFE | 2S | 16.0 | 52.0 | 40.0 | 12 |
| FFE | 3S | 19.0 | 61.0 | 46.0 | 14 |

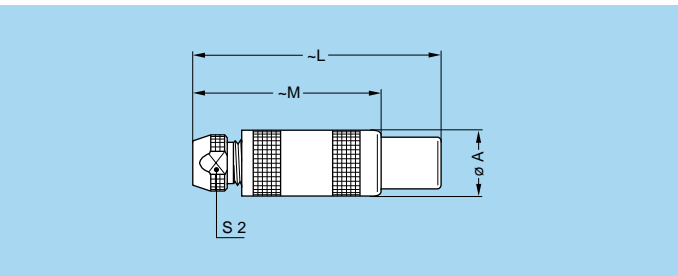
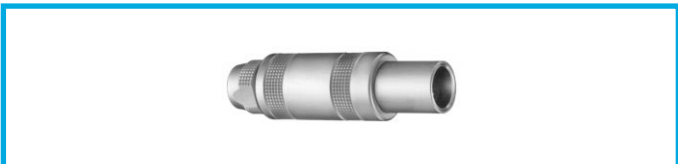
Note: The bend relief must be ordered separately (see page 175).



FFL Straight plug, flats on latch sleeve, cable collet and inner anti-rotating device

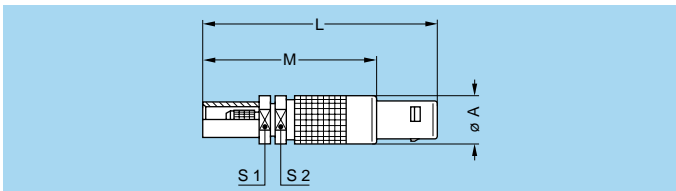
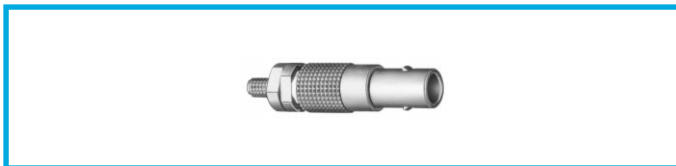
| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|------|------|----|----|
| Model | Series | A | L | M | S1 | S2 |
| FFL | 2S | 15.0 | 49.0 | 37.0 | 13 | 12 |

Note: This model is fitted with a «D or M» type collet system (see page 206). It is also adapted for crimp contacts.



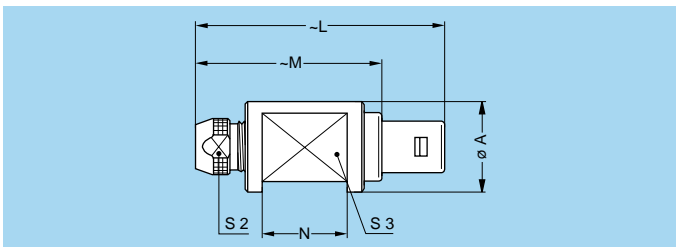
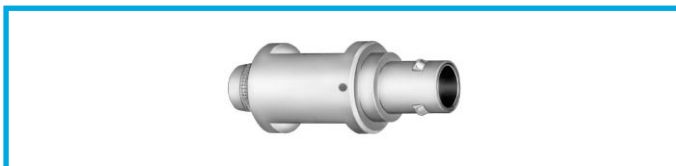
FFF Straight plug, non-latching, cable collet

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|------|
| Model | Series | A | L | M | S2 |
| FFF | 00 | 6.4 | 26.0 | 18.0 | 4.5 |
| FFF | 0S | 9.0 | 34.5 | 24.5 | 6.5 |
| FFF | 1S | 12.0 | 42.5 | 31.5 | 8.5 |
| FFF | 2S | 14.8 | 52.0 | 40.0 | 11.0 |



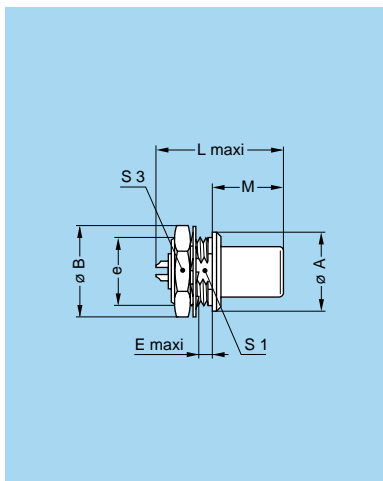
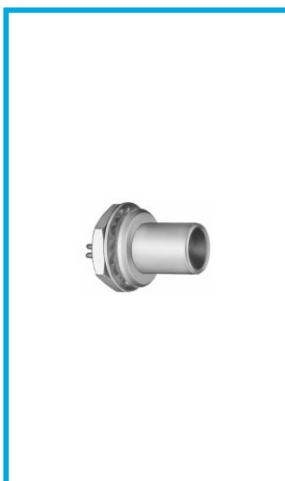
FFS Straight plug for cable crimping

| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|----|----|-----|-----|
| Model | Series | A | L | M | S1 | S2 |
| FFS | 00 | 6.4 | 31 | 23 | 5.5 | 5.5 |



FZP Straight plug for remote handling, cable collet and inner anti-rotating device

| Reference | | Dimensions (mm) | | | | | |
|-----------|--------|-----------------|-------|------|----|------|----|
| Model | Series | A | L | M | N | S2 | S3 |
| FZP | 1S | 16 | 42.5 | 31.5 | 15 | 8.5 | 12 |
| FZP | 2S | 24 | 52.0 | 40.0 | 21 | 11.0 | 18 |
| FZP | 3S | 24 | 61.0 | 46.0 | 24 | 14.0 | 18 |
| FZP | 4S | 35 | 77.0 | 59.0 | 30 | 19.0 | 28 |
| FZP | 5S | 43 | 103.0 | 78.0 | 44 | 29.0 | 35 |
| FZP | 6S | 60 | 106.0 | 81.0 | 44 | 38.0 | 50 |



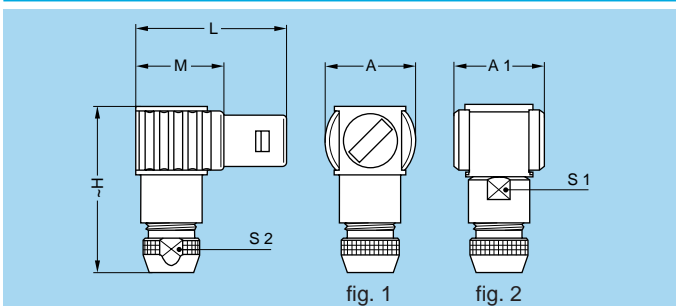
FAA Fixed plug non-latching, nut fixing

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|-----------------|------|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| FAA | 00 | 8 | 10.3 | M7x0.5 | 2.0 | — | 15.5 | 9.0 | 6.3 | 9 |
| FAA | 0S | 10 | 12.5 | M9x0.6 | 2.0 | 18.5 | 18.0 | 11.2 | 8.2 | 11 |
| FAA | 1S | 14 | 16.0 | M12x1.0 | 2.5 | 22.5 | 21.7 | 12.5 | 10.5 | 14 |
| FAA | 2S | 18 | 19.5 | M15x1.0 | 4.0 | 25.0 | 25.3 | 13.8 | 13.5 | 17 |
| FAA | 3S | 22 | 25.2 | M18x1.0 | 4.0 | 31.0 | 29.0 | 17.0 | 16.5 | 22 |
| FAA | 4S | 28 | 32.0 | M25x1.0 | 2.5 | 35.5 | 39.0 | 20.5 | 23.5 | 30 |
| FAA | 5S | 40 | 40.0 | M35x1.0 | 2.5 | 45.0 | — | 28.0 | 33.5 | — |
| FAA | 6S | 54 | 54.0 | M48x1.5 | 2.5 | 45.0 | — | 28.0 | — | — |

Panel cut-out: **P1**

Panel cut-out: **P2** 6S series

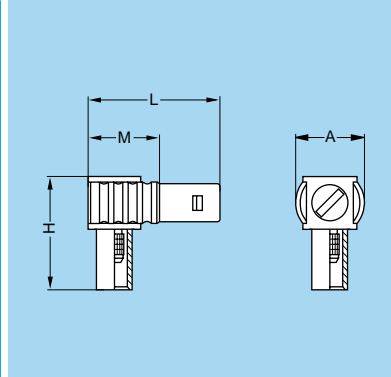
Note: 1) Single contact model.



FLA Elbow (90°) plug, cable collet

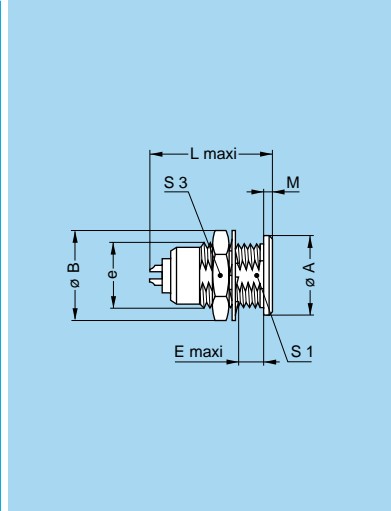
| Reference | | Dimensions (mm) | | | | | | |
|-----------|--------|-----------------|----|------|------|------|----|------|
| Model | Series | A | A1 | H | L | M | S1 | S2 |
| FLA | 00 | 9 | — | 16.0 | 17.5 | 9.5 | — | 4.5 |
| FLA | 0S | 13 | 13 | 24.5 | 23.0 | 13.0 | 8 | 6.5 |
| FLA | 1S | 16 | 16 | 28.5 | 26.5 | 15.5 | 10 | 8.5 |
| FLA | 2S | 20 | 20 | 37.0 | 31.0 | 19.0 | 13 | 11.0 |
| FLA | 3S | 21 | 21 | 44.0 | 38.5 | 23.5 | 15 | 14.0 |
| FLA | 4S | 28 | 28 | 56.0 | 49.0 | 31.0 | 20 | 19.0 |
| FLA | 5S | — | 37 | 76.5 | 65.0 | 40.0 | 30 | 29.0 |
| FLA | 6S | — | 48 | 94.0 | 81.0 | 56.0 | 40 | 38.0 |

Note:
Fig. 1 is used for the single contact type, fig. 2 is used for the multicontact type.



FLS Elbow (90°) plug for cable crimping

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|----|------|-----|
| Model | Series | A | H | L | M |
| FLS | 00 | 9 | 16 | 17.5 | 9.5 |



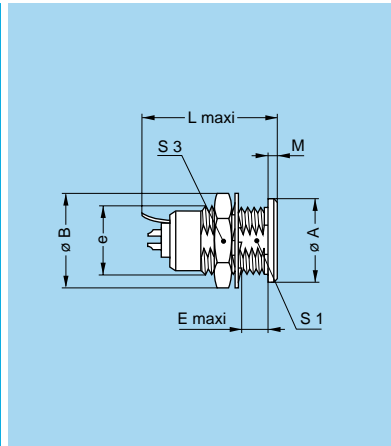
ERA Fixed receptacle, nut fixing

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----------------|-----|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| ERA | 00 | 8 | 10.3 | M7x0.5 | 5.5 | — | 15.2 | 1.0 | 6.3 | 9 |
| ERA | 0S | 10 | 12.5 | M9x0.6 | 7.0 | 17.5 | 18.5 | 1.2 | 8.2 | 11 |
| ERA | 1S | 14 | 16.0 | M12x1.0 | 7.5 | 20.2 | 21.5 | 1.5 | 10.5 | 14 |
| ERA | 2S | 18 | 19.5 | M15x1.0 | 8.5 | 24.5 | 26.0 | 1.8 | 13.5 | 17 |
| ERA | 3S | 22 | 25.2 | M18x1.0 | 11.5 | 29.0 | 30.0 | 2.0 | 16.5 | 22 |
| ERA | 4S | 28 | 32.0 | M25x1.0 | 12.0 | 34.0 | 36.0 | 2.5 | 23.5 | 30 |
| ERA | 5S | 40 | 40.0 | M35x1.0 | 15.5 | 45.0 | 78.5 | 3.0 | 33.5 | — |
| ERA | 6S | 54 | 54.0 | M48x1.5 | 16.0 | 45.0 | — | 3.5 | 45.5 | — |

Panel cut-out: **P1**

Note: ¹⁾ Single contact model.

Note: The 5S series is delivered with a tapered washer and a round nut. The 6S series is delivered without a locking washer and with a round nut.

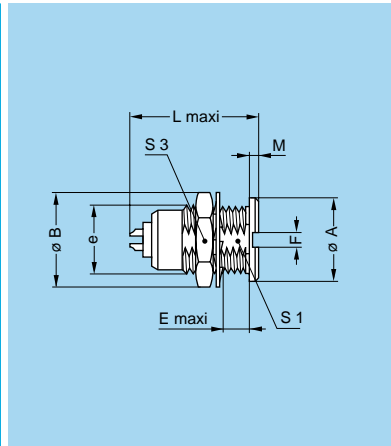


ERN Fixed receptacle, nut fixing, with grounding tab

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----------------|-----|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| ERN | 0S | 10 | 12.5 | M9x0.6 | 7.0 | 19.3 | 19.3 | 1.2 | 8.2 | 11 |
| ERN | 1S | 14 | 16.0 | M12x1.0 | 7.5 | 23.0 | 23.0 | 1.5 | 10.5 | 14 |
| ERN | 2S | 18 | 19.5 | M15x1.0 | 8.5 | 26.3 | 26.3 | 1.8 | 13.5 | 17 |
| ERN | 3S | 22 | 25.2 | M18x1.0 | 11.5 | 29.8 | 30.0 | 2.0 | 16.5 | 22 |

Panel cut-out: **P1**

Note: ¹⁾ Single contact model.

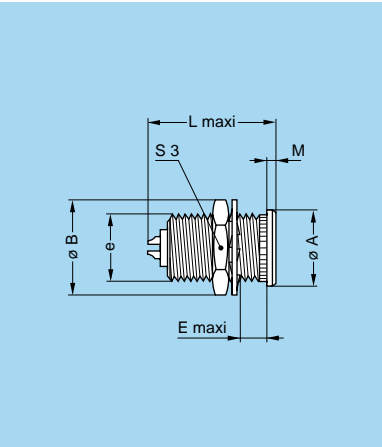


ERC Fixed receptacle, nut fixing with slot in the flange

| Reference | | Dimensions (mm) | | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|-----|------|-----------------|-----|------|----|
| Model | Series | A | B | e | E | F | L | L ¹⁾ | M | S1 | S3 |
| ERC | 00 | 8 | 10.3 | M7x0.5 | 5.5 | 1.6 | — | 15.1 | 1.0 | 6.3 | 9 |
| ERC | 0S | 10 | 12.5 | M9x0.6 | 7.0 | 2.0 | 17.5 | 18.5 | 1.2 | 8.2 | 11 |
| ERC | 1S | 14 | 16.0 | M12x1.0 | 7.5 | 2.5 | 20.2 | 21.5 | 1.5 | 10.5 | 14 |

Panel cut-out: **P1**

Note: ¹⁾ Single contact model.

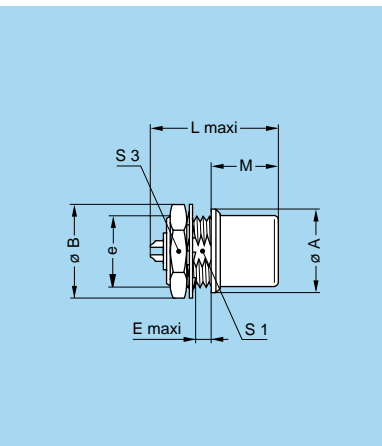


ERS Fixed receptacle, nut fixing, long threaded shell, without flats

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|--------|------|------|-----------------|-----|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S3 |
| ERS | 0S | 10 | 12.5 | M9x0.6 | 10.5 | 17.5 | 18.5 | 1.2 | 11 |

Panel cut-out: **P2**

Note: ¹⁾ Single contact model.



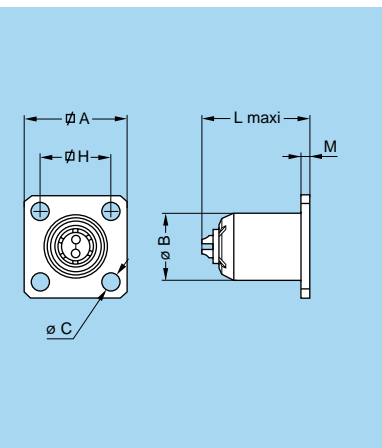
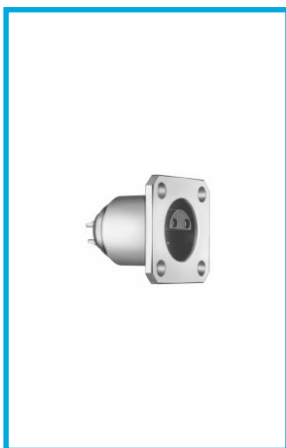
EHP Fixed receptacle, nut fixing, protruding shell

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|-----------------|------|-----|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| EHP | 0S | 10 | 12.5 | M9x0.6 | 2.5 | 17.5 | 18.5 | 12.5 | 8.2 | 11 |
| EHP | 1S | 14 | 16.0 | M12x1.0 | 3.5 | 20.2 | 21.5 | 12.0 | - | 14 |
| EHP | 3S | 22 | 25.2 | M18x1.0 | 4.0 | 29.0 | 30.0 | 18.7 | - | 22 |

Panel cut-out: **P2**

Panel cut-out: **P1** 0S series

Note: ¹⁾ Single contact model.

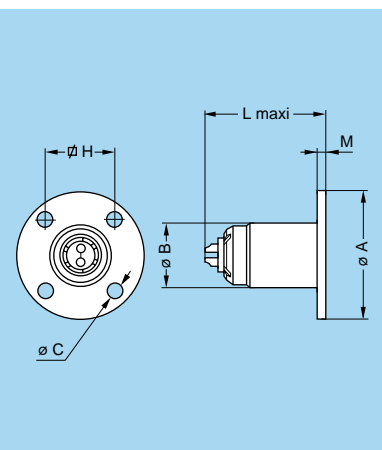


EBD Fixed receptacle with square flange and screw fixing

| Reference | | Dimensions (mm) | | | | | | |
|-----------|--------|-----------------|----|-----|------|------|-----------------|---|
| Model | Series | A | B | C | H | L | L ¹⁾ | M |
| EBD | 2S | 22 | 15 | 3.2 | 15.5 | 24.5 | 26 | 2 |

Panel cut-out: **P6**

Note: ¹⁾ Single contact model.

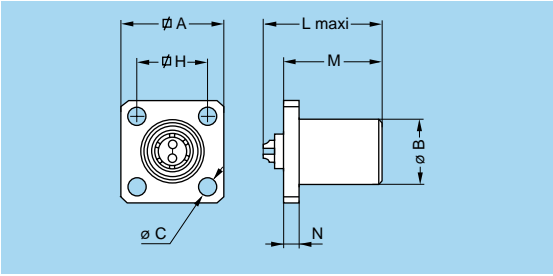
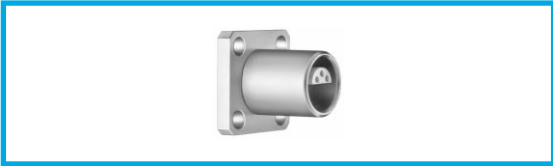


EBS Fixed receptacle with round flange and screw fixing

| Reference | | Dimensions (mm) | | | | | | |
|-----------|--------|-----------------|----|-----|------|------|-----------------|-----|
| Model | Series | A | B | C | H | L | L ¹⁾ | M |
| EBS | 1S | 22 | 11 | 2.5 | 12.4 | 20.2 | 21.5 | 1.5 |

Panel cut-out: **P7**

Note: ¹⁾ Single contact model.

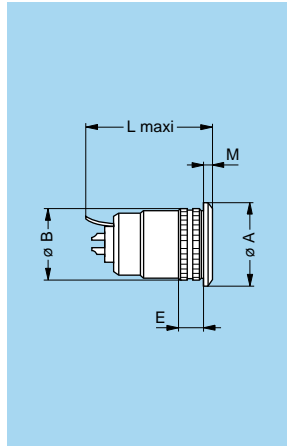


EBC Fixed receptacle with square flange, protruding shell and screw fixing

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|-----|------|------|-----------------|------|-----|
| Model | Series | A | B | C | H | L | L ¹⁾ | M | N |
| EBC | 1S | 18 | 11.5 | 3.2 | 12.7 | 20.2 | 21.5 | 16.5 | 2.8 |
| EBC | 2S | 22 | 15.0 | 3.2 | 15.5 | 24.5 | 26.0 | 18.5 | 4.4 |
| EBC | 3S | 25 | 18.0 | 3.2 | 18.0 | 29.0 | 30.0 | 23.5 | 3.0 |
| EBC | 5S | 45 | 40.0 | 4.3 | 36.8 | 45.0 | 53.5 | 15.0 | 4.0 |

Panel cut-out: **P6**

Note: 1) Single contact model.

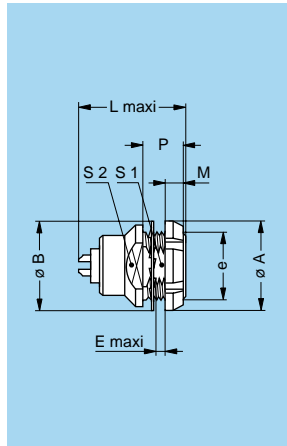


ERT Fixed receptacle, force fit, with grounding tab

| Reference | | Dimensions (mm) | | | | | |
|-----------|--------|-----------------|-------|-----|------|-----------------|-----|
| Model | Series | A | B | E | L | L ¹⁾ | M |
| ERT | 1S | 14 | 11.98 | 3.5 | 20.2 | 21.5 | 1.5 |

Panel cut-out: **P5**

Note: 1) Single contact model.

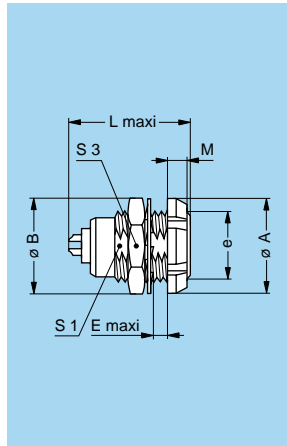


EEP Fixed receptacle, nut fixing (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|-----------------|-----|---|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | P | S1 | S2 |
| EEP | 2S | 20 | 19.5 | M15x1.0 | 3.5 | 24.5 | 26 | 3.5 | 9 | 13.5 | 15 |

Panel cut-out: **P1**

Note: 1) Single contact model.

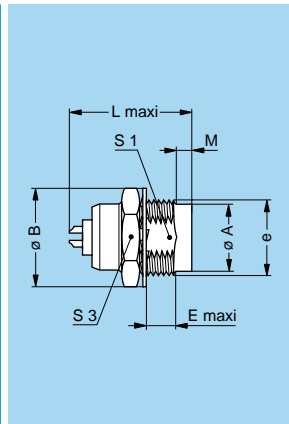


ERD Fixed receptacle with two nuts (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----------------|-----|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| ERD | 0S | 12 | 12.5 | M9x0.6 | 5.5 | 17.5 | 18.5 | 2.5 | 8.2 | 11 |
| ERD | 1S | 16 | 16.0 | M12x1.0 | 6.0 | 20.2 | 21.5 | 3.5 | 10.5 | 14 |
| ERD | 2S | 20 | 19.5 | M15x1.0 | 6.5 | 24.5 | 26.0 | 3.5 | 13.5 | 17 |
| ERD | 3S | 24 | 25.2 | M18x1.0 | 9.0 | 29.0 | 30.0 | 4.5 | 16.5 | 22 |
| ERD | 4S | 30 | 32.0 | M25x1.0 | 10.0 | 34.0 | 36.0 | 4.5 | 23.5 | 30 |

Panel cut-out: **P1**

Note: 1) Single contact model.
The 3S and 4S series are delivered with a conical nut.

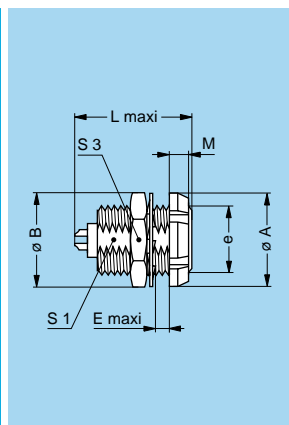


ERY Fixed receptacle, protruding shell, screw fixing on the panel (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|---|------|-----------------|-----|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| ERY | 2S | 13.5 | 19.5 | M15x1.0 | 6 | 24.5 | 26 | 3.1 | 13.5 | 17 |

Panel cut-out: **P1**

Note: ¹⁾ Single contact model.

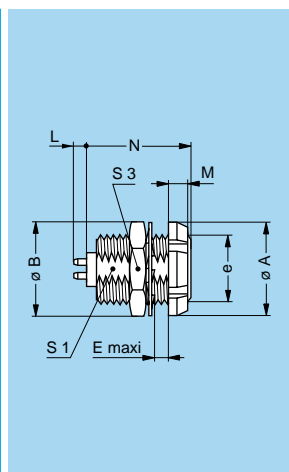


ECP Fixed receptacle with two nuts, long threaded shell (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----------------|-----|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| ECP | 0S | 12 | 12.5 | M9x0.6 | 8.5 | 17.5 | 18.5 | 2.5 | 8.2 | 11 |
| ECP | 1S | 16 | 16.0 | M12x1.0 | 10.0 | 20.2 | 21.5 | 3.5 | 10.5 | 14 |
| ECP | 2S | 20 | 19.5 | M15x1.0 | 11.0 | 24.5 | 26.0 | 3.5 | 13.5 | 17 |
| ECP | 3S | 24 | 25.2 | M18x1.0 | 14.0 | 29.0 | 30.0 | 4.5 | 16.5 | 22 |

Panel cut-out: **P1**

Note: ¹⁾ Single contact model.
The 3S series is delivered with a conical nut.



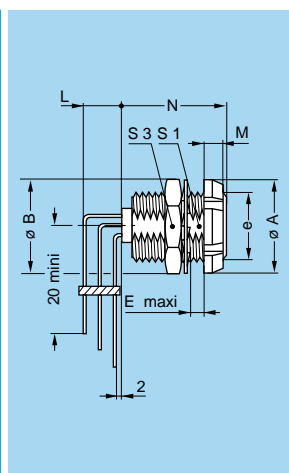
ECP Fixed receptacle with two nuts, long threaded shell, with straight contact for printed circuit (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|-----|------|------|----|--|
| Model | Series | A | B | e | E | M | N | S1 | S3 | |
| ECP | 0S | 12 | 12.5 | M9x0.6 | 8.5 | 2.5 | 15.0 | 8.2 | 11 | |
| ECP | 1S | 16 | 16.0 | M12x1.0 | 10.0 | 3.5 | 17.5 | 10.5 | 14 | |
| ECP | 2S | 20 | 19.5 | M15x1.0 | 11.0 | 3.5 | 20.0 | 13.5 | 17 | |
| ECP | 3S | 24 | 25.2 | M18x1.0 | 14.0 | 4.5 | 24.0 | 16.5 | 22 | |

Panel cut-out: **P1**

PCB drilling pattern: **P21**

Note: This contact type is available for all E●● receptacle models.
See page 195 for table of available types.
Length «L» depends on the number of contacts, see table on page 195.
The 3S series is delivered with a conical nut.



ECP Fixed receptacle with two nuts, long threaded shell, with elbow (90°) contacts for printed circuit (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|-----|------|------|----|--|
| Model | Series | A | B | e | E | M | N | S1 | S3 | |
| ECP | 0S | 12 | 12.5 | M9x0.6 | 8.5 | 2.5 | 15.0 | 8.2 | 11 | |
| ECP | 1S | 16 | 16.0 | M12x1.0 | 10.0 | 3.5 | 17.5 | 10.5 | 14 | |
| ECP | 2S | 20 | 19.5 | M15x1.0 | 11.0 | 3.5 | 20.0 | 13.5 | 17 | |
| ECP | 3S | 24 | 25.2 | M18x1.0 | 14.0 | 4.5 | 24.0 | 16.5 | 22 | |

Panel cut-out: **P1**

PCB drilling pattern: **P24**

Note: This contact type is available for all back panel mounting receptacle types.
See page 196 for available types.
Length «L» depends on the number of contacts, see PCB drilling pattern on page 196.
The 3S series is delivered with a conical nut.

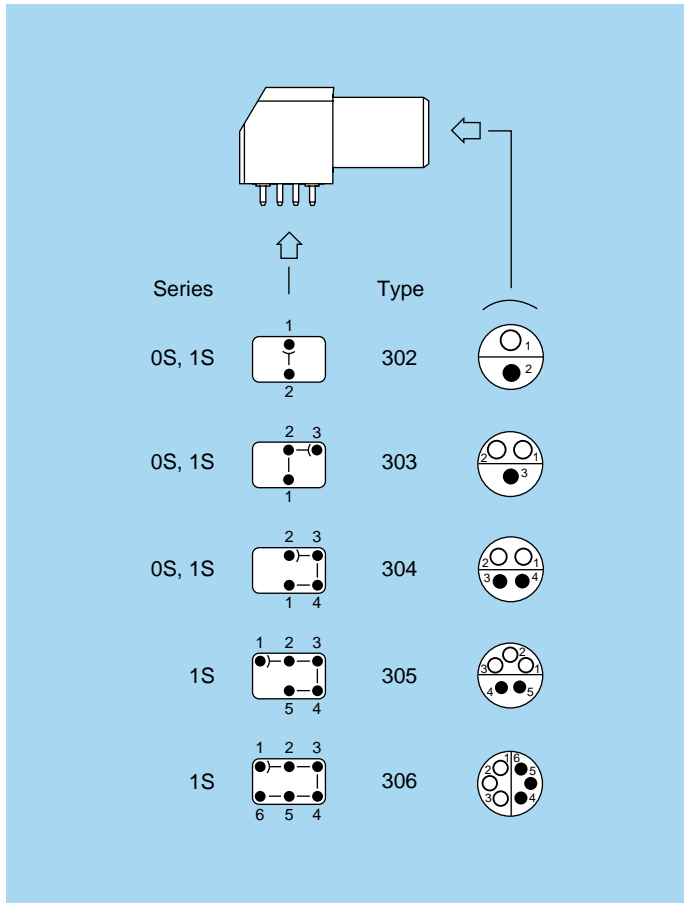


Elbow (90°) receptacles for printed circuit

These receptacle models are fixed onto the printed circuit either by soldering the corner pins or with four screws (M1.6) replacing the pins. EXP receptacles are two nut fixing and are recommended in cases where a flexible printed circuit is used.

Technical Characteristics

Types



Materials and Treatment

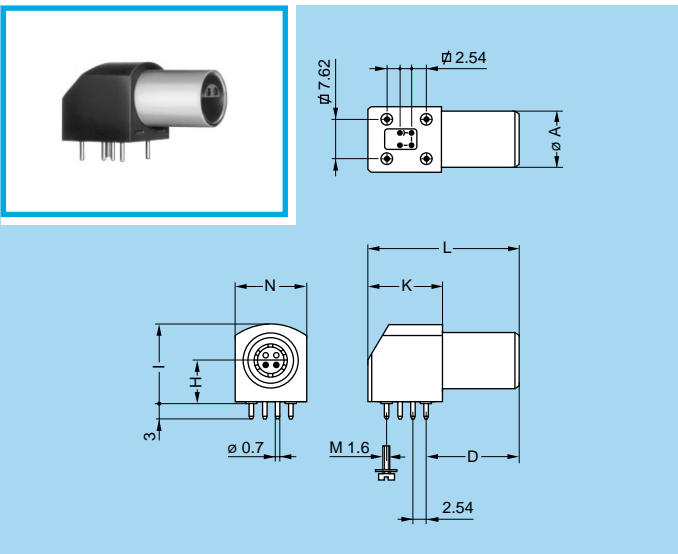
| Component | Material | Surface Treat. (µm) | | |
|-----------------|----------|---------------------|----|-----|
| | | Cu | Ni | Au |
| Housing | PPS 1) | - | - | - |
| | Brass | 0.5 | 3 | - |
| Metallic parts | Brass | 0.5 | 3 | - |
| Grounding crown | Bronze | 0.5 | 3 | - |
| Insulator | PEEK | - | - | - |
| Female contact | Bronze | 0.5 | 3 | 1.5 |

Note: 1) Not used for all sizes.
The surface treatment standards are as follows:
Nickel FS QQ-N-290A;
Gold ISO 4523.

Electrical

| Model | Series | Types | Test voltage (kV rms) ¹⁾ | Rated current (A) |
|-------|--------|-------------|-------------------------------------|-------------------|
| EPL | 0S | 302-303-304 | 1.20 | 4.5 |
| EXP | 0S | | | |
| EPL | 1S | | | |
| EXP | 1S | 305-306 | 0.70 | 4.5 |
| EPL | 1S | | | |
| EXP | 1S | | | |

Note:
1) See calculation method, caution and suggested standard on page 204.



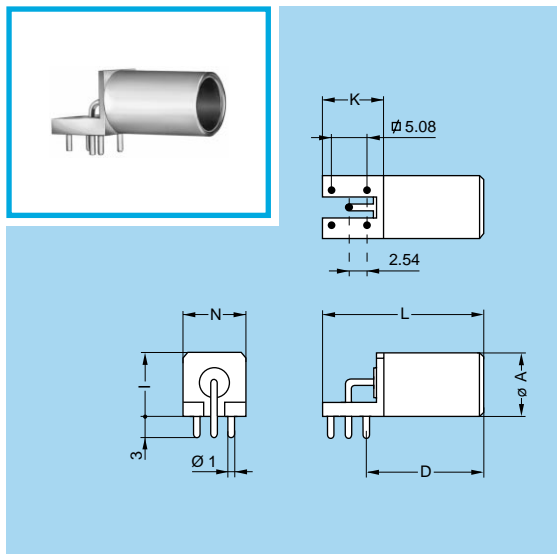
EPL Elbow (90°) receptacle for printed circuit (solder or screw fixing)

| Part Number | Dimensions (mm) | | | | | | |
|----------------|-----------------|------|-----|------|------|----|------|
| | A | D | H | I | K | L | N |
| EPL.0S.302.HLN | 9 | 14.5 | 6.9 | 12.7 | 13.2 | 25 | 11.6 |
| EPL.0S.303.HLN | | | | | | | |
| EPL.0S.304.HLN | | | | | | | |
| EPL.1S.302.HLN | 11 | 16.5 | 7.7 | 14.0 | 13.2 | 27 | 12.6 |
| EPL.1S.303.HLN | | | | | | | |
| EPL.1S.304.HLN | | | | | | | |
| EPL.1S.305.HLN | | | | | | | |
| EPL.1S.306.HLN | | | | | | | |

Note: To replace the 4 ground pins by 4 screws (M1.6) add an «S» to the end of the part number. (e.g.: EPL.1S.303.HLNS)

PCB drilling pattern: **P22**

EPL Elbow (90°) receptacle for printed circuit

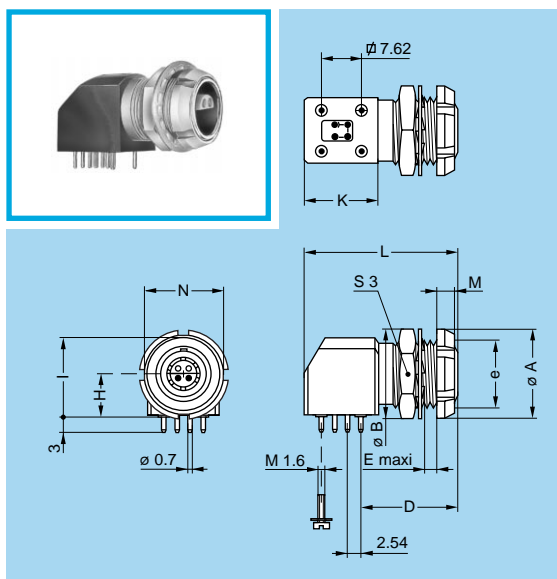


| Part Number | Dimensions (mm) | | | | | | |
|----------------|-----------------|----|----|---|-----|------|---|
| | A | D | H | I | K | L | N |
| EPL.0S.116.DTL | 8.8 | 16 | 12 | 9 | 7.7 | 22.7 | 9 |

Note: Available only in single contact version.

PCB drilling pattern: **P23**

EXP Elbow (90°) receptacle for printed circuit with two nuts (solder or screw fixing)



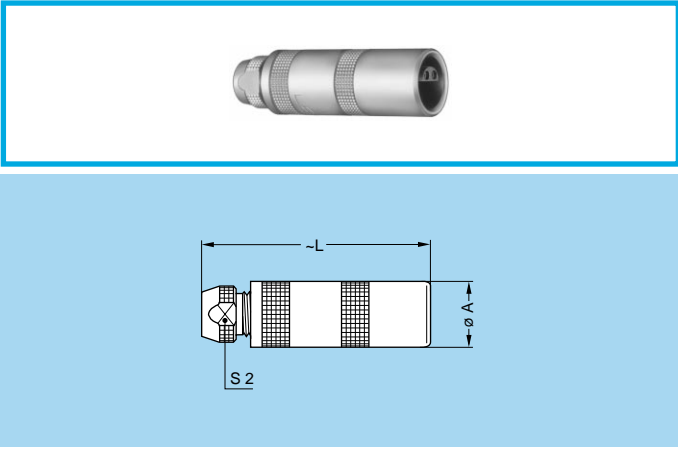
| Part Number | Dimensions (mm) | | | | | | | | | | | |
|----------------|-----------------|------|------|---------|-----|-----|------|------|----|-----|------|----|
| | A | B | D | e | E | H | I | K | L | M | N | S3 |
| EXP.0S.302.HLN | | | | | | | | | | | | |
| EXP.0S.303.HLN | 12 | 12.5 | 14.5 | M9x0.6 | 6.0 | 6.9 | 12.7 | 13.2 | 25 | 2.5 | 11.6 | 11 |
| EXP.0S.304.HLN | | | | | | | | | | | | |
| EXP.1S.302.HLN | | | | | | | | | | | | |
| EXP.1S.303.HLN | | | | | | | | | | | | |
| EXP.1S.304.HLN | 14 | 15.0 | 16.5 | M11x0.5 | 7.5 | 7.7 | 14.0 | 13.2 | 27 | 3.5 | 12.6 | 13 |
| EXP.1S.305.HLN | | | | | | | | | | | | |
| EXP.1S.306.HLN | | | | | | | | | | | | |

Note: To replace the four ground pins by four screws (M1.6) add an «S» to the end of the part number. (e.g.: EXP.1S.303.HLNS).

Panel cut-out: **P2** 0S series

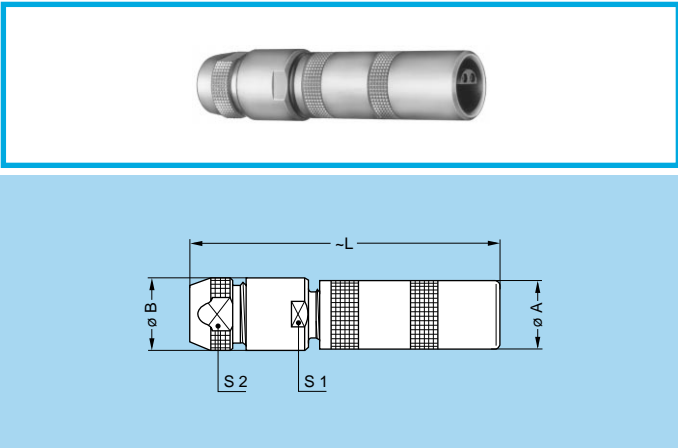
Panel cut-out: **P10** 1S series

PCB drilling pattern: **P22**



PCA Free receptacle, cable collet

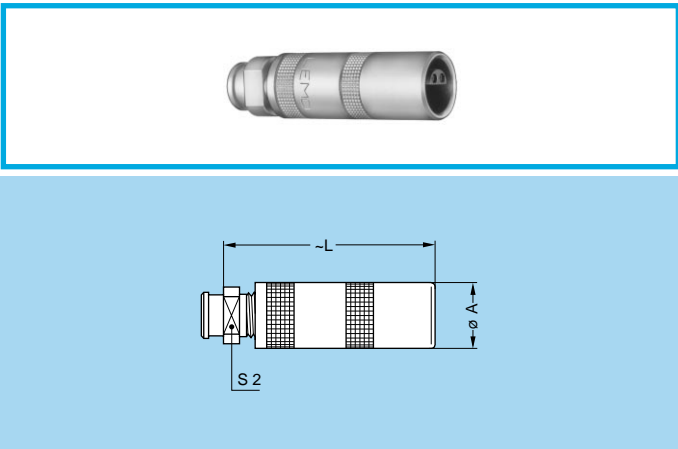
| Reference | | Dimensions (mm) | | |
|-----------|--------|-----------------|-------|------|
| Model | Series | A | L | S2 |
| PCA | 00 | 6.5 | 25.0 | 4.5 |
| PCA | 0S | 8.9 | 33.5 | 6.5 |
| PCA | 1S | 11.9 | 40.5 | 8.5 |
| PCA | 2S | 14.8 | 50.0 | 11.0 |
| PCA | 3S | 17.8 | 59.0 | 14.0 |
| PCA | 4S | 24.8 | 75.0 | 19.0 |
| PCA | 5S | 34.7 | 99.0 | 29.0 |
| PCA | 6S | 46.0 | 102.0 | 38.0 |



PCA Free receptacle with oversize cable collet

| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|------|-------|------|------|
| Model | Series | A | B | L | S1 | S2 |
| PCA | 00 | 6.5 | 8.0 | 33.0 | 7.0 | 6.5 |
| PCA | 0S | 8.9 | 10.0 | 44.5 | 9.0 | 8.5 |
| PCA | 1S | 11.9 | 13.0 | 55.0 | 12.0 | 11.0 |
| PCA | 2S | 14.8 | 18.0 | 65.0 | 14.0 | 14.0 |
| PCA | 3S | 17.8 | 21.0 | 83.0 | 19.0 | 19.0 |
| PCA | 4S | 24.8 | 31.8 | 105.0 | 28.5 | 29.0 |

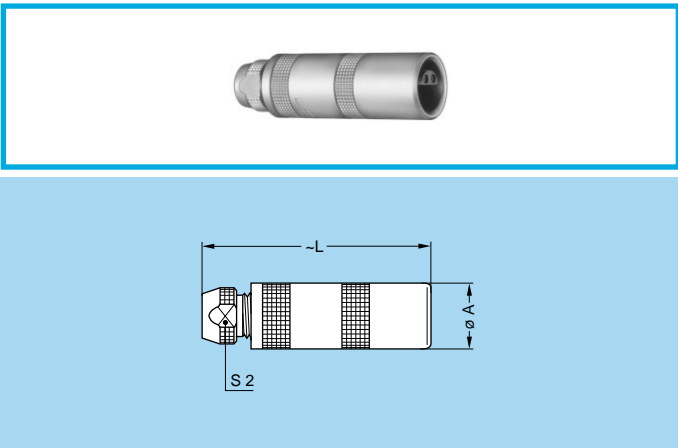
Note: The fitting of oversize collets onto this model allows it to be fitted to the cables that can be accommodated by the next housing size up.



PCA Free receptacle, cable collet and nut for fitting a bend relief

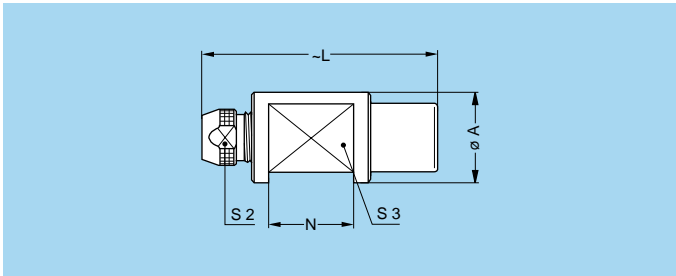
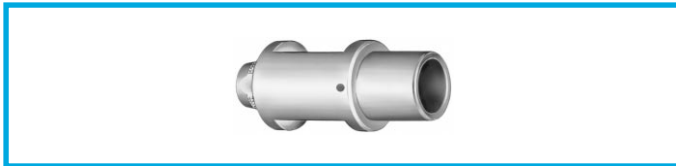
| Reference | | Dimensions (mm) | | |
|-----------|--------|-----------------|------|----|
| Model | Series | A | L | S2 |
| PCA | 00 | 6.5 | 25.0 | 6 |
| PCA | 0S | 8.9 | 33.5 | 7 |
| PCA | 1S | 11.9 | 40.5 | 9 |
| PCA | 2S | 14.8 | 50.0 | 12 |
| PCA | 3S | 17.8 | 59.0 | 14 |
| PCA | 4S | 24.8 | 75.0 | 20 |

Note: The bend relief must be ordered separately (see page 175).



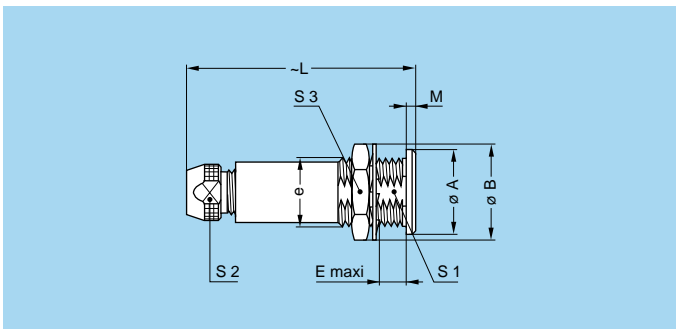
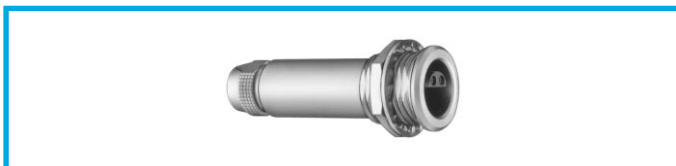
PCP Free receptacle, cable collet and inner anti-rotating device

| Reference | | Dimensions (mm) | | |
|-----------|--------|-----------------|------|------|
| Model | Series | A | L | S2 |
| PCP | 0S | 8.9 | 33.5 | 6.5 |
| PCP | 1S | 11.9 | 40.5 | 8.5 |
| PCP | 2S | 14.8 | 50.0 | 11.0 |
| PCP | 3S | 17.8 | 59.0 | 14.0 |
| PCP | 4S | 24.8 | 75.0 | 19.0 |



PZP Free receptacle for remote handling with cable collet and inner anti-rotating device

| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|------|----|------|----|
| Model | Series | A | L | N | S2 | S3 |
| PZP | 1S | 16 | 40.5 | 15 | 8.5 | 12 |
| PZP | 2S | 24 | 50.0 | 21 | 11.0 | 18 |
| PZP | 3S | 24 | 59.0 | 24 | 14.0 | 18 |

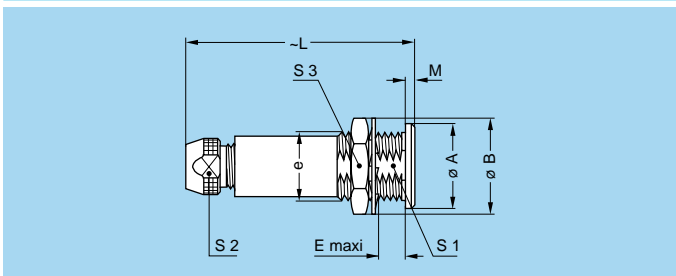
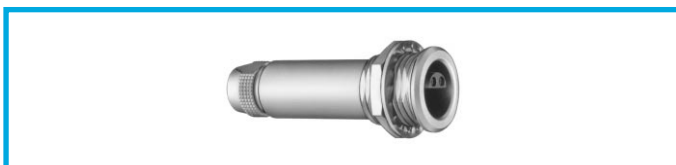


PSA Fixed receptacle, nut fixing, cable collet

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|-------|-----|------|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S2 | S3 |
| PSA | 00 | 8 | 10.3 | M7x0.5 | 5.5 | 25.0 | 1.0 | 6.3 | 4.5 | 9 |
| PSA | 0S | 10 | 12.5 | M9x0.6 | 7.0 | 33.5 | 1.2 | 8.2 | 6.5 | 11 |
| PSA | 1S | 14 | 16.0 | M12x1.0 | 7.5 | 40.5 | 1.5 | 10.5 | 8.5 | 14 |
| PSA | 2S | 18 | 19.5 | M15x1.0 | 8.5 | 50.0 | 1.8 | 13.5 | 11.0 | 17 |
| PSA | 3S | 22 | 25.2 | M18x1.0 | 11.5 | 59.0 | 2.0 | 16.5 | 14.0 | 22 |
| PSA | 4S | 28 | 32.0 | M25x1.0 | 12.0 | 75.0 | 2.5 | 23.5 | 19.0 | 30 |
| PSA | 5S | 40 | 40.0 | M35x1.0 | 15.5 | 99.0 | 3.0 | 33.5 | 29.0 | — |
| PSA | 6S | 54 | 54.0 | M48x1.5 | 16.0 | 102.0 | 3.5 | 45.5 | 38.0 | — |

Panel cut-out: **P1**

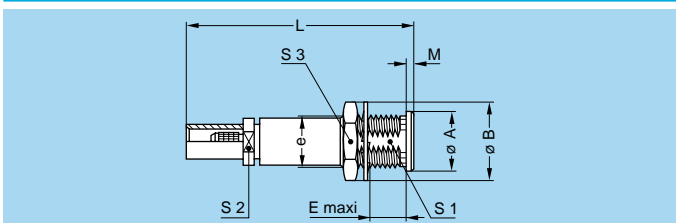
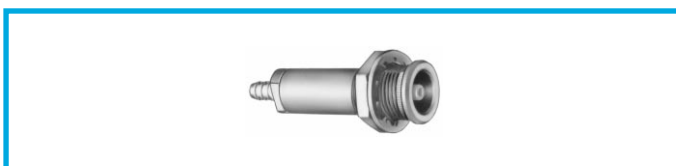
Note: The 5S series is delivered with a tapered washer and a round nut. The 6S series is delivered without a locking washer and with a round nut.



PSP Fixed receptacle, nut fixing, cable collet and inner anti-rotating device

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|------|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S2 | S3 |
| PSP | 0S | 10 | 12.5 | M9x0.6 | 7.0 | 33.5 | 1.2 | 8.2 | 6.5 | 11 |
| PSP | 1S | 14 | 16.0 | M12x1.0 | 7.5 | 40.5 | 1.5 | 10.5 | 8.5 | 14 |
| PSP | 2S | 18 | 19.5 | M15x1.0 | 8.5 | 50.0 | 1.8 | 13.5 | 11.0 | 17 |
| PSP | 3S | 22 | 25.2 | M18x1.0 | 11.5 | 59.0 | 2.0 | 16.5 | 14.0 | 22 |
| PSP | 4S | 28 | 32.0 | M25x1.0 | 12.0 | 75.0 | 2.5 | 23.5 | 19.0 | 30 |

Panel cut-out: **P1**



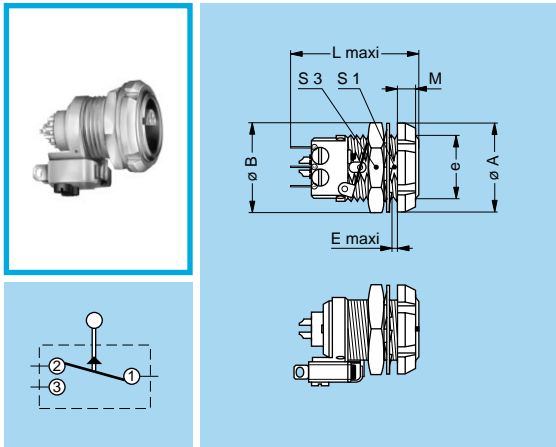
PSS Free receptacle, nut fixing for cable crimping

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|--------|-----|----|---|-----|-----|----|
| Model | Series | A | B | e | E | L | M | S1 | S2 | S3 |
| PSS | 00 | 8 | 10.3 | M7x0.5 | 5.5 | 30 | 1 | 6.3 | 5.5 | 9 |

Panel cut-out: **P1**

Models with microswitch

Some receptacles are available fitted with a microswitch. The microswitch is independent from the electrical contacts of the receptacle. The introduction of the plug into the receptacle activates the microswitch (the drawings below are of corresponds to the receptacles without the plug).

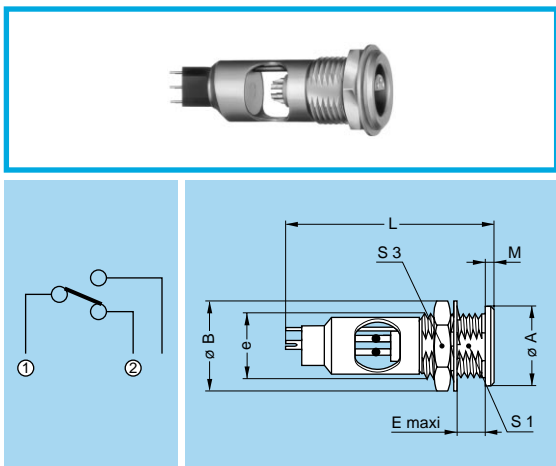


EMD Fixed receptacle with two nuts and microswitch (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|-----|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| EMD | 2S | 20 | 19.5 | M15x1.0 | 2.2 | 26.7 | 3.5 | 13.5 | 17 |

Panel cut-out: **P1**

Note: Only exists in 10-contact version (type 310).
For the microswitch: maximum operating voltage: 250Veff/Vdc
rated current: 7A/0.25A.

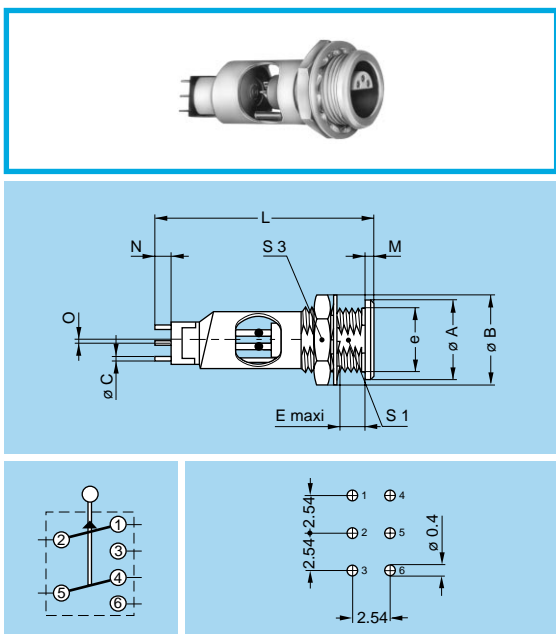


ERM Fixed receptacle, nut fixing with microswitch

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|----|-----|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| ERM | 1S | 14 | 16 | M12x1.0 | 7.5 | 38 | 1.5 | 10.5 | 14 |

Panel cut-out: **P1**

Note: Only exists in 2 or 5-contact versions (type 302, 305).
For the microswitch: maximum operating voltage: 270Veff/Vdc
rated current: 8.5A/0.5A.

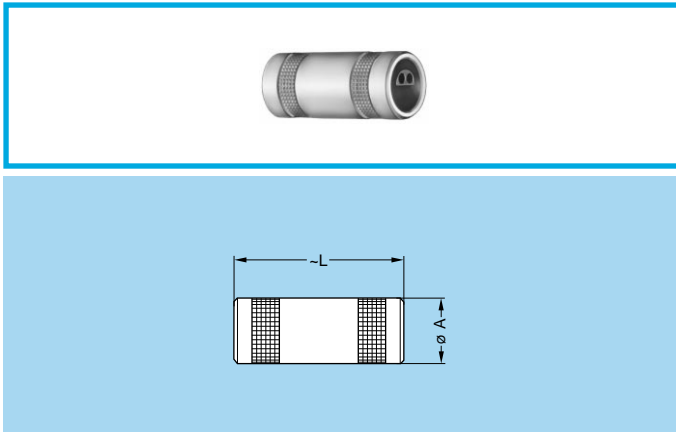


ERZ Fixed receptacle, nut fixing with double microswitch and printed circuit contacts

| Reference | | Dimensions (mm) | | | | | | | | | | |
|-----------|--------|-----------------|----|-----|---------|-----|----|-----|-----|-----|------|----|
| Model | Series | A | B | C | e | E | L | M | N | O | S1 | S3 |
| ERZ | 1S | 14 | 16 | 0.4 | M12x1.0 | 7.5 | 39 | 1.5 | 2.7 | 0.9 | 10.5 | 14 |

Panel cut-out: **P1**

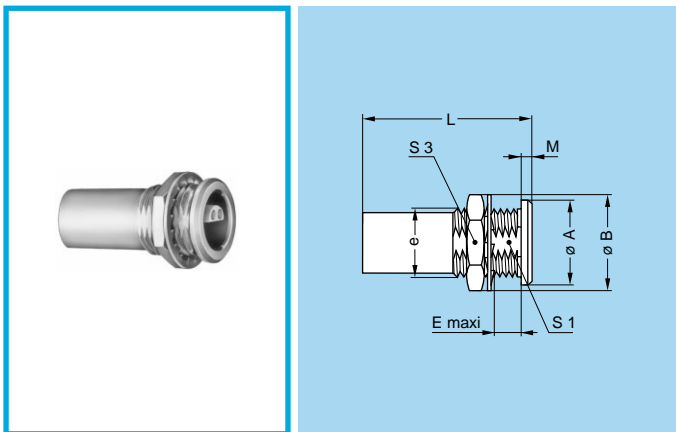
Note: Only exists in 3 or 6-contact versions (type 303, 306).
For the microswitch: maximum operating voltage: 28 Veff
rated current: 0.1 A.



RMA Free coupler

| Reference | | Dim. (mm) | |
|-----------|--------|-----------|------|
| Model | Series | A | L |
| RMA | 00 | 6.4 | 22.0 |
| RMA | 0S | 8.9 | 25.0 |
| RMA | 1S | 11.9 | 28.5 |
| RMA | 2S | 14.8 | 31.5 |
| RMA | 3S | 17.8 | 38.5 |
| RMA | 4S | 24.8 | 46.5 |
| RMA | 5S | 34.7 | 60.5 |

Note: See page 112 for the available plug and contact configurations and in order to ensure correct contact alignment.



RAD Fixed coupler, nut fixing

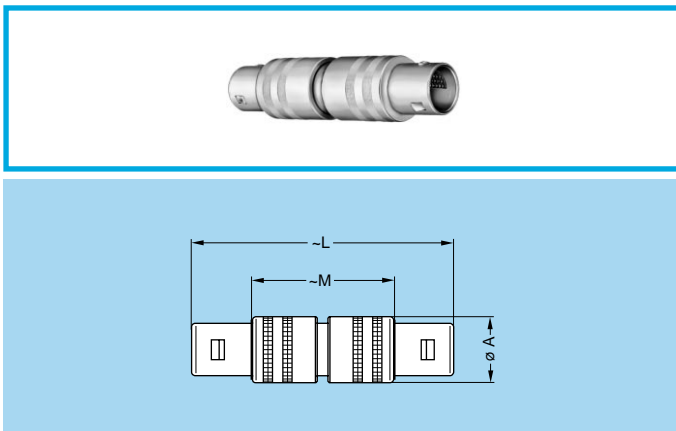
| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S2 |
| RAD | 00 | 8 | 10.3 | M7x0.5 | 5.5 | 22.0 | 1.0 | 6.3 | 9 |
| RAD | 0S | 10 | 12.5 | M9x0.6 | 7.0 | 25.0 | 1.2 | 8.2 | 11 |
| RAD | 1S | 14 | 16.0 | M12x1.0 | 7.5 | 28.5 | 1.5 | 10.5 | 14 |
| RAD | 2S | 18 | 19.5 | M15x1.0 | 8.5 | 31.5 | 1.8 | 13.5 | 17 |
| RAD | 3S | 22 | 25.2 | M18x1.0 | 11.5 | 38.5 | 2.0 | 16.5 | 22 |
| RAD | 4S | 28 | 32.0 | M25x1.0 | 12.0 | 46.5 | 2.5 | - | 30 |
| RAD | 5S | 40 | 40.0 | M35x1.0 | 15.5 | 60.5 | 3.0 | - | - |

Panel cut-out: **P1**

Panel cut-out: **P2** 4S and 5S series

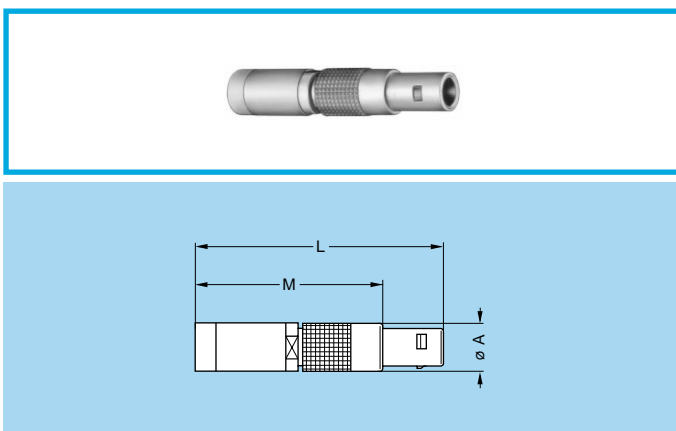
Note: See page 112 for the available plug and contact configurations and in order to ensure correct contact alignment.

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



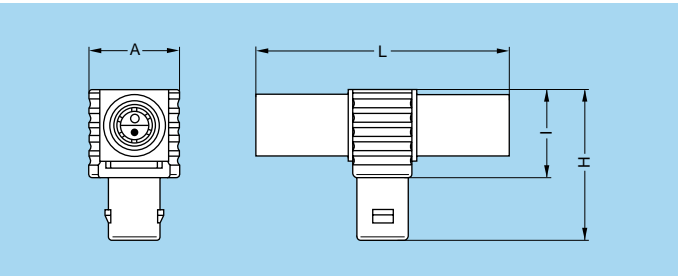
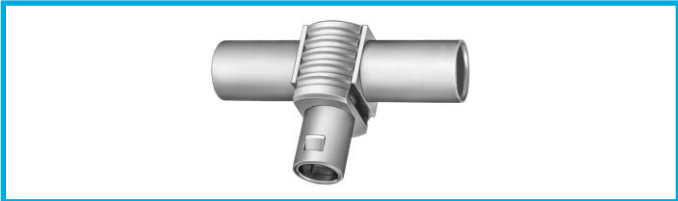
FEF Straight coupler with two plugs and front seal

| Reference | | Dimensions (mm) | | |
|-----------|--------|-----------------|-----|----|
| Model | Series | A | L | M |
| FEF | 5S | 39 | 130 | 80 |



FRT Straight plug with resistor

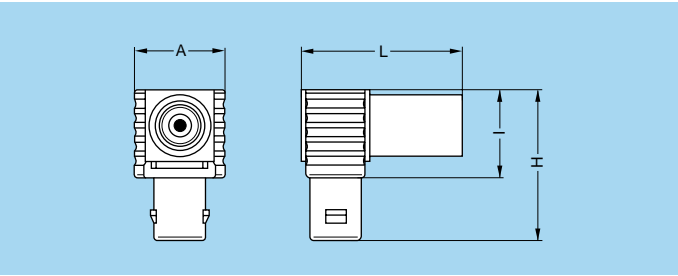
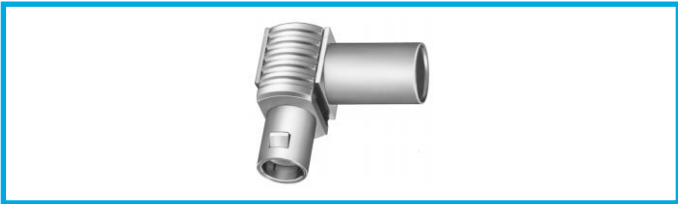
| Reference | | Dimensions (mm) | | | Resistor |
|-----------|--------|-----------------|----|----|------------|
| Model | Series | A | L | M | |
| FRT | 00 | 6.4 | 33 | 25 | 50 Ω 1/8 W |



FTA T-plug with two in line receptacles

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|----|
| Model | Series | A | H | I | L |
| FTA | 00 | 9 | 17.5 | 9.5 | 30 |
| FTA | 0S | 13 | 23.0 | 13.0 | 38 |
| FTA | 1S | 16 | 26.5 | 16.5 | 45 |
| FTA | 3S | 21 | 38.5 | 23.5 | 64 |

Note: Multicontact version available only with 2 contacts (type 302).



FTR Elbow (90°) plug with receptacle

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|------|
| Model | Series | A | H | I | L |
| FTR | 00 | 9 | 17.5 | 9.5 | 18.5 |
| FTR | 3S | 21 | 38.5 | 23.5 | 41.5 |
| FTR | 4S | 28 | 49.0 | 31.0 | 54.0 |

Note: Available only in single contact version.

Plastic housing models

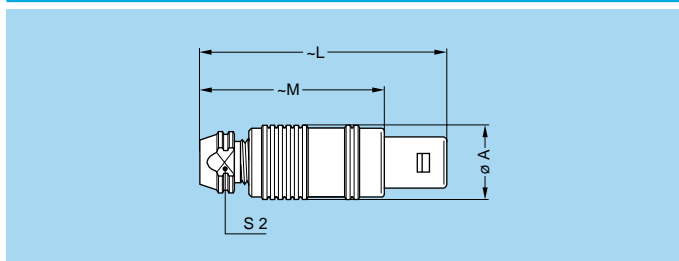
FFA, FFP, FFL and ERN plug and receptacle models are also available with the outer shell and the collet nut made from various insulating materials. These connectors are particularly recommended for all applications requiring maximum electrical insulation when mated, such as medical applications. The design, including a latch sleeve and a metal grounding crown, guarantees EMC screening efficiency to meet most requirements.

Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | | | | Standard |
|--|---------------------|----------------|----------------|----------------|---------------------|
| | PEEK | POM | PSU | PPSU | |
| Color | natural (beige) | black | white or grey | cream | – |
| Endurance | > 5000 cycles | > 5000 cycles | > 5000 cycles | > 5000 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | | | | – |
| Temperature range | -58° F/+482° F | -58° F/+239° F | -58° F/+302° F | -58° F/+356° F | – |
| Sterilization resistance ¹⁾ | > 200 cycles | none | ~20 cycles | > 100 cycles | IEC 60601-1 § 44.7 |
| Resistance to organic solvents | very good | very good | limited | good | – |

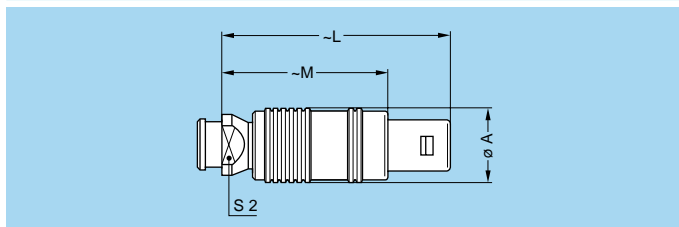
Note:
1) Steam sterilization



FFA Straight plug, cable collet, PEEK or POM outer shell

FFP Straight plug, cable collet, PEEK or POM outer shell and inner anti-rotating device

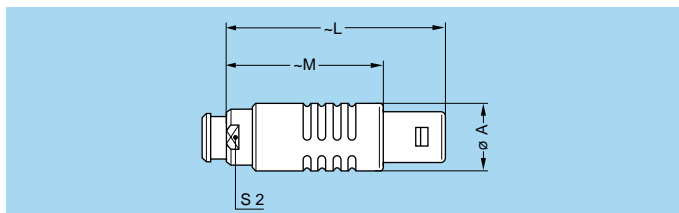
| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|------|
| Model | Series | A | L | M | S2 |
| FFA | 00 | 7.0 | 33.5 | 25.5 | 6.0 |
| FFP | 0S | 9.5 | 34.5 | 24.5 | 8.0 |
| FFP | 1S | 12.0 | 42.5 | 31.5 | 10.0 |
| FFP | 2S | 15.0 | 52.0 | 40.0 | 12.0 |
| FFP | 3S | 18.0 | 61.0 | 46.0 | 14.0 |



FFP Straight plug, cable collet, PEEK or POM outer shell, inner anti-rotating device and nut for fitting a bend relief

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|------|
| Model | Series | A | L | M | S2 |
| FFP | 0S | 9.5 | 33.5 | 23.5 | 7.0 |
| FFP | 1S | 12.0 | 41.5 | 30.5 | 10.0 |
| FFP | 2S | 15.0 | 51.0 | 39.0 | 12.0 |
| FFP | 3S | 18.0 | 61.0 | 46.0 | 14.0 |

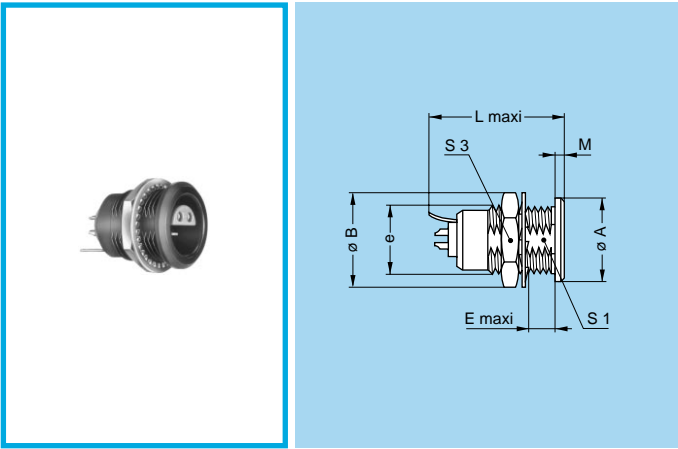
Note: The bend relief must be ordered separately (see page 175).



FFL Straight plug, cable collet, with PSU and PPSU outer shell, inner anti-rotating device and nut for fitting a bend relief

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|------|------|----|
| Model | Series | A | L | M | S2 |
| FFL | 2S | 16.5 | 51.5 | 39.5 | 13 |

Note: The bend relief must be ordered separately (see page 175). This model is fitted with a «D or M» type collet system (see page 206). It is also adapted for crimp contacts.



ERN Fixed receptacle, nut fixing, with grounding tab, PEEK or POM outer shell

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----------------|-----|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| ERN | 00 | 9 | 10.3 | M7x0.5 | 5.5 | — | 15.1 | 1.0 | 6.3 | 9 |
| ERN | 0S | 11 | 12.5 | M9x0.6 | 7.0 | 19.3 | 19.3 | 1.2 | 8.2 | 11 |
| ERN | 1S | 14 | 16.0 | M12x1.0 | 7.5 | 23.0 | 23.0 | 1.5 | 10.5 | 14 |
| ERN | 2S | 18 | 19.5 | M15x1.0 | 8.5 | 26.3 | 26.3 | 2.0 | 13.5 | 17 |
| ERN | 3S | 22 | 25.2 | M18x1.0 | 11.5 | 29.8 | 30.0 | 2.0 | 16.5 | 22 |

Panel cut-out: **P1**

Note: 1) Single contact model.

Watertight or vacuum-tight models

HGP, HGW, EWB, HCP, SWH receptacle or coupler models allow the device on which they are fitted to reach a protection index of IP68 as per IEC 60529. They are fully compatible with plugs of the same series and are widely used for portable radios, military, laboratory equipment, aviation, etc. These models are identified by a letter «P» at the end of the reference.

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

Epoxy resin is used to seal these models.

Please refer to page 8 to locate the chapter on selecting watertight connectors.

Part number example:
 Watertight receptacle – HGP.1S.304.CLLP
 Vacuum-tight receptacle – HGP.1S.304.CLLPV

Technical Characteristics

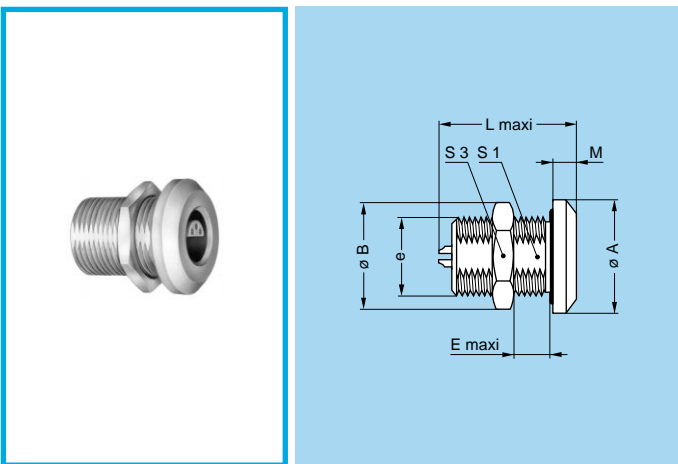
Mechanical and Climatic

| Characteristics | Value | Standard |
|--|---|----------------------|
| Endurance | > 5000 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | |
| Temperature range | - 4° F/+176° F | |
| Salt spray corrosion test | > 144h | IEC 60512-6 test 11f |
| Protection index (mated) | IP 68 | IEC 60529 |
| Climatic category | 20/80/21 | IEC 60068-1 |
| Leakage rate (He) ¹⁾ | < 10 ⁻⁶ mbar.l.s ⁻¹ | IEC 60512-7 test 14b |
| Maximum operating pressure ²⁾ | 0S | 60 bars |
| | 1S | 60 bars |
| | 2S | 40 bars |
| | 3S | 30 bars |
| | 4S | 15 bars |
| | 5S | 5 bars |
| | 6S | 5 bars |
| | | IEC 60512-7 test 14d |

Note:

1) Only for vacuum-tight models.

2) This value corresponds to the maximum allowed pressure difference for the assembled receptacle.



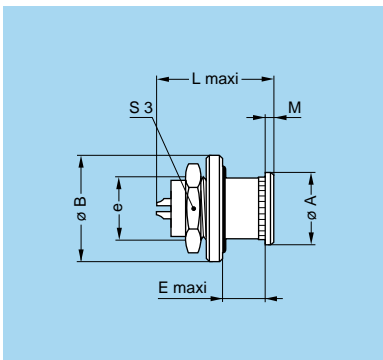
HGP Fixed receptacle, nut fixing, watertight or vacuum-tight

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----------------|-----|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| HGP | 0S | 18 | 16.0 | M12x1.0 | 11.5 | 22.0 | 20.5 | 4.0 | 10.5 | 14 |
| HGP | 1S | 20 | 19.5 | M14x1.0 | 15.5 | 25.5 | 25.5 | 4.0 | 12.5 | 17 |
| HGP | 2S | 20 | 21.8 | M16x1.0 | 17.0 | 28.0 | 28.0 | 4.0 | 14.5 | 19 |
| HGP | 3S | 28 | 27.5 | M20x1.0 | 19.0 | 35.5 | 34.5 | 6.0 | 18.5 | 24 |
| HGP | 4S | 34 | 32.0 | M25x1.0 | 22.5 | 41.0 | 42.0 | 6.5 | 23.5 | 30 |
| HGP | 5S | 45 | 40.0 | M35x1.0 | 28.0 | 54.5 | 78.5 | 7.5 | 33.5 | — |
| HGP | 6S | 58 | 54.0 | M48x1.5 | 20.0 | 57.0 | — | 6.0 | 45.5 | — |

Panel cut-out: **P3**

Note: 1) Single contact model

Note: The 5S and 6S series are delivered with a round nut.

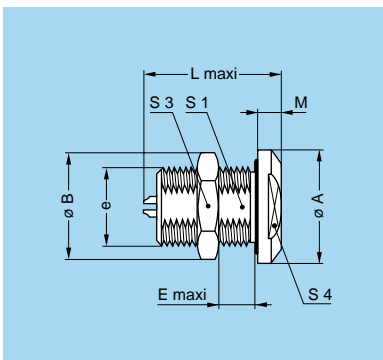


HGW Fixed receptacle, nut fixing, with back washer, watertight or vacuum-tight

| Reference | | Dimensions (mm) | | | | | | |
|-----------|--------|-----------------|----|---------|---|------|-----|----|
| Model | Series | A | B | e | E | L | M | S3 |
| HGW | 0S | 10 | 15 | M9x0.6 | 2 | 17.5 | 1.2 | 11 |
| HGW | 1S | 14 | 18 | M12x1.0 | 4 | 20.2 | 1.5 | 14 |

Panel cut-out: **P11**

Note: Vacuum-tight version is only available in the 0S series.

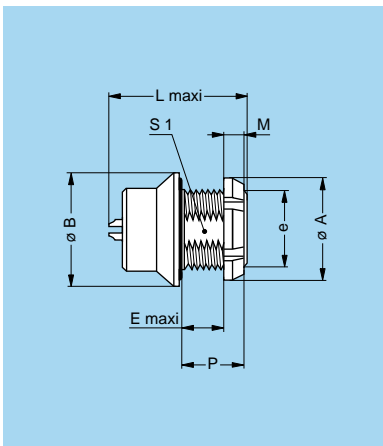


EWB Fixed receptacle, nut fixing, with two flats on the flange, watertight or vacuum-tight

| Reference | | Dimensions (mm) | | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----------------|-----|------|----|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 | S4 |
| EWB | 0S | 18 | 16.0 | M12x1.0 | 11.5 | 22.0 | – | 4.0 | 10.5 | 14 | 14 |
| EWB | 1S | 20 | 19.5 | M14x1.0 | 17.0 | 25.5 | 25.5 | 4.0 | 12.5 | 17 | 16 |
| EWB | 2S | 20 | 21.8 | M16x1.0 | 19.0 | 28.0 | 26.5 | 4.0 | 14.5 | 19 | 16 |
| EWB | 4S | 34 | 32.0 | M25x1.0 | 22.5 | 41.0 | – | 6.5 | 23.5 | 30 | 27 |

Panel cut-out: **P3**

Note: ¹⁾ Single contact model

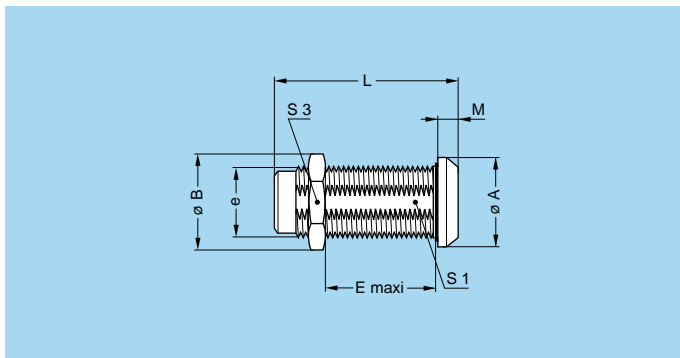


HCP Fixed receptacle, nut fixing, watertight or vacuum-tight (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|----|---------|------|------|-----|------|------|
| Model | Series | A | B | e | E | L | M | P | S1 |
| HCP | 1S | 18 | 20 | M14x1.0 | 8.6 | 25.5 | 3.5 | 12.0 | – |
| HCP | 2S | 20 | 20 | M16x1.0 | 12.5 | 29.0 | 3.5 | 16.5 | 14.5 |
| HCP | 4S | 27 | 34 | M25x1.0 | 15.5 | 41.0 | 4.5 | 20.0 | 23.5 |

Panel cut-out: **P3**

Note: The 4S series is delivered with a conical nut.



SWH Fixed coupler, nut fixing, watertight or vacuum-tight

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|----------|----|----|-----|------|----|--|
| Model | Series | A | B | e | E | L | M | S1 | S3 | |
| SWH | 0S | 14 | 13.8 | M10x0.75 | 17 | 34 | 2.0 | 9.0 | 12 | |
| SWH | 1S | 17 | 16.0 | M12x1.00 | 28 | 39 | 2.5 | 10.5 | 14 | |
| SWH | 2S | 20 | 21.8 | M16x1.00 | 25 | 44 | 4.0 | 15.0 | 19 | |
| SWH | 3S | 25 | 27.0 | M20x1.00 | 30 | 53 | 4.0 | 18.5 | 24 | |
| SWH | 4S | 34 | 32.0 | M25x1.00 | 50 | 65 | 4.0 | 23.5 | 30 | |
| SWH | 5S | 45 | 40.0 | M35x1.00 | 58 | 80 | 5.0 | 33.5 | – | |
| SWH | 6S | 58 | 54.0 | M48x1.50 | 55 | 81 | 6.0 | 45.5 | – | |

Panel cut-out: **P4**

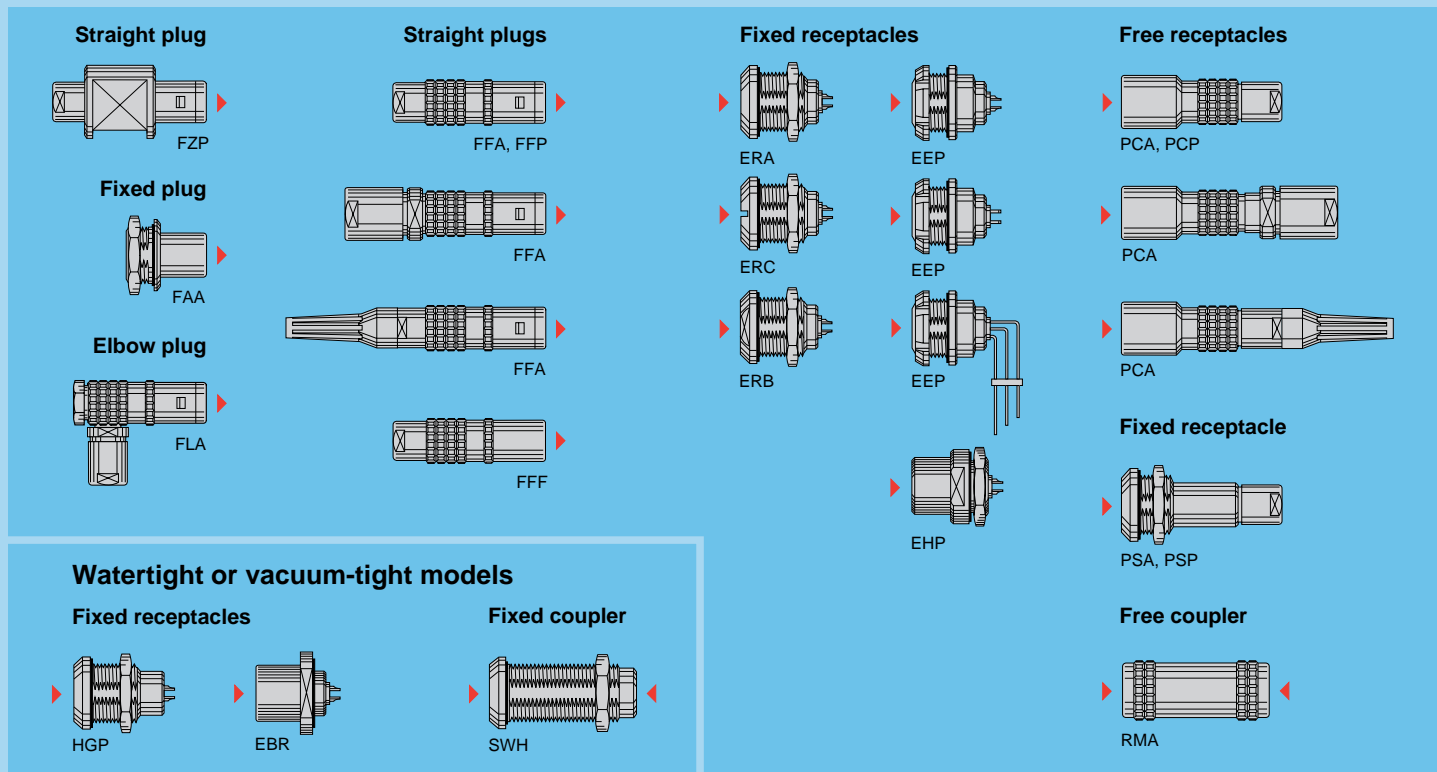
Note: See page 112 for the available plug and contact configurations and in order to ensure correct contact alignment. The 5S and 6S series are delivered with a round nut.

E Series

E series connectors have been specifically designed for outdoor applications. They include an inner sleeve and two seals to prevent penetration of solids or liquids into the housing formed by the plug, free receptacle, fixed receptacle or coupler. All models of these series are watertight when mated and give a protection index of IP 68 as per IEC 60529 standard (in mated condition) when correctly assembled to an appropriate cable (IP 66 otherwise).

- security of the Push-Pull latching system
- watertight connection (IP 68/IP 66)
- single contact types transmitting current up to 230 A and multicontact types with up to 106 contacts
- solder or printed circuit contacts (straight or elbow)
- polarization by stepped insert (half-moon) fitted with male and female contacts
- wide range of models satisfying most applications
- 360° screening for full EMC shielding
- rugged housing for extreme working condition.

Interconnections



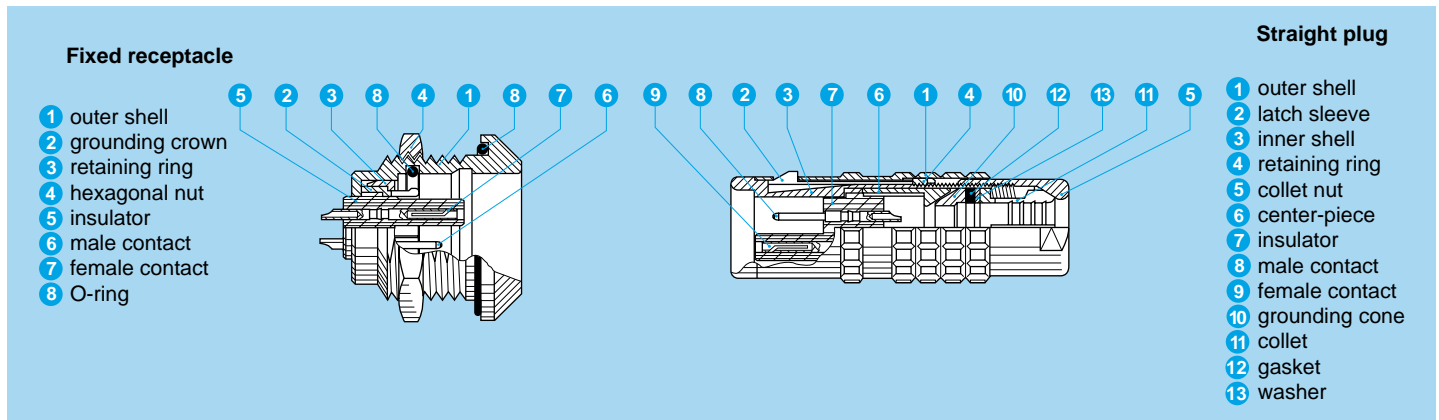
Model Description

- EBR** Fixed receptacle with round flange, watertight, protruding shell and screw fixing
- EEP** Fixed receptacle, nut fixing (back panel mounting)
- EEP** Fixed receptacle, nut fixing, with elbow (90°) contacts for printed circuit (back panel mounting)
- EEP** Fixed receptacle, nut fixing, with straight contacts for printed circuit (back panel mounting)
- EHP** Fixed receptacle, nut fixing, protruding shell
- ERA** Fixed receptacle, nut fixing
- ERB** Fixed receptacle, nut fixing with two flats in the flange

- ERC** Fixed receptacle, nut fixing with slot in the flange
- FAA** Fixed plug non-latching, nut fixing
- FFA** Straight plug, cable collet
- FFA** Straight plug with oversize cable collet
- FFA** Straight plug, cable collet and nut for fitting a bend relief
- FFF** Straight plug non-latching, cable collet
- FFP** Straight plug, cable collet and inner anti-rotating device
- FLA** Elbow (90°) plug, cable collet
- FZP** Straight plug for remote handling, cable collet and inner anti-rotating device
- HGP** Fixed receptacle, nut fixing, watertight or vacuum-tight

- PCA** Free receptacle, cable collet
- PCA** Free receptacle with oversize cable collet
- PCA** Free receptacle, cable collet and nut for fitting a bend relief
- PCP** Free receptacle, cable collet and inner anti-rotating device
- PSA** Fixed receptacle, nut fixing, cable collet
- PSP** Fixed receptacle, nut fixing, cable and inner anti-rotating device
- RMA** Free coupler
- SWH** Fixed coupler, nut fixing, watertight or vacuum-tight

Part Section Showing Internal Components



Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | Standard |
|------------------------------------|---------------------|----------------------|
| Endurance | > 5000 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | |
| Temperature range ^{1) 2)} | -58° F, +392° F | |
| Resistance to vibrations | 10-2000 Hz, 15 g | IEC 60512-4 test 6d |
| Shock resistance | 100 g, 6 ms | IEC 60512-4 test 6c |
| Salt spray corrosion test | > 144h | IEC 60512-6 test 11f |
| Protection index (mated) | IP 68/IP 66 | IEC 60529 |
| Climatic category ¹⁾ | 50/175/21 | IEC 60068-1 |

Electrical

| Characteristics | Value | Standard |
|----------------------|-----------|----------|
| Shielding efficiency | at 10 MHz | > 95 dB |
| | at 1 GHz | > 80 dB |

Note: The various tests have been carried out with FFA and ERA connector pairs, with chrome-plated brass shell, PEEK insulator and silicone O-ring. Detailed electrical characteristics, as well as materials and treatment are presented in the chapter Technical Characteristics on page 197.

1) For watertight or vacuum-tight models see page 100.

2) Minimum operating temperature is -4° F for receptacles fitted with an FPM (Viton) O-ring.

Available Models (series and types)

| Model | Single contact | | | | | Multicontact | | | | | | | |
|-------------------|----------------|----|----|----|----|--------------|----|----|----|----|----|----|----|
| | 0E | 1E | 2E | 3E | 4E | 5E | 0E | 1E | 2E | 3E | 4E | 5E | 6E |
| EBR | | | ● | | | | | | ● | | | | |
| EEP | ● | ● | ● | ● | | | ● | ● | ● | ● | | | |
| EEP ¹⁾ | | | | | | | | | ● | | | | |
| EGG ⁵⁾ | | | | | | | | | | | | | ● |
| EHP | ● | ● | ● | | | | ● | ● | ● | | | | |
| ERA | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| ERB | ● | ● | ● | ● | | | ● | ● | ● | ● | | | |
| ERC | ● | ● | ● | ● | | | ● | | | ● | | | |
| FAA | ● | ● | ● | ● | | | ● | ● | ● | ● | | | |
| FFA | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| FFA ²⁾ | | ● | ● | ● | ● | | | ● | ● | ● | ● | | |
| FFA ³⁾ | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| FFF | ● | ● | | | | | ● | ● | | | | | |
| FFP | | | | ● | ● | | | | ● | ● | | | |

| Model | Single contact | | | | | Multicontact | | | | | | | |
|-------------------|----------------|----|----|----|----|--------------|----|----|----|----|----|----|----|
| | 0E | 1E | 2E | 3E | 4E | 5E | 0E | 1E | 2E | 3E | 4E | 5E | 6E |
| FGG ⁵⁾ | | | | | | | | | | | | | ● |
| FLA | | | | | | | ● | ● | ● | ● | ● | | |
| FZP | | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | |
| HGP ⁴⁾ | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| PCA | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| PCA ²⁾ | | ● | ● | ● | ● | | | ● | ● | ● | ● | | |
| PCA ³⁾ | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| PCP | | | | ● | ● | | | | | ● | ● | | |
| PHG ⁵⁾ | | | | | | | | | | | | | ● |
| PKG ⁵⁾ | | | | | | | | | | | | | ● |
| PSA | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| PSP | | | | ● | ● | ● | | | | ● | ● | ● | |
| RMA | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| SWH ⁴⁾ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |

Note:

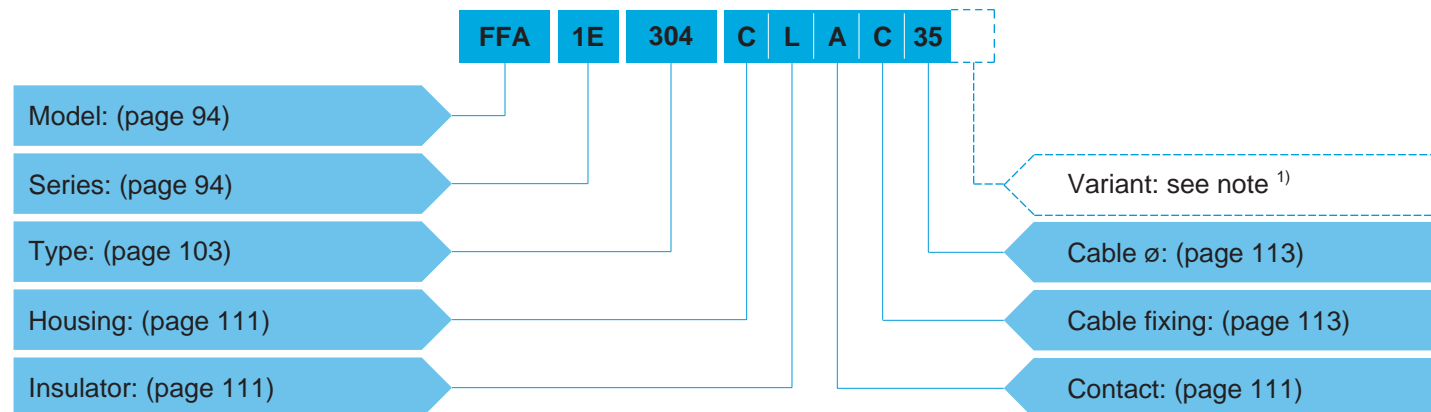
RMA and SWH models are not available in all types. Please consult pages corresponding to the models.

- 1) with elbow (90°) printed circuit contacts
- 2) with oversize cable collet
- 3) with cable collet and nut for fitting a bend relief
- 4) with key (6E series)
- 5) with key (G)

● = available models by series and types

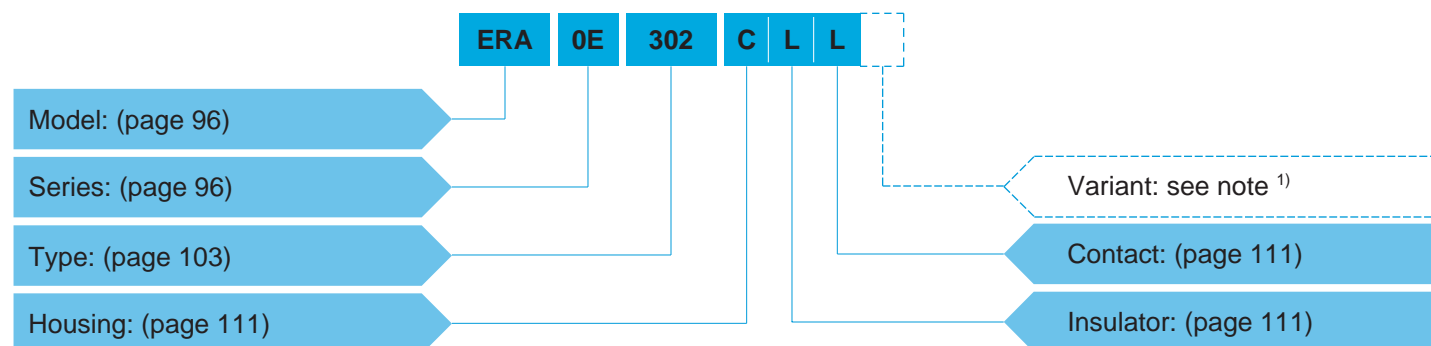
Part Number Example

Straight plug with cable collet



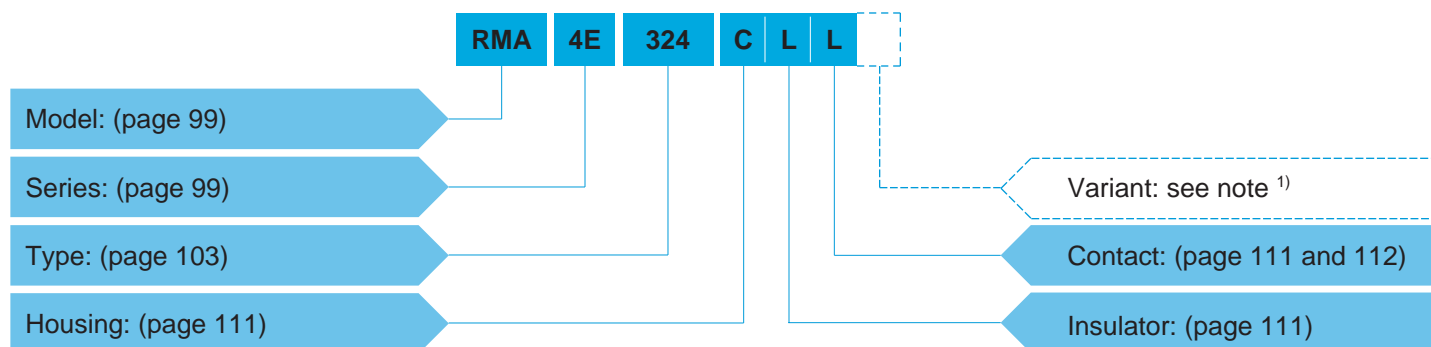
FFA.1E.304.CLAC35 = straight plug with cable collet, 1E series, multicontact type with four contacts, chrome-plated brass shell and PEEK insulator, male solder contacts, C type collet for a 3.5 mm diameter cable.

Fixed receptacle



ERA.0E.302.CLL = fixed receptacle, nut fixing, 0E series, multicontact type with two contacts, chrome-plated outer shell, PEEK insulator, female solder contacts.

Straight coupler



RMA.4E.324.CLL = straight coupler, 4E series, multicontact type with 24 contacts, chrome-plated brass outer shell, PEEK insulator, 12 female and 12 male contacts each end.

Note: ¹⁾ The «Variant» position of the part number is used to specify either the presence of a nut for fitting a bend relief, or the anodized color of the aluminium housings.

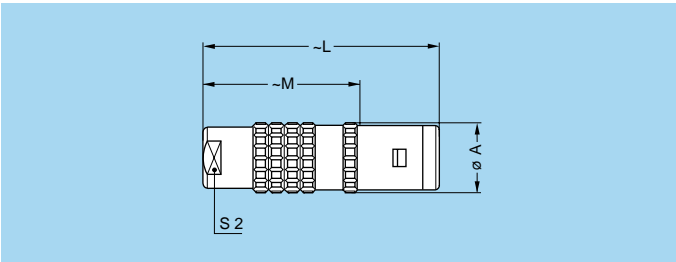
For models with collet nut for fitting a bend relief, a «Z» should be indicated and a bend relief can be ordered separately as indicated in the «Accessories» section. An order for a connector with bend relief should thus include two part numbers.

For the various housings available in colors, the corresponding letter in the part number for the color is indicated on page 124.

For the watertight models of receptacle, the letter «P» is used; for the vacuum-tight models of receptacle the letters «PV» shall be indicated.

For the plug and receptacle that should be fitted with an FPM (Viton) O-ring the letter «H» shall be indicated.

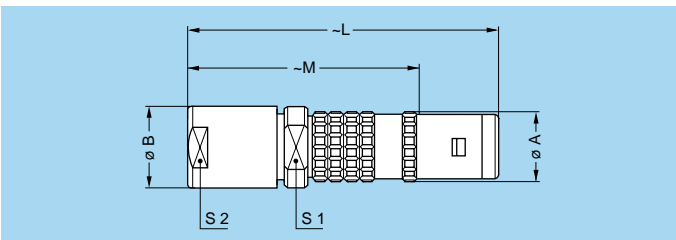
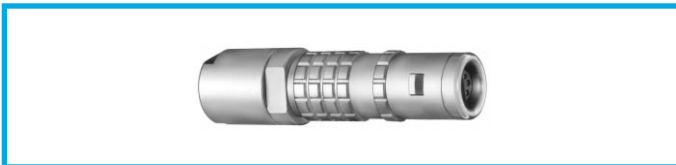
Models - Series



FFA Straight plug, cable collet

| Reference | | Dimensions (mm) | | | |
|-------------------|--------|-----------------|-----|------|----|
| Model | Series | A | L | M | S2 |
| FFA | 0E | 11 | 34 | 23.0 | 8 |
| FFA | 1E | 13 | 42 | 28.0 | 9 |
| FFA | 2E | 16 | 52 | 36.0 | 12 |
| FFA | 3E | 19 | 61 | 41.0 | 15 |
| FFA | 4E | 25 | 71 | 50.5 | 19 |
| FFA | 5E | 38 | 92 | 67.0 | 32 |
| FFG ¹⁾ | 6E | 47 | 118 | 89.0 | 38 |

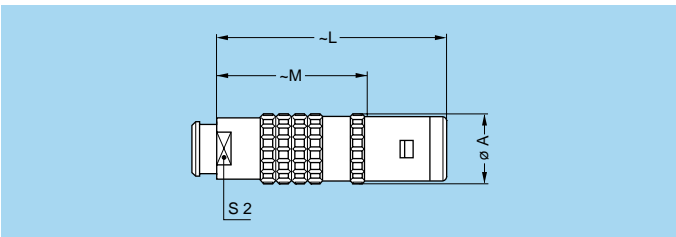
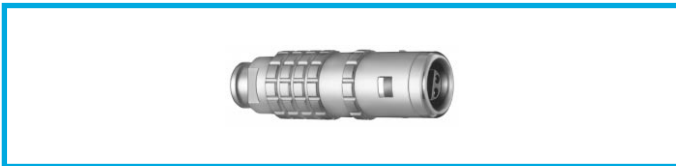
Note: 1) With key (G)



FFA Straight plug with oversize cable collet

| Reference | | Dimensions (mm) | | | | | |
|-----------|--------|-----------------|------|-----|----|----|----|
| Model | Series | A | B | L | M | S1 | S2 |
| FFA | 1E | 13 | 14.5 | 55 | 41 | 12 | 12 |
| FFA | 2E | 16 | 17.0 | 65 | 49 | 15 | 15 |
| FFA | 3E | 19 | 22.0 | 80 | 60 | 19 | 19 |
| FFA | 4E | 25 | 36.0 | 105 | 84 | 30 | 32 |

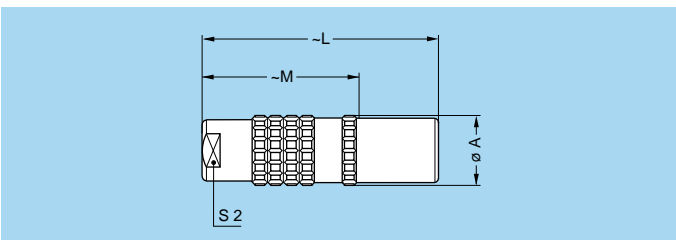
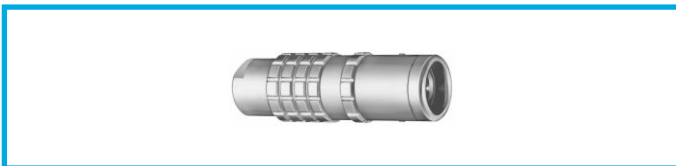
Note: The fitting of oversize collets onto this model allows them to be fitted to the cables that can be accommodated by the next housing size up.



FFA Straight plug, cable collet and nut for fitting a bend relief

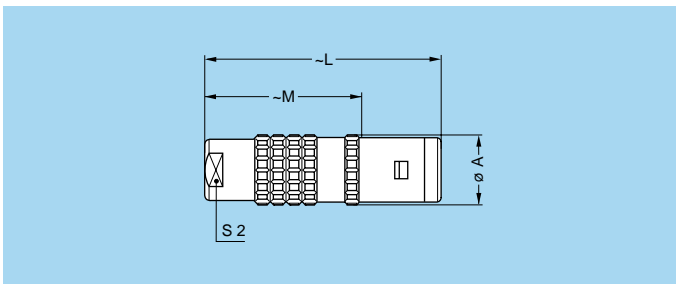
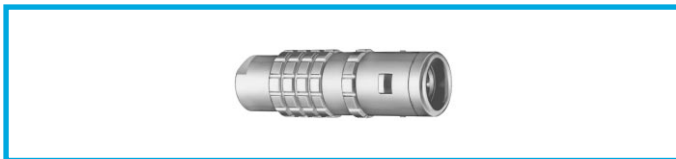
| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|----|------|----|
| Model | Series | A | L | M | S2 |
| FFA | 0E | 11 | 34 | 23.0 | 7 |
| FFA | 1E | 13 | 42 | 28.0 | 9 |
| FFA | 2E | 16 | 52 | 36.0 | 12 |
| FFA | 3E | 19 | 60 | 40.0 | 15 |
| FFA | 4E | 25 | 71 | 50.5 | 19 |

Note: The bend relief must be ordered separately (see page 175).



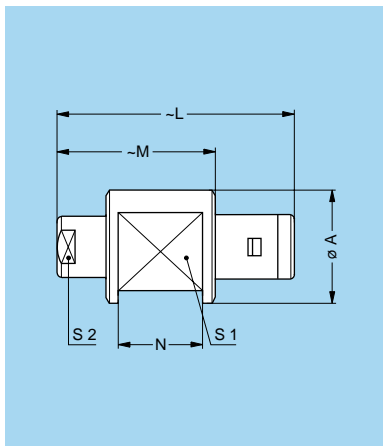
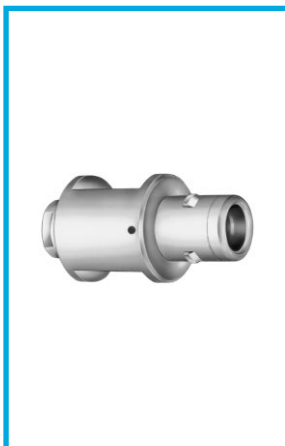
FFF Straight plug non-latching, cable collet

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|----|----|----|
| Model | Series | A | L | M | S2 |
| FFF | 0E | 11 | 34 | 23 | 8 |
| FFF | 1E | 13 | 42 | 28 | 9 |



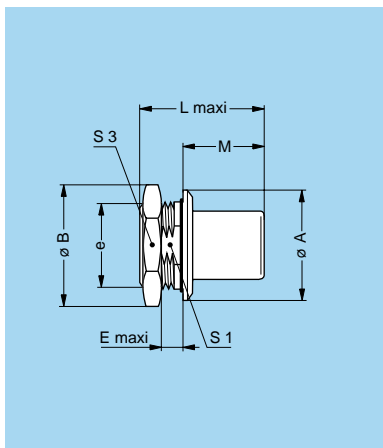
FFP Straight plug, cable collet and inner anti-rotating device

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------|----|------|----|
| Model | Series | A | L | M | S2 |
| FFP | 3E | 19 | 61 | 41.0 | 15 |
| FFP | 4E | 25 | 71 | 50.5 | 19 |



FZP Straight plug for remote handling, cable collet and inner anti-rotating device

| Reference | | Dimensions (mm) | | | | | |
|-----------|--------|-----------------|----|------|------|----|----|
| Model | Series | A | L | M | N | S1 | S2 |
| FZP | 1E | 20 | 42 | 28.0 | 15.0 | 15 | 9 |
| FZP | 2E | 22 | 52 | 36.0 | 16.0 | 16 | 12 |
| FZP | 3E | 23 | 61 | 41.0 | 20.0 | 19 | 15 |
| FZP | 4E | 32 | 71 | 50.5 | 29.0 | 25 | 19 |
| FZP | 5E | 44 | 92 | 67.0 | 39.5 | 36 | 32 |

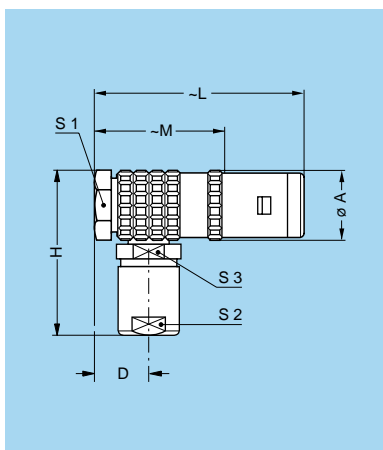


FAA Fixed plug non-latching, nut fixing

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|-----------------|------|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| FAA | 0E | 18 | 19.5 | M14x1.0 | 3.5 | 19.5 | 19.5 | 13.0 | 12.5 | 17 |
| FAA | 1E | 20 | 21.5 | M16x1.0 | 3.5 | 23.0 | 23.0 | 16.0 | 14.5 | 19 |
| FAA | 2E | 25 | 27.5 | M20x1.0 | 4.0 | 27.0 | 27.0 | 18.0 | 18.5 | 24 |
| FAA | 3E | 31 | 34.5 | M24x1.0 | 4.5 | 32.5 | 32.5 | 22.5 | 22.5 | 30 |

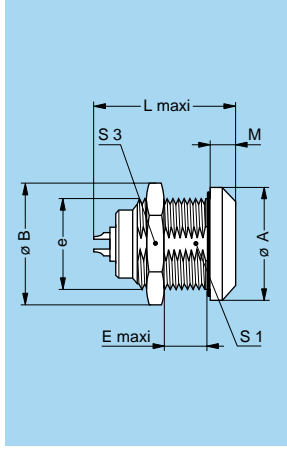
Panel cut-out: **P1**

Note: ¹⁾ Single contact model



FLA Elbow (90°) plug, cable collet

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|----|----|------|----|----|----|--|
| Model | Series | A | D | H | L | M | S1 | S2 | S3 | |
| FLA | 0E | 11.5 | 7.6 | 27 | 36 | 25.0 | 10 | 8 | 8 | |
| FLA | 1E | 14.0 | 8.8 | 33 | 43 | 29.0 | 12 | 9 | 10 | |
| FLA | 2E | 17.5 | 10.5 | 40 | 51 | 35.0 | 15 | 12 | 13 | |
| FLA | 3E | 21.0 | 11.5 | 47 | 60 | 40.0 | 18 | 15 | 15 | |
| FLA | 4E | 27.5 | 15.5 | 57 | 72 | 51.5 | 24 | 19 | 20 | |



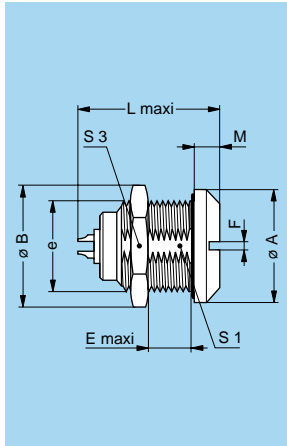
ERA Fixed receptacle, nut fixing

| Reference | | Dimensions (mm) | | | | | | | | |
|-------------------|--------|-----------------|------|---------|------|------|-----------------|------|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| ERA | 0E | 18 | 19.5 | M14x1.0 | 7.0 | 19.5 | 20.5 | 4.0 | 12.5 | 17 |
| ERA | 1E | 20 | 21.5 | M16x1.0 | 9.0 | 24.0 | 25.3 | 4.5 | 14.5 | 19 |
| ERA | 2E | 25 | 27.5 | M20x1.0 | 9.0 | 28.5 | 30.0 | 5.0 | 18.5 | 24 |
| ERA | 3E | 31 | 34.5 | M24x1.0 | 11.0 | 34.0 | 35.0 | 6.0 | 22.5 | 30 |
| ERA | 4E | 37 | 41.5 | M30x1.0 | 9.0 | 36.0 | 38.0 | 6.5 | 28.5 | 36 |
| ERA | 5E | 55 | 54.0 | M45x1.5 | 10.0 | 44.5 | 78.0 | 9.0 | 42.5 | – |
| EGG ²⁾ | 6E | 65 | 65.0 | M55x2.0 | 10.5 | 48.5 | – | 10.0 | 52.0 | – |

Panel cut-out: **P1**

Note: ¹⁾ Single contact model

Note: ²⁾ With key (G). The 5E and 6E series are delivered with a round nut.

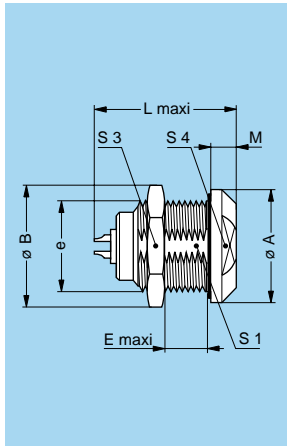


ERC Fixed receptacle, nut fixing with slot in the flange

| Reference | | Dimensions (mm) | | | | | | | | | |
|-----------|--------|-----------------|------|---------|----|-----|------|-----------------|-----|------|----|
| Model | Series | A | B | e | E | F | L | L ¹⁾ | M | S1 | S3 |
| ERC | 0E | 18 | 19.5 | M14x1.0 | 7 | 1.5 | 19.5 | 20.5 | 4.0 | 12.5 | 17 |
| ERC | 3E | 31 | 34.5 | M24x1.0 | 11 | 3.0 | 34.0 | 35.0 | 6.0 | 22.5 | 30 |
| ERC | 4E | 37 | 41.5 | M30x1.0 | 9 | 3.0 | 36.0 | 38.0 | 6.5 | 28.5 | 36 |

Panel cut-out: **P1**

Note: ¹⁾ Single contact model.

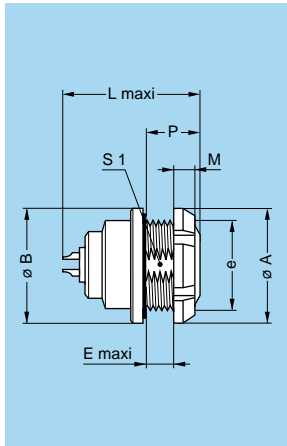


ERB Fixed receptacle, nut fixing with two flats in the flange

| Reference | | Dimensions (mm) | | | | | | | | | |
|-----------|--------|-----------------|------|---------|----|------|-----------------|-----|------|----|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 | S4 |
| ERB | 0E | 18 | 19.5 | M14x1.0 | 7 | 19.5 | 20.5 | 4.0 | 12.5 | 17 | 14 |
| ERB | 1E | 20 | 21.5 | M16x1.0 | 9 | 24.0 | 25.3 | 4.5 | 14.5 | 19 | 17 |
| ERB | 2E | 25 | 27.5 | M20x1.0 | 9 | 28.5 | 30.0 | 5.0 | 18.5 | 24 | 20 |
| ERB | 3E | 31 | 34.5 | M24x1.0 | 11 | 34.0 | 35.0 | 6.0 | 22.5 | 30 | 24 |

Panel cut-out: **P1**

Note: ¹⁾ Single contact model.



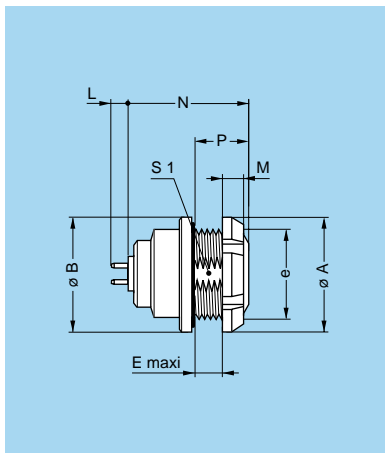
EEP Fixed receptacle, nut fixing (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|------|-----------------|-----|----|------|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | P | S1 |
| EEP | 0E | 18 | 18 | M14x1.0 | 3.4 | 19.5 | 20.5 | 3.5 | 7 | 12.5 |
| EEP | 1E | 20 | 20 | M16x1.0 | 6.2 | 24.0 | 25.3 | 3.5 | 10 | 14.5 |
| EEP | 2E | 25 | 25 | M20x1.0 | 5.0 | 28.5 | 30.0 | 3.5 | 10 | 18.5 |
| EEP | 3E | 30 | 31 | M24x1.0 | 7.0 | 34.0 | 35.0 | 4.5 | 12 | 22.5 |

Panel cut-out: **P1**

Note: ¹⁾ Single contact model.

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



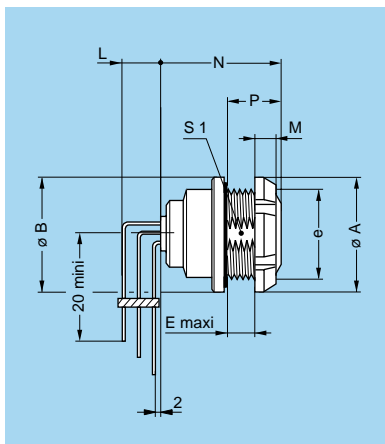
EEP Fixed receptacle, nut fixing, with straight contact for printed circuit (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|----|---------|-----|-----|------|----|------|
| Model | Series | A | B | e | E | M | N | P | S1 |
| EEP | 0E | 18 | 18 | M14x1.0 | 3.4 | 3.5 | 18.4 | 7 | 12.5 |
| EEP | 1E | 20 | 20 | M16x1.0 | 6.2 | 3.5 | 23.5 | 10 | 14.5 |
| EEP | 2E | 25 | 25 | M20x1.0 | 5.0 | 3.5 | 25.5 | 10 | 18.5 |
| EEP | 3E | 30 | 31 | M24x1.0 | 7.0 | 4.5 | 30.5 | 12 | 22.5 |

Panel cut-out: **P1**

PCB drilling pattern: **P21**

Note: This contact type is available for all E● receptacle models. See page 195 for table of available types. Length «L» depends on the number of contacts, see PCB drilling pattern on page 195. The 3E series is delivered with a conical nut.



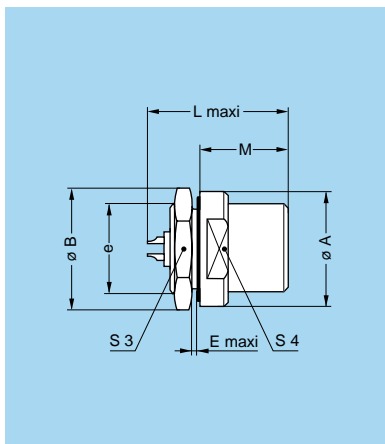
EEP Fixed receptacle, nut fixing, with elbow (90°) contacts for printed circuit (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | |
|-----------|--------|-----------------|----|---------|---|-----|------|----|------|
| Model | Series | A | B | e | E | M | N | P | S1 |
| EEP | 2E | 25 | 25 | M20x1.0 | 5 | 3.5 | 24.5 | 10 | 18.5 |

Panel cut-out: **P1**

PCB drilling pattern: **P24**

Note: This contact type is available for all back panel mounting receptacle types. See page 196 for available types. Length «L» depends on the number of contacts, see PCB drilling pattern on page 196.

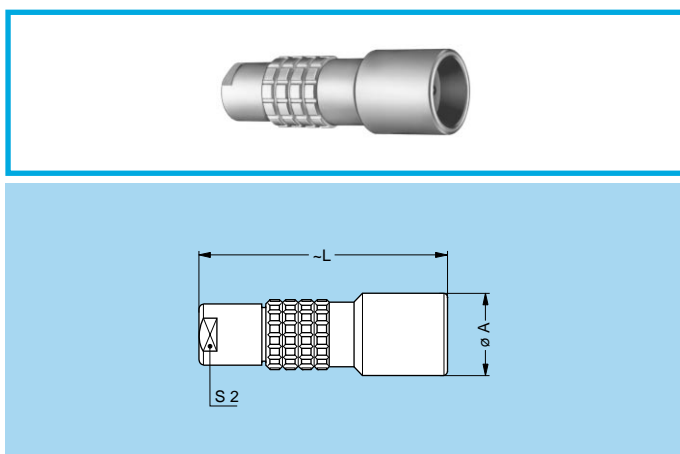


EHP Fixed receptacle, nut fixing, protruding shell

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|-----|------|-----------------|------|----|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S3 | S4 |
| EHP | 0E | 18 | 19.5 | M14x1.0 | 1.5 | 19.5 | 20.5 | 10.5 | 17 | 15 |
| EHP | 1E | 20 | 21.5 | M16x1.0 | 1.5 | 24.0 | 25.3 | 15.5 | 19 | 17 |
| EHP | 2E | 25 | 27.5 | M20x1.0 | 2.0 | 28.5 | 30.0 | 17.0 | 24 | 20 |

Panel cut-out: **P1**

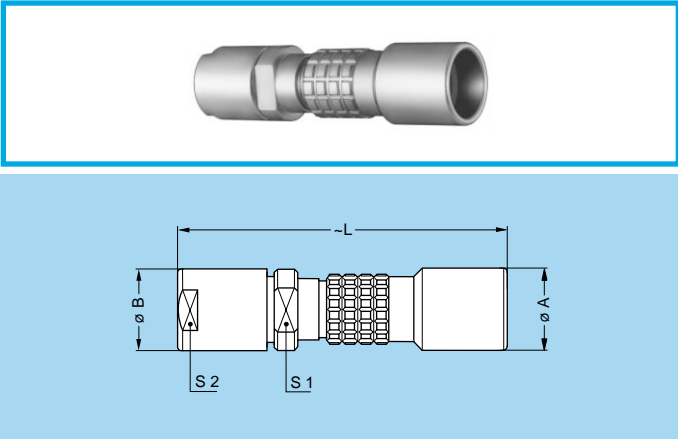
Note: 1) Single contact model.



PCA Free receptacle, cable collet

| Reference | | Dimensions (mm) | | |
|-------------------|--------|-----------------|-------|----|
| Model | Series | A | L | S2 |
| PCA | 0E | 13 | 34.0 | 8 |
| PCA | 1E | 15 | 45.0 | 9 |
| PCA | 2E | 19 | 54.0 | 12 |
| PCA | 3E | 23 | 65.0 | 15 |
| PCA | 4E | 29 | 75.5 | 19 |
| PCA | 5E | 42 | 95.0 | 32 |
| PHG ¹⁾ | 6E | 52 | 125.0 | 38 |

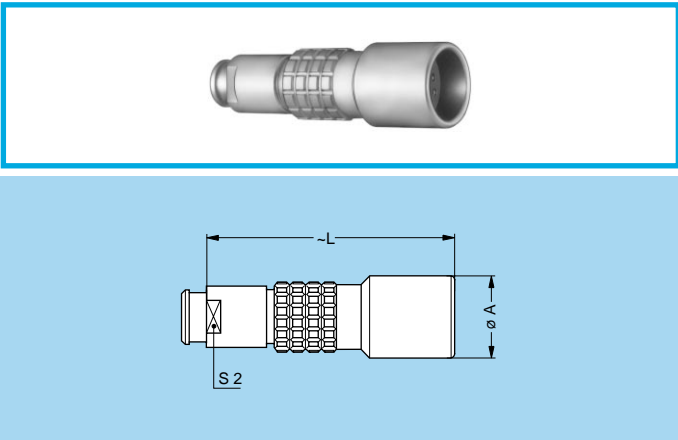
Note: 1) With key (G).



PCA Free receptacle with oversize cable collet

| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|------|-------|----|----|
| Model | Series | A | B | L | S1 | S2 |
| PCA | 1E | 15 | 14.5 | 58.0 | 12 | 12 |
| PCA | 2E | 19 | 17.0 | 67.0 | 15 | 15 |
| PCA | 3E | 23 | 22.0 | 84.0 | 19 | 19 |
| PCA | 4E | 29 | 36.0 | 109.0 | 30 | 32 |

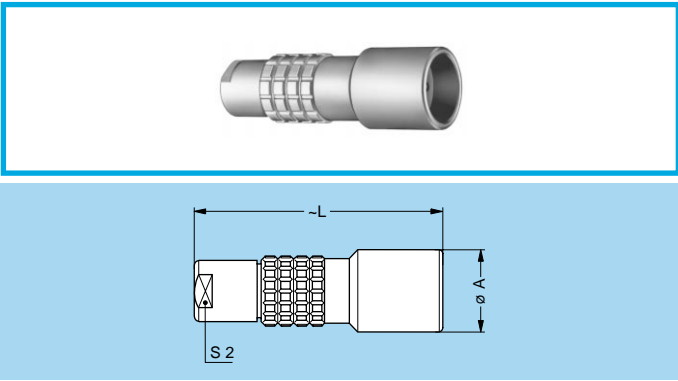
Note: The fitting of oversize collets onto this model allows them to be fitted to the cables that can be accommodated by the next housing size up.



PCA Free receptacle, cable collet and nut for fitting a bend relief

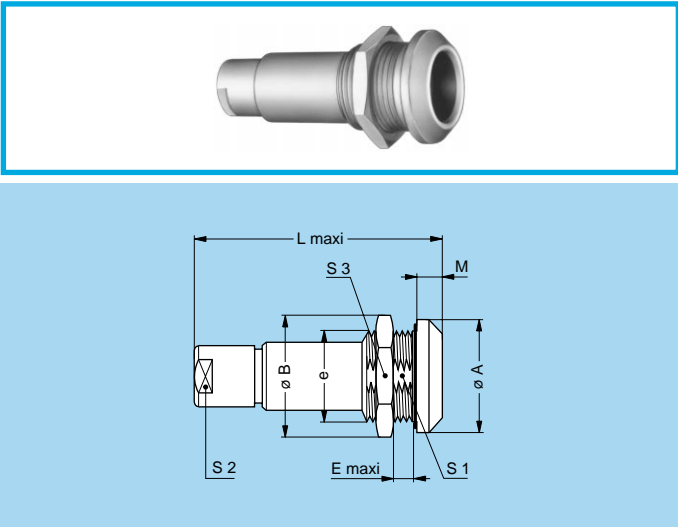
| Reference | | Dimensions (mm) | | |
|-----------|--------|-----------------|------|----|
| Model | Series | A | L | S2 |
| PCA | 0E | 13 | 34.0 | 7 |
| PCA | 1E | 15 | 45.0 | 9 |
| PCA | 2E | 19 | 54.0 | 12 |
| PCA | 3E | 23 | 64.0 | 15 |
| PCA | 4E | 29 | 75.5 | 19 |

Note: The bend relief must be ordered separately (see page 175).



PCP Free receptacle, cable collet and inner anti-rotating device

| Reference | | Dimensions (mm) | | |
|-----------|--------|-----------------|------|----|
| Model | Series | A | L | S2 |
| PCP | 3E | 23 | 65.0 | 15 |
| PCP | 4E | 29 | 75.5 | 19 |

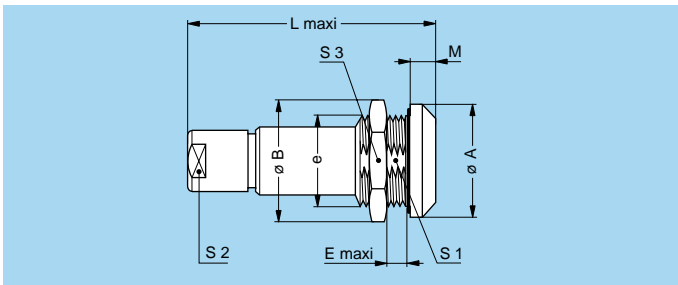
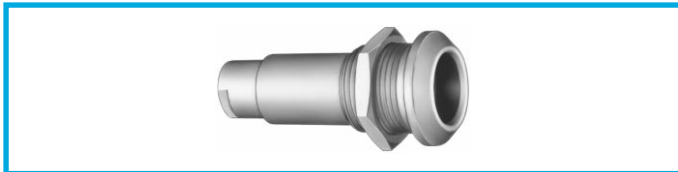


PSA Fixed receptacle, nut fixing, cable collet

| Reference | | Dimensions (mm) | | | | | | | | |
|-------------------|--------|-----------------|------|---------|------|-------|------|------|----|----|
| Model | Series | A | B | e | E | L | M | S1 | S2 | S3 |
| PSA | 0E | 18 | 19.5 | M14x1.0 | 7.0 | 34.0 | 4.0 | 12.5 | 8 | 17 |
| PSA | 1E | 20 | 21.5 | M16x1.0 | 9.0 | 45.0 | 4.5 | 14.5 | 9 | 19 |
| PSA | 2E | 25 | 27.5 | M20x1.0 | 9.0 | 54.0 | 5.0 | 18.5 | 12 | 24 |
| PSA | 3E | 31 | 34.5 | M24x1.0 | 11.0 | 65.0 | 6.0 | 22.5 | 15 | 30 |
| PSA | 4E | 37 | 41.5 | M30x1.5 | 9.0 | 75.5 | 6.5 | 28.5 | 19 | 36 |
| PSA | 5E | 51 | 54.0 | M45x1.5 | 10.0 | 95.0 | 9.0 | — | 32 | 54 |
| PKG ¹⁾ | 6E | 65 | 65.0 | M55x2.0 | 10.5 | 125.0 | 10.0 | — | 38 | — |

Panel cut-out: **P1**

Note: 1) With key (G).
The 5E and 6E series are delivered with a round nut.

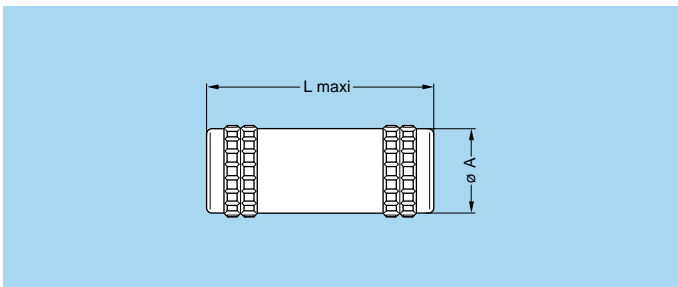
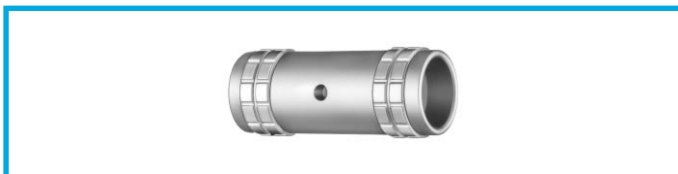


PSP Fixed receptacle, nut fixing, cable collet and inner anti-rotating device

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|------|---------|------|------|-----|------|----|----|
| Model | Series | A | B | e | E | L | M | S1 | S2 | S3 |
| PSP | 3E | 31 | 34.5 | M24x1.0 | 11.0 | 65.0 | 6.0 | 22.5 | 15 | 30 |
| PSP | 4E | 37 | 41.5 | M30x1.5 | 9.0 | 75.5 | 6.5 | 28.5 | 19 | 36 |
| PSP | 5E | 51 | 54.0 | M45x1.5 | 10.0 | 95.0 | 9.0 | - | 32 | 54 |

Panel cut-out: **P1**

Note: The 5E and 6E series are delivered with a round nut.



RMA Free coupler

| Reference | | Dim. (mm) | |
|-----------|--------|-----------|----|
| Model | Series | A | L |
| RMA | 0E | 14 | 30 |
| RMA | 1E | 16 | 40 |
| RMA | 2E | 20 | 44 |
| RMA | 3E | 25 | 54 |
| RMA | 4E | 30 | 57 |
| RMA | 5E | 44 | 67 |

Note: See page 112 for the available plug and contact configurations and in order to ensure correct contact alignment.

Watertight or vacuum-tight models

HGP, EBR and SWH receptacle or coupler models allow the device on which they are fitted to reach a protection index of IP 68 as per IEC 60529. They are fully compatible with plugs of the same series and are widely used for portable radios, military, laboratory equipment, aviation, etc. These models are identified by a letter «P» at the end of the reference.

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

Epoxy resin is used to seal these models.

Please refer to page 8 to locate the chapter on selecting watertight connectors.

Part number example:
 Watertight receptacle – HGP.1E.304.CLLP
 Vacuum-tight receptacle – HGP.1E.304.CLLPV

Technical Characteristics

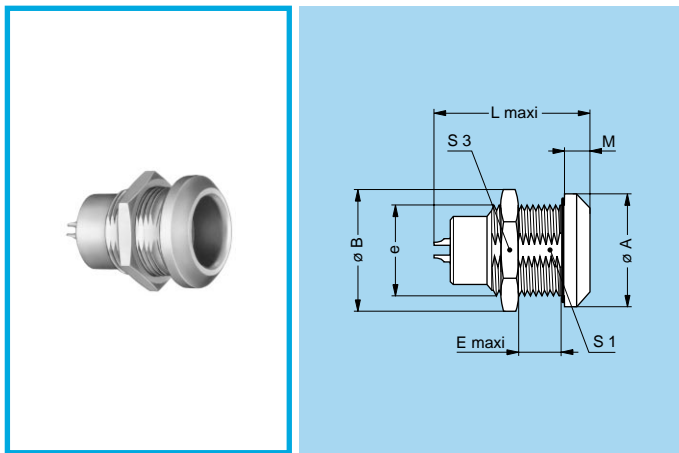
Mechanical and Climatic

| Characteristics | Value | Standard |
|--|---|----------------------|
| Endurance | > 5000 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | |
| Temperature range | -4° F/+176° F | |
| Salt spray corrosion test | > 144h | IEC 60512-6 test 11f |
| Protection index (mated) | IP 68 | IEC 60529 |
| Climatic category | 20/80/21 | IEC 60068-1 |
| Leakage rate (He) ¹⁾ | < 10 ⁻⁶ mbar.l.s ⁻¹ | IEC 60512-7 test 14b |
| Maximum operating pressure ²⁾ | 0E | 60 bars |
| | 1E | 60 bars |
| | 2E | 40 bars |
| | 3E | 30 bars |
| | 4E | 15 bars |
| | 5E | 5 bars |
| | 6E | 5 bars |
| | | IEC 60512-7 test 14d |

Note:

¹⁾ Only for vacuum-tight models.

²⁾ This value corresponds to the maximum allowed pressure difference for the assembled receptacle.



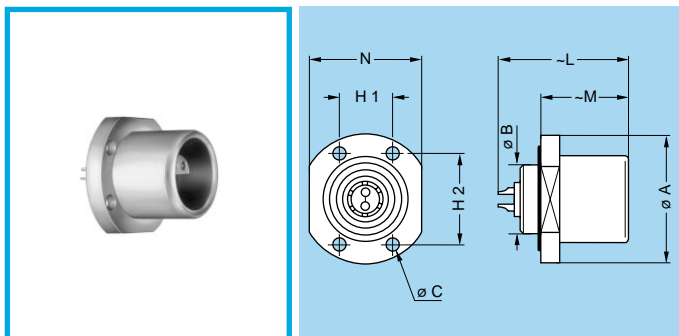
HGP Fixed receptacle, nut fixing, watertight or vacuum-tight

| Reference | | Dimensions (mm) | | | | | | | | |
|-------------------|--------|-----------------|------|---------|------|------|-----------------|------|------|----|
| Model | Series | A | B | e | E | L | L ¹⁾ | M | S1 | S3 |
| HGP | 0E | 18 | 19.5 | M14x1.0 | 7.0 | 23.5 | 22.0 | 4.0 | 12.5 | 17 |
| HGP | 1E | 20 | 21.5 | M16x1.0 | 9.0 | 28.0 | 28.0 | 4.5 | 14.5 | 19 |
| HGP | 2E | 25 | 27.5 | M20x1.0 | 10.5 | 32.5 | 28.0 | 5.0 | 18.5 | 24 |
| HGP | 3E | 31 | 34.5 | M24x1.0 | 15.5 | 39.5 | 38.5 | 6.0 | 22.5 | 30 |
| HGP | 4E | 37 | 41.5 | M30x1.0 | 17.5 | 43.0 | 44.0 | 6.5 | 28.5 | 36 |
| HGP | 5E | 55 | 54.0 | M45x1.5 | 20.0 | 52.0 | 76.0 | 9.0 | 42.5 | – |
| HGP ¹⁾ | 6E | 65 | 65.0 | M55x2.0 | 20.5 | 52.0 | – | 10.0 | 52.0 | – |

Panel cut-out: **P1**

Note: ¹⁾ Single contact model

Note: ¹⁾ With key (G). The 5E and 6E series are delivered with a round nut.



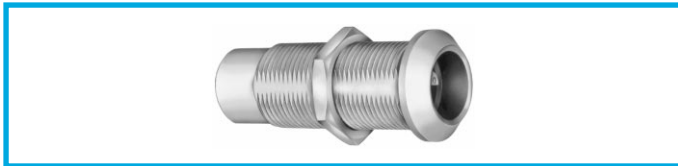
EBR Fixed receptacle with round flange, watertight, protruding shell and screw fixing

| Reference | | Dimensions (mm) | | | | | | | | |
|-----------|--------|-----------------|----|-----|------|------|------|-----------------|----|----|
| Model | Series | A | B | C | H1 | H2 | L | L ¹⁾ | M | N |
| EBR | 2E | 28 | 19 | 2.8 | 11.8 | 20.4 | 32.5 | 28.0 | 19 | 15 |

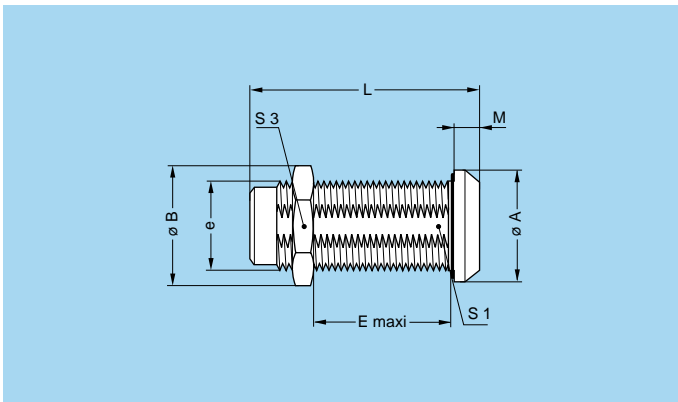
Panel cut-out: **P6**

Note: ¹⁾ Single contact model.

This model is only available in a watertight version.



SWH Fixed coupler, nut fixing, watertight or vacuum-tight



| Reference | | Dimensions (mm) | | | | | | | | |
|-------------------|--------|-----------------|------|---------|----|------|------|------|----|--|
| Model | Series | A | B | e | E | L | M | S1 | S3 | |
| SWH | 0E | 18 | 19.5 | M14x1.0 | 21 | 36.0 | 4.0 | 12.5 | 17 | |
| SWH | 1E | 20 | 21.5 | M16x1.0 | 29 | 47.0 | 4.5 | 14.5 | 19 | |
| SWH | 2E | 25 | 27.5 | M20x1.0 | 28 | 52.5 | 5.0 | 18.5 | 24 | |
| SWH | 3E | 31 | 34.5 | M24x1.0 | 33 | 64.0 | 6.0 | 22.5 | 30 | |
| SWH | 4E | 37 | 41.5 | M30x1.0 | 43 | 70.0 | 6.5 | 28.5 | 36 | |
| SWH | 5E | 55 | 54.0 | M45x1.5 | 45 | 81.0 | 9.0 | 42.5 | — | |
| SWH ¹⁾ | 6E | 65 | 65.0 | M55x2.0 | 12 | 75.0 | 10.0 | — | — | |

Panel cut-out: **P1**

Note: 1) With key (G). The 5E and 6E series are delivered with a round nut. See page 112 for the available plug and contact configurations and in order to ensure correct contact alignment.

Type (S and E series)

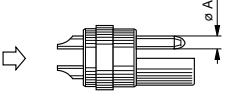
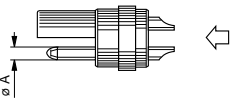












































Single contact

| | Male solder contacts | | Female solder contacts | | Reference | Series | | ø A (mm) | Contact type | | Test voltage (kV rms) ¹⁾ | Test voltage (kV dc) ¹⁾ | Rated current (A) ¹⁾ |
|------------------|--------------------------|------------|----------------------------|-------|-----------|--------|----|----------|-----------------|---|-------------------------------------|------------------------------------|---------------------------------|
| | Standard | Watertight | Solder | Crimp | | | | | | | | | |
| 00 | | | | | 113 | 00 | - | 1.3 | ● ²⁾ | ● | 0.8 | 1.2 | 8 |
| 0S 0E | | | | | 116 | 0S | 0E | 1.6 | ● ²⁾ | - | 1.5 | 2.1 | 12 |
| 1S 1E | | | | | 120 | 1S | 1E | 2.0 | ● ²⁾ | - | 1.8 | 2.7 | 18 |
| | | | | | 130 | 1S | 1E | 3.0 | ● | - | 1.5 | 2.1 | 25 |
| 2S 2E | | | | | 130 | 2S | 2E | 3.0 | ● | - | 2.1 | 3.0 | 30 |
| | | | | | 140 | 2S | 2E | 4.0 | ● | - | 1.8 | 2.4 | 40 |
| 3S 3E | | | | | 140 | 3S | 3E | 4.0 | ● | - | 2.4 | 3.3 | 43 |
| | | | | | 160 | 3S | 3E | 6.0 | ● | - | 1.8 | 2.4 | 65 |
| 4S 4E | | | | | 140 | 4S | - | 4.0 | ● | - | 3.0 | 4.2 | 46 |
| | | | | | 160 | 4S | 4E | 6.0 | ● | - | 2.7 | 3.9 | 70 |
| 5S 5E | | | | | 112 | 5S | 5E | 12.0 | ● | - | 1.5 | 2.1 | 230 |

Note: ¹⁾ See calculation method, caution and suggested standard on page 204.

²⁾ Also available with inversed contacts: plug = female, receptacle = male.

Multicontact

| | |  Male solder contacts | |  Female solder contacts | | Reference | Series | | Number of contacts | ø A (mm) | Contact type | | | | Test voltage (kV rms) ⁽¹⁾²⁾ | Test voltage (kV dc) ⁽¹⁾²⁾ | Rated current (A) ⁽¹⁾ |
|---|---|--|---|--|-------|-----------|----------------------------|-------------------------|--------------------|----------|--------------|------------|------------|---------------------------------------|--|---------------------------------------|----------------------------------|
| | | Standard | Watertight | Solder | Crimp | | Printed circuit (straight) | Printed circuit (elbow) | | | | | | | | | |
| 0S 0E |  |  | 302 | 0S | 0E | 2 | 0.9 | ● | ● | ● | ● | 1.5 | 2.1 | 10 ⁽³⁾ | | | |
| |  |  | 303 | 0S | 0E | 3 | 0.7 | ● | ○ | ● | ● | 1.0 | 1.5 | 7 ⁽³⁾ | | | |
| |  |  | 304 | 0S | 0E | 4 | 0.7 | ● | ○ | ● | ● | 1.0 | 1.5 | 7 ⁽³⁾ | | | |
| 1S 1E |  |  | 302 | 1S | 1E | 2 | 1.3 | ● | ● | ● | ● | 1.2 | 1.8 | 15 ⁽³⁾ | | | |
| |  |  | 303 | 1S | 1E | 3 | 0.9 | ● | ○ | ● | ● | 1.2 | 1.8 | 10 ⁽³⁾ | | | |
| |  |  | 304 | 1S | 1E | 4 | 0.9 | ● | ● | ● | ● | 1.2 | 1.8 | 10 ⁽³⁾ | | | |
| |  |  | 305 | 1S | 1E | 2 3 | 0.9 0.7 | ● | ○ | ● | ● | 1.5 1.5 | 2.1 2.1 | 10 ⁽³⁾ 7 ⁽³⁾ | | | |
| |  |  | 306 | 1S | 1E | 6 | 0.7 | ● | ○ | ● | ● | 1.5 | 2.1 | 7 ⁽³⁾ | | | |
| 2S 2E |  |  | 302 | 2S | 2E | 2 | 1.6 | ● | ○ | ○ | ○ | 1.8 | 2.4 | 20 ⁽⁴⁾ | | | |
| |  |  | 303 | 2S | 2E | 3 | 1.3 | ● | ○ | ● | ○ | 1.5 | 2.1 | 15 ⁽⁴⁾ | | | |
| |  |  | 304 | 2S | 2E | 4 | 1.3 | ● | ○ | ● | ● | 1.8 | 2.4 | 15 ⁽⁴⁾ | | | |
| |  |  | 305 | 2S | 2E | 5 | 1.3 | ● | ○ | ● | ● | 1.5 | 2.1 | 13 ⁽⁴⁾ | | | |
| |  |  | 306 | 2S | 2E | 6 | 1.3 | ● | ● ⁵⁾ | ● | ● | 1.5 | 2.1 | 12 | | | |
| |  |  | 307 | 2S | 2E | 3 4 | 1.3 0.9 | ● | ○ | ● | ● | 0.8 0.8 | 1.2 1.2 | 12 ⁽³⁾ 9 ⁽³⁾ | | | |
| |  |  | 308 | 2S | 2E | 8 | 0.9 | ● | ○ | ● | ● | 0.8 | 1.2 | 9 ⁽³⁾ | | | |
| |  |  | 310 | 2S | 2E | 10 | 0.9 | ● | ○ | ● | ● | 0.8 | 1.2 | 7 ⁽³⁾ | | | |
| | 3S 3E |  |  | 302 | 3S | 3E | 2 | 2.0 | ● | ○ | ○ | – | 3.0 | 4.2 | 23 | | |
|  | |  | 303 | 3S | 3E | 3 | 2.0 | ● | ○ | ○ | – | 1.5 | 2.1 | 20 | | | |
|  | |  | 304 | 3S | 3E | 4 | 2.0 | ● | ○ | ○ | – | 1.5 | 2.1 | 18 | | | |
|  | |  | 305 | 3S | 3E | 2 3 | 2.0 1.3 | ● | ○ | ○ | – | 1.5 1.5 | 2.1 2.1 | 18 14 | | | |
|  | |  | 306 | 3S | 3E | 6 | 1.3 | ● | ○ | ● | – | 2.1 | 3.0 | 14 | | | |
|  | |  | 307 | 3S | 3E | 7 | 1.3 | ● | ○ | ● | – | 1.0 | 1.5 | 12 | | | |

Note:

- 1) See calculation method, caution and suggested standard on page 204.
- 2) Lowest measured value; contact to contact or contact to shell.
- 3) Rated current = 6A for receptacle with elbow (90°) contacts for printed circuit.
- 4) Rated current = 12A for receptacle with elbow (90°) contacts for printed circuit.
- 5) Only for FFL model.

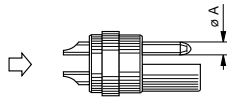
● First choice alternative ○ Special order alternative

Multicontact

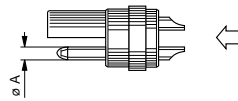
| | | Male solder contacts | | Female solder contacts | | Reference | Series | | Number of contacts | ø A (mm) | Contact type | | | | Test voltage (kV rms) ^{1) 2)} | Test voltage (kV dc) ^{1) 2)} | Rated current (A) ¹⁾ |
|------------------------|------------------------|----------------------|--|------------------------|--|-----------|----------|------------|--------------------|------------|--------------|-------|----------------------------|-------------------------|--|---------------------------------------|---------------------------------|
| | | | | | | | Standard | Watertight | | | Solder | Crimp | Printed circuit (straight) | Printed circuit (elbow) | | | |
| 3S 3E | | | | | | 308 | 3S | 3E | 8 | 1.3 | ● | ○ | ● | ○ | 1.0 | 1.5 | 10 |
| | | | | | | 310 | 3S | 3E | 10 | 1.3 | ● | ○ | ● | ● | 1.0 | 1.5 | 9 |
| | | | | | | 312 | 3S | 3E | 12 | 0.9 | ● | ○ | ● | ● | 1.5 | 2.1 | 8 |
| | | | | | | 313 | 3S | 3E | 13 | 0.9 | ● | ○ | ● | ○ | 1.5 | 2.1 | 8 |
| | | | | | | 314 | 3S | 3E | 14 | 0.9 | ● | ○ | ● | ● | 1.5 | 2.1 | 7 |
| | | | | | | 316 | 3S | 3E | 16 | 0.9 | ● | ○ | ● | ● | 1.0 | 1.5 | 7 |
| | | | | | | 318 | 3S | 3E | 18 | 0.9 | ● | ○ | ● | ○ | 1.0 | 1.5 | 6 |
| | 4S 4E | | | | | | 302 | 4S | 4E | 2 | 4.0 | ● | - | ○ | - | 2.1 | 3.0 |
| | | | | | | 303 | 4S | 4E | 3 | 3.0 | ● | - | ○ | - | 2.1 | 3.0 | 25 |
| | | | | | | 304 | 4S | 4E | 4 | 3.0 | ● | - | ○ | - | 2.1 | 3.0 | 22 |
| | | | | | | 305 | 4S | 4E | 2 3 | 3.0 2.0 | ● | - | ○ | - | 2.1 2.1 | 3.0 3.0 | 22 16 |
| | | | | | | 306 | 4S | 4E | 6 | 2.0 | ● | ● | ○ | - | 2.1 | 3.0 | 16 |
| | | | | | | 307 | 4S | 4E | 3 4 | 2.0 1.3 | ● | - | ○ | - | 2.1 2.1 | 3.0 3.0 | 16 13 |
| | | | | | | 308 | 4S | 4E | 8 | 1.3 | ● | - | ○ | - | 2.7 | 3.9 | 13 |
| | | | | | | 309 | 4S | 4E | 9 | 1.3 | ● | - | ○ | - | 2.1 | 3.0 | 12 |
| | | | | | | 310 | 4S | 4E | 10 | 1.3 | ● | - | ○ | - | 2.1 | 3.0 | 11 |
| | | | | | | 312 | 4S | 4E | 12 | 1.3 | ● | - | ○ | - | 2.1 | 3.0 | 9 |
| | | | | | | 313 | 4S | - | 13 | 1.3 | ● | - | ○ | - | 2.1 | 3.0 | 9 |

Note: 1) See calculation method, caution and suggested standard on page 204. ● First choice alternative ○ Special order alternative
 2) Lowest measured value; contact to contact or contact to shell.

Multicontact



Male solder contacts

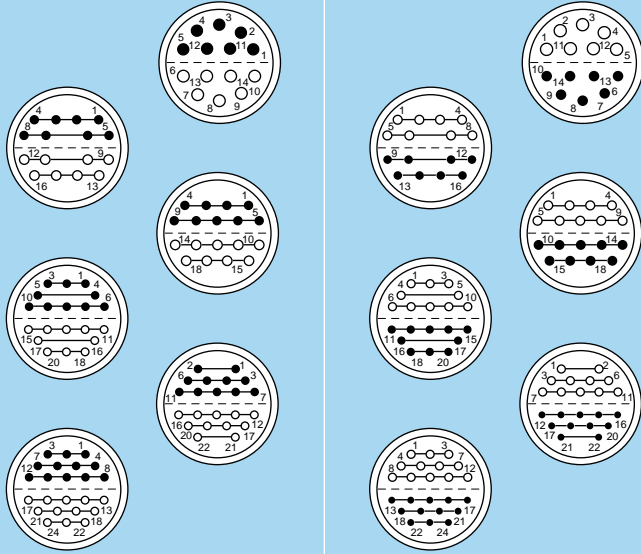


Female solder contacts

Reference

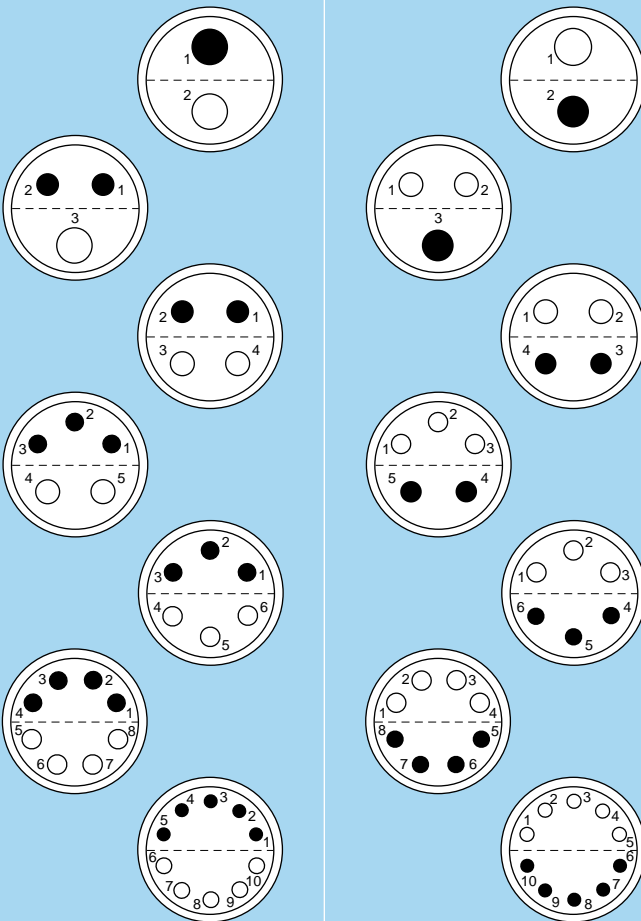
| Series | | Number of contacts | $\varnothing A$ (mm) | Contact type | | | Test voltage (kV rms) ^{1) 2)} | Test voltage (kV dc) ^{1) 2)} | Rated current (A) ¹⁾ |
|----------|------------|--------------------|----------------------|--------------|----------------------------|-------------------------|--|---------------------------------------|---------------------------------|
| Standard | Watertight | | | Solder | Printed circuit (straight) | Printed circuit (elbow) | | | |

4S
4E



| | | | | | | | | | | |
|-----|----|----|----|-----|---|---|---|-----|-----|---|
| 314 | 4S | 4E | 14 | 1.3 | ● | ○ | - | 2.1 | 3.0 | 9 |
| 316 | 4S | 4E | 16 | 0.9 | ● | ○ | - | 2.1 | 3.0 | 7 |
| 318 | 4S | 4E | 18 | 0.9 | ● | ○ | - | 2.1 | 3.0 | 7 |
| 320 | 4S | 4E | 20 | 0.9 | ● | ○ | - | 2.1 | 3.0 | 7 |
| 322 | 4S | 4E | 22 | 0.9 | ● | ○ | - | 2.1 | 3.0 | 7 |
| 324 | 4S | 4E | 24 | 0.9 | ● | ○ | - | 2.1 | 3.0 | 7 |

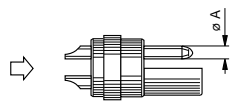
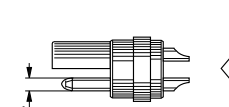
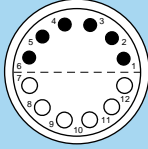
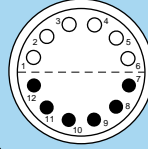
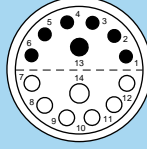
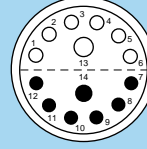
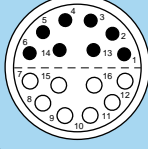
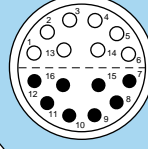
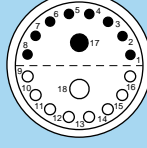
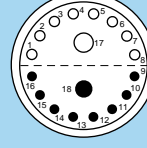
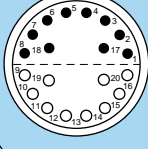
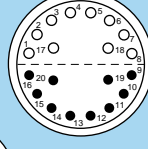
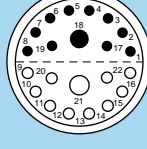
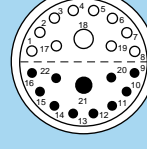
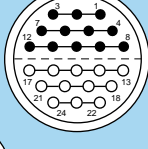
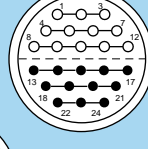
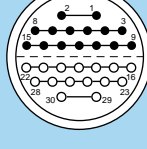
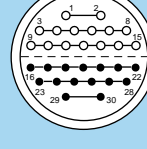
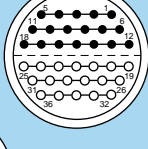
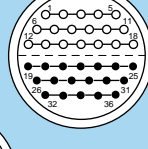
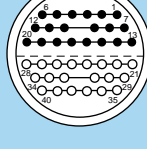
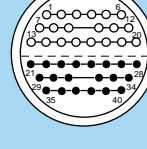
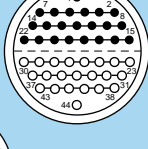
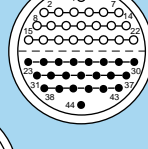
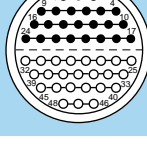
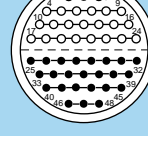
5S
5E



| | | | | | | | | | | |
|-----|----|----|--------|------------|---|---|---|------------|------------|----------|
| 302 | 5S | 5E | 2 | 6.0 | ● | - | - | 3.7 | 5.2 | 50 |
| 303 | 5S | 5E | 1 2 | 6.0 4.0 | ● | - | - | 3.7 3.7 | 5.2 5.2 | 50 35 |
| 304 | 5S | 5E | 4 | 4.0 | ● | - | - | 3.7 | 5.2 | 35 |
| 305 | 5S | 5E | 2 3 | 4.0 3.0 | ● | - | - | 3.0 3.0 | 4.2 4.2 | 35 25 |
| 306 | 5S | 5E | 6 | 3.0 | ● | - | - | 3.0 | 4.2 | 25 |
| 308 | 5S | 5E | 8 | 3.0 | ● | - | - | 2.1 | 3.0 | 22 |
| 310 | 5S | 5E | 10 | 2.0 | ● | - | - | 2.1 | 3.0 | 18 |

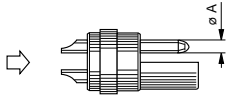
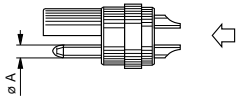
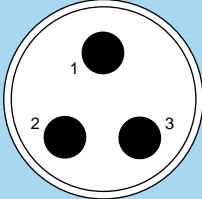
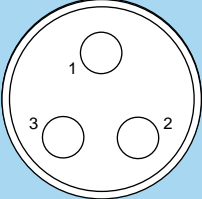
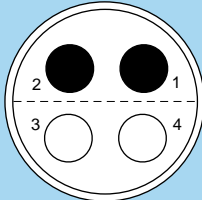
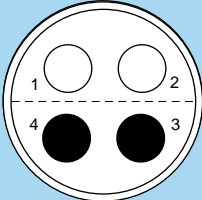
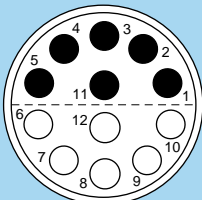
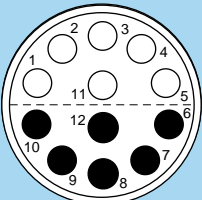
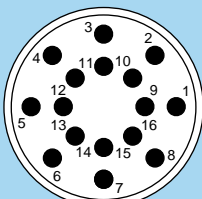
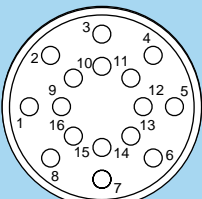
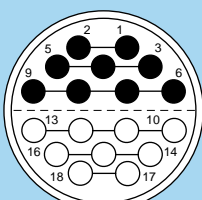
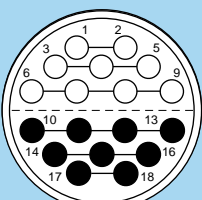
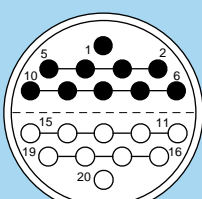
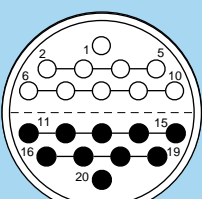
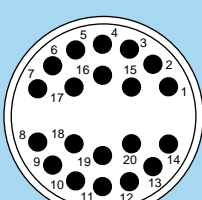
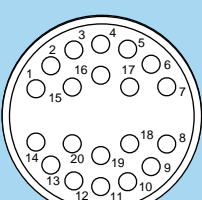
Note: 1) See calculation method, caution and suggested standard on page 204.
2) Lowest measured value; contact to contact or contact to shell.

Multicontact

| |  Male solder contacts | |  Female solder contacts | | Reference | Series | | Number of contacts | ø A (mm) | Contact type | | | Test voltage (kV rms) ^{1) 2)} | Test voltage (kV dc) ^{1) 2)} | Rated current (A) ¹⁾ |
|------------------------|---|------------|---|---|-----------|-------------------------|----|--------------------|------------|--------------|---|---|--|---------------------------------------|---------------------------------|
| | Standard | Watertight | Solder | Printed circuit (straight) | | Printed circuit (elbow) | | | | | | | | | |
| 5S 5E | | |  |  | 312 | 5S | 5E | 12 | 2.0 | ● | - | - | 2.1 | 3.0 | 18 |
| | | |  |  | 314 | 5S | 5E | 2 12 | 3.0 2.0 | ● | - | - | 1.8 1.8 | 2.4 2.4 | 20 15 |
| | | |  |  | 316 | 5S | 5E | 16 | 2.0 | ● | - | - | 1.8 | 2.4 | 15 |
| | | |  |  | 318 | 5S | 5E | 2 16 | 3.0 1.6 | ● | - | - | 1.8 1.8 | 2.4 2.4 | 18 11 |
| | | |  |  | 320 | 5S | 5E | 20 | 1.6 | ● | - | - | 1.8 | 2.4 | 11 |
| | | |  |  | 322 | 5S | 5E | 2 20 | 3.0 1.6 | ● | - | - | 1.8 1.8 | 2.4 2.4 | 16 9 |
| | | |  |  | 324 | 5S | 5E | 24 | 1.6 | ● | - | - | 2.7 | 3.9 | 9 |
| | | |  |  | 330 | 5S | 5E | 30 | 1.3 | ● | - | - | 1.8 | 2.4 | 8 |
| | | |  |  | 336 | 5S | 5E | 36 | 1.3 | ● | - | - | 1.8 | 2.4 | 7 |
| | | |  |  | 340 | 5S | 5E | 40 | 1.3 | ● | - | - | 1.2 | 1.8 | 7 |
| | | |  |  | 344 | 5S | 5E | 44 | 1.3 | ● | - | - | 1.2 | 1.8 | 6 |
| | | |  |  | 348 | 5S | 5E | 48 | 1.3 | ● | - | - | 1.2 | 1.8 | 6 |

Note: 1) See calculation method, caution and suggested standard on page 204.
 2) Lowest measured value; contact to contact or contact to shell.

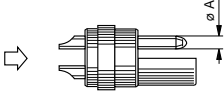
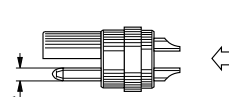
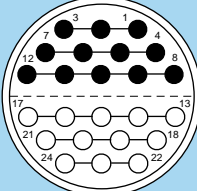
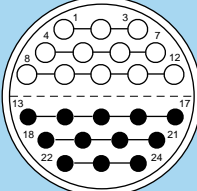
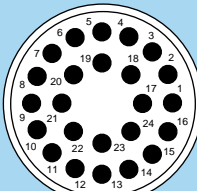
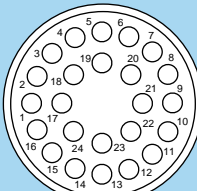
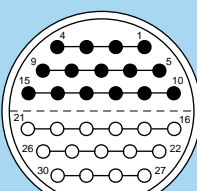
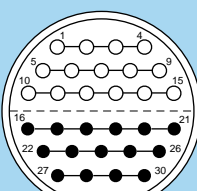
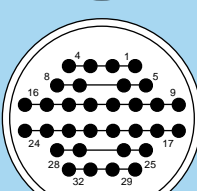
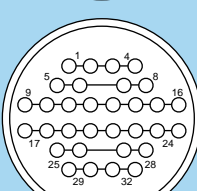
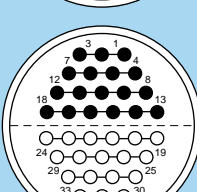
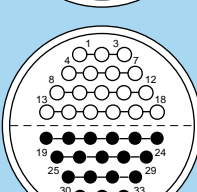
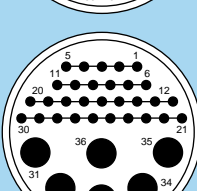
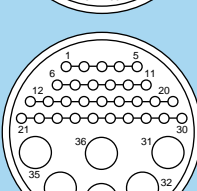
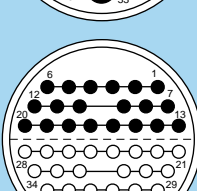
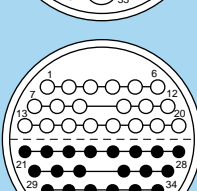
Multicontact

| |  Male solder contacts |  Female solder contacts | Reference | Series | | Number of contacts | ø A (mm) | Solder contacts | Test voltage (kV rms) ^{1) 2)} | Test voltage (kV dc) ^{1) 2)} | Rated current (A) ¹⁾ |
|--|---|---|-----------|----------|------------|--------------------|----------|-----------------|--|---------------------------------------|---------------------------------|
| | | | | Standard | Watertight | | | | | | |
| <div style="border: 1px solid black; padding: 2px; display: inline-block;"> 6S 6E </div> |  |  | 303 | - | 6E | 3 | 6.0 | ● | 3.0 | 4.2 | 50 |
| |  |  | 304 | 6S | 6E | 4 | 8.0 | ● | 3.0 | 4.2 | 60 |
| |  |  | 312 | 6S | - | 12 | 4.0 | ● | 2.1 | 3.0 | 22 |
| | | | | - | 6E | 12 | 5.0 | | | | |
| |  |  | 316 | - | 6E | 16 | 3.0 | ● | 1.5 | 2.1 | 14 |
| |  |  | 318 | 6S | - | 18 | 4.0 | ● | 1.2 | 1.8 | 16 |
| |  |  | 320 | 6S | - | 20 | 3.0 | ● | 1.5 | 2.1 | 14 |
| |  |  | 320 | - | 6E | 20 | 3.0 | ● | 1.5 | 2.1 | 14 |

Note: 1) See calculation method, caution and suggested standard on page 204.

2) Lowest measured value; contact to contact or contact to shell.

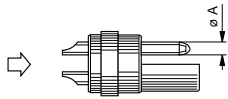
Multicontact

| |  Male solder contacts | |  Female solder contacts | | Reference | Series | | Number of contacts | ø A (mm) | Solder contacts | Test voltage (kV rms) ^{1) 2)} | Test voltage (kV dc) ^{1) 2)} | Rated current (A) ¹⁾ |
|----------|--|---|--|------------|-----------|---------|------------|--------------------|------------|-----------------|--|---------------------------------------|---------------------------------|
| | Standard | Watertight | Standard | Watertight | | | | | | | | | |
| 6S 6E |  |  | 324 | 6S | - | 24 | 3.0 | ● | 1.2 | 1.8 | 12 | | |
| |  |  | 324 | - | 6E | 24 | 3.0 | ● | 1.2 | 1.8 | 12 | | |
| |  |  | 330 | 6S | 6E | 30 | 2.0 | ● | 2.1 | 3.0 | 10 | | |
| |  |  | 332 | - | 6E | 32 | 2.0 | ● | 1.5 | 2.1 | 10 | | |
| |  |  | 336 | 6S | - | 36 | 2.0 | ● | 1.5 | 2.1 | 8 | | |
| |  |  | 336 | - | 6E | 30 6 | 1.3 5.0 | ● | 1.5 1.5 | 2.1 2.1 | 4 22 | | |
| |  |  | 340 | - | 6E | 40 | 2.0 | ● | 1.5 | 2.1 | 8 | | |

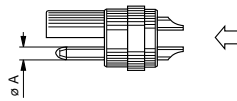
Note: 1) See calculation method, caution and suggested standard on page 204.

2) Lowest measured value; contact to contact or contact to shell.

Multicontact



Male solder contacts



Female solder contacts

**6S
6E**

| | Reference | Series | | Number of contacts | ø A (mm) | Solder contacts | Test voltage (kV rms) ^{1) 2)} | Test voltage (kV dc) ^{1) 2)} | Rated current (A) ¹⁾ |
|--|-----------|----------|------------|--------------------|----------|-----------------|--|---------------------------------------|---------------------------------|
| | | Standard | Watertight | | | | | | |
| | 348 | 6S | 6E | 48 | 2.0 | ● | 1.5 | 2.1 | 7 |
| | 360 | 6S | 6E | 60 | 1.6 | ● | 1.5 | 2.1 | 5 |
| | 362 | - | 6E | 62 | 1.6 | ● | 1.5 | 2.1 | 5 |
| | 364 | 6S | 6E | 64 | 1.3 | ● | 1.2 | 1.8 | 4 |
| | 372 | 6S | 6E | 72 | 1.3 | ● | 1.2 | 1.8 | 4 |
| | 106 | - | 6E | 106 | 0.9 | ● | 0.8 | 1.2 | 2 |
| | 106 | 6S | - | 106 | 0.9 | ● | 0.8 | 1.2 | 2 |

Note: ¹⁾ See calculation method, caution and suggested standard on page 204.

²⁾ Lowest measured value; contact to contact or contact to shell.

Housings (S and E series)

| Ref. | Material | Surface treatment | | Note |
|------|-------------------------------|----------------------------|----------------------------------|------|
| | | Outer shell and collet nut | Latch sleeve and grounding crown | |
| C | Brass ¹⁾ | chrome | nickel | ● |
| D | Brass | gold-plated | nickel | ○ |
| N | Brass | nickel | nickel | ○ |
| K | Brass | black chrome | nickel | ● |
| S | Stainless steel | without treatment | nickel-plated brass | ○ |
| T | Stainless steel | without treatment | stainless steel | ○ |
| U | Stainless steel ²⁾ | without treatment | stainless steel | ○ |
| L | Aluminium alloy ³⁾ | anodized | nickel-plated brass | ○ |
| B | POM black ⁴⁾ | without treatment | nickel-plated brass | ● |
| H | PPS/brass ⁵⁾ | without treat./nickel | nickel | ● |
| G | PEEK ⁴⁾ | without treatment | nickel-plated brass | ● |
| P | PSU ⁶⁾ | without treatment | nickel-plated brass | ● |
| R | PPSU ⁷⁾ | without treatment | nickel-plated brass | ● |

Note:

- 1) In the E series the latch sleeve is chrome-plated.
- 2) The other metallic components are in stainless steel.
- 3) The «variant» position of the reference is used to specify the anodized color.
- 4) Only available for FFP, ERN and PCP models of the S series.
- 5) For S series EPL and EXP elbow (90°) receptacles for printed circuit.
- 6) Available only for the FFL model of the S series. See colors in «variant» position.
- 7) Available only for the FFL model of the S series. Detailed characteristics of these materials are presented on page 198.

● First choice alternative ○ Special order alternative

Insulators (S and E series)

| Ref. | Material or form | Note |
|------|--------------------|------|
| L | PEEK | ● |
| T | PTFE ¹⁾ | ● |
| T | FEP ²⁾ | ○ |

| Ref. | Material or form | Note |
|------|---------------------|------|
| V | PI ²⁾ | ○ |
| N | PA6.6 ³⁾ | ● |

Note:

- 1) Only for single contact types.
- 2) Only for multicontact types.
- 3) Material for 5S/5E and 6S/6E series multicontact inserts. Detailed characteristics of these materials are presented on page 201.

● First choice alternative ○ Special order alternative

Contacts (S and E series)

Contacts for plugs, free or fixed receptacles

| Ref. | Contact type |
|------|-----------------------------------|
| A | Male solder |
| C | Male crimp ^{1) 4)} |
| L | Female solder |
| M | Female crimp ^{2) 4)} |
| N | Female printed circuit (straight) |
| V | Female printed circuit (elbow) |

Multicontact connectors are fitted with hermaphroditic inserts including male and female contacts. However, by convention, the letter indicating the contact type in the part number composition will be the male contact (reference A) for plugs and female contact (reference L) for receptacles.

In case of an odd number of contacts, the letter of reference corresponds to the one with the larger number of contacts. For example, a 309 type connector with contact (reference A) will include 5 male and 4 female contacts.

Contacts for couplers and plug with receptacle

| Ref. | Contact type | single contact | multicontact |
|------|--------------------------------------|----------------|--------------|
| A | Male - Female | ○ | — |
| L | Female - Male | ○ | ● |
| M | Female - Female | ● | ○ |
| F | Female - Female - Male ³⁾ | ● | ● |

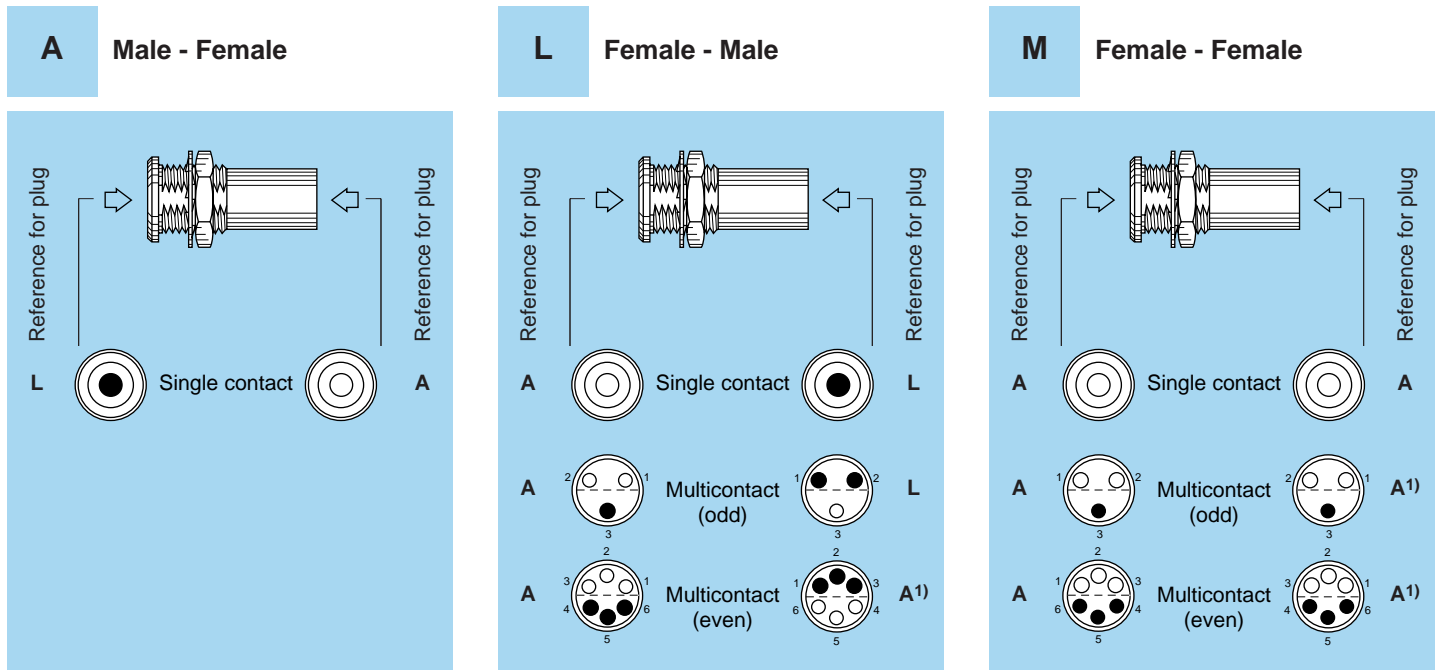
For RAD and SWH fixed couplers, the first contact type mentioned is always the one at the flange end. Contact configuration and receptacles to be used for a connection are explained on the following page.

Note:

- 1) For the FFS model of the 00 series and FFA or FFL models of the S series.
- 2) For the PSS model of the 00 series and PCA or PSA models of the S series.
- 3) For the FTA model of the S series.
- 4) For conductor range that can fit with crimp contacts consult page 9.

Connectors can be configured « inverted » i.e. plugs equipped with female contacts (reference L), receptacles with male contacts (reference A). This solution is particularly useful when plugs are mated to a coupler and it is essential to respect contact alignment (see next page).

Contact configuration for RMA, RAD and SWH fixed couplers



Use of plugs for mating with RAD, RMA and SWH couplers

Single contact type:

- Reference M For coupling two identical plugs fitted with male contact (contact reference A).
- Reference L For coupling a plug fitted with male contacts (contact reference A) at the flange end for RAD and SWH and an inverted plug fitted with female contacts (contact reference L) at the other end.
- Reference A For the inverted version of code L.

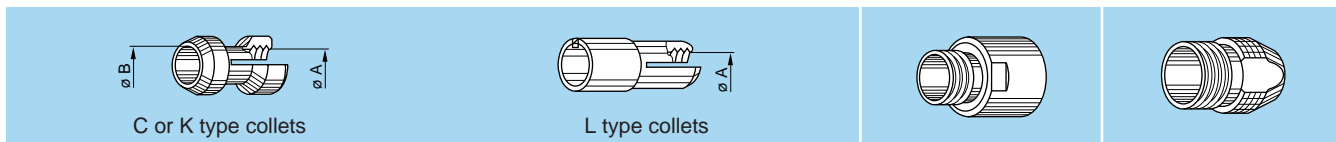
Multicontact type:

- Reference L For coupling a standard plug (contact reference A) at the flange end for RAD and SWH and an inverted plug (contact reference as indicated in the above table) at the other end.
- Reference M For coupling two standard plugs (contact type A). Only available for RAD and RMA models.

Note: ¹⁾ This connector combination does not allow for contact numbering. One of the plugs has to be cable mounted in a way to ensure correct signal continuity.

Collets (S and E series)

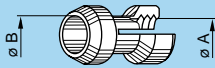
C, K and L type collets



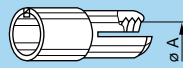
| Reference | Collet | | Cable ϕ | | Part number of the collet ¹⁾ | Part number of the oversize collet and of the split center-pieces ³⁾ | Part number of the collet nut ^{3) 5)} | | |
|-----------|--------|--------|--------------|----------|---|---|--|----------------|---------------|
| | Type | ϕ | ϕ A | ϕ B | | | | max. | min. |
| 00 | C | 15 | 1.5 | – | 1.4 | 1.1 | FFA.00.715.CN | – | FFA.00.130.LC |
| | C | 17 | 1.7 | 1.5 | 1.6 | 1.3 | FFA.00.717.CN | – | FFA.00.130.LC |
| | C | 22 | 2.2 | – | 2.1 | 1.7 | FFA.00.722.CN | – | FFA.00.130.LC |
| | C | 27 | 2.7 | – | 2.6 | 2.2 | FFA.00.727.CN | – | FFA.00.130.LC |
| | C | 29 | 2.9 | 2.4 | 2.8 | 2.4 | FFA.00.729.CN | – | FFA.00.130.LC |
| | C | 31 | 3.1 | 2.7 | 3.0 | 2.6 | FFA.00.731.CN | – | FFA.00.130.LC |
| | K | 37 | 3.7 | – | 3.6 | 3.0 | FFA.0S.737.CN | FFA.00.137.LCN | FFA.0S.130.LC |
| | K | 42 | 4.2 | 3.7 | 4.1 | 3.3 | FFA.0S.742.CN | FFA.00.137.LCN | FFA.0S.130.LC |
| | C | 16 | 1.6 | – | 1.5 | 1.2 | FFC.00.716.CN ²⁾ | – | FFA.00.130.LC |
| | C | 19 | 1.9 | 1.6 | 1.8 | 1.5 | FFC.00.719.CN ²⁾ | – | FFA.00.130.LC |
| | C | 22 | 2.2 | 1.6 | 2.1 | 1.7 | FFC.00.722.CN ²⁾ | – | FFA.00.130.LC |
| | C | 27 | 2.7 | 2.4 | 2.6 | 2.2 | FFC.00.727.CN ²⁾ | – | FFA.00.130.LC |
| | C | 29 | 2.9 | 2.4 | 2.8 | 2.4 | FFC.00.729.CN ²⁾ | – | FFA.00.130.LC |
| | C | 31 | 3.1 | 2.4 | 3.0 | 2.6 | FFC.00.731.CN ²⁾ | – | FFA.00.130.LC |
| | L | 17 | 1.7 | – | 1.6 | 1.3 | FFA.00.717.LN | – | FFA.00.130.LC |
| | L | 22 | 2.2 | – | 2.1 | 1.7 | FFA.00.722.LN | – | FFA.00.130.LC |
| | L | 27 | 2.7 | – | 2.6 | 2.2 | FFA.00.727.LN | – | FFA.00.130.LC |
| | L | 29 | 2.9 | – | 2.8 | 2.4 | FFA.00.729.LN | – | FFA.00.130.LC |
| L | 31 | 3.1 | – | 3.0 | 2.6 | FFA.00.731.LN | – | FFA.00.130.LC | |
| 0S | C | 17 | 1.7 | – | 1.6 | 1.3 | FFA.0S.717.CN | – | FFA.0S.130.LC |
| | C | 22 | 2.2 | – | 2.1 | 1.7 | FFA.0S.722.CN | – | FFA.0S.130.LC |
| | C | 27 | 2.7 | – | 2.6 | 2.2 | FFA.0S.727.CN | – | FFA.0S.130.LC |
| | C | 32 | 3.2 | – | 3.1 | 2.7 | FFA.0S.732.CN | – | FFA.0S.130.LC |
| | C | 37 | 3.7 | – | 3.6 | 3.0 | FFA.0S.737.CN | – | FFA.0S.130.LC |
| | C | 42 | 4.2 | 3.7 | 4.1 | 3.3 | FFA.0S.742.CN | – | FFA.0S.130.LC |
| | C | 44 | 4.4 | 3.7 | 4.3 | 3.5 | FFA.0S.744.CN | – | FFA.0S.132.LC |
| | K | 47 | 4.7 | – | 4.6 | 3.8 | FFA.1S.747.CN | FFA.0S.137.LCN | FFA.1S.130.LC |
| | K | 52 | 5.2 | – | 5.1 | 4.3 | FFA.1S.752.CN | FFA.0S.137.LCN | FFA.1S.130.LC |
| | K | 57 | 5.7 | – | 5.6 | 4.8 | FFA.1S.757.CN | FFA.0S.137.LCN | FFA.1S.130.LC |
| | K | 62 | 6.2 | 5.2 | 6.1 | 5.3 | FFA.1S.762.CN | FFA.0S.137.LCN | FFA.1S.130.LC |
| | K | 66 | 6.6 | 5.4 | 6.5 | 5.9 | FFA.1S.766.CN | FFA.0S.137.LCN | FFA.1S.131.LC |
| | K | 68 | 6.8 | – | 6.7 | 6.0 | FFA.1S.768.CN | FFA.0S.137.LCN | FFA.1S.131.LC |
| | C | 17 | 1.7 | – | 1.6 | 1.3 | FLA.0S.717.CN ⁴⁾ | – | FFA.0S.130.LC |
| | C | 22 | 2.2 | – | 2.1 | 1.7 | FLA.0S.722.CN ⁴⁾ | – | FFA.0S.130.LC |
| | C | 27 | 2.7 | – | 2.6 | 2.2 | FLA.0S.727.CN ⁴⁾ | – | FFA.0S.130.LC |
| | C | 32 | 3.2 | – | 3.1 | 2.7 | FLA.0S.732.CN ⁴⁾ | – | FFA.0S.130.LC |
| | C | 37 | 3.7 | – | 3.6 | 3.0 | FLA.0S.737.CN ⁴⁾ | – | FFA.0S.130.LC |
| | C | 42 | 4.2 | 3.7 | 4.1 | 3.3 | FLA.0S.742.CN ⁴⁾ | – | FFA.0S.130.LC |
| | C | 44 | 4.4 | 3.7 | 4.3 | 3.5 | FLA.0S.744.CN ⁴⁾ | – | FFA.0S.132.LC |
| | L | 17 | 1.7 | – | 1.6 | 1.3 | FFA.0S.717.LN | – | FFA.0S.130.LC |
| | L | 22 | 2.2 | – | 2.1 | 1.7 | FFA.0S.722.LN | – | FFA.0S.130.LC |
| | L | 27 | 2.7 | – | 2.6 | 2.2 | FFA.0S.727.LN | – | FFA.0S.130.LC |
| | L | 32 | 3.2 | – | 3.1 | 2.7 | FFA.0S.732.LN | – | FFA.0S.130.LC |
| L | 37 | 3.7 | – | 3.6 | 3.0 | FFA.0S.737.LN | – | FFA.0S.130.LC | |
| L | 42 | 4.2 | – | 4.1 | 3.3 | FFA.0S.742.LN | – | FFA.0S.130.LC | |
| L | 44 | 4.4 | – | 4.3 | 3.5 | FFA.0S.744.LN | – | FFA.0S.132.LC | |

Note: See following page for text of notes ¹⁾ through ⁵⁾.
All dimensions are in millimeters.

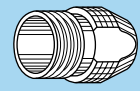
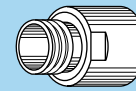
C, K and L type collets



C or K type collet



L type collet

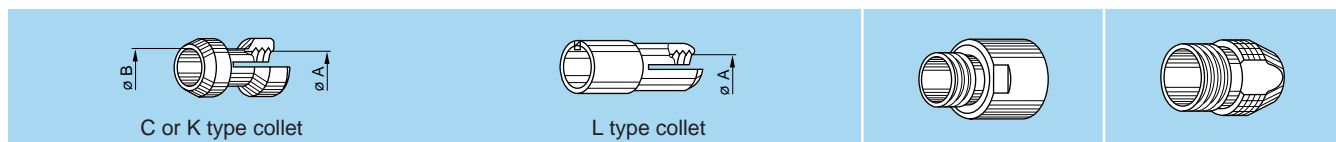


| Reference | Collet | | Cable ø | | Part number of the collet ¹⁾ | Part number of the oversize collet and of the split center-pieces ³⁾ | Part number of the collet nut ^{3) 5)} | | |
|-----------|--------|-----|---------|-----|---|---|--|----------------|---------------|
| | Type | ø | ø A | ø B | | | | max. | min. |
| 1S | C | 17 | 1.7 | – | 1.6 | 1.3 | FFA.1S.717.CN | – | FFA.1S.130.LC |
| | C | 22 | 2.2 | – | 2.1 | 1.7 | FFA.1S.722.CN | – | FFA.1S.130.LC |
| | C | 27 | 2.7 | – | 2.6 | 2.2 | FFA.1S.727.CN | – | FFA.1S.130.LC |
| | C | 32 | 3.2 | – | 3.1 | 2.6 | FFA.1S.732.CN | – | FFA.1S.130.LC |
| | C | 37 | 3.7 | – | 3.6 | 2.7 | FFA.1S.737.CN | – | FFA.1S.130.LC |
| | C | 42 | 4.2 | – | 4.1 | 3.3 | FFA.1S.742.CN | – | FFA.1S.130.LC |
| | C | 47 | 4.7 | – | 4.6 | 3.8 | FFA.1S.747.CN | – | FFA.1S.130.LC |
| | C | 52 | 5.2 | – | 5.1 | 4.3 | FFA.1S.752.CN | – | FFA.1S.130.LC |
| | C | 57 | 5.7 | – | 5.6 | 4.8 | FFA.1S.757.CN | – | FFA.1S.130.LC |
| | C | 62 | 6.2 | 5.2 | 6.1 | 5.3 | FFA.1S.762.CN | – | FFA.1S.130.LC |
| | C | 66 | 6.6 | 5.4 | 6.5 | 5.9 | FFA.1S.766.CN | – | FFA.1S.131.LC |
| | C | 68 | 6.8 | – | 6.7 | 6.0 | FFA.1S.768.CN | – | FFA.1S.131.LC |
| | K | 72 | 7.2 | 6.7 | 7.0 | 6.1 | FFA.2S.772.CN | FFA.1S.137.LCN | FFA.2S.130.LC |
| | K | 77 | 7.7 | 6.7 | 7.5 | 7.1 | FFA.2S.777.CN | FFA.1S.137.LCN | FFA.2S.130.LC |
| | K | 82 | 8.2 | 6.7 | 8.0 | 7.6 | FFA.2S.782.CN | FFA.1S.137.LCN | FFA.2S.130.LC |
| | K | 87 | 8.7 | 6.7 | 8.5 | 8.1 | FFA.2S.787.CN | FFA.1S.137.LCN | FFA.2S.130.LC |
| | C | 17 | 1.7 | – | 1.6 | 1.3 | FLA.1S.717.CN ⁴⁾ | – | FFA.1S.130.LC |
| | C | 22 | 2.2 | – | 2.1 | 1.7 | FLA.1S.722.CN ⁴⁾ | – | FFA.1S.130.LC |
| | C | 27 | 2.7 | – | 2.6 | 2.2 | FLA.1S.727.CN ⁴⁾ | – | FFA.1S.130.LC |
| | C | 32 | 3.2 | – | 3.1 | 2.6 | FLA.1S.732.CN ⁴⁾ | – | FFA.1S.130.LC |
| | C | 37 | 3.7 | – | 3.6 | 2.7 | FLA.1S.737.CN ⁴⁾ | – | FFA.1S.130.LC |
| | C | 42 | 4.2 | – | 4.1 | 3.3 | FLA.1S.742.CN ⁴⁾ | – | FFA.1S.130.LC |
| | C | 47 | 4.7 | – | 4.6 | 3.8 | FLA.1S.747.CN ⁴⁾ | – | FFA.1S.130.LC |
| | C | 52 | 5.2 | – | 5.1 | 4.3 | FLA.1S.752.CN ⁴⁾ | – | FFA.1S.130.LC |
| | C | 57 | 5.7 | – | 5.6 | 4.8 | FLA.1S.757.CN ⁴⁾ | – | FFA.1S.130.LC |
| | C | 62 | 6.2 | 5.2 | 6.1 | 5.3 | FLA.1S.762.CN ⁴⁾ | – | FFA.1S.130.LC |
| | C | 66 | 6.6 | 5.4 | 6.5 | 5.9 | FLA.1S.766.CN ⁴⁾ | – | FFA.1S.131.LC |
| | C | 68 | 6.8 | 5.5 | 6.7 | 6.0 | FLA.1S.768.CN ⁴⁾ | – | FFA.1S.131.LC |
| | L | 17 | 1.7 | – | 1.6 | 1.3 | FFA.1S.717.LN | – | FFA.1S.130.LC |
| | L | 22 | 2.2 | – | 2.1 | 1.7 | FFA.1S.722.LN | – | FFA.1S.130.LC |
| | L | 27 | 2.7 | – | 2.6 | 2.2 | FFA.1S.727.LN | – | FFA.1S.130.LC |
| | L | 32 | 3.2 | – | 3.1 | 2.6 | FFA.1S.732.LN | – | FFA.1S.130.LC |
| | L | 37 | 3.7 | – | 3.6 | 2.7 | FFA.1S.737.LN | – | FFA.1S.130.LC |
| L | 42 | 4.2 | – | 4.1 | 3.3 | FFA.1S.742.LN | – | FFA.1S.130.LC | |
| L | 47 | 4.7 | – | 4.6 | 3.8 | FFA.1S.747.LN | – | FFA.1S.130.LC | |
| L | 50 | 5.0 | – | 4.9 | 4.7 | FFA.1S.750.LN | – | FFA.1S.130.LC | |
| L | 52 | 5.2 | – | 5.1 | 4.3 | FFA.1S.752.LN | – | FFA.1S.130.LC | |
| L | 57 | 5.7 | – | 5.6 | 4.8 | FFA.1S.757.LN | – | FFA.1S.130.LC | |
| L | 62 | 6.2 | – | 6.1 | 5.3 | FFA.1S.762.LN | – | FFA.1S.130.LC | |
| L | 66 | 6.6 | – | 6.5 | 5.9 | FFA.1S.766.LN | – | FFA.1S.131.LC | |

Note:

- 1) For ordering collets separately.
 - 2) These collets can only be used with the FLA model.
 - 3) For ordering a K type collet separately, the oversize collet and the corresponding collet nut should also be ordered.
 - 4) These collets should be used with FLA, FFP and PCP models.
 - 5) For models with bend relief, the FFM.●●.130.LC collet nut should be ordered (see page 120).
- All dimensions are in millimeters.

C, K and L type collets

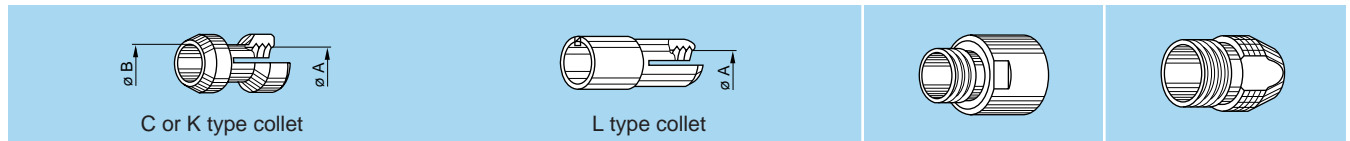


| Reference | Collet | | Cable \varnothing | | Part number of the collet ¹⁾ | Part number of the oversize collet and of the split center-pieces ³⁾ | Part number of the collet nut ^{3) 5)} | | |
|-----------|--------|---------------|---------------------|-----------------|---|---|--|----------------|---------------|
| | Type | \varnothing | $\varnothing A$ | $\varnothing B$ | | | | max. | min. |
| 2S | C | 17 | 1.7 | – | 1.6 | 1.3 | FFA.2S.717.CN | – | FFA.2S.130.LC |
| | C | 27 | 2.7 | – | 2.5 | 1.7 | FFA.2S.727.CN | – | FFA.2S.130.LC |
| | C | 32 | 3.2 | – | 3.0 | 2.5 | FFA.2S.732.CN | – | FFA.2S.130.LC |
| | C | 42 | 4.2 | – | 4.0 | 3.1 | FFA.2S.742.CN | – | FFA.2S.130.LC |
| | C | 52 | 5.2 | – | 5.0 | 4.1 | FFA.2S.752.CN | – | FFA.2S.130.LC |
| | C | 62 | 6.2 | – | 6.0 | 5.1 | FFA.2S.762.CN | – | FFA.2S.130.LC |
| | C | 72 | 7.2 | 6.7 | 7.0 | 6.1 | FFA.2S.772.CN | – | FFA.2S.130.LC |
| | C | 77 | 7.7 | 6.7 | 7.5 | 7.1 | FFA.2S.777.CN | – | FFA.2S.130.LC |
| | C | 82 | 8.2 | 6.7 | 8.0 | 7.6 | FFA.2S.782.CN | – | FFA.2S.130.LC |
| | C | 87 | 8.7 | 6.7 | 8.5 | 8.1 | FFA.2S.787.CN | – | FFA.2S.130.LC |
| | K | 92 | 9.2 | 8.7 | 9.0 | 8.1 | FFA.3S.792.CN | FFA.2S.137.LCN | FFA.3S.130.LC |
| | K | 97 | 9.7 | 8.7 | 9.5 | 9.1 | FFA.3S.797.CN | FFA.2S.137.LCN | FFA.3S.130.LC |
| | K | 10 | 10.2 | 8.7 | 10.0 | 9.6 | FFA.3S.710.CN | FFA.2S.137.LCN | FFA.3S.130.LC |
| | K | 11 | 10.7 | 9.0 | 10.5 | 10.1 | FFA.3S.711.CN | FFA.2S.137.LCN | FFA.3S.130.LC |
| | C | 17 | 1.7 | – | 1.6 | 1.3 | FLA.2S.717.CN ⁴⁾ | – | FFA.2S.130.LC |
| | C | 27 | 2.7 | – | 2.5 | 1.7 | FLA.2S.727.CN ⁴⁾ | – | FFA.2S.130.LC |
| | C | 32 | 3.2 | – | 3.0 | 2.5 | FLA.2S.732.CN ⁴⁾ | – | FFA.2S.130.LC |
| | C | 42 | 4.2 | – | 4.0 | 3.1 | FLA.2S.742.CN ⁴⁾ | – | FFA.2S.130.LC |
| | C | 52 | 5.2 | – | 5.0 | 4.1 | FLA.2S.752.CN ⁴⁾ | – | FFA.2S.130.LC |
| | C | 62 | 6.2 | – | 6.0 | 5.1 | FLA.2S.762.CN ⁴⁾ | – | FFA.2S.130.LC |
| | C | 72 | 7.2 | 6.7 | 7.0 | 6.1 | FLA.2S.772.CN ⁴⁾ | – | FFA.2S.130.LC |
| | C | 77 | 7.7 | 6.7 | 7.5 | 7.1 | FLA.2S.777.CN ⁴⁾ | – | FFA.2S.130.LC |
| | C | 82 | 8.2 | 6.7 | 8.0 | 7.6 | FLA.2S.782.CN ⁴⁾ | – | FFA.2S.130.LC |
| | C | 87 | 8.7 | 6.7 | 8.5 | 8.1 | FLA.2S.787.CN ⁴⁾ | – | FFA.2S.130.LC |
| | L | 27 | 2.7 | – | 2.5 | 1.7 | FFA.2S.727.LN | – | FFA.2S.130.LC |
| | L | 32 | 3.2 | – | 3.0 | 2.5 | FFA.2S.732.LN | – | FFA.2S.130.LC |
| | L | 42 | 4.2 | – | 4.0 | 3.1 | FFA.2S.742.LN | – | FFA.2S.130.LC |
| | L | 52 | 5.2 | – | 5.0 | 4.1 | FFA.2S.752.LN | – | FFA.2S.130.LC |
| L | 62 | 6.2 | – | 6.0 | 5.1 | FFA.2S.762.LN | – | FFA.2S.130.LC | |
| L | 72 | 7.2 | – | 7.0 | 6.1 | FFA.2S.772.LN | – | FFA.2S.130.LC | |
| L | 77 | 7.9 | – | 7.5 | 7.1 | FFA.2S.777.LN | – | FFA.2S.130.LC | |
| L | 82 | 8.2 | – | 8.0 | 7.6 | FFA.2S.782.LN | – | FFA.2S.130.LC | |
| L | 87 | 8.7 | – | 8.5 | 8.1 | FFA.2S.787.LN | – | FFA.2S.130.LC | |

Note:

- 1) For ordering collets separately.
 - 3) For ordering a K type collet separately, the oversize collet and the corresponding collet nut should also be ordered.
 - 4) These collets should be used with FLA, FFP and PCP models.
 - 5) For models with bend relief, the FFM.●●.130.LC collet nut should be ordered (see page 120).
- All dimensions are in millimeters.

C, K and L type collets



| Reference | | Collet | | Cable \varnothing | | Part number of the collet ¹⁾ | Part number of the oversize collet and of the split center-pieces ³⁾ | Part number of the collet nut ^{3) 5)} | |
|-----------|---------------|-----------------|-----------------|---------------------|------|---|---|--|---------------|
| Type | \varnothing | $\varnothing A$ | $\varnothing B$ | max. | min. | | | | |
| 3S | C | 32 | 3.2 | – | 3.0 | 2.5 | FFA.3S.732.CN | – | FFA.3S.130.LC |
| | C | 42 | 4.2 | – | 4.0 | 3.1 | FFA.3S.742.CN | – | FFA.3S.130.LC |
| | C | 52 | 5.2 | – | 5.0 | 4.1 | FFA.3S.752.CN | – | FFA.3S.130.LC |
| | C | 62 | 6.2 | – | 6.0 | 5.1 | FFA.3S.762.CN | – | FFA.3S.130.LC |
| | C | 72 | 7.2 | – | 7.0 | 6.1 | FFA.3S.772.CN | – | FFA.3S.130.LC |
| | C | 82 | 8.2 | – | 8.0 | 7.1 | FFA.3S.782.CN | – | FFA.3S.130.LC |
| | C | 92 | 9.2 | 8.7 | 9.0 | 8.1 | FFA.3S.792.CN | – | FFA.3S.130.LC |
| | C | 97 | 9.7 | 8.7 | 9.5 | 9.1 | FFA.3S.797.CN | – | FFA.3S.130.LC |
| | C | 10 | 10.2 | 8.7 | 10.0 | 9.6 | FFA.3S.710.CN | – | FFA.3S.130.LC |
| | C | 11 | 10.7 | 9.0 | 10.5 | 10.1 | FFA.3S.711.CN | – | FFA.3S.130.LC |
| | K | 12 | 12.2 | – | 12.0 | 11.1 | FFA.4S.712.CN | FFA.3S.137.LCN | FFA.4S.130.LC |
| | K | 13 | 13.2 | 12.2 | 13.0 | 12.1 | FFA.4S.713.CN | FFA.3S.137.LCN | FFA.4S.130.LC |
| | C | 32 | 3.2 | – | 3.0 | 2.5 | FLA.3S.732.CN ⁴⁾ | – | FFA.3S.130.LC |
| | C | 42 | 4.2 | – | 4.0 | 3.1 | FLA.3S.742.CN ⁴⁾ | – | FFA.3S.130.LC |
| | C | 52 | 5.2 | – | 5.0 | 4.1 | FLA.3S.752.CN ⁴⁾ | – | FFA.3S.130.LC |
| | C | 62 | 6.2 | – | 6.0 | 5.1 | FLA.3S.762.CN ⁴⁾ | – | FFA.3S.130.LC |
| | C | 72 | 7.2 | – | 7.0 | 6.1 | FLA.3S.772.CN ⁴⁾ | – | FFA.3S.130.LC |
| | C | 82 | 8.2 | – | 8.0 | 7.1 | FLA.3S.782.CN ⁴⁾ | – | FFA.3S.130.LC |
| | C | 92 | 9.2 | 8.7 | 9.0 | 8.1 | FLA.3S.792.CN ⁴⁾ | – | FFA.3S.130.LC |
| | C | 97 | 9.7 | 8.7 | 9.5 | 9.1 | FLA.3S.797.CN ⁴⁾ | – | FFA.3S.130.LC |
| C | 10 | 10.7 | 8.7 | 10.5 | 9.8 | FLA.3S.710.CN ⁴⁾ | – | FFA.3S.130.LC | |
| C | 11 | 10.7 | 9.0 | 10.5 | 10.1 | FLA.3S.711.CN ⁴⁾ | – | FFA.3S.130.LC | |
| L | 42 | 4.2 | – | 4.0 | 3.1 | FFA.3S.742.LN | – | FFA.3S.130.LC | |
| L | 52 | 5.2 | – | 5.0 | 4.1 | FFA.3S.752.LN | – | FFA.3S.130.LC | |
| L | 62 | 6.2 | – | 6.0 | 5.1 | FFA.3S.762.LN | – | FFA.3S.130.LC | |
| L | 72 | 7.2 | – | 7.0 | 6.1 | FFA.3S.772.LN | – | FFA.3S.130.LC | |
| L | 82 | 8.2 | – | 8.0 | 7.1 | FFA.3S.782.LN | – | FFA.3S.130.LC | |
| L | 92 | 9.2 | – | 9.0 | 8.1 | FFA.3S.792.LN | – | FFA.3S.130.LC | |
| L | 97 | 9.7 | – | 9.5 | 9.1 | FFA.3S.797.LN | – | FFA.3S.130.LC | |
| L | 10 | 10.2 | – | 10.0 | 9.6 | FFA.3S.710.LN | – | FFA.3S.130.LC | |
| L | 11 | 10.7 | – | 10.5 | 10.1 | FFA.3S.711.LN | – | FFA.3S.130.LC | |

Note:

¹⁾ For ordering collets separately.

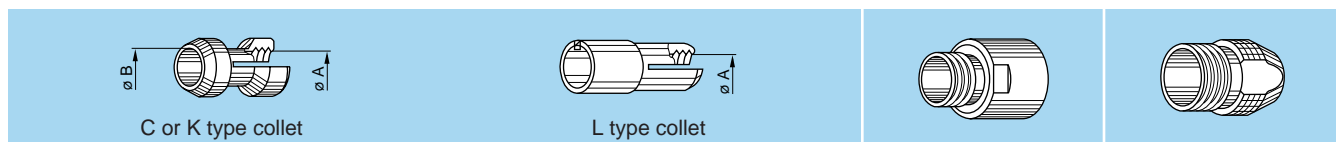
³⁾ For ordering a K type collet separately, the oversize collet and the corresponding collet nut should also be ordered.

⁴⁾ These collets should be used with FLA, FFP and PCP models.

⁵⁾ For models with bend relief, the FFM.●●.130.LC collet nut should be ordered (see page 120).

All dimensions are in millimeters.

C, K and L type collets



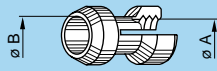
| Reference | Collet | | Cable \varnothing | | Part number of the collet ¹⁾ | Part number of the oversize collet and of the split center-pieces ³⁾ | Part number of the collet nut ^{3) 5)} | | |
|-----------|--------|---------------|---------------------|-----------------|---|---|--|----------------|---------------|
| | Type | \varnothing | \varnothing A | \varnothing B | | | | max. | min. |
| 4S | C | 52 | 5.2 | – | 5.0 | 4.1 | FFA.4S.752.CN | – | FFA.4S.130.LC |
| | C | 62 | 6.2 | – | 6.0 | 5.1 | FFA.4S.762.CN | – | FFA.4S.130.LC |
| | C | 72 | 7.2 | – | 7.0 | 6.1 | FFA.4S.772.CN | – | FFA.4S.130.LC |
| | C | 82 | 8.2 | – | 8.0 | 7.1 | FFA.4S.782.CN | – | FFA.4S.130.LC |
| | C | 92 | 9.2 | – | 9.0 | 8.1 | FFA.4S.792.CN | – | FFA.4S.130.LC |
| | C | 10 | 10.2 | – | 10.0 | 9.1 | FFA.4S.710.CN | – | FFA.4S.130.LC |
| | C | 11 | 11.2 | – | 11.0 | 10.1 | FFA.4S.711.CN | – | FFA.4S.130.LC |
| | C | 12 | 12.2 | – | 12.0 | 11.1 | FFA.4S.712.CN | – | FFA.4S.130.LC |
| | C | 13 | 13.2 | 12.2 | 13.0 | 12.6 | FFA.4S.713.CN | – | FFA.4S.130.LC |
| | K | 14 | 14.2 | – | 14.0 | 13.1 | FFA.5S.714.CN | FFA.4S.137.LCN | FFA.5S.130.LC |
| | K | 15 | 15.2 | – | 15.0 | 14.1 | FFA.5S.715.CN | FFA.4S.137.LCN | FFA.5S.130.LC |
| | K | 16 | 16.2 | – | 16.0 | 15.1 | FFA.5S.716.CN | FFA.4S.137.LCN | FFA.5S.130.LC |
| | K | 17 | 17.2 | – | 17.0 | 16.1 | FFA.5S.717.CN | FFA.4S.137.LCN | FFA.5S.130.LC |
| K | 18 | 18.2 | – | 18.0 | 17.1 | FFA.5S.718.CN | FFA.4S.137.LCN | FFA.5S.130.LC | |
| K | 19 | 19.2 | – | 19.0 | 18.1 | FFA.5S.719.CN | FFA.4S.137.LCN | FFA.5S.130.LC | |
| K | 20 | 20.2 | 19.7 | 20.0 | 19.1 | FFA.5S.720.CN | FFA.4S.137.LCN | FFA.5S.130.LC | |
| K | 21 | 21.2 | 19.7 | 21.0 | 20.1 | FFA.5S.721.CN | FFA.4S.137.LCN | FFA.5S.130.LC | |
| K | 22 | 22.2 | 19.7 | 22.0 | 21.1 | FFA.5S.722.CN | FFA.4S.137.LCN | FFA.5S.130.LC | |
| C | 52 | 52 | 5.2 | – | 5.0 | 4.1 | FLA.4S.752.CN ⁴⁾ | – | FFA.4S.130.LC |
| C | 62 | 62 | 6.2 | – | 6.0 | 5.1 | FLA.4S.762.CN ⁴⁾ | – | FFA.4S.130.LC |
| C | 72 | 72 | 7.2 | – | 7.0 | 6.1 | FLA.4S.772.CN ⁴⁾ | – | FFA.4S.130.LC |
| C | 82 | 82 | 8.2 | – | 8.0 | 7.1 | FLA.4S.782.CN ⁴⁾ | – | FFA.4S.130.LC |
| C | 92 | 92 | 9.2 | – | 9.0 | 8.1 | FLA.4S.792.CN ⁴⁾ | – | FFA.4S.130.LC |
| C | 10 | 10 | 10.2 | – | 10.0 | 9.1 | FLA.4S.710.CN ⁴⁾ | – | FFA.4S.130.LC |
| C | 11 | 11 | 11.2 | – | 11.0 | 10.1 | FLA.4S.711.CN ⁴⁾ | – | FFA.4S.130.LC |
| C | 12 | 12 | 12.2 | – | 12.0 | 11.1 | FLA.4S.712.CN ⁴⁾ | – | FFA.4S.130.LC |
| C | 13 | 13 | 13.2 | 12.2 | 13.0 | 12.6 | FLA.4S.713.CN ⁴⁾ | – | FFA.4S.130.LC |
| L | 52 | 52 | 5.2 | – | 5.0 | 4.1 | FFA.4S.752.LN | – | FFA.4S.130.LC |
| L | 62 | 62 | 6.2 | – | 6.0 | 5.1 | FFA.4S.762.LN | – | FFA.4S.130.LC |
| L | 72 | 72 | 7.2 | – | 7.0 | 6.1 | FFA.4S.772.LN | – | FFA.4S.130.LC |
| L | 82 | 82 | 8.2 | – | 8.0 | 7.1 | FFA.4S.782.LN | – | FFA.4S.130.LC |
| L | 92 | 92 | 9.2 | – | 9.0 | 8.1 | FFA.4S.792.LN | – | FFA.4S.130.LC |
| L | 10 | 10 | 10.2 | – | 10.0 | 9.1 | FFA.4S.710.LN | – | FFA.4S.130.LC |
| L | 11 | 11 | 11.2 | – | 11.0 | 10.1 | FFA.4S.711.LN | – | FFA.4S.130.LC |
| L | 12 | 12 | 12.2 | – | 12.0 | 11.1 | FFA.4S.712.LN | – | FFA.4S.130.LC |
| L | 13 | 13 | 13.2 | – | 13.0 | 12.6 | FFA.4S.713.LN | – | FFA.4S.130.LC |

Note:

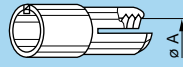
- ¹⁾ For ordering collets separately.
 - ³⁾ For ordering a K type collet separately, the oversize collet and the corresponding collet nut should also be ordered.
 - ⁴⁾ These collets should be used with FLA, FFP and PCP models.
 - ⁵⁾ For models with bend relief, the FFM.●●.130.LC collet nut should be ordered (see page 120).
- All dimensions are in millimeters.

These notes also apply to the following page.

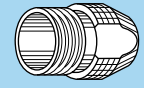
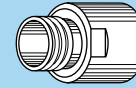
C, K and L type collets



C or K type collet

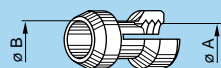


L type collet

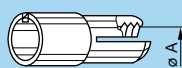


| Reference | Collet | | Cable ø | | Part number of the collet ¹⁾ | Part number of the oversize collet and of the split center-pieces ³⁾ | Part number of the collet nut ³⁾ | | |
|-----------|--------|------|---------|------|---|---|---|----------------|---------------|
| | Type | ø | ø A | ø B | | | | max. | min. |
| 5S | C | 72 | 7.2 | – | 7.0 | 6.1 | FFA.5S.772.CN | – | FFA.5S.130.LC |
| | C | 82 | 8.2 | – | 8.0 | 7.1 | FFA.5S.782.CN | – | FFA.5S.130.LC |
| | C | 92 | 9.2 | – | 9.0 | 8.1 | FFA.5S.792.CN | – | FFA.5S.130.LC |
| | C | 10 | 10.2 | – | 10.0 | 9.1 | FFA.5S.710.CN | – | FFA.5S.130.LC |
| | C | 11 | 11.2 | – | 11.0 | 10.1 | FFA.5S.711.CN | – | FFA.5S.130.LC |
| | C | 12 | 12.2 | – | 12.0 | 11.1 | FFA.5S.712.CN | – | FFA.5S.130.LC |
| | C | 13 | 13.2 | – | 13.0 | 12.1 | FFA.5S.713.CN | – | FFA.5S.130.LC |
| | C | 14 | 14.2 | – | 14.0 | 13.1 | FFA.5S.714.CN | – | FFA.5S.130.LC |
| | C | 15 | 15.2 | – | 15.0 | 14.1 | FFA.5S.715.CN | – | FFA.5S.130.LC |
| | C | 16 | 16.2 | – | 16.0 | 15.1 | FFA.5S.716.CN | – | FFA.5S.130.LC |
| | C | 17 | 17.2 | – | 17.0 | 16.1 | FFA.5S.717.CN | – | FFA.5S.130.LC |
| | C | 18 | 18.2 | – | 18.0 | 17.1 | FFA.5S.718.CN | – | FFA.5S.130.LC |
| | C | 19 | 19.2 | – | 19.0 | 18.1 | FFA.5S.719.CN | – | FFA.5S.130.LC |
| | C | 20 | 20.2 | 19.7 | 20.0 | 19.1 | FFA.5S.720.CN | – | FFA.5S.130.LC |
| | C | 21 | 21.2 | 19.7 | 21.0 | 20.1 | FFA.5S.721.CN | – | FFA.5S.130.LC |
| | C | 22 | 22.2 | 19.7 | 22.0 | 21.1 | FFA.5S.722.CN | – | FFA.5S.130.LC |
| | K | 23 | 23.2 | – | 23.0 | 22.1 | FFA.6S.723.CN | FFA.5S.137.LCN | FFA.6S.130.LC |
| | K | 24 | 24.2 | – | 24.0 | 23.1 | FFA.6S.724.CN | FFA.5S.137.LCN | FFA.6S.130.LC |
| | K | 25 | 25.2 | – | 25.0 | 24.1 | FFA.6S.725.CN | FFA.5S.137.LCN | FFA.6S.130.LC |
| | K | 26 | 26.2 | – | 26.0 | 25.1 | FFA.6S.726.CN | FFA.5S.137.LCN | FFA.6S.130.LC |
| | K | 27 | 27.2 | – | 27.0 | 26.1 | FFA.6S.727.CN | FFA.5S.137.LCN | FFA.6S.130.LC |
| | K | 28 | 28.2 | 27.2 | 28.0 | 27.1 | FFA.6S.728.CN | FFA.5S.137.LCN | FFA.6S.130.LC |
| K | 29 | 29.2 | 27.2 | 29.0 | 28.1 | FFA.6S.729.CN | FFA.5S.137.LCN | FFA.6S.130.LC | |
| K | 30 | 30.2 | 27.2 | 30.0 | 29.1 | FFA.6S.730.CN | FFA.5S.137.LCN | FFA.6S.130.LC | |
| C | 72 | 7.2 | – | 7.0 | 6.1 | FLA.5S.772.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 82 | 8.2 | – | 8.0 | 7.1 | FLA.5S.782.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 92 | 9.2 | – | 9.0 | 8.1 | FLA.5S.792.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 10 | 10.2 | – | 10.0 | 9.1 | FLA.5S.710.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 11 | 11.2 | – | 11.0 | 10.1 | FLA.5S.711.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 12 | 12.2 | – | 12.0 | 11.1 | FLA.5S.712.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 13 | 13.2 | – | 13.0 | 12.1 | FLA.5S.713.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 14 | 14.2 | – | 14.0 | 13.1 | FLA.5S.714.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 15 | 15.2 | – | 15.0 | 14.1 | FLA.5S.715.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 16 | 16.2 | – | 16.0 | 15.1 | FLA.5S.716.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 17 | 17.2 | – | 17.0 | 16.1 | FLA.5S.717.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 18 | 18.2 | – | 18.0 | 17.1 | FLA.5S.718.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 19 | 19.2 | – | 19.0 | 18.1 | FLA.5S.719.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 20 | 20.2 | 19.7 | 20.0 | 19.1 | FLA.5S.720.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 21 | 21.2 | 19.7 | 21.0 | 20.1 | FLA.5S.721.CN ²⁾ | – | FFA.5S.130.LC | |
| C | 22 | 22.2 | 19.7 | 22.0 | 21.1 | FLA.5S.722.CN ²⁾ | – | FFA.5S.130.LC | |
| L | 92 | 9.2 | – | 9.0 | 8.1 | FFA.5S.792.LN | – | FFA.5S.130.LC | |
| L | 10 | 10.2 | – | 10.0 | 9.1 | FFA.5S.710.LN | – | FFA.5S.130.LC | |
| L | 11 | 11.2 | – | 11.0 | 10.1 | FFA.5S.711.LN | – | FFA.5S.130.LC | |
| L | 12 | 12.2 | – | 12.0 | 11.1 | FFA.5S.712.LN | – | FFA.5S.130.LC | |
| L | 13 | 13.2 | – | 13.0 | 12.1 | FFA.5S.713.LN | – | FFA.5S.130.LC | |
| L | 14 | 14.2 | – | 14.0 | 13.1 | FFA.5S.714.LN | – | FFA.5S.130.LC | |
| L | 15 | 15.2 | – | 15.0 | 14.1 | FFA.5S.715.LN | – | FFA.5S.130.LC | |
| L | 16 | 16.2 | – | 16.0 | 15.1 | FFA.5S.716.LN | – | FFA.5S.130.LC | |
| L | 17 | 17.2 | – | 17.0 | 16.1 | FFA.5S.717.LN | – | FFA.5S.130.LC | |
| L | 18 | 18.2 | – | 18.0 | 17.1 | FFA.5S.718.LN | – | FFA.5S.130.LC | |
| L | 19 | 19.2 | – | 19.0 | 18.1 | FFA.5S.719.LN | – | FFA.5S.130.LC | |
| L | 20 | 20.2 | – | 20.0 | 19.1 | FFA.5S.720.LN | – | FFA.5S.130.LC | |
| L | 21 | 21.2 | – | 21.0 | 20.1 | FFA.5S.721.LN | – | FFA.5S.130.LC | |

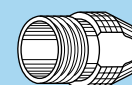
C and L type collets



C type collet



L type collet

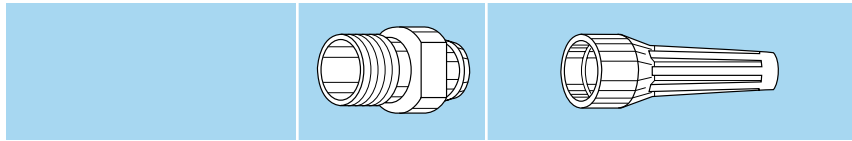


| Reference | Collet | | Cable ø | | Part number of the collet ¹⁾ | Part number of the oversize collet and of the split center-pieces | Part number of the collet nut | | |
|-----------|--------|------|---------|------|---|---|-------------------------------|---------------|---------------|
| | Type | ø | ø A | ø B | | | | max. | min. |
| 6S | C | 12 | 12.2 | – | 12.0 | 11.1 | FFA.6S.712.CN | – | FFA.6S.130.LC |
| | C | 13 | 13.2 | – | 13.0 | 12.1 | FFA.6S.713.CN | – | FFA.6S.130.LC |
| | C | 14 | 14.2 | – | 14.0 | 13.1 | FFA.6S.714.CN | – | FFA.6S.130.LC |
| | C | 15 | 15.2 | – | 15.0 | 14.1 | FFA.6S.715.CN | – | FFA.6S.130.LC |
| | C | 16 | 16.2 | – | 16.0 | 15.1 | FFA.6S.716.CN | – | FFA.6S.130.LC |
| | C | 17 | 17.2 | – | 17.0 | 16.1 | FFA.6S.717.CN | – | FFA.6S.130.LC |
| | C | 18 | 18.2 | – | 18.0 | 17.1 | FFA.6S.718.CN | – | FFA.6S.130.LC |
| | C | 19 | 19.2 | – | 19.0 | 18.1 | FFA.6S.719.CN | – | FFA.6S.130.LC |
| | C | 20 | 20.2 | – | 20.0 | 19.1 | FFA.6S.720.CN | – | FFA.6S.130.LC |
| | C | 21 | 21.2 | – | 21.0 | 20.1 | FFA.6S.721.CN | – | FFA.6S.130.LC |
| | C | 22 | 22.2 | – | 22.0 | 21.1 | FFA.6S.722.CN | – | FFA.6S.130.LC |
| | C | 23 | 23.2 | – | 23.0 | 22.1 | FFA.6S.723.CN | – | FFA.6S.130.LC |
| | C | 24 | 24.2 | – | 24.0 | 23.1 | FFA.6S.724.CN | – | FFA.6S.130.LC |
| | C | 25 | 25.2 | – | 25.0 | 24.1 | FFA.6S.725.CN | – | FFA.6S.130.LC |
| | C | 26 | 26.2 | – | 26.0 | 25.1 | FFA.6S.726.CN | – | FFA.6S.130.LC |
| | C | 27 | 27.2 | – | 27.0 | 26.1 | FFA.6S.727.CN | – | FFA.6S.130.LC |
| | C | 28 | 28.2 | 27.2 | 28.0 | 27.1 | FFA.6S.728.CN | – | FFA.6S.130.LC |
| | C | 29 | 29.2 | 27.2 | 29.0 | 28.1 | FFA.6S.729.CN | – | FFA.6S.130.LC |
| | C | 30 | 30.2 | 27.2 | 30.0 | 29.1 | FFA.6S.730.CN | – | FFA.6S.130.LC |
| | L | 13 | 12.2 | – | 12.0 | 11.1 | FFA.6S.712.LN | – | FFA.6S.130.LC |
| | L | 14 | 13.2 | – | 13.0 | 12.1 | FFA.6S.713.LN | – | FFA.6S.130.LC |
| | L | 15 | 14.2 | – | 14.0 | 13.1 | FFA.6S.714.LN | – | FFA.6S.130.LC |
| | L | 16 | 15.2 | – | 15.0 | 14.1 | FFA.6S.715.LN | – | FFA.6S.130.LC |
| | L | 17 | 16.2 | – | 16.0 | 15.1 | FFA.6S.716.LN | – | FFA.6S.130.LC |
| | L | 18 | 17.2 | – | 17.0 | 16.1 | FFA.6S.717.LN | – | FFA.6S.130.LC |
| | L | 19 | 18.2 | – | 18.0 | 17.1 | FFA.6S.718.LN | – | FFA.6S.130.LC |
| | L | 20 | 19.2 | – | 19.0 | 18.1 | FFA.6S.719.LN | – | FFA.6S.130.LC |
| | L | 21 | 20.2 | – | 20.0 | 19.1 | FFA.6S.720.LN | – | FFA.6S.130.LC |
| | L | 22 | 21.2 | – | 21.0 | 20.1 | FFA.6S.721.LN | – | FFA.6S.130.LC |
| | L | 23 | 22.2 | – | 22.0 | 21.1 | FFA.6S.722.LN | – | FFA.6S.130.LC |
| | L | 24 | 23.2 | – | 23.0 | 22.1 | FFA.6S.723.LN | – | FFA.6S.130.LC |
| L | 25 | 24.2 | – | 24.0 | 23.1 | FFA.6S.724.LN | – | FFA.6S.130.LC | |
| L | 26 | 25.2 | – | 25.0 | 24.1 | FFA.6S.725.LN | – | FFA.6S.130.LC | |
| L | 27 | 26.2 | – | 26.0 | 25.1 | FFA.6S.726.LN | – | FFA.6S.130.LC | |
| L | 28 | 27.2 | – | 27.0 | 26.1 | FFA.6S.727.LN | – | FFA.6S.130.LC | |
| L | 29 | 28.2 | – | 28.0 | 27.1 | FFA.6S.728.LN | – | FFA.6S.130.LC | |
| L | 30 | 29.2 | – | 29.0 | 28.1 | FFA.6S.729.LN | – | FFA.6S.130.LC | |
| L | 31 | 30.2 | – | 30.0 | 29.1 | FFA.6S.730.LN | – | FFA.6S.130.LC | |

Note:

¹⁾ For ordering collets separately.
All dimensions are in millimeters.

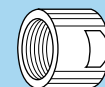
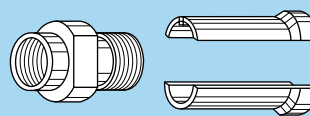
Bend relief nut and bend relief



| Reference | | Part number of the collet nut | Bend relief to be used ¹⁾ | |
|-----------|---|-------------------------------|--------------------------------------|---------------|
| Type | ∅ | | | |
| 00 | C | 15 to 31 | FFM.00.130.LC | GMA.00.0●●.D● |
| | C | 16 to 31 | FFM.00.130.LC | GMA.00.0●●.D● |
| | K | 37 to 42 | FFM.0S.130.LC | GMA.0B.0●●.D● |
| | L | 17 to 31 | FFM.00.130.LC | GMA.00.0●●.D● |
| 0S | C | 27 to 42 | FFM.0S.130.LC | GMA.0B.0●●.D● |
| | K | 47 to 62 | FFM.1S.130.LC | GMA.1B.0●●.D● |
| | L | 27 to 42 | FFM.0S.130.LC | GMA.0B.0●●.D● |
| 1S | C | 27 to 62 | FFM.1S.130.LC | GMA.1B.0●●.D● |
| | K | 72 to 82 | FFM.2S.130.LC | GMA.2B.0●●.D● |
| | L | 27 to 62 | FFM.1S.130.LC | GMA.1B.0●●.D● |
| 2S | C | 42 to 82 | FFM.2S.130.LC | GMA.2B.0●●.D● |
| | K | 92 to 10 | FFM.3S.130.LC | GMA.3B.0●●.D● |
| | L | 42 to 82 | FFM.2S.130.LC | GMA.2B.0●●.D● |
| 3S | C | 52 to 10 | FFM.3S.130.LC | GMA.3B.0●●.D● |
| | K | 12 to 13 | FFM.4S.130.LC | GMA.4B.0●●.D● |
| | L | 52 to 10 | FFM.3S.130.LC | GMA.3B.0●●.D● |
| 4S | C | 82 to 13 | FFM.4S.130.LC | GMA.4B.0●●.D● |
| | L | 82 to 13 | FFM.4S.130.LC | GMA.4B.0●●.D● |

Note: ¹⁾ The bend relief is to be ordered separately (see pages 175 and 176).

C and K type collets



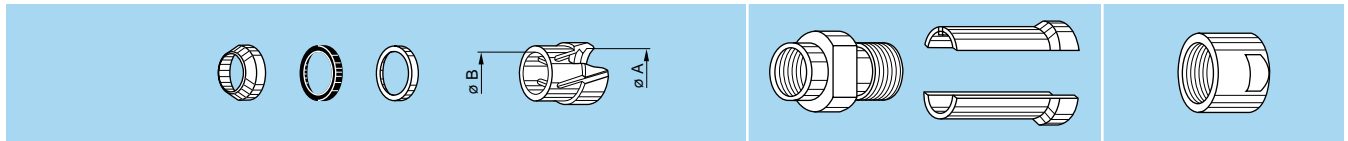
| | Reference | | Collet | | Cable ø | | Part number of the collet system ¹⁾ | Part number of the oversize collet and of the split center-pieces ²⁾ | Part number of the collet nut ²⁾ |
|-----------|-----------|-----|--------|------|---------|----------------|--|---|---|
| | Type | ø | ø A | ø B | max. | min. | | | |
| 0E | C | 10 | 1.6 | – | 1.2 | 1.0 | FFA.0E.710.CNS | – | FFA.00.130.LC |
| | C | 15 | 1.6 | – | 1.5 | 1.3 | FFA.0E.715.CNS | – | FFA.00.130.LC |
| | C | 20 | 2.1 | – | 2.0 | 1.6 | FFA.0E.720.CNS | – | FFA.00.130.LC |
| | C | 25 | 3.1 | – | 2.5 | 2.1 | FFA.0E.725.CNS | – | FFA.00.130.LC |
| | C | 30 | 3.1 | – | 3.0 | 2.6 | FFA.0E.730.CNS | – | FFA.00.130.LC |
| | C | 35 | 4.2 | 4.2 | 3.5 | 3.1 | FFA.0E.735.CNS | – | FFA.00.130.LC |
| | C | 40 | 4.2 | 4.2 | 4.0 | 3.6 | FFA.0E.740.CNS | – | FFA.00.130.LC |
| | C | 45 | 5.2 | 5.2 | 4.5 | 4.1 | FFA.0E.745.CNS | – | FFA.00.130.LC |
| | C | 50 | 5.2 | 5.2 | 5.0 | 4.6 | FFA.0E.750.CNS | – | FFA.00.130.LC |
| 1E | C | 15 | 1.6 | – | 1.5 | 1.3 | FFA.1E.715.CNS | – | FFA.1E.130.LC |
| | C | 20 | 2.2 | – | 2.0 | 1.6 | FFA.1E.720.CNS | – | FFA.1E.130.LC |
| | C | 25 | 3.2 | – | 2.5 | 2.1 | FFA.1E.725.CNS | – | FFA.1E.130.LC |
| | C | 30 | 3.2 | – | 3.0 | 2.6 | FFA.1E.730.CNS | – | FFA.1E.130.LC |
| | C | 35 | 4.2 | – | 3.5 | 3.1 | FFA.1E.735.CNS | – | FFA.1E.130.LC |
| | C | 40 | 4.2 | – | 4.0 | 3.6 | FFA.1E.740.CNS | – | FFA.1E.130.LC |
| | C | 45 | 5.2 | – | 4.5 | 4.1 | FFA.1E.745.CNS | – | FFA.1E.130.LC |
| | C | 50 | 5.2 | – | 5.0 | 4.6 | FFA.1E.750.CNS | – | FFA.1E.130.LC |
| | C | 55 | 6.2 | 6.2 | 5.5 | 5.1 | FFA.1E.755.CNS | – | FFA.1E.130.LC |
| | C | 60 | 6.2 | 6.2 | 6.0 | 5.6 | FFA.1E.760.CNS | – | FFA.1E.130.LC |
| | C | 65 | 7.2 | 6.7 | 6.5 | 6.1 | FFA.1E.765.CNS | – | FFA.1E.130.LC |
| | K | 70 | 7.2 | – | 7.0 | 6.6 | FFA.2E.770.CNS | FFA.1E.137.LCN | FFA.2E.130.LC |
| | K | 75 | 8.2 | 8.2 | 7.5 | 7.1 | FFA.2E.775.CNS | FFA.1E.137.LCN | FFA.2E.130.LC |
| | K | 80 | 8.2 | 8.2 | 8.0 | 7.6 | FFA.2E.780.CNS | FFA.1E.137.LCN | FFA.2E.130.LC |
| K | 85 | 9.2 | 8.6 | 8.5 | 8.1 | FFA.2E.785.CNS | FFA.1E.137.LCN | FFA.2E.130.LC | |
| 2E | C | 15 | 2.2 | – | 1.5 | 1.3 | FFA.2E.715.CNS | – | FFA.2E.130.LC |
| | C | 20 | 2.2 | – | 2.0 | 1.6 | FFA.2E.720.CNS | – | FFA.2E.130.LC |
| | C | 25 | 3.2 | – | 2.5 | 2.1 | FFA.2E.725.CNS | – | FFA.2E.130.LC |
| | C | 30 | 3.2 | – | 3.0 | 2.6 | FFA.2E.730.CNS | – | FFA.2E.130.LC |
| | C | 35 | 4.2 | – | 3.5 | 3.1 | FFA.2E.735.CNS | – | FFA.2E.130.LC |
| | C | 40 | 4.2 | – | 4.0 | 3.6 | FFA.2E.740.CNS | – | FFA.2E.130.LC |
| | C | 45 | 5.2 | – | 4.5 | 4.1 | FFA.2E.745.CNS | – | FFA.2E.130.LC |
| | C | 50 | 5.2 | – | 5.0 | 4.6 | FFA.2E.750.CNS | – | FFA.2E.130.LC |
| | C | 55 | 6.2 | – | 5.5 | 5.1 | FFA.2E.755.CNS | – | FFA.2E.130.LC |
| | C | 60 | 6.2 | – | 6.0 | 5.6 | FFA.2E.760.CNS | – | FFA.2E.130.LC |
| | C | 65 | 7.2 | – | 6.5 | 6.1 | FFA.2E.765.CNS | – | FFA.2E.130.LC |
| | C | 70 | 7.2 | – | 7.0 | 6.6 | FFA.2E.770.CNS | – | FFA.2E.130.LC |
| | C | 75 | 8.2 | 8.2 | 7.5 | 7.1 | FFA.2E.775.CNS | – | FFA.2E.130.LC |
| | C | 80 | 8.2 | 8.2 | 8.0 | 7.6 | FFA.2E.780.CNS | – | FFA.2E.130.LC |
| | C | 85 | 9.2 | 8.6 | 8.5 | 8.1 | FFA.2E.785.CNS | – | FFA.2E.130.LC |
| | K | 90 | 9.2 | – | 9.0 | 8.6 | FFA.3E.790.CNS | FFA.2E.137.LCN | FFA.3E.130.LC |
| | K | 95 | 10.2 | 10.2 | 9.5 | 9.1 | FFA.3E.795.CNS | FFA.2E.137.LCN | FFA.3E.130.LC |
| | K | 10 | 10.2 | 10.2 | 10.0 | 9.6 | FFA.3E.710.CNS | FFA.2E.137.LCN | FFA.3E.130.LC |
| | K | 11 | 11.2 | 10.6 | 11.0 | 10.1 | FFA.3E.711.CNS | FFA.2E.137.LCN | FFA.3E.130.LC |

Note:

¹⁾ For ordering the collet system separately.

²⁾ For ordering a K type collet separately, the oversize collet and the corresponding collet nut should also be ordered. All dimensions are in millimeters.

C and K type collets



| Reference | Collet | | Cable ø | | Part number of the collet system ¹⁾ | Part number of the oversize collet and of the split center-pieces ²⁾ | Part number of the collet nut ²⁾ | | |
|-----------|--------|------|---------|------|--|---|---|------------------------------|---------------|
| | Type | ø | ø A | ø B | | | | max. | min. |
| 3E | C | 30 | 3.2 | – | 3.0 | 2.6 | FFA.3E.730.CNS | – | FFA.3E.130.LC |
| | C | 35 | 4.2 | – | 3.5 | 3.1 | FFA.3E.735.CNS | – | FFA.3E.130.LC |
| | C | 40 | 4.2 | – | 4.0 | 3.6 | FFA.3E.740.CNS | – | FFA.3E.130.LC |
| | C | 45 | 5.2 | – | 4.5 | 4.1 | FFA.3E.745.CNS | – | FFA.3E.130.LC |
| | C | 50 | 5.2 | – | 5.0 | 4.6 | FFA.3E.750.CNS | – | FFA.3E.130.LC |
| | C | 55 | 6.2 | – | 5.5 | 5.1 | FFA.3E.755.CNS | – | FFA.3E.130.LC |
| | C | 60 | 6.2 | – | 6.0 | 5.6 | FFA.3E.760.CNS | – | FFA.3E.130.LC |
| | C | 65 | 7.2 | – | 6.5 | 6.1 | FFA.3E.765.CNS | – | FFA.3E.130.LC |
| | C | 70 | 7.2 | – | 7.0 | 6.6 | FFA.3E.770.CNS | – | FFA.3E.130.LC |
| | C | 75 | 8.2 | – | 7.5 | 7.1 | FFA.3E.775.CNS | – | FFA.3E.130.LC |
| | C | 80 | 8.2 | – | 8.0 | 7.6 | FFA.3E.780.CNS | – | FFA.3E.130.LC |
| | C | 85 | 9.2 | – | 8.5 | 8.1 | FFA.3E.785.CNS | – | FFA.3E.130.LC |
| | C | 90 | 9.2 | – | 9.0 | 8.6 | FFA.3E.790.CNS | – | FFA.3E.130.LC |
| | C | 95 | 10.2 | 10.2 | 9.5 | 9.1 | FFA.3E.795.CNS | – | FFA.3E.130.LC |
| | C | 10 | 10.2 | 10.2 | 10.0 | 9.6 | FFA.3E.710.CNS | – | FFA.3E.130.LC |
| | C | 11 | 11.2 | 11.2 | 11.0 | 10.1 | FFA.3E.711.CNS | – | FFA.3E.130.LC |
| | K | 11 | 12.3 | – | 12.0 | 10.6 | FFA.4E.711.CNS | FFA.3E.137.LCN | FFA.4E.130.LC |
| | K | 12 | 13.8 | 13.8 | 12.8 | 12.1 | FFA.4E.712.CNS | FFA.3E.137.LCN | FFA.4E.130.LC |
| K | 13 | 13.8 | 13.8 | 13.5 | 12.9 | FFA.4E.713.CNS | FFA.3E.137.LCN | FFA.4E.130.LC | |
| K | 14 | 15.3 | 15.3 | 14.0 | 13.6 | FFA.4E.714.CNS | FFA.3E.137.LCN | FFA.4E.130.LC | |
| K | 15 | 15.3 | 15.3 | 15.0 | 14.1 | FFA.4E.715.CNS | FFA.3E.137.LCN | FFA.4E.130.LC | |
| 4E | C | 50 | 6.3 | – | 5.0 | 4.6 | FFA.4E.750.CNS | – | FFA.4E.130.LC |
| | C | 55 | 6.3 | – | 5.5 | 5.1 | FFA.4E.755.CNS | – | FFA.4E.130.LC |
| | C | 60 | 6.3 | – | 6.0 | 5.6 | FFA.4E.760.CNS | – | FFA.4E.130.LC |
| | C | 65 | 7.3 | – | 6.5 | 6.1 | FFA.4E.765.CNS | – | FFA.4E.130.LC |
| | C | 70 | 7.3 | – | 7.0 | 6.6 | FFA.4E.770.CNS | – | FFA.4E.130.LC |
| | C | 75 | 8.3 | – | 7.5 | 7.1 | FFA.4E.775.CNS | – | FFA.4E.130.LC |
| | C | 80 | 8.3 | – | 8.0 | 7.6 | FFA.4E.780.CNS | – | FFA.4E.130.LC |
| | C | 85 | 9.3 | – | 8.5 | 8.1 | FFA.4E.785.CNS | – | FFA.4E.130.LC |
| | C | 90 | 9.3 | – | 9.0 | 8.6 | FFA.4E.790.CNS | – | FFA.4E.130.LC |
| | C | 95 | 10.8 | – | 9.5 | 9.1 | FFA.4E.795.CNS | – | FFA.4E.130.LC |
| | C | 10 | 10.8 | – | 10.5 | 9.6 | FFA.4E.710.CNS | – | FFA.4E.130.LC |
| | C | 11 | 12.3 | – | 12.0 | 10.6 | FFA.4E.711.CNS | – | FFA.4E.130.LC |
| | C | 12 | 13.8 | 13.8 | 12.8 | 12.1 | FFA.4E.712.CNS | – | FFA.4E.130.LC |
| | C | 13 | 13.8 | 13.8 | 13.5 | 12.9 | FFA.4E.713.CNS | – | FFA.4E.130.LC |
| | C | 14 | 15.3 | 15.3 | 14.0 | 13.6 | FFA.4E.714.CNS | – | FFA.4E.130.LC |
| | C | 15 | 15.3 | 15.3 | 15.0 | 14.1 | FFA.4E.715.CNS | – | FFA.4E.130.LC |
| | K | 16 | 17.8 | – | 16.5 | 15.6 | FFA.4K.716.CNS | FFA.4E.137.LCN ³⁾ | FFA.4K.136.LC |
| | K | 17 | 17.8 | – | 17.5 | 16.6 | FFA.4K.717.CNS | FFA.4E.137.LCN | FFA.4K.136.LC |
| | K | 18 | 19.8 | – | 18.5 | 17.6 | FFA.4K.718.CNS | FFA.4E.137.LCN | FFA.4K.136.LC |
| | K | 19 | 19.8 | – | 19.5 | 18.6 | FFA.4K.719.CNS | FFA.4E.137.LCN | FFA.4K.136.LC |
| | K | 20 | 21.8 | – | 20.5 | 19.6 | FFA.4K.720.CNS | FFA.4E.137.LCN | FFA.4K.136.LC |
| | K | 21 | 21.8 | – | 21.5 | 20.6 | FFA.4K.721.CNS | FFA.4E.137.LCN | FFA.4K.136.LC |
| | K | 22 | 23.8 | 23.8 | 22.5 | 21.6 | FFA.4K.722.CNS | FFA.4E.137.LCN | FFA.4K.136.LC |
| K | 23 | 23.8 | 23.8 | 23.5 | 22.6 | FFA.4K.723.CNS | FFA.4E.137.LCN | FFA.4K.136.LC | |

Note:

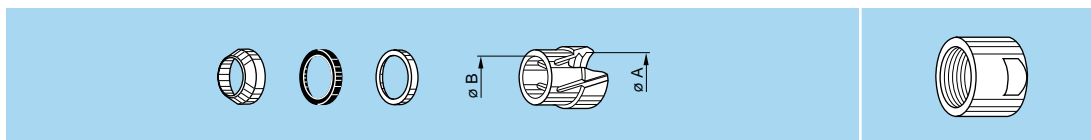
¹⁾ For ordering the collet system separately.

²⁾ For ordering a K type collet separately, the oversize collet and the corresponding collet nut should also be ordered.

³⁾ In 4E series, the center-piece is made of one piece.

All dimensions are in millimeters.

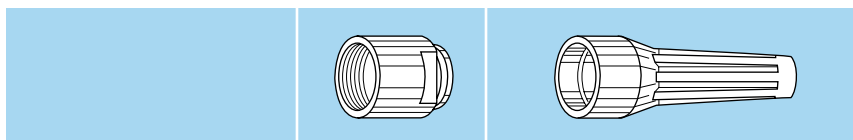
C type collets



| | Reference | | Collet | | Cable \varnothing | | Part number of the collet system ¹⁾ | Part number of the collet nut |
|-----------|-----------|---------------|-----------------|-----------------|---------------------|----------------|--|-------------------------------|
| | Type | \varnothing | $\varnothing A$ | $\varnothing B$ | max. | min. | | |
| 5E | C | 10 | 11.8 | – | 10.5 | 9.6 | FFA.5K.710.CNS | FFA.5K.130.LC |
| | C | 11 | 11.8 | – | 11.5 | 10.6 | FFA.5K.711.CNS | FFA.5K.130.LC |
| | C | 12 | 13.8 | – | 12.5 | 11.6 | FFA.5K.712.CNS | FFA.5K.130.LC |
| | C | 13 | 13.8 | – | 13.5 | 12.6 | FFA.5K.713.CNS | FFA.5K.130.LC |
| | C | 14 | 15.8 | – | 14.5 | 13.6 | FFA.5K.714.CNS | FFA.5K.130.LC |
| | C | 15 | 15.8 | – | 15.5 | 14.6 | FFA.5K.715.CNS | FFA.5K.130.LC |
| | C | 16 | 17.8 | – | 16.5 | 15.6 | FFA.5K.716.CNS | FFA.5K.130.LC |
| | C | 17 | 17.8 | – | 17.5 | 16.6 | FFA.5K.717.CNS | FFA.5K.130.LC |
| | C | 18 | 19.8 | – | 18.5 | 17.6 | FFA.5K.718.CNS | FFA.5K.130.LC |
| | C | 19 | 19.8 | – | 19.5 | 18.6 | FFA.5K.719.CNS | FFA.5K.130.LC |
| | C | 20 | 21.8 | – | 20.5 | 19.6 | FFA.5K.720.CNS | FFA.5K.130.LC |
| | C | 21 | 21.8 | – | 21.5 | 20.6 | FFA.5K.721.CNS | FFA.5K.130.LC |
| | C | 22 | 23.8 | 23.8 | 22.5 | 21.6 | FFA.5K.722.CNS | FFA.5K.130.LC |
| C | 23 | 23.8 | 23.8 | 23.5 | 22.6 | FFA.5K.723.CNS | FFA.5K.130.LC | |
| 6E | C | 14 | 14.2 | – | 14.0 | 13.0 | FFA.6E.714.CNS | FGG.6E.130.LC |
| | C | 15 | 15.2 | – | 15.0 | 14.1 | FFA.6E.715.CNS | FGG.6E.131.LC |
| | C | 16 | 15.7 | – | 15.5 | 14.6 | FFA.6E.716.CNS | PKG.6E.131.LC |
| | C | 17 | 16.7 | – | 16.5 | 15.6 | FFA.6E.717.CNS | PKG.6E.132.LC |
| | C | 18 | 18.2 | – | 18.0 | 17.1 | FFA.6E.718.CNS | FGG.6E.132.LC |
| | C | 21 | 23.2 | – | 21.5 | 20.6 | FFA.6E.721.CNS | FGG.6E.133.LC |
| | C | 22 | 23.2 | – | 22.0 | 21.1 | FFA.6E.722.CNS | PKG.6E.133.LC |
| | C | 23 | 23.2 | – | 23.0 | 22.1 | FFA.6E.723.CNS | FGG.6E.134.LC |
| | C | 27 | 27.2 | – | 27.0 | 26.1 | FFA.6E.727.CNS | FGG.6E.135.LC |
| | C | 30 | 30.2 | – | 30.0 | 29.5 | FFA.6E.730.CNS | FGG.6E.136.LC |

Note: ¹⁾ For ordering the collet system separately.

Bend relief nut and bend relief



| | Reference | | Part number of the collet nut | Bend relief to be used ¹⁾ |
|-----------|-----------|---------------|-------------------------------|--------------------------------------|
| | Type | \varnothing | | |
| 0E | C | 10 to 50 | FFM.0E.130.LC | GMA.0B.●●●●● |
| 1E | C | 15 to 65 | FFM.1E.130.LC | GMA.1B.●●●●● |
| | K | 70 to 85 | FFM.2E.130.LC | GMA.2B.●●●●● |
| 2E | C | 15 to 85 | FFM.2E.130.LC | GMA.2B.●●●●● |
| | K | 90 to 11 | FFM.3E.130.LC | GMA.3B.●●●●● |
| 3E | C | 30 to 10 | FFM.3E.130.LC | GMA.3B.●●●●● |
| | K | 11 to 15 | FFM.4E.130.LC | GMA.4B.●●●●● |
| 4E | C | 50 to 15 | FFM.4E.130.LC | GMA.4B.●●●●● |

Note: ¹⁾ The bend relief is to be ordered separately (see pages 175 and 176).
All dimensions are in millimeters.



Variant (S and E series)

Anodized color

The «variant» position of the reference is used to specify the anodized color according to the table below.

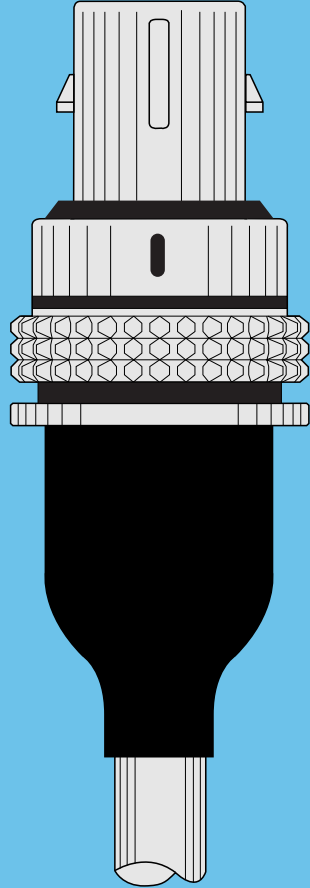
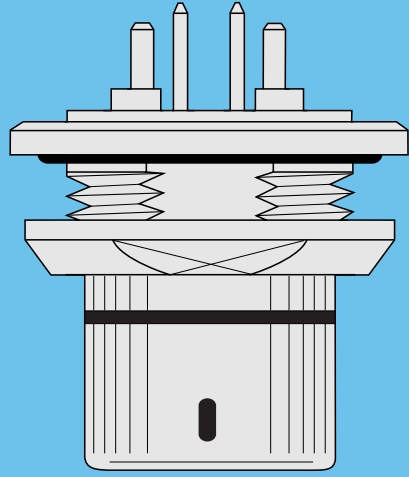
Part number for connector with standard collet nut

| Ref. | Anodized color | Ref. | Anodized color |
|------|----------------|------|----------------|
| A | blue | R | red |
| J | yellow | T | natural |
| N | black | V | green |

Part number for connector with bend relief backnut

| Ref. | Anodized color |
|------|----------------|
| L | black |
| X | natural |
| | |

Note: Other anodizing colors are available for connectors with bend relief backnut. Please consult us.



F SERIES (watertight)

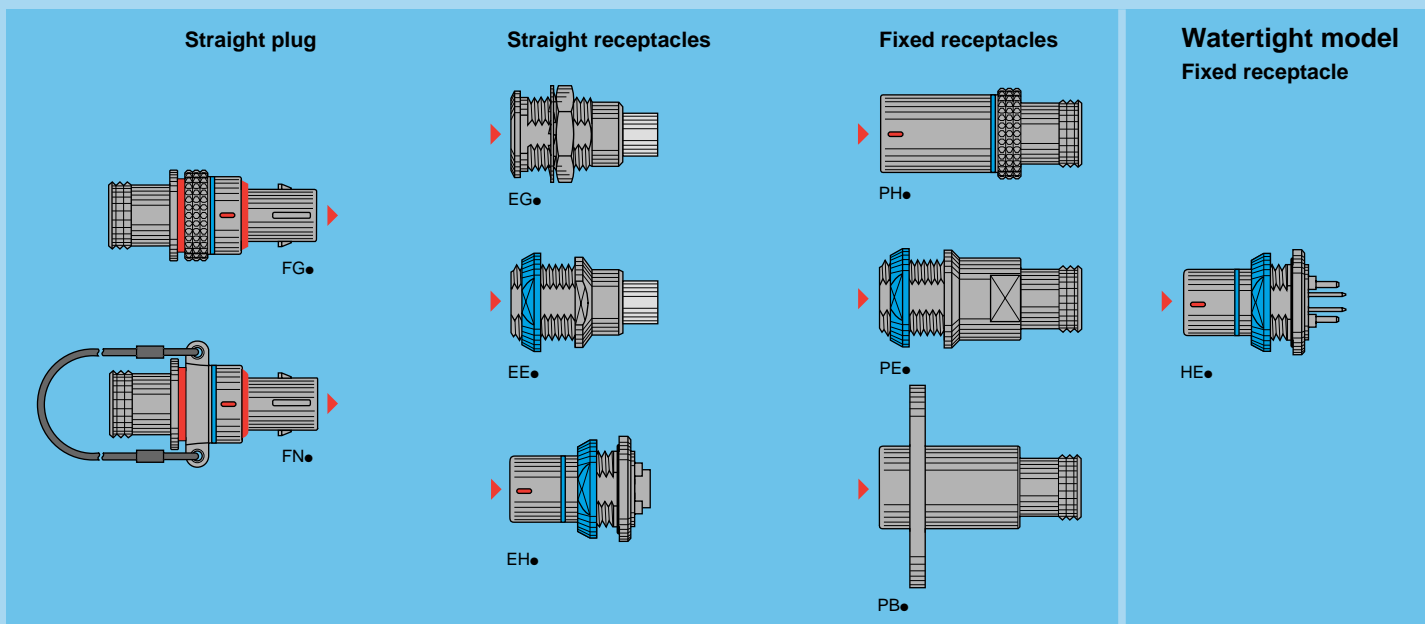
F Series

F series connectors have been specially developed to meet the most demanding requirements in terms of dimensions, weight and watertightness.

This series provides customers with many features and benefits including:

- Push-pull self-latching system for safe connection
- Sealed to IP67 for environmental protection when mated according to IEC 60529
- Compact scoop-proof design and use of aluminium alloys
- High shock and vibration resistance
- Multicontact types with 2 to 66 contacts
- Crimp or printed circuit contacts
- Keys ensuring ease of blind mating
- Color coded key options for system security

Interconnections

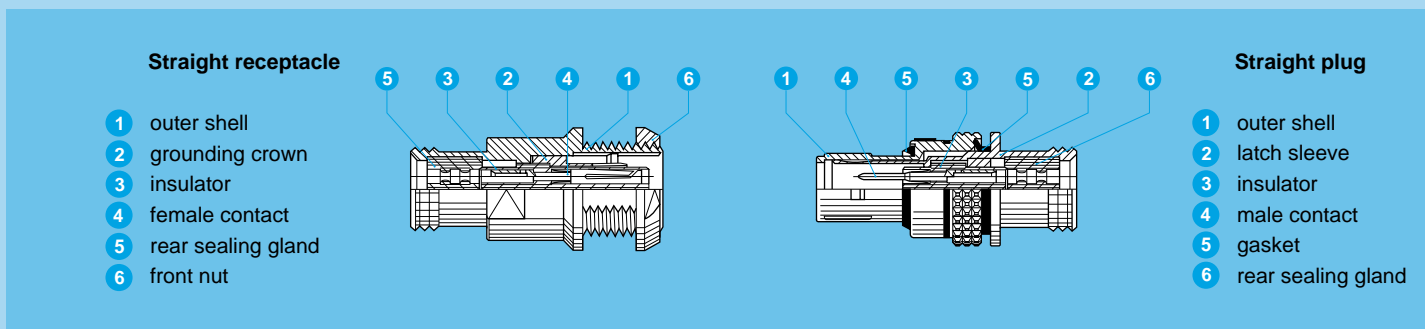


Model Description

- EE** Fixed receptacle, nut fixing, with keys (N, P, S or T), (back panel mounting)
- EG** Fixed receptacle, nut fixing, with keys (N, P, S or T)
- EH** Fixed receptacle, nut fixing, with keys (N, P, S, T, W or X) (back panel mounting) for printed circuits
- FG** Straight plug with keys (N, P, S, T, W or X)
- FN** Straight plug with keys (N, P or S) and lanyard release

- HE** Fixed receptacle, nut fixing, for printed circuit, with keys (N, P, S, T, W or X), (back panel mounting)
- PB** Straight receptacle with flange with keys (N, P, S, T, W or X), 2 holes fixing
- PE** Straight receptacle, nut fixing, with keys (N, P, S, T, W or X), (back panel mounting)
- PH** Straight receptacle with keys (N, P, S, T, W or X)

Part Section Showing Internal Components



Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | Standard |
|-------------------------------------|---------------------|---------------------|
| Endurance | > 1000 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% to 140° F | |
| Operating temperature ¹⁾ | +5° F, +392° F | |
| Vibration resistance | 10-2000 Hz, 15 g | IEC 60512-4 test 6d |
| Shock resistance | 100 g, 6 ms | IEC 60512-4 test 6c |
| Protection index (mated) | IP67 | IEC 60529 |
| Climatic category | 15/200/21 | IEC 60068-1 |

Note: ¹⁾ for the HEN model, operating temperature ranges from +5° F to +176° F.

Available Models (series and types)

| Model | Multicontact | | | | | |
|-------|--------------|----|----|----|----|----|
| | 0F | 1F | 2F | 3F | 4F | 5F |
| EEN | ● | ● | ● | ● | | |
| EED | ● | ● | ● | ● | | |
| EES | ● | ● | ● | ● | | |
| EET | | | | ● | | |
| EGN | ● | ● | ● | ● | | |
| EGP | ● | ● | ● | ● | | |
| EGS | ● | ● | ● | ● | | |
| EGT | | | | ● | | |
| EHN | ● | ● | ● | ● | | |
| EHP | ● | ● | ● | ● | | |
| EHS | ● | ● | ● | ● | | |
| EHT | | | | ● | | |
| EHW | | | | | ● | ● |
| EHX | | | | | ● | ● |
| FGN | ● | ● | ● | ● | | |
| FGP | ● | ● | ● | ● | | |

| Model | Multicontact | | | | | |
|-------|--------------|----|----|----|----|----|
| | 0F | 1F | 2F | 3F | 4F | 5F |
| FGS | ● | ● | ● | ● | | |
| FGT | | | | ● | | |
| FGW | | | | | ● | ● |
| FGX | | | | | ● | ● |
| FNN | | ● | | | | |
| FNP | | ● | | | | |
| FNS | | ● | | | | |
| HEN | ● | ● | ● | ● | | |
| HEP | ● | ● | ● | ● | | |
| HES | ● | ● | ● | ● | | |
| HET | | | | ● | | |
| HEW | | | | | ● | ● |
| HEX | | | | | ● | ● |
| PBN | ● | ● | ● | ● | | |
| PBP | ● | ● | ● | ● | | |
| PBS | ● | ● | ● | ● | | |

| Model | Multicontact | | | | | |
|-------|--------------|----|----|----|----|----|
| | 0F | 1F | 2F | 3F | 4F | 5F |
| PBT | | | | ● | | |
| PBW | | | | | ● | ● |
| PBX | | | | | ● | ● |
| PEN | ● | ● | ● | ● | | |
| PEP | ● | ● | ● | ● | | |
| PES | ● | ● | ● | ● | | |
| PET | | | | ● | | |
| PEW | | | | | ● | ● |
| PEX | | | | | ● | ● |
| PHN | ● | ● | ● | ● | | |
| PHP | ● | ● | ● | ● | | |
| PHS | ● | ● | ● | ● | | |
| PHT | | | | ● | | |
| PHW | | | | | ● | ● |
| PHX | | | | | ● | ● |

Note: ● = available models by series and types

Polarized Keying System

F series connector model part numbers are composed of three letters. The LAST LETTER indicates the keys corresponding to a particular contact type. For example, straight plugs with N, P or W keys, are fitted with male contacts; whereas with S, T or X keys, plugs are fitted with female contacts.

Receptacles with N, P or W keys, are fitted with female contacts; whereas with S, T or X keys, receptacles are fitted with male contacts.

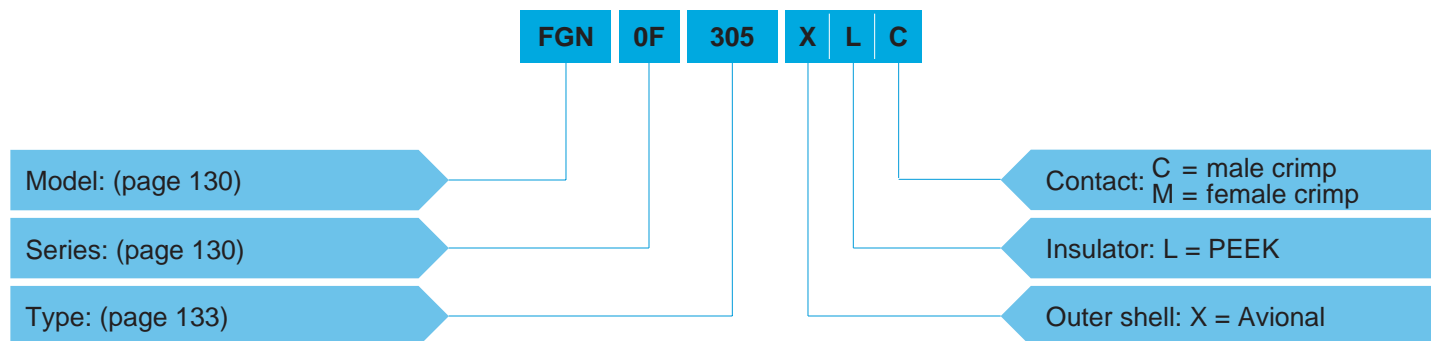
| Front view of a receptacle | Model | Nb of keys | Series 0F to 2F | | Series 3F | | Color code | Contact type | | Note |
|--------------------------------|-------|------------|-----------------|----------|-----------|----------|------------|--------------|------------|------|
| | | | Angles | | Angles | | | Plug | Receptacle | |
| | | | α | γ | α | γ | | | | |
| ●●N | 3 | 3 | 165° | 30° | 150° | 60° | blue | male | female | ● |
| ●●P | | | 150° | 60° | 145° | 70° | yellow | male | female | ○ |
| ●●S | | | 155° | 50° | 140° | 80° | red | female | male | ○ |
| ●●T | | | – | – | 135° | 90° | green | female | male | ○ |

| Front view of a receptacle | Model | Nb of keys | Series 4F-5F | | | | Color code | Contact type | | Note |
|--------------------------------|-------|------------|--------------|---------|----------|----------|------------|--------------|------------|------|
| | | | Angles | | | | | Plug | Receptacle | |
| | | | α | β | γ | δ | | | | |
| ●●W | 5 | 5 | 95° | 115° | 35° | 25° | blue | male | female | ● |
| ●●X | | | 100° | 125° | 40° | 20° | red | female | male | ○ |

● First choice alternative ○ Special order alternative

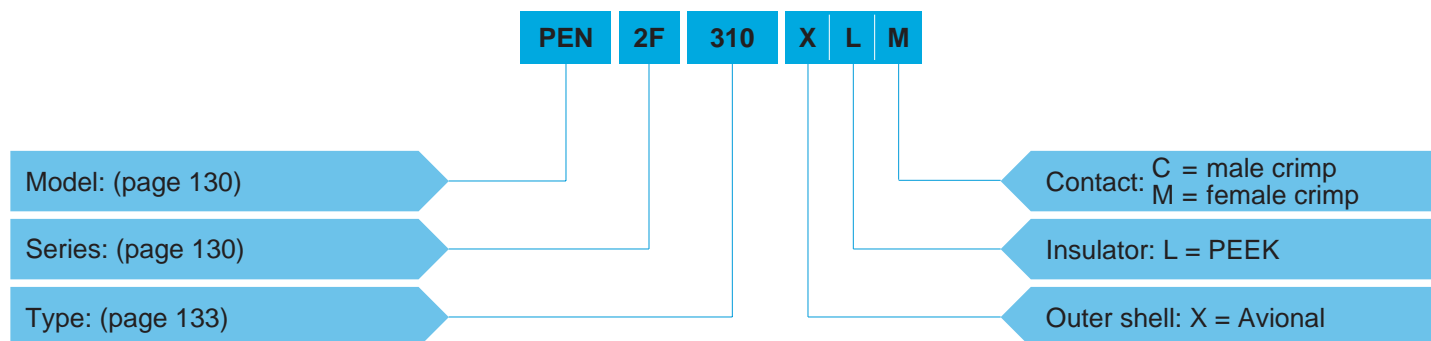
Part Number Example

Straight plug



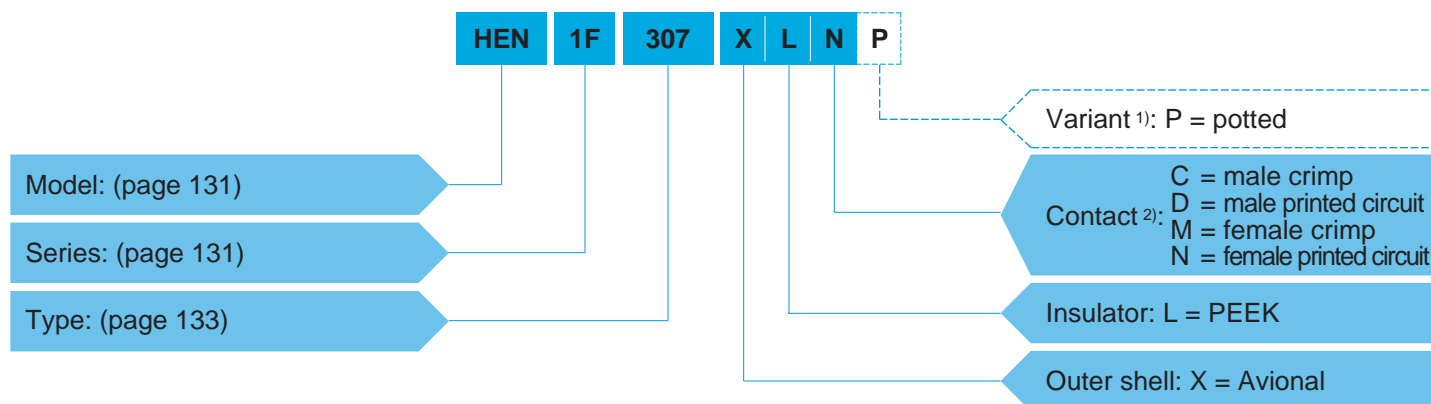
FGN.0F.305.XLC = straight plug with key (code N), 0F series, multicontact with five contacts, Avional outer shell, PEEK insulator, male crimp contacts.

Straight receptacle



PEN.2F.310.XLM = straight receptacle with key (code N), (back panel mounting), 2F series, multicontact with 10 contacts, Avional outer shell, PEEK insulator, female crimp contacts.

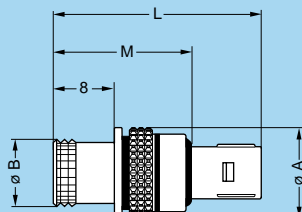
Fixed receptacle



HEN.1F.307.XLNP = fixed receptacle, nut fixing for printed circuit, key (code N), (back panel mounting), watertight, 1F series, multicontact with seven contacts, Avional outer shell, PEEK insulator, female printed circuit contacts.

Note: ¹⁾ Potting for HE● only.
²⁾ HE● available only in male or female to printed circuit.

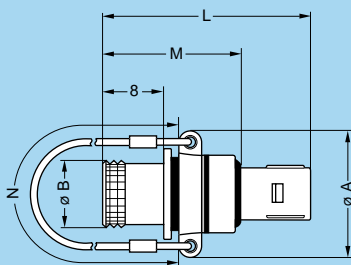
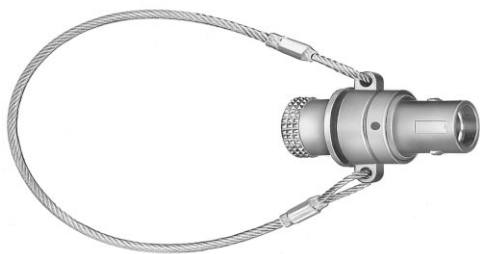
Models - Series



FG● Straight plug with keys (N, P, S, T, W or X)

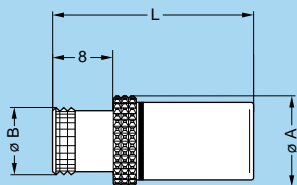
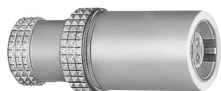
| Reference | | Dimensions (mm) | | | |
|-------------------|--------|-----------------|------|------|------|
| Model | Series | A | B | L | M |
| FG● | 0F | 12 | 9.0 | 27.5 | 18.0 |
| FG● | 1F | 14 | 10.7 | 27.5 | 18.1 |
| FG● | 2F | 17 | 14.0 | 27.5 | 18.2 |
| FG● | 3F | 19 | 16.0 | 27.5 | 18.2 |
| FGW | 4F | 26 | 21.2 | 30.0 | 20.8 |
| FGX ¹⁾ | 4F | 26 | 21.2 | 30.7 | 20.8 |
| FGW | 5F | 35 | 30.2 | 30.0 | 20.8 |
| FGX | 5F | 35 | 30.2 | 30.0 | 20.8 |

Note: 1) The L length of this model is special.



FN● Straight plug with keys (N, P or S) and lanyard release

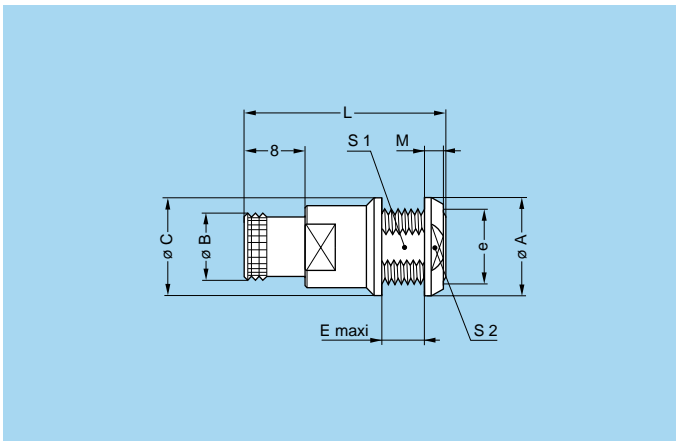
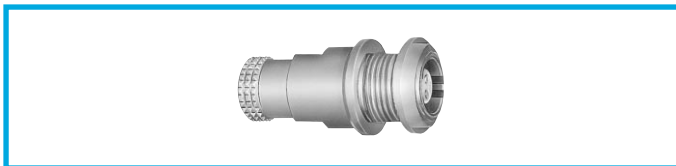
| Reference | | Dimensions (mm) | | | | |
|-----------|--------|-----------------|------|------|------|-----|
| Model | Series | A | B | L | M | N |
| FN● | 1F | 19.3 | 10.7 | 27.5 | 18.1 | 140 |



PH● Straight receptacle with keys (N, P, S, T, W or X)

| Reference | | Dim. (mm) | | |
|-------------------|--------|-----------|------|------|
| Model | Series | A | B | L |
| PH● | 0F | 12 | 9.0 | 26.7 |
| PH● | 1F | 14 | 10.7 | 26.7 |
| PH● | 2F | 17 | 14.0 | 26.7 |
| PH● | 3F | 19 | 16.0 | 26.7 |
| PHS ¹⁾ | 3F | 19 | 16.0 | 28.1 |
| PHT ¹⁾ | 3F | 19 | 16.0 | 28.1 |
| PHW | 4F | 26 | 21.2 | 26.7 |
| PHX ¹⁾ | 4F | 26 | 21.2 | 29.0 |
| PHW | 5F | 35 | 30.2 | 36.6 |
| PHX | 5F | 35 | 30.2 | 36.6 |

Note: 1) The L length of these models is special.

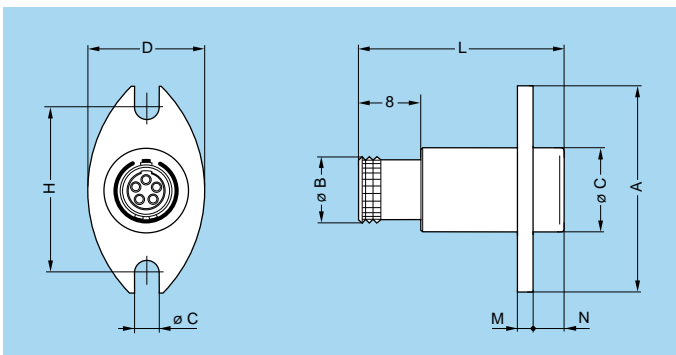
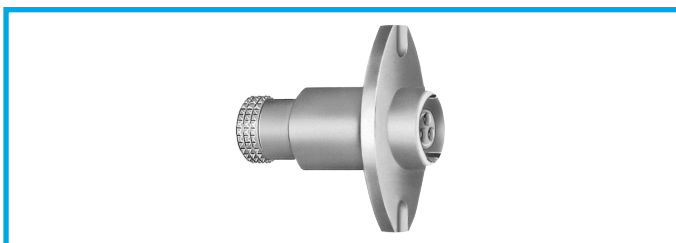


PE● Straight receptacle, nut fixing, with keys (N, P, S, T, W or X), (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | |
|-------------------|--------|-----------------|------|----|----------|-----|------|-----|------|----|
| Model | Series | A | B | C | e | E | L | M | S1 | S2 |
| PE● | 0F | 13 | 9.0 | 13 | M10x0.75 | 6.0 | 26.7 | 2.5 | 9.0 | 11 |
| PE● | 1F | 17 | 10.7 | 17 | M13x0.75 | 6.2 | 26.7 | 3.2 | 11.5 | 14 |
| PE● | 2F | 20 | 14.0 | 20 | M16x1.00 | 6.4 | 26.7 | 4.0 | 14.5 | 17 |
| PE● | 3F | 22 | 16.0 | 22 | M18x1.00 | 6.4 | 26.7 | 4.0 | 16.5 | 19 |
| PES ¹⁾ | 3F | 22 | 16.0 | 22 | M18x1.00 | 6.4 | 28.1 | 4.0 | 16.5 | 19 |
| PET ¹⁾ | 3F | 22 | 16.0 | 22 | M18x1.00 | 6.4 | 28.1 | 4.0 | 16.5 | 19 |
| PEW | 4F | 29 | 21.2 | 29 | M24x1.00 | 6.4 | 26.7 | 5.0 | 22.0 | 25 |
| PEX ¹⁾ | 4F | 29 | 21.2 | 29 | M24x1.00 | 6.4 | 29.0 | 5.0 | 22.0 | 25 |
| PEW | 5F | 38 | 30.2 | 38 | M33x1.00 | 6.4 | 36.6 | 5.0 | 31.0 | 34 |
| PEX | 5F | 38 | 30.2 | 38 | M33x1.00 | 6.4 | 36.6 | 5.0 | 31.0 | 34 |

Panel cut-out (page 138)

Note: ¹⁾ The L length of these models is special.

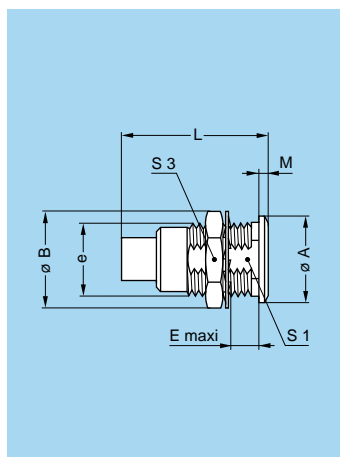


PB● Straight receptacle with flange with keys (N, P, S, T, W or X), 2 holes fixing

| Reference | | Dimensions (mm) | | | | | | | | |
|-------------------|--------|-----------------|-----|----|------|----|------|------|---|---|
| Model | Series | A | B | C | d | D | H | L | M | N |
| PB● | 0F | 27 | 3.2 | 11 | 9.0 | 15 | 21.4 | 26.7 | 2 | 4 |
| PB● | 1F | 27 | 3.2 | 13 | 10.7 | 15 | 21.4 | 26.7 | 2 | 4 |
| PB● | 2F | 32 | 3.2 | 16 | 14.0 | 18 | 25.9 | 26.7 | 2 | 4 |
| PB● | 3F | 38 | 3.2 | 18 | 16.0 | 20 | 29.0 | 26.7 | 2 | 4 |
| PBS ¹⁾ | 3F | 38 | 3.2 | 18 | 16.0 | 20 | 29.0 | 28.1 | 2 | 4 |
| PBT ¹⁾ | 3F | 38 | 3.2 | 18 | 16.0 | 20 | 29.0 | 28.1 | 2 | 4 |
| PBW | 4F | 41 | 3.2 | 23 | 21.2 | 26 | 32.0 | 26.7 | 2 | 4 |
| PBX ¹⁾ | 4F | 41 | 3.2 | 23 | 21.2 | 26 | 32.0 | 29.0 | 2 | 4 |
| PBW | 5F | 44 | 3.2 | 23 | 30.2 | 33 | 38.2 | 36.6 | 2 | 4 |
| PBX | 5F | 44 | 3.2 | 23 | 30.2 | 33 | 38.2 | 36.6 | 2 | 4 |

Panel cut-out (page 138)

Note: ¹⁾ The L length of these models is special.

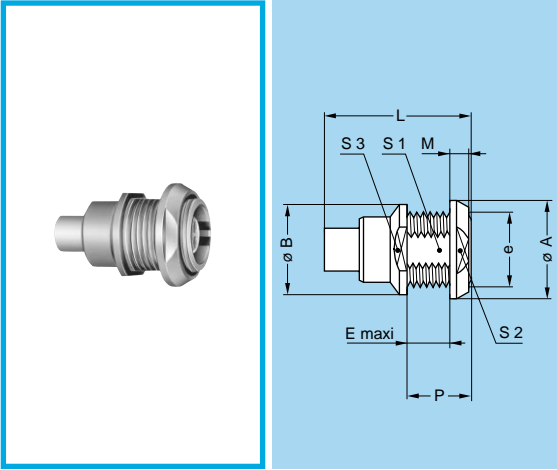


EG● Fixed receptacle, nut fixing, with keys (N, P, S or T)

| Reference | | Dimensions (mm) | | | | | | | |
|-------------------|--------|-----------------|------|---------|---|------|-----|------|----|
| Model | Series | A | B | e | E | L | M | S1 | S3 |
| EG● | 0F | 10 | 12.5 | M9x0.6 | 7 | 19.0 | 1.2 | 8.2 | 11 |
| EG● | 1F | 14 | 16.0 | M12x1.0 | 7 | 19.0 | 1.5 | 10.5 | 14 |
| EG● | 2F | 18 | 19.5 | M15x1.0 | 6 | 19.0 | 1.8 | 13.5 | 17 |
| EG● | 3F | 22 | 25.2 | M18x1.0 | 5 | 19.0 | 2.0 | 16.5 | 22 |
| EGS ¹⁾ | 3F | 22 | 25.2 | M18x1.0 | 5 | 20.5 | 2.0 | 16.5 | 22 |
| EGT ¹⁾ | 3F | 22 | 25.2 | M18x1.0 | 5 | 20.5 | 2.0 | 16.5 | 22 |

Panel cut-out (page 138)

Note: ¹⁾ The L length of this model is special.

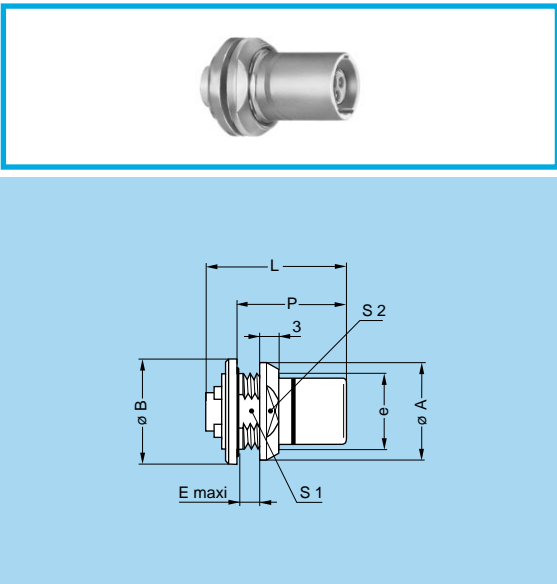


EE● Fixed receptacle, nut fixing, with keys (N, P, S or T), (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | | |
|-------------------|--------|-----------------|----|----------|-----|------|-----|------|------|----|------|
| Model | Series | A | B | e | E | L | M | P | S1 | S2 | S3 |
| EE● | 0F | 13 | 12 | M10x0.75 | 6.0 | 19.0 | 2.5 | 8.5 | 9.0 | 11 | 10.5 |
| EE● | 1F | 17 | 15 | M13x0.75 | 6.2 | 19.0 | 3.2 | 9.4 | 11.5 | 14 | 14.0 |
| EE● | 2F | 20 | 19 | M16x1.00 | 6.4 | 19.0 | 4.0 | 10.4 | 14.5 | 17 | 16.0 |
| EE● | 3F | 22 | 22 | M18x1.00 | 6.4 | 19.0 | 4.0 | 10.4 | 16.5 | 19 | 20.0 |
| EES ¹⁾ | 3F | 22 | 22 | M18x1.00 | 6.4 | 20.5 | 4.0 | 10.4 | 16.5 | 19 | 20.0 |
| EET ¹⁾ | 3F | 22 | 22 | M18x1.00 | 6.4 | 20.5 | 4.0 | 10.4 | 16.5 | 19 | 20.0 |

Panel cut-out (page 138)

Note: ¹⁾ The L length of this model is special.



EH● Fixed receptacle, nut fixing, with keys (N, P, S, T, W or X), (back panel mounting) (printed circuit mounting possible)

| Reference | | Dimensions (mm) | | | | | | | | | | |
|-------------------|--------|-----------------|----|----------|-----|-------|-----------------|-----|------|------|----|--|
| Model | Series | A | B | e | E | H | L ²⁾ | M | P | S1 | S2 | |
| EH● | 0F | 13 | 14 | M10x0.75 | 3.0 | 5.08 | 21.6 | 2.5 | 14.5 | 9.0 | 11 | |
| EH● | 1F | 17 | 17 | M13x0.75 | 3.0 | 7.62 | 21.6 | 3.2 | 14.5 | 11.5 | 14 | |
| EH● | 2F | 20 | 20 | M16x1.00 | 3.0 | 8.89 | 21.6 | 4.0 | 14.5 | 14.5 | 17 | |
| EH● | 3F | 22 | 23 | M18x1.00 | 3.0 | 11.43 | 21.6 | 4.0 | 14.5 | 16.5 | 19 | |
| EHS ¹⁾ | 3F | 22 | 23 | M18x1.00 | 3.0 | 11.43 | 22.1 | 4.0 | 16.0 | 16.5 | 19 | |
| EHT ¹⁾ | 3F | 22 | 23 | M18x1.00 | 3.0 | 11.43 | 22.1 | 4.0 | 16.0 | 16.5 | 19 | |
| EHW | 4F | 29 | 29 | M24x1.00 | 3.0 | 15.24 | 21.6 | 5.0 | 14.5 | 22.0 | 25 | |
| EHX ¹⁾ | 4F | 29 | 29 | M24x1.00 | 3.0 | 15.24 | 22.8 | 5.0 | 15.2 | 22.0 | 25 | |
| EHW | 5F | 38 | 38 | M33x1.00 | 6.4 | 20.32 | 21.6 | 5.0 | 23.9 | 31.0 | 34 | |
| EHX ¹⁾ | 5F | 38 | 38 | M33x1.00 | 6.4 | 20.32 | 30.4 | 5.0 | 23.9 | 31.0 | 34 | |

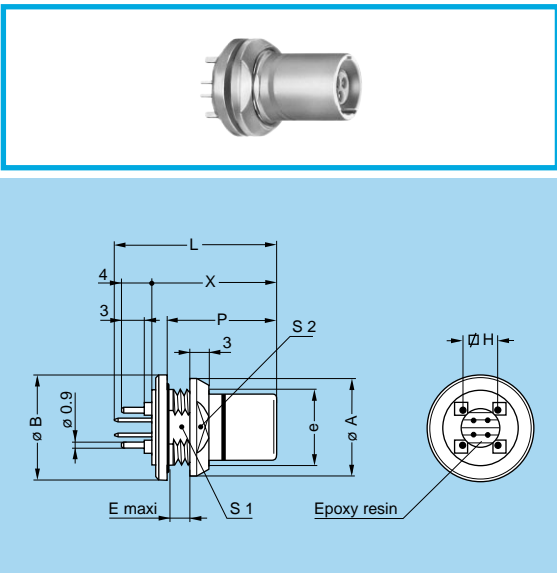
Panel cut-out (page 138)

Note: ¹⁾ The L length of these models is special.

²⁾ In printed circuit version these dimensions are identical with the HEN model.

Watertight model

HEN fixed receptacles allow the device on which they are fitted to reach a protection index of IP68 as per IEC 60529 (unmated). They are fully compatible with all non-watertight models of the same series.



HE● Fixed receptacle, nut fixing, for printed circuit, with keys (N, P, S, T, W or X), (back panel mounting)

| Reference | | Dimensions (mm) | | | | | | | | | | | |
|-------------------|--------|-----------------|----|----------|-----|-------|------|-----|------|------|----|------|--|
| Model | Series | A | B | e | E | H | L | M | P | S1 | S2 | X | |
| HE● | 0F | 13 | 14 | M10x0.75 | 3.0 | 5.08 | 21.6 | 2.5 | 14.5 | 9.0 | 11 | 16.5 | |
| HE● | 1F | 17 | 17 | M13x0.75 | 3.0 | 7.62 | 21.6 | 3.2 | 14.5 | 11.5 | 14 | 16.5 | |
| HE● | 2F | 20 | 20 | M16x1.00 | 3.0 | 8.89 | 21.6 | 4.0 | 14.5 | 14.5 | 17 | 16.5 | |
| HE● | 3F | 22 | 23 | M18x1.00 | 3.0 | 11.43 | 21.6 | 4.0 | 14.5 | 16.5 | 19 | 16.5 | |
| HES ¹⁾ | 3F | 22 | 23 | M18x1.00 | 3.0 | 11.43 | 22.1 | 4.0 | 16.0 | 16.5 | 19 | 18.0 | |
| HET ¹⁾ | 3F | 22 | 23 | M18x1.00 | 3.0 | 11.43 | 22.1 | 4.0 | 16.0 | 16.5 | 19 | 18.0 | |
| HEW | 4F | 29 | 29 | M24x1.00 | 3.0 | 15.24 | 21.6 | 5.0 | 14.5 | 22.0 | 25 | 16.5 | |
| HEX ¹⁾ | 4F | 29 | 29 | M24x1.00 | 3.0 | 15.24 | 22.8 | 5.0 | 15.2 | 22.0 | 25 | 18.2 | |
| HEW | 5F | 38 | 38 | M33x1.00 | 6.4 | 20.32 | 21.6 | 5.0 | 23.9 | 31.0 | 34 | 16.5 | |
| HEX ¹⁾ | 5F | 38 | 38 | M33x1.00 | 6.4 | 20.32 | 30.4 | 5.0 | 23.9 | 31.0 | 34 | 26.4 | |

Panel cut-out (page 138)

PCB drilling pattern (page 139)

Note: ¹⁾ The L length of these models is special.

Type

Multicontact

| | Male crimp contacts | Female crimp contacts | Reference | Number of contacts | ø A (mm) | Contact type | | AWG | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | Rated current (A) ¹⁾ |
|-----------|---------------------|-----------------------|-----------|--------------------|----------|--------------|-----------------|----------|--|--|---------------------------------|
| | | | | | | Crimp | Printed circuit | | | | |
| 0F | | | 302 | 2 | 0.9 | ● | ● | 20-22-24 | 1.45 | 1.20 | 10.0 |
| | | | 303 | 3 | 0.9 | ● | ● | 20-22-24 | 1.70 | 1.60 | 8.0 |
| | | | 304 | 4 | 0.7 | ● | ● | 22-24-26 | 1.35 | 1.10 | 7.0 |
| | | | 305 | 5 | 0.7 | ● | ● | 22-24-26 | 1.25 | 1.20 | 6.5 |
| 1F | | | 303 | 3 | 1.3 | ● | ● | 18-20 | 1.60 | 1.85 | 12.0 |
| | | | 305 | 5 | 0.9 | ● | ● | 20-22-24 | 1.30 | 1.55 | 9.0 |
| | | | 307 | 7 | 0.7 | ● | ● | 22-24-26 | 1.45 | 1.45 | 7.0 |
| | | | 308 | 8 | 0.7 | ● | ● | 22-24-26 | 1.30 | 1.30 | 5.0 |
| 2F | | | 308 | 8 | 0.9 | ● | ● | 20-22-24 | 1.95 | 1.95 | 10.0 |
| | | | 310 | 10 | 0.9 | ● | ● | 20-22-24 | 1.80 | 2.10 | 8.0 |
| | | | 312 | 12 | 0.7 | ● | ● | 22-24-26 | 1.65 | 2.00 | 7.0 |
| | | | 319 | 19 | 0.7 | ● | ● | 22-24-26 | 1.55 | 1.65 | 5.0 |
| 3F | | | 322 | 22 | 0.7 | ● | ● | 22-24-26 | 1.70 | 1.45 | 5.5 |
| | | | 330 | 30 | 0.7 | ● | ● | 22-24-26 | 1.35 | 1.20 | 3.5 |
| 4F | | | 340 | 40 | 0.7 | ● | ● | 22-24-26 | 1.35 | 1.30 | 2.0 |

Note: ¹⁾ See calculation method, caution and suggested standard on page 204.
Other types available on request, based on existing contact configurations of the B series.

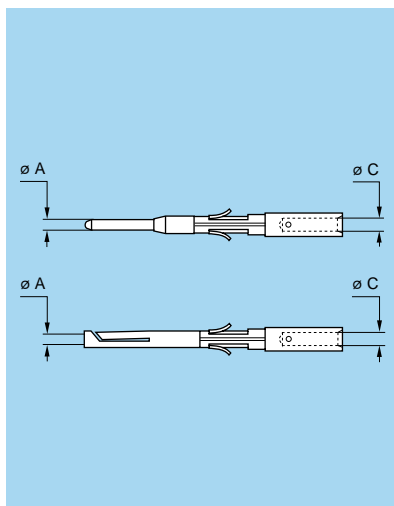
Multicontact

| | Male crimp contacts | Female crimp contacts | Reference | Number of contacts | ø A (mm) | Contact type | | AWG | Test voltage (kV rms) ¹⁾ Contact-contact | Test voltage (kV rms) ¹⁾ Contact-shell | Rated current (A) ¹⁾ |
|-----------|---------------------|-----------------------|-----------|--------------------|----------|--------------|-----------------|----------|--|--|---------------------------------|
| | | | | | | Crimp | Printed circuit | | | | |
| 5F | | | 350 | 50 | 0.9 | ● | ● | 20-22-24 | 1.20 | 1.45 | 6.0 |
| | | | 354 | 54 | 0.9 | ● | ● | 20-22-24 | 2.00 | 2.10 | 5.0 |
| | | | 355 | 55 | 0.9 | ● | ● | 20-22-24 | 2.00 | 2.10 | 5.0 |
| | | | 364 | 64 | 0.9 | ● | ● | 20-22-24 | 1.35 | 1.85 | 3.0 |
| | | | 366 | 66 | 0.9 | ● | ● | 20-22-24 | 1.30 | 1.80 | 3.0 |

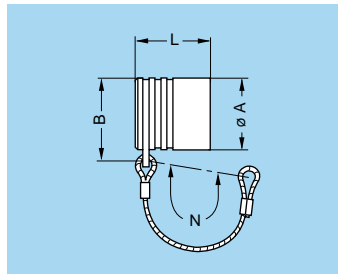
Note: 1) See calculation method, caution and suggested standard on page 204.
Other types available on request, based on existing contact configurations of the B series.

▶ □ □ □ □ □ Accessories

Crimp Contacts



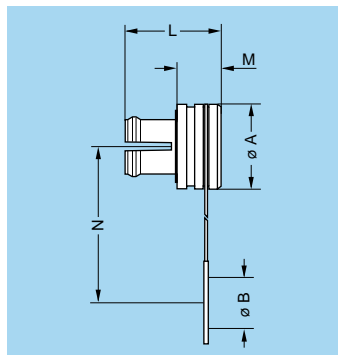
| | Contact | | Contact part number | | | |
|-----------|----------|----------|---------------------|-----------------------|---------------------|-----------------|
| | ø A (mm) | ø C (mm) | male for plug | female for receptacle | male for receptacle | female for plug |
| 0F | 0.7 | 0.8 | FGG.0B.555.ZZC | EGG.0B.655.ZZM | FGG.0B.555.ZZC | EGG.0B.655.ZZM |
| | 0.9 | 1.1 | FGG.0B.560.ZZC | EGG.0B.660.ZZM | FGG.0B.560.ZZC | EGG.0B.660.ZZM |
| 1F | 0.7 | 0.8 | FGG.0B.555.ZZC | EGG.0B.655.ZZM | FGG.0B.555.ZZC | EGG.0B.655.ZZM |
| | 0.9 | 1.1 | FGG.0B.560.ZZC | EGG.0B.660.ZZM | FGG.0B.560.ZZC | EGG.0B.660.ZZM |
| | 1.3 | 1.4 | FGN.1F.565.ZZC | EGN.1F.665.ZZM | FGN.1F.565.ZZC | EGN.1F.665.ZZM |
| 2F | 0.7 | 0.8 | FGG.0B.555.ZZC | EGG.0B.655.ZZM | FGG.0B.555.ZZC | EGG.0B.655.ZZM |
| | 0.9 | 1.1 | FGG.0B.560.ZZC | EGG.0B.660.ZZM | FGG.0B.560.ZZC | EGG.0B.660.ZZM |
| 3F | 0.7 | 0.8 | FGG.0B.555.ZZC | EGG.0B.655.ZZM | FGG.0B.555.ZZC | EGG.1B.655.ZZM |
| 4F | 0.7 | 0.8 | FGG.2B.555.ZZC | EGG.0B.655.ZZM | FGG.1B.555.ZZC | EGG.2B.655.ZZM |
| 5F | 0.9 | 1.1 | FGG.3B.560.ZZC | EGG.3B.660.ZZM | FGG.3B.560.ZZC | EGG.3B.660.ZZM |



BFN Cap for plug

| Part number | Series | Dimensions (mm) | | | |
|-----------------|--------|-----------------|------|------|----|
| | | A | B | L | N |
| BFN.1F.100.PCSG | 1F | 12.0 | 13.3 | 12.6 | 62 |
| BFN.2F.100.PCSG | 2F | 15.0 | 16.4 | 12.8 | 75 |

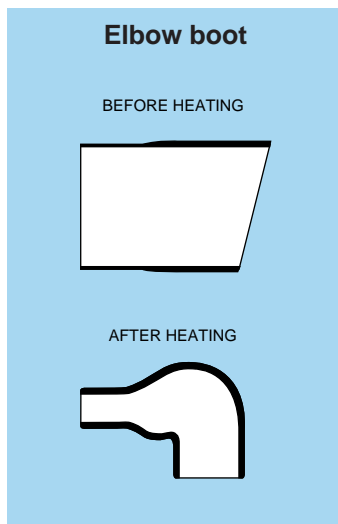
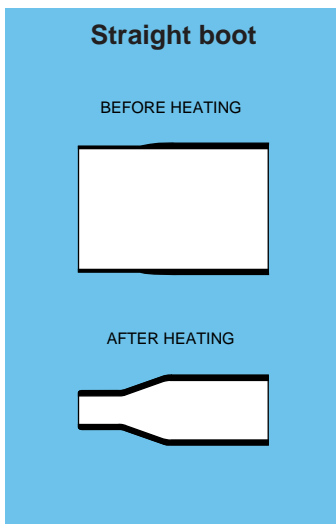
- Body material: PA6.6
- Cord material: Nylon
- Maximum operating temperature: 212°F



BRA Cap for receptacle

| Part number | Series | Dimensions (mm) | | | | |
|-----------------|--------|-----------------|------|------|-----|------|
| | | A | B | L | M | N |
| BRA.1F.200.PZSG | 1F | 14.0 | 13.7 | 12.1 | 5.3 | 65.5 |
| BRA.2F.200.PZSG | 2F | 18.0 | 16.5 | 12.0 | 5.6 | 65.5 |

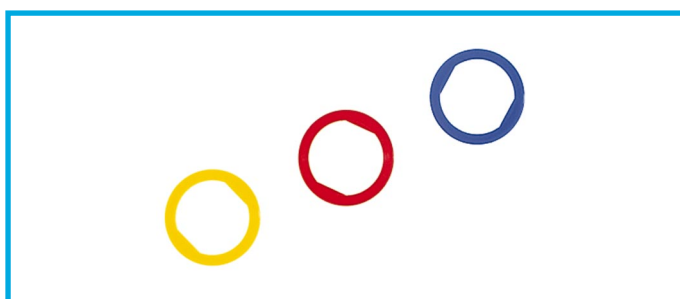
- Body material: PA6.6
- Band: PET
- Maximum operating temperature: 212°F



Heatshrink boot

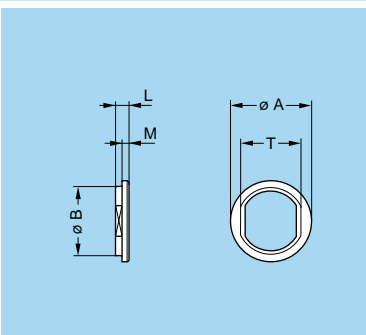
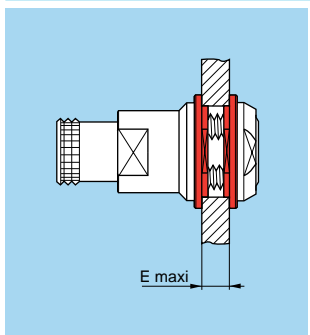
| Supplier | Series | Part number | | cable ∅ min. (mm) |
|------------|-------------|-------------------------------|-----------------|----------------------------|
| | | Straight | Elbow 90° | |
| Raychem® | 0F-1F-2F-3F | 202 A 111-25/86 ¹⁾ | 222 A 111-25/86 | 3.8 |
| | | 202 A 111-25 ²⁾ | 222 A 111-25 | 3.8 |
| | 1F-2F-3F-4F | 202 A 121-25/86 ¹⁾ | 222 A 121-25/86 | 5.3 |
| | | 202 A 121-25 ²⁾ | 222 A 121-25 | 5.3 |
| | 4F-5F | 202 A 142-25/86 ¹⁾ | 222 A 142-25/86 | 7.4 |
| | | 202 A 142-25 ²⁾ | 222 A 142-25 | 7.4 |
| Hellerman® | 0F-1F-2F-3F | 104-1-G ²⁾ | 1108-1-G | 3.8 |
| | 1F-2F-3F-4F | 105-1-G ²⁾ | 1106-1-G | 5.6 |
| | 4F-5F | 101-1-G ²⁾ | 1104-2-G | 7.1 |

- Note:**
¹⁾ Modified elastomer resistant to fluids with hot melt sealant.
²⁾ Elastomer resistant to fluids. We recommend a thermosetting sealant with this type of boot.



GRA Insulating washers

| Part number | Series | Dimensions (mm) | | | | | |
|---------------|--------|-----------------|------|---|-----|-----|----|
| | | A | B | E | L | M | T |
| GRA.0F.269.G● | 0F | 15 | 12.0 | 4 | 1.8 | 1.0 | 11 |
| GRA.1F.269.G● | 1F | 19 | 15.0 | 4 | 2.0 | 1.1 | 14 |
| GRA.2F.269.G● | 2F | 22 | 18.5 | 4 | 2.2 | 1.2 | 17 |
| GRA.3F.269.G● | 3F | 24 | 20.5 | 4 | 2.2 | 1.2 | 19 |
| GRA.4F.269.G● | 4F | 31 | 27.5 | 4 | 2.2 | 1.2 | 25 |
| GRA.5F.269.G● | 5F | 40 | 36.5 | 4 | 2.2 | 1.2 | 34 |

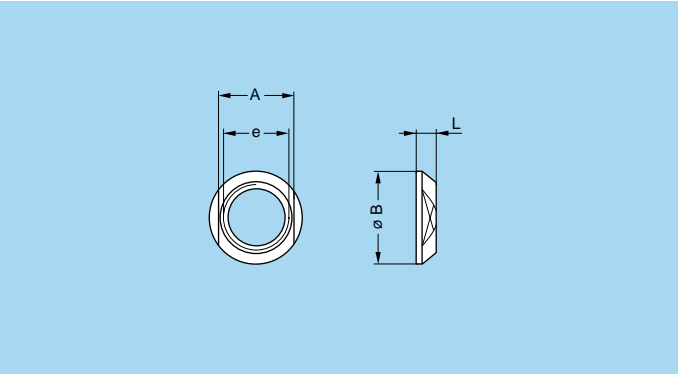
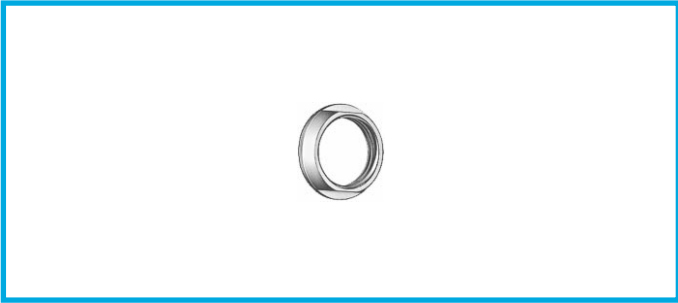


| Ref. | Color | Keying |
|------|--------|--------|
| A | blue | N-W |
| J | yellow | P |

| Ref. | Color | Keying |
|------|-------|--------|
| R | red | S-X |
| V | green | T |

Note: The last position "●" of the part number indicates the color. To obtain the required color, refer to the above table and change position "●" of the part number to the corresponding letter.
 For EG● receptacles with a particular thread dimension, use B series insulating washers (see page 178).

- Material: Polyamide (PA.6)



GEC Conical nut

| Part number | Series | Dimensions (mm) | | | |
|---------------|--------|-----------------|----|----------|-----|
| | | A | B | e | L |
| GEC.0F.240.R● | 0F | 11 | 13 | M10x0.75 | 2.5 |
| GEC.1F.240.R● | 1F | 14 | 17 | M13x0.75 | 3.2 |
| GEC.2F.240.R● | 2F | 17 | 20 | M16x1.00 | 4.0 |
| GEC.3F.240.R● | 3F | 19 | 22 | M18x1.00 | 4.0 |
| GEC.4F.240.R● | 4F | 25 | 29 | M24x1.00 | 5.0 |
| GEC.5F.240.R● | 5F | 34 | 38 | M33x1.00 | 5.0 |

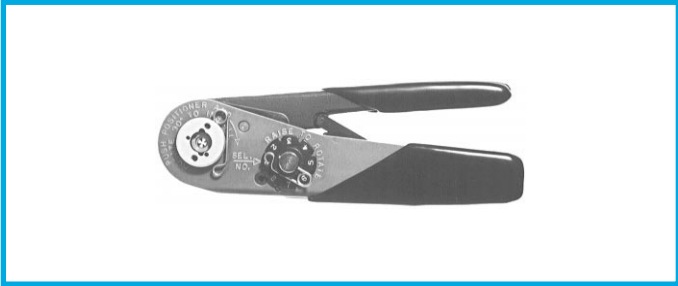
| Ref. | Color | Keying |
|------|--------|--------|
| A | blue | N-W |
| J | yellow | P |
| R | red | S-X |
| V | green | T |

Note: The last position “●” of the part number indicates the color. To obtain the required color, refer to the above table and change the position “●” of the part number to the corresponding letter.

● Material: Avional

Note: Other accessories are also available with the F series. See section «Accessories» on page 167.

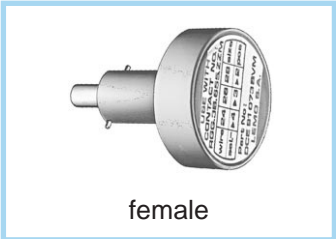
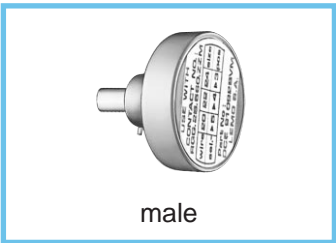
Tooling



DPC Manual crimping tool

| Part number |
|--------------|
| DPC.91.701.V |

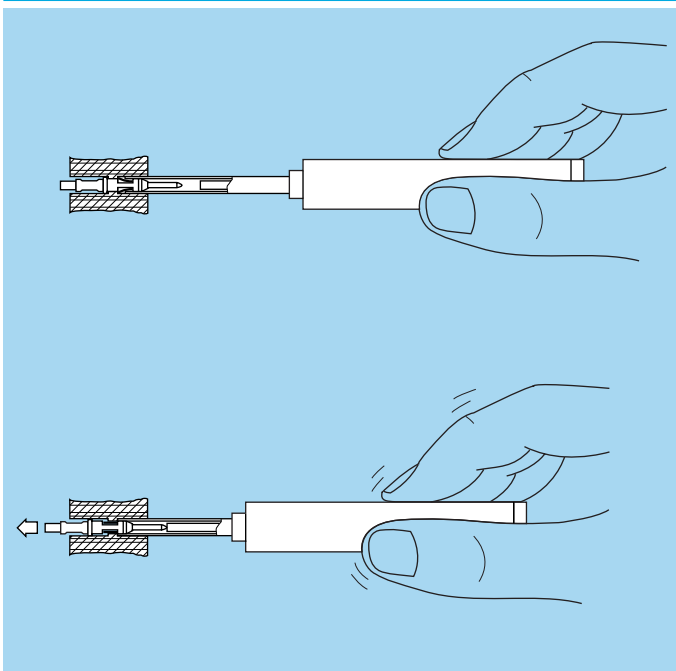
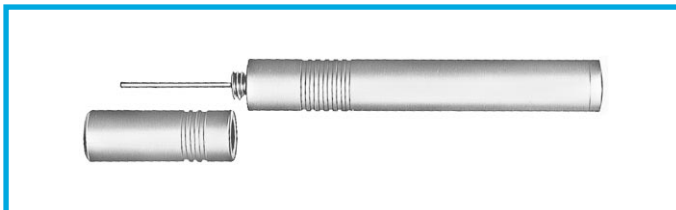
According to specification MIL-C-22520/7-01.
For LEMO contacts \varnothing 0.7-0.9-1.3 mm



DCE Positioners for crimp contacts

| Connector | | | Positioner part number | | | |
|-----------------------|---------------|--------|----------------------------|------------------------------------|----------------------------------|------------------------------|
| Contact \varnothing | Conductor AWG | Series | For male contacts for plug | For female contacts for receptacle | For male contacts for receptacle | For female contacts for plug |
| 1.3 | 18-20 | 1F | DCE.91.131.FVC | DCE.91.131.FVM | DCE.91.131.FVC | DCE.91.131.FVM |
| | | 0F | DCE.91.090.BVC | DCE.91.090.BVM | DCE.91.090.BVC | DCE.91.090.BVM |
| 0.9 | 20-22-24 | 1F | DCE.91.090.BVC | DCE.91.090.BVM | DCE.91.090.BVC | DCE.91.090.BVM |
| | | 2F | DCE.91.090.BVC | DCE.91.090.BVM | DCE.91.090.BVC | DCE.91.090.BVM |
| | | 5F | DCE.91.093.BVC | DCE.91.093.BVM | DCE.91.093.BVC | DCE.91.093.BVM |
| 0.7 | 22-24-26 | 0F | DCE.91.070.BVC | DCE.91.070.BVM | DCE.91.070.BVC | DCE.91.070.BVM |
| | | 1F | DCE.91.070.BVC | DCE.91.070.BVM | DCE.91.070.BVC | DCE.91.070.BVM |
| | | 2F | DCE.91.070.BVC | DCE.91.070.BVM | DCE.91.070.BVC | DCE.91.070.BVM |
| | | 3F | DCE.91.070.BVC | DCE.91.070.BVM | DCE.91.070.BVC | DCE.91.071.BVM |
| | | 4F | DCE.91.072.BVC | DCE.91.070.BVM | DCE.91.071.BVC | DCE.91.072.BVM |

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



DCF Extractor for crimp contact

| contact ø | Extractors | | |
|--------------|----------------|--|--|
| | Part number | | |
| 1.3 | DCF.91.131.2LT | | |
| 0.9 | DCF.91.090.2LT | | |
| 0.7 | DCF.91.070.2LT | | |

Note: This model is used for male and female contacts.



Banding tool

| | Part number | | |
|--------------|-------------|----------|----------|
| | GLEN-AIR® | TIE-DEX® | AXON® |
| Banding tool | 600-061 | A30199 | ACDBS100 |
| Tie wrap | 600-057 | A31189 | AXCLOZ |

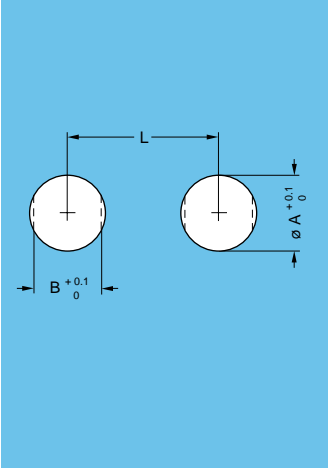
Note: The banding tool is to be used with screened cables to ensure a good ground contact.

Note: Other tooling are also available with the F series. See section «Tooling» on page 183.

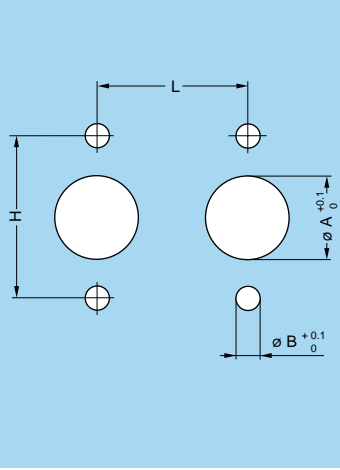
Panel cut-outs

Panel cut-outs

EE●-HE●-PE●-EG●-EH●



PB●

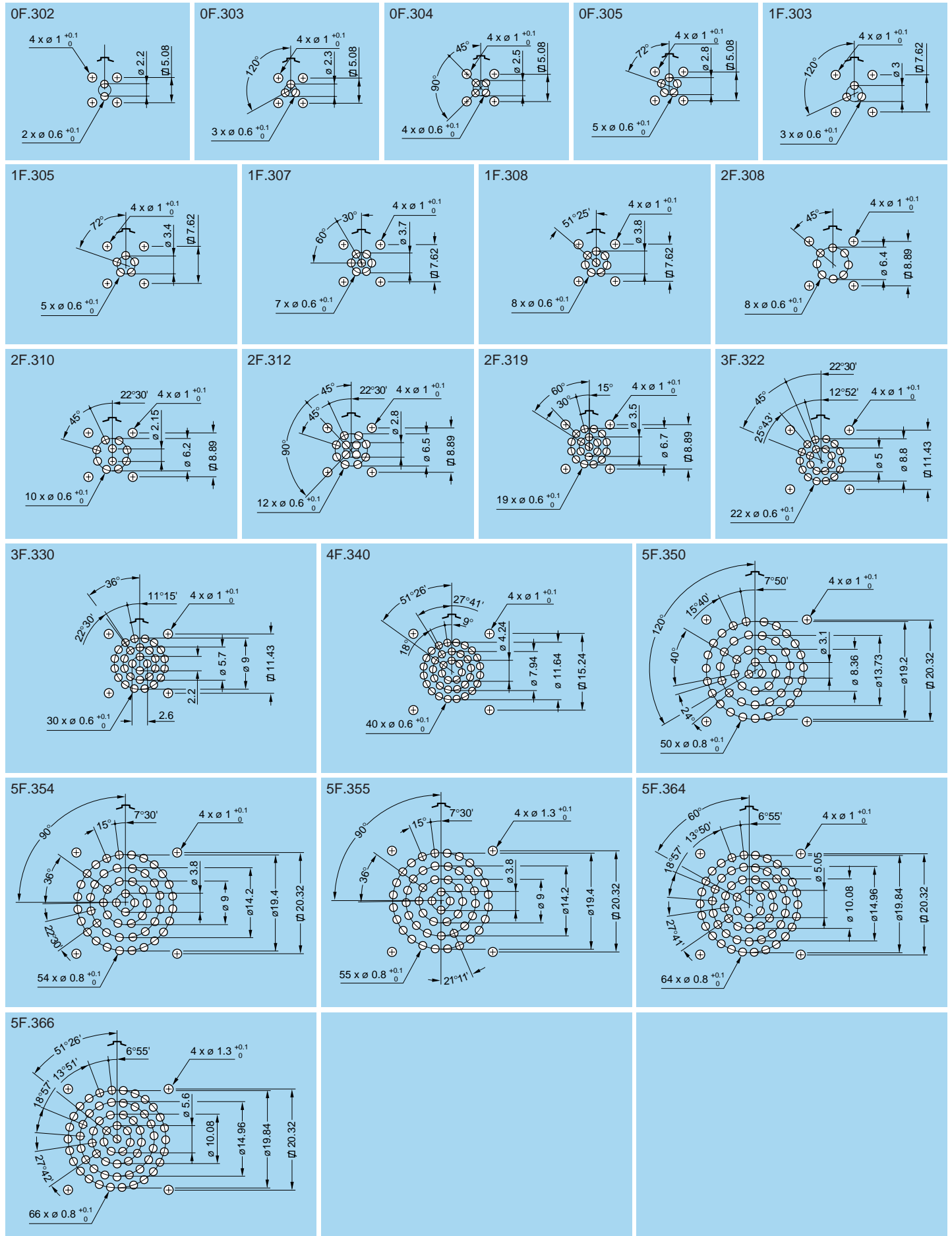


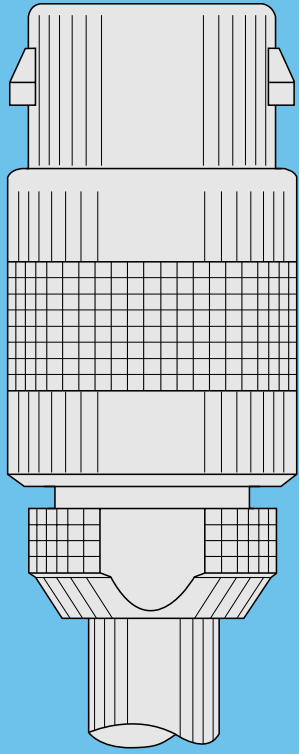
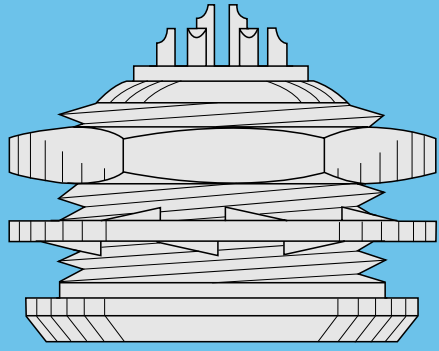
| Models | | | Series | Dimensions (mm) | | | |
|--------|-----|-----|--------|-----------------|------|------|------|
| | | | | A | B | L | H |
| EE● | HE● | PE● | 0F | 10.1 | 9.1 | 16.0 | – |
| EE● | HE● | PE● | 1F | 13.1 | 11.6 | 20.0 | – |
| EE● | HE● | PE● | 2F | 16.1 | 14.6 | 23.0 | – |
| EE● | HE● | PE● | 3F | 18.1 | 16.6 | 25.0 | – |
| – | HE● | PE● | 4F | 24.1 | 22.1 | 32.0 | – |
| – | HE● | PE● | 5F | 33.1 | 31.1 | 41.0 | – |
| EG● | | | 0F | 9.1 | 8.3 | 13.5 | – |
| EG● | | | 1F | 12.1 | 10.6 | 17.0 | – |
| EG● | | | 2F | 15.1 | 13.6 | 21.5 | – |
| EG● | | | 3F | 18.2 | 16.6 | 27.0 | – |
| PB● | | | 0F | 11.1 | 3.2 | 16.0 | 21.4 |
| PB● | | | 1F | 13.1 | 3.2 | 16.0 | 21.4 |
| PB● | | | 2F | 16.1 | 3.2 | 19.0 | 25.9 |
| PB● | | | 3F | 18.1 | 3.2 | 21.0 | 29.0 |
| PB● | | | 4F | 24.1 | 3.2 | 27.0 | 32.0 |
| PB● | | | 5F | 33.1 | 3.2 | 33.5 | 38.2 |

Mounting nut torque

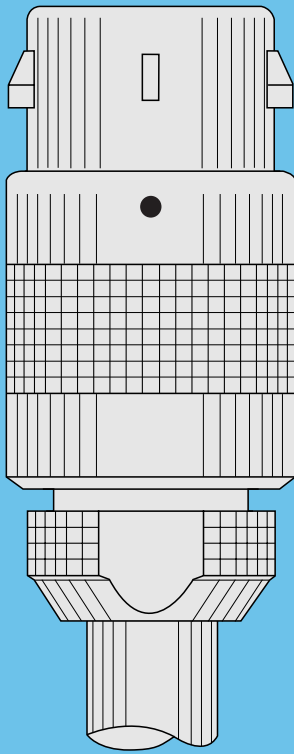
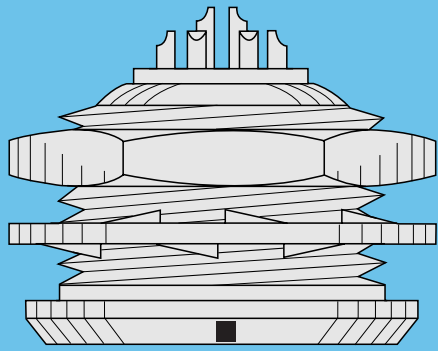
| Series | Torque (Nm) |
|--------|-------------|
| 0F | 1.0 |
| 1F | 1.5 |
| 2F | 2.0 |
| 3F | 2.5 |
| 4F | 5.0 |
| 5F | 8.0 |

PCB drilling patterns





2C SERIES



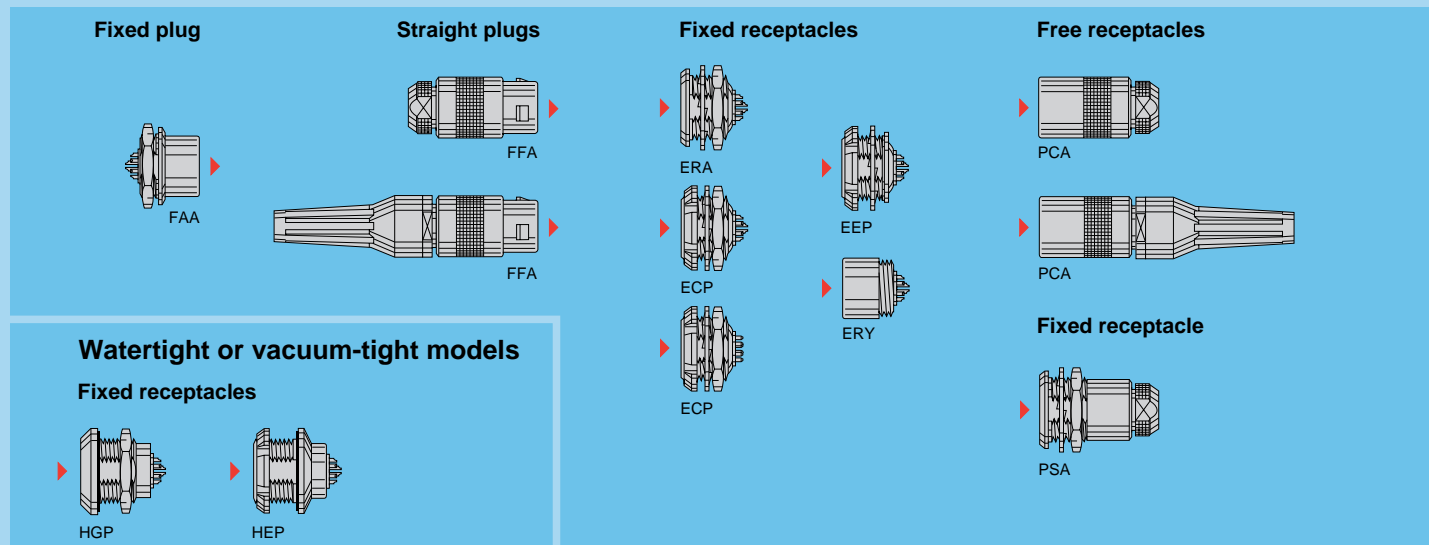
2G SERIES

2C Series

In many applications, it is necessary to use multicontact connectors which have shortened dimensions but require high contact density. LEMO short series connectors, which are shorter than 30 mm, perfectly meet these needs.

The 2C series, featuring a hermaphroditic insert, is available in multicontact type up to 14 contacts.

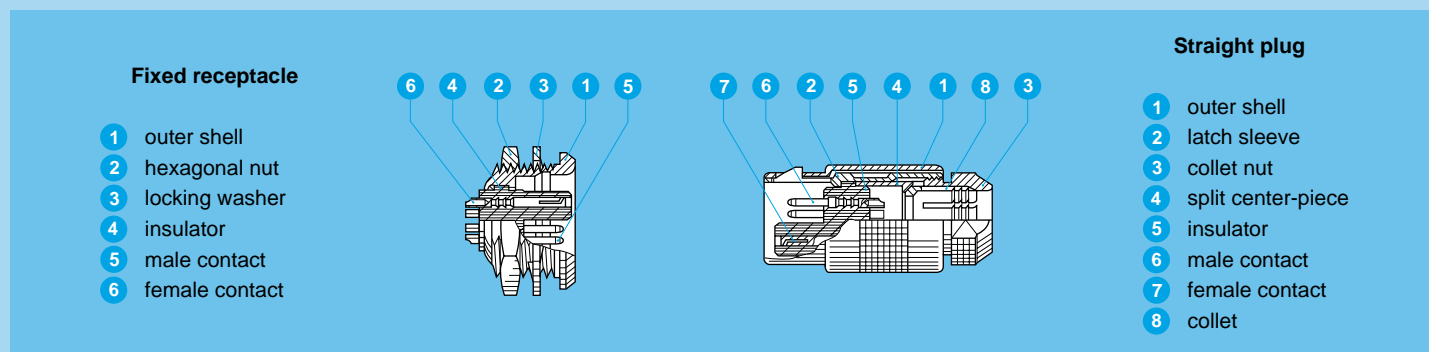
Interconnections



Model Description

- ECP** Fixed receptacle with two nuts (back panel mounting)
- ECP** Fixed receptacle with two nuts, straight contact for printed circuit (back panel mounting)
- EEP** Fixed receptacle, nut fixing (back panel mounting)
- ERA** Fixed receptacle, nut fixing
- ERY** Fixed receptacle, protruding shell (screw fixing on the panel)
- FAA** Fixed plug, nut fixing, non-latching
- FFA** Straight plug, cable collet and nut for fitting a bend relief
- FFA** Straight plug, cable collet
- FFA** Straight plug, nut fixing, watertight or vacuum-tight (back panel mounting)
- HGP** Fixed receptacle, nut fixing, watertight or vacuum-tight
- PCA** Free receptacle, cable collet
- PCA** Free receptacle, cable collet and nut for fitting a bend relief
- PSA** Fixed receptacle nut fixing, cable collet

Part Section Showing Internal Components



Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | Standard |
|---------------------------------|---------------------|----------------------|
| Endurance | > 500 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | |
| Temperature range ¹⁾ | -67° F +482° F | |
| Salt spray corrosion test | > 144 h | IEC 60512-6 test 11f |
| Protection index | IP50 | IEC 60529 |
| Climatic category | 55/175/21 | IEC 60068-1 |

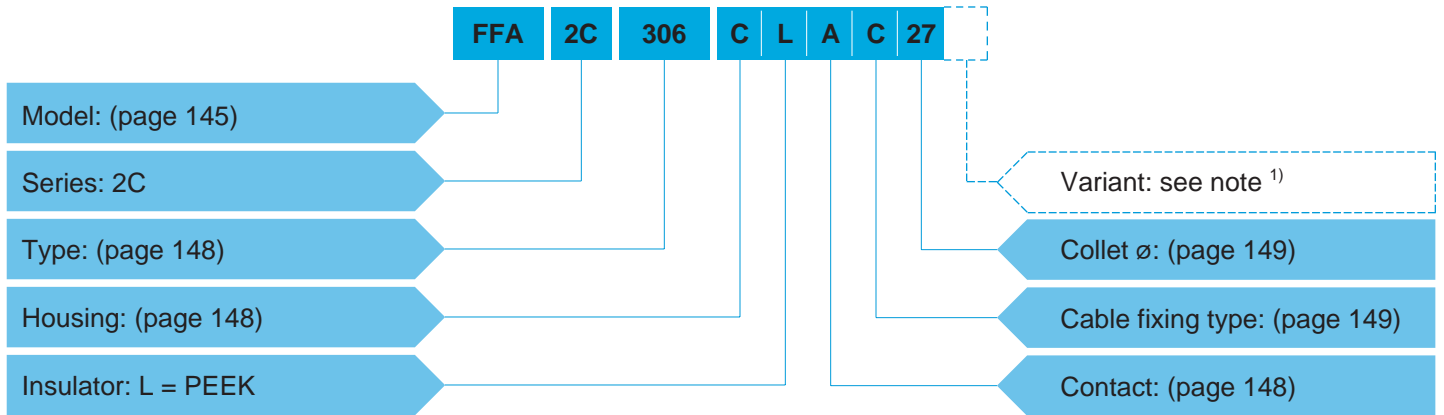
Note:

Various tests have been carried out with FFA and ERA connector pairs, with chrome-plated brass shell and PEEK insulator. Detailed electrical characteristics, as well as materials and treatment are presented in the chapter Technical Characteristics on page 197.

¹⁾ For watertight or vacuum-tight models: -4° F, +176° F

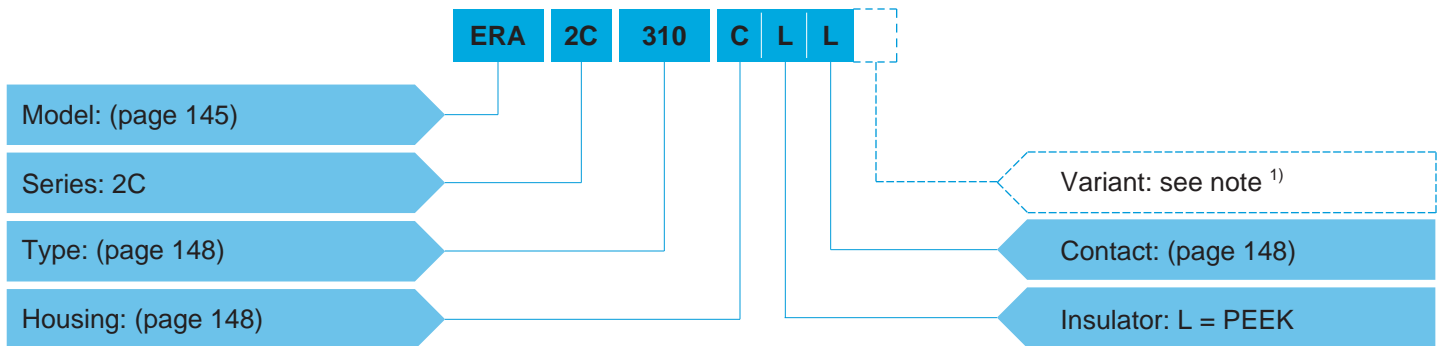
Part Number Example

Straight plug with cable collet



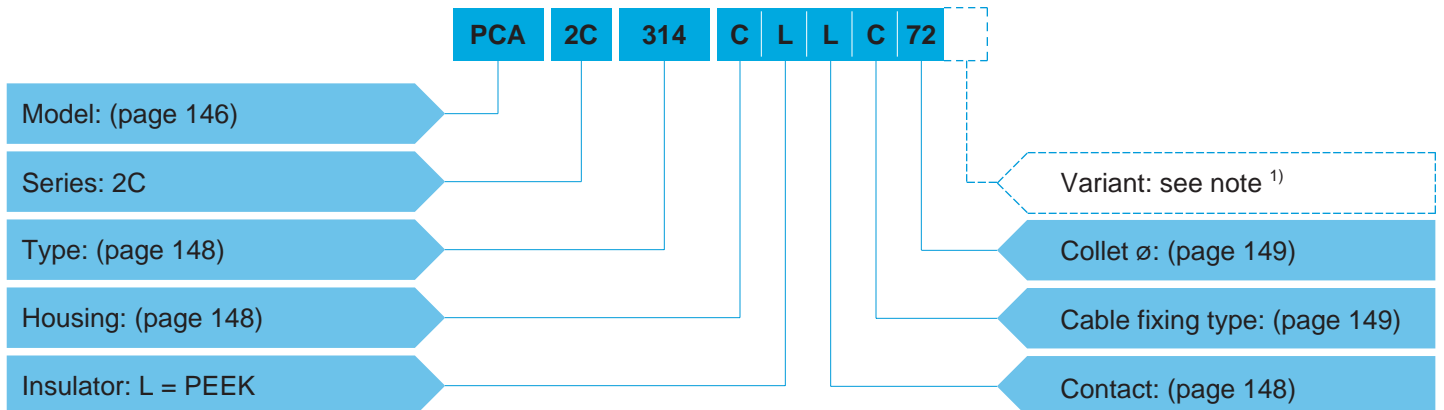
FFA.2C.306.CLAC27 = straight plug with cable collet, 2C series, multicontact type with six contacts, outer shell in chrome-plated brass, PEEK insulator, male solder contacts, C type collet for 2.7 mm diameter cable.

Fixed receptacle



ERA.2C.310.CLL = fixed receptacle, nut fixing, 2C series, multicontact type with 10 contacts, outer shell in chrome-plated brass, PEEK insulator, female solder contacts.

Free receptacle

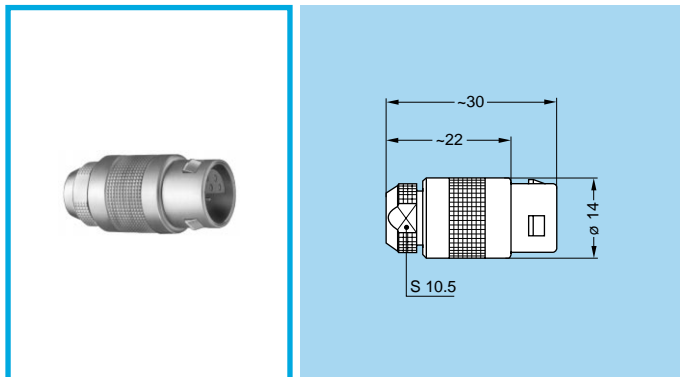


PCA.2C.314.CLLC72 = straight receptacle with cable collet, 2C series, multicontact type with 14 contacts, outer shell in chrome-plated brass, PEEK insulator, female contacts solder, C type collet for 7.2 mm diameter cable.

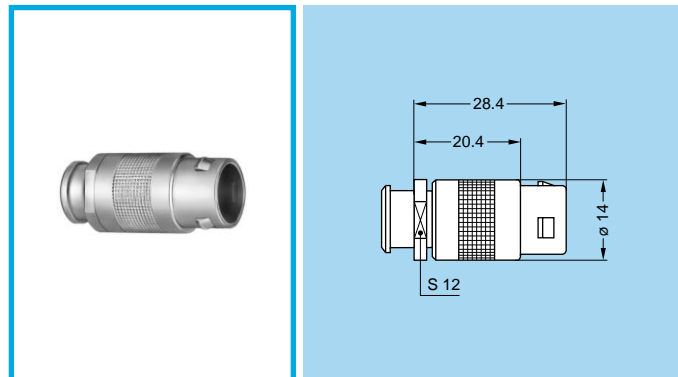
Note: ¹⁾ The «Variant» position in the reference is used to specify either the presence of a collet nut for fitting the bend relief or the anodized color of the housing in aluminium alloy.
 For models with collet nut for fitting the bend relief, a «Z» should be indicated and a bend relief can be ordered separately as indicated in the «Accessories» section. An order for a connector with bend relief should thus include two part numbers.
 For the various housings available in colors, the corresponding letter in the part number for the color is indicated on page 148.
 For the watertight models of receptacle, the letter «P» is used; for the vacuum-tight models of receptacle the letters «PV» shall be indicated.

Models - Series

FFA.2C Straight plug, cable collet

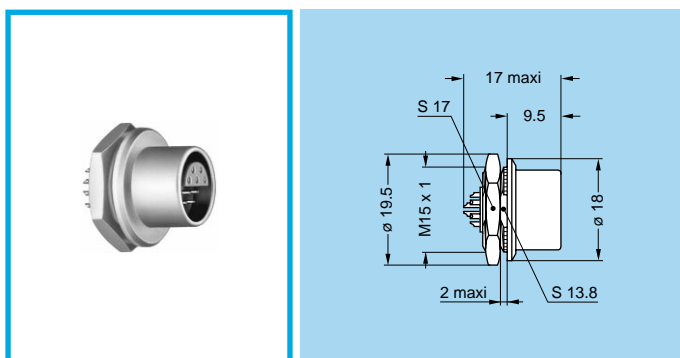


FFA.2C Straight plug, cable collet and nut for fitting a bend relief



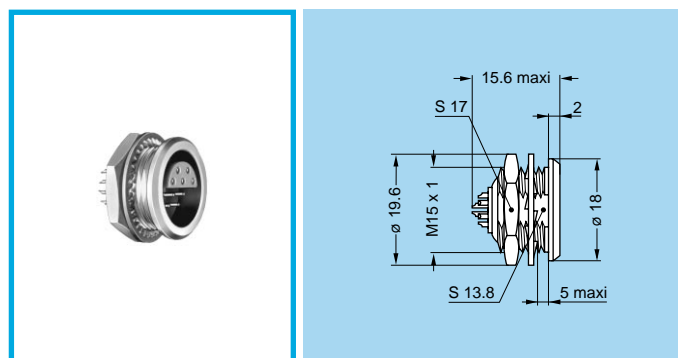
Note: The bend relief must be ordered separately (see page 175).

FAA.2C Fixed plug, nut fixing, non-latching



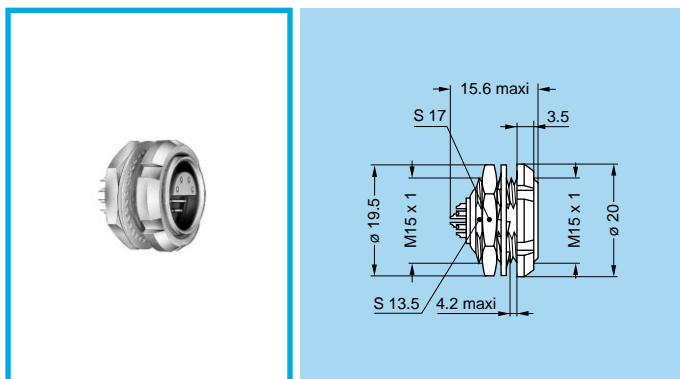
Panel cut-out (page 150)

ERA.2C Fixed receptacle, nut fixing



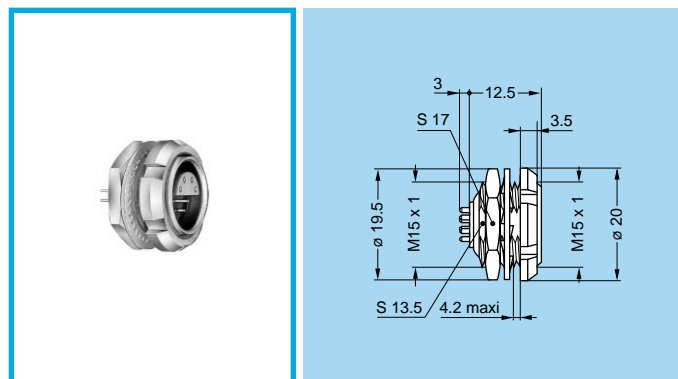
Panel cut-out (page 150)

ECP.2C Fixed receptacle with two nuts (back panel mounting)



Panel cut-out (page 150)

ECP.2C Fixed receptacle with two nuts, straight contact for printed circuit (back panel mounting)

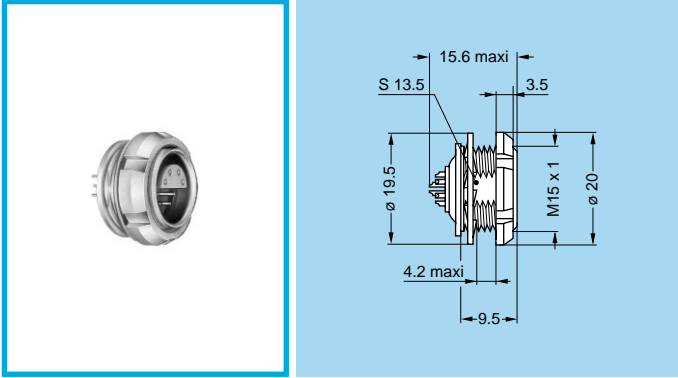


Panel cut-out (page 150)

PCB drilling pattern (page 150)

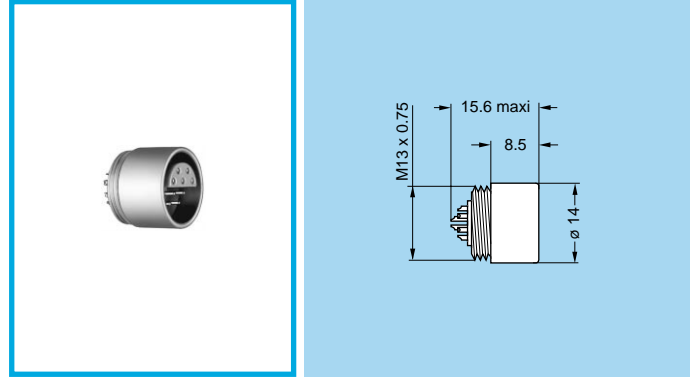
Note: All dimensions are in millimeters.

EEP.2C Fixed receptacle, nut fixing
(back panel mounting)



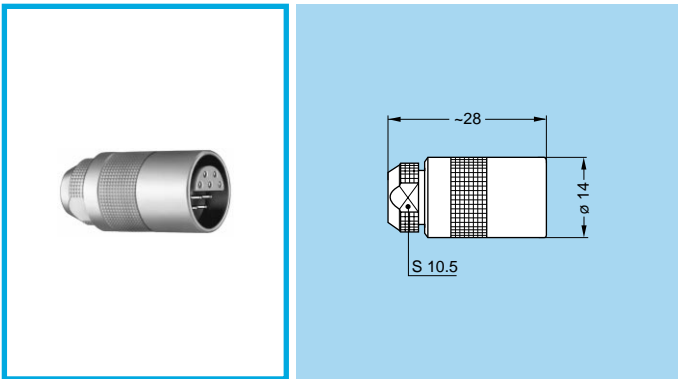
Panel cut-out (page 150)

ERY.2C Fixed receptacle, protruding shell,
(screw fixing on the panel)

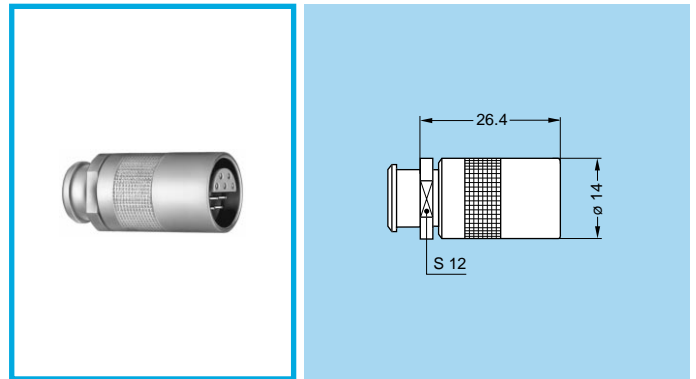


Panel cut-out (page 150)

PCA.2C Free receptacle, cable collet

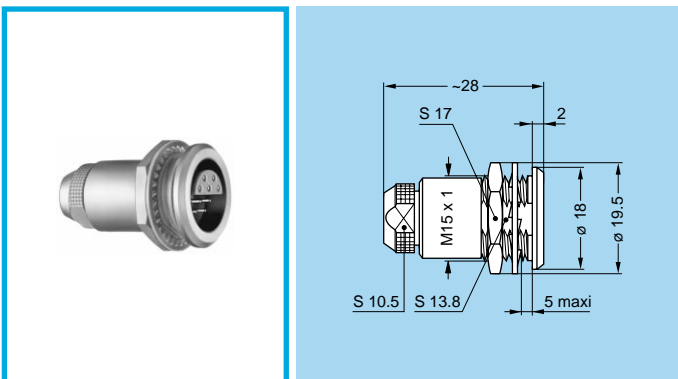


PCA.2C Free receptacle, cable collet
and nut for fitting a bend relief



Note: The bend relief must be ordered separately (see page 175).

PSA.2C Fixed receptacle nut fixing, cable collet



Panel cut-out (page 150)

Note: All dimensions are in millimeters.

Watertight or vacuum-tight models

HGP and HEP receptacles allow the device on which they are fitted to reach a protection index of IP68 as per IEC 60529. They are fully compatible with plugs of the same series and are widely used for portable radios, military, laboratory equipment, aviation, etc. These models are identified by a letter «P» at the end of the reference. These models are also available in a vacuum-tight version. Such models are identified by an additional letter «V» at the end of the part number (certificate on request).

Epoxy resin is used to seal these models.

Please refer to page 8 to locate the chapter on selecting watertight connectors.

Part number example:

Watertight receptacle – HGP.2C.304.CLLP
 Vacuum-tight receptacle – HGP.2C.304.CLLPV

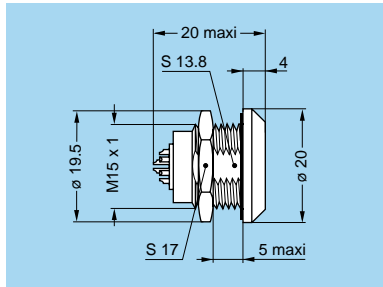
Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | Standard |
|---------------------------------|---|----------------------|
| Endurance | > 500 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | |
| Temperature range | -4° F, +176° F | |
| Salt spray corrosion test | > 144h | IEC 60512-6 test 11f |
| Protection index (mated) | IP 68 | IEC 60529 |
| Climatic category | 20/80/21 | IEC 60068-1 |
| Leakage rate (He) ¹⁾ | < 10 ⁻⁶ mbar.l.s ⁻¹ | IEC 60512-7 test 14b |
| Maximum operating pressure | 5 bars | IEC 60512-7 test 14d |

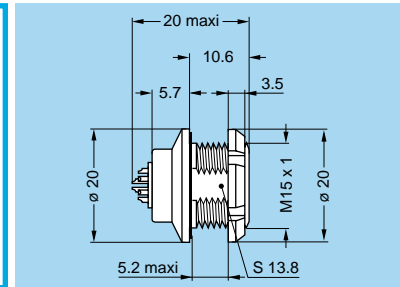
Note: ¹⁾ only for vacuum-tight models.

HGP.2C Fixed receptacle, nut fixing, watertight or vacuum-tight



Panel cut-out (page 150)

HEP.2C Fixed receptacle, nut fixing, watertight or vacuum-tight (back panel mounting)



Panel cut-out (page 150)

Type

| | Male solder contacts | Female solder contacts | Reference | Number of contacts | ø A (mm) | Contact type | | Test voltage (kV rms) ^{1) 2)} | Test voltage (kV dc) ^{1) 2)} | Rated current (A) ¹⁾ |
|--|----------------------|------------------------|-----------|--------------------|----------|--------------|-----------------|--|---------------------------------------|---------------------------------|
| | | | | | | Solder | Printed circuit | | | |
| | | | 302 | 2 | 1.6 | ● | – | 1.80 | 2.40 | 20 |
| | | | 303 | 3 | 1.3 | ● | – | 1.50 | 2.10 | 15 |
| | | | 304 | 4 | 1.3 | ● | – | 1.80 | 2.40 | 15 |
| | | | 306 | 6 | 1.3 | ● | – | 1.50 | 2.10 | 12 |
| | | | 308 | 8 | 0.7 | ● | ● | 0.95 | 1.35 | 7 |
| | | | 310 | 10 | 0.7 | ● | ● | 0.95 | 1.35 | 7 |
| | | | 312 | 12 | 0.7 | ● | ● | 0.60 | 0.90 | 5 |
| | | | 314 | 14 | 0.7 | ● | ● | 0.60 | 0.90 | 5 |

Note: 1) See calculation method, caution and suggested standard on page 204.
 2) Lowest measured value; contact to contact or contact to shell.

Housings

| Ref. | Material | Surface treatment | | Note |
|------|-------------------------------|----------------------------|----------------------------------|------|
| | | Outer shell and collet nut | Latch sleeve and grounding crown | |
| C | Brass | chrome | nickel | ● |
| N | Brass | nickel | nickel | ○ |
| K | Brass | black chrome | nickel | ● |
| L | Aluminium alloy ¹⁾ | anodized | nickel-plated | ○ |

Note:
 1) The «Variant» position of the reference is used to specify the anodized color.
 ● First choice alternative ○ Special order alternative

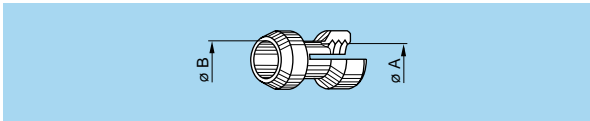
Contact

| Ref. | Contact type |
|------|------------------------|
| A | Male solder |
| L | Female solder |
| N | Female printed circuit |

Multicontact connectors are fitted with hermaphroditic inserts including male and female contacts. However, by convention, the letter indicating the contact type in the part number composition will be the male contact (reference A) for plugs and female contact (reference L) for receptacles.

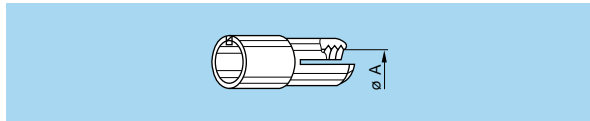
Collets

Short collet



| Reference | | Collet ø | | Cable ø | | Part number of the collet ¹⁾ |
|-----------|----|----------|-----|---------|------|---|
| Type | ø | ø A | ø B | max. | min. | |
| C | 27 | 2.7 | – | 2.6 | 2.2 | FFA.2C.727.CN |
| C | 32 | 3.2 | – | 3.1 | 2.7 | FFA.2C.732.CN |
| C | 37 | 3.7 | – | 3.6 | 3.2 | FFA.2C.737.CN |
| C | 42 | 4.2 | – | 4.1 | 3.7 | FFA.2C.742.CN |
| C | 47 | 4.7 | – | 4.6 | 4.2 | FFA.2C.747.CN |
| C | 52 | 5.2 | – | 5.1 | 4.7 | FFA.2C.752.CN |
| C | 57 | 5.7 | – | 5.6 | 5.2 | FFA.2C.757.CN |
| C | 62 | 6.2 | – | 6.1 | 5.7 | FFA.2C.762.CN |
| C | 67 | 6.7 | 6.2 | 6.6 | 6.2 | FFA.2C.767.CN |
| C | 72 | 7.2 | 6.2 | 7.1 | 6.7 | FFA.2C.772.CN |
| C | 75 | 7.5 | 6.2 | 7.4 | 7.2 | FFA.2C.775.CN |
| C | 80 | 8.0 | 6.2 | 7.9 | 7.5 | FFA.2C.780.CN |

Long collet



| Reference | | Collet ø | | Cable ø | | Part number of the collet ¹⁾ |
|-----------|----|----------|-----|---------|------|---|
| Type | ø | ø A | ø B | max. | min. | |
| L | 14 | 1.4 | – | 1.3 | 0.8 | FFA.2C.714.LN |
| L | 27 | 2.7 | – | 2.6 | 2.2 | FFA.2C.727.LN |
| L | 32 | 3.2 | – | 3.1 | 2.7 | FFA.2C.732.LN |
| L | 37 | 3.7 | – | 3.6 | 3.2 | FFA.2C.737.LN |
| L | 42 | 4.2 | – | 4.1 | 3.7 | FFA.2C.742.LN |
| L | 47 | 4.7 | – | 4.6 | 4.2 | FFA.2C.747.LN |
| L | 52 | 5.2 | – | 5.1 | 4.7 | FFA.2C.752.LN |
| L | 57 | 5.7 | – | 5.6 | 5.2 | FFA.2C.757.LN |
| L | 62 | 6.2 | – | 6.1 | 5.7 | FFA.2C.762.LN |
| L | 67 | 6.7 | – | 6.6 | 6.2 | FFA.2C.767.LN |
| L | 72 | 7.2 | – | 7.1 | 6.7 | FFA.2C.772.LN |
| L | 77 | 7.7 | – | 7.6 | 7.2 | FFA.2C.777.LN |
| L | 82 | 8.2 | – | 8.1 | 7.7 | FFA.2C.782.LN |

Note: ¹⁾ For ordering collets separately.
All dimensions are in millimeters.

Variant

Anodized color

The «variant» position of the reference is used to specify the anodized color according to the table below.

Part number for connector with standard collet nut:

| Ref. | Anodized color | Ref. | Anodized color |
|------|----------------|------|----------------|
| A | blue | R | red |
| J | yellow | T | natural |
| N | black | V | green |

Part number for connector with bend relief backnut:

| Ref. | Anodized color |
|------|----------------|
| L | black |
| X | natural |

Note: Other anodizing colors are available for connectors with bend relief backnut. Please consult us.

Accessories

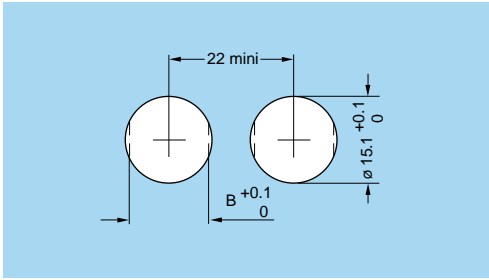
Accessories for the 2C series are identical with the 2G series. Please refer to corresponding pages (page 155).

Tooling

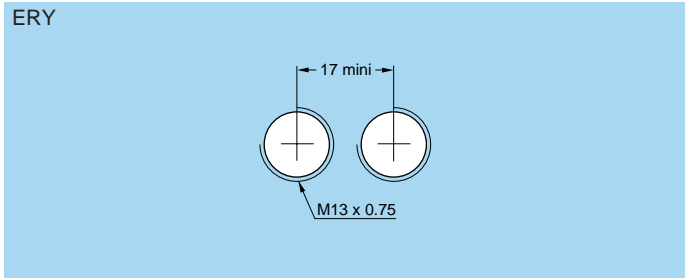
Please consult the «Tooling» section (page 183).

Panel cut-outs

Panel cut-outs

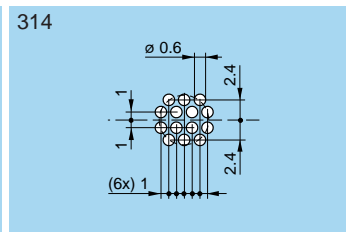
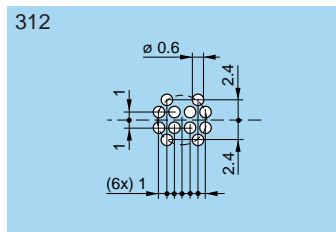
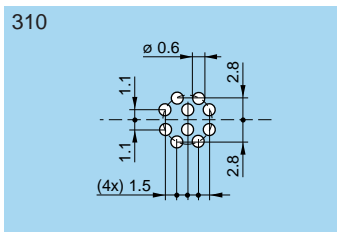
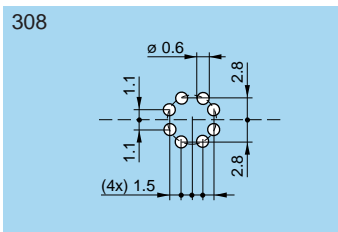


| Model | B (mm) |
|-------|--------|
| ECP | 13.6 |
| EEP | 13.6 |
| ERA | 13.9 |
| FAA | 13.9 |
| HEP | 13.9 |
| HGP | 13.9 |
| PSA | 13.9 |



Note: Mounting nut torque: 6 Nm (1N = 0.102 kg)

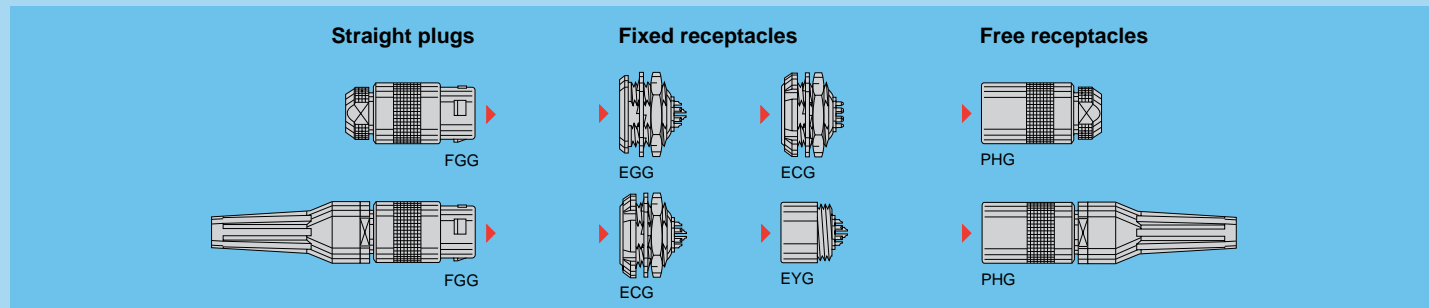
PCB drilling patterns



2G Series

The 2G series with key (G) provides the same advantages of space saving due to its small dimensions as the 2C series and is available in multicontact type with 18 contacts.

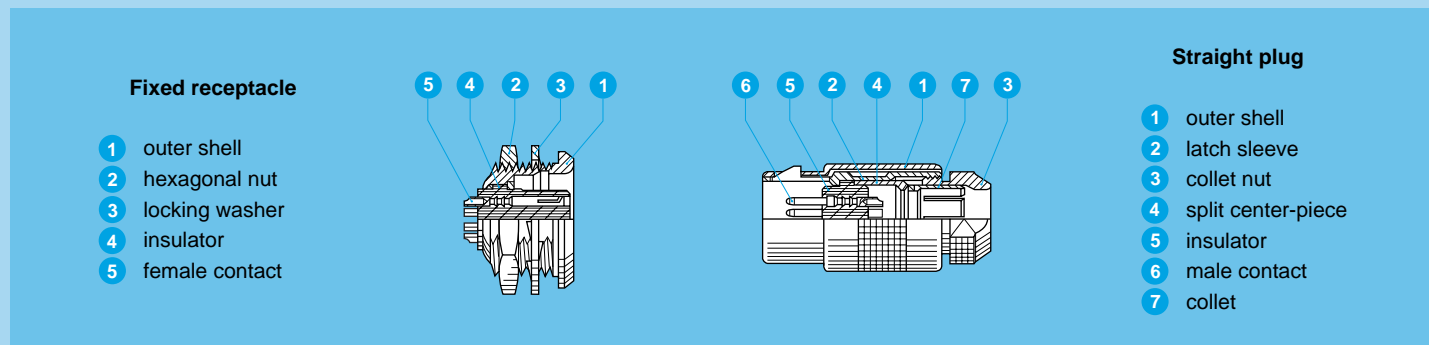
Interconnections



Model Description

- ECG** Fixed receptacle with two nuts, key (G) (back panel mounting)
- ECG** Fixed receptacle with two nuts, key (G), straight contact for printed circuit (back panel mounting)
- EGG** Fixed receptacle, nut fixing, key (G)
- EYG** Fixed receptacle, key (G), protruding shell (screw fixing on the panel)
- FGG** Straight plug, key (G), cable collet
- FGG** Straight plug, key (G), cable collet and nut for fitting a bend relief
- PHG** Free receptacle, key (G), cable collet and nut for fitting a bend relief

Part Section Showing Internal Components



Technical Characteristics

Mechanical and Climatic

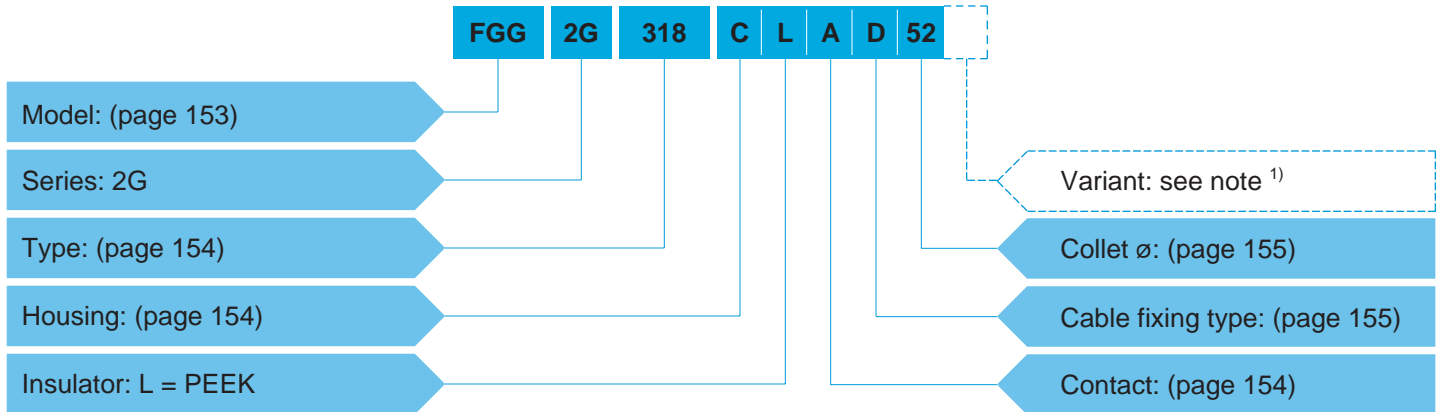
| Characterisitcs | Value | Standard |
|---------------------------|---------------------|----------------------|
| Endurance | > 500 cycles | IEC 60512-5 test 9a |
| Humidity | up to 95% at 140° F | |
| Temperature range | -67° F +482° F | |
| Salt spray corrosion test | > 144 h | IEC 60512-6 test 11f |
| Protection index | IP50 | IEC 60529 |
| Climatic category | 55/175/21 | IEC 60068-1 |

Note:

The various tests have been carried out with FGG and EGG connector pairs, with chrome-plated brass shell and PEEK insulator. Detailed electrical characteristics, as well as materials and treatment are presented in the chapter Technical Characteristics on page 197.

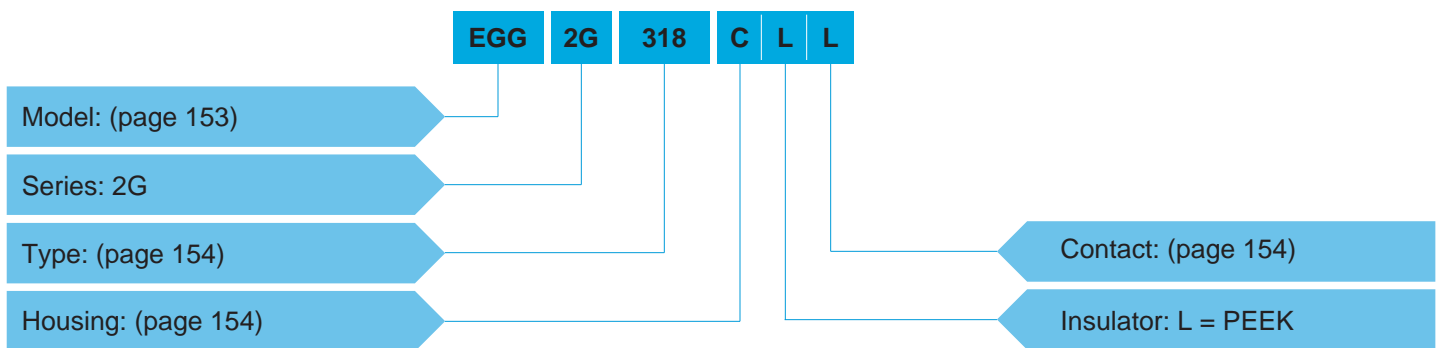
Part Number Example

Straight plug with cable collet



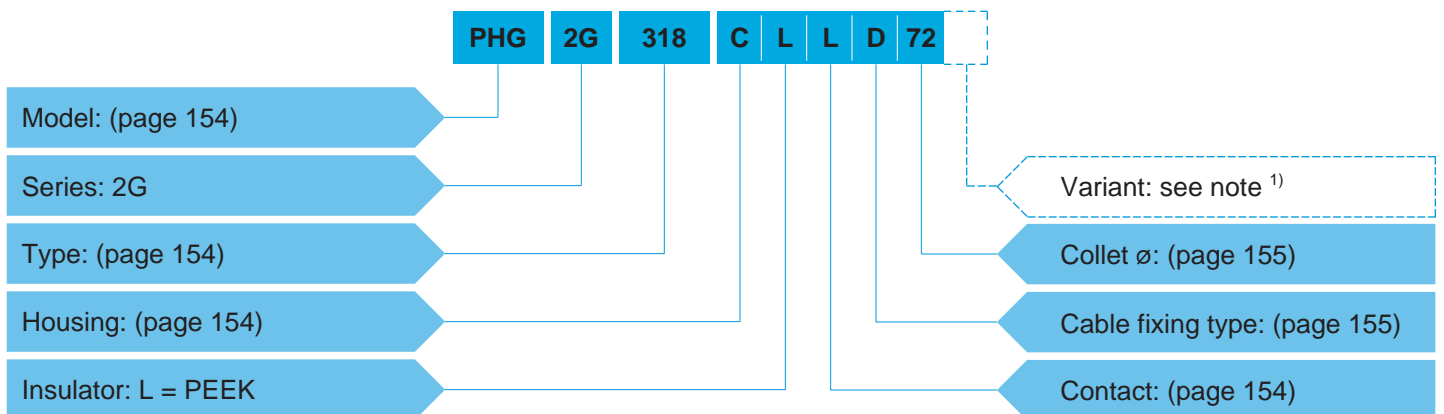
FGG.2G.318.CLAD52 = straight plug with cable collet, 2G series, multicontact type with 18 contacts, outer shell in chrome-plated brass, PEEK insulator, male solder contacts, D type collet for 5.2 mm diameter cable.

Fixed receptacle



EGG.2G.318.CLL = fixed receptacle, 2G series, multicontact type with 18 contacts, outer shell in chrome-plated brass, PEEK insulator, female solder contacts.

Free receptacle

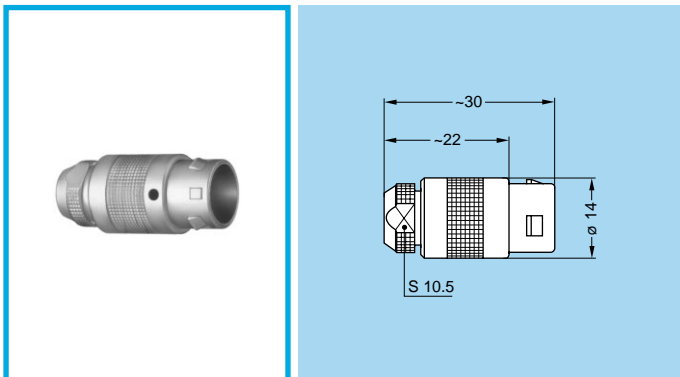


PHG.2G.318.CLLD72 = straight receptacle with cable collet, 2G series, multicontact type with 18 contacts, outer shell in chrome-plated brass, PEEK insulator, female solder contacts, D type collet for 7.2 mm diameter cable.

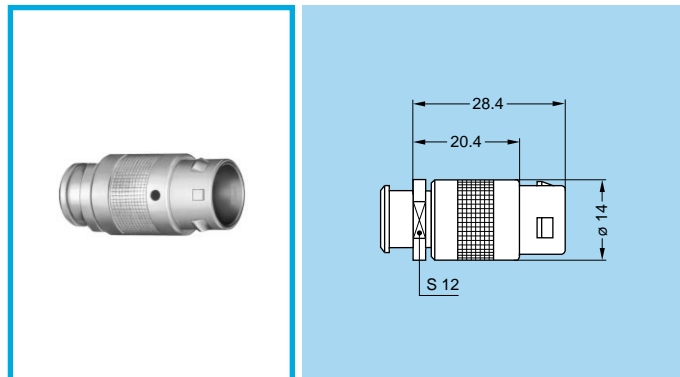
Note: ¹⁾ The «Variant» position of the part number is used to specify the presence of a nut for fitting a bend relief, a «Z» should be indicated and a bend relief can be ordered separately as indicated in the «Accessories» section. An order for a connector with bend relief should thus include two part numbers.

Models - Series

FGG.2G Straight plug, key (G), cable collet

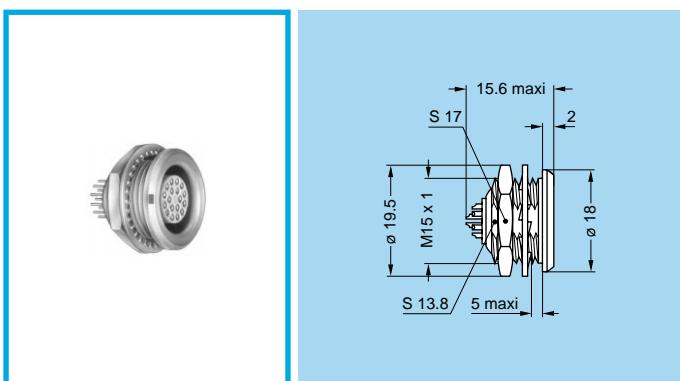


FGG.2G Straight plug, key (G), cable collet and nut for fitting a bend relief



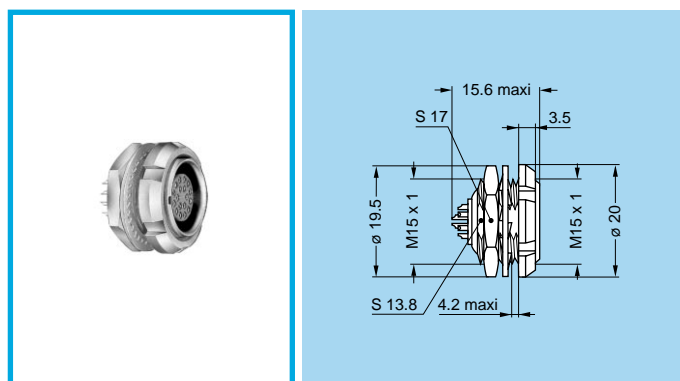
Note: The bend relief must be ordered separately (see page 175).

EGG.2G Fixed receptacle, nut fixing, key (G)



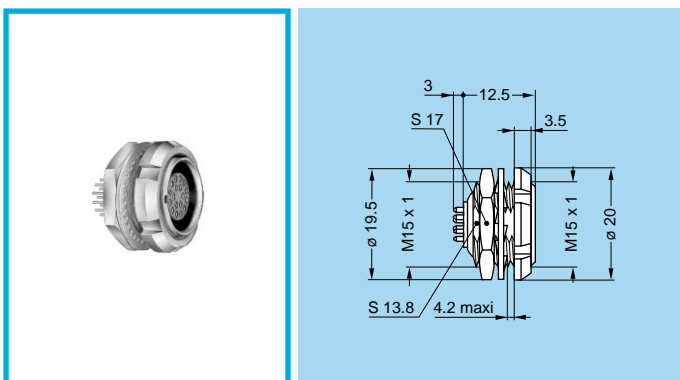
Panel cut-out (p. 156)

ECG.2G Fixed receptacle with two nuts, key (G) (back panel mounting)



Panel cut-out (p. 156)

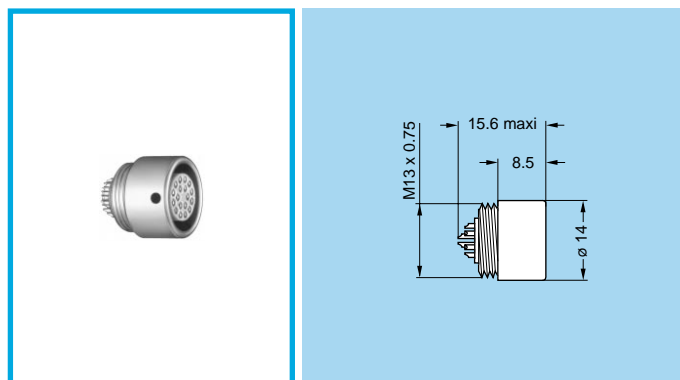
ECG.2G Fixed receptacle with two nuts, key (G), straight contact for printed circuit (back panel mounting)



Panel cut-out (p. 156)

PCB drilling pattern (page 156)

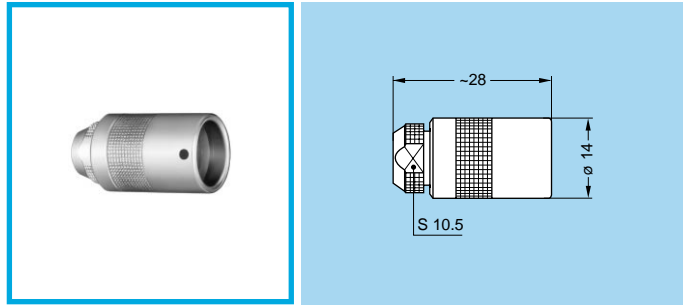
EYG.2G Fixed receptacle, key (G), protruding shell (screw fixing on the panel)



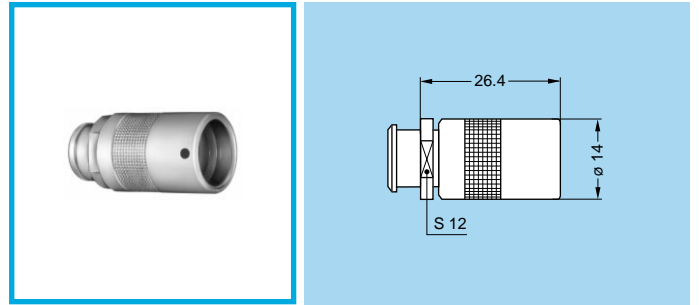
Panel cut-out (p. 156)

Note: All dimensions are in millimeters.

PHG.2G Free receptacle, key (G), cable collet



PHG.2G Free receptacle, key (G), cable collet and nut for fitting a bend relief



Note: The bend relief must be ordered separately (see page 175).

Type

| | | Reference | Number of contacts | ø A (mm) | Contact type | | Test voltage (kV rms) ^{1) 2)} | Test voltage (kV dc) ^{1) 2)} | Rated current (A) ¹⁾ |
|-----------------------------|-------------------------------|-----------|--------------------|----------|--------------|-----------------|--|---------------------------------------|---------------------------------|
| | | | | | Solder | Printed circuit | | | |
| <p>Male solder contacts</p> | <p>Female solder contacts</p> | 318 | 18 | 0.7 | ● | ● | 1.4 | 2.0 | 5.5 |
| | | | | | | | | | |

Note: 1) See calculation method, caution and suggested standard on page 204.

2) Lowest measured value; contact to contact or contact to shell.

Housings

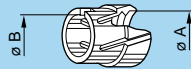
| Ref. | Material | Surface treatment | | Note |
|------|----------|----------------------------|----------------------------------|------|
| | | Outer shell and collet nut | Latch sleeve and grounding crown | |
| C | Brass | chrome | nickel | ● |
| N | Brass | nickel | nickel | ○ |
| K | Brass | black chrome | nickel | ● |

● First choice alternative ○ Special order alternative

Contact

| Ref. | Contact type |
|------|------------------------|
| A | Male solder |
| L | Female solder |
| N | Female printed circuit |

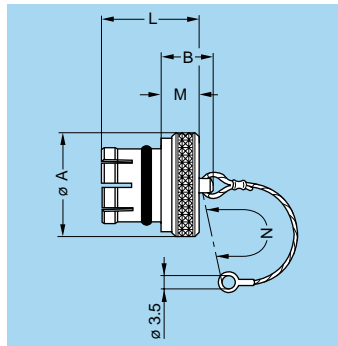
Collets



| Reference | | Collet \varnothing | | Cable \varnothing | | Part number of the collet ¹⁾ |
|-----------|---------------|----------------------|-----------------|---------------------|------|---|
| Type | \varnothing | $\varnothing A$ | $\varnothing B$ | max. | min. | |
| D | 52 | 5.2 | – | 5.1 | 4.5 | FFA.2C.752.DN |
| D | 62 | 6.2 | – | 6.1 | 5.5 | FFA.2C.762.DN |
| D | 72 | 7.2 | 6.2 | 7.1 | 6.5 | FFA.2C.772.DN |
| D | 80 | 8.0 | 6.2 | 7.9 | 7.5 | FFA.2C.780.DN |

Note:
¹⁾ For ordering collets separately.
 All dimensions are in millimeters.

Accessories



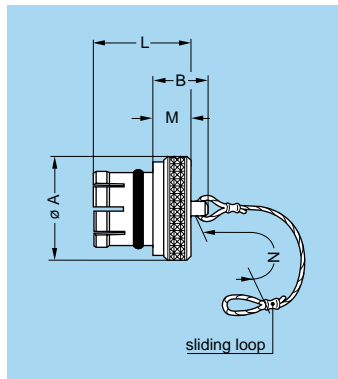
- Body material: Nickel-plated brass (Ni 3 μ m)
- Lanyard material: Stainless steel
- O-ring material: Silicone rubber or FPM

BRE Blanking caps for fixed and free receptacles

| Part number | Dimensions (mm) | | | | |
|----------------|-----------------|----|------|-----|----|
| | A | B | L | M | N |
| BRE.2G.200.NAS | 18 | 12 | 10.6 | 6.0 | 85 |

Note: These caps are suitable for use with any alignment key configuration. The last letter «S» of the part number stands for the material of the O ring (silicone rubber). O-rings made from FPM are also available; if required, replace the letter «S» by «V».

- Maximum operating temperature: 392° F
- Watertightness: IP61 according to IEC 60529

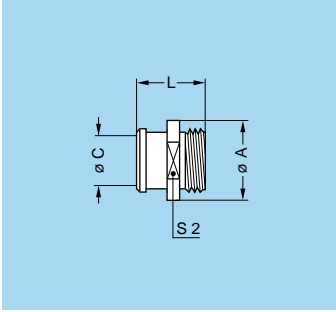
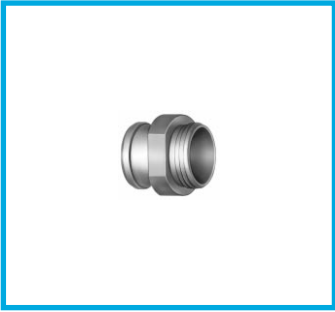


- Body material: Nickel-plated brass (Ni 3 μ m)
- Lanyard material: Stainless steel
- O-ring material: Silicone rubber or FPM
- Maximum operating temperature: 392° F
- Watertightness: IP61 according to IEC 60529

BRF Blanking caps for fixed receptacles

| Part number | Dimensions (mm) | | | | |
|----------------|-----------------|----|------|-----|----|
| | A | B | L | M | N |
| BRF.2G.200.NAS | 18 | 12 | 14.0 | 6.0 | 85 |

Note: This caps are suitable for use with any alignment key configuration. The last letter «S» of the part number stands for the material of the O ring (silicone rubber). O-rings made from FPM are also available; if required, replace the letter «S» by «V».



FFM Nut for bend relief

| Part number | Dimensions (mm) | | | |
|---------------|-----------------|---|------|----|
| | A | C | L | S2 |
| FFM.2C.130.LC | 14 | 8 | 12.2 | 12 |

Note: For bend reliefs to be used with this nut see section «Accessories» page 175.

- Material: Chrome-plated brass (0.3 µm)

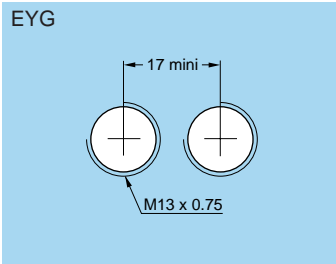
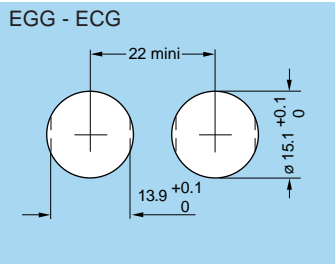
Note: Other accessories are also available. See section «Accessories» on page 167.

Tooling

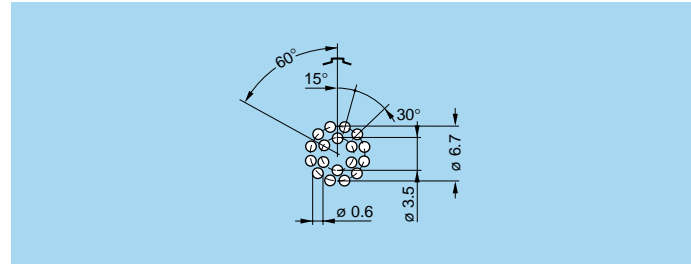
Please consult the «Tooling» section (page 183).

Panel cut-outs

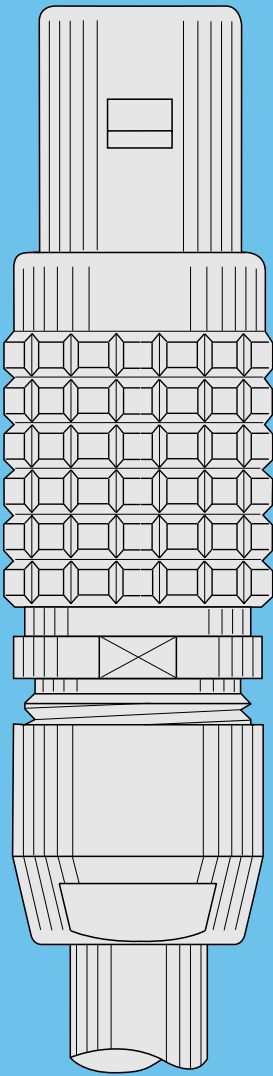
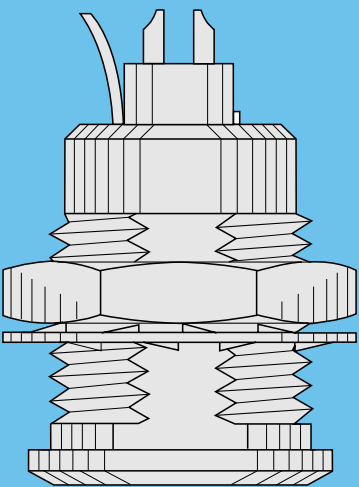
Panel cut-outs



PCB drilling pattern



Note: Mounting nut torque – 6 Nm (1N = 0.102 kg)



1D SERIES (quadrax)

1D Series

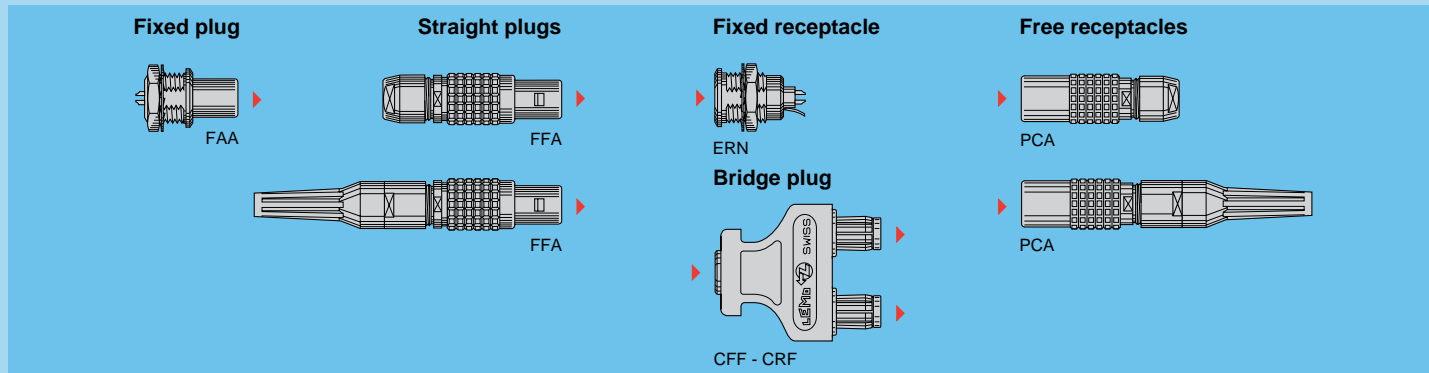
1D series QUADRAX connectors have four concentric contacts insulated from the connector shell, ready to solve any kind of audio-stereo patch panel problems.

Specially developed for major radio and television channels, this new connector type provides the possibility of blind mating with the full security of the LEMO Push-Pull self-latching system.

They can also be fitted on panel in a «star» configuration for switching a single signal to different outputs.

To enable the user to create his own coding system, bridge plug housings, double panel washers or insulating washers for receptacles as well as cable bend reliefs are available in nine colors.

Interconnections



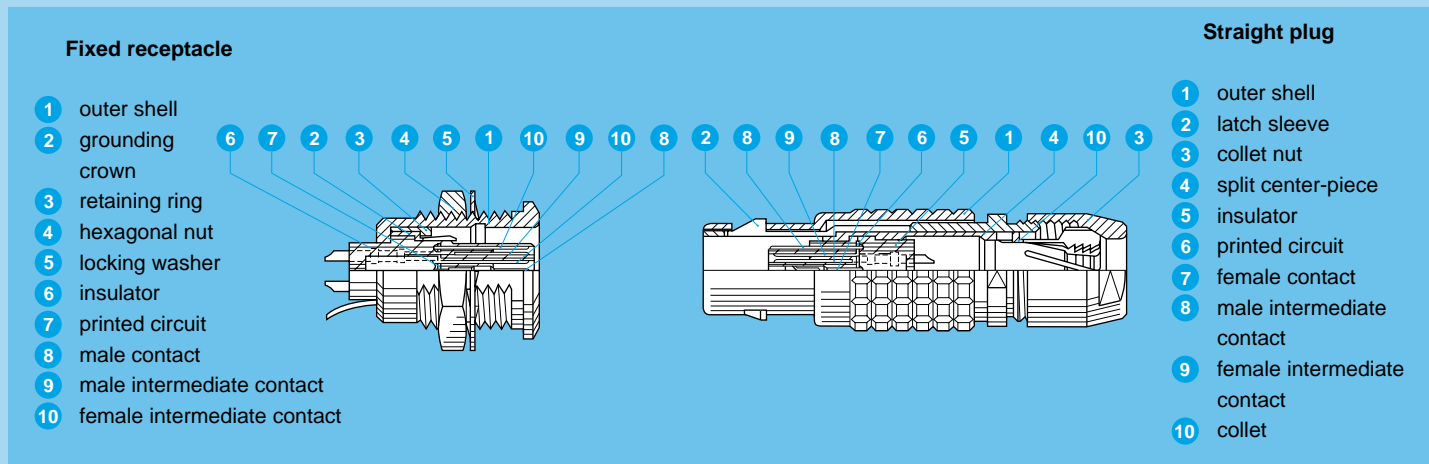
Model Description

CFF Bridge plug with two non-latching plugs
CRF Bridge plug with two non-latching plugs with monitoring output
ERN Fixed receptacle nut fixing, with grounding tab

FAA Fixed plug, nut fixing, non-latching
FFA Straight plug, cable collet
FFA Straight plug, cable collet and nut for fitting a bend relief

PCA Free receptacle, cable collet
PCA Free receptacle, cable collet and nut for fitting a bend relief

Part Section Showing Internal Components



Technical Characteristics

Mechanical and Climatic

| Characteristics | Value | Standard |
|---------------------------------|-----------------|----------------------|
| Endurance | > 1000 cycles | IEC 60512-5 test 9a |
| Temperature range ¹⁾ | -40° F, +248° F | |
| Salt spray corrosion test | > 144h | IEC 60512-6 test 11f |
| Protection index | IP50 | IEC 60529 |

Note:

¹⁾ For bridge plug: -40° F, +176° F

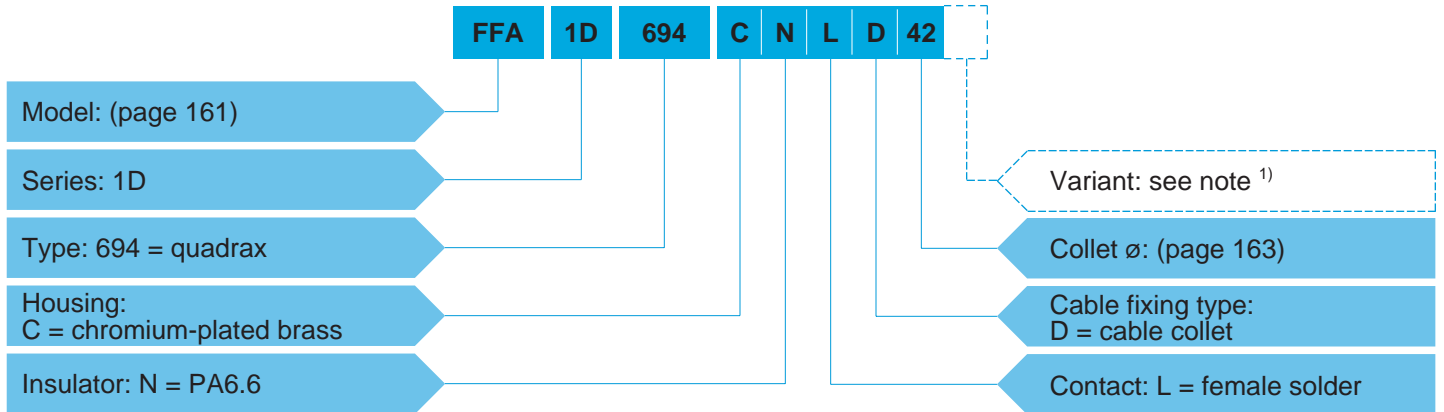
Detailed electrical characteristics, as well as materials and treatment are presented in the chapter Technical Characteristics on page 197.

Electrical

| Characteristics | Value | Standard |
|-----------------------------|----------------------|-----------------------|
| Insulation resistance | > 10 ¹¹ Ω | IEC 60512-2 test 3a |
| Insul. res. after 48h 95%RH | > 10 ¹⁰ Ω | IEC 60512-2 test 3a |
| Screening efficiency | at 10 MHz | > 70 dB IEC 60169-1-3 |
| | at 1 GHz | > 35 dB IEC 60169-1-3 |
| Contact resistance | < 20mΩ | IEC 60512-2 test 2a |

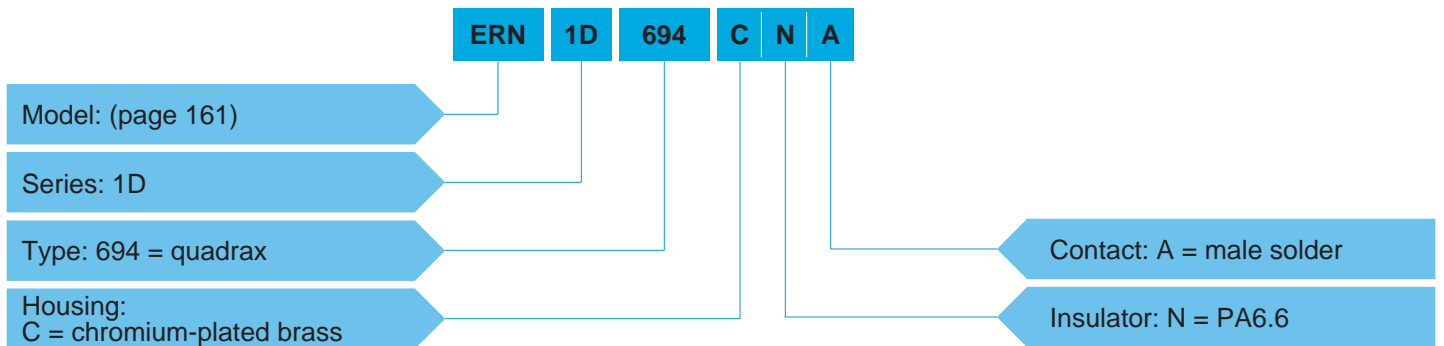
Part Number Example

Straight plug with cable collet



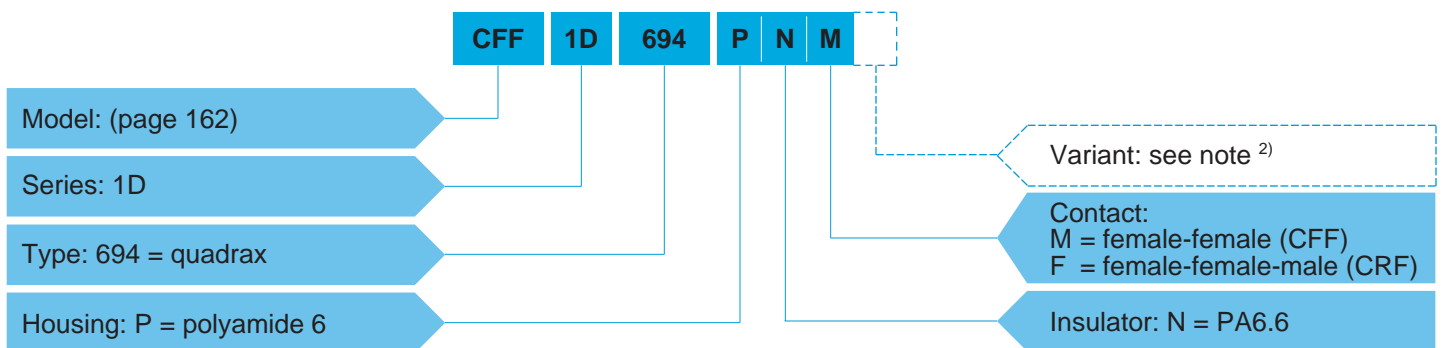
FFA.1D.694.CNLD42 = straight plug with cable collet, 1D series, quadrax type, outer shell in chrome-plated brass, PA6.6 insulator, female solder contacts, D type collet for 4.2 mm diameter cable.

Fixed receptacle



ERN.1D.694.CNA = Fixed receptacle, 1D series, quadrax type, outer shell in chrome-plated brass, PA6.6 insulator, male solder contacts.

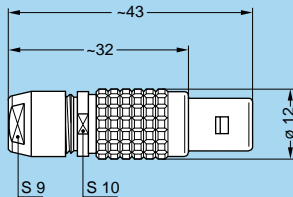
Bridge plug



CFF.1D.694.PNM = bridge plug with two non-latching plugs, 1D series, quadrax type, outer shell in polyamide 6, PA6.6 insulator, female-female contacts, grey color housing.

Note:
¹⁾ The «variant» position of the part number is used to specify the presence of a nut for fitting a bend relief, a «Z» should be indicated and a bend relief can be ordered separately as indicated in the «Accessories» section. An order for a connector with bend relief should thus include two references.
²⁾ For bridge plugs the variant position indicates the housing color (see page 163).

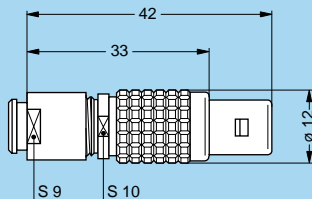
Models - Series



FFA Straight plug, cable collet

Part number

| |
|-------------------|
| FFA.1D.694.CNLD42 |
| FFA.1D.694.CNLD52 |
| FFA.1D.694.CNLD62 |
| FFA.1D.694.CNLD72 |
| FFA.1D.694.CNLD76 |

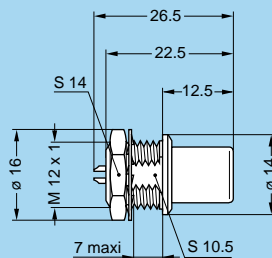


FFA Straight plug, cable collet and nut for fitting a bend relief

Part number

| |
|--------------------|
| FFA.1D.694.CNLD42Z |
| FFA.1D.694.CNLD52Z |
| FFA.1D.694.CNLD62Z |
| FFA.1D.694.CNLD72Z |

Note: The bend relief must be ordered separately (see page 175).

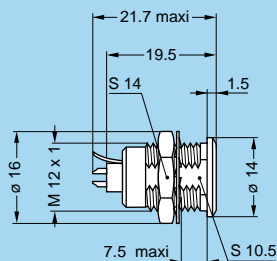


FAA Fixed plug, nut fixing, non-latching

Part number

| |
|----------------|
| FAA.1D.694.CNL |
|----------------|

Panel cut-out (p. 164)

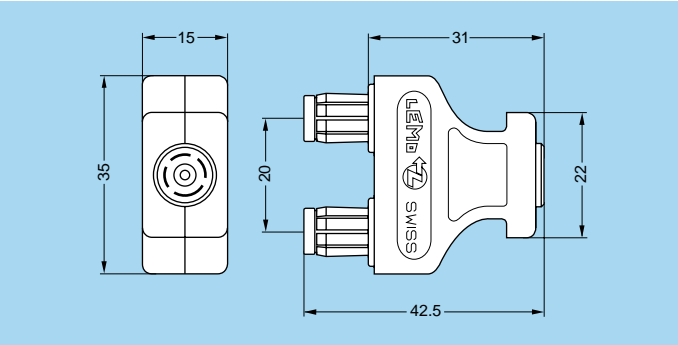
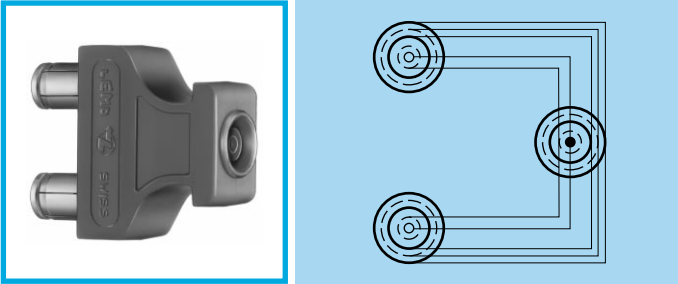


ERN Fixed receptacle nut fixing, with grounding tab

Part number

| |
|----------------|
| ERN.1D.694.CNA |
|----------------|

Panel cut-out (page 164)

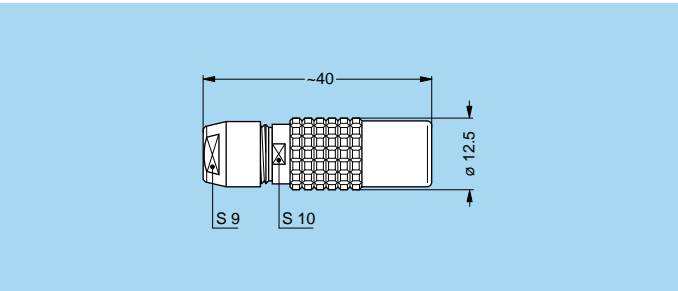
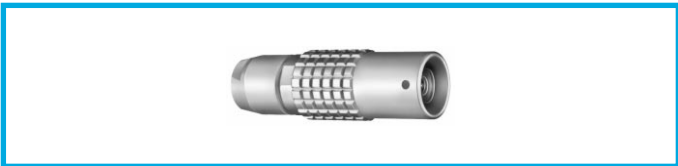


CFF Bridge plug with two non-latching plugs

CRF Bridge plug with two non-latching plugs with monitoring output

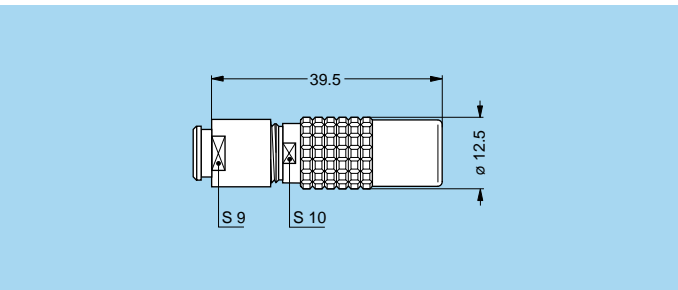
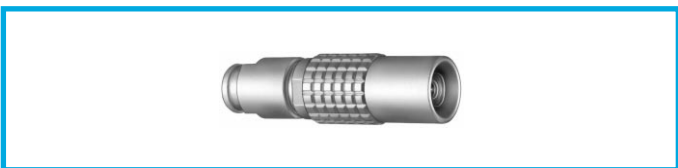
| Part number |
|-----------------|
| CFF.1D.694.PNMG |
| CRF.1D.694.PNFG |

Note: The last letter (G) of the part number indicates the grey color of the housing. For other colors, replace this letter (G) by the one corresponding to the required color.



PCA Free receptacle, cable collet

| Part number |
|-------------------|
| PCA.1D.694.CNAD42 |
| PCA.1D.694.CNAD52 |
| PCA.1D.694.CNAD62 |
| PCA.1D.694.CNAD72 |
| PCA.1D.694.CNAD76 |



PCA Free receptacle, cable collet and nut for fitting a bend relief

| Part number |
|--------------------|
| PCA.1D.694.CNAD42Z |
| PCA.1D.694.CNAD52Z |
| PCA.1D.694.CNAD62Z |
| PCA.1D.694.CNAD72Z |

Note: The bend relief must be ordered separately (see page 175).

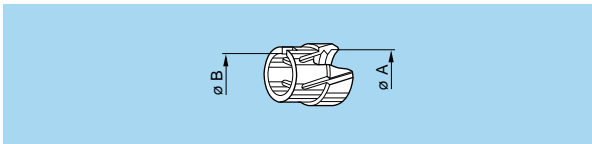
Type

| | | | | | | | |
|-----------------------------|-------------------------------|-----------|--------------------|--------------|---------------------------------------|--------------------------------------|---------------------------------|
| <p>Male solder contacts</p> | <p>Female solder contacts</p> | Reference | Number of contacts | Contact type | Test voltage (kV rms) ¹⁾²⁾ | Test voltage (kV dc) ¹⁾²⁾ | Rated current (A) ¹⁾ |
| | | | | Solder | | | |
| | | 694 | 4 | ● | 0.42 | 0.6 | 0.5 |

Note: 1) See calculation method, caution and suggested standard on page 204.

2) Lowest measured value; contact to contact or contact to shell.

Collets



| Reference | Type | ø | Collet ø | | Cable ø | | Part number of the collet ¹⁾ |
|-----------|------|-----|----------|-----|---------|-----------------------------|---|
| | | | ø A | ø B | max. | min. | |
| D 42 | D | 4.2 | – | 4.0 | 3.1 | FGG.1B.742.DN | |
| D 52 | D | 5.2 | – | 5.0 | 4.1 | FGG.1B.752.DN | |
| D 62 | D | 6.2 | – | 6.0 | 5.1 | FGG.1B.762.DN | |
| D 72 | D | 7.2 | 6.7 | 7.0 | 6.1 | FGG.1B.772.DN | |
| D 76 | D | 7.6 | 6.7 | 7.5 | 7.1 | FGG.1B.776.DN ²⁾ | |

Note:

1) for ordering collets separately.

2) these collets can not be used with connector models using a nut for fitting a bend relief.

All dimensions are in millimeters.

Variant

Bridge plug colors

| Ref. | Color |
|------|--------|
| A | blue |
| B | white |
| G | grey |
| J | yellow |

| Ref. | Color |
|------|-------|
| M | brown |
| N | black |
| R | red |
| V | green |

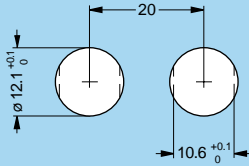
Note:

In standard version the letter G is not mentioned in the «variant» position and the grey color is chosen by default.

Accessories and tooling for the 1D series are identical with the 1B series. Please refer to corresponding pages (page 167 and 183).

Panel cut-out

Panel cut-out

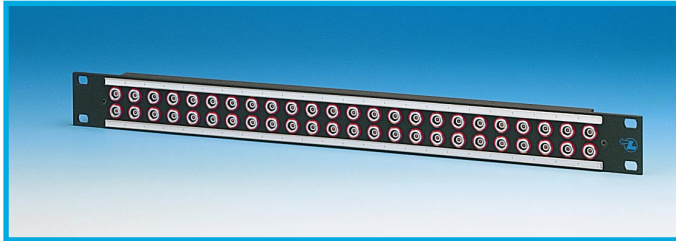


Note: Mounting nut torque: 4.5 Nm (1N = 0.102 kg)
When connectors are assembled with double panel washers or insulating washers the mounting nut torque is 4 Nm.

Patch Panels

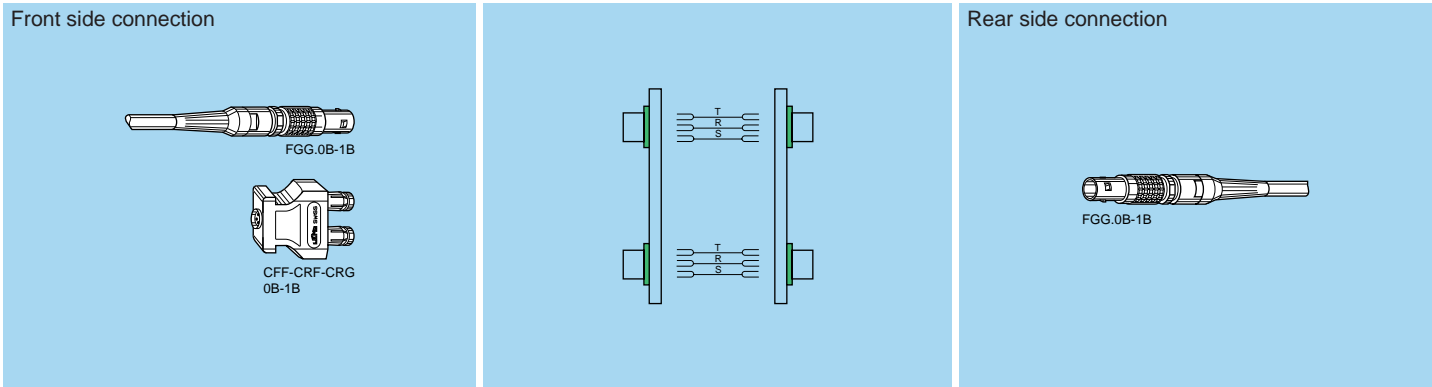
No more jacks – but a modern and reliable connection system which guarantees total security. LEMO offers audio patch panels fitted with Push-Pull connectors; this allows a reliable connection and avoids all risks of linkage interruption by accidentally pulling on the cable. This quality is even reinforced by the use of connectors with gold-plated contacts according to the ISO 4523 standard. Standard 19" elements with various configurations are offered on panels with 1 or 2 units. Every connector row has a label holder for the identification of the signals. Our patch-panels have satin finish which is highly resistant to abrasion (standard colors black and grey) or a heat treated paint (standard color beige, other colors available on request) or a natural anodized finishing, reflecting the quality of your applications.

●● Patch panel for AUDIO application "Brought out only"



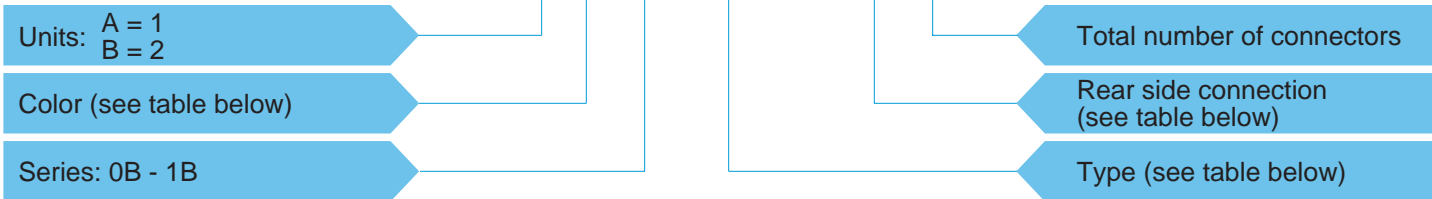
- 1 U panel, with one row of 30 insulated receptacles of the 0B series (3 contacts) or 20 receptacles of the 1B series (3 or 6 contacts).
- 1 U panel with two rows of 30 insulated receptacles of the 0B series (3 contacts).
- 2 U panel with two rows of 20 insulated receptacles of the 1B series (3 or 6 contacts) for Audio stereo applications.

Outputs on rear panel with LEMO 0B-1B series connectors of the corresponding type.



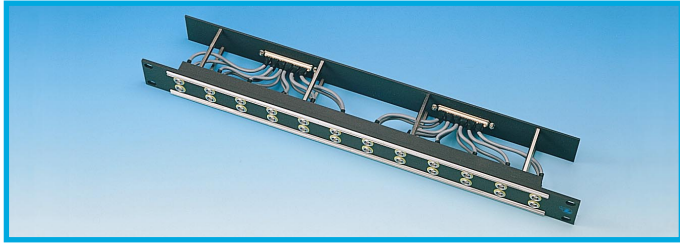
Part Number Example

P A G 1B 306 MG 1B 20



| Ref. | Color | Type | Series | Type and rear side connection |
|------|------------------|------|--------|-------------------------------|
| C | beige | 303 | 0B | LEMO (Multi. 3 contacts) |
| G | grey | 303 | 1B | LEMO (Multi. 3 contacts) |
| N | black | 306 | 1B | LEMO (Multi. 3-6 contacts) |
| T | natural anodized | | | |

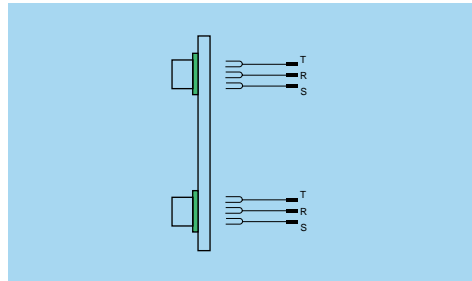
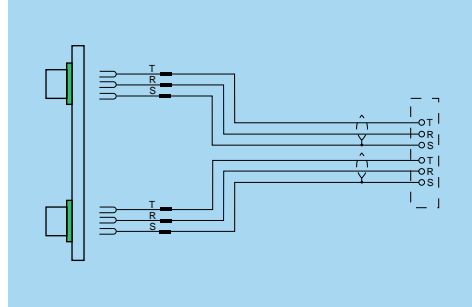
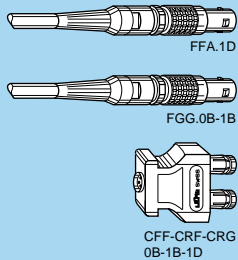
**P● Patch panel for AUDIO application
"Brought out only"**



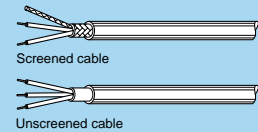
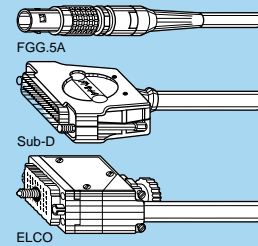
- 1 U panel, with one or two rows of 12, 24 or 30 insulated receptacles of the 0B series (3 contacts) or 20 receptacles of the 1B series (3 or 6 contacts) or 1D (quadrax) for Audio stereo applications.
- 2 U panel, with two rows of 20 insulated receptacles of the 1B series (3 or 6 contacts) or 1D (quadrax) for Audio stereo applications.

Outputs on rear panel for cable or connector linkage with LEMO 5A series (36 contacts), Sub-D (37 contacts) or ELCO (90 contacts) connectors.

Front side connection



Rear side connection



Part Number Example

P A C 0B 303 GG 5A 12

Units: A = 1
B = 2

Color (see table below)

Series: 0B - 1B - 1D

Total number of connectors

Rear side connection (see table below)

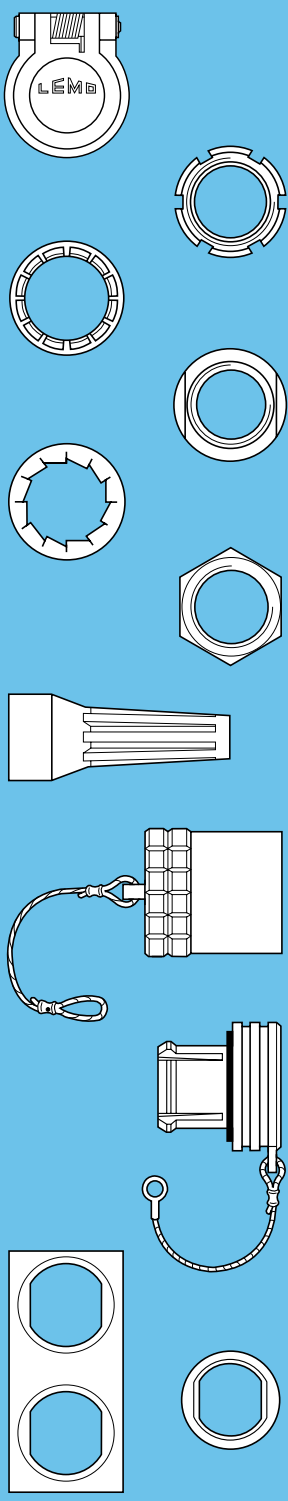
●● (see table below)

Type (see table below)

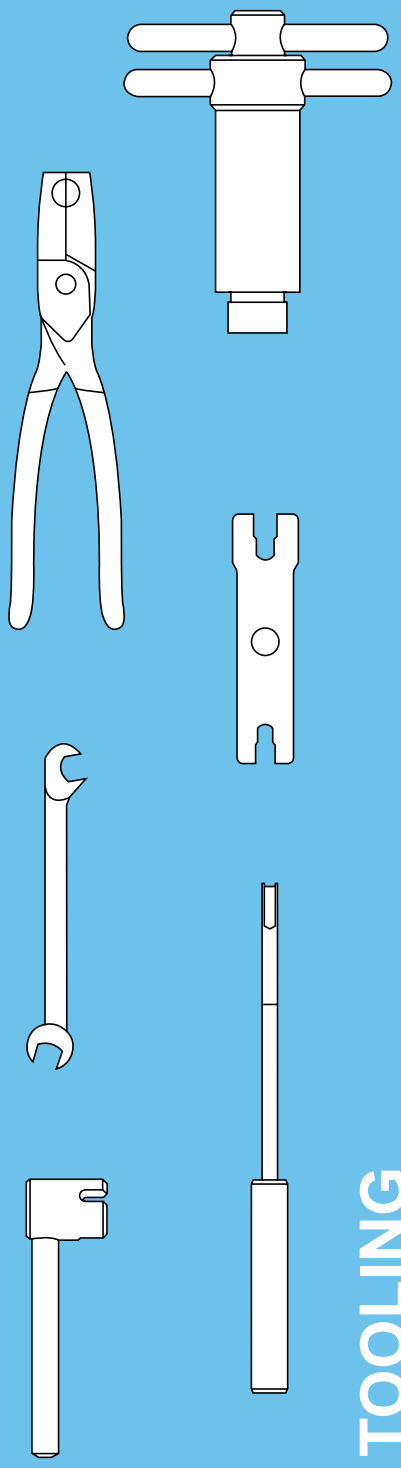
| Ref. | Color |
|------|------------------|
| C | beige |
| G | grey |
| N | black |
| T | natural anodized |

| Type | ●● | Series | Type |
|------|----|--------|------------------|
| 303 | GG | 0B | Multicontact (3) |
| 303 | GG | 1B | Multicontact (3) |
| 306 | GG | 1B | Multicontact (6) |
| 694 | RN | 1D | Quadrax |

| Ref. | Rear side connection |
|------|----------------------|
| 5A | LEMO (36 contacts) |
| SD | Sub-D (37 contacts) |
| EL | ELCO (90 contacts) |
| CA | Cable |

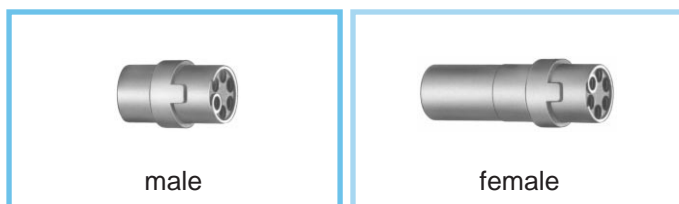


ACCESSORIES



TOOLING

Accessories



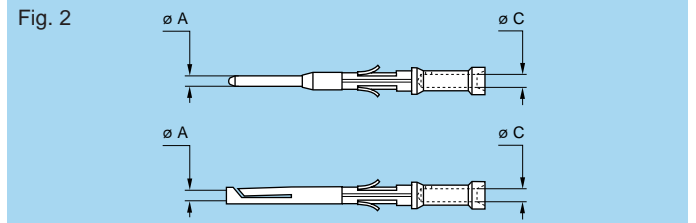
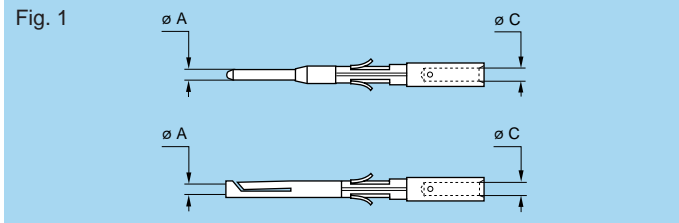
FGG-EGG Insulators for crimp contacts

| | Type | Insulator part number | |
|------------------|---------------|-----------------------|----------------|
| | | Male contact | Female contact |
| 00 | 302 | FGG.00.302.YL | EGG.00.402.YL |
| | 303 | FGG.00.303.YL | EGG.00.403.YL |
| | 304 | FGG.00.304.YL | EGG.00.404.YL |
| 0B 0K | 302 | FGG.0B.302.YL | EGG.0B.402.YL |
| | 303 | FGG.0B.303.YL | EGG.0B.403.YL |
| | 304 | FGG.0B.304.YL | EGG.0B.404.YL |
| | 305 | FGG.0B.305.YL | EGG.0B.405.YL |
| | 306 | FGG.0B.306.YL | EGG.0B.406.YL |
| | 307 | FGG.0B.307.YL | EGG.0B.407.YL |
| | 309 | FGG.0B.309.YL | EGG.0B.409.YL |
| 1B 1K | 302 | FGG.1B.302.YL | EGG.1B.402.YL |
| | 303 | FGG.1B.303.YL | EGG.1B.403.YL |
| | 304 | FGG.1B.304.YL | EGG.1B.404.YL |
| | 305 | FGG.1B.305.YL | EGG.1B.405.YL |
| | 306 | FGG.1B.306.YL | EGG.1B.406.YL |
| | 307 | FGG.1B.307.YL | EGG.1B.407.YL |
| | 308 | FGG.1B.308.YL | EGG.1B.408.YL |
| | 310 | FGG.1B.310.YL | EGG.1B.410.YL |
| | 314 | FGG.1B.314.YL | EGG.1B.414.YL |
| | 316 | FGG.1B.316.YL | EGG.1B.416.YL |
| 2B 2K | 302 | FGG.2B.302.YL | EGG.2B.402.YL |
| | 303 | FGG.2B.303.YL | EGG.2B.403.YL |
| | 304 | FGG.2B.304.YL | EGG.2B.404.YL |
| | 305 | FGG.2B.305.YL | EGG.2B.405.YL |
| | 306 | FGG.2B.306.YL | EGG.2B.406.YL |
| | 307 | FGG.2B.307.YL | EGG.2B.407.YL |
| | 308 | FGG.2B.308.YL | EGG.2B.408.YL |
| | 310 | FGG.2B.310.YL | EGG.2B.410.YL |
| | 312 | FGG.2B.312.YL | EGG.2B.412.YL |
| | 314 | FGG.2B.314.YL | EGG.2B.414.YL |
| | 316 | FGG.2B.316.YL | EGG.2B.416.YL |
| | 318 | FGG.2B.318.YL | EGG.2B.418.YL |
| | 319 | FGG.2B.319.YL | EGG.2B.419.YL |
| | 326 | FGG.2B.326.YL | EGG.2B.426.YL |
| 332 | FGG.2B.332.YL | EGG.2B.432.YL | |
| 3B 3K | 302 | FGG.3B.302.YL | EGG.3B.402.YL |
| | 303 | FGG.3B.303.YL | EGG.3B.403.YL |
| | 304 | FGG.3B.304.YL | EGG.3B.404.YL |
| | 305 | FGG.3B.305.YL | EGG.3B.405.YL |
| | 306 | FGG.3B.306.YL | EGG.3B.406.YL |
| | 307 | FGG.3B.307.YL | EGG.3B.407.YL |

| | Type | Insulator part number | |
|------------------|---------------|-----------------------|----------------|
| | | Male contact | Female contact |
| 3B 3K | 308 | FGG.3B.308.YL | EGG.3B.408.YL |
| | 309 | FGG.3B.309.ML | EGG.3B.409.ML |
| | 310 | FGG.3B.310.YL | EGG.3B.410.YL |
| | 312 | FGG.3B.312.YL | EGG.3B.412.YL |
| | 314 | FGG.3B.314.YL | EGG.3B.414.YL |
| | 316 | FGG.3B.316.YL | EGG.3B.416.YL |
| | 318 | FGG.3B.318.YL | EGG.3B.418.YL |
| | 320 | FGG.3B.320.YL | EGG.3B.420.YL |
| | 322 | FGG.3B.322.YL | EGG.3B.422.YL |
| | 324 | FGG.3B.324.YL | EGG.3B.424.YL |
| | 330 | FGG.3B.330.YL | EGG.3B.430.YL |
| 4B 4K | 304 | FGG.4B.304.ML | EGG.4B.404.ML |
| | 306 | FGG.4B.306.YL | EGG.4B.406.YL |
| | 307 | FGG.4B.307.ML | EGG.4B.407.ML |
| | 310 | FGG.4B.310.YL | EGG.4B.410.YL |
| | 312 | FGG.4B.312.YL | EGG.4B.412.YL |
| | 316 | FGG.4B.316.YL | EGG.4B.416.YL |
| | 320 | FGG.4B.320.ML | EGG.4B.420.ML |
| | 324 | FGG.4B.324.YL | EGG.4B.424.YL |
| | 330 | FGG.4B.330.YL | EGG.4B.430.YL |
| | 340 | FGG.4B.340.YL | EGG.4B.440.YL |
| 5B 5K | 304 | FGG.5B.304.ML | EGG.5B.404.ML |
| | 310 | FGG.5B.310.YL | EGG.5B.410.YL |
| | 314 | FGG.5B.314.YL | EGG.5B.414.YL |
| | 316 | FGG.5B.316.YL | EGG.5B.416.YL |
| | 320 | FGG.5B.320.YL | EGG.5B.420.YL |
| | 330 | FGG.5B.330.YL | EGG.5B.430.YL |
| | 340 | FGG.5B.340.YL | EGG.5B.440.YL |
| | 348 | FGG.5B.348.YL | EGG.5B.448.YL |
| | 350 | FGG.5B.350.ML | EGG.5B.450.ML |
| | 354 | FGG.5B.354.YL | EGG.5B.454.YL |
| 364 | FGG.5B.364.YL | EGG.5B.464.YL | |

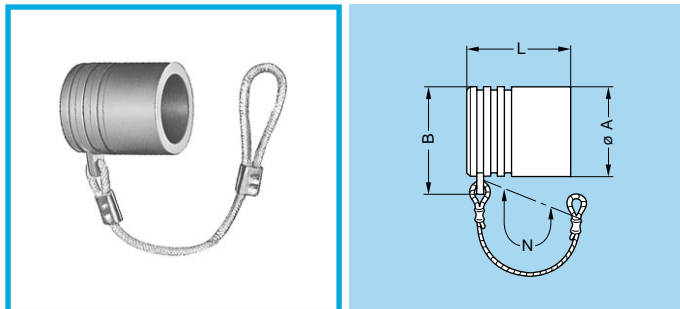
Note: Each insulator can be used both for crimp contacts of normal shape (fig. 1) or with reduced solder cups (fig. 2) as shown on page 170.

FGG-EGG Crimp contacts

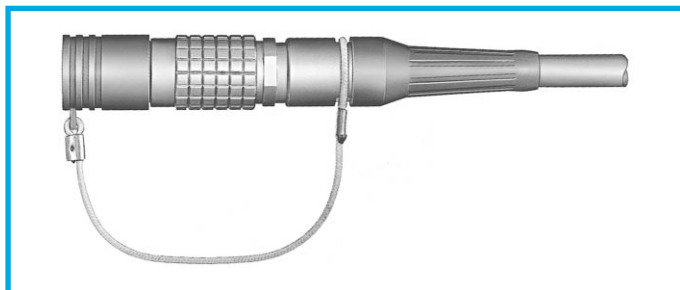


| | Types | ø A (mm) | ø C (mm) | Contact part number | |
|------------------|-------------|----------|----------------|---------------------|----------------|
| | | | | Male | Female |
| 00 | 302 | 0.5 | 0.45 | FGG.00.554.ZZC | EGG.00.654.ZZM |
| | 303 | 0.5 | 0.45 | FGG.00.554.ZZC | EGG.00.654.ZZM |
| | 304 | 0.5 | 0.45 | FGG.00.554.ZZC | EGG.00.654.ZZM |
| 0B 0K | 302/303 | 0.9 | 1.10 | FGG.0B.560.ZZC | EGG.0B.660.ZZM |
| | 304/305 | 0.7 | 0.80 | FGG.0B.555.ZZC | EGG.0B.655.ZZM |
| | 306/307/309 | 0.5 | 0.45 | FGG.0B.554.ZZC | EGG.0B.654.ZZM |
| 0S | 302 | 0.9 | 1.10 | FGG.0B.560.ZZC | EGG.0B.660.ZZM |
| 1B 1K | 302/303 | 1.3 | 1.40 | FGG.1B.565.ZZC | EGG.1B.665.ZZM |
| | 304/305 | 0.9 | 1.10 | FGG.1B.560.ZZC | EGG.1B.660.ZZM |
| | 306/307/308 | 0.7 | 0.80 | FGG.1B.555.ZZC | EGG.1B.655.ZZM |
| | 310/314/316 | 0.5 | 0.45 | FGG.1B.554.ZZC | EGG.1B.654.ZZM |
| 1S | 302 | 1.3 | 1.40 | FGG.1B.565.ZZC | EGG.1B.665.ZZM |
| | 304 | 0.9 | 1.10 | FGG.1B.560.ZZC | EGG.1B.660.ZZM |
| 2B 2K | 302 | 2.0 | 2.40 | FGG.2B.575.ZZC | EGG.2B.675.ZZM |
| | 303 | 1.6 | 1.90 | FGG.2B.570.ZZC | EGG.2B.670.ZZM |
| | 304/305 | 1.3 | 1.40 | FGG.2B.565.ZZC | EGG.2B.665.ZZM |
| | 306/307 | 1.3 | 1.40 | FGG.2B.565.ZZC | EGG.2B.665.ZZM |
| | 308/310 | 0.9 | 1.10 | FGG.2B.560.ZZC | EGG.2B.660.ZZM |
| | 312/314/316 | 0.7 | 0.80 | FGG.2B.555.ZZC | EGG.2B.655.ZZM |
| | 318/319 | 0.7 | 0.80 | FGG.2B.555.ZZC | EGG.2B.655.ZZM |
| 326/332 | 0.5 | 0.45 | FGG.2B.554.ZZC | EGG.2B.654.ZZM | |
| 2S | 306 | 1.3 | 1.40 | FGG.2B.565.ZZC | EGG.2B.665.ZZM |
| 3B 3K | 302 | 3.0 | 2.90 | FGG.3B.580.ZZC | EGG.3B.680.ZZM |
| | 303/304/309 | 2.0 | 2.40 | FGG.3B.575.ZZC | EGG.3B.675.ZZM |
| | 305/306/307 | 1.6 | 1.90 | FGG.3B.570.ZZC | EGG.3B.670.ZZM |
| | 308/309/310 | 1.3 | 1.40 | FGG.3B.565.ZZC | EGG.3B.665.ZZM |
| | 312/314 | 0.9 | 1.10 | FGG.3B.560.ZZC | EGG.3B.660.ZZM |
| | 316/318 | 0.9 | 1.10 | FGG.3B.560.ZZC | EGG.3B.660.ZZM |
| | 320/322/324 | 0.7 | 0.80 | FGG.3B.555.ZZC | EGG.3B.655.ZZM |
| | 326/330 | 0.7 | 0.80 | FGG.3B.555.ZZC | EGG.3B.655.ZZM |
| 4B 4K | 304 | 3.0 | 2.90 | FGG.4B.580.ZZC | EGG.4B.680.ZZM |
| | 306/307 | 2.0 | 2.40 | FGG.4B.575.ZZC | EGG.4B.675.ZZM |
| | 310 | 1.6 | 1.90 | FGG.4B.570.ZZC | EGG.4B.670.ZZM |
| | 312 | 1.3 | 1.40 | FGG.4B.565.ZZC | EGG.4B.665.ZZM |
| | 316/320 | 0.9 | 1.10 | FGG.4B.560.ZZC | EGG.4B.660.ZZM |
| | 324/330 | 0.9 | 1.10 | FGG.4B.560.ZZC | EGG.4B.660.ZZM |
| | 340 | 0.7 | 0.80 | FGG.4B.555.ZZC | EGG.4B.655.ZZM |
| 5B 5K | 304 | 4.0 | 4.00 | FGG.5B.582.ZZC | EGG.5B.682.ZZM |
| | 310 | 3.0 | 2.90 | FGG.5B.580.ZZC | EGG.5B.680.ZZM |
| | 314/316 | 2.0 | 2.40 | FGG.5B.575.ZZC | EGG.5B.675.ZZM |
| | 320 | 1.6 | 1.90 | FGG.5B.570.ZZC | EGG.5B.670.ZZM |
| | 330/340/348 | 1.3 | 1.40 | FGG.5B.565.ZZC | EGG.5B.665.ZZM |
| | 350/354/364 | 0.9 | 1.10 | FGG.5B.560.ZZC | EGG.5B.660.ZZM |

| | Types | ø A (mm) | ø C (mm) | Contact part number | |
|------------------|------------------|----------|----------|---------------------|----------------|
| | | | | Male | Female |
| 0B 0K | 302/303 | 0.9 | 0.80 | FGG.0B.561.ZZC | EGG.0B.661.ZZM |
| | 302/303 | 0.9 | 0.45 | FGG.0B.562.ZZC | EGG.0B.662.ZZM |
| | 304/305 | 0.7 | 0.45 | FGG.0B.556.ZZC | EGG.0B.656.ZZM |
| 0S | 302 | 0.9 | 0.80 | FGG.0B.561.ZZC | EGG.0B.661.ZZM |
| | 302 | 0.9 | 0.45 | FGG.0B.562.ZZC | EGG.0B.662.ZZM |
| 1B 1K | 302/303 | 1.3 | 1.10 | FGG.1B.566.ZZC | EGG.1B.666.ZZM |
| | 304/305 | 0.9 | 0.80 | FGG.1B.561.ZZC | EGG.1B.661.ZZM |
| | 306/307/308 | 0.7 | 0.45 | FGG.1B.556.ZZC | EGG.1B.656.ZZM |
| 1S | 302 | 1.3 | 1.10 | FGG.1B.566.ZZC | EGG.1B.666.ZZM |
| | 304 | 0.9 | 0.80 | FGG.1B.561.ZZC | EGG.1B.661.ZZM |
| | 2B 2K | 302 | 2.0 | 1.90 | FGG.2B.576.ZZC |
| 303 | | 1.6 | 1.40 | FGG.2B.571.ZZC | EGG.2B.671.ZZM |
| 304/305 | | 1.3 | 1.10 | FGG.2B.566.ZZC | EGG.2B.666.ZZM |
| 306/307 | | 1.3 | 1.10 | FGG.2B.566.ZZC | EGG.2B.666.ZZM |
| 304/305 | | 1.3 | 0.80 | FGG.2B.567.ZZC | EGG.2B.667.ZZM |
| 306/307 | | 1.3 | 0.80 | FGG.2B.567.ZZC | EGG.2B.667.ZZM |
| 308/310 | | 0.9 | 0.80 | FGG.2B.561.ZZC | EGG.2B.661.ZZM |
| 308/310 | | 0.9 | 0.45 | FGG.2B.562.ZZC | EGG.2B.662.ZZM |
| 312/314/316 | | 0.7 | 0.45 | FGG.2B.556.ZZC | EGG.2B.656.ZZM |
| 318/319 | | 0.7 | 0.45 | FGG.2B.556.ZZC | EGG.2B.656.ZZM |
| 2S | 306 | 1.3 | 1.10 | FGG.2B.566.ZZC | EGG.2B.666.ZZM |
| | 306 | 1.3 | 0.80 | FGG.2B.567.ZZC | EGG.2B.667.ZZM |
| 3B 3K | 303/304/309 | 2.0 | 1.90 | FGG.3B.576.ZZC | EGG.3B.676.ZZM |
| | 305/306/307 | 1.6 | 1.40 | FGG.3B.571.ZZC | EGG.3B.671.ZZM |
| | 308/309/310 | 1.3 | 1.10 | FGG.3B.566.ZZC | EGG.3B.666.ZZM |
| | 312/314 | 0.9 | 0.80 | FGG.3B.561.ZZC | EGG.3B.661.ZZM |
| | 316/318 | 0.9 | 0.80 | FGG.3B.561.ZZC | EGG.3B.661.ZZM |
| | 320/322/324 | 0.7 | 0.45 | FGG.3B.556.ZZC | EGG.3B.656.ZZM |
| | 326/330 | 0.7 | 0.45 | FGG.3B.556.ZZC | EGG.3B.656.ZZM |
| | 4B 4K | 306/307 | 2.0 | 1.90 | FGG.4B.576.ZZC |
| 310 | | 1.6 | 1.40 | FGG.4B.571.ZZC | EGG.4B.671.ZZM |
| 312 | | 1.3 | 1.10 | FGG.4B.566.ZZC | EGG.4B.666.ZZM |
| 316/320 | | 0.9 | 0.80 | FGG.4B.561.ZZC | EGG.4B.661.ZZM |
| 324/330 | | 0.9 | 0.80 | FGG.4B.561.ZZC | EGG.4B.661.ZZM |
| 340 | | 0.7 | 0.45 | FGG.4B.556.ZZC | EGG.4B.656.ZZM |
| 5B 5K | | 314/316 | 2.0 | 1.90 | FGG.5B.576.ZZC |
| | 320 | 1.6 | 1.40 | FGG.5B.571.ZZC | EGG.5B.671.ZZM |
| | 330/340/348 | 1.3 | 1.10 | FGG.5B.566.ZZC | EGG.5B.666.ZZM |
| | 350/354/364 | 0.9 | 0.80 | FGG.5B.561.ZZC | EGG.5B.661.ZZM |



- Body material: Polyoxymethylene (POM) grey (or black)
- Cord material: Polyamide 6, white (or black)
- Gasket material: Silicone rubber
- Maximum operating temperature: 212° F
- Watertightness: IP61 according to IEC 60529



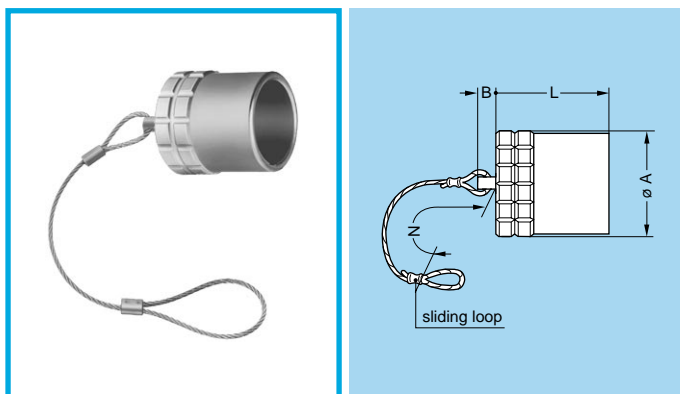
BFG Plug caps

| Part number | Series | Dimensions (mm) | | | |
|-----------------|-------------|-----------------|----|------|----|
| | | A | B | L | N |
| BFG.00.100.PCSG | 00 | 7.5 | 10 | 10.0 | 60 |
| BFG.0B.100.PCSG | 0S-0B | 9.5 | 12 | 12.2 | 85 |
| BFG.1B.100.PCSG | 1S-1B 1D | 12.0 | 15 | 13.8 | 85 |
| BFG.2B.100.PCSG | 2S-2B | 15.0 | 18 | 15.0 | 85 |
| BFG.3B.100.PCSG | 3S-3B | 18.5 | 22 | 18.5 | 95 |

Note: This cap is available only with an alignment key (G). Upon request this cap can be supplied in black and the last letter «G» of the part number should be replaced with «N».

Fitting the cord

Slide the plug into the loop of the cord. Place the loop into the groove in front of the collet nut and tighten the loop.

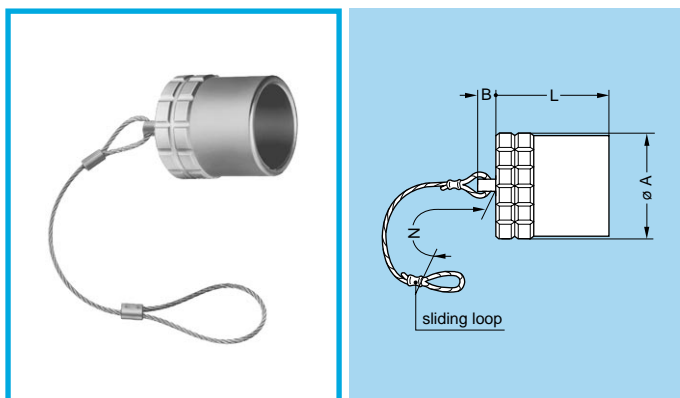


- Body material: Nickel-plated brass (Ni 3µm)
- Lanyard material: Stainless steel
- Crimp ferrule material: Nickel-plated brass + polyolefin
- O-ring material: Silicone rubber or FPM
- Maximum operating temperature: 275° F
- Watertightness: IP68 according to IEC 60529 for E series

BFA Plug caps

| Part number | Series | Dimensions (mm) | | | |
|----------------|--------|-----------------|----|------|-----|
| | | A | B | L | N |
| BFA.0E.100.NAS | 0E | 14.0 | 6 | 15.0 | 85 |
| BFA.1E.100.NAS | 1E | 16.0 | 6 | 18.0 | 85 |
| BFA.2E.100.NAS | 2E | 19.5 | 6 | 20.0 | 85 |
| BFA.3E.100.NAS | 3E | 23.0 | 6 | 24.0 | 120 |
| BFA.4E.100.NAS | 4E | 29.0 | 10 | 24.5 | 120 |
| BFA.4S.100.NAS | 4S | 25.0 | 10 | 22.0 | 120 |
| BFA.5E.100.NAS | 5E | 44.0 | 10 | 29.0 | 150 |
| BFA.5S.100.NAS | 5S | 36.0 | 10 | 30.0 | 150 |
| BFA.6S.100.NAS | 6S | 46.0 | 10 | 33.0 | 150 |

Note: The last letter «S» of the part number corresponds to the alignment key of the plug. The last letter «S» of the part number stands for the material of the O-ring (silicone rubber). O-rings made from FPM are also available; if required, replace the letter «S» by «V».

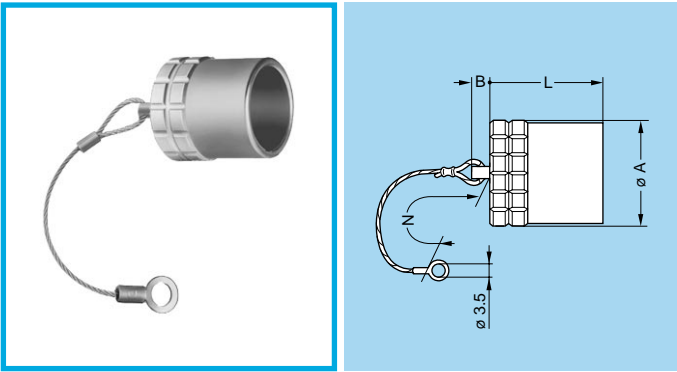


- Body material: Nickel-plated brass (Ni 3µm)
- Lanyard material: Stainless steel
- Crimp ferrule material: Nickel-plated brass + polyolefin
- O-ring material: Silicone rubber or FPM
- Maximum operating temperature: 275° F
- Watertightness: IP68 according to IEC 60529 for E and K series

BFG Plug caps with key (G)

| Part number | Series | Dimensions (mm) | | | |
|----------------|--------|-----------------|----|------|-----|
| | | A | B | L | N |
| BFG.0K.100.NAS | 0K | 14.0 | 6 | 15.0 | 85 |
| BFG.1K.100.NAS | 1K | 16.0 | 6 | 18.0 | 85 |
| BFG.2K.100.NAS | 2K | 19.5 | 6 | 20.0 | 85 |
| BFG.3K.100.NAS | 3K | 23.0 | 6 | 24.0 | 120 |
| BFG.4B.100.NAS | 4B | 25.0 | 10 | 20.0 | 120 |
| BFG.4K.100.NAS | 4K | 29.0 | 10 | 24.5 | 120 |
| BFG.5B.100.NAS | 5B | 36.0 | 10 | 27.0 | 150 |
| BFG.5K.100.NAS | 5K | 44.0 | 10 | 29.0 | 150 |
| BFG.6E.100.NAS | 6E | 54.0 | 10 | 34.0 | 150 |

Note: This cap is available only with an alignment key (G). The last letter «S» of the part number corresponds to the alignment key of the plug. The last letter «S» of the part number stands for the material of the O-ring (silicone rubber). O-rings made from FPM are also available; if required, replace the letter «S» by «V».

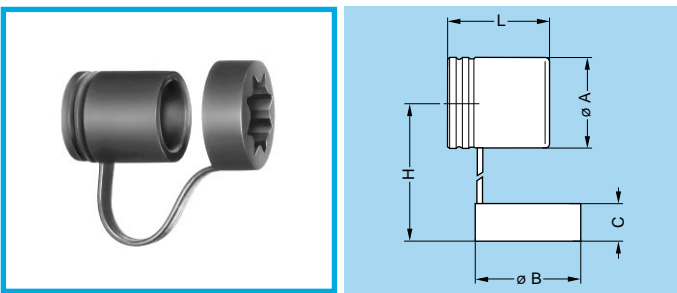


- Body material: Nickel-plated brass (Ni 3µm)
- Lanyard material: Stainless steel
- Crimp ferrule material: Nickel-plated brass + polyolefin
- O-ring material: Silicone rubber or FPM
- Maximum operating temperature: 275° F
- Watertightness: IP68 according to IEC 60529 for E and K series

BHG Plug caps, nut fixing or flange

| Part number | Series | Dimensions (mm) | | | |
|----------------|--------|-----------------|----|------|-----|
| | | A | B | L | N |
| BHG.0K.100.NAS | 0K | 14.0 | 6 | 15.0 | 85 |
| BHG.1K.100.NAS | 1K | 16.0 | 6 | 18.0 | 85 |
| BHG.2K.100.NAS | 2K | 19.5 | 6 | 20.0 | 85 |
| BHG.3K.100.NAS | 3K | 23.0 | 6 | 24.0 | 120 |
| BHG.4B.100.NAS | 4B | 25.0 | 10 | 20.0 | 120 |
| BHG.4K.100.NAS | 4K | 29.0 | 10 | 24.5 | 120 |
| BHG.5B.100.NAS | 5B | 36.0 | 10 | 27.0 | 150 |
| BHG.5K.100.NAS | 5K | 44.0 | 10 | 29.0 | 150 |
| BHG.6E.100.NAS | 6E | 54.0 | 10 | 34.0 | 150 |

Note: This cap is available only with an alignment key (G). The last letter «S» of the part number corresponds to the alignment key of the plug. The last letter «S» of the part number stands for the material of the O-ring (silicone rubber). O-rings made from FPM are also available; if required, replace the letter «S» by «V».

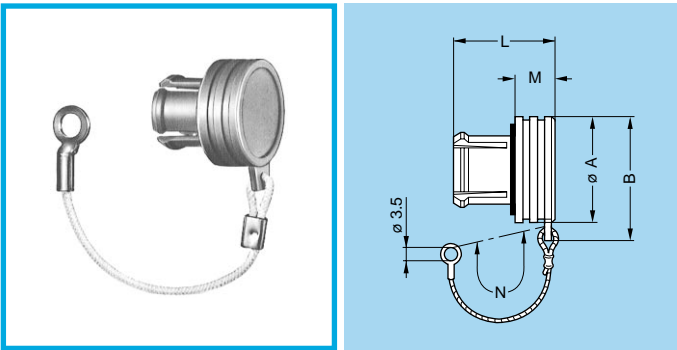


BFA Plug cap

| Part number | Series | Dimensions (mm) | | | | |
|------------------|--------|-----------------|----|----|----|----|
| | | A | B | C | H | L |
| BFA.3K.170.800EN | 3K-3E | 24 | 28 | 10 | 80 | 27 |

- Material: black EPDM

Note: These caps are suitable for use with any alignment key configura-

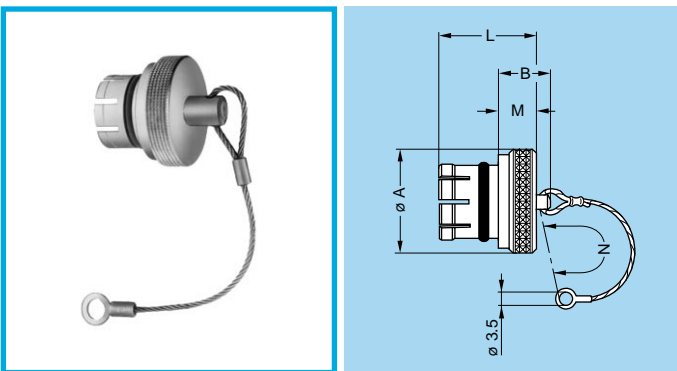


- Body material: Polyoxymethylene (POM) grey (or black)
- Cord material: Polyamide 6, white (or black)
- Gasket material: Silicone rubber
- Maximum operating temperature: 212° F
- Watertightness: IP61 according to IEC 60529

BRA Blanking caps for fixed receptacles and free straight receptacles

| Part number | Series | Dimensions (mm) | | | | |
|-----------------|----------------|-----------------|------|------|-----|----|
| | | A | B | L | M | N |
| BRA.00.200.PCSG | 00 | 7.5 | 10.0 | 8.2 | 2.7 | 60 |
| BRA.0B.200.PCSG | 0S-0B | 10.0 | 12.5 | 11.0 | 4.8 | 60 |
| BRA.1B.200.PCSG | 1S-1B 1D | 14.0 | 17.0 | 13.5 | 5.6 | 60 |
| BRA.2B.200.PCSG | 2S-2B 2C-2G | 18.0 | 21.0 | 14.5 | 6.0 | 60 |
| BRA.3B.200.PCSG | 3S-3B | 22.0 | 25.5 | 17.0 | 7.0 | 60 |

Note: These caps are suitable for use with any alignment key configuration. On request this cap can be supplied in black. If so, replace the last letter «G» of the part number by «N».

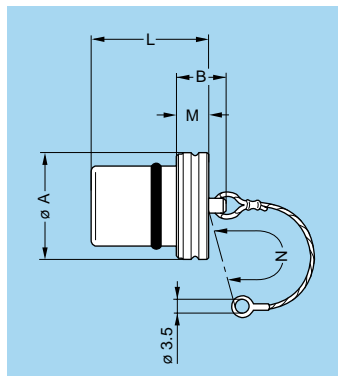
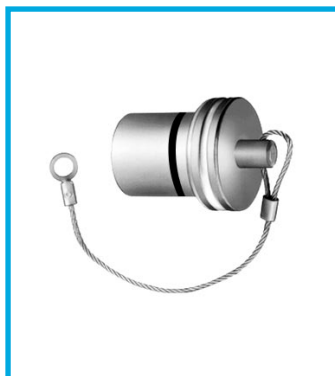


- Body material: Nickel-plated brass (Ni 3 µm)
- Lanyard material: Stainless steel
- Crimp ferrule material: Nickel-plated brass + polyolefin
- O-ring material: Silicone rubber or FPM
- Maximum operating temperature: 275° F
- Watertightness: IP61 according to IEC 60529

BRE Blanking caps for fixed and free receptacles

| Part number | Series | Dimensions (mm) | | | | |
|----------------|-------------|-----------------|------|------|------|-----|
| | | A | B | L | M | N |
| BRE.00.200.NAS | 00 | 8 | 9.5 | 8.8 | 3.5 | 60 |
| BRE.0S.200.NAS | 0S-0B | 10 | 10.5 | 10.5 | 4.5 | 85 |
| BRE.1S.200.NAS | 1S-1B 1D | 14 | 11.0 | 12.5 | 5.0 | 85 |
| BRE.2S.200.NAS | 2S-2B | 18 | 12.0 | 14.0 | 6.0 | 85 |
| BRE.3S.200.NAS | 3S-3B | 22 | 14.0 | 18.0 | 8.0 | 120 |
| BRE.4S.200.NAS | 4S-4B | 28 | 20.0 | 23.0 | 10.0 | 120 |
| BRE.5S.200.NAS | 5S-5B | 40 | 22.0 | 30.0 | 12.0 | 150 |
| BRE.6S.200.NAS | 6S | 54 | 22.0 | 30.0 | 12.0 | 150 |
| BRE.6E.200.NAS | 6E | 57 | 24.0 | 31.5 | 14.0 | 150 |

Note: These caps are suitable for use with any alignment key configuration. The last letter «S» of the part number stands for the O-ring material (silicone rubber). O-rings made from FPM are also available; if required, replace the letter «S» by «V».

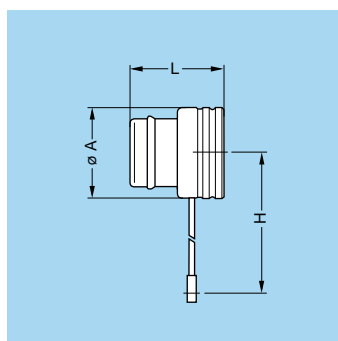


- Body material: Nickel-plated brass (Ni 3 µm)
- Lanyard material: Stainless steel
- Crimp ferrule material: Nickel-plated brass + polyolefines
- O-ring material: Silicone rubber or FPM
- Maximum operating temperature: 275° F
- Watertightness: IP68 according to IEC 60529

BRE Blanking caps for fixed and free receptacles

| Part number | Series | Dimensions (mm) | | | | |
|----------------|--------|-----------------|----|------|----|-----|
| | | A | B | L | M | N |
| BRE.0K.200.NAS | 0K-0E | 15.0 | 10 | 15.0 | 4 | 85 |
| BRE.1K.200.NAS | 1K-1E | 17.0 | 12 | 20.0 | 6 | 85 |
| BRE.2K.200.NAS | 2K-2E | 20.5 | 14 | 24.0 | 8 | 85 |
| BRE.3K.200.NAS | 3K-3E | 24.0 | 14 | 28.0 | 8 | 120 |
| BRE.4K.200.NAS | 4K-4E | 30.0 | 20 | 30.5 | 10 | 120 |
| BRE.5K.200.NAS | 5K-5E | 44.0 | 22 | 37.0 | 12 | 150 |

Note: These caps are suitable for use with any alignment key configuration. The last letter «S» of the part number stands for the O-ring material (silicone rubber). O-rings made from FPM are also available; if required, replace the letter «S» by «V».

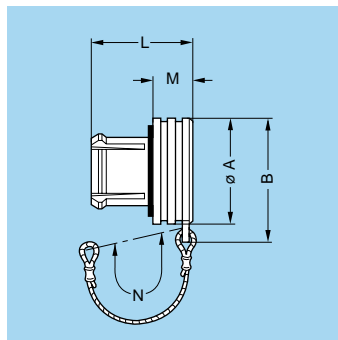


BRA Blanking cap for free receptacles

| Part number | Series | Dimensions (mm) | | |
|------------------|--------|-----------------|----|----|
| | | A | H | L |
| BRA.3K.100.715EN | 3K-3E | 24 | 80 | 25 |

- Material: black EPDM

Note: These caps are suitable for use with any alignment key configuration.

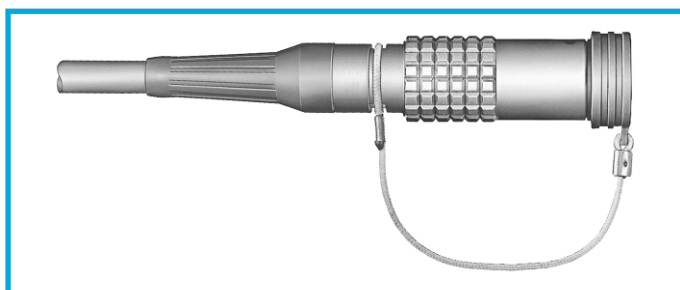


- Body material: Polyoxymethylene (POM) grey (or black)
- Cord material: Polyamide 6, white (or black)
- Gasket material: Silicone rubber
- Maximum operating temperature: 212° F
- Watertightness: IP61 according to IEC 60529

BRD Blanking caps for free receptacles

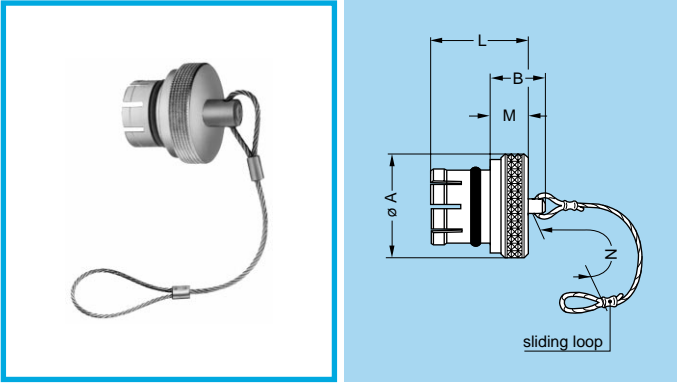
| Part number | Series | Dimensions (mm) | | | | |
|-----------------|-------------|-----------------|------|------|-----|----|
| | | A | B | L | M | N |
| BRD.00.200.PCSG | 00 | 7.5 | 10.0 | 8.2 | 2.7 | 60 |
| BRD.0B.200.PCSG | 0S-0B | 10.0 | 12.5 | 11.0 | 4.8 | 85 |
| BRD.1B.200.PCSG | 1S-1B 1D | 14.0 | 17.0 | 13.5 | 5.6 | 85 |
| BRD.2B.200.PCSG | 2S-2B | 18.0 | 21.0 | 14.5 | 6.0 | 85 |
| BRD.3B.200.PCSG | 3S-3B | 22.0 | 25.5 | 17.0 | 7.0 | 95 |

Note: On request this cap is available in black. If required, replace the last letter «G» of the part number by «N».



Fitting the cord

Slide the receptacle into the loop of the cord.
Place the loop into the groove in front of the collet nut.
Tighten the loop.

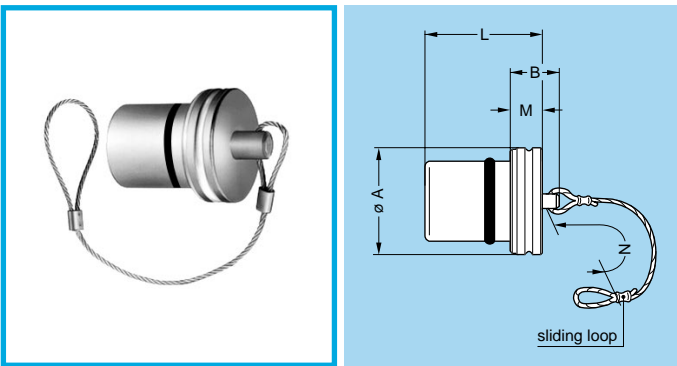


- Body material: Nickel-plated brass (Ni 3 µm)
- Lanyard material: Stainless steel
- Crimp ferrule material: Nickel-plated brass + polyolefin
- O-ring material: Silicone rubber or FPM
- Maximum operating temperature: 275° F
- Watertightness: IP61 according to IEC 60529

BRF Blanking caps for free receptacles

| Part number | Series | Dimensions (mm) | | | | |
|----------------|-------------|-----------------|------|------|------|-----|
| | | A | B | L | M | N |
| BRF.00.200.NAS | 00 | 8 | 9.5 | 8.8 | 3.5 | 85 |
| BRF.0S.200.NAS | 0S-0B | 10 | 10.5 | 10.5 | 4.5 | 85 |
| BRF.1S.200.NAS | 1S-1B 1D | 14 | 11.0 | 12.5 | 5.0 | 85 |
| BRF.2S.200.NAS | 2S-2B | 18 | 12.0 | 14.0 | 6.0 | 85 |
| BRF.3S.200.NAS | 3S-3B | 22 | 14.0 | 18.0 | 8.0 | 120 |
| BRF.4S.200.NAS | 4S-4B | 28 | 20.0 | 23.0 | 10.0 | 120 |
| BRF.5S.200.NAS | 5S-5B | 40 | 22.0 | 30.0 | 12.0 | 150 |
| BRF.6S.200.NAS | 6S | 54 | 22.0 | 30.0 | 12.0 | 150 |

Note: These caps are suitable for use with any alignment key configuration. The last letter «S» of the part number stands for the O-ring material (silicone rubber). O-rings made from FPM are also available; if required, replace the letter «S» by «V».



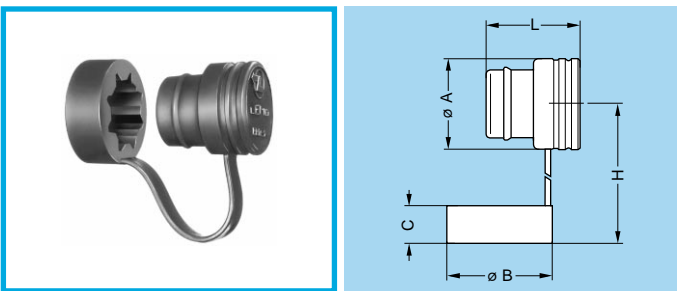
- Body material: Nickel-plated brass (Ni 3 µm)
- Lanyard material: Stainless steel
- Crimp ferrule material: Nickel-plated brass + polyolefin
- O-ring material: Silicone rubber or FPM

BRF Blanking caps for free receptacles

| Part number | Series | Dimensions (mm) | | | | |
|----------------|--------|-----------------|----|------|----|-----|
| | | A | B | L | M | N |
| BRF.0K.200.NAS | 0K-0E | 15.0 | 10 | 15.0 | 4 | 85 |
| BRF.1K.200.NAS | 1K-1E | 17.0 | 12 | 20.0 | 6 | 85 |
| BRF.2K.200.NAS | 2K-2E | 20.5 | 14 | 24.0 | 8 | 85 |
| BRF.3K.200.NAS | 3K-3E | 24.0 | 14 | 28.0 | 8 | 120 |
| BRF.4K.200.NAS | 4K-4E | 30.0 | 20 | 30.5 | 10 | 120 |
| BRF.5K.200.NAS | 5K-5E | 44.0 | 22 | 37.0 | 12 | 150 |

Note: These caps are suitable for use with any alignment key configuration. The last letter «S» of the part number stands for the O-ring material (silicone rubber). O-rings made from FPM are also available; if required, replace the letter «S» by «V».

- Maximum operating temperature: 275° F
- Watertightness: IP68 according to IEC 60529

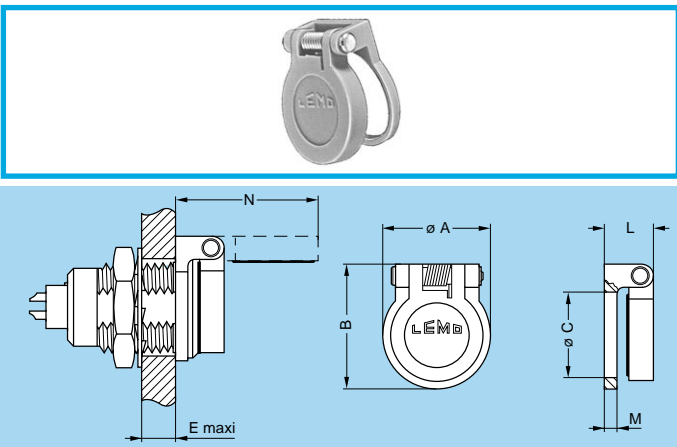


BRD Blanking caps for free receptacles

| Part number | Series | Dimensions (mm) | | | | |
|------------------|--------|-----------------|----|----|----|----|
| | | A | B | C | H | L |
| BRD.3K.170.800EN | 3K-3E | 24 | 28 | 10 | 80 | 25 |

- Material: black EPDM

Note: These caps are suitable for use with any alignment key configuration.

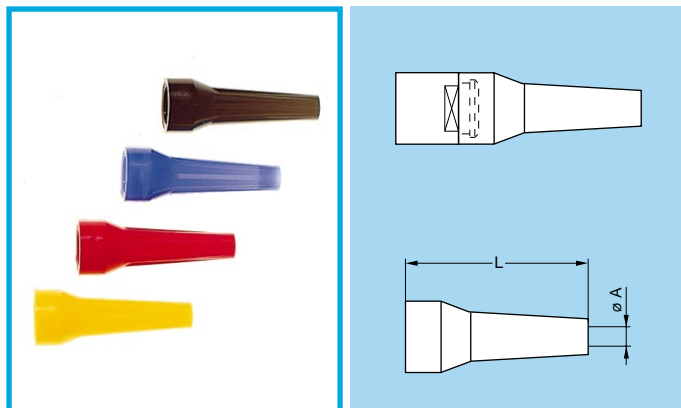


BRR Spring loaded dust caps for ERA, ERN and EG● receptacles or PSA and PK● fixed receptacles

| Part number | Series | Dimensions (mm) | | | | | | |
|-----------------|----------------|-----------------|------|------|-----|-----|-----|------|
| | | A | B | C | E | L | M | N |
| BRR.0S.200.PZSG | 0S-0B | 11.0 | 13.3 | 9.0 | 5.8 | 5.0 | 1.2 | 15.3 |
| BRR.1S.200.PZSG | 1S-1B 1D | 14.2 | 17.1 | 12.0 | 6.0 | 6.3 | 1.5 | 20.3 |
| BRR.2S.200.PZSG | 2S-2B 2C-2G | 18.6 | 22.4 | 15.2 | 6.5 | 8.2 | 2.0 | 26.2 |
| BRR.3S.200.PZSG | 3S-3B | 22.5 | 26.5 | 18.2 | 9.0 | 8.8 | 2.5 | 30.8 |
| BRR.3K.200.PZSG | 3K | 29.0 | 27.5 | 23.0 | 9.0 | 7.7 | 3.0 | 29.2 |

Note: On request, this cap is available in black. If so replace the last letter «G» of the part number by «N».

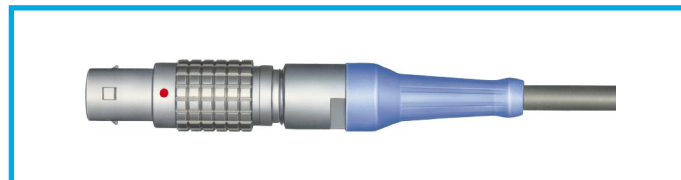
- Spring material: Stainless steel
- Maximum operating temperature: 212° F
- Watertightness: IP61 according to IEC 60529



GM Bend relief (Polyurethane)

A bend relief made from thermoplastic polyurethane elastomer (Desmopan 786) can be fitted over LEMO plugs and receptacles that are supplied with a specially fitted nut. They are available in nine different colors that match with the GRA insulating washers (see page 178).

Use the part numbers shown below to order this accessory separately.

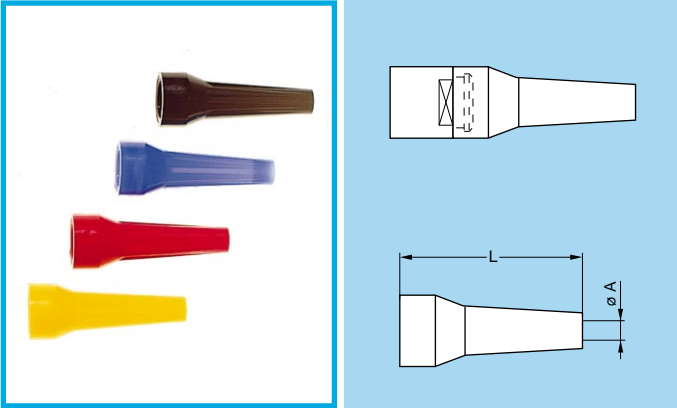


Main characteristics

- Material: Polyurethane elastomer
- Temperature range in dry atmosphere: -40° F to +176° F

| Part number | Dimensions (mm) | | | | Series | Part number of nut for fitting the bend relief | Note |
|---------------|-----------------|----|---------------------|------|--------|--|---|
| | Bend relief | | Cable \varnothing | | | | |
| | A | L | max. | min. | | | |
| GMA.00.012.DG | 1.2 | 22 | 1.4 | 1.1 | 00 | FFM.00.130.LC ¹⁾ FFM.00.131.LC ²⁾ | ¹⁾ For single contact connectors ²⁾ For multicontact connectors The «GMD» are thin bend reliefs (for very flexible cables). |
| GMA.00.018.DG | 1.8 | 22 | 2.1 | 1.8 | | | |
| GMB.00.025.DG | 2.5 | 22 | 2.8 | 2.5 | | | |
| GMB.00.028.DG | 2.8 | 22 | 3.1 | 2.8 | | | |
| GMB.00.032.DG | 3.2 | 22 | 3.5 | 3.2 | | | |
| GMD.00.025.DG | 2.5 | 22 | 2.8 | 2.5 | | | |
| GMD.00.028.DG | 2.8 | 22 | 3.1 | 2.8 | | | |
| GMD.00.032.DG | 3.2 | 22 | 3.5 | 3.2 | | | |
| GMA.0B.025.DG | 2.5 | 24 | 2.9 | 2.5 | 0B | FFM.0B.130.LC FFM.2B.132.LC ¹⁾ | ¹⁾ For use only with connectors from series 2B equipped with cable fixing type M and where a bend relief from series 0B is used. |
| GMA.0B.030.DG | 3.0 | 24 | 3.4 | 3.0 | 0S | FFM.0S.130.LC | |
| GMA.0B.035.DG | 3.5 | 24 | 3.9 | 3.5 | 0E-0K | FFM.0E.130.LC | |
| GMA.0B.040.DG | 4.0 | 24 | 4.4 | 4.0 | | | |
| GMA.0B.045.DG | 4.5 | 24 | 5.2 | 4.5 | | | |
| GMA.1B.025.DG | 2.5 | 30 | 2.9 | 2.5 | 1B-1D | FFM.1B.130.LC FFM.3B.131.LC ¹⁾ | ¹⁾ For use only with connectors from series 3B equipped with cable fixing type M and where a bend relief from series 1B is used. |
| GMA.1B.030.DG | 3.0 | 30 | 3.4 | 3.0 | 1S | FFM.1S.130.LC | |
| GMA.1B.035.DG | 3.5 | 30 | 3.9 | 3.5 | | | |
| GMA.1B.040.DG | 4.0 | 30 | 4.4 | 4.0 | | | |
| GMA.1B.045.DG | 4.5 | 30 | 4.9 | 4.5 | 1E-1K | FFM.1E.130.LC | |
| GMA.1B.054.DG | 5.4 | 30 | 6.0 | 5.4 | | | |
| GMA.1B.065.DG | 6.5 | 30 | 7.0 | 6.5 | | | |
| GMA.2B.040.DG | 4.0 | 36 | 4.5 | 4.0 | 2B | FFM.2B.130.LC FFM.4B.132.LC ¹⁾ | ¹⁾ For use only with connectors from series 4B equipped with cable fixing type M and where a bend relief from series 2B is used. |
| GMA.2B.045.DG | 4.5 | 36 | 5.0 | 4.5 | 2S | FFM.2S.130.LC | |
| GMA.2B.050.DG | 5.0 | 36 | 5.5 | 5.0 | | | |
| GMA.2B.060.DG | 6.0 | 36 | 6.5 | 6.0 | 2E-2K | FFM.2E.130.LC | |
| GMA.2B.070.DG | 7.0 | 36 | 7.7 | 7.0 | 2C-2G | FFM.2C.130.LC | |
| GMA.2B.080.DG | 7.8 | 36 | 8.8 | 7.8 | | | |
| GMA.3B.050.DG | 4.5 | 42 | 5.2 | 4.5 | 3S | FFM.3S.130.LC | |
| GMA.3B.070.DG | 7.0 | 42 | 7.9 | 7.0 | 3B | FFM.3B.130.LC | |
| GMA.3B.080.DG | 8.0 | 42 | 8.9 | 8.0 | 3E-3K | FFM.3E.130.LC | |
| GMA.3B.090.DG | 9.0 | 42 | 10.0 | 9.0 | 4S | FFM.4S.130.LC | |
| GMA.4B.080.DG | 8.0 | 60 | 9.0 | 8.0 | 4S | FFM.4S.130.LC | |
| GMA.4B.010.DG | 10.0 | 60 | 10.9 | 10.0 | 4B | FFM.4B.130.LC | |
| GMA.4B.011.DG | 11.0 | 60 | 11.9 | 11.0 | | | |
| GMA.4B.012.DG | 12.0 | 60 | 13.0 | 12.0 | 4E-4K | FFM.4E.130.LC | |
| GMA.4B.013.DG | 13.5 | 60 | 14.5 | 13.5 | | | |

Note: The last letter «G» of the part number indicates the grey color of the bend relief. For ordering a bend relief with another color, see table on page 176 and replace the letter «G» by the letter of the required color.
See also detailed information for each series: B series on page 62; K series on page 65; S series on page 120; E series on page 123.



GMA Bend relief (Silicone)

A bend relief has been designed for connectors used in applications at high temperature or requiring vapor sterilization.

These bend reliefs are different from previous ones; their material, a silicone elastomer, is noted for its retention of flexibility over a wide temperature range. They are available in nine colors.

Use the part numbers shown below to order this accessory separately.

Main characteristics

- Material: Silicone elastomer VMQ
- Temperature range in dry atmosphere: -106° F to +392° F
- Temperature range in water steam: +284° F
- Inflammability: not flammable (no UL classification)

| Part number | Dimensions (mm) | | | | Series | Part number of nut for fitting the bend relief | Note |
|---------------|-----------------|----|---------|------|--------|--|---|
| | Bend relief | | Cable ø | | | | |
| | A | L | max. | min. | | | |
| GMA.0B.025.RG | 2.5 | 27 | 2.9 | 2.5 | 0B | FFM.0B.130.LC FFM.2B.132.LC ¹⁾ | ¹⁾ For use only with connectors from series 2B equipped with cable fixing type M and where a bend relief from series 0B is used. |
| GMA.0B.030.RG | 3.0 | 27 | 3.4 | 3.0 | | | |
| GMA.0B.035.RG | 3.5 | 27 | 3.9 | 3.5 | 0S | FFM.0S.130.LC | |
| GMA.0B.040.RG | 4.0 | 27 | 4.4 | 4.0 | 0E-0K | FFM.0E.130.LC | |
| GMA.0B.045.RG | 4.5 | 27 | 5.2 | 4.5 | | | |
| GMA.1B.025.RG | 2.5 | 34 | 2.9 | 2.5 | 1B-1D | FFM.1B.130.LC FFM.3B.131.LC ¹⁾ | ¹⁾ For use only with connectors from series 3B equipped with cable fixing type M and where a bend relief from series 1B is used. |
| GMA.1B.030.RG | 3.0 | 34 | 3.4 | 3.0 | | | |
| GMA.1B.035.RG | 3.5 | 34 | 3.9 | 3.5 | 1S | FFM.1S.130.LC | |
| GMA.1B.040.RG | 4.0 | 34 | 4.4 | 4.0 | | | |
| GMA.1B.045.RG | 4.5 | 34 | 5.0 | 4.5 | | | |
| GMA.1B.051.RG | 5.1 | 34 | 5.6 | 5.1 | 1E | FFM.1E.130.LC | |
| GMA.1B.057.RG | 5.7 | 34 | 6.2 | 5.7 | | | |
| GMA.1B.063.RG | 6.3 | 34 | 7.0 | 6.3 | | | |
| GMA.2B.040.RG | 4.0 | 41 | 4.4 | 4.0 | | | 2B |
| GMA.2B.045.RG | 4.5 | 41 | 5.0 | 4.5 | | | |
| GMA.2B.051.RG | 5.1 | 41 | 5.6 | 5.1 | 2S | FFM.2S.130.LC | |
| GMA.2B.057.RG | 5.7 | 41 | 6.2 | 5.7 | | | |
| GMA.2B.063.RG | 6.3 | 41 | 7.0 | 6.3 | 2E-2K | FFM.2E.130.LC | |
| GMA.2B.071.RG | 7.1 | 41 | 7.9 | 7.1 | 2C-2G | FFM.2C.130.LC | |
| GMA.2B.080.RG | 8.0 | 41 | 9.0 | 8.0 | | | |

Note: The last letter «G» of the part number indicates the grey color of the bend relief. For ordering a bend relief with another color, see table on page 176 and replace the letter «G» by the letter of the required color.

See also detailed information for each series: B series on page 62; K series on page 65; S series on page 120; E series on page 123.

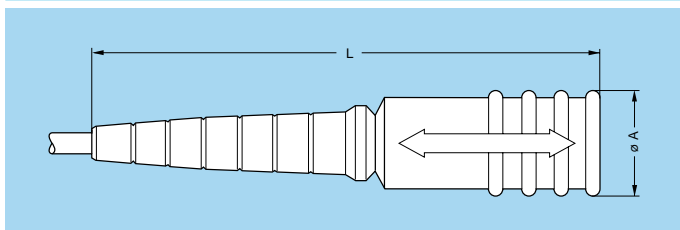
Note: The selection of pigments, which should remain stable at high temperature, is limited by new regulations. For this reason, some colors will be a shade different from those used for Desmopan bend reliefs. The selected solutions represent the best possible compromise.

| Ref. | Color | Ref. | Color |
|------|--------|------|--------|
| A | blue | N | black |
| B | white | R | red |
| G | grey | S | orange |
| J | yellow | V | green |
| M | brown | | |

GM Overall protective covering with bend relief for plugs and receptacles

Overall protective coverings with bend relief, type GMF for plugs and GMP for receptacles offer optimum protection against mechanical damage and give a protection index of IP65 according to IEC 60529 (mated position). These overall protective coverings with bend relief slide easily over the connector shell and are positioned by slightly pressing the bend relief backnut.

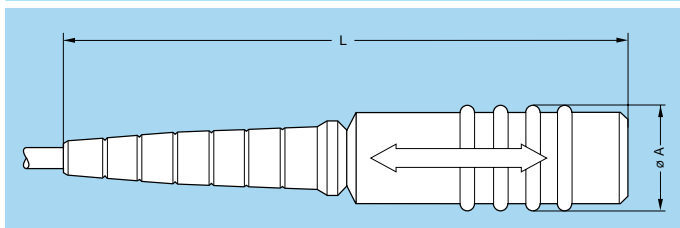
The special design of the overall protective covering for plugs provides for easy use of the push-pull self-latching system.



GMF Overall protective covering for plug

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------------------|------|---------|------|
| | | Overall protective covering | | Cable ø | |
| Model | Series | A | L | max. | min. |
| GMF | 0S-0B | 14.7 | 60.5 | 3.5 | 1.0 |
| GMF | 1S-1B | 16.0 | 72.0 | 6.2 | 2.5 |
| GMF | 2S-2B | 22.0 | 95.0 | 8.2 | 5.0 |

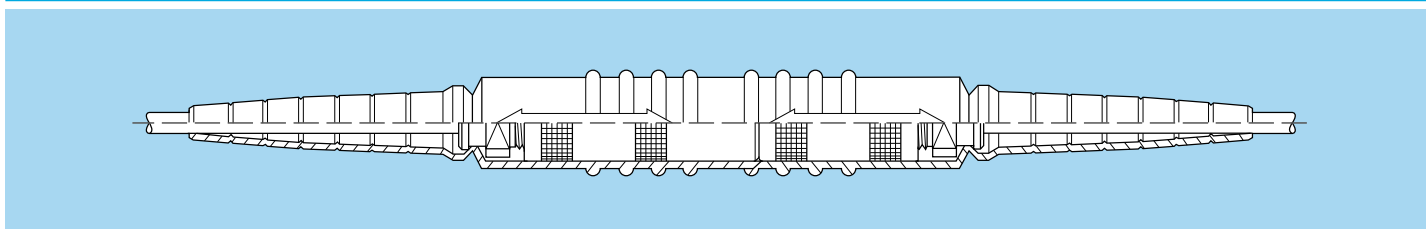
- Material: Elastomere
- Operating temperature: -22° F to +248° F

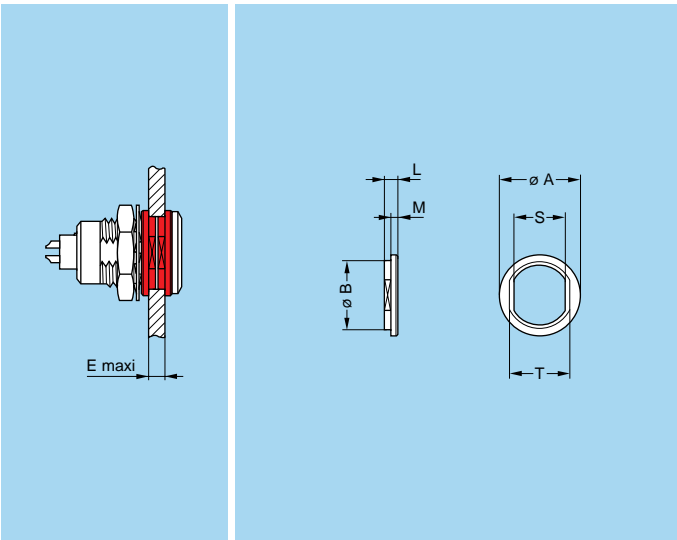
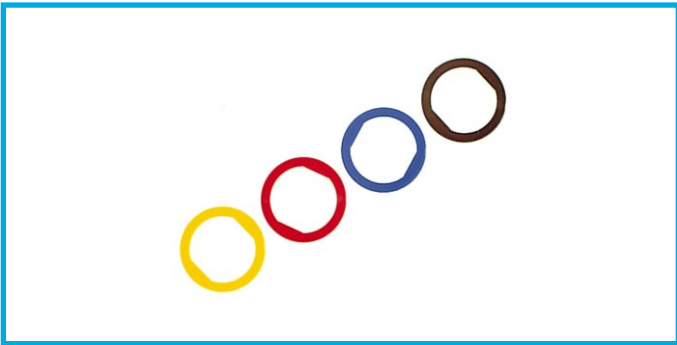


GMP Overall protective covering for free receptacle

| Reference | | Dimensions (mm) | | | |
|-----------|--------|-----------------------------|-------|---------|------|
| | | Overall protective covering | | Cable ø | |
| Model | Series | A | L | max. | min. |
| GMP | 0S-0B | 14.7 | 69.5 | 3.5 | 1.0 |
| GMP | 1S-1B | 16.0 | 79.0 | 6.2 | 2.5 |
| GMP | 2S-2B | 22.0 | 102.5 | 8.2 | 5.0 |

- Material: Elastomere
- Operating temperature: -22° F to +248° F





- Material: Polyamide
- Maximum operating temperature: 194° F

GRA Insulating washers

Receptacles or plugs mounted on panels can be fitted with insulating washers. The nine colors available combined with those for the overall protective coverings with bend relief makes color coding possible.

| Part number | Series | Dimensions (mm) | | | | | | |
|---------------|--------|-----------------|------|------|-----|-----|------|------|
| | | A | B | E | L | M | S | T |
| GRA.00.269.GG | 00 | 10 | 8.8 | 4.5 | 1.8 | 1.0 | 6.4 | 8.0 |
| GRA.0S.269.GG | 0S-0B | 12 | 10.8 | 6.0 | 1.8 | 1.0 | 8.3 | 9.9 |
| GRA.1S.269.GG | 1S-1B | 16 | 13.8 | 6.5 | 1.8 | 1.0 | 10.6 | 12.2 |
| GRA.2S.269.GG | 2S-2B | 21 | 17.8 | 7.3 | 2.2 | 1.2 | 13.6 | 16.2 |
| GRA.3S.269.GG | 3S-3B | 25 | 21.8 | 10.3 | 2.2 | 1.2 | 16.6 | 20.2 |
| GRA.4S.269.GG | 4S-4B | 32 | 28.8 | 10.5 | 2.5 | 1.5 | 23.7 | 27.2 |

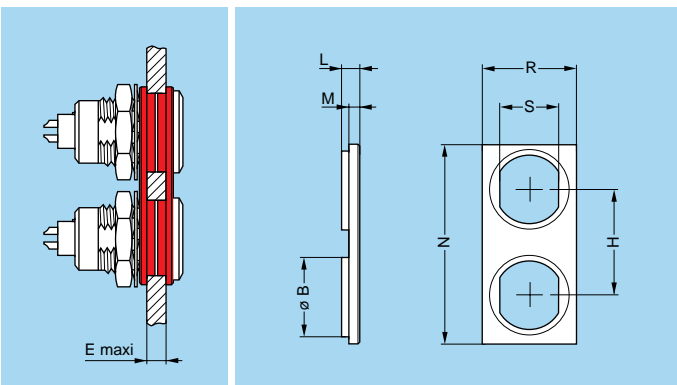
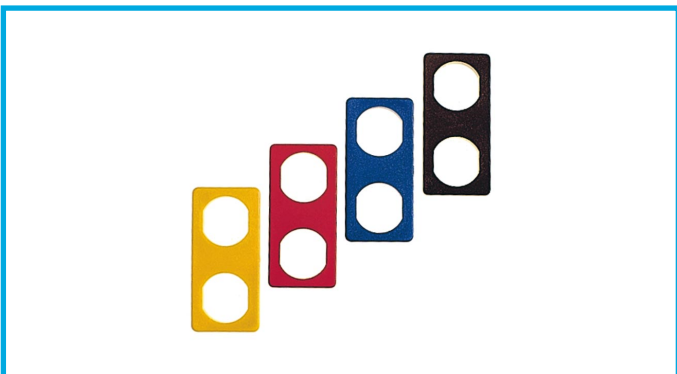
Note: Insulating washers for series 5B are available on request.

Caution: These insulating washers can be used with fixed and straight receptacles with across flat dimension S1 equivalent to the S dimension of the washer.

| Ref. | Color | Ref. | Color |
|------|--------|------|--------|
| A | blue | N | black |
| B | white | R | red |
| G | grey | S | orange |
| J | yellow | V | green |
| M | brown | | |

Note: The last letter «G» of the part number indicates the color grey for the insulating washer. To obtain an insulating washer of another color, refer to the table above and change the letter «G» of the part number to the corresponding letter of the color required.

For the panel cut-out, please consult chapter «Panel cut-out» on page 190.



- Material: Polyamide
- Maximum operating temperature: 194° F

GRC Double panel washers

Double panel washers have been designed to make the drilling of panel holes easier for mounting fixed and straight receptacles. The combination of the nine different colors of the double panel washers and of the overall protective coverings with bend relief makes color coding possible.

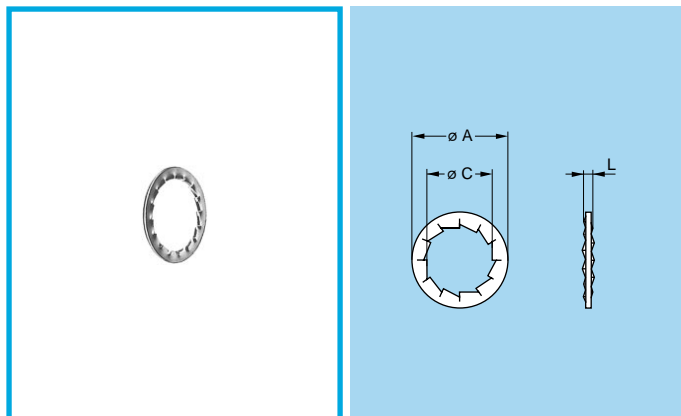
| Part number | Series | Dimensions (mm) | | | | | | | |
|---------------|--------|-----------------|---|----|-----|-----|------|------|------|
| | | B | E | H | L | M | N | R | S |
| GRC.0S.260.HG | 0S-0B | 10.9 | 5 | 14 | 2.5 | 1.5 | 26.5 | 12.5 | 8.3 |
| GRC.1B.260.HG | 1S-1B | 13.9 | 5 | 20 | 3.3 | 1.8 | 34.5 | 14.5 | 10.6 |

Caution: These double panel washers can be used with fixed or free receptacles with across flat dimension S1 equivalent to the S dimension of the washer.

| Ref. | Color | Ref. | Color |
|------|--------|------|--------|
| A | blue | N | black |
| B | white | R | red |
| G | grey | S | orange |
| J | yellow | V | green |
| M | brown | | |

Note: The last letter «G» of the washer's part number indicates the color grey. For other colors, refer to the above table and replace letter «G» by the one corresponding to the color required.

For the panel cut-out, please consult chapter «Panel cut-out» on page 190.

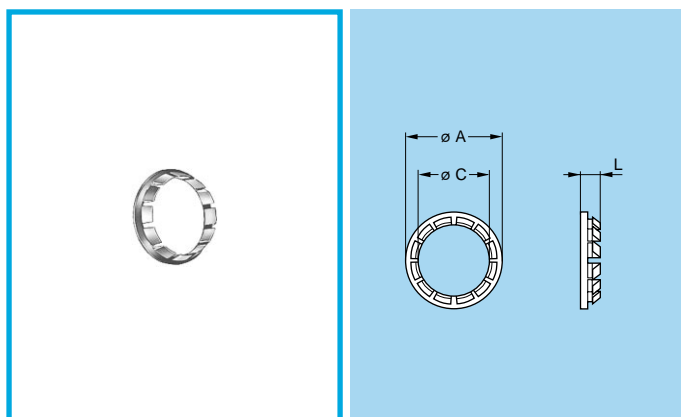


● Material: Nickel-plated bronze (3 μ m)

GBA Locking washers

| Part number | Series | Dimensions (mm) | | |
|---------------|----------------|-----------------|------|-----|
| | | A | C | L |
| GBA.00.250.FN | 00 | 9.5 | 7.1 | 1.0 |
| GBA.0S.250.FN | 0S-0B | 12.5 | 9.1 | 1.0 |
| GBA.1S.250.FN | 1S-1B 1D | 16.0 | 12.1 | 1.0 |
| GBA.1E.250.FN | 1E-1K | 21.8 | 16.1 | 1.2 |
| GBA.2S.250.FN | 2S-2B 2C-2G | 19.5 | 15.1 | 1.2 |
| GBA.3S.250.FN | 3S-3B | 25.0 | 18.1 | 1.4 |
| GBA.4S.250.FN | 4S-4B | 32.0 | 25.1 | 1.4 |

Note: To order this accessory separately, use the above part numbers.

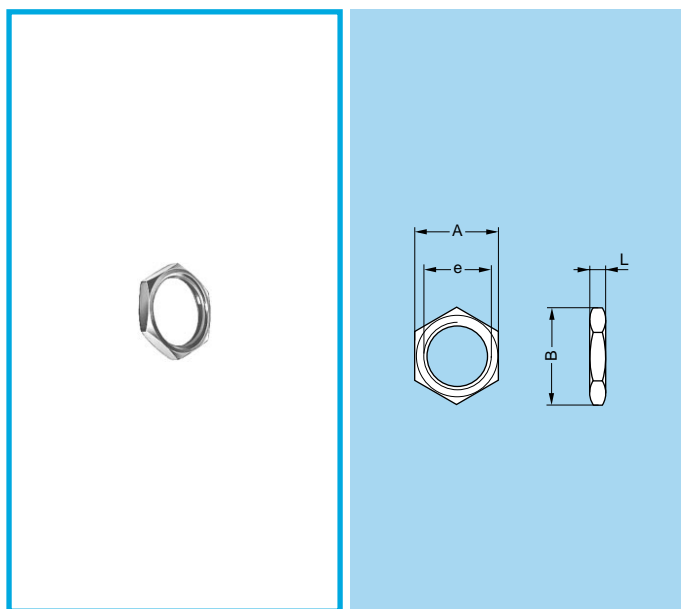


● Material: Nickel-plated brass (3 μ m)

GBB Tapered washers

| Part number | Series | Dimensions (mm) | | |
|---------------|----------------|-----------------|------|-----|
| | | A | C | L |
| GBB.00.250.LN | 00 | 9 | 7.1 | 2.0 |
| GBB.0S.250.LN | 0S-0B | 11 | 9.1 | 2.5 |
| GBB.1S.250.LN | 1S-1B | 15 | 12.1 | 3.5 |
| GBB.2S.250.LN | 2S-2B 2C-2G | 18 | 15.1 | 4.0 |
| GBB.3S.250.LN | 3S-3B | 22 | 18.1 | 4.5 |
| GBB.4S.250.LN | 4S-4B | 28 | 25.2 | 5.0 |
| GBB.5S.250.LN | 5S-5B | 40 | 35.2 | 7.5 |

Note: Receptacles of series 5B and 5S are always supplied with a tapered washer. To order this accessory separately, use the above part numbers.

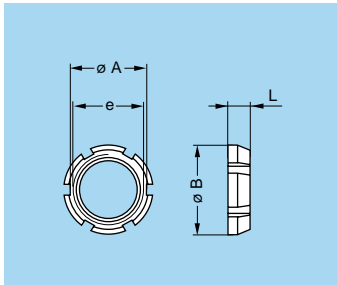
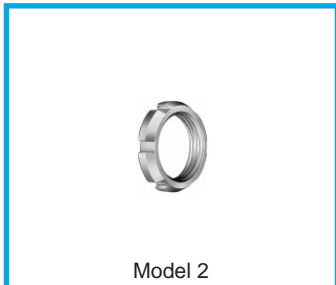
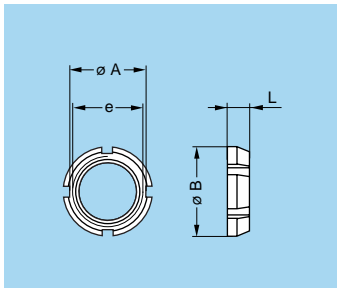


● Material:
 – Nickel-plated brass (3 μ m)
 – Natural anodized aluminium alloy
 – Stainless steel

GEA Hexagonal nuts

| Part number | Series | Dimensions (mm) | | | |
|---------------|----------------|-----------------|------|------------|-----|
| | | A | B | e | L |
| GEA.00.240.LN | 00 | 9 | 10.3 | M7 x 0.50 | 2.0 |
| GEA.0S.240.LN | 0S-0B | 11 | 12.5 | M9 x 0.60 | 2.0 |
| GEA.0S.241.LN | 0S-0B | 12 | 13.8 | M10 x 0.75 | 2.5 |
| GEA.0E.240.LN | 0E-0K 1S-1B | 17 | 19.5 | M14 x 1.00 | 2.5 |
| GEA.1S.240.LN | 1S-1B 1D | 14 | 16.0 | M12 x 1.00 | 2.5 |
| GEA.1E.240.LN | 1E-1K 2S-2B | 19 | 21.8 | M16 x 1.00 | 3.0 |
| GEA.2S.240.LN | 2S-2B | 17 | 19.5 | M15 x 1.00 | 2.7 |
| GEA.2E.240.LN | 2E-2K | 24 | 27.5 | M20 x 1.00 | 4.0 |
| GEA.3S.240.LN | 3S-3B | 22 | 25.2 | M18 x 1.00 | 3.0 |
| GEA.3E.240.LN | 3E-3K | 30 | 34.4 | M24 x 1.00 | 5.0 |
| GEA.4S.240.LN | 4S-4B | 30 | 32.0 | M25 x 1.00 | 5.0 |
| GEA.4E.240.LN | 4E-4K | 36 | 40.5 | M30 x 1.00 | 7.0 |

Note: To order this part separately, use the above part numbers. The last letters «LN» of the part number refer to the nut material and treatment. If a nut in aluminium alloy or stainless steel is desired, replace the last letters of the part number by «PT» or «AZ» respectively.

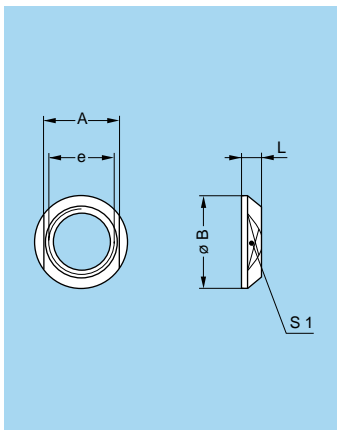
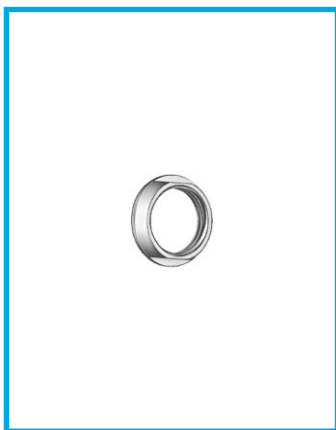


GEG Notched nut

| Part number | Model | Dimensions (mm) | | | |
|---------------|-------|-----------------|----|-----------|-----|
| | | A | B | e | L |
| GEG.00.240.LC | 1 | 8.7 | 10 | M7 x 0.5 | 2.5 |
| GEG.0S.240.LC | 1 | 10.5 | 12 | M9 x 0.6 | 2.5 |
| GEG.0E.240.LC | 1 | 15.8 | 18 | M14 x 1.0 | 3.5 |
| GEG.1S.240.LC | 1 | 14.0 | 16 | M12 x 1.0 | 3.5 |
| GEG.1E.240.LC | 2 | 17.5 | 20 | M16 x 1.0 | 3.5 |
| GEG.1S.242.LC | 1 | 12.1 | 14 | M11 x 0.5 | 3.5 |
| GEG.2S.240.LC | 2 | 17.5 | 20 | M15 x 1.0 | 3.5 |
| GEG.2S.241.LC | 2 | 20.5 | 24 | M19 x 1.0 | 3.5 |
| GEG.2E.240.LC | 2 | 22.5 | 25 | M20 x 1.0 | 3.5 |

● Material: Chrome-plated brass (Ni 3 μ m + Cr 0.3 μ m)

Note: 00, 0B, 0S, 1B, 1S, 2B and 2S series fixed and free receptacles for back panel mounting are always delivered with this notched nut. To order this accessory separately, use the above part numbers.

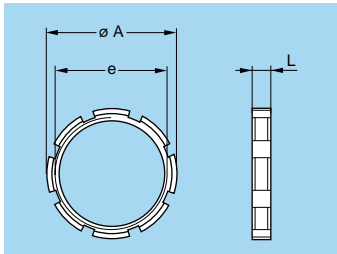
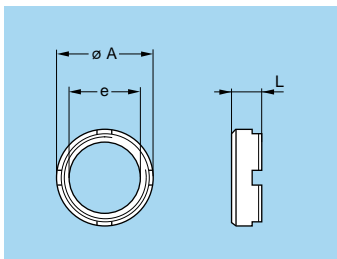
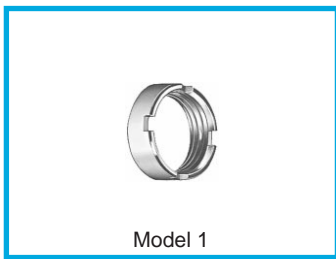


GEC Conical nuts

| Part number | Dimensions (mm) | | | | |
|---------------|-----------------|------|-----------|-----|----|
| | A | B | e | L | S1 |
| GEC.00.240.LC | 8 | 10.0 | M7 x 0.5 | 2.5 | 8 |
| GEC.0S.240.LC | 10 | 12.0 | M9 x 0.6 | 2.5 | 10 |
| GEC.0E.240.LC | 16 | 18.0 | M14 x 1.0 | 3.0 | 16 |
| GEC.1S.240.LC | 13 | 16.0 | M12 x 1.0 | 3.2 | 13 |
| GEC.1S.241.LC | 17 | 20.0 | M16 x 1.0 | 4.0 | 17 |
| GEC.1S.242.LC | 12 | 14.0 | M11 x 0.5 | 3.2 | 12 |
| GEC.2S.240.LC | 17 | 20.0 | M15 x 1.0 | 3.8 | 17 |
| GEC.2S.241.LC | 20 | 24.0 | M19 x 1.0 | 5.8 | 20 |
| GEC.2E.240.LC | 22 | 25.0 | M20 x 1.0 | 5.0 | 20 |
| GEC.3S.240.LC | 20 | 24.0 | M18 x 1.0 | 4.5 | 20 |
| GEC.3E.240.LC | 27 | 30.0 | M24 x 1.0 | 4.5 | 24 |
| GEC.4S.240.LC | 27 | 30.0 | M25 x 1.0 | 4.5 | 27 |
| GEC.4K.241.LC | 32 | 35.5 | M30 x 1.0 | 5.0 | 36 |
| GEC.5S.240.LC | 37 | 41.0 | M35 x 1.0 | 5.0 | 37 |

● Material: Chrome-plated brass (Ni 3 μ m + Cr 0.3 μ m)

Note: 3B, 3K, 3S, 3E, 4B, 4K, 4S, 4E, 5B, 5K, 5S, 5E, 6S and 6E series fixed and free receptacles for back panel mounting are always delivered with a conical nut. To order this accessory separately, use the part numbers in the adjacent table.

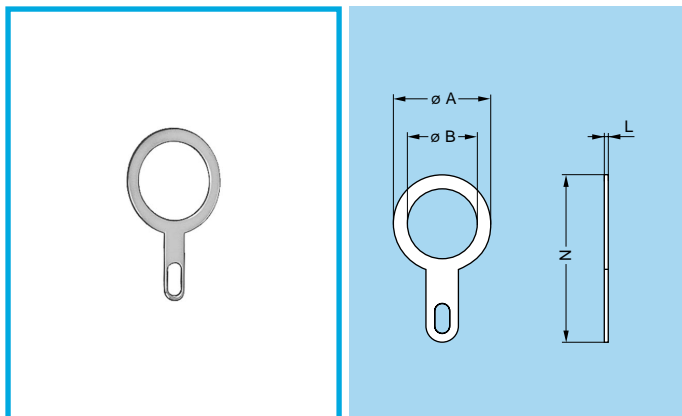


GEB Round nuts

| Part number | Model | Dimensions (mm) | | |
|---------------|-------|-----------------|------------|-----|
| | | A | e | L |
| GEB.00.240.LN | 1 | 9.0 | M7 x 0.50 | 4.0 |
| GEB.0S.240.LN | 1 | 11.0 | M9 x 0.60 | 4.0 |
| GEB.0E.240.LN | 1 | 18.0 | M14 x 1.00 | 5.0 |
| GEB.1S.240.LN | 1 | 14.0 | M12 x 1.00 | 5.0 |
| GEB.1E.240.LN | 1 | 20.0 | M16 x 1.00 | 5.0 |
| GEB.2S.240.LN | 1 | 18.0 | M15 x 1.00 | 5.5 |
| GEB.2B.240.LN | 2 | 17.5 | M15 x 0.75 | 2.5 |
| GEB.3S.240.LN | 1 | 22.0 | M18 x 1.00 | 5.5 |
| GEB.4S.240.LN | 1 | 28.0 | M25 x 1.00 | 6.0 |
| GEB.5S.240.LN | 2 | 40.0 | M35 x 1.00 | 8.0 |
| GEB.5E.240.LN | 2 | 54.0 | M45 x 1.50 | 8.0 |
| GEB.6S.241.LN | 2 | 54.0 | M48 x 1.50 | 8.0 |
| GEB.6E.240.LN | 2 | 65.0 | M55 x 2.00 | 9.0 |

● Material: Nickel-plated brass (3 μ m)

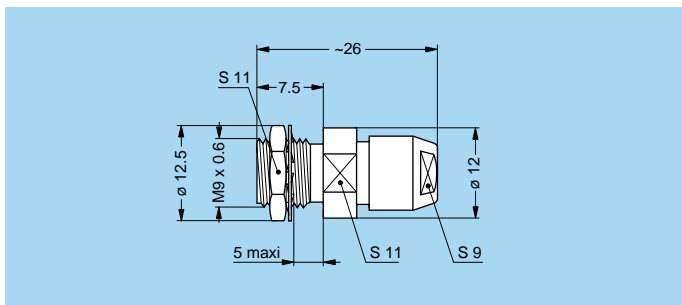
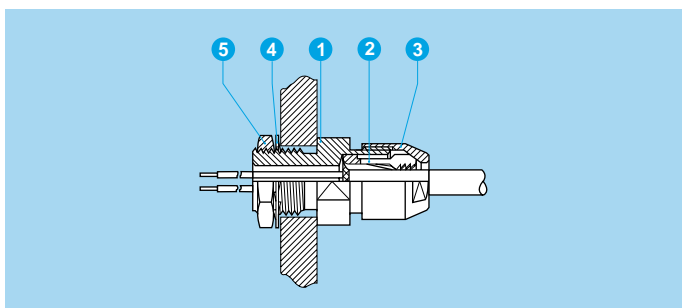
Note: 5B, 5K, 5S, 5E, 6S and 6E series receptacles and plugs are always supplied with model 2 round nuts. To order this accessory separately, use the part numbers in the adjacent table.



● Material: CuSnZn plated brass (2 µm)

GCA Grounding lug

| Part number | Series | Dimensions (mm) | | | |
|---------------|--------|-----------------|------|-----|------|
| | | A | B | L | N |
| GCA.00.255.LT | 00 | 9.5 | 7.1 | 0.4 | 18.2 |
| GCA.0S.255.LT | 0S-0B | 13.0 | 9.1 | 0.4 | 22.0 |
| GCA.0E.255.LT | 0E-0K | 17 | 14.1 | 0.5 | 27.5 |
| GCA.1S.255.LT | 1S-1B | 17 | 12.2 | 0.5 | 27.5 |
| GCA.1E.255.LT | 1E-1K | 20 | 16.2 | 0.5 | 32.0 |
| GCA.2S.255.LT | 2S-2B | 20 | 15.2 | 0.5 | 32.0 |
| GCA.2E.255.LT | 2E-2K | 25 | 20.2 | 0.5 | 39.0 |
| GCA.3S.255.LT | 3S-3B | 25 | 18.2 | 0.5 | 39.0 |
| GCA.4S.255.LT | 4S-4B | 35 | 25.6 | 0.6 | 50.0 |
| GCA.4E.255.LT | 4E-4K | 35 | 30.6 | 0.6 | 50.0 |
| GCA.5S.255.LT | 5S-5B | 42 | 35.1 | 0.7 | 57.5 |



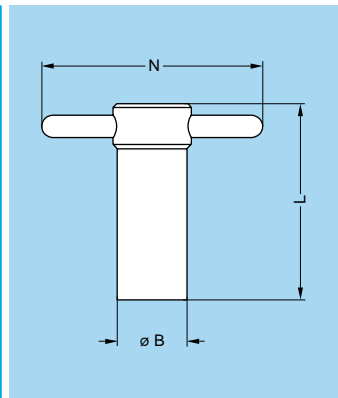
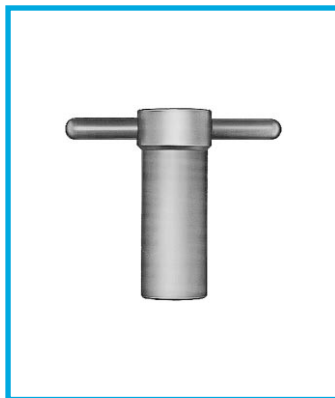
GSC Lead-through with cable collet

| Part number | Cable ø (mm) | |
|-----------------|--------------|------|
| | max. | min. |
| GSC.1S.290.ND42 | 4.0 | 3.1 |
| GSC.1S.290.ND52 | 5.0 | 4.1 |
| GSC.1S.290.ND62 | 6.0 | 5.1 |
| GSC.1S.290.ND72 | 7.0 | 6.1 |
| GSC.1S.290.ND76 | 7.5 | 7.1 |

Note:

The cable collet system stands for both screened and unscreened cables. It can be delivered with a nut for fitting a bend relief if you add a «Z» at the end of the part number.

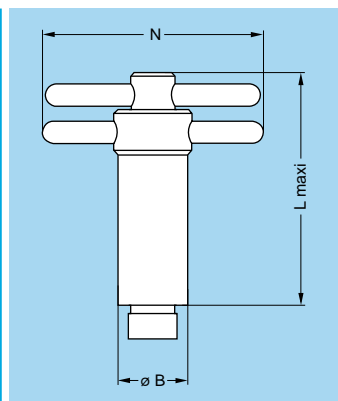
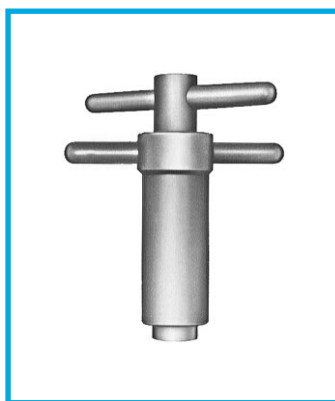
Tooling



DCG Wrench for hexagonal nuts

| Part number | Dimensions (mm) | | | Part number of the nut |
|----------------|-----------------|----|----|------------------------|
| | B | L | N | |
| DCG.91.149.0TN | 14 | 40 | 50 | GEA.00.240.LN |
| DCG.91.161.1TN | 16 | 45 | 52 | GEA.0S.240.LN |
| DCG.91.201.4TN | 20 | 52 | 65 | GEA.1S.240.LN |
| DCG.91.231.7TN | 23 | 62 | 68 | GEA.2S.240.LN |
| DCG.91.282.2TN | 28 | 76 | 73 | GEA.3S.240.LN |

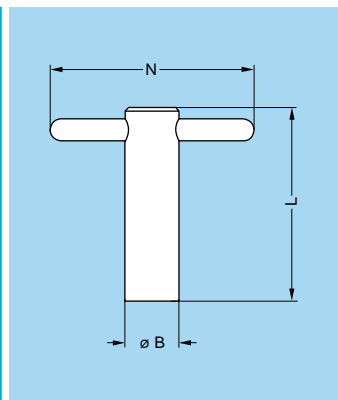
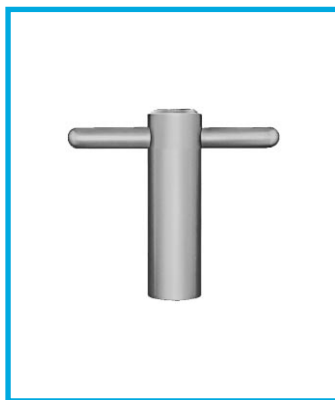
- Material: blackened steel



DCA Wrench for hexagonal nuts, with alignment of the receptacles by the flats

| Part number | Dimensions (mm) | | | Part number of the nut |
|----------------|-----------------|-----|----|------------------------|
| | B | L | N | |
| DCA.91.149.0TN | 14 | 65 | 50 | GEA.00.240.LN |
| DCA.91.161.1TN | 16 | 73 | 52 | GEA.0S.240.LN |
| DCA.91.201.4TN | 20 | 85 | 65 | GEA.1S.240.LN |
| DCA.91.231.7TN | 23 | 100 | 68 | GEA.2S.240.LN |
| DCA.91.282.2TN | 28 | 120 | 73 | GEA.3S.240.LN |

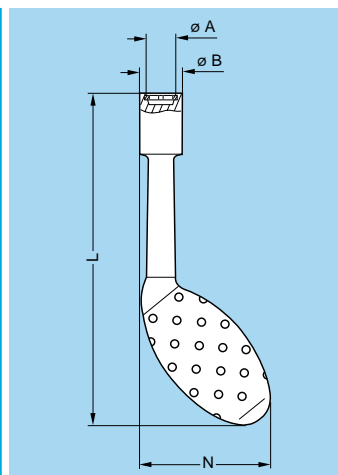
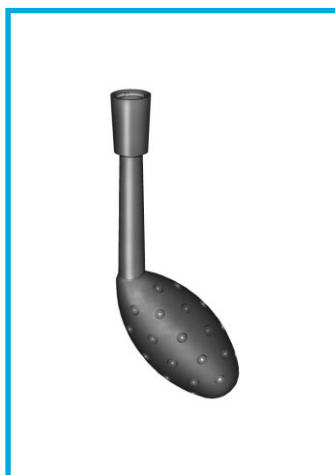
- Material: blackened steel



DCB Spanner type wrench for model 1 round nuts

| Part number | Dimensions (mm) | | | Part number of the nut |
|----------------|-----------------|----|----|------------------------|
| | B | L | N | |
| DCB.91.119.0TN | 11 | 40 | 50 | GEB.00.240.LN |
| DCB.91.131.1TN | 13 | 45 | 50 | GEB.0S.240.LN |
| DCB.91.161.4TN | 16 | 52 | 65 | GEB.1S.240.LN |
| DCB.91.201.8TN | 20 | 62 | 65 | GEB.2S.240.LN |
| DCB.91.242.2TN | 24 | 76 | 70 | GEB.3S.240.LN |

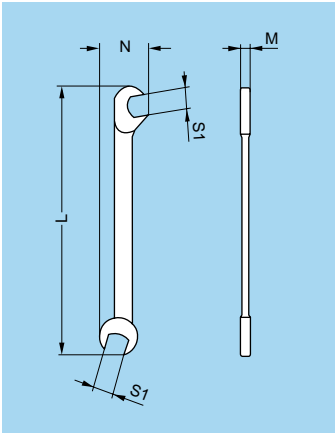
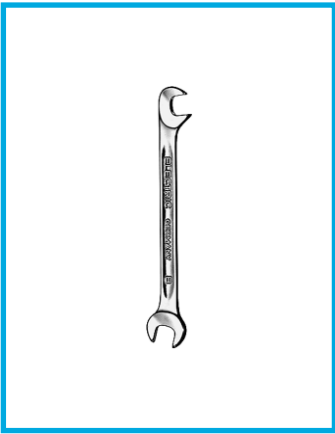
- Material: blackened steel



DCH Wrench for conical nut

| Part number | Dimensions (mm) | | | | Part number of the nut |
|---------------|-----------------|------|-----|------|------------------------|
| | A | B | L | N | |
| DCH.91.101.PN | 10.1 | 12.8 | 124 | 48.3 | GEC.00.240.LC |
| DCH.91.121.PN | 12.1 | 14.8 | 124 | 49.3 | GEC.0S.240.LC |
| DCH.91.161.PN | 16.1 | 21.0 | 124 | 51.9 | GEC.1S.240.LC |
| DCH.91.201.PN | 20.1 | 22.8 | 129 | 53.5 | GEC.2S.240.LC |

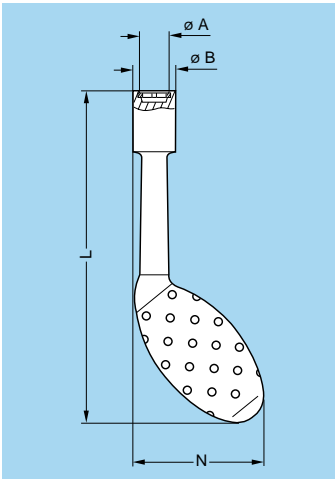
- Material: Dark grey polyurethane



DCP Flat wrench for collet nut

| Part number | Dimensions (mm) | | | |
|---------------|-----------------|---|------|-----|
| | L | M | N | S1 |
| DCP.99.045.TC | 70 | 2 | 10.5 | 4.5 |
| DCP.99.050.TC | 78 | 2 | 12.6 | 5.0 |
| DCP.99.055.TC | 78 | 2 | 12.6 | 5.5 |
| DCP.99.060.TC | 78 | 2 | 12.6 | 6.0 |

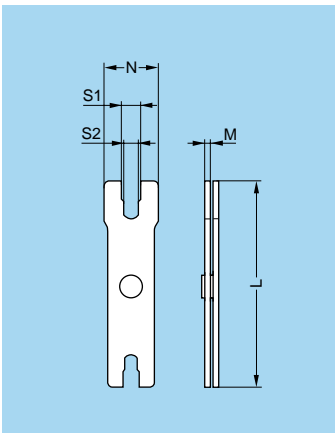
● Material: chrome-plated steel



DCH Wrench for notched nuts

| Part number | Dimensions (mm) | | | | Part number of the nut |
|---------------|-----------------|------|-----|------|------------------------|
| | A | B | L | N | |
| DCH.91.101.PA | 10.1 | 12.8 | 124 | 48.3 | GEG.00.240.LC |
| DCH.91.121.PA | 12.1 | 14.8 | 124 | 49.3 | GEG.0S.240.LC |
| DCH.91.181.PA | 18.1 | 22.8 | 129 | 53.1 | GEG.0E.240.LC |
| DCH.91.161.PA | 16.1 | 21.0 | 124 | 51.2 | GEG.1S.240.LC |
| DCH.91.201.PA | 20.1 | 22.8 | 129 | 53.5 | GEG.1E.240.LC |
| DCH.91.141.PA | 14.1 | 18.6 | 124 | 51.2 | GEG.1S.242.LC |
| DCH.91.201.PA | 20.1 | 22.8 | 129 | 53.5 | GEG.2S.240.LC |
| DCH.91.241.PA | 24.1 | 30.8 | 134 | 52.6 | GEG.2S.241.LC |
| DCH.91.251.PA | 25.1 | 32.8 | 134 | 55.5 | GEG.2E.240.LC |

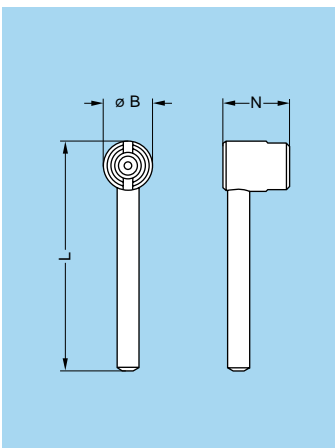
● Material: Blue polyurethane



DCP Wrench for tightening backnut

| Part number | Series | Dimensions (mm) | | | | |
|---------------|--------|-----------------|-----|----|------|------|
| | | L | M | N | S1 | S2 |
| DCP.91.001.TN | 0B | 95 | 2.5 | 21 | 8.1 | 7.1 |
| | 1B | 95 | 2.5 | 25 | 10.1 | 9.1 |
| DCP.91.023.TN | 2B-2K | 115 | 3.0 | 30 | 13.1 | 12.1 |
| | 3B-3K | 115 | 3.0 | 35 | 15.1 | 14.1 |
| DCP.91.045.TN | 4B | 130 | 3.5 | 40 | 21.2 | 20.2 |
| | 5B | 130 | 3.5 | 45 | 31.2 | 30.2 |

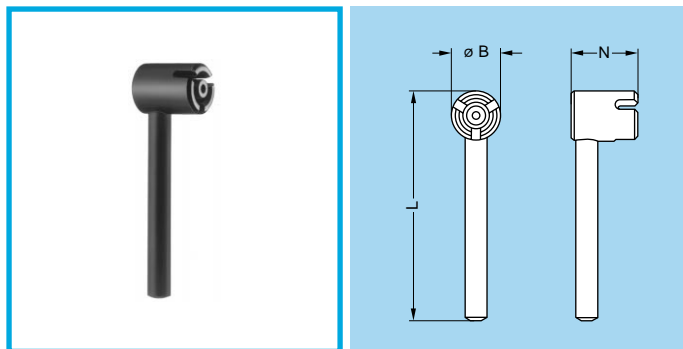
● Material: blackened steel



DCL Wrench which secures straight plug with two latching tabs while tightening collet nut

| Part number | Series | Dimensions (mm) | | |
|----------------|--------|-----------------|----|------|
| | | B | L | N |
| DCL.91.105.0TK | 00 | 10 | 45 | 13.5 |
| DCL.91.127.0TK | 0S | 12 | 47 | 17.0 |
| DCL.91.149.0TK | 1S | 14 | 52 | 19.0 |

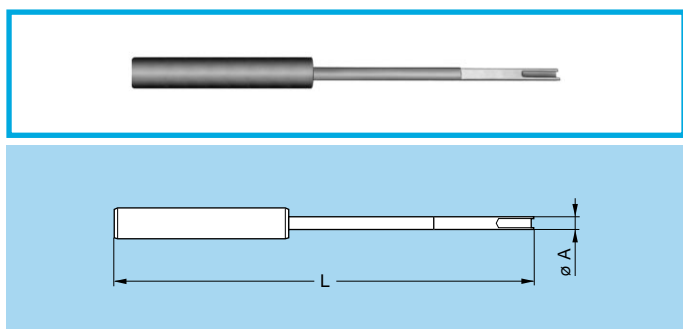
● Material: blackened steel



DCN Wrench which secures straight plug with three latching tabs while tightening collet nut

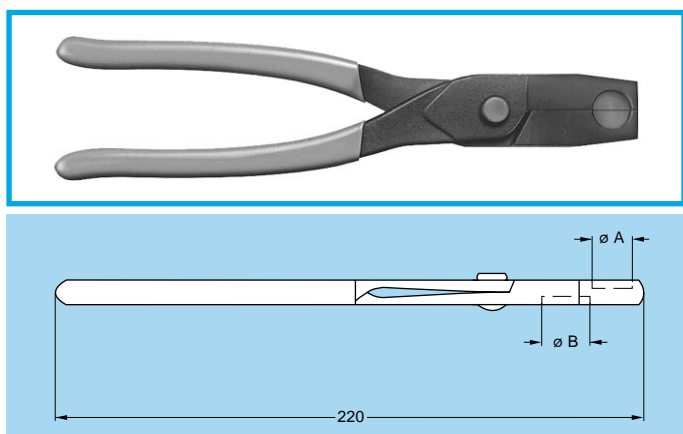
| Part number | Series | Dimensions (mm) | | |
|----------------|--------|-----------------|----|----|
| | | B | L | N |
| DCN.91.905.0TK | 00 | 9 | 45 | 12 |
| DCN.91.125.0TK | 0S | 12 | 47 | 17 |
| DCN.91.149.0TK | 1S | 14 | 52 | 19 |
| DCN.91.171.2TK | 2S-2C | 17 | 63 | 20 |
| DCN.91.201.5TK | 3S | 20 | 73 | 22 |

● Material: blackened steel



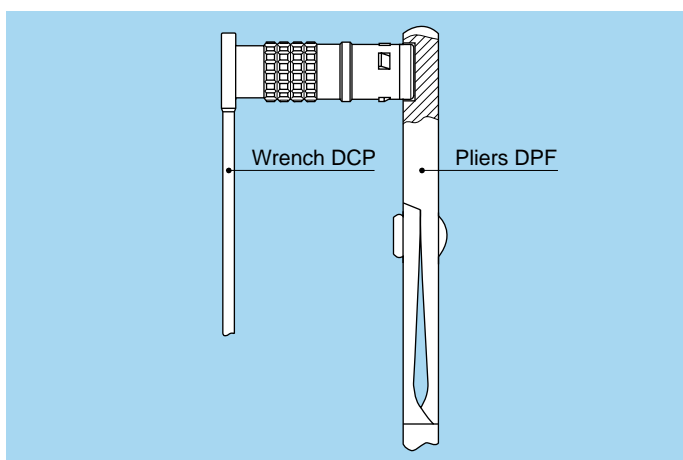
DCL Assembly tool for FVB.00.303.NLA plugs

| Part number | Series | Dim. (mm) | |
|----------------|--------|-----------|-----|
| | | A | L |
| DCL.91.516.5TK | 00 | 5 | 165 |



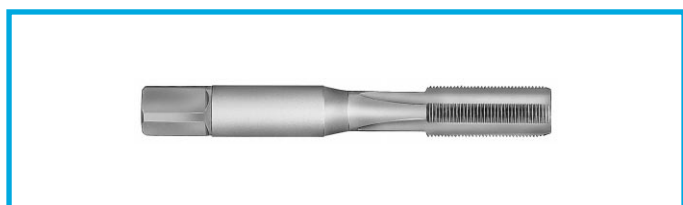
DPF Pliers for assembling plugs (series K and E)

| Part number | Series | Dimensions (mm) | |
|---------------|--------|-----------------|----|
| | | A | B |
| DPF.91.001.TA | 0E-0K | 10 | – |
| | 1E-1K | – | 12 |
| DPF.91.023.TA | 2E-2K | 15 | – |
| | 3E-3K | – | 18 |



Example for use

The plug end must be held in the pliers while the nut is tightened with the wrench.



DTA Taps

| Part number | Series | Thread |
|---------------|--------|----------|
| DTA.99.700.5Z | 00 | M7 x 0.5 |
| DTA.99.900.6Z | 0S-0B | M9 x 0.6 |

Crimping tools for electrical contacts

Fig. 1

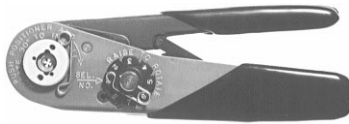
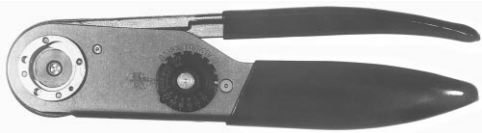


Fig. 2



Manual crimping tools

| Supplier | Part number | | |
|----------|---|---|---|
| | contact \varnothing 0.5-0.7 0.9-1.3 (Fig. 1) | contact \varnothing 1.6-2.0 (Fig. 2) | contact \varnothing 3.0-4.0 (Fig. 2) |
| LEMO | DPC.91.701.V ¹⁾ | DPC.91.101.A ²⁾ | DPC.91.102.V |
| DANIELS | MH860 ¹⁾ | AF8 ²⁾ | M300BT |
| BALMAR | 23-000 | 55-000 | 55-000 |
| BUCHANAN | 616336 ¹⁾ | 615708 ²⁾ | 615708 |

1) According to specification MIL-C-22520/7-01.

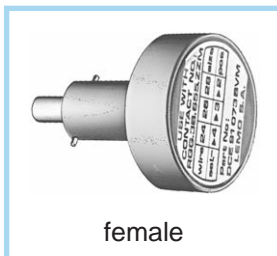
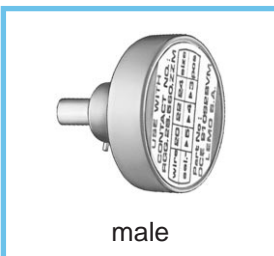
2) According to specification MIL-C-22520/1-01.

Pneumatic crimping tools



| Supplier | Part number |
|----------|--------------|
| LEMO | DPC.91.701.C |
| BALMAR | 85230 |
| BUCHANAN | 621101 |

According to specification MIL-C-22520/7-01.
For LEMO contacts \varnothing 0.5-0.7-0.9-1.3 mm



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

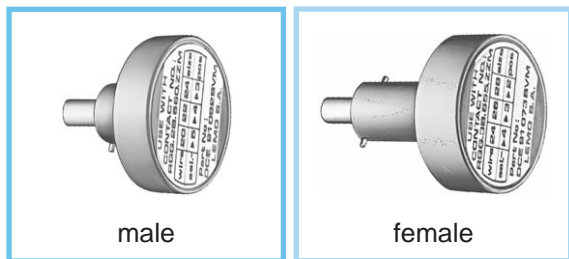
DCE Positioners for crimp contacts \varnothing 0.5-0.7-0.9 and 1.3 mm

| | Connector + Contact | | | | | Positioners part number | |
|---------------------------|---------------------|-----------------|-----------------|----------------|----------------|-------------------------|--------------------|
| | Type | \varnothing A | \varnothing C | L ₀ | Conductor AWG | For male contact | For female contact |
| 00 | 302 | 0.5 | 0.45 | 1 | 28-30-32 | DCE.91.050.0VC | DCE.91.050.0VM |
| | 303 | | | | | | |
| | 304 | | | | | | |
| 0B 0K 0S | 302 ¹⁾ | 0.9 | 1.10 | 1 | 20-22-24 | DCE.91.090.BVC | DCE.91.090.BVM |
| | | 0.9 | 0.80 | 2 | 22-24-26 | DCE.91.090.AVC | DCE.91.090.AVM |
| | 303 | 0.9 | 0.45 | 2 | 28-30-32 | DCE.91.070.BVC | DCE.91.070.BVM |
| | | 0.7 | 0.80 | 1 | 22-24-26 | DCE.91.070.BVC | DCE.91.070.BVM |
| | 304/305 | 0.7 | 0.80 | 1 | 22-24-26 | DCE.91.070.BVC | DCE.91.070.BVM |
| | | 0.7 | 0.45 | 2 | 28-30-32 | DCE.91.070.BVC | DCE.91.070.BVM |
| 306/307 309 | 0.5 | 0.45 | 1 | 28-30-32 | DCE.91.050.BVC | DCE.91.050.BVM | |
| 1B 1K 1S | 302 ¹⁾ | 1.3 | 1.40 | 1 | 18-20 | DCE.91.131.BVC | DCE.91.131.BVM |
| | | 1.3 | 1.10 | 2 | 20-22-24 | DCE.91.131.BVC | DCE.91.131.BVM |
| | 304 ¹⁾ | 0.9 | 1.10 | 1 | 20-22-24 | DCE.91.091.BVC | DCE.91.091.BVM |
| | | 0.9 | 0.80 | 2 | 22-24-26 | DCE.91.091.BVC | DCE.91.091.BVM |
| | 306/307 308 | 0.7 | 0.80 | 1 | 22-24-26 | DCE.91.071.BVC | DCE.91.071.BVM |
| | | 0.7 | 0.45 | 2 | 28-30-32 | DCE.91.071.BVC | DCE.91.071.BVM |
| 310/314 316 | 0.5 | 0.45 | 1 | 28-30-32 | DCE.91.051.BVC | DCE.91.051.BVM | |
| 2B 2K 2S | 304/305 | 1.3 | 1.40 | 1 | 18-20 | DCE.91.132.BVC | DCE.91.132.BVM |
| | | 1.3 | 1.10 | 2 | 20-22-24 | DCE.91.132.BVC | DCE.91.132.BVM |
| | 306 ¹⁾ | 1.3 | 0.80 | 2 | 22-24-26 | DCE.91.132.CVC | DCE.91.132.CVM |
| | | 0.9 | 1.10 | 1 | 20-22-24 | DCE.91.092.BVC | DCE.91.092.BVM |
| | 308/310 | 0.9 | 0.80 | 2 | 22-24-26 | DCE.91.092.BVC | DCE.91.092.BVM |
| | | 0.9 | 0.45 | 2 | 28-30-32 | DCE.91.092.AVC | DCE.91.092.AVM |
| 312/314 316/318 319 | 0.7 | 0.80 | 1 | 22-24-26 | DCE.91.072.BVC | DCE.91.072.BVM | |
| | 0.7 | 0.45 | 2 | 28-30-32 | DCE.91.072.BVC | DCE.91.072.BVM | |
| 326/332 | 0.5 | 0.45 | 1 | 28-30-32 | DCE.91.052.BVC | DCE.91.052.BVM | |

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.

Note: See table on page 60 for connector selection and the table on page 170 for contact selection.

Note: 1) Only these types are available in S series.



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

DCE Positioners for crimp contacts 0.5-0.7-0.9 and 1.3 mm diameter

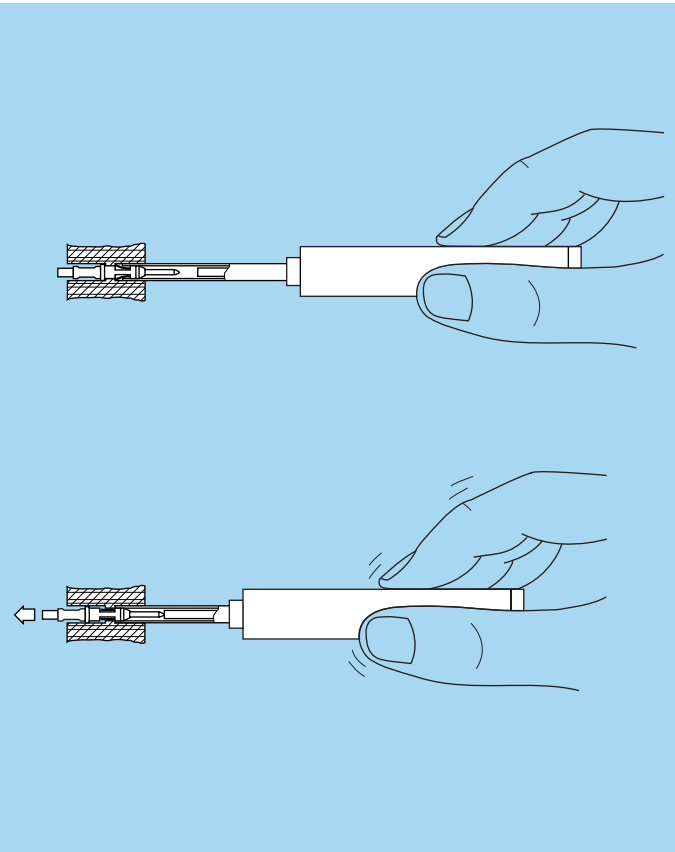
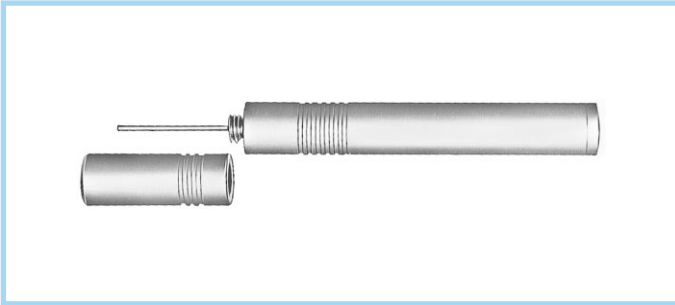
| | Connector + Contact | | | | | Positioners part number | |
|-------------------------------|---------------------|---------------------------|-------------------------|---------------|------------------|-------------------------|-----------------------|
| | Type | Δ \varnothing | \cup \varnothing | $\frac{d}{L}$ | Conductor AWG | For male contact | For female contact |
| 3B 3K | 308/309 310 | 1.3 | 1.40 | 1 | 18-20 | DCE.91.133.BVC | DCE.91.133.BVM |
| | | 1.3 | 1.10 | 2 | 20-22-24 | | |
| | 312/314 316/318 | 0.9 | 1.10 | 1 | 20-22-24 | DCE.91.093.BVC | DCE.91.093.BVM |
| | | 0.9 | 0.80 | 2 | 22-24-26 | | |
| 320/322 324/326 328/330 | 0.7 | 0.80 | 1 | 22-24-26 | DCE.91.073.BVC | DCE.91.073.BVM | |
| | 0.7 | 0.45 | 2 | 28-30-32 | | | |
| 4B 4K | 312 | 1.3 | 1.40 | 1 | 18-20 | DCE.91.134.BVC | DCE.91.134.BVM |
| | | 1.3 | 1.10 | 2 | 20-22-24 | | |
| | 316/320 324/330 | 0.9 | 1.10 | 1 | 20-22-24 | DCE.91.094.BVC | DCE.91.094.BVM |
| | | 0.9 | 0.80 | 2 | 22-24-26 | | |
| 340 | 0.7 | 0.80 | 1 | 22-24-26 | DCE.91.074.BVC | DCE.91.074.BVM | |
| | 0.7 | 0.45 | 2 | 28-30-32 | | | |
| 5B 5K | 330/340 348 | 1.3 | 1.40 | 1 | 18-20 | DCE.91.135.BVC | DCE.91.135.BVM |
| | | 1.3 | 1.10 | 2 | 20-22-24 | | |
| | 350/354 364 | 0.9 | 1.10 | 1 | 20-22-24 | DCE.91.095.BVC | DCE.91.095.BVM |
| | | 0.9 | 0.80 | 2 | 22-24-26 | | |



Note: These turrets can be used with manual crimping tool according to MIL-C-22520/1-01 standard.

DCE Turret for crimp contacts 1.6-2.0-3.0 and 4.0 mm diameter

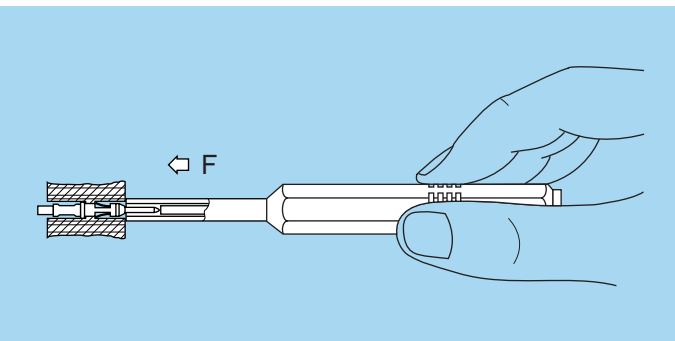
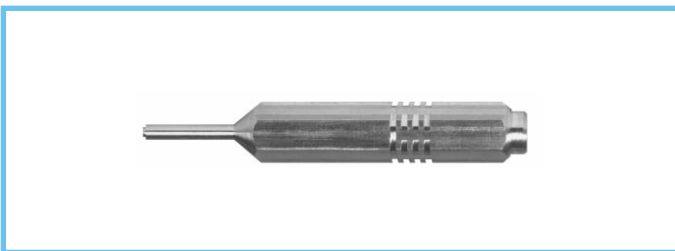
| | Connector + Contact | | | | | Positioners |
|------------------|---------------------|---------------------------|-------------------------|---------------|------------------|-----------------|
| | Type | Δ \varnothing | \cup \varnothing | $\frac{d}{L}$ | Conductor AWG | Part number |
| 2B 2K | 302 | 2.0 | 2.4 | 1 | 12-14-16 | DCE.91.202.BVCM |
| | | 2.0 | 1.9 | 2 | 14-16-18 | |
| | 303 | 1.6 | 1.9 | 1 | 14-16-18 | DCE.91.162.BVCM |
| | | 1.6 | 1.4 | 2 | 18-20 | |
| 3B 3K | 302 | 3.0 | 2.9 | 1 | 10-12-14 | DCE.91.303.BVCM |
| | 303/304 309 | 2.0 | 2.4 | 1 | 12-14-16 | DCE.91.203.BVCM |
| | | 2.0 | 1.9 | 2 | 14-16-18 | |
| | 305/306 307 | 1.6 | 1.9 | 1 | 14-16-18 | DCE.91.163.BVCM |
| 1.6 | | 1.4 | 2 | 18-20 | | |
| 4B 4K | 304 | 3.0 | 2.9 | 1 | 10-12-14 | DCE.91.304.BVCM |
| | 306/307 | 2.0 | 2.4 | 1 | 12-14-16 | DCE.91.204.BVCM |
| | | 2.0 | 1.9 | 2 | 14-16-18 | |
| | 310 | 1.6 | 1.9 | 1 | 14-16-18 | DCE.91.164.BVCM |
| 1.6 | | 1.4 | 2 | 18-20 | | |
| 5B 5K | 304 | 4.0 | 4.0 | 1 | 8-10-12 | DCE.91.405.BVCM |
| | 310 | 3.0 | 2.9 | 1 | 10-12-14 | DCE.91.305.BVCM |
| | 314/316 | 2.0 | 2.4 | 1 | 12-14-16 | DCE.91.205.BVCM |
| | | 2.0 | 1.9 | 2 | 14-16-18 | |
| | 320 | 1.6 | 1.9 | 1 | 14-16-18 | DCE.91.165.BVCM |
| | | 1.6 | 1.4 | 2 | 18-20 | |



Note: This model is used for male and female contacts.

DCF Extraction tools for crimp contacts

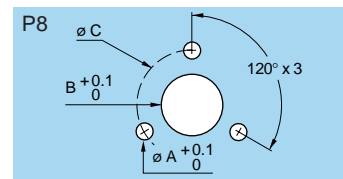
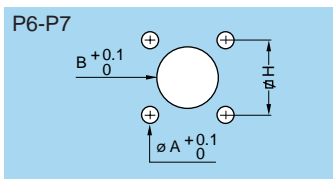
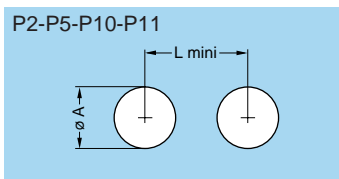
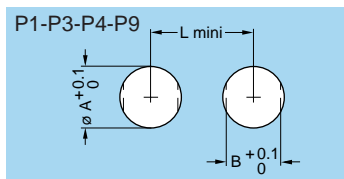
| | Connector | | Extractors |
|------------------|---------------------|-------------------------|----------------|
| | Type | Contact \varnothing A | Part number |
| 00 | 302/303/304 | 0.5 | DCF.91.050.2LT |
| 0B 0K | 302/303 | 0.9 | DCF.91.090.2LT |
| | 304/305 | 0.7 | DCF.91.070.2LT |
| | 306/307/309 | 0.5 | DCF.91.050.2LT |
| 1B 1K | 302/303 | 1.3 | DCF.91.131.2LT |
| | 304/305 | 0.9 | DCF.91.090.2LT |
| | 306/307/308 | 0.7 | DCF.91.070.2LT |
| | 310/314/316 | 0.5 | DCF.91.050.2LT |
| 2B 2K | 302 | 2.0 | DCF.91.202.2LT |
| | 303 | 1.6 | DCF.91.162.2LT |
| | 304/305/306/307 | 1.3 | DCF.91.131.2LT |
| | 308/310 | 0.9 | DCF.91.090.2LT |
| | 312/314/316/318/319 | 0.7 | DCF.91.070.2LT |
| | 326/332 | 0.5 | DCF.91.050.2LT |
| 3B 3K | 302 | 3.0 | DCF.91.303.5LT |
| | 303/304/309 | 2.0 | DCF.91.203.5LT |
| | 305/306/307 | 1.6 | DCF.91.163.5LT |
| | 308/309/310 | 1.3 | DCF.91.133.5LT |
| | 312/314/316/318 | 0.9 | DCF.91.093.5LT |
| | 320/322/324/326/330 | 0.7 | DCF.91.073.5LT |
| 4B 4K | 304 | 3.0 | DCF.91.303.5LT |
| | 306/307 | 2.0 | DCF.91.203.5LT |
| | 310 | 1.6 | DCF.91.163.5LT |
| | 312 | 1.3 | DCF.91.133.5LT |
| | 316/320/324/330 | 0.9 | DCF.91.093.5LT |
| | 340 | 0.7 | DCF.91.073.5LT |
| 5B 5K | 304 | 4.0 | DCF.91.405.5LT |
| | 310 | 3.0 | DCF.91.303.5LT |
| | 314/316 | 2.0 | DCF.91.203.5LT |
| | 320 | 1.6 | DCF.91.163.5LT |
| | 330/340/348 | 1.3 | DCF.91.133.5LT |
| | 350/354/364 | 0.9 | DCF.91.093.5LT |



DCK Retention testing tools for crimp contacts 0.5-0.7-0.9 and 1.3 mm diameter

| Contact \varnothing A | Test force (N) | Testing tool part number | |
|-------------------------|----------------|--------------------------|--------------------|
| | | For male contact | For female contact |
| 0.5 | 8 | DCK.91.050.8LRC | DCK.91.050.8LRM |
| 0.7 | 14 | DCK.91.071.4LRC | DCK.91.071.4LRM |
| 0.9 | 14 | DCK.91.091.4LRC | DCK.91.091.4LRM |
| 1.3 | 25 | DCK.91.132.5LRC | DCK.91.132.5LRM |

Panel Cut-outs



B series

| Series | P1 | | | P2 | | P3 | | | P4 | | | P5 | | P6 | | | P8 | | | P9 | | | P10 | | | |
|--------|--------------------|------|------|-----|------|------|------|----|------|------|------|-------------------|------|-----|------|----|-----|------|----|------|------|------|------|----|------|----|
| | ø A | B | L | ø A | L | ø A | B | L | ø A | B | L | ø A ²⁾ | L | ø A | B | H | ø A | B | C | ø A | B | L | ø A | L | | |
| 00 | 7.1 | 6.4 | 11.5 | 7.1 | 11.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.1 | - | 12 | - | - |
| 0B | 9.1 | 8.3 | 13.5 | 9.1 | 13.5 | 14.1 | 12.6 | 20 | 10.1 | 9.1 | 15.0 | 8.30 | 10.5 | - | - | - | - | - | - | - | - | 9.1 | 8.3 | 15 | - | - |
| 1B | 12.1 | 10.6 | 19.0 | - | - | 16.1 | 14.6 | 22 | 14.1 | 12.6 | 21.0 | 11.17 | 14.0 | - | - | - | - | - | - | - | - | 12.1 | 10.6 | 19 | 11.1 | 17 |
| 2B | 15.1 | 13.6 | 21.5 | - | - | 19.2 | 17.1 | 28 | 16.1 | 15.1 | 23.0 | 13.95 | 18.0 | - | - | - | - | - | - | - | - | 15.1 | 13.6 | 23 | - | - |
| 3B | 18.2 | 16.6 | 27.0 | - | - | - | - | - | 20.2 | 18.6 | 29.5 | - | - | - | - | - | - | - | - | - | - | 18.2 | 16.6 | 27 | - | - |
| 4B | 25.2 | 23.6 | 34.0 | - | - | - | - | - | 25.2 | 23.6 | 36.1 | - | - | - | - | - | - | - | - | - | - | 25.2 | 23.6 | 36 | - | - |
| 5B | 35.2 ¹⁾ | 33.6 | 44.0 | - | - | - | - | - | 35.2 | 33.6 | 47.1 | - | - | 3.3 | 35.2 | 34 | 2.8 | 35.2 | 47 | 35.2 | 33.6 | 47 | - | - | - | - |

Note:
¹⁾ For using the tapered washer a round hole ø 36 mm apply. ²⁾ tolerance: $\begin{matrix} +0.02 \\ 0 \end{matrix}$

Cut-out types

| Model | Type | Model | Type | Model | Type | Model | Type | Model | Type |
|-------|------|-------|--------|-------|------|-------|---------------------|-------|------|
| EBG | P6 | EKG | P1 | FAG | P1 | HMG | P9 | XBG | P2 |
| ECG | P1 | EMG | P1 | FBG | P8 | HNG | P9 | XPF | P2 |
| EEG | P1 | ENG | P1 | FWG | P9 | PEG | P1 | XRB | P2 |
| EGG | P1 | ENY | P1 | HCG | P3 | PFG | P1 | YHG | P9 |
| EFG | P2 | ESG | P1/P2 | HEG | P9 | PKG | P1 | | |
| EHG | P1 | EXG | P2/P10 | HGG | P9 | R●● | P4 | | |
| EJG | P5 | EYG | P1/P10 | HHG | P9 | S●● | P4/P9 ³⁾ | | |

Mounting nut torque

| Series | Torque (Nm) | |
|--------|-------------|-----------------------------|
| | Metal shell | Plastic shell ⁴⁾ |
| 00 | 1.0 | 0.4 |
| 0B | 2.5 | 0.4 |
| 1B | 4.5 | 0.7 |
| 2B | 6.0 | 0.8 |
| 3B | 9.0 | 1.0 |
| 4B | 12.0 | 5.0 |
| 5B | 17.0 | - |

Note: ³⁾ In series 1B use P9.

Note: ⁴⁾ These values apply when metal shell are mounted with insulating washer.

S series

| Series | P1 | | | P2 | | P3 | | | P4 | | | P5 | | P6 | | | P7 | | | P10 | | P11 | | |
|--------|--------------------|------|------|------|------|------|------|------|------|------|----|-------------------|------|-----|------|------|-----|------|------|------|----|------|-----|----|
| | ø A | B | L | ø A | L | ø A | B | L | ø A | B | L | ø A ²⁾ | L | ø A | B | H | ø A | B | H | ø A | L | ø A | L | |
| 00 | 7.1 | 6.4 | 11.5 | 7.1 | 11.5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| 0S | 9.1 | 8.3 | 13.5 | 9.1 | 13.5 | 12.1 | 10.6 | 19.0 | 10.1 | 9.1 | 15 | - | - | - | - | - | - | - | - | - | - | - | 9.1 | 16 |
| 1S | 12.1 | 10.6 | 19.0 | 12.1 | 19.0 | 14.1 | 12.6 | 21.0 | 12.1 | 10.6 | 18 | 11.92 | 17.0 | 3.3 | 12.1 | 12.7 | 2.7 | 11.1 | 12.4 | 11.1 | 17 | 12.1 | 19 | |
| 2S | 15.1 | 13.6 | 21.5 | 15.1 | 21.5 | 16.2 | 14.6 | 22.0 | 16.1 | 15.1 | 23 | - | - | 3.3 | 15.1 | 15.5 | - | - | - | - | - | - | - | |
| 3S | 18.2 | 16.6 | 27.0 | 18.2 | 27.0 | 20.2 | 18.6 | 30.0 | 20.2 | 18.6 | 29 | - | - | 3.3 | 18.2 | 18.0 | - | - | - | - | - | - | - | |
| 4S | 25.2 | 23.6 | 34.0 | 25.2 | 34.0 | 25.2 | 23.6 | 36.0 | 25.2 | 23.6 | 36 | - | - | - | - | - | - | - | - | - | - | - | - | |
| 5S | 35.2 ¹⁾ | 33.6 | 44.0 | 35.2 | 44.0 | 35.2 | 33.6 | 47.0 | 35.2 | 33.6 | 47 | - | - | 4.4 | 35.2 | 36.8 | - | - | - | - | - | - | - | |
| 6S | 48.3 | 45.6 | 58.0 | 48.3 | 58.0 | 48.3 | 45.6 | 60.0 | 48.3 | 45.6 | 60 | - | - | - | - | - | - | - | - | - | - | - | - | |

Note:
¹⁾ For using the tapered washer a round hole ø 36 mm apply. ²⁾ tolerance: $\begin{matrix} +0.02 \\ 0 \end{matrix}$

Cut-out types

| Model | Type | Model | Type | Model | Type | Model | Type | Model | Type |
|-------|-------|-------|------|-------|--------|-------|---------------------|-------|---------------------|
| EBC | P6 | EMD | P1 | ERS | P2 | FAA | P1/P2 ³⁾ | PSS | P1 |
| EBD | P6 | ERA | P1 | ERT | P5 | HCP | P3 ⁴⁾ | RAD | P1/P2 ⁵⁾ |
| EBS | P7 | ERC | P1 | ERY | P1 | HGP | P3 | SWH | P4 |
| ECP | P1 | ERD | P1 | ERZ | P1 | HGW | P11 | | |
| EEP | P1 | ERM | P1 | EXP | P2/P10 | PSA | P1 | | |
| EHP | P2/P1 | ERN | P1 | EWB | P3 | PSP | P1 | | |

1 N = 0.102 kg

Mounting nut torque

| Series | Torque (Nm) | |
|--------|-------------|-----------------------------|
| | Metal shell | Plastic shell ⁶⁾ |
| 0S | 2.5 | 0.4 |
| 1S | 4.5 | 0.7 |
| 2S | 6.0 | 0.8 |
| 3S | 9.0 | 1.0 |
| 4S | 12.0 | 5.0 |
| 5S | 17.0 | - |
| 6S | 22.0 | - |

Note: ³⁾ In series 6S use P2. ⁴⁾ Use only ø A in 1S series.
⁵⁾ In series 4S and 5S use P2.

Note: ⁶⁾ These values apply when metal shell are mounted with insulating washer.

K series

| Series | P1 | | | P6 | | | P7 | | |
|--------|------|------|------|-----|------|------|-----|------|------|
| | ∅ A | B | L | ∅ A | B | H | ∅ A | B | H |
| 0K | 14.1 | 12.6 | 20.5 | – | – | – | – | – | – |
| 1K | 16.1 | 14.6 | 22.5 | – | – | – | – | – | – |
| 2K | 20.2 | 18.6 | 29.0 | – | – | – | – | – | – |
| 3K | 24.2 | 22.6 | 35.5 | 3.5 | 22.6 | 20.6 | 3.5 | 23.1 | 23.0 |
| 4K | 30.2 | 28.6 | 43.0 | 3.5 | 28.6 | 27.0 | 3.5 | 30.1 | 29.0 |
| 5K | 45.2 | 42.6 | 57.0 | 4.5 | 42.6 | 38.0 | 4.5 | 45.1 | 44.0 |

Cut-out types

| Model | Type | Model | Type | Model | Type |
|-------|------------------|-------|------|-------|------------------|
| EBG | P7 | ENG | P1 | PBG | P7 ³⁾ |
| EDG | P7 ²⁾ | EVG | P1 | PEG | P1 |
| EEG | P1 | FAG | P1 | PKG | P1 |
| EGG | P1 | FXG | P6 | S●● | P1 |
| EHG | P1 | HEG | P1 | | |
| EMG | P1 | HGG | P1 | | |

Mounting nut torque

| Series | Torque (Nm) |
|--------|-------------|
| 0K | 5 |
| 1K | 7 |
| 2K | 9 |
| 3K | 12 |
| 4K | 17 |
| 5K | 22 |

1 N = 0.102 kg

Note: ²⁾ For this model dimension B = 18.1. ³⁾ For this model dimension B = 19.1.

E series

| Series | P1 | | | P6 | | |
|--------|------|------|------|-----|------|-----------|
| | ∅ A | B | L | ∅ A | B | H |
| 0E | 14.1 | 12.6 | 20.5 | – | – | – |
| 1E | 16.1 | 14.6 | 22.5 | – | – | – |
| 2E | 20.2 | 18.6 | 29.0 | 2.9 | 19.1 | 11.8x20.4 |
| 3E | 24.2 | 22.6 | 35.5 | – | – | – |
| 4E | 30.2 | 28.6 | 43.0 | – | – | – |
| 5E | 45.2 | 42.6 | 57.0 | – | – | – |
| 6E | 55.3 | 52.1 | 68.0 | – | – | – |

Cut-out types

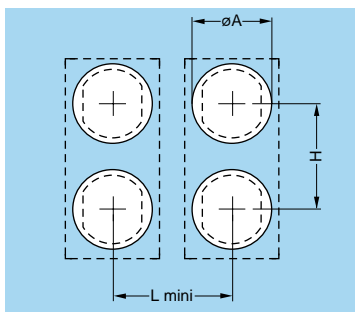
| Model | Type | Model | Type | Model | Type |
|-------|------|-------|------|-------|------|
| EBR | P6 | ERB | P1 | PSA | P1 |
| EEP | P1 | ERC | P1 | PSP | P1 |
| EHP | P1 | FAA | P1 | SWH | P1 |
| ERA | P1 | HGP | P1 | | |

Mounting nut torque

| Series | Torque (Nm) |
|--------|-------------|
| 0E | 5 |
| 1E | 7 |
| 2E | 9 |
| 3E | 12 |
| 4E | 17 |
| 5E | 22 |
| 6E | 27 |

1 N = 0.102 kg

Panel cut-out for mounting with insulating washer or double panel washer (B-S series)



| Series | Dimensions (mm) | | |
|--------|-----------------|----|------|
| | ∅ A | H | L |
| 0S-0B | 11 | 14 | 13.5 |
| 1S-1B | 14 | 20 | 17.0 |

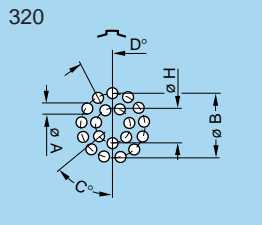
Note: For nut tightening torques please refer to the corresponding series in the table on page 189.

PCB drilling pattern

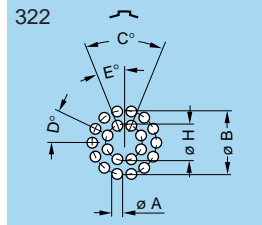
Fixed receptacle with straight printed circuit contact (B-K series) P15

| <p>302</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="2">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>00</td> <td>0.6</td> <td>1.2</td> </tr> <tr> <td>0B-0K</td> <td>0.8</td> <td>2.2</td> </tr> <tr> <td>1B-1K</td> <td>0.8</td> <td>2.8</td> </tr> <tr> <td>2B-2K</td> <td>0.8</td> <td>4.4</td> </tr> </tbody> </table> | Series | Dimensions | | A | B | 00 | 0.6 | 1.2 | 0B-0K | 0.8 | 2.2 | 1B-1K | 0.8 | 2.8 | 2B-2K | 0.8 | 4.4 | <p>303</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="3">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>00</td> <td>0.6</td> <td>1.35</td> <td>120°</td> </tr> <tr> <td>0B-0K</td> <td>0.8</td> <td>2.30</td> <td>120°</td> </tr> <tr> <td>1B-1K</td> <td>0.8</td> <td>3.00</td> <td>120°</td> </tr> <tr> <td>2B-2K</td> <td>0.8</td> <td>4.60</td> <td>120°</td> </tr> <tr> <td>3B-3K</td> <td>0.8</td> <td>5.60</td> <td>120°</td> </tr> </tbody> </table> | Series | Dimensions | | | A | B | C | 00 | 0.6 | 1.35 | 120° | 0B-0K | 0.8 | 2.30 | 120° | 1B-1K | 0.8 | 3.00 | 120° | 2B-2K | 0.8 | 4.60 | 120° | 3B-3K | 0.8 | 5.60 | 120° | | | | | | | | | | | | | | | | | | | | |
|------------|--|--------|------------|--------|------|------|----|-----|-------|-------|-----|-----|-------|-----|-------|-------|------------|---|------------|--|------------|--|--------|------------|-------|-------|------|------|------------|---|------------|---|--------|------------|------|-------|-----|-------|------|-------|-----|-------|------|-------|-----|-------|--------|--------|------|-------|-----|------|--------|--------|------|-------|-----|-----|--------|--------|------|-------|-----|------|--------|--------|------|
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 00 | 0.6 | 1.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0B-0K | 0.8 | 2.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1B-1K | 0.8 | 2.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 4.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 00 | 0.6 | 1.35 | 120° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0B-0K | 0.8 | 2.30 | 120° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1B-1K | 0.8 | 3.00 | 120° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 4.60 | 120° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3B-3K | 0.8 | 5.60 | 120° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>304</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="3">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>00</td> <td>0.6</td> <td>1.6</td> <td>45°</td> </tr> <tr> <td>0B-0K</td> <td>0.6</td> <td>2.5</td> <td>45°</td> </tr> <tr> <td>1B-1K</td> <td>0.8</td> <td>3.1</td> <td>45°</td> </tr> <tr> <td>2B-2K</td> <td>0.8</td> <td>5.0</td> <td>45°</td> </tr> <tr> <td>3B-3K</td> <td>0.8</td> <td>6.2</td> <td>45°</td> </tr> </tbody> </table> | Series | Dimensions | | | A | B | C | 00 | 0.6 | 1.6 | 45° | 0B-0K | 0.6 | 2.5 | 45° | 1B-1K | 0.8 | 3.1 | 45° | 2B-2K | 0.8 | 5.0 | 45° | 3B-3K | 0.8 | 6.2 | 45° | <p>305</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="3">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>0B-0K</td> <td>0.6</td> <td>2.8</td> <td>72°</td> </tr> <tr> <td>1B-1K</td> <td>0.8</td> <td>3.4</td> <td>72°</td> </tr> <tr> <td>2B-2K</td> <td>0.8</td> <td>5.2</td> <td>72°</td> </tr> </tbody> </table> | Series | Dimensions | | | A | B | C | 0B-0K | 0.6 | 2.8 | 72° | 1B-1K | 0.8 | 3.4 | 72° | 2B-2K | 0.8 | 5.2 | 72° | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 00 | 0.6 | 1.6 | 45° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0B-0K | 0.6 | 2.5 | 45° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1B-1K | 0.8 | 3.1 | 45° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 5.0 | 45° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3B-3K | 0.8 | 6.2 | 45° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0B-0K | 0.6 | 2.8 | 72° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1B-1K | 0.8 | 3.4 | 72° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 5.2 | 72° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>306</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="3">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>0B-0K</td> <td>0.6</td> <td>3.0</td> <td>60°</td> </tr> <tr> <td>1B-1K</td> <td>0.8</td> <td>3.7</td> <td>60°</td> </tr> </tbody> </table> | Series | Dimensions | | | A | B | C | 0B-0K | 0.6 | 3.0 | 60° | 1B-1K | 0.8 | 3.7 | 60° | <p>306</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="3">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>2B-2K</td> <td>0.8</td> <td>5.6</td> <td>72°</td> </tr> </tbody> </table> | Series | Dimensions | | | A | B | C | 2B-2K | 0.8 | 5.6 | 72° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0B-0K | 0.6 | 3.0 | 60° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1B-1K | 0.8 | 3.7 | 60° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 5.6 | 72° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>307</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="3">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>0B-0K</td> <td>0.6</td> <td>3.0</td> <td>60°</td> </tr> <tr> <td>1B-1K</td> <td>0.8</td> <td>3.7</td> <td>60°</td> </tr> <tr> <td>2B-2K</td> <td>0.8</td> <td>5.8</td> <td>60°</td> </tr> </tbody> </table> | Series | Dimensions | | | A | B | C | 0B-0K | 0.6 | 3.0 | 60° | 1B-1K | 0.8 | 3.7 | 60° | 2B-2K | 0.8 | 5.8 | 60° | <p>308</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="3">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>1B-1K</td> <td>0.8</td> <td>3.8</td> <td>51°26'</td> </tr> </tbody> </table> | Series | Dimensions | | | A | B | C | 1B-1K | 0.8 | 3.8 | 51°26' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0B-0K | 0.6 | 3.0 | 60° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1B-1K | 0.8 | 3.7 | 60° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 5.8 | 60° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1B-1K | 0.8 | 3.8 | 51°26' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>308</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="3">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>2B-2K</td> <td>0.8</td> <td>6.4</td> <td>45°</td> </tr> <tr> <td>3B-3K</td> <td>0.8</td> <td>7.5</td> <td>45°</td> </tr> </tbody> </table> | Series | Dimensions | | | A | B | C | 2B-2K | 0.8 | 6.4 | 45° | 3B-3K | 0.8 | 7.5 | 45° | <p>309</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="3">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>3B-3K</td> <td>0.8</td> <td>7.5</td> <td>45°</td> </tr> </tbody> </table> | Series | Dimensions | | | A | B | C | 3B-3K | 0.8 | 7.5 | 45° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 6.4 | 45° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3B-3K | 0.8 | 7.5 | 45° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3B-3K | 0.8 | 7.5 | 45° | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>310</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="5">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>H</th> </tr> </thead> <tbody> <tr> <td>1B-1K</td> <td>0.6</td> <td>3.95</td> <td>45°</td> <td>22°30'</td> <td>1.40</td> </tr> <tr> <td>2B-2K</td> <td>0.8</td> <td>6.20</td> <td>45°</td> <td>22°30'</td> <td>2.15</td> </tr> <tr> <td>3B-3K</td> <td>0.8</td> <td>7.90</td> <td>45°</td> <td>22°30'</td> <td>2.80</td> </tr> </tbody> </table> | Series | Dimensions | | | | | A | B | C | D | H | 1B-1K | 0.6 | 3.95 | 45° | 22°30' | 1.40 | 2B-2K | 0.8 | 6.20 | 45° | 22°30' | 2.15 | 3B-3K | 0.8 | 7.90 | 45° | 22°30' | 2.80 | <p>312</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="5">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>H</th> </tr> </thead> <tbody> <tr> <td>2B-2K</td> <td>0.8</td> <td>6.50</td> <td>45°</td> <td>22°30'</td> <td>2.80</td> </tr> <tr> <td>3B-3K</td> <td>0.8</td> <td>8.20</td> <td>45°</td> <td>22°30'</td> <td>3.40</td> </tr> </tbody> </table> | Series | Dimensions | | | | | A | B | C | D | H | 2B-2K | 0.8 | 6.50 | 45° | 22°30' | 2.80 | 3B-3K | 0.8 | 8.20 | 45° | 22°30' | 3.40 | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | D | H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1B-1K | 0.6 | 3.95 | 45° | 22°30' | 1.40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 6.20 | 45° | 22°30' | 2.15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3B-3K | 0.8 | 7.90 | 45° | 22°30' | 2.80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | D | H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 6.50 | 45° | 22°30' | 2.80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3B-3K | 0.8 | 8.20 | 45° | 22°30' | 3.40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>314</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="5">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>H</th> <th>I</th> </tr> </thead> <tbody> <tr> <td>1B-1K</td> <td>0.6</td> <td>4.4</td> <td>90°</td> <td>1.90</td> <td>1.80</td> </tr> <tr> <td>2B-2K</td> <td>0.8</td> <td>6.5</td> <td>90°</td> <td>2.65</td> <td>2.65</td> </tr> <tr> <td>3B-3K</td> <td>0.8</td> <td>8.2</td> <td>90°</td> <td>3.40</td> <td>3.40</td> </tr> </tbody> </table> | Series | Dimensions | | | | | A | B | C | H | I | 1B-1K | 0.6 | 4.4 | 90° | 1.90 | 1.80 | 2B-2K | 0.8 | 6.5 | 90° | 2.65 | 2.65 | 3B-3K | 0.8 | 8.2 | 90° | 3.40 | 3.40 | <p>316</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="5">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>D</th> <th>E</th> <th>H</th> </tr> </thead> <tbody> <tr> <td>1B-1K</td> <td>0.6</td> <td>4.4</td> <td>32°44'</td> <td>16°22'</td> <td>2.00</td> </tr> <tr> <td>2B-2K</td> <td>0.8</td> <td>6.6</td> <td>32°44'</td> <td>16°22'</td> <td>3.10</td> </tr> <tr> <td>3B-3K</td> <td>0.8</td> <td>8.4</td> <td>32°44'</td> <td>16°22'</td> <td>3.86</td> </tr> <tr> <td>4B-4K</td> <td>0.6</td> <td>10.5</td> <td>32°44'</td> <td>16°22'</td> <td>5.00</td> </tr> </tbody> </table> | Series | Dimensions | | | | | A | B | D | E | H | 1B-1K | 0.6 | 4.4 | 32°44' | 16°22' | 2.00 | 2B-2K | 0.8 | 6.6 | 32°44' | 16°22' | 3.10 | 3B-3K | 0.8 | 8.4 | 32°44' | 16°22' | 3.86 | 4B-4K | 0.6 | 10.5 | 32°44' | 16°22' | 5.00 |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | H | I | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1B-1K | 0.6 | 4.4 | 90° | 1.90 | 1.80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 6.5 | 90° | 2.65 | 2.65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3B-3K | 0.8 | 8.2 | 90° | 3.40 | 3.40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | D | E | H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1B-1K | 0.6 | 4.4 | 32°44' | 16°22' | 2.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 6.6 | 32°44' | 16°22' | 3.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3B-3K | 0.8 | 8.4 | 32°44' | 16°22' | 3.86 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4B-4K | 0.6 | 10.5 | 32°44' | 16°22' | 5.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>318</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="6">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>H</th> </tr> </thead> <tbody> <tr> <td>2B-2K</td> <td>0.8</td> <td>6.7</td> <td>60°</td> <td>30°</td> <td>15°</td> <td>3.50</td> </tr> <tr> <td>3B-3K</td> <td>0.8</td> <td>8.4</td> <td>60°</td> <td>30°</td> <td>15°</td> <td>4.34</td> </tr> </tbody> </table> | Series | Dimensions | | | | | | A | B | C | D | E | H | 2B-2K | 0.8 | 6.7 | 60° | 30° | 15° | 3.50 | 3B-3K | 0.8 | 8.4 | 60° | 30° | 15° | 4.34 | <p>319</p> | <table border="1"> <thead> <tr> <th rowspan="2">Series</th> <th colspan="6">Dimensions</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th>H</th> </tr> </thead> <tbody> <tr> <td>2B-2K</td> <td>0.8</td> <td>6.7</td> <td>60°</td> <td>30°</td> <td>15°</td> <td>3.5</td> </tr> </tbody> </table> | Series | Dimensions | | | | | | A | B | C | D | E | H | 2B-2K | 0.8 | 6.7 | 60° | 30° | 15° | 3.5 | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | D | E | H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 6.7 | 60° | 30° | 15° | 3.50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3B-3K | 0.8 | 8.4 | 60° | 30° | 15° | 4.34 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Series | Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | A | B | C | D | E | H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2B-2K | 0.8 | 6.7 | 60° | 30° | 15° | 3.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

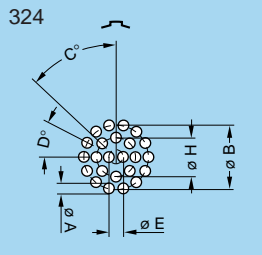
Note: All views are from the side of the receptacle.



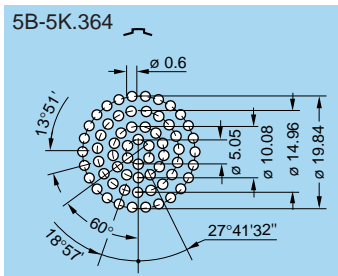
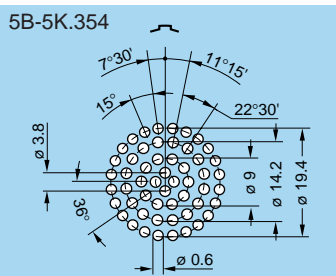
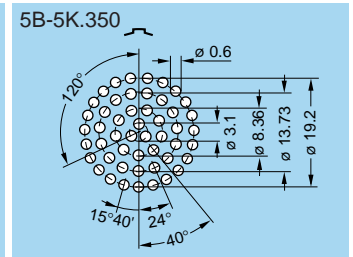
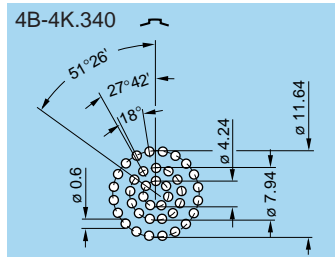
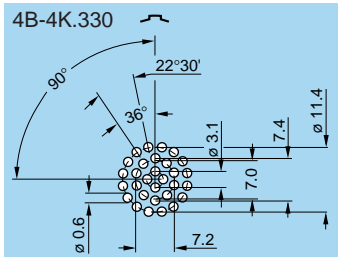
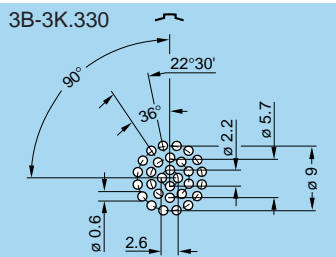
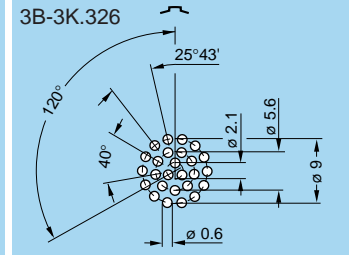
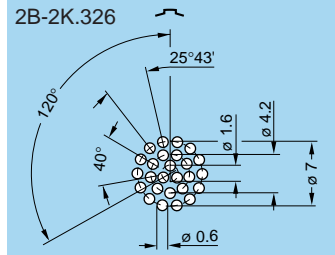
| Series | Dimensions | | | | |
|--------|------------|-------|--------|--------|------|
| | A | B | C | D | H |
| 3B-3K | 0.6 | 8.62 | 51°26' | 27°42' | 4.78 |
| 4B-4K | 0.6 | 11.00 | 51°26' | 27°42' | 6.00 |



| Series | Dimensions | | | | | |
|--------|------------|-----|-----|--------|--------|---|
| | A | B | C | D | E | H |
| 3B-3K | 0.6 | 8.8 | 45° | 25°43' | 22°30' | 5 |



| Series | Dimensions | | | | | |
|--------|------------|------|-----|--------|-----|------|
| | A | B | C | D | E | H |
| 3B-3K | 0.6 | 8.8 | 45° | 25°43' | 1.8 | 5.30 |
| 4B-4K | 0.6 | 11.1 | 45° | 25°43' | 2.2 | 6.65 |

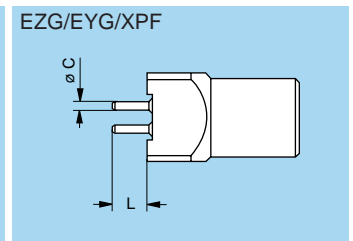
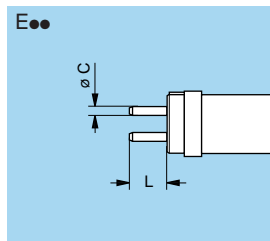


Length of straight printed circuit contacts (for receptacle E●●)

| | Type | Dimensions | |
|------------------------|-----------------------------|------------|-----|
| | | Ø C | L |
| 00 | 302 | 0.5 | 3.0 |
| | 303 | 0.5 | 3.0 |
| | 304 | 0.5 | 3.0 |
| 0B 0K | 302/303 | 0.7 | 3.0 |
| | 304/305 | 0.5 | 3.0 |
| | 306/307 | 0.5 | 3.0 |
| | 306/307 | 0.5 | 3.0 |
| 1B 1K | 302/303/304/305 | 0.7 | 3.0 |
| | 306/307/308 | 0.7 | 3.0 |
| | 310/314/316 | 0.5 | 3.0 |
| 2B 2K | 302 | 0.7 | 3.0 |
| | 303/304/305/306/307/308/310 | 0.7 | 5.0 |
| | 312/314/316/318/319 | 0.7 | 6.0 |
| | 326 | 0.5 | 3.0 |
| 3B 3K | 303/304/308/309/310 | 0.7 | 3.0 |
| | 312/314/316/318 | 0.7 | 3.0 |
| | 320/322/324/326/328/330 | 0.5 | 4.5 |
| 4B 4K | 316/320 | 0.5 | 5.0 |
| | 324/330 | 0.5 | 5.0 |
| | 340 | 0.5 | 5.0 |
| 5B 5K | 350 | 0.5 | 5.0 |
| | 354 | 0.5 | 5.0 |
| | 364 | 0.5 | 5.0 |

Length of straight printed circuit contacts (for receptacle EZG/EYG/XPF)

| | Type | Models | | | |
|-----------|-----------------------------|---------|-------|-----|-----|
| | | EZG/EYG | | XPF | |
| | | Ø C | L | Ø C | L |
| 0B | 302/303 | 0.7 | 4.3 | - | - |
| | 304/305 | 0.5 | 4.3 | 0.7 | 2.9 |
| | 306/307 | 0.5/0.8 | 3/4.3 | - | - |
| 1B | 302/303/304/305 | 0.7 | 3.6 | - | - |
| | 306/307/308 | 0.7 | 3.6 | - | - |
| | 310/314/316 | 0.7 | 3.6 | - | - |
| 2B | 303/304/305/306/307/308/310 | 0.7 | 4 | - | - |
| | 312/314/316/318/319 | 0.7 | 5 | - | - |



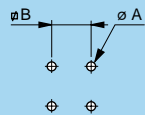
Note: This table does not apply for receptacle H●●; receptacle EH● and plug FA●.

Fixed receptacle for printed circuit (B series)

P16

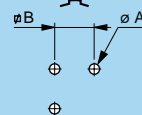
Holes for fixing the housing:

EYG-EZG



| Series | Dimensions | |
|--------|-------------------|-------|
| | A | B |
| 00 | 0.8 ¹⁾ | 5.08 |
| 0B | 1.7 ²⁾ | 7.62 |
| 1B | 1.7 ²⁾ | 7.62 |
| 2B | 1.7 ²⁾ | 10.16 |

XPF.0B

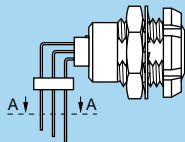


| Series | Dimensions | |
|--------|------------|------|
| | A | B |
| 0B | 1.7 | 5.08 |

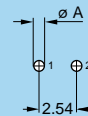
Note: 1) To solder. 2) To screw.

Fixed receptacle with elbow printed circuit contact (B-K series)

P17

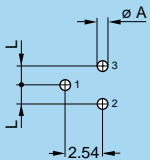


302



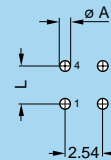
| Series | Dim. |
|--------|------|
| | A |
| 0B-0K | 0.7 |
| 1B-1K | 0.9 |

303



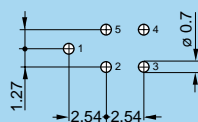
| Series | Dim. | |
|--------|------|------|
| | A | L |
| 0B-0K | 0.7 | 1.27 |
| 1B-1K | 0.9 | 1.27 |
| 2B-2K | 0.9 | 2.54 |

304

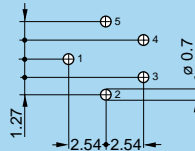


| Series | Dim. | |
|--------|------|------|
| | A | L |
| 0B-0K | 0.7 | 2.54 |
| 1B-1K | 0.7 | 2.54 |
| 2B-2K | 0.9 | 3.50 |

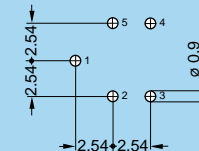
0B-0K.305



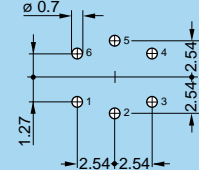
1B-1K.305



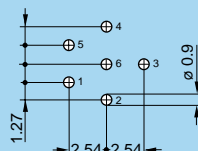
2B-2K.305



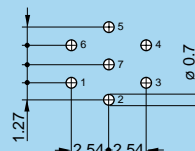
0B-0K / 1B-1K.306



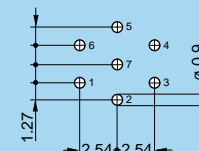
2B-2K.306



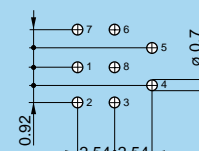
0B-0K / 1B-1K.307



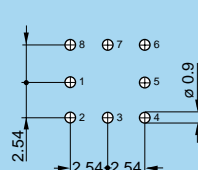
2B-2K.307



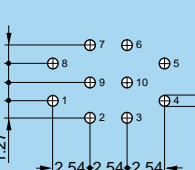
1B-1K.308



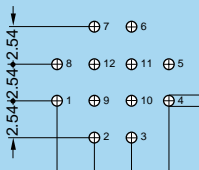
2B-2K.308



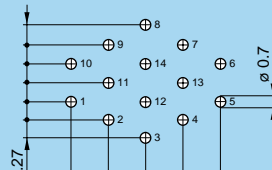
1B-1K / 2B-2K.310



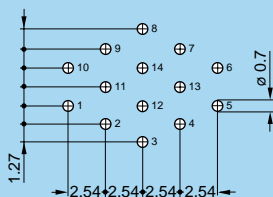
2B-2K / 3B-3K.312



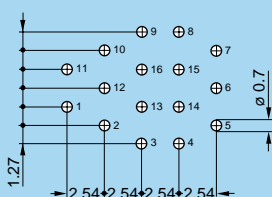
1B-1K / 2B-2K.314



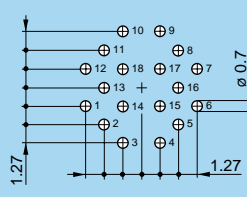
3B-3K.314



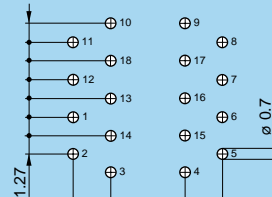
2B-2K / 3B-3K.316



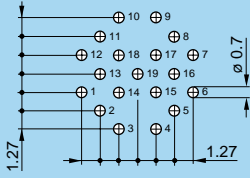
2B-2K.318



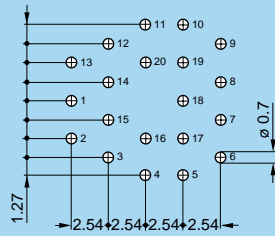
3B-3K.318



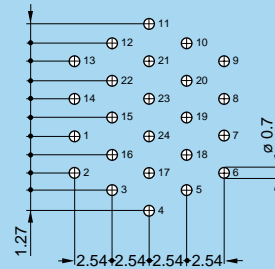
2B-2K.319



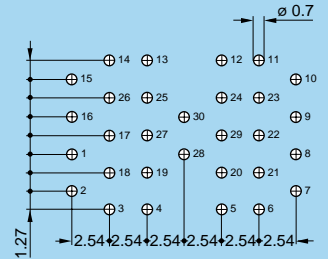
3B-3K.320



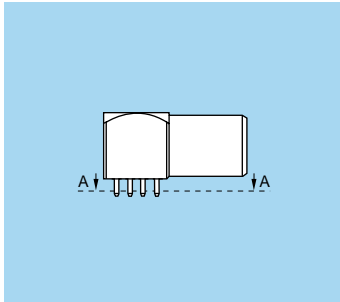
3B-3K.324



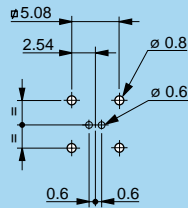
3B-3K.330



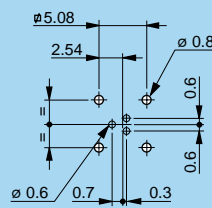
Elbow receptacle (90°) for printed circuit (B series) P18 P19 P20



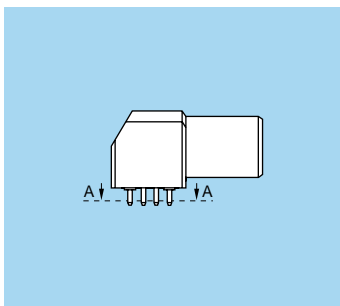
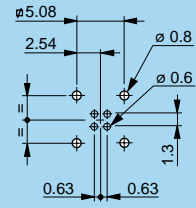
P18 - EPG.00.302 - XBG.00.302
XRB.00.302¹⁾



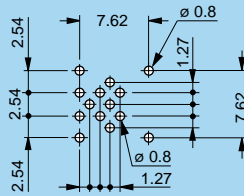
P18 - EPG.00.303 - XBG.00.303
XRB.00.303¹⁾



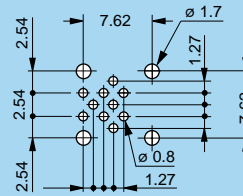
P18 - EPG.00.304 - XBG.00.304
XRB.00.304¹⁾



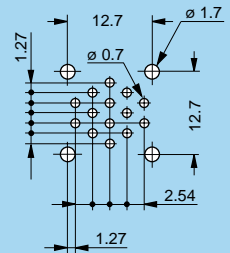
P19 - EPG-EXG
Solder mount



P19 - EPG-EXG
Screw mount

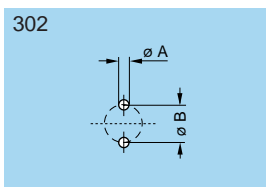


P20 - EPG.1B.314

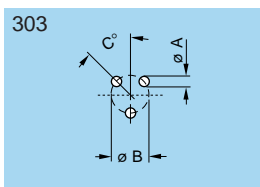


Note: ¹⁾ For the XRB.00 series, the holes for shell fixing are different (see p. 40).

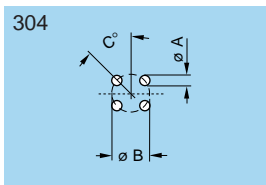
Fixed receptacle with straight printed circuit contact (S-E series) P21



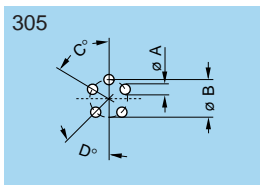
| Series | Dimensions | |
|--------|------------|-----|
| | A | B |
| 0S-0E | 0.6 | 2.2 |
| 1S-1E | 0.8 | 3.0 |



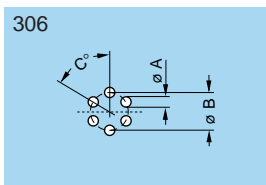
| Series | Dimensions | | |
|--------|------------|-----|-----|
| | A | B | C |
| 0S-0E | 0.6 | 2.8 | 45° |
| 1S-1E | 0.8 | 3.5 | 45° |
| 2S-2E | 0.8 | 5.5 | 60° |



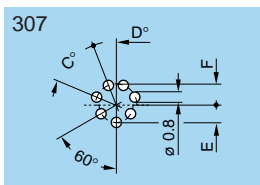
| Series | Dimensions | | |
|--------|------------|-----|-----|
| | A | B | C |
| 0S-0E | 0.6 | 2.8 | 45° |
| 1S-1E | 0.8 | 3.5 | 45° |
| 2S-2E | 0.8 | 5.0 | 45° |



| Series | Dimensions | | | |
|--------|------------|-----|-----|-----|
| | A | B | C | D |
| 1S-1E | 0.8 | 3.5 | 60° | 45° |
| 2S-2E | 0.8 | 5.5 | 60° | 60° |

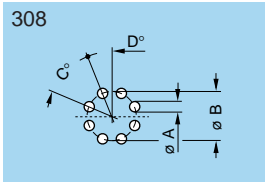


| Series | Dimensions | | |
|--------|------------|-----|-----|
| | A | B | C |
| 1S-1E | 0.8 | 3.5 | 60° |
| 2S-2E | 0.8 | 5.5 | 60° |
| 3S-3E | 0.8 | 6.5 | 60° |

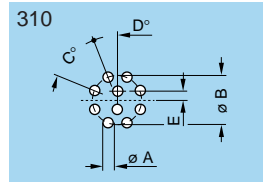


| Series | Dimensions | | | |
|--------|------------|--------|------|------|
| | C | D | E | F |
| 2S-2E | 45° | 22°30' | 2.75 | 3.25 |
| 3S-3E | 45° | 22°30' | 3.25 | 3.90 |

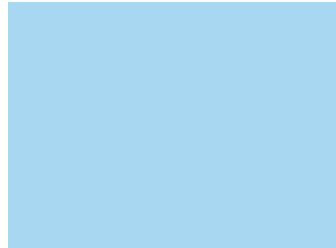
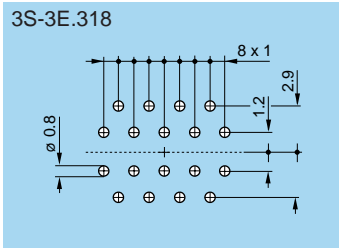
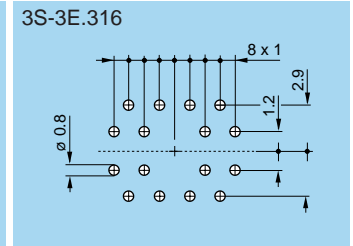
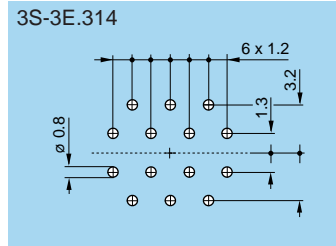
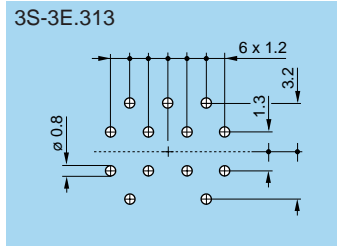
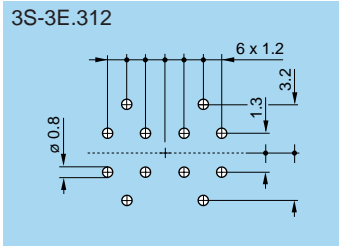
Note: All views are from the side of the receptacle.



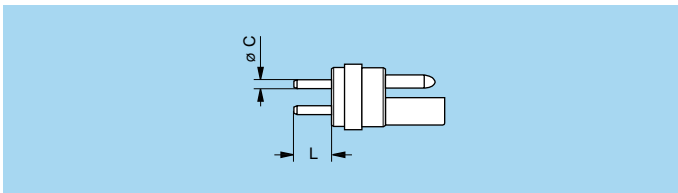
| Series | Dimensions | | | |
|--------|------------|-----|-----|--------|
| | A | B | C | D |
| 2S-2E | 0.8 | 6.5 | 45° | 22°30' |
| 3S-3E | 0.8 | 7.8 | 45° | 22°30' |



| Series | Dimensions | | | | |
|--------|------------|-----|-----|--------|------|
| | A | B | C | D | E |
| 2S-2E | 0.8 | 6.5 | 45° | 22°30' | 1.25 |
| 3S-3E | 0.8 | 7.8 | 45° | 22°30' | 1.50 |



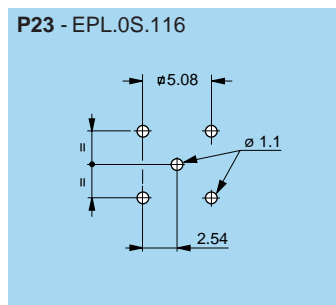
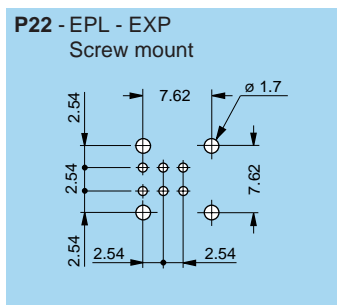
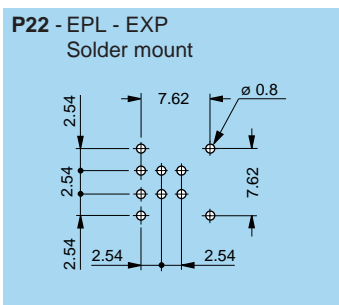
Length of straight printed circuit contacts (for receptacle E●●)



| | Type | Dimensions | |
|------------------------|---------------------|------------|-----|
| | | ø C | L |
| 0S 0E | 302 | 0.7 | 3.0 |
| | 303 | 0.5 | 3.0 |
| | 304 | 0.5 | 3.0 |
| 1S 1E | 302 | 0.7 | 3.0 |
| | 303/304/305 | 0.7 | 3.0 |
| | 305/306 | 0.5 | 3.0 |
| 2S 2E | 303/304/305 | 0.8 | 3.0 |
| | 306/307 | 0.8 | 3.0 |
| | 307/308/310 | 0.7 | 3.0 |
| 3S 3E | 305/306/307/308/310 | 0.7 | 3.0 |
| | 312/313/314 | 0.7 | 3.0 |
| | 316/318 | 0.7 | 3.0 |

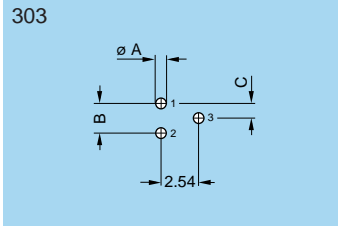
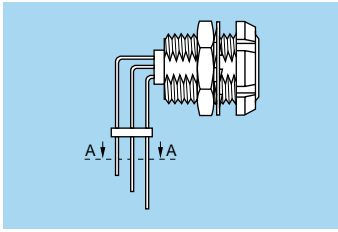
Note: This table does not apply for HGP and EHP receptacles and for FAA plugs.

Elbow receptacle (90°) for printed circuit (S series) P22 P23

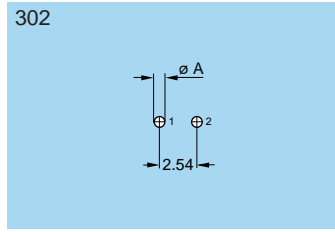


Note: All dimensions are in millimeters.

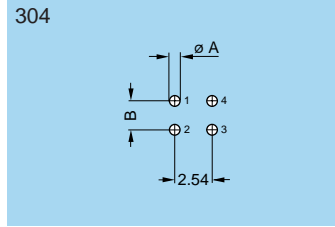
Fixed receptacle with elbow printed circuit contact (S-E series) P24



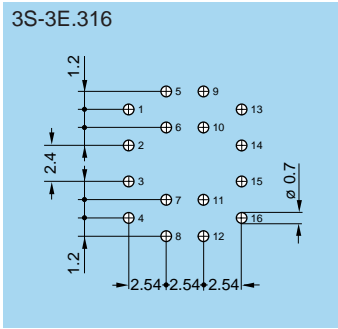
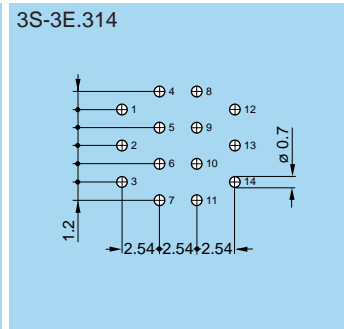
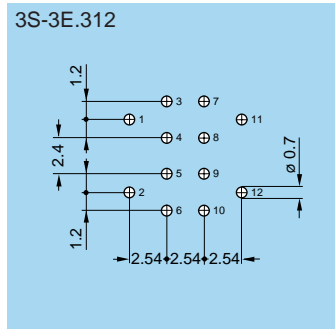
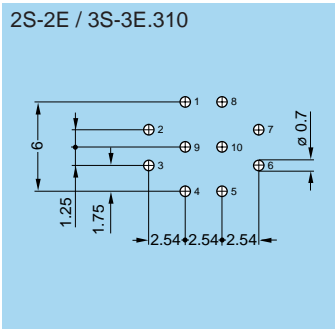
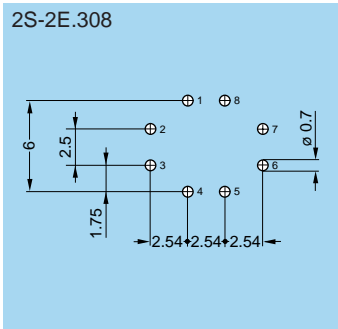
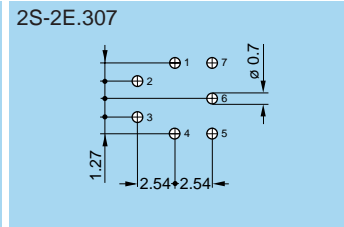
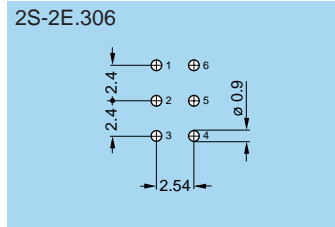
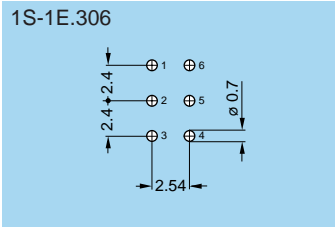
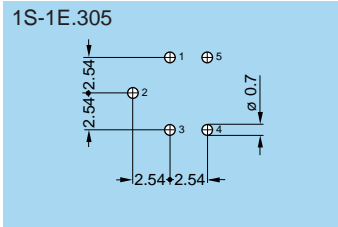
| Series | Dimensions | | |
|--------|------------|------|------|
| | A | B | C |
| 0S-0E | 0.7 | 2.00 | 1.00 |
| 1S-1E | 0.7 | 2.48 | 1.24 |



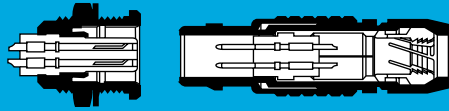
| Series | Dim. |
|--------|------|
| | A |
| 0S-0E | 0.7 |
| 1S-1E | 0.9 |



| Series | Dimensions | |
|--------|------------|------|
| | A | B |
| 0S-0E | 0.7 | 2.00 |
| 1S-1E | 0.7 | 3.50 |
| 2S-2E | 0.9 | 3.50 |



Technical characteristics



Outer shell

Brass

In most cases, LEMO connectors have a brass outer shell which is suitable for most general purpose applications, including civilian and military. The brass outer shells have a chrome nickel-plated surface which ensures very good protection against industrial atmosphere, salt air and most corrosive agents.

Alternative protective coatings are available to satisfy other specific environmental conditions:

Electrolytic nickel;
Nickel-gold; and
Nickel-black chrome. After the black chrome treatment, the part is coated with a protective organic film.

Stainless steel

For applications where there are severe environmental conditions that may rapidly damage the surface finish, we recommend using stainless steel. The AISI 303 stainless steel is a material for general use adapted to most applications requiring a product made entirely of stainless metal.

For the nuclear industry, where elements are subject to radiation and to vaporous nitric acid, we offer AISI 304 stainless steel.

Grade AISI 316L is recommended for applications which require non-corrosiveness, such as the medical industry. Grade AISI 316L stainless steel is also well suited for connector shells that are to be soldered by an electronic beam onto a device made of the same stainless steel.
Grade AISI 316L has no surface treatment.

Aluminium alloy

Light-weight aluminium alloy outer shells are ideal for applications where weight is a key factor, such as within the aeronautics and aerospace industries, together with equipment requiring ease of portability.

These materials have high mechanical strength and excellent resistance to corrosion. The shell surface is protected by anodizing which is available in six colors: blue, yellow, black, red, green and natural.

Shells made of high-strength alloys (Avional) are specifically designed for use in highly demanding mechanical applications, such as those served by the F series. These connector shells are protected by a conductive anthracite-colored nickel finish.

Other surface finishes are also available – electrolytic nickel plating and black nickel plating – depending upon the final application.

Plastic materials

Some connector shells can also be made of plastic. This solution offers optimum electrical insulating properties that are well-suited for medical applications. Black Polyoxymethylene (POM) is particularly well-adapted to products of the 00 or S series.

Grey or white polysulfone (PSU) and beige PEEK offer excellent mechanical properties and are suitable for gas or vapor sterilization.

Some models of the 2B and 3B series are available with an outer shell of cream-colored polyphenylsulfone (PPSU). We recommend this material specifically for applications where products need to withstand hundreds of vapor sterilization cycles.

Bridge plug or plugs with parallel receptacles are made of polyamide (PA.6) and are available in nine colors: blue, white, grey, yellow, brown, black, red, orange and green.

Some elbow receptacle shells for printed circuits are overmolded in polyphenylene sulfide (PPS).

Other metallic components

In general, most metallic components are manufactured in brass. However, bronze or beryllium copper are used where good elasticity is required (for example: grounding crown). Depending upon the application, these parts have electrolytic nickel or nickel-gold plating.

These parts can also be manufactured in stainless steel.

Sealing gasket

In general, sealing gaskets are made of silicone rubber MQ/MVQ. However, for vacuum-tight receptacles and couplers, gaskets are made of fluorosilicone rubber (FPM).

Sealing resin

An epoxy resin is used to seal both watertight and vacuum-tight receptacle and coupler models.

Materials and Treatments

| Component | Material (Standard) | Surface treatment (µm) | | | | | | | | | | Notes |
|--|--|------------------------|----|-----|--------|----|------|----|-----|------------|----|-------|
| | | chrome | | | nickel | | gold | | | black chr. | | |
| | | Cu | Ni | Cr | Cu | Ni | Cu | Ni | Au | Ni | Cr | |
| Outer shell, collet nut, conical nut or notched nut and oversized collet | Brass (UNS C 38500) | 0.5 | 3 | 0.3 | 0.5 | 3 | 0.5 | 3 | 0.5 | 1 | 2 | |
| | Stainless steel (AISI 303, 304 or 316L) | without treatment | | | | | | | | | | |
| | Avional (AA 2007) | - | - | - | - | 5 | - | - | - | - | - | 1) |
| | Aluminium alloy (AA 6012) | anodized | | | | | | | | | | |
| | POM (Delrin® or Ertacetel®), Polyoxymethylene, black | - | | | | | | | | | | 2) |
| | PEEK, Polyether ethercetone, beige | - | | | | | | | | | | 3) |
| | PSU (Udel®), Polysulfone, grey or white | - | | | | | | | | | | 4) |
| | PPSU (Radel®), Polyphenylsulfone, cream | - | | | | | | | | | | 4) |
| | PA.6 (Grilon®), Polyamid | - | | | | | | | | | | 5) |
| PPS (Ryton®), Polyphenilene sulfide, brown | - | | | | | | | | | | 6) | |
| Grounding crown | Bronze (UNS C 54400) or special brass | - | - | - | 0.5 | 3 | 0.5 | 3 | 1.0 | - | - | 7) |
| | Beryllium Copper (UNS C 17300) | - | - | - | 0.5 | 3 | 0.5 | 3 | 1.0 | - | - | 8) |
| | Stainless steel (AISI 416 or 316L) | without treatment | | | | | | | | | | 9) |
| Latch sleeve | Special brass | 0.5 | 3 | 0.3 | 0.5 | 3 | 0.5 | 3 | 0.5 | - | - | |
| | Stainless steel (AISI 416 or 316L) | without treatment | | | | | | | | | | 9) |
| Locking washer | Bronze (UNS C 52100) | - | - | - | 0.5 | 3 | 0.5 | 3 | 0.5 | - | - | |
| | Stainless steel (AISI 303, 304 or 316L) | without treatment | | | | | | | | | | 10) |
| Hexagonal or round nut | Brass (UNS C 38500) | - | - | - | 0.5 | 3 | 0.5 | 3 | 0.5 | - | - | |
| | Stainless steel (AISI 303, 304 or 316L) | without treatment | | | | | | | | | | 10) |
| | Aluminium alloy (AA 6012) | anodized natural | | | | | | | | | | 10) |
| Other metallic components | Brass (UNS C 38500) | - | - | - | 0.5 | 3 | 0.5 | 3 | 0.5 | - | - | |
| | Stainless steel (AISI 303, 304 or 316L) | without treatment | | | | | | | | | | |
| O-ring and gaskets | Silicone MQ/MVQ or FPM/FKM (Viton®) | - | | | | | | | | | | 11) |
| Sealing resin | Epoxy (Araldite® or Stycast®) | - | | | | | | | | | | |

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; and

Black chrome: MIL-C-14538C with a minimum of 10 µm of lacquer protection.

1) anthracite color (other colors upon request)

2) for FFP, PCP and ERN models of the 0S to 3S series

3) for FFP, PCP and ERN models of the 0S to 3S series and FGG and ENG models of the 1B, 3B and 4B series

4) for the FGY and ENY models of the 2B and 3B series

5) for bridge plugs of the B series

6) for S and B series elbow receptacles for printed circuits

7) gold-plating for single contact types

8) used in 00 series free and fixed receptacles and couplers

9) AISI 416 steel is used with shells made of AISI 303 or 304

10) delivered with free and fixed receptacles with aluminium alloy or stainless steel shell

11) FKM is used for F series

Technical characteristics of plastic materials

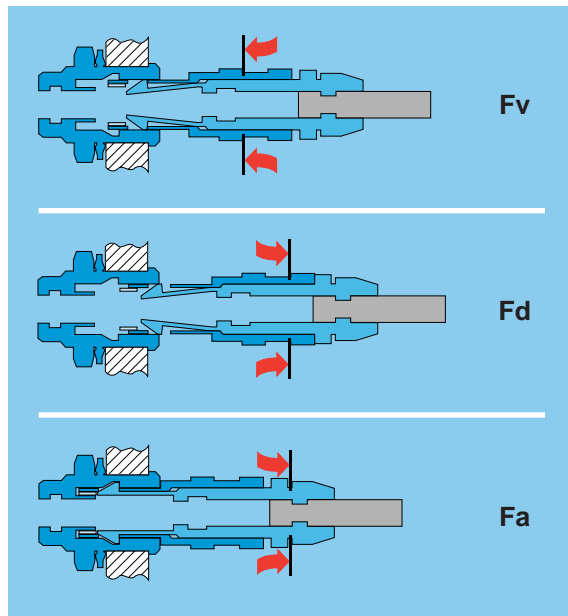
| Type | Norme | Units | POM | PEEK | PSU | PPSU | PPS | PA.6 | Silicone | FPM | Epoxy |
|--------------------------------------|----------------------|------------------|-------------------|------------------|--------------------|---------|-------------------|-------------------|------------------|-------------------|-------------------|
| Density | ASTM D 792 | - | 1.4 | 1.3-1.4 | 1.24 | 1.3 | 1.67 | 1.14 | ~1.2 | ~1.9 | 1.58 |
| Tensile strength (at 73.4° F) | ASTM D 638/ ISO R527 | MPa | 70-80 | 92-142 | 70 | 70 | 121 | 55 | > 9 | > 12 | 16 |
| Flexurale strength (at 73.4° F) | ASTM D 790/ ISO R178 | MPa | - | 170 | 106 | 91 | 179 | 75 | - | - | 24 |
| Dielectric strength | ASTM D 149/IEC 60243 | kV/mm | 60 | 19-25 | 17-20 | 15 | 17 | 35 | 18-30 | - | 15 |
| Volume resis. at 50% HR and 73.4° F | ASTM D 257/IEC 60093 | Ω • cm | 10 ¹⁵ | 10 ¹⁶ | 5x10 ¹⁶ | - | 10 ¹⁶ | 10 ¹⁵ | 10 ¹⁴ | - | 10 ¹⁴ |
| Surface resistivity | ASTM D 257 | Ω | 10 ¹³ | 10 ¹⁵ | - | - | - | - | - | - | - |
| Thermal conductivity | ASTM C 177 | W/K • m | 0.31 | 0.25 | 0.26 | - | 0.3 | - | - | - | 0.8 |
| Comparative tracking index | IEC 60112 | V | CTI 600 | CTI 150 | CTI 150 | - | CTI 200 | CTI 600 | - | - | CTI>600 |
| Maxi. continuous service temperature | UL 746 | °F | 194 | 482 | 284 | 356 | 428 | 176 | 392 | 392 | 176 |
| Min. continuous service temperature | UL 746 | °F | -58 | -67 | -106 | -58 | -106 | -40 | -58 | -4 | -4 |
| Max. short-time service temperature | - | °F | 284 | 572 | 320 | 392 | 482 | 302 | > 482 | 572 | 248 |
| Water absorption in 24h at 73.4° F | ASTM D 570/ISO R62A | % | 0.85 | 0.12 | 0.3 | 0.37 | < 0.05 | > 3 | - | - | 0.25 |
| Radiation resistance | - | Gy ¹⁾ | 8x10 ³ | 10 ⁷ | 10 ⁵ | - | > 10 ⁷ | 5x10 ³ | 10 ⁵ | 8x10 ⁴ | 2x10 ⁶ |
| Flammability rating | ASTM D 635/UL 94 | - | HB | V-0/3.2 | V-0/4.4 | V-0/1.6 | V-0/5V | V-2 | - | - | V-0/4 |
| Resistance to steam sterilization | - | - | bad | excel. | good | excel. | excel. | bad | good | good | bad |

Notes: 1) 1 Gy (Gray) = 100 rad

ASTM = American Society for Testing Material
ISO = International Standards Organization

UL = Underwriters Laboratories
IEC = International Electrotechnical Commission

Mechanical latching characteristics



F_v : average latching force

F_d : average unmating force with axial pull on the outer shell

F_a : average pull force with axial pull on the collet nut

Standard series

| Force (N) | Series | | | | | | | | | |
|-----------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 00 | 0S | 1D | 1S | 2C | 2S | 3S | 4S | 5S | 6S |
| F_v | 9 | 14 | 14 | 15 | 12 | 17 | 20 | 40 | 60 | 70 |
| F_d | 7 | 9 | 11 | 10 | 12 | 11 | 14 | 25 | 40 | 55 |
| F_a | 120 | 140 | 300 | 250 | 400 | 350 | 500 | 650 | 750 | 900 |

Watertight series

| Force (N) | Series | | | | | | |
|-----------|--------|-----|-----|-----|-----|-----|-----|
| | 0E | 1E | 2E | 3E | 4E | 5E | 6E |
| F_v | 14 | 16 | 20 | 32 | 65 | 85 | 100 |
| F_d | 9 | 10 | 13 | 25 | 40 | 60 | 75 |
| F_a | 250 | 300 | 400 | 550 | 700 | 800 | 900 |

Keyed series

| Force (N) | Series | | | | | | | |
|-----------|--------|-----|-----|-----|-----|-----|-----|-----|
| | 00 | 0B | 1B | 2B | 2G | 3B | 4B | 5B |
| F_v | 9 | 10 | 14 | 15 | 12 | 17 | 39 | 48 |
| F_d | 7 | 8 | 11 | 12 | 12 | 14 | 38 | 38 |
| F_a | 120 | 250 | 300 | 400 | 400 | 550 | 700 | 800 |

Keyed watertight series

| Force (N) | Series | | | | | | Series | | | | | |
|-----------|--------|-----|-----|-----|-----|-----|--------|-----|-----|-----|-----|-----|
| | 0K | 1K | 2K | 3K | 4K | 5K | 0F | 1F | 2F | 3F | 4F | 5F |
| F_v | 14 | 16 | 20 | 32 | 65 | 85 | 6 | 6 | 8 | 9 | 14 | 21 |
| F_d | 9 | 10 | 13 | 25 | 40 | 60 | 8 | 8 | 9 | 11 | 16 | 24 |
| F_a | 250 | 300 | 400 | 550 | 700 | 800 | 150 | 150 | 150 | 150 | 150 | 150 |

Notes: Forces were measured on outer shells **not fitted with contacts**.

Mechanical endurance: 5000 cycles.

Mechanical endurance represents the number of cycles after which the latching system is still effective (1 cycle = 1 latching/unlatching at 300 cycles per hour). The values were measured according to the standard IEC 60512-7 test 13a.

1N = 0.102 kg.

Electromagnetic compatibility (EMC) and shielding efficiency

The electromagnetic compatibility of a device can only be ensured by meeting a number of basic rules with the design of the device and by carefully selecting components, cables and connectors.

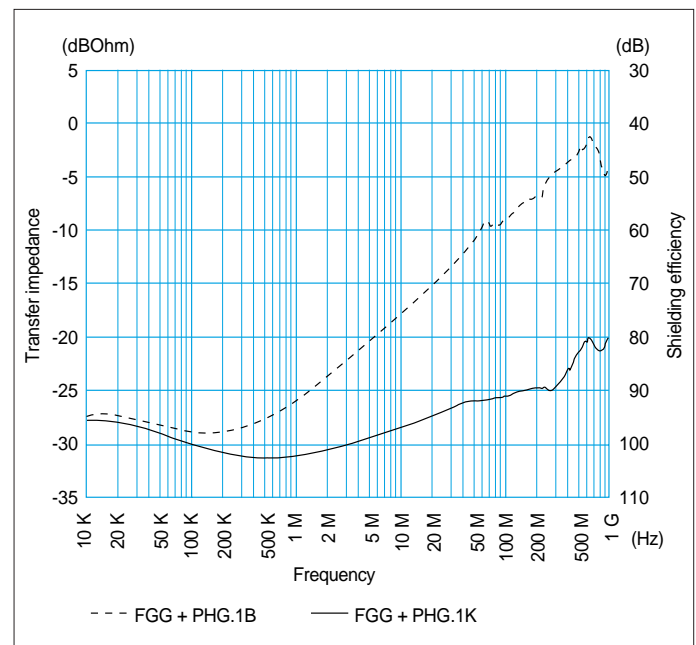
Electrical and electronic devices are to be designed to ensure the following:

- Reduce the emission of generated electromagnetic interference to a level where radios and telecommunication and other devices can properly function;
- Electromagnetic immunity against electromagnetic interference so that they can properly function.

When selecting a connector, screen or shielding efficiency and low resistance to electric continuity between the cable and the connector should be considered.

The design of LEMO connectors with metal shell and grounding crown guarantee optimum shielding efficiency in all applications where electromagnetic compatibility (EMC) is critical.

The performance of a connector is measured through shielding efficiency, a value that represents the ratio between the electromagnetic field on the outside and the inside of the shell. Our measurements are carried out according to the IEC 60169-1-3 standard.



The performance of B and S series connectors is comparable to the results of measurements carried out on a pair of FGG + PHG.1B connectors.

The performance of K and E series connectors is comparable to the results of measurements carried out on a pair of FGG + PHG.1K connectors.

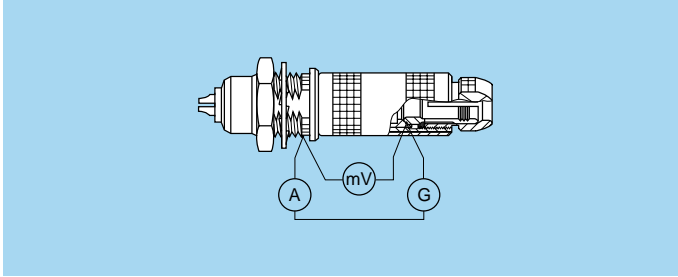
Shell electrical continuity:
(measured according to IEC 60512-2 test 2f)

Test current: 1A
A = Ammeter
mV = Millivoltmeter
G = Generator

R₁ Values with grounding crown and latch sleeve or inner-sleeve nickel-plated.

R₂ Values with gold-plated grounding crown and nickel-plated latch sleeve or inner sleeve.

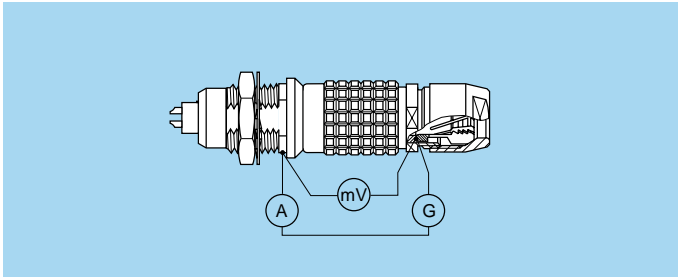
Standard series



| Series | R ₁ (mΩ) | R ₂ (mΩ) |
|--------|---------------------|---------------------|
| 00 | 3.5 | 2.8 |
| 0S | 2.8 | 1.6 |
| 1D | 2.5 | 1.1 |
| 1S | 2.2 | 1.5 |
| 2C | – | – |

| Series | R ₁ (mΩ) | R ₂ (mΩ) |
|--------|---------------------|---------------------|
| 2S | 1.8 | 1.2 |
| 3S | 1.6 | 1.2 |
| 4S | 1.4 | 1.0 |
| 5S | 1.4 | 1.0 |
| 6S | 1.0 | 0.5 |

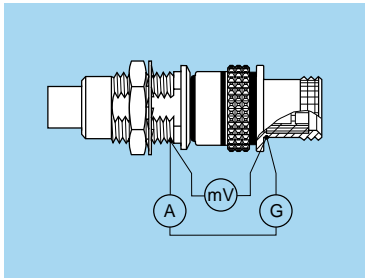
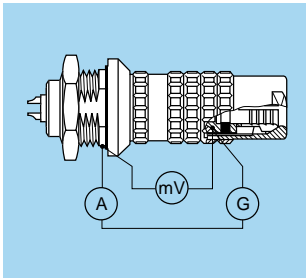
Keyed series



| Series | R ₁ (mΩ) | R ₂ (mΩ) |
|--------|---------------------|---------------------|
| 00 | 3.5 | 2.8 |
| 0B | 3.5 | 1.3 |
| 1B | 2.5 | 1.1 |
| 2B | 2.2 | 0.9 |

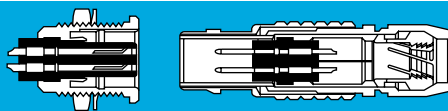
| Series | R ₁ (mΩ) | R ₂ (mΩ) |
|--------|---------------------|---------------------|
| 2G | – | – |
| 3B | 2.2 | 0.7 |
| 4B | 1.5 | 0.5 |
| 5B | 1.5 | 0.3 |

Watertight series
Keyed watertight series **F series**



| Series | R ₁ (mΩ) | R ₂ (mΩ) |
|--------|---------------------|---------------------|
| 0E-0K | 2.8 | 1.6 |
| 1E-1K | 2.2 | 1.5 |
| 2E-2K | 1.8 | 1.2 |
| 3E-3K | 1.6 | 1.2 |
| 4E-4K | 1.4 | 1.0 |
| 5E-5K | 1.4 | 1.0 |
| 6E | 1.0 | 0.5 |

| Series | R ₁ (mΩ) |
|--------|---------------------|
| 0F | 5.0 |
| 1F | 3.0 |
| 2F | 2.5 |
| 3F | 2.5 |
| 4F | 2.0 |
| 5F | 1.5 |



Insulator

Plastic material used by LEMO for manufacturing insulators is selected according to the electric and thermal properties required for the various connector types. Characteristics examined for the two connector types are:

- Dielectric strength;
- Comparative tracking index;
- Surface and volume resistivity;
- Continuous service temperature;
- Water absorption;
- Radiation resistance;
- Flammability rating;
- Resistance to hydrocarbon.

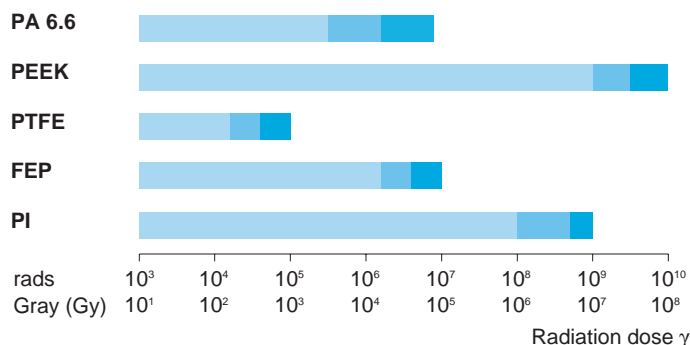
Mechanical and Electrical Properties

Mechanical characteristics of thermoplastics, such as PA 6.6, and PEEK, are improved by the addition of glass fibers. By adding glass fibers in the resin, the performance of this material (mechanical strength and radiation resistance) is enhanced and water absorption rate is reduced. From an electrical point of view, the addition of glass fibers improves dielectric strength.

Selection of the insulator

A number of thermoplastics have common characteristics, some of them are identical with other insulating materials. In this case, the insulator material is selected according to the specific difference in features to provide all the required parameters for the given type.

Radiation resistance



- Damage**
- Minimum to slight (almost available usable)
 - Slight to medium (often satisfactory)
 - Medium to serious (not usable)

Note: Technical data in this chapter provide general information on plastics used by LEMO as electrical insulators. LEMO reserves the right to propose new materials with better technical characteristics, and to withdraw, without notice, any material mentioned in the present catalog or any other publications edited by LEMO S.A. and/or its subsidiaries. LEMO SA and its subsidiaries use only plastic granules, powder or bars supplied by specialized companies, and thus cannot in any case take responsibility with regard to this material.

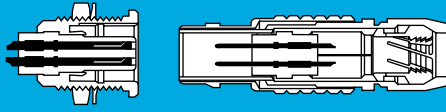
Technical characteristics

| Type | Standard | Units | PA6.6 | PEEK | PTFE | FEP | PI |
|--|------------------------|---------|----------------------|------------------|-------------------|--------------------|--------------------|
| Dielectric strength | ASTM D 149 / IEC 60243 | kV/mm | 15-17 | 19-25 | 17.2-24 | 20 | 22 |
| Volume resistivity at 50% RH and 73.4° F | ASTM D 257 / IEC 60093 | Ω • cm | 5.8x10 ¹⁵ | 10 ¹⁶ | 10 ¹⁸ | > 10 ¹⁶ | > 10 ¹⁶ |
| Surface resistivity | ASTM D 257 / IEC 60093 | Ω | 10 ¹² | 10 ¹⁵ | 10 ¹⁷ | > 10 ¹⁶ | > 10 ¹⁵ |
| Thermal conductivity | ASTM C 177 | W/K • m | 0.21 | 0.25 | 0.23 | 0.24 | 0.35 |
| Comparative tracking index | IEC 60112 | V | CTI 600 | CTI 150 | CTI 500 | – | – |
| Dielectric constant (10 ⁶ Hz) | ASTM D 150 / IEC 60250 | – | 4 | 3.2-3.5 | 2-2.1 | 2.1 | 3.6 |
| Dissipation factor (10 ⁶ Hz) | ASTM D 150 / IEC 60250 | – | – | < 0.005 | < 0.0003 | < 0.001 | < 0.0034 |
| Maximum continuous service temperature | UL 746 | °F | 248 | 482 | 500 | 392 | 662 |
| Maximum short-time service temperature | – | °F | 302 | 572 | 572 | 500 | 866 |
| Minimum continuous service temperature | – | °F | – | -58 | -328 | -328 | – |
| Water absorption in 24h at 73.4° F | ASTM D 570 / ISO R624 | % | < 0.7 | < 0.3 | < 0.01 | < 0.01 | 0.24 |
| Radiation resistance | – | Gy | 5x10 ³ | 10 ⁷ | 2x10 ² | 2x10 ⁴ | 10 ⁶ |
| Flammability rating | ASTM D 635 / UL 94 | – | – | V-0/3.2 | V-0 | V-0 | – |

Note: Values of insulation resistance between contacts are given on page 203.

| Designation | | Symbol | Standard | Single contact | | Multicontact | | | | | | | | |
|--------------------------|------------|--------|----------------|----------------|---|--------------|----|---|---|---|---|---|----|----|
| chemical | commercial | | | 00 | S | E | 00 | S | E | B | K | F | 2C | 2G |
| Polyamide (glass fitted) | Nylatron® | PA 6.6 | – | | | | ● | ● | | | | | | ● |
| Polyether Etheretone | Peek® | PEEK | – | ○ | ○ | ○ | ● | ● | ● | ● | ● | ● | ● | |
| Polytetrafluorethylene | – | PTFE | ASTM D 1457-83 | ● | ● | ● | | | | | | | | |
| Tetrafluorethylene | – | FEP | ASTM D 2116-81 | | | | ○ | ○ | | | | | | |
| Polyimide | VespeI® | PI | – | | | | ○ | ○ | | | | | | |

- First choice alternative
- Special order alternative

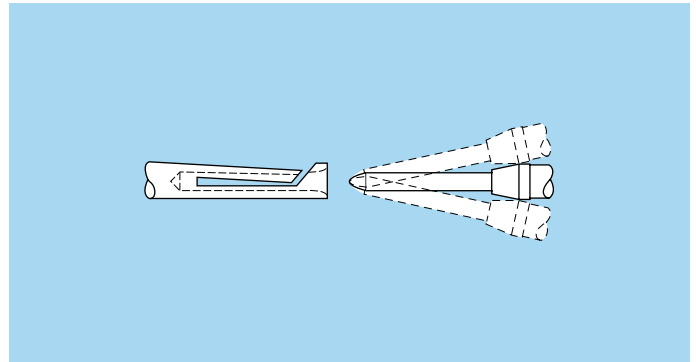


Electrical contact

Technical description

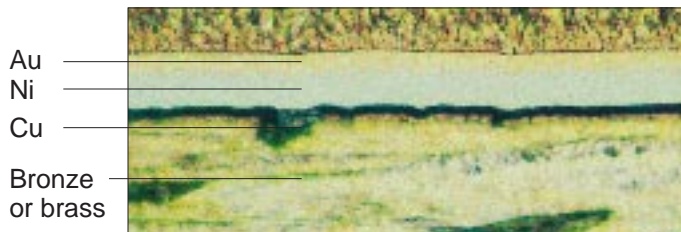
The secure reliable electromechanical connection achieved with LEMO female cylindrical contacts is mainly due to two important design features:

1. *Prod proof entry* on the mating side which ensures perfect concentric mating even with carelessly handled connectors; and
2. *The pressure spring*, with good elasticity, maintains a constant even force on the male contact when mated. The leading edge of the pressure spring preserves the surface treatment (gold-plated) and prevents undue wear.



Contact material and treatment

LEMO female contacts are made of bronze beryllium (QQ-C-530) or bronze (UNS C 54400). These materials are chosen because of their high modulus of elasticity, their excellent electrical conductivity and a high mechanical strength.



LEMO male solder and printed circuit contacts are made of brass (UNS C 38500). Male crimp contacts are made of brass (UNS C 34500) or annealed brass (UNS C 38500) with optimum hardness (HV) for crimping onto the wire.

| Type | Material (standard) | Surf. treatment (μm) | | |
|------------------------|----------------------|-----------------------------------|-----------------|------------------|
| | | Cu | Ni | Au ¹⁾ |
| Male crimp | Brass (UNS C 34500) | 0.5 | 3 | 1.0 |
| Male printed circuit | Brass (UNS C 38500) | | | |
| Female crimp | Bronze (UNS C 54400) | 0.5 | 3 | 1.5 |
| Female printed circuit | Cu-Be (FS QQ-C-530) | | | |
| Clips | Cu-Be (FS QQ-C-530) | - | - | - |
| | Stainless steel | | | |
| Wire ²⁾ | Brass | - | 3 ³⁾ | - |

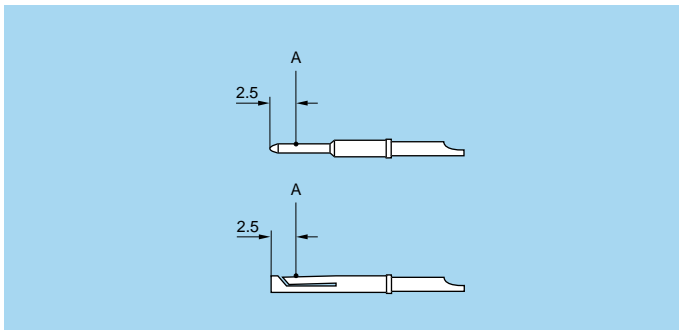
Notes: The standard surface treatment are as follows:
 Nickel: FS QQ-N-290A or MIL-C-26074C; and
 Gold: ISO 4523.

1) Minimum value

2) For elbow printed circuit contacts

3) Treatment completed by 6 μm Sn-Pb tin-plating

Thickness comparison between the outside and the inside of female contacts



Note: A = inspection point

| Contact \varnothing A (mm) | Gold thickness | | |
|------------------------------|------------------------|---------------------------|------------|
| | male (μm) | female | |
| | | outside (μm) | inside (%) |
| 0.5 | 1.0 | 1.5 | 65 |
| 0.7 | 1.0 | 1.5 | 70 |
| 0.9 | 1.0 | 1.5 | 75 |
| 1.3 | 1.0 | 1.5 | 75 |
| 1.6 | 1.0 | 1.5 | 75 |
| 2.0 | 1.0 | 1.5 | 75 |
| 3.0 | 1.0 | 1.5 | 75 |
| 4.0 | 1.0 | 1.5 | 75 |
| 5.0 | 1.0 | 1.5 | 75 |
| 6.0 | 1.0 | 1.5 | 75 |
| 8.0 | 1.0 | 1.5 | 75 |
| 12.0 ¹⁾ | - | - | - |

Notes: 1) Contacts are silver plated.

Contact resistance with relation to the number of mating cycles

(measured according to IEC 60512-2 test 2a)

Maximum values measured after the mating cycles and the salt spray test according to IEC 60512-6 test 11f.

| A \varnothing (mm) | Contact resistance (m Ω) | | | A \varnothing (mm) | Contact resistance (m Ω) | | |
|----------------------|----------------------------------|-------------|-------------|----------------------|----------------------------------|-------------|-------------|
| | 1000 cycles | 3000 cycles | 5000 cycles | | 1000 cycles | 3000 cycles | 5000 cycles |
| 0.5 | 7.5 | 8.3 | 8.7 | 3.0 | 2.0 | 2.2 | 3.1 |
| 0.7 | 5.6 | 5.7 | 6.1 | 4.0 | 1.6 | 2.0 | 2.8 |
| 0.9 | 4.1 | 4.2 | 4.8 | 5.0 | 1.4 | – | – |
| 1.3 | 2.8 | 2.9 | 3.6 | 6.0 | 1.2 | – | – |
| 1.6 | 2.6 | 2.7 | 3.5 | 8.0 | 0.8 | – | – |
| 2.0 | 2.9 | 3.1 | 3.3 | 12.0 | 0.7 | – | – |

Insulation resistance between the contacts and contact/shell

(measured according to IEC 60512-2 test 3a)

| Insulating material | Multicontact | Single contact |
|-----------------------------------|-----------------------------|-----------------------------|
| | PEEK | PTFE |
| new | > 10 ¹² Ω | > 10 ¹² Ω |
| after humidity test ¹⁾ | > 10 ¹⁰ Ω | > 10 ¹⁰ Ω |

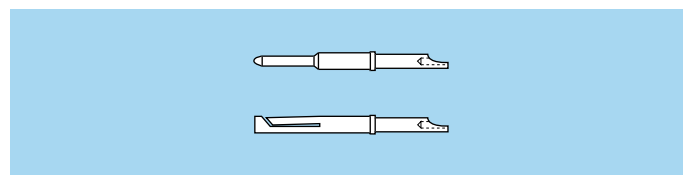
Note:

¹⁾ 21 days at 95% RH according to IEC 60068-2-3.

Solder contacts

The conductor bucket of these contacts is machined at an angle to form a cup into which the solder can flow.

See page 9 for the range of cable dimensions that can be soldered.



Crimp contacts

The square form crimp method is used (MIL-C-22520F, class I, type 2) photo 1 for single contact contacts.

For multicontact contacts the standard four-fidenter crimp method is used, MIL-C-22520F, class I, type 1), photo 2.

The crimp method requires a controlled compression to obtain a symmetrical deformation of the conductor strand and of the contact material. The radial hole in the side of the contact makes it possible to check whether the conductor is correctly positioned within the contact. A good crimping is characterized by only slightly reduced conductor section and practically no gap.

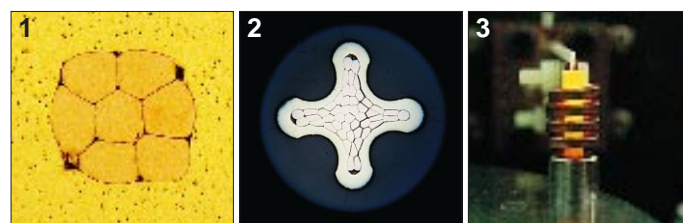
For optimum crimping of bronze or brass contacts they are annealed to relieve internal stress and reduce material hardening during the crimping process.

Only the crimping zone is annealed with the help of an induction heating machine designed by the LEMO Research and Development Department (see photo 3).

Advantages of crimping

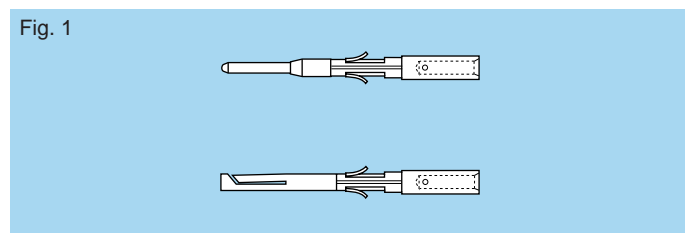
- practical, quick contact fixing outside the insulator
- possible use at high temperature
- no risk of heating the insulator during the conductor-contact fixing
- high tensile strength

Crimp contacts are available in standard version (micro-photo 1) for mounting maximum size conductors. For some dimensions, these crimp contacts can be produced with reduced crimp barrels for mounting reduced size conductors.

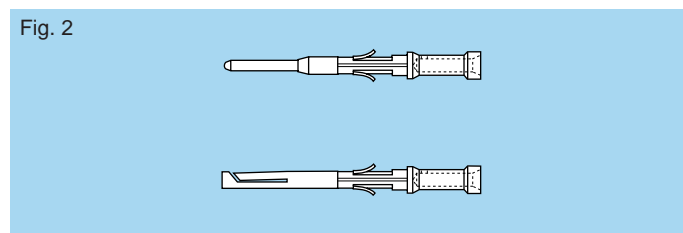


Crimp contacts

The crimp contacts can be with two forms: a standard crimp barrel for large conductors (see fig. 1) or with a reduced crimp barrel for smaller conductors (see fig. 2).



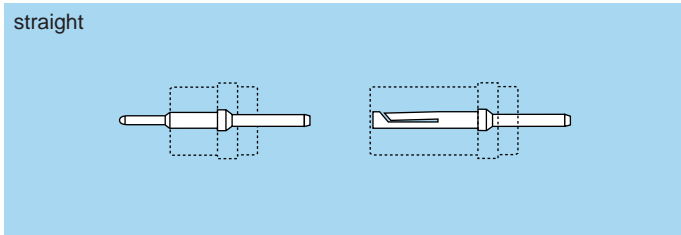
The range of cable dimensions that can be crimped into our contacts are indicated on the table on page 9.



Printed circuit contacts

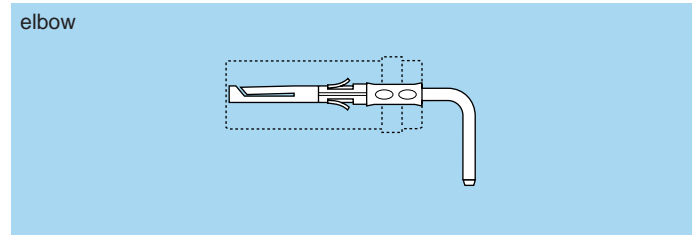
Printed circuit contacts are available in straight or elbow versions for certain connector types, mostly for straight and elbow receptacle models. Connection is made on flexible or rigid printed circuits by soldering.

Straight printed circuit contacts are gold-plated which guarantees optimum soldering, even after long-term storage.



However for wave soldering, we recommend removal of the gold-plating from the contact end on the printed circuit side before soldering according to the assembly procedures.

Printed circuit elbow contacts include a tinned brass wire crimped into a crimp contact.



Test voltage

Test voltage (U_e):
(measured according to the IEC 60512-2 test 4a standard).

It corresponds to 75% of the mean breakdown voltage. Test voltage is applied at 500 V/s and the test duration is one minute.

This test has been carried out with a mated plug and receptacle, with power supply only on the plug end.

Operating voltage (U_s):
It is proposed according to the following ratio: $U_s = \frac{U_e}{3}$

Caution:
For a number of applications, safety requirements for electrical appliances are more severe with regard to operating voltage.

In such cases operating voltage is defined according to creepage distance and air clearance) between live parts. Please consult us for the choice of a connector by indicating the safety standard to be met by the product.

Voltage values are given in the table on insulator types for each series corresponding with values measured at sea level and are adapted to all applications up to an altitude of 2000 m.

In case a device is used at a higher altitude, air clearance between live parts has to be multiplied by the following coefficients:
(Test voltage also has to be divided by this coefficient).

| altitude (m) | coefficient |
|--------------|-------------|
| 2000 | 1.00 |
| 3000 | 1.14 |
| 4000 | 1.29 |
| 5000 | 1.48 |

Rated current

(measured according to IEC 60512-3 test 5a).

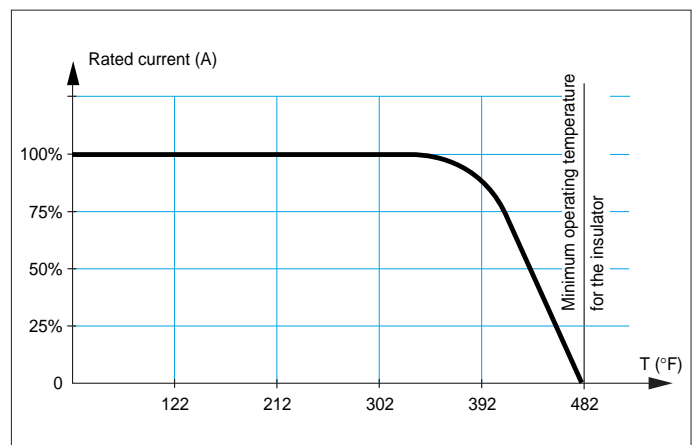
The specified rated current can be applied simultaneously to all the contacts, corresponding with an average temperature rise of 104° F of the connector.

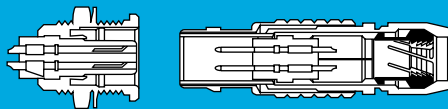
The current values are indicated in the table of insulator types in each series. For use at higher temperatures, acceptable rated current will be lower. It tends towards zero as the material is used at the maximum operating temperature accepted for the insulator.

In most cases, the current depends on the conductor dimension (see table on page 210), or on the printed circuit dimension.

Caution:
In general, connectors should not be unmated while live.

For connectors with PEEK insulator, maximum admissible current will follow the curve below depending on the operating temperature T.





Cable fixing

Cables are fixed into LEMO connectors with cable collet systems. These collets with latches have a design which is very similar to those used for tool machines. This solution guarantees excellent cable retention and ensures perfectly symmetrical deformation of the cable.

The 00 multicontact series is also available with hexagonal crimping (MIL-C-22520F).

In the F series cable fixing is ensured by “tie-wrap” junction of the cable screen on the connector outer shell and a thermo-fit jacket.

Material and treatment

| Component | Material (standard) | Surface treatment (µm) | | | | |
|----------------|----------------------|------------------------|----|------|----|-----|
| | | Nickel | | Gold | | |
| | | Cu | Ni | Cu | Ni | Au |
| Center piece | Brass (UNS C 38500) | 0.5 | 3 | – | – | – |
| Collet | Brass (UNS C 38500) | 0.5 | 3 | – | – | – |
| Crimp ferrule | Copper (UNS C 18700) | 0.5 | 3 | 0.5 | 3 | 0.5 |
| Reducer | Brass (UNS C 38500) | 0.5 | 3 | – | – | – |
| Reducing cone | Brass (UNS C 38500) | 0.5 | 3 | – | – | – |
| Grounding cone | Brass (UNS C 38500) | 0.5 | 3 | – | – | – |
| Metal washer | Brass (UNS C 38500) | 0.5 | 3 | – | – | – |
| Gasket | Silicone MQ/MVQ | – | | | | |
| | FPM (Viton®) | | | | | |

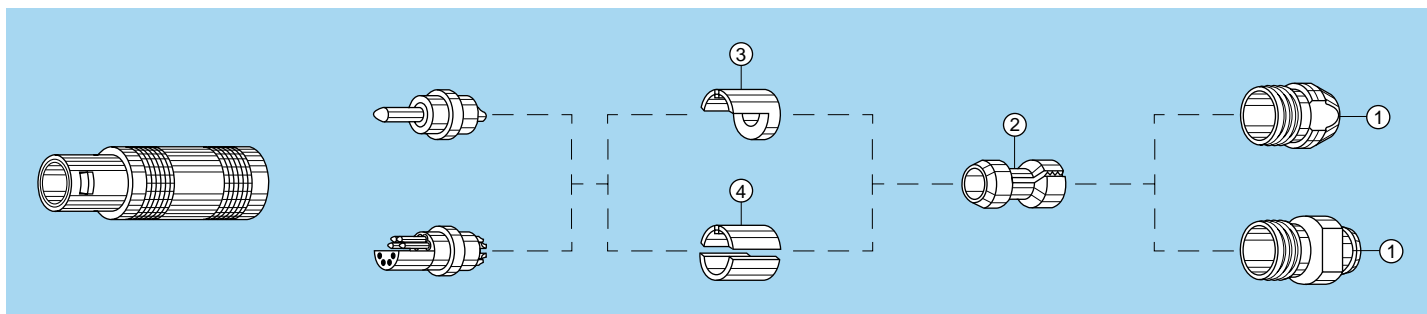
Notes:
Standards for surface treatment are as follows:
Nickel-plated: FS QQ-N-290A.

Cable clamping

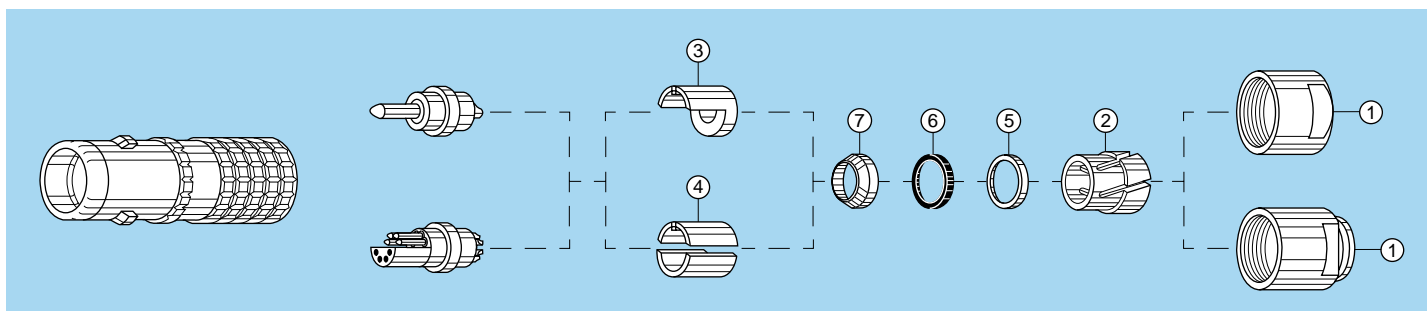
Type C cable clamping (S, E and 2C series)

This system includes an grounding center-piece ③ or ④ and a collet ② which is compressed by the collet nut ① to ensure a good clamping to the cable. When assembling the cable, the cable shield is gripped between the grounding center-piece and the collet. The grounding center-piece design depends on the connector type:

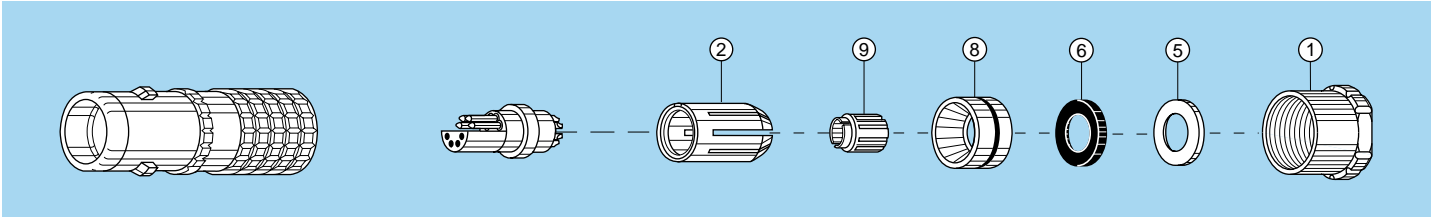
- In one single part with opening ③ for S and E series single contact and multicontact series with contacts only on the circumference of the insulator;
- In two parts ④ for multicontact type connectors with contacts on the circumference and the center of the insulator.



In standard watertight series (0E to 5E), C type clamping is completed by a flexible gasket ⑥ providing for watertightness on the cable end, by a metal washer ⑤ which prevents the gasket from rotating during the clamping; and by an grounding cone ⑦ which tightens the screen onto the grounding center-piece ③ or ④.



The clamping system for 6E series connectors has been slightly modified in regards to its dimensions. The clamping system now includes a long collet (2), an grounding collet (9), a counter-cone (8), a flexible gasket (6) and a metal washer (5) which prevents the gasket from rotating during the clamping. When mating the assembly, the grounding collet is positioned onto the outer jacket. The cable screen is folded back around the collet extremity and then soldered. The collet is closed with the help of the counter-cone which is pressed against the collet when tightening the collet nut (1). For assembling unscreened cables, the collet (9) nut is not used.

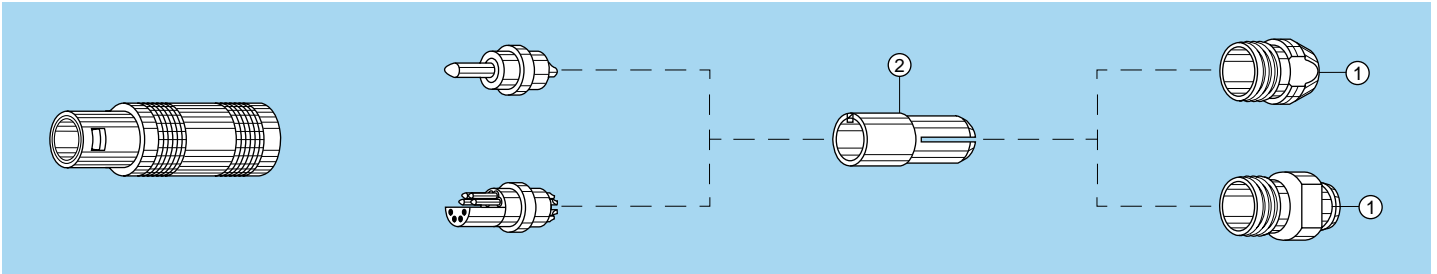


Type D cable clamping (FFL model 2S series)

This clamping system is assembled onto FFL plugs designed for crimp contacts. It includes the same components as the B series, see page 207.

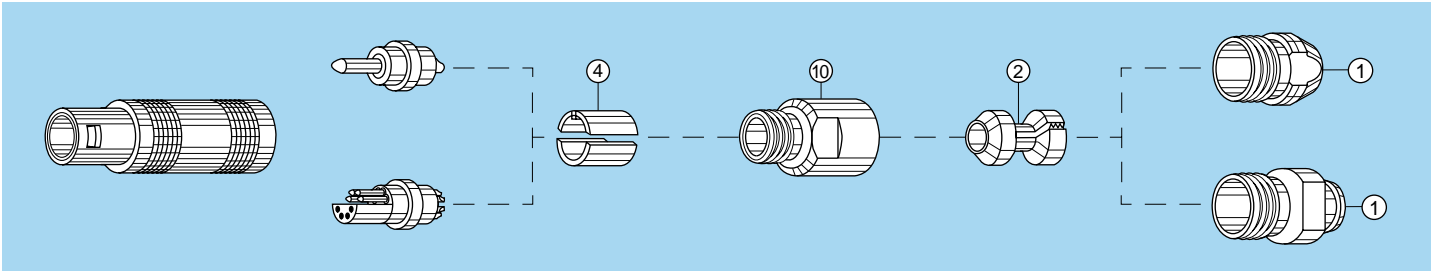
Type L cable clamping (S and 2C series)

This clamping system which includes in one part (2) the center-piece and the collet, does not make it possible to connect the cable shield to the connector shell. It is delivered only upon request and can only be assembled onto single contact or multi-contact type connectors. This is the only possible clamping type for the 5S.112 type.

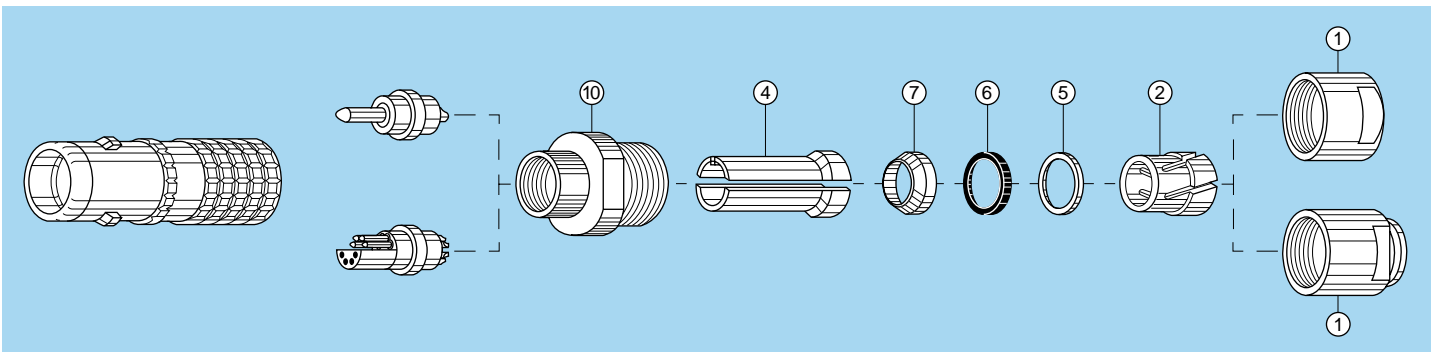


Type K cable clamping (S and E series)

This clamping system provides for screened or unscreened cables with diameters larger than maximum specified for each series. It includes an oversize collet housing (10), the collet (2) and the collet nut (1) of the next series size up. It requires a longer split center-piece (4).

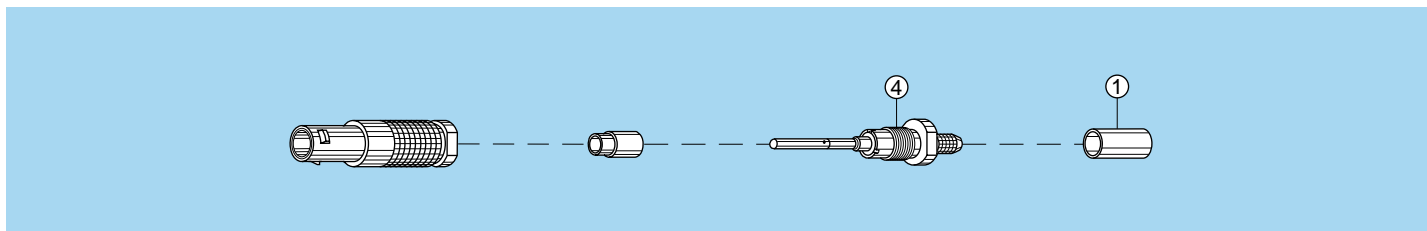


In standard watertight series (E series), the K type clamping type is completed by the flexible gasket (6) providing for watertightness on the cable end, by the metal washer (5) which prevents the gasket from rotating during the clamping (1) and the grounding cone (7) of the next series size up which clamps the shield onto the longer split center-pieces (4).



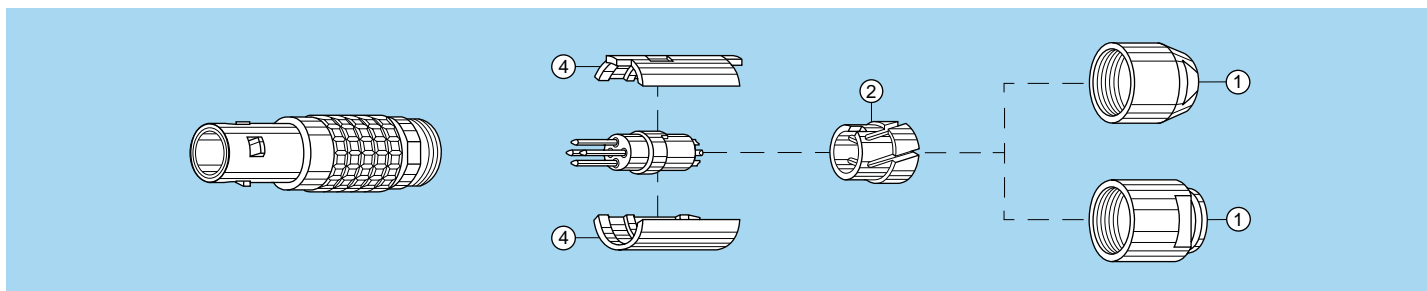
Type E cable clamping (00 single contact series)

This clamping type is specified only for the single contact 00 series. The rear end of the crimp backnut ④ which receives the shield braid is knurled to ensure a good retention of the shield once crimped under the crimp ferrule ①.



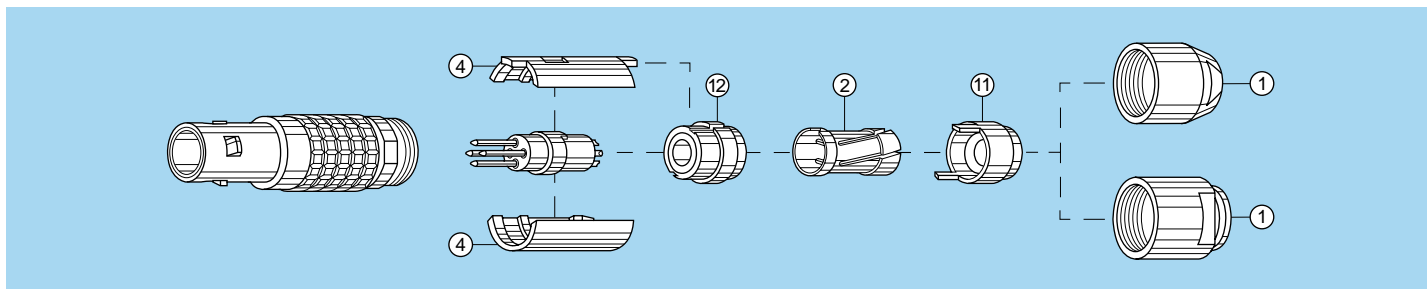
Type D cable clamping (B, 2G and 1D series)

This clamping system includes two split insert carriers ④ which position the insulator into the connector and a collet ② which is compressed by the collet nut ① ensuring the cable clamping. When assembling the connector, the cable shield is clamped between the split insert carrier and the collet.



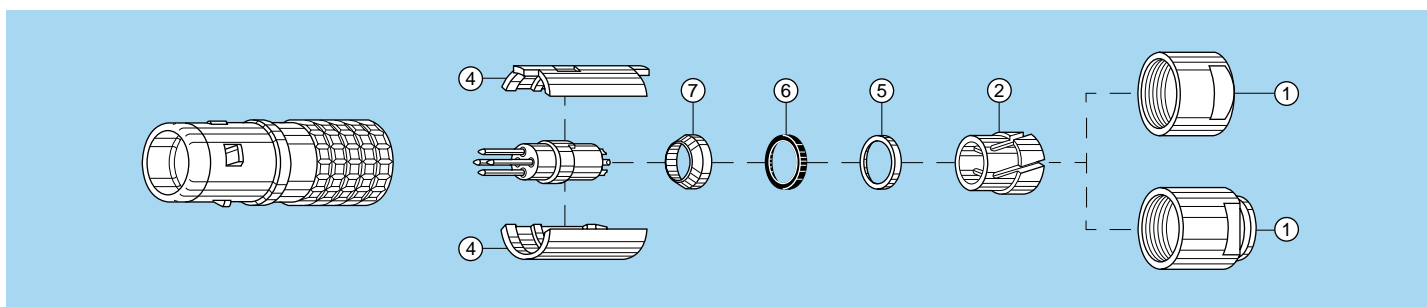
Type M cable clamping (B series)

This clamping system is adapted to cables with a diameter smaller than the smallest diameter specified for each series. It includes a reducer ⑩, a collet of a smaller series ② and a reducing cone ⑪. These parts have the same function as the D type collet.



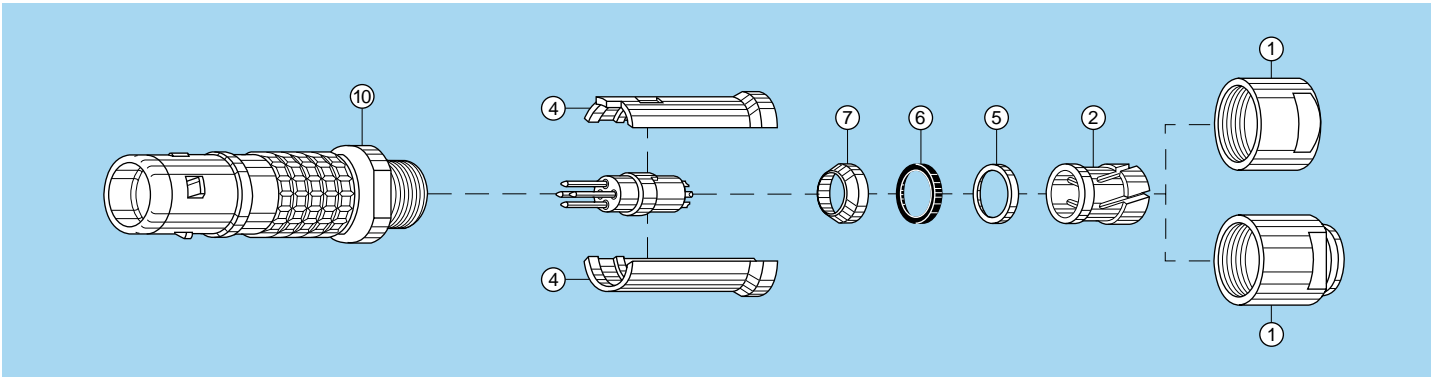
Type C cable clamping (K series)

In the watertight series (K series), the C type clamping system is completed by a flexible gasket ⑥ providing for watertightness on the cable end, by a metal washer ⑤ preventing the gasket from rotating when the collet nut is clamped and an grounding cone ⑦ which clamps the shield onto the split insert carrier ④.



Type K cable clamping (K series)

In the watertight keyed series (K series), the clamping system provides for using screened or unscreened cables, with a diameter larger than the maximum specified for each series. The shell is completed by an oversize collet housing ⑩. The collet ② and watertightness on the cable end are identical to type C cable clamping but are of the next series size up. The grounding cone ⑦ clamps the shield onto the longer split center-pieces ④.



Maximum metal collet nut tightening torque

Standard series

| | Series | | | | | | | | | |
|-------------|--------|-----|-----|-----|-----|-----|----|----|----|----|
| | 00 | 0S | 1D | 1S | 2C | 2S | 3S | 4S | 5S | 6S |
| Torque (Nm) | 0.25 | 0.5 | 1.5 | 1.5 | 2.5 | 2.5 | 6 | 8 | 10 | 12 |

Keyed series

| | Series | | | | | | | |
|-------------|--------|-----|-----|-----|-----|----|----|----|
| | 00 | 0B | 1B | 2B | 2G | 3B | 4B | 5B |
| Torque (Nm) | 0.25 | 0.5 | 1.5 | 2.5 | 2.5 | 4 | 7 | 10 |

Maximum plastic collet nut tightening torque ¹⁾

| | Series | | | | | | | | |
|-------------|--------|------|------|------|------|------|------|------|------|
| | 00 | 0S | 1S | 2S | 3S | 1B | 2B | 3B | 4B |
| Torque (Nm) | 0.15 | 0.45 | 0.50 | 0.50 | 1.00 | 0.50 | 0.50 | 1.00 | 1.50 |

Note:

¹⁾ For applications subject to strong vibration, we recommend fixing the collet nut with epoxy resin.

Watertight series

| | Series | | | | | | |
|-------------|--------|-----|----|----|----|----|----|
| | 0E | 1E | 2E | 3E | 4E | 5E | 6E |
| Torque (Nm) | 0.7 | 0.8 | 2 | 3 | 5 | 8 | 12 |

Watertight keyed series

| | Series | | | | | |
|-------------|--------|-----|----|----|----|----|
| | 0K | 1K | 2K | 3K | 4K | 5K |
| Torque (Nm) | 0.7 | 0.8 | 2 | 3 | 5 | 8 |

1N = 0.102 kg

Technical tables

Table of American Wire Gauge

| AWG | Construction | | ø wire max | | Wire section | |
|------------------|--------------|------------|------------|-------|--------------------|------------------------|
| | Strand nb | AWG/strand | (mm) | (in) | (mm ²) | (sq in) |
| 4 | 133 | 25 | 6.9596 | 0.274 | 21.5925 | 0.0335 |
| 6 | 133 | 27 | 5.5118 | 0.217 | 13.5885 | 0.0211 |
| 8 | 168 | 30 | 4.4450 | 0.175 | 8.5127 | 0.0132 |
| 8 | 133 | 29 | 4.3942 | 0.173 | 8.6053 | 0.0133 |
| 10 | 105 | 30 | 3.3020 | 0.13 | 5.3204 | 0.0082 |
| 10 | 37 | 26 | 2.9210 | 0.115 | 4.7397 | 0.0073 |
| 10 | 1 | 10 | 2.6162 | 0.103 | 5.2614 | 0.0082 |
| 12 | 65 | 30 | 2.5146 | 0.099 | 3.2936 | 0.0051 |
| 12 | 37 | 28 | 2.3114 | 0.091 | 2.9765 | 0.0046 |
| 12 | 19 | 25 | 2.3622 | 0.093 | 3.0847 | 0.0048 |
| 12 ¹⁾ | 7 | 20 | 2.5400 | 0.1 | 3.6321 | 0.0056 |
| 12 | 1 | 12 | 2.0828 | 0.082 | 3.3081 | 0.0051 |
| 14 | 41 | 30 | 2.0574 | 0.081 | 2.0775 | 0.0032 |
| 14 | 19 | 27 | 1.8542 | 0.073 | 1.9413 | 0.0030 |
| 14 ¹⁾ | 7 | 22 | 2.0828 | 0.082 | 2.2704 | 0.0035 |
| 14 | 1 | 14 | 1.6510 | 0.065 | 2.0820 | 0.0032 |
| 16 ¹⁾ | 65 | 34 | 1.5748 | 0.062 | 1.3072 | 0.0020 |
| 16 | 26 | 30 | 1.5748 | 0.062 | 1.3174 | 0.0020 |
| 16 | 19 | 29 | 1.4986 | 0.059 | 1.2293 | 0.0019 |
| 16 ¹⁾ | 7 | 24 | 1.5494 | 0.061 | 1.4330 | 0.0022 |
| 16 | 1 | 16 | 1.3208 | 0.052 | 1.3076 | 0.0020 |
| 18 ¹⁾ | 65 | 36 | 1.2700 | 0.05 | 0.8234 | 0.0013 |
| 18 ¹⁾ | 42 | 34 | 1.2700 | 0.05 | 0.8447 | 0.0013 |
| 18 | 19 | 30 | 1.3208 | 0.052 | 0.9627 | 0.0015 |
| 18 | 16 | 30 | 1.2954 | 0.051 | 0.8107 | 0.0013 |
| 18 | 7 | 26 | 1.2700 | 0.05 | 0.8967 | 0.0014 |
| 18 | 1 | 18 | 1.0414 | 0.041 | 0.8229 | 0.0013 |
| 20 ¹⁾ | 42 | 36 | 1.0160 | 0.04 | 0.5320 | 8.2 x 10 ⁻⁴ |
| 20 | 19 | 32 | 1.0414 | 0.041 | 0.6162 | 0.0010 |
| 20 | 10 | 30 | 1.0160 | 0.04 | 0.5067 | 7.9 x 10 ⁻⁴ |
| 20 | 7 | 28 | 0.9906 | 0.039 | 0.5631 | 8.7 x 10 ⁻⁴ |
| 20 | 1 | 20 | 0.8382 | 0.033 | 0.5189 | 8.0 x 10 ⁻⁴ |
| 22 | 19 | 34 | 0.8382 | 0.033 | 0.3821 | 5.9 x 10 ⁻⁴ |
| 22 | 7 | 30 | 0.7874 | 0.031 | 0.3547 | 5.5 x 10 ⁻⁴ |
| 22 | 1 | 22 | 0.6604 | 0.026 | 0.3243 | 5.0 x 10 ⁻⁴ |
| 24 ¹⁾ | 42 | 40 | 0.6604 | 0.026 | 0.2045 | 3.2 x 10 ⁻⁴ |
| 24 | 19 | 36 | 0.6858 | 0.027 | 0.2407 | 3.7 x 10 ⁻⁴ |
| 24 | 7 | 32 | 0.6350 | 0.025 | 0.2270 | 3.5 x 10 ⁻⁴ |
| 24 | 1 | 24 | 0.5588 | 0.022 | 0.2047 | 3.2 x 10 ⁻⁴ |
| 26 | 19 | 38 | 0.5588 | 0.022 | 0.1540 | 2.4 x 10 ⁻⁴ |
| 26 | 7 | 34 | 0.5080 | 0.02 | 0.1408 | 2.2 x 10 ⁻⁴ |
| 26 | 1 | 26 | 0.4318 | 0.017 | 0.1281 | 2.0 x 10 ⁻⁴ |
| 28 ¹⁾ | 19 | 40 | 0.4318 | 0.017 | 0.0925 | 1.4 x 10 ⁻⁴ |
| 28 | 7 | 36 | 0.4064 | 0.016 | 0.0887 | 1.4 x 10 ⁻⁴ |
| 28 | 1 | 28 | 0.3302 | 0.013 | 0.0804 | 1.2 x 10 ⁻⁴ |
| 30 | 7 | 38 | 0.3302 | 0.013 | 0.0568 | 8.8 x 10 ⁻⁵ |
| 30 | 1 | 30 | 0.2794 | 0.011 | 0.0507 | 7.9 x 10 ⁻⁵ |
| 32 | 7 | 40 | 0.2794 | 0.011 | 0.0341 | 5.3 x 10 ⁻⁵ |
| 32 | 1 | 32 | 0.2286 | 0.009 | 0.0324 | 5.0 x 10 ⁻⁵ |
| 34 | 1 | 34 | 0.1693 | 0.007 | 0.0201 | 3.1 x 10 ⁻⁵ |
| 36 | 1 | 36 | 0.127 | 0.005 | 0.0127 | 2.0 x 10 ⁻⁵ |
| 38 | 1 | 38 | 0.1016 | 0.004 | 0.0081 | 1.3 x 10 ⁻⁵ |
| 40 | 1 | 40 | 0.078 | 0.003 | 0.0049 | 7.5 x 10 ⁻⁶ |

Table of wire gauges according to IEC-228 standard

| Conductor no x Ø (mm) | Max Ø (mm) | Max Ø (in) | Section (mm ²) | Section (sq in) |
|-----------------------|------------|------------|----------------------------|------------------------|
| 196 x 0.40 | 7.50 | 0.295 | 25.00 | 0.0387 |
| 7 x 2.14 | 6.10 | 0.240 | 25.00 | 0.0387 |
| 125 x 0.40 | 6.00 | 0.236 | 16.00 | 0.0248 |
| 7 x 1.72 | 4.90 | 0.192 | 16.00 | 0.0248 |
| 1 x 4.50 | 4.50 | 0.177 | 16.00 | 0.0248 |
| 80 x 0.40 | 4.70 | 0.155 | 10.00 | 0.0155 |
| 7 x 1.38 | 3.95 | 0.155 | 10.00 | 0.0155 |
| 1 x 3.60 | 3.60 | 0.141 | 10.00 | 0.0155 |
| 84 x 0.30 | 3.70 | 0.145 | 6.00 | 0.0093 |
| 7 x 1.50 | 3.15 | 0.124 | 6.00 | 0.0093 |
| 1 x 2.76 | 2.76 | 0.108 | 6.00 | 0.0093 |
| 56 x 0.30 | 2.80 | 0.110 | 4.00 | 0.0062 |
| 7 x 0.86 | 2.58 | 0.098 | 4.00 | 0.0062 |
| 1 x 2.25 | 2.25 | 0.082 | 4.00 | 0.0062 |
| 50 x 0.25 | 2.15 | 0.084 | 2.50 | 0.0038 |
| 7 x 0.68 | 2.04 | 0.080 | 2.50 | 0.0038 |
| 1 x 1.78 | 1.78 | 0.070 | 2.50 | 0.0038 |
| 30 x 0.25 | 1.60 | 0.062 | 1.50 | 0.0023 |
| 7 x 0.52 | 1.56 | 0.061 | 1.50 | 0.0023 |
| 1 x 1.14 | 1.40 | 0.055 | 1.50 | 0.0023 |
| 32 x 0.20 | 1.35 | 0.053 | 1.00 | 0.0015 |
| 7 x 0.43 | 1.29 | 0.050 | 1.00 | 0.0015 |
| 1 x 1.15 | 1.15 | 0.045 | 1.00 | 0.0015 |
| 42 x 0.15 | 1.20 | 0.047 | 0.75 | 0.0011 |
| 28 x 0.20 | 1.15 | 0.045 | 0.75 | 0.0011 |
| 1 x 1.0 | 1.00 | 0.039 | 0.75 | 0.0011 |
| 28 x 0.15 | 0.95 | 0.037 | 0.50 | 7.7 x 10 ⁻⁴ |
| 16 x 0.20 | 0.90 | 0.035 | 0.50 | 7.7 x 10 ⁻⁴ |
| 1 x 0.80 | 0.80 | 0.031 | 0.50 | 7.7 x 10 ⁻⁴ |
| 7 x 0.25 | 0.75 | 0.029 | 0.34 | 5.2 x 10 ⁻⁴ |
| 1 x 0.60 | 0.60 | 0.023 | 0.28 | 4.3 x 10 ⁻⁴ |
| 14 x 0.15 | 0.75 | 0.029 | 0.25 | 3.8 x 10 ⁻⁴ |
| 7 x 0.20 | 0.65 | 0.023 | 0.22 | 3.4 x 10 ⁻⁴ |
| 18 x 0.10 | 0.50 | 0.019 | 0.14 | 2.1 x 10 ⁻⁴ |
| 14 x 0.10 | 0.40 | 0.015 | 0.11 | 1.7 x 10 ⁻⁴ |
| 21 x 0.07 | 0.40 | 0.015 | 0.09 | 1.3 x 10 ⁻⁴ |
| 14 x 0.10 | 0.40 | 0.015 | 0.09 | 1.3 x 10 ⁻⁴ |

Note: ¹⁾ Not included in the standard

Maximum current rating for conductor

Maximum current on insulated conductors up to an ambient temperature of 86° F (from VDE 0100, parts 430 and 532 as well as other VDE regulations).

| Nominal section mm ² | Group 2 Intens. max. A | Group 3 Intens. max. A |
|---------------------------------|------------------------|------------------------|
| 0.08 | 1.0 | 1.5 |
| 0.14 | 2.0 | 3.0 |
| 0.25 | 4.0 | 5.0 |
| 0.34 | 6.0 | 8.0 |
| 0.50 | 9.0 | 12.0 |
| 0.75 | 12.0 | 15.0 |
| 1.00 | 15.0 | 19.0 |
| 1.50 | 18.0 | 24.0 |
| 2.50 | 26.0 | 32.0 |

Group 2 Multi-conductor, e. g. solid cable under sheath, shielded cable, lead-sheath cables, etc.
 Group 3 Single conductor and single conductor cable laid on open air in a way to leave at least a space between them equal to their diameter.

Some formulae

Resistance R of a conductor: $R = \rho \times \frac{l}{A}$ [Ω]

Where: ρ = conductor resistivity
 l = conductor length
 A = conductor cross-section

Impedance of coaxial line: $Z = \frac{138}{\sqrt{\epsilon_r}} \times \log \frac{D}{d}$ [Ω]

ϵ_r = dielectric constant
 D = dielectric outer diameter
 d = center conductor outer diameter

Signal attenuation: Attenuation = $20 \times \log \frac{U_1}{U_2}$ [dB]

U_1 = input signal voltage
 U_2 = output signal voltage

Conversion of some units

Millimeters into inches: 1 mm = 0.0394 in

Inches into millimeters: 1 in = 25.4 mm

Centimeters into feet: 1 cm = 0.0328 ft

Feet (12 in) into centimeters: 1 ft = 30.48 cm

Square centimeters into square inches: 1 cm² = 0.155 sq in

Square inches into square centimeters: 1 sq in = 6.4516 cm²

Bar into psi (pounds per square inch): 1 bar = 14.51 psi

Bar into Pascal: 1 bar = 10⁵ Pa

°C into °F: °F = °C x 1.8 + 32

Newtonmeter (Nm) into inch pound (in x lb) 1 Nm = 8.85 in x lb

Mbar x l x s⁻¹ into Torr x l x s⁻¹ 1 mbar x l x s⁻¹ = 1.33 Torr x l x s⁻¹