

**HIGH PRESSURE  
CONNECTORS  
V SERIES**



## Precision modular connectors to suit your application

Since its creation in Switzerland in 1946 the LEMO Group has been recognized as a global leader of circular Push-Pull connectors and connector solutions. Today LEMO and its affiliated companies, REDEL and COELVER, are active in more than 80 countries with the help of over 40 subsidiaries and distributors.

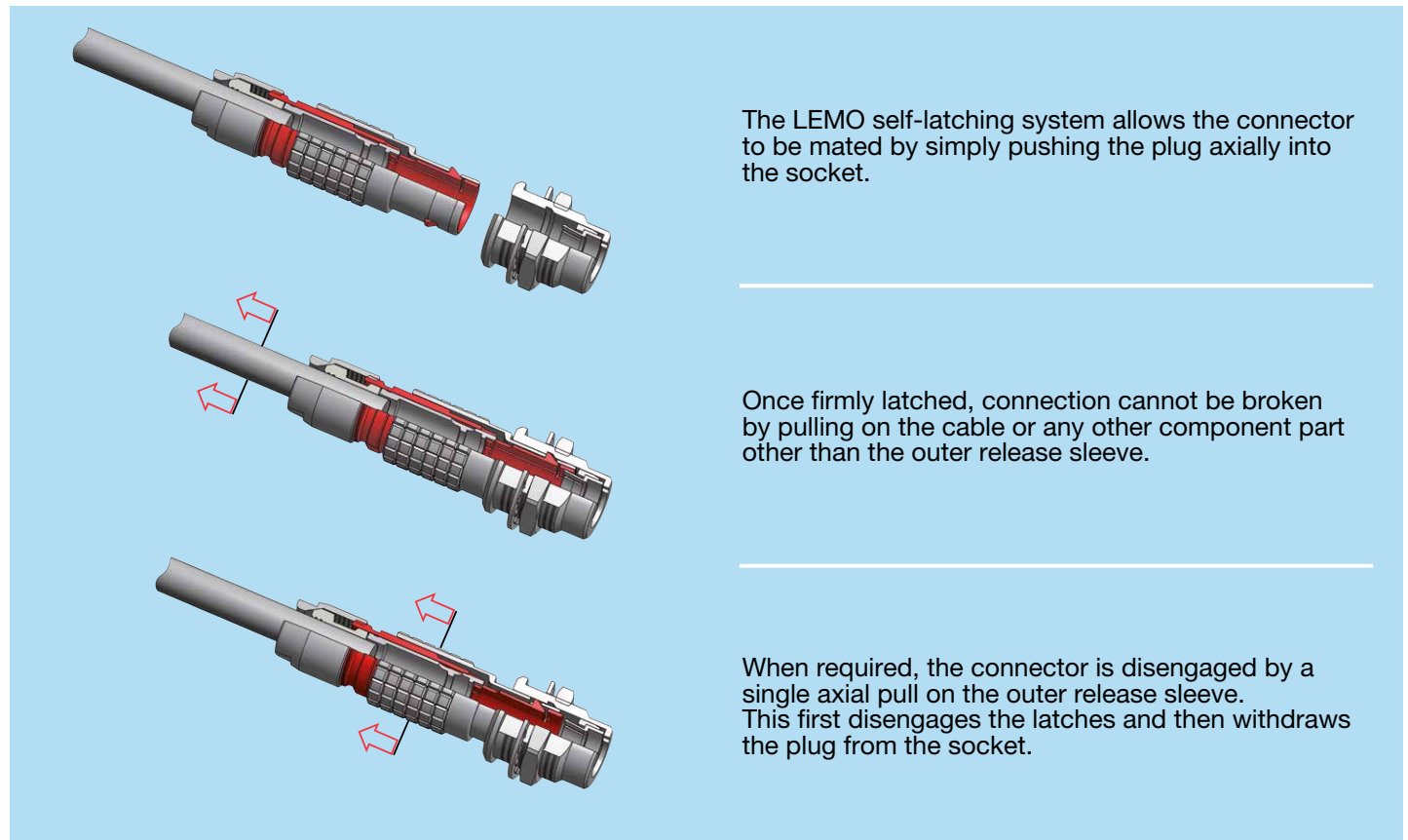
## Over 75000 connectors

The modular design of the LEMO range provides over 75000 connectors from miniature  $\varnothing$  3 mm to  $\varnothing$  50 mm, capable of handling cable diameters up to 30 mm and for up to 114 contacts.

This vast portfolio enables you to select the ideal connector configuration to suit almost any specific requirement in most markets, including medical devices, test and measurement instruments, machinery, audio video broadcast, telecommunications and military.

## LEMO's Push-Pull Self-Latching Connection System (not shown in this catalogue)

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.



## UL Recognition

LEMO connectors are recognized by the Underwriters Laboratories (UL). The approval of the complete system (LEMO connector, cable and your equipment) will be easier because LEMO connectors are recognized.

## 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.**

## RoHS

LEMO connector specifications conforms the requirements of the RoHS directive (2011/65/EU) of the European Parliament and the latest amendments. This directive specifies the restrictions of the use of hazardous substances in electrical and electronic equipment marketed in Europe.

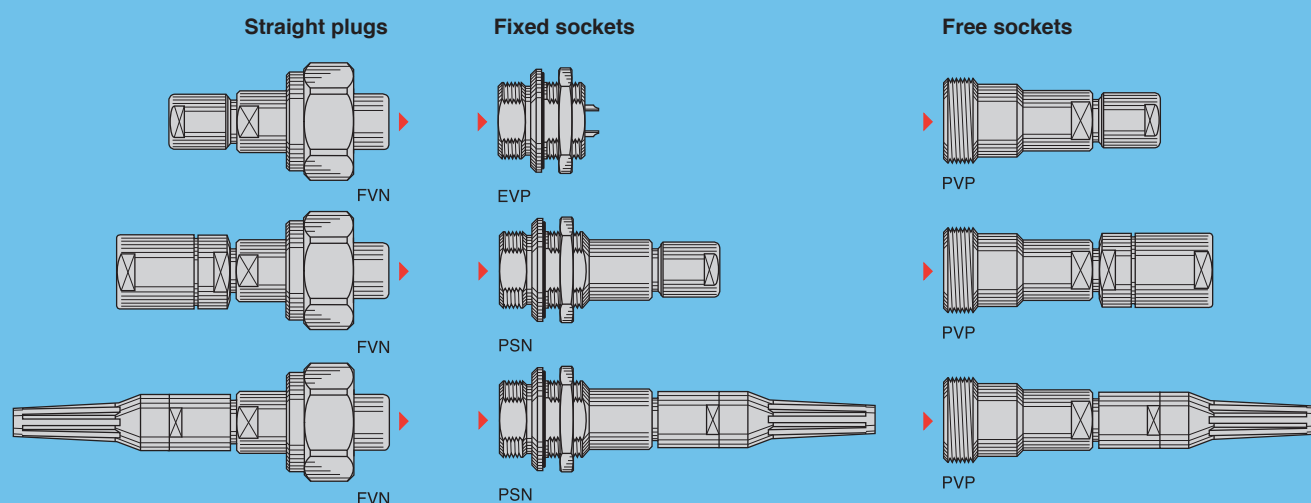
## V Series

V series connectors have been developed for utilisation where protection must be guaranteed under high pressures of liquids. The basic elements, insulators, contacts and clamping system are from the S and E series. The push-pull latching system has been replaced by a screw coupling system with watertightness maintained by compression of an O-ring in FPM (Viton®) according to the triangular shaped cavity principle. There are multiple application possibilities, from nuclear physics to the petroleum industry. After cable assembly the rear part must be covered with an adhesive heatshrink boot in order to ensure watertightness on the cable side. V series connectors provide the following main features:

- unipole and multipole type
- coaxial, triaxial or mixed type available upon request
- polarisation by stepped insert (half moon)
- 360° screening for full EMC shielding
- rugged housing for extreme working conditions.

### Interconnections

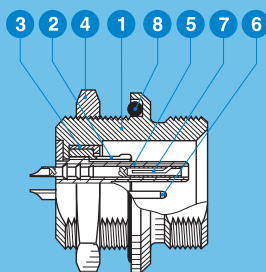
#### Models (page 3)



### Part Section Showing Internal Components (multipole)

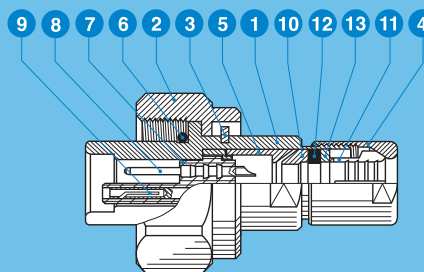
#### Fixed socket

- 1 outer shell
- 2 earthing crown
- 3 retaining ring
- 4 hexagonal nut
- 5 insulator
- 6 male contact
- 7 female contact
- 8 O-ring



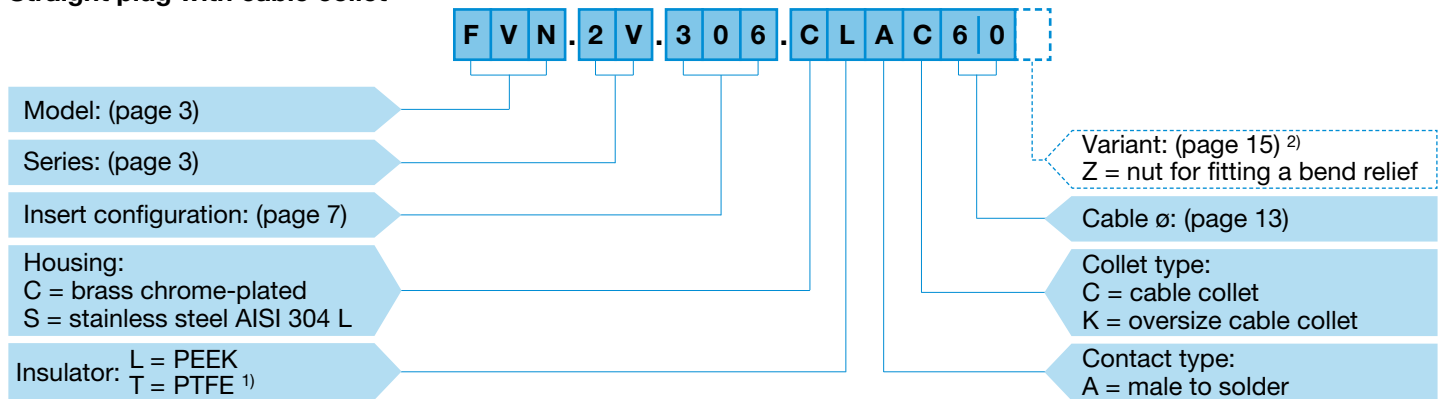
#### Straight plug

- 1 outer shell
- 2 coupling nut
- 3 circlip
- 4 collet nut
- 5 centre-piece
- 6 o-ring
- 7 insulator
- 8 male contact
- 9 female contact
- 10 earthing cone
- 11 collet
- 12 gasket
- 13 washer



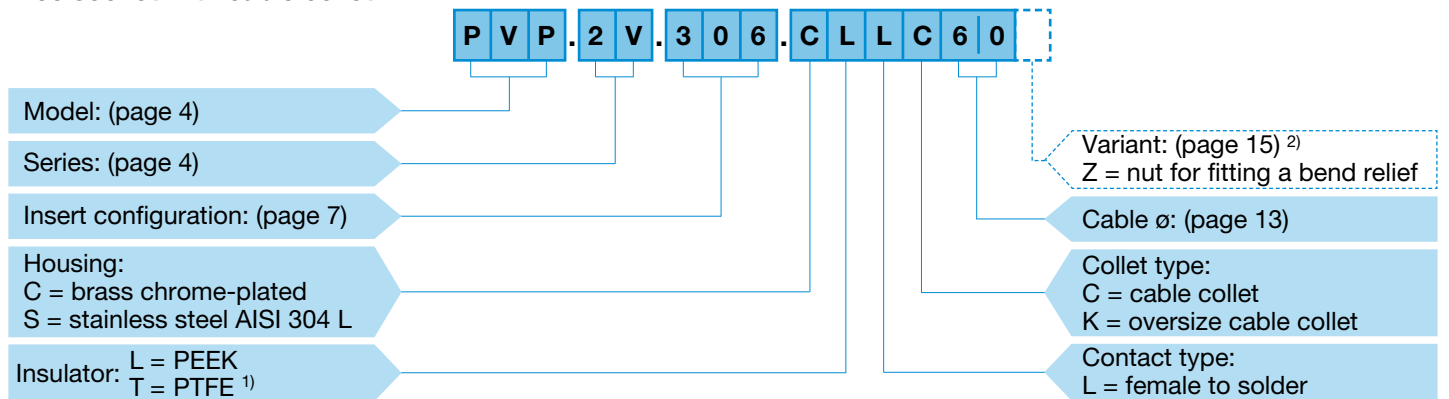
## Part Number Example

### Straight plug with cable collet



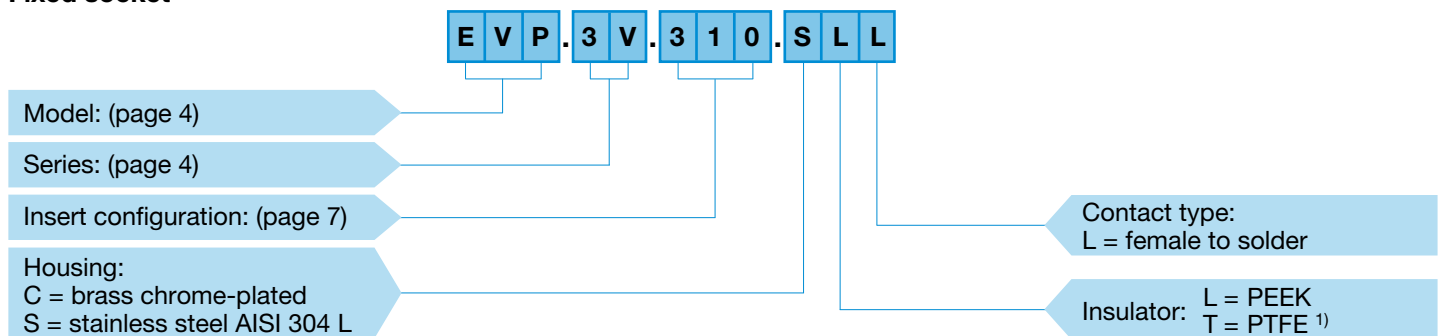
**FVN.2V.306.CLAC60** = straight plug with cable collet, 2V series, multipole type with 6 contacts, outer shell in chrome-plated brass, PEEK insulator, male solder contacts, C type collet for 6 mm diameter cable.

### Free socket with cable collet



**PVP.2V.306.CLLC60** = free socket with cable collet, 2V series, multipole type with 6 contacts, outer shell in chrome-plated brass, PEEK insulator, female solder contacts, C type collet for 6 mm diameter cable.

### Fixed socket



**EVP.3V.310.SLL** = fixed socket, nut fixing, 3V series, multipole type with 10 contacts, outer shell in stainless steel, PEEK insulator, female solder contacts.

**Note:** <sup>1)</sup> PTFE insulator for unipole type only.

<sup>2)</sup> The «Variant» position in the reference is used to specify either the presence of a collet nut for fitting the bend relief.

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



## Models

### Technical Characteristics

#### Mechanical and Climatical

| Characteristics                            | Value                   | Standard             |
|--------------------------------------------|-------------------------|----------------------|
| Endurance                                  | > 1000 cycles           | IEC 60512-5 test 9a  |
| Temperature range                          | -20° C, +200° C         |                      |
| Salt spray corrosion test <sup>2)</sup>    | > 1000 h                | IEC 60512-6 test 11f |
| Protection index (mated)                   | > IP 68                 | IEC 60529            |
| Resistance to hydrostatic pressure (mated) | ~ 30 bars <sup>1)</sup> | IEC 60512-7 test 14d |
| Climatical category                        | 20/200/21               | IEC 60068-1          |

#### Electrical

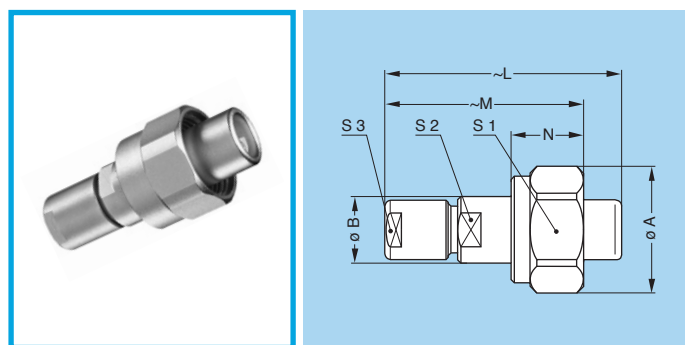
| Characteristics      |           | Value   | Standard      |
|----------------------|-----------|---------|---------------|
| Shielding efficiency | at 10 MHz | > 95 dB | IEC 60169-1-3 |
|                      | at 1 GHz  | > 80 dB | IEC 60169-1-3 |

#### Note:

<sup>1)</sup> in order to perform correctly and withstand the pressure, cable assembly shall be made according to instruction we recommend. See page 18.

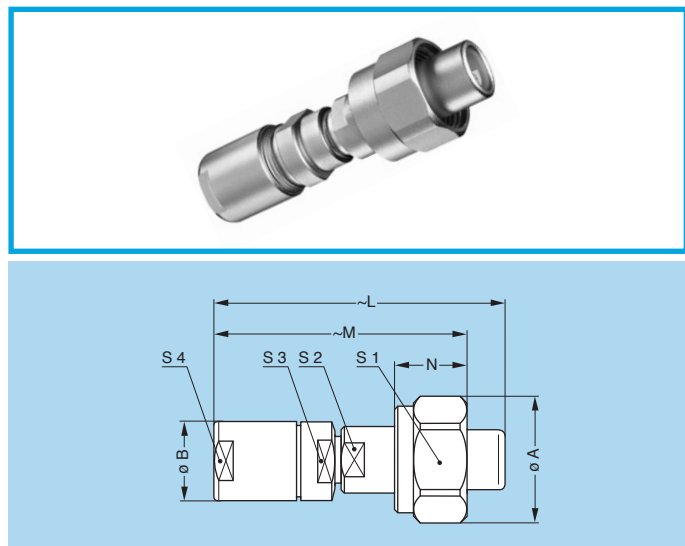
<sup>2)</sup> for chrome plated product (« C » material code).

#### FVN Straight plug with cable collet



| Reference |        | Dimensions (mm) |    |      |    |      |    |    |    |
|-----------|--------|-----------------|----|------|----|------|----|----|----|
| Model     | Series | A               | B  | L    | M  | N    | S1 | S2 | S3 |
| FVN       | 0V     | 17.2            | 10 | 34.0 | 29 | 13.5 | 16 | 9  | 8  |
| FVN       | 1V     | 19.3            | 12 | 43.0 | 35 | 14.0 | 18 | 10 | 9  |
| FVN       | 2V     | 23.5            | 16 | 52.5 | 42 | 15.5 | 22 | 14 | 12 |
| FVN       | 3V     | 27.8            | 18 | 61.0 | 47 | 16.5 | 26 | 16 | 15 |
| FVN       | 4V     | 34.3            | 24 | 71.0 | 57 | 17.5 | 32 | 22 | 19 |
| FVN       | 5V     | 50.0            | 38 | 94.0 | 78 | 21.0 | 47 | 34 | 30 |

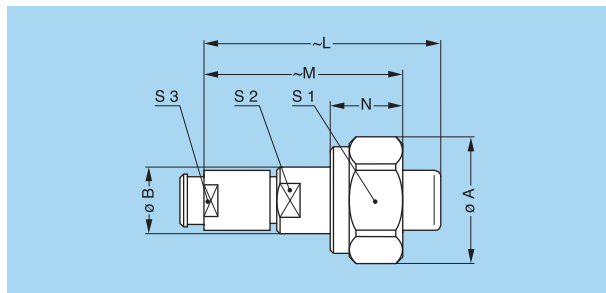
#### FVN Straight plug with oversize cable collet <sup>1)</sup>



| Reference |        | Dimensions (mm) |      |     |    |      |    |    |    |    |
|-----------|--------|-----------------|------|-----|----|------|----|----|----|----|
| Model     | Series | A               | B    | L   | M  | N    | S1 | S2 | S3 | S4 |
| FVN       | 1V     | 19.3            | 14.5 | 55  | 47 | 14.0 | 18 | 10 | 12 | 12 |
| FVN       | 2V     | 23.5            | 17.0 | 65  | 55 | 15.5 | 22 | 14 | 15 | 15 |
| FVN       | 3V     | 27.8            | 22.0 | 80  | 66 | 16.5 | 26 | 16 | 19 | 19 |
| FVN       | 4V     | 34.3            | 36.0 | 105 | 91 | 17.5 | 32 | 22 | 30 | 32 |

**Note:** <sup>1)</sup> correspond to K type of collet, 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 (see page 13).

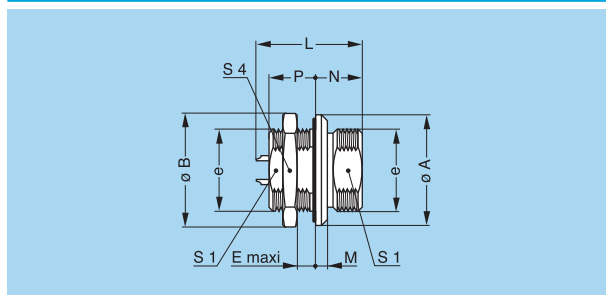
## FVN Straight plug, cable collet and nut for fitting a bend relief <sup>1)</sup>



| Reference |        | Dimensions (mm) |    |    |    |      |    |    |    |
|-----------|--------|-----------------|----|----|----|------|----|----|----|
| Model     | Series | A               | B  | L  | M  | N    | S1 | S2 | S3 |
| FVN       | 0V     | 17.2            | 10 | 34 | 29 | 13.5 | 16 | 9  | 7  |
| FVN       | 1V     | 19.3            | 12 | 43 | 35 | 14.0 | 18 | 10 | 9  |
| FVN       | 2V     | 23.5            | 16 | 52 | 42 | 15.5 | 22 | 14 | 12 |
| FVN       | 3V     | 27.8            | 18 | 60 | 47 | 16.5 | 26 | 16 | 15 |
| FVN       | 4V     | 34.3            | 24 | 71 | 57 | 17.5 | 32 | 22 | 19 |

**Note:** <sup>1)</sup> to order, add a «Z» at the end of the reference.  
The bend relief must be ordered separately (see pages 141 and 142 of the unipole/multipole catalog).

## EVP Fixed socket, nut fixing

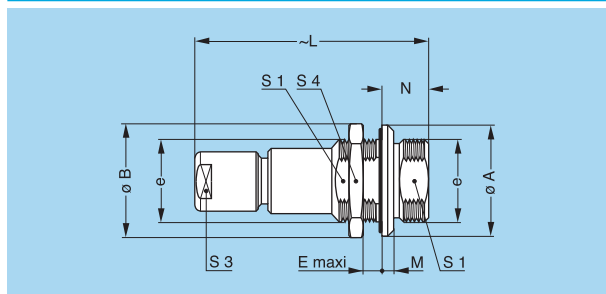


| Reference |        | Dimensions (mm) |      |         |      |      |     |      |      |      |    |
|-----------|--------|-----------------|------|---------|------|------|-----|------|------|------|----|
| Model     | Series | A               | B    | e       | E    | L    | M   | N    | P    | S1   | S4 |
| EVP       | 0V     | 19              | 19.2 | M14x1.0 | 5.5  | 19.0 | 2.0 | 8.0  | 8.0  | 12.5 | 17 |
| EVP       | 1V     | 21              | 21.5 | M16x1.0 | 10.5 | 26.0 | 2.0 | 8.0  | 13.5 | 14.5 | 19 |
| EVP       | 2V     | 26              | 27.0 | M20x1.0 | 11.0 | 29.0 | 2.5 | 9.0  | 15.0 | 18.5 | 24 |
| EVP       | 3V     | 31              | 34.0 | M24x1.0 | 15.0 | 34.5 | 3.0 | 9.5  | 20.0 | 22.5 | 30 |
| EVP       | 4V     | 38              | 40.5 | M30x1.0 | 14.5 | 35.0 | 3.5 | 10.0 | 21.5 | 28.5 | 36 |
| EVP       | 5V     | 55              | 54.0 | M45x1.5 | 15.5 | 44.5 | 4.5 | 12.5 | 24.5 | 42.5 | —  |

Panel cut-out (page 15)

**Note:** the 5V series is delivered with a round nut.

## PSN Fixed socket, cable collet, nut fixing



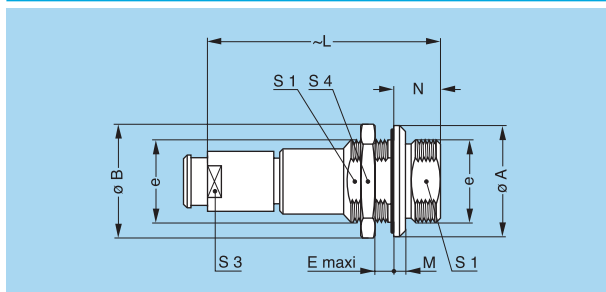
| Reference |        | Dimensions (mm) |      |         |      |      |     |      |      |    |    |
|-----------|--------|-----------------|------|---------|------|------|-----|------|------|----|----|
| Model     | Series | A               | B    | e       | E    | L    | M   | N    | S1   | S3 | S4 |
| PSN       | 0V     | 19              | 19.2 | M14x1.0 | 5.5  | 34.0 | 2.0 | 8.0  | 12.5 | 8  | 17 |
| PSN       | 1V     | 21              | 21.5 | M16x1.0 | 10.5 | 46.0 | 2.0 | 8.0  | 14.5 | 9  | 19 |
| PSN       | 2V     | 26              | 27.0 | M20x1.0 | 11.0 | 54.0 | 2.5 | 9.0  | 18.5 | 12 | 24 |
| PSN       | 3V     | 31              | 34.0 | M24x1.0 | 15.0 | 65.0 | 3.0 | 9.5  | 22.5 | 15 | 30 |
| PSN       | 4V     | 38              | 40.5 | M30x1.0 | 14.5 | 75.5 | 3.5 | 10.0 | 28.5 | 19 | 36 |
| PSN       | 5V     | 56              | 54.0 | M45x1.5 | 15.5 | 95.0 | 4.5 | 12.5 | 42.5 | 30 | —  |

Panel cut-out (page 15)

**Note:** the 5V series is delivered with a round nut.



## PSN Fixed socket, cable collet, nut fixing and nut for fitting a bend relief <sup>1)</sup>

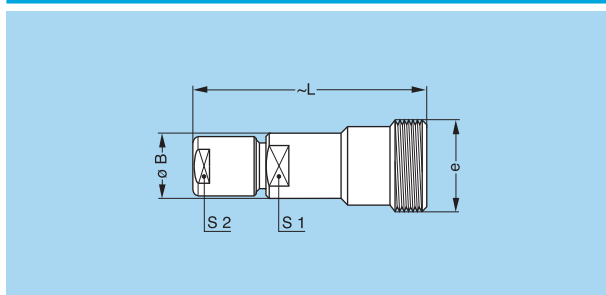


| Reference |        | Dimensions (mm) |      |         |      |      |     |      |      |    |    |
|-----------|--------|-----------------|------|---------|------|------|-----|------|------|----|----|
| Model     | Series | A               | B    | e       | E    | L    | M   | N    | S1   | S3 | S4 |
| PSN       | 0V     | 19              | 19.2 | M14x1.0 | 5.5  | 34.0 | 2.0 | 8.0  | 12.5 | 7  | 17 |
| PSN       | 1V     | 21              | 21.5 | M16x1.0 | 10.5 | 46.0 | 2.0 | 8.0  | 14.5 | 9  | 19 |
| PSN       | 2V     | 26              | 27.0 | M20x1.0 | 11.0 | 54.0 | 2.5 | 9.0  | 18.5 | 12 | 24 |
| PSN       | 3V     | 31              | 34.0 | M24x1.0 | 15.0 | 64.0 | 3.0 | 9.5  | 22.5 | 15 | 30 |
| PSN       | 4V     | 38              | 40.5 | M30x1.0 | 14.5 | 75.5 | 3.5 | 10.0 | 28.5 | 19 | 36 |

Panel cut-out (page 15)

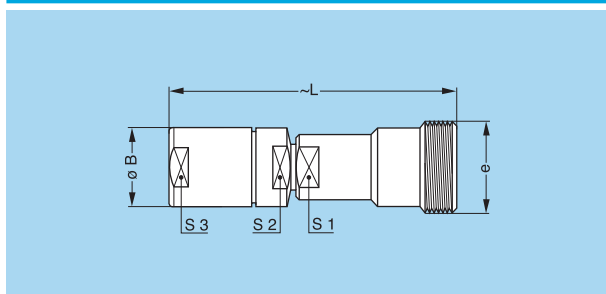
**Note:** <sup>1)</sup> to order, add a «Z» at the end of the reference. The bend relief must be ordered separately (see pages 141 and 142 of the unipole/multipole catalog).

## PVP Free socket with cable collet



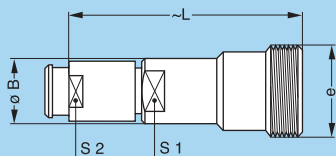
| Reference |        | Dimensions (mm) |         |      |    |    |
|-----------|--------|-----------------|---------|------|----|----|
| Model     | Series | B               | e       | L    | S1 | S2 |
| PVP       | 0V     | 10              | M14x1.0 | 34.0 | 9  | 8  |
| PVP       | 1V     | 12              | M16x1.0 | 45.0 | 10 | 9  |
| PVP       | 2V     | 16              | M20x1.0 | 54.0 | 14 | 12 |
| PVP       | 3V     | 19              | M24x1.0 | 65.0 | 16 | 15 |
| PVP       | 4V     | 24              | M30x1.0 | 75.5 | 22 | 19 |
| PVP       | 5V     | 38              | M45x1.5 | 95.0 | 34 | 30 |

## PVP Free socket with oversize cable collet <sup>1)</sup>



| Reference |        | Dimensions (mm) |         |     |    |    |    |
|-----------|--------|-----------------|---------|-----|----|----|----|
| Model     | Series | B               | e       | L   | S1 | S2 | S3 |
| PVP       | 1V     | 14.5            | M16x1.0 | 58  | 10 | 12 | 12 |
| PVP       | 2V     | 17.0            | M20x1.0 | 67  | 14 | 15 | 15 |
| PVP       | 3V     | 22.0            | M24x1.0 | 84  | 16 | 19 | 19 |
| PVP       | 4V     | 36.0            | M30x1.0 | 109 | 22 | 30 | 32 |

**Note:** <sup>1)</sup> correspond to K type of collet, 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 (see page 13).



**Note:** <sup>1)</sup> to order, add a «Z» at the end of the reference.  
The bend relief must be ordered separately (see pages 141 and 142 of the unipole/multipole catalog).



Insert configuration

## Unipole

| Number of LV contacts | Solder contacts                                                                     |                                                                                     | Reference | Watertight | Contact ø (mm) | Solder          | AWG solder (max.) | Test voltage (kV rms) <sup>1)</sup> | Test voltage (kV dc) <sup>1)</sup> | Rated current (A) <sup>1)</sup> |
|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------|------------|----------------|-----------------|-------------------|-------------------------------------|------------------------------------|---------------------------------|
|                       |    |    |           |            |                |                 |                   |                                     |                                    |                                 |
| 1                     |    |    | 116       | 0V         | 1.6            | ● <sup>2)</sup> | 18                | 1.5                                 | 2.1                                | 12                              |
|                       |                                                                                     |                                                                                     |           |            |                |                 |                   |                                     |                                    |                                 |
|                       |    |    | 120       | 1V         | 2.0            | ● <sup>2)</sup> | 16                | 1.9                                 | 2.7                                | 18                              |
|                       |                                                                                     |                                                                                     |           |            |                |                 |                   |                                     |                                    |                                 |
|                       |  |  | 130       | 1V         | 3.0            | ●               | 12                | 1.5                                 | 2.1                                | 25                              |
|                       |                                                                                     |                                                                                     |           | 2V         | 3.0            | ●               | 12                | 2.1                                 | 3.0                                | 30                              |
|                       |  |  | 140       | 2V         | 4.0            | ●               | 10                | 1.7                                 | 2.4                                | 40                              |
|                       |                                                                                     |                                                                                     |           | 3V         | 4.0            | ●               | 10                | 2.3                                 | 3.3                                | 43                              |
|                       |  |  | 160       | 3V         | 6.0            | ●               | 8                 | 1.7                                 | 2.4                                | 65                              |
|                       |                                                                                     |                                                                                     |           | 4V         | 6.0            | ●               | 8                 | 2.7                                 | 3.9                                | 70                              |
|                       |  |  | 112       | 5V         | 12.0           | ●               | 0                 | 1.5                                 | 2.1                                | 230                             |
|                       |                                                                                     |                                                                                     |           |            |                |                 |                   |                                     |                                    |                                 |

**Note:** <sup>1)</sup> see calculation method, caution and suggested standard. <sup>2)</sup> also available with inversed contacts: plug = female, socket = male.

● First choice alternative    ○ Special order alternative

## Coaxial, Triaxial, Mixed

A wide choice of those types is available, please consult us.

www.lemo.com

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## Multipole

| Number of LV contacts | Solder contacts |      | Reference | Watertight | Contact ø (mm) | Contact type |       |                  |               | AWG           |       |          | Test voltage (kV rms) <sup>(1) 2)</sup> | Test voltage (kV dc) <sup>(1) 2)</sup> | Rated current (A) <sup>(1)</sup>    |
|-----------------------|-----------------|------|-----------|------------|----------------|--------------|-------|------------------|---------------|---------------|-------|----------|-----------------------------------------|----------------------------------------|-------------------------------------|
|                       | Crimp contacts  |      |           |            |                | Solder       | Crimp | Print (straight) | Print (elbow) | Solder (max.) | Crimp |          |                                         |                                        |                                     |
|                       | min.            | max. |           |            |                |              |       |                  |               |               |       |          |                                         |                                        |                                     |
| 2                     |                 |      | 302       | 0V         | 0.9            | ●            | ●     | ●                | ●             | 22            | 32    | 20       | 1.1                                     | 1.6                                    | 10 <sup>3)</sup>                    |
|                       |                 |      |           | 1V         | 1.3            | ●            | ●     | ●                | ●             | 20            | 26    | 18       | 1.2                                     | 1.8                                    | 15 <sup>3)</sup>                    |
|                       |                 |      |           | 2V         | 1.6            | ●            | ○     | ○                | ○             | 18            | 22    | 14       | 1.7                                     | 2.4                                    | 20 <sup>4)</sup>                    |
|                       |                 |      |           | 3V         | 2.0            | ●            |       | ○                |               | 16            |       |          | 3.0                                     | 4.2                                    | 23                                  |
|                       |                 |      |           | 4V         | 4.0            | ●            |       | ○                |               | 10            |       |          | 2.1                                     | 3.0                                    | 35                                  |
|                       |                 |      |           | 5V         | 6.0            | ●            |       |                  |               | 8             |       |          | 3.7                                     | 5.2                                    | 50                                  |
| 3                     |                 |      | 303       | 0V         | 0.7            | ●            | ○     | ●                | ●             | 26            | 32    | 22       | 1.0                                     | 1.5                                    | 7 <sup>3)</sup>                     |
|                       |                 |      |           | 1V         | 0.9            | ●            | ○     | ●                | ●             | 22            | 32    | 20       | 1.2                                     | 1.8                                    | 10 <sup>3)</sup>                    |
|                       |                 |      |           | 2V         | 1.3            | ●            | ○     | ●                | ○             | 20            | 26    | 18       | 1.5                                     | 2.1                                    | 15 <sup>4)</sup>                    |
|                       |                 |      |           | 3V         | 2.0            | ●            |       | ○                |               | 16            |       |          | 1.5                                     | 2.1                                    | 20                                  |
|                       |                 |      |           | 4V         | 3.0            | ●            |       | ○                |               | 12            |       |          | 2.1                                     | 3.0                                    | 25                                  |
|                       |                 |      |           | 5V         | 1x6.0<br>2x4.0 | ●            |       |                  |               | 8<br>10       |       |          | 3.7                                     | 5.2                                    | 50<br>35                            |
| 4                     |                 |      | 304       | 0V         | 0.7            | ●            | ●     | ●                | ●             | 26            | 32    | 22       | 1.0                                     | 1.5                                    | 7 <sup>3)</sup>                     |
|                       |                 |      |           | 1V         | 0.9            | ●            | ●     | ●                | ●             | 22            | 32    | 20       | 1.2                                     | 1.8                                    | 10 <sup>3)</sup>                    |
|                       |                 |      |           | 2V         | 1.3            | ●            | ○     | ●                | ●             | 20            | 26    | 18       | 1.7                                     | 2.4                                    | 15 <sup>4)</sup>                    |
|                       |                 |      |           | 3V         | 2.0            | ●            |       | ○                |               | 16            |       |          | 1.5                                     | 2.1                                    | 18                                  |
|                       |                 |      |           | 4V         | 3.0            | ●            |       | ○                |               | 12            |       |          | 2.1                                     | 3.0                                    | 22                                  |
|                       |                 |      |           | 5V         | 4.0            | ●            |       |                  |               | 10            |       |          | 3.7                                     | 5.2                                    | 35                                  |
| 5                     |                 |      | 305       | 1V         | 2x0.9<br>3x0.7 | ●            | ○     | ●                | ●             | 22<br>26      | 32    | 20<br>22 | 1.5                                     | 2.1                                    | 10 <sup>3)</sup><br>7 <sup>3)</sup> |
|                       |                 |      |           | 2V         | 1.3            | ●            | ○     | ●                | ●             | 20            | 26    | 18       | 1.5                                     | 2.1                                    | 13 <sup>4)</sup>                    |
|                       |                 |      |           | 3V         | 2x2.0<br>3x1.3 | ●            |       | ○                |               | 16<br>20      |       |          | 1.5                                     | 2.1                                    | 18<br>14                            |
|                       |                 |      |           | 4V         | 2x3.0<br>3x2.0 | ●            |       | ○                |               | 12<br>16      |       |          | 2.1                                     | 3.0                                    | 22<br>16                            |
|                       |                 |      |           | 5V         | 2x4.0<br>3x3.0 | ●            |       |                  |               | 10<br>12      |       |          | 3.0                                     | 4.2                                    | 35<br>25                            |

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

<sup>3)</sup> rated current = 6A for socket with elbow (90°) contacts for printed circuit. <sup>4)</sup> rated current = 12A for socket with elbow (90°) contacts for printed circuit.

● First choice alternative    ○ Special order alternative



## Multipole

| Number of LV contacts | Solder contacts |  | Reference | Watertight | Contact ø (mm) | Contact type |                 |                  |               | AWG           |          |          | Test voltage (kV rms) <sup>1) 2)</sup> | Test voltage (kV dc) <sup>1) 2)</sup> | Rated current (A) <sup>1)</sup>     |
|-----------------------|-----------------|--|-----------|------------|----------------|--------------|-----------------|------------------|---------------|---------------|----------|----------|----------------------------------------|---------------------------------------|-------------------------------------|
|                       | Crimp contacts  |  |           |            |                | Solder       | Crimp           | Print (straight) | Print (elbow) | Solder (max.) | Crimp    |          |                                        |                                       |                                     |
|                       |                 |  |           |            |                |              |                 |                  |               |               | min.     | max.     |                                        |                                       |                                     |
| 6                     |                 |  | 306       | 0V         | 0.5            | ●            | ○               | ●                | ○             | 28            | 32       | 28       | 0.9                                    | 1.3                                   | 2.5                                 |
|                       |                 |  |           | 1V         | 0.7            | ●            | ○               | ●                | ●             | 26            | 32       | 22       | 1.2                                    | 1.7                                   | 7 <sup>3)</sup>                     |
|                       |                 |  |           | 2V         | 1.3            | ●            | ● <sup>4)</sup> | ●                | ●             | 20            | 26       | 18       | 1.5                                    | 2.1                                   | 12                                  |
|                       |                 |  |           | 3V         | 1.3            | ●            |                 | ●                |               | 20            |          |          | 2.1                                    | 3.0                                   | 14                                  |
|                       |                 |  |           | 4V         | 2.0            | ●            |                 | ○                |               | 16            |          |          | 2.1                                    | 3.0                                   | 16                                  |
|                       |                 |  |           | 5V         | 3.0            | ●            |                 |                  |               | 12            |          |          | 3.0                                    | 4.2                                   | 25                                  |
| 7                     |                 |  | 307       | 2V         | 3x1.3<br>4x0.9 | ●            | ○               | ●                | ●             | 20<br>22      | 26<br>32 | 18<br>20 | 0.8                                    | 1.2                                   | 12 <sup>3)</sup><br>9 <sup>3)</sup> |
|                       |                 |  |           | 3V         | 1.3            | ●            |                 | ●                |               | 20            |          |          | 1.0                                    | 1.5                                   | 12                                  |
|                       |                 |  |           | 4V         | 3x2.0<br>4x1.3 | ●            |                 | ○                |               | 16<br>20      |          |          | 2.1                                    | 3.0                                   | 16<br>13                            |
|                       |                 |  |           |            |                |              |                 |                  |               |               |          |          |                                        |                                       |                                     |
| 8                     |                 |  | 308       | 2V         | 0.9            | ●            | ○               | ●                | ●             | 22            | 32       | 20       | 0.8                                    | 1.2                                   | 9 <sup>3)</sup>                     |
|                       |                 |  |           | 3V         | 1.3            | ●            |                 | ●                | ○             | 20            |          |          | 1.0                                    | 1.5                                   | 10                                  |
|                       |                 |  |           | 4V         | 1.3            | ●            |                 | ○                |               | 20            |          |          | 2.7                                    | 3.9                                   | 13                                  |
|                       |                 |  |           | 5V         | 3.0            | ●            |                 |                  |               | 12            |          |          | 2.1                                    | 3.0                                   | 22                                  |
| 9                     |                 |  | 309       | 4V         | 1.3            | ●            |                 | ○                |               | 20            |          |          | 2.1                                    | 3.0                                   | 12                                  |
|                       |                 |  |           |            |                |              |                 |                  |               |               |          |          |                                        |                                       |                                     |
| 10                    |                 |  | 310       | 2V         | 0.9            | ●            | ○               | ●                | ●             | 22            | 32       | 20       | 0.8                                    | 1.2                                   | 7 <sup>3)</sup>                     |
|                       |                 |  |           | 3V         | 1.3            | ●            |                 | ●                | ●             | 20            |          |          | 1.0                                    | 1.5                                   | 9                                   |
|                       |                 |  |           |            |                |              |                 |                  |               |               |          |          |                                        |                                       |                                     |
| 10                    |                 |  | 310       | 4V         | 1.3            | ●            |                 | ○                |               | 20            |          |          | 2.1                                    | 3.0                                   | 11                                  |
|                       |                 |  |           | 5V         | 2.0            | ●            |                 |                  |               | 16            |          |          | 2.1                                    | 3.0                                   | 18                                  |
|                       |                 |  |           |            |                |              |                 |                  |               |               |          |          |                                        |                                       |                                     |

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

<sup>3)</sup> rated current = 6A for socket with elbow (90°) contacts for printed circuit. <sup>4)</sup> only for FFL model.

● First choice alternative    ○ Special order alternative

| Number of LV contacts | <div> <div>Solder contacts</div> <div>Crimp contacts</div> </div> |       |                  |               | Reference       | Watertight | Contact $\phi$ (mm) | Contact type  |                    |          |  | AWG |     | Test voltage (kV rms) <sup>(1) (2)</sup> | Test voltage (kV dc) <sup>(1) (2)</sup> | Rated current (A) <sup>(1)</sup> |
|-----------------------|-------------------------------------------------------------------|-------|------------------|---------------|-----------------|------------|---------------------|---------------|--------------------|----------|--|-----|-----|------------------------------------------|-----------------------------------------|----------------------------------|
|                       | Solder                                                            | Crimp | Print (straight) | Print (elbow) |                 |            |                     | Solder (max.) | Crimp<br>min. max. |          |  |     |     |                                          |                                         |                                  |
| 12                    |                                                                   |       | 312              | 3V            | 0.9             | ●          |                     | ●             | ●                  | 22       |  |     | 1.5 | 2.1                                      | 8                                       |                                  |
| 12                    |                                                                   |       | 312              | 4V            | 1.3             | ●          |                     | ●             |                    | 20       |  |     | 2.1 | 3.0                                      | 9                                       |                                  |
| 12                    |                                                                   |       | 312              | 5V            | 2.0             | ●          |                     |               |                    | 16       |  |     | 2.1 | 3.0                                      | 18                                      |                                  |
| 13                    |                                                                   |       | 313              | 3V            | 0.9             | ●          |                     | ●             | ●                  | 22       |  |     | 1.5 | 2.1                                      | 8                                       |                                  |
| 14                    |                                                                   |       | 314              | 3V            | 0.9             | ●          |                     | ●             | ●                  | 22       |  |     | 1.5 | 2.1                                      | 7                                       |                                  |
| 14                    |                                                                   |       | 314              | 4V            | 1.3             | ●          |                     | ●             |                    | 20       |  |     | 2.1 | 3.0                                      | 9                                       |                                  |
| 14                    |                                                                   |       | 314              | 5V            | 2X3.0<br>12X2.0 | ●          |                     |               |                    | 12<br>16 |  |     | 1.8 | 2.4                                      | 20<br>15                                |                                  |

● First choice alternative      ○ Special order alternative



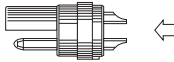
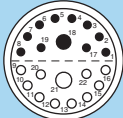
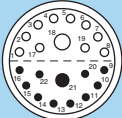
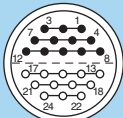
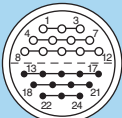
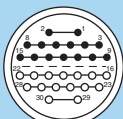
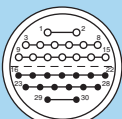
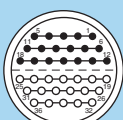
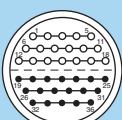
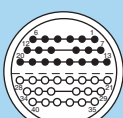
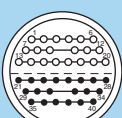
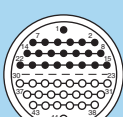
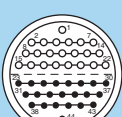
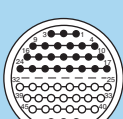
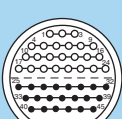
## Multipole

| Number of LV contacts | Solder contacts |  | Reference | Watertight | Contact ø (mm)  | Contact type |       |                  |               | AWG           |                    | Test voltage (kV rms) <sup>1) 2)</sup> | Test voltage (kV dc) <sup>1) 2)</sup> | Rated current (A) <sup>1)</sup> |
|-----------------------|-----------------|--|-----------|------------|-----------------|--------------|-------|------------------|---------------|---------------|--------------------|----------------------------------------|---------------------------------------|---------------------------------|
|                       |                 |  |           |            |                 | Solder       | Crimp | Print (straight) | Print (elbow) | Solder (max.) | Crimp<br>min. max. |                                        |                                       |                                 |
| 16                    |                 |  | 316       |            |                 |              |       |                  |               |               |                    |                                        |                                       |                                 |
|                       |                 |  |           | 3V         | 0.9             | ●            |       | ●                | ●             | 22            |                    | 1.0                                    | 1.5                                   | 7                               |
|                       |                 |  |           | 4V         | 0.9             | ●            |       | ○                |               | 22            |                    | 2.1                                    | 3.0                                   | 7                               |
| 16                    |                 |  | 316       | 5V         | 2.0             | ●            |       |                  |               | 16            |                    | 1.8                                    | 2.4                                   | 15                              |
|                       |                 |  |           |            |                 |              |       |                  |               |               |                    |                                        |                                       |                                 |
| 18                    |                 |  | 318       | 3V         | 0.9             | ●            |       | ●                | ○             | 22            |                    | 1.0                                    | 1.5                                   | 6                               |
|                       |                 |  |           | 4V         | 0.9             | ●            |       | ○                |               | 22            |                    | 2.1                                    | 3.0                                   | 7                               |
| 18                    |                 |  | 318       | 5V         | 2x3.0<br>16x1.6 | ●            |       |                  |               | 12<br>18      |                    | 1.8                                    | 2.4                                   | 18<br>11                        |
|                       |                 |  |           |            |                 |              |       |                  |               |               |                    |                                        |                                       |                                 |
| 20                    |                 |  | 320       | 4V         |                 | 0.9          | ●     |                  | ○             | 22            |                    | 2.1                                    | 3.0                                   | 7                               |
|                       |                 |  |           |            |                 |              |       |                  |               |               |                    |                                        |                                       |                                 |
| 20                    |                 |  | 320       | 5V         |                 | 1.6          | ●     |                  |               |               | 18                 | 1.8                                    | 2.4                                   | 11                              |
|                       |                 |  |           |            |                 |              |       |                  |               |               |                    |                                        |                                       |                                 |
| 22                    |                 |  | 322       | 4V         | 0.9             | ●            |       | ○                |               | 22            |                    | 2.1                                    | 3.0                                   | 7                               |
|                       |                 |  |           |            |                 |              |       |                  |               |               |                    |                                        |                                       |                                 |

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

● First choice alternative    ○ Special order alternative

## Multipole

| Number of LV contacts | Solder contacts                                                                     |                                                                                     | Reference | Watertight | Contact ø (mm) | Contact type    |       |                  |               | AWG           |       | Test voltage (kV rms) <sup>(1) 2)</sup> | Test voltage (kV dc) <sup>(1) 2)</sup> | Rated current (A) <sup>(1)</sup> |      |         |
|-----------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------|------------|----------------|-----------------|-------|------------------|---------------|---------------|-------|-----------------------------------------|----------------------------------------|----------------------------------|------|---------|
|                       |    |    |           |            |                | Solder          | Crimp | Print (straight) | Print (elbow) | Solder (max.) | Crimp |                                         |                                        |                                  |      |         |
|                       |                                                                                     |                                                                                     |           |            |                |                 |       |                  |               |               | min.  |                                         |                                        |                                  | max. |         |
| Crimp contacts        |    |    |           |            |                |                 |       |                  |               |               |       |                                         |                                        |                                  |      |         |
| 22                    |    |    | 322       |            | 5V             | 2x3.0<br>20x1.6 | ●     |                  |               |               |       | 12<br>18                                |                                        | 1.8                              | 2.4  | 16<br>9 |
|                       |                                                                                     |                                                                                     |           |            |                |                 |       |                  |               |               |       |                                         |                                        |                                  |      |         |
| 24                    |    |    | 324       |            | 4V             | 0.9             | ●     |                  | ○             |               |       | 22                                      |                                        | 2.1                              | 3.0  | 7       |
|                       |                                                                                     |                                                                                     |           |            | 5V             | 1.6             | ●     |                  |               |               |       | 18                                      |                                        | 2.7                              | 3.9  | 9       |
|                       |                                                                                     |                                                                                     |           |            |                |                 |       |                  |               |               |       |                                         |                                        |                                  |      |         |
| 30                    |   |   | 330       |            | 5V             | 1.3             | ●     |                  |               |               |       | 20                                      |                                        | 1.8                              | 2.4  | 8       |
|                       |                                                                                     |                                                                                     |           |            |                |                 |       |                  |               |               |       |                                         |                                        |                                  |      |         |
| 36                    |  |  | 336       |            | 5V             | 1.3             | ●     |                  |               |               |       | 20                                      |                                        | 1.8                              | 2.4  | 7       |
|                       |                                                                                     |                                                                                     |           |            |                |                 |       |                  |               |               |       |                                         |                                        |                                  |      |         |
| 40                    |  |  | 340       |            | 5V             | 1.3             | ●     |                  |               |               |       | 20                                      |                                        | 1.2                              | 1.8  | 7       |
|                       |                                                                                     |                                                                                     |           |            |                |                 |       |                  |               |               |       |                                         |                                        |                                  |      |         |
| 44                    |  |  | 344       |            | 5V             | 1.3             | ●     |                  |               |               |       | 20                                      |                                        | 1.2                              | 1.8  | 6       |
|                       |                                                                                     |                                                                                     |           |            |                |                 |       |                  |               |               |       |                                         |                                        |                                  |      |         |
| 48                    |  |  | 348       |            | 5V             | 1.3             | ●     |                  |               |               |       | 20                                      |                                        | 1.2                              | 1.8  | 6       |
|                       |                                                                                     |                                                                                     |           |            |                |                 |       |                  |               |               |       |                                         |                                        |                                  |      |         |

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

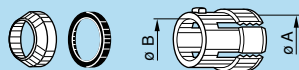
● First choice alternative    ○ Special order alternative



## Collets

### C and K type collets

0V, 1V, 2V and 3V series



|           | Reference |                  | Collet ø |     | Cable ø |      |
|-----------|-----------|------------------|----------|-----|---------|------|
|           | Type      | Code             | ø A      | ø B | max.    | min. |
| <b>0V</b> | C         | 10 <sup>1)</sup> | 1.6      | –   | 1.2     | 1.0  |
|           | C         | 15 <sup>1)</sup> | 1.6      | –   | 1.5     | 1.3  |
|           | C         | 20 <sup>1)</sup> | 2.1      | –   | 2.0     | 1.6  |
|           | C         | 25               | 3.1      | –   | 2.5     | 2.1  |
|           | C         | 30               | 3.1      | –   | 3.0     | 2.6  |
|           | C         | 35               | 4.2      | 4.2 | 3.5     | 3.1  |
|           | C         | 40               | 4.2      | 4.2 | 4.0     | 3.6  |
|           | C         | 45               | 5.2      | 5.2 | 4.5     | 4.1  |
|           | K         | 50               | 5.2      | 5.2 | 5.0     | 4.6  |
|           | K         | 55               | 6.2      | 6.2 | 5.5     | 5.1  |
|           | K         | 60               | 6.2      | 6.2 | 6.0     | 5.6  |
|           | K         | 65               | 7.2      | 6.7 | 6.5     | 6.1  |
|           | C         | 35               | 4.2      | –   | 3.5     | 3.1  |
|           | C         | 40               | 4.2      | –   | 4.0     | 3.6  |
| <b>1V</b> | C         | 45               | 5.2      | –   | 4.5     | 4.1  |
|           | C         | 50               | 5.2      | –   | 5.0     | 4.6  |
|           | C         | 55               | 6.2      | 6.2 | 5.5     | 5.1  |
|           | C         | 60               | 6.2      | 6.2 | 6.0     | 5.6  |
|           | C         | 65               | 7.2      | 6.7 | 6.5     | 6.1  |
|           | K         | 70               | 7.2      | –   | 7.0     | 6.6  |
|           | K         | 75               | 8.2      | 8.2 | 7.5     | 7.1  |
|           | K         | 80               | 8.2      | 8.2 | 8.0     | 7.6  |
|           | K         | 85               | 9.2      | 8.6 | 8.5     | 8.1  |

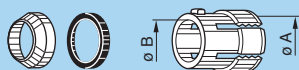
|           | Reference |      | Collet ø |      | Cable ø |      |
|-----------|-----------|------|----------|------|---------|------|
|           | Type      | Code | ø A      | ø B  | max.    | min. |
| <b>2V</b> | C         | 65   | 7.2      | –    | 6.5     | 6.1  |
|           | C         | 70   | 7.2      | –    | 7.0     | 6.6  |
|           | C         | 75   | 8.2      | 8.2  | 7.5     | 7.1  |
|           | C         | 80   | 8.2      | 8.2  | 8.0     | 7.6  |
|           | C         | 85   | 9.2      | 8.6  | 8.5     | 8.1  |
|           | K         | 90   | 9.2      | –    | 9.0     | 8.6  |
|           | K         | 95   | 10.2     | 10.2 | 9.5     | 9.1  |
|           | K         | 10   | 10.2     | 10.2 | 10.0    | 9.6  |
|           | K         | 11   | 11.2     | 10.6 | 10.5    | 10.1 |
|           | C         | 65   | 7.2      | –    | 6.5     | 6.1  |
| <b>3V</b> | C         | 70   | 7.2      | –    | 7.0     | 6.6  |
|           | C         | 75   | 8.2      | –    | 7.5     | 7.1  |
|           | C         | 80   | 8.2      | –    | 8.0     | 7.6  |
|           | C         | 85   | 9.2      | –    | 8.5     | 8.1  |
|           | C         | 90   | 9.2      | –    | 9.0     | 8.6  |
|           | C         | 95   | 10.2     | 10.2 | 9.5     | 9.1  |
|           | C         | 10   | 10.2     | 10.2 | 10.0    | 9.6  |
|           | C         | 11   | 11.2     | 10.6 | 10.5    | 10.1 |
|           | K         | 11   | 12.3     | –    | 12.0    | 10.6 |
|           | K         | 12   | 13.8     | 13.8 | 12.8    | 12.1 |
|           | K         | 13   | 13.8     | 13.8 | 13.5    | 12.9 |
|           | K         | 14   | 15.3     | 15.3 | 14.0    | 13.6 |
|           | K         | 15   | 15.3     | 15.3 | 15.0    | 14.1 |

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

<sup>1)</sup> the inner diameter of the smallest bend relief available is 2.5 mm (in TPU) / 1.7 mm (in silicone).

## C and K type collets

4V series



**4V**

| Reference |      | Collet ø |      | Cable ø |      |
|-----------|------|----------|------|---------|------|
| Type      | Code | ø A      | ø B  | max.    | min. |
| C         | 50   | 6.3      | —    | 5.0     | 4.8  |
| C         | 55   | 6.3      | —    | 5.5     | 5.1  |
| C         | 60   | 6.3      | —    | 6.0     | 5.6  |
| C         | 65   | 7.3      | —    | 6.5     | 6.1  |
| C         | 70   | 7.3      | —    | 7.0     | 6.6  |
| C         | 75   | 8.3      | —    | 7.5     | 7.1  |
| C         | 80   | 8.3      | —    | 8.0     | 7.6  |
| C         | 85   | 9.3      | —    | 8.5     | 8.1  |
| C         | 90   | 9.3      | —    | 9.0     | 8.6  |
| C         | 95   | 10.8     | —    | 9.5     | 9.1  |
| C         | 10   | 10.8     | —    | 10.5    | 9.6  |
| C         | 11   | 12.3     | —    | 12.0    | 10.6 |
| C         | 12   | 13.8     | 13.8 | 12.8    | 12.1 |
| C         | 13   | 13.8     | 13.8 | 13.5    | 12.9 |
| C         | 14   | 15.3     | 15.3 | 14.0    | 13.6 |
| C         | 15   | 15.3     | 15.3 | 15.0    | 14.1 |
| K         | 16   | 17.8     | —    | 16.5    | 15.6 |
| K         | 17   | 17.8     | —    | 17.5    | 16.6 |
| K         | 18   | 19.8     | —    | 18.5    | 17.6 |
| K         | 19   | 19.8     | —    | 19.5    | 18.6 |
| K         | 20   | 21.8     | —    | 20.5    | 19.6 |
| K         | 21   | 21.8     | —    | 21.5    | 20.6 |
| K         | 22   | 23.8     | 23.8 | 22.5    | 21.6 |
| K         | 23   | 23.8     | 23.8 | 23.5    | 22.6 |

5V series



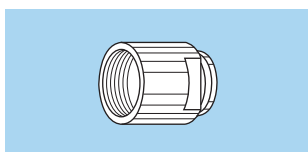
**5V**

| Reference |      | Collet ø |      | Cable ø |      |
|-----------|------|----------|------|---------|------|
| Type      | Code | ø A      | ø B  | max.    | min. |
| C         | 14   | 15.8     | —    | 14.5    | 13.6 |
| C         | 15   | 15.8     | —    | 15.5    | 14.6 |
| C         | 16   | 17.8     | —    | 16.5    | 15.6 |
| C         | 17   | 17.8     | —    | 17.5    | 16.6 |
| C         | 18   | 19.8     | —    | 18.5    | 17.6 |
| C         | 19   | 19.8     | —    | 19.5    | 18.6 |
| C         | 20   | 21.8     | —    | 20.5    | 19.6 |
| C         | 21   | 21.8     | —    | 21.5    | 20.6 |
| C         | 22   | 23.8     | 23.8 | 22.5    | 21.6 |
| C         | 23   | 23.8     | 23.8 | 23.5    | 22.6 |

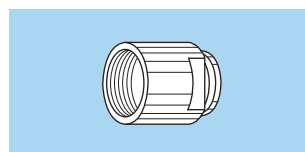


## Variant

### Bend relief for models with collet



|           | Ref.     | Collet |          |
|-----------|----------|--------|----------|
|           |          | Type   | Code     |
| <b>0V</b> | <b>z</b> | C      | 35 to 45 |
|           |          | K      | 50       |
| <b>1V</b> | <b>z</b> | C      | 35 to 65 |
|           |          | K      | 70 to 85 |
| <b>2V</b> | <b>z</b> | C      | 65 to 85 |
|           |          | K      | 90 to 10 |



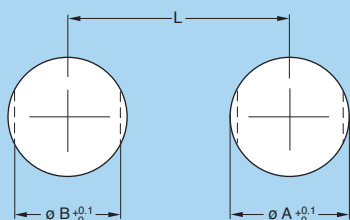
|           | Ref.     | Collet |          |
|-----------|----------|--------|----------|
|           |          | Type   | Code     |
| <b>3V</b> | <b>z</b> | C      | 65 to 10 |
|           |          | K      | 11 to 15 |
| <b>4V</b> | <b>z</b> | C      | 65 to 15 |

**Note:** The bend relief must be ordered separately (see pages 141 and 142 of the unipole/multipole catalog). All dimensions are in millimetres.

## Panel cut-outs

### Panel Cut-outs

EVP, PSN



| Series    | Dimensions (mm) |      |      |
|-----------|-----------------|------|------|
|           | A               | B    | L    |
| <b>0V</b> | 14.1            | 12.6 | 19.0 |
| <b>1V</b> | 16.1            | 14.6 | 21.0 |
| <b>2V</b> | 20.2            | 18.6 | 25.5 |
| <b>3V</b> | 24.2            | 22.6 | 30.0 |
| <b>4V</b> | 30.2            | 28.6 | 37.0 |
| <b>5V</b> | 45.2            | 42.6 | 53.0 |

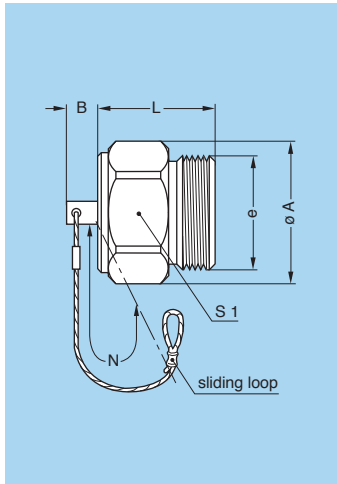
### Mounting nuts torque

| Component                    | Torque (Nm) |     |    |    |    |    |
|------------------------------|-------------|-----|----|----|----|----|
|                              | 0V          | 1V  | 2V | 3V | 4V | 5V |
| Collet nut for F●● and P●●   | 0.7         | 0.8 | 2  | 3  | 5  | 8  |
| Mounting hex nut for sockets | 5           | 7   | 9  | 12 | 17 | 22 |
| Coupling nut                 | 0.7         | 0.8 | 2  | 3  | 5  | 8  |

1N = 0.102 kg

## Accessories

### BFA Plug caps (IP68 and resistance to hydrostatic pressure 30 bars)

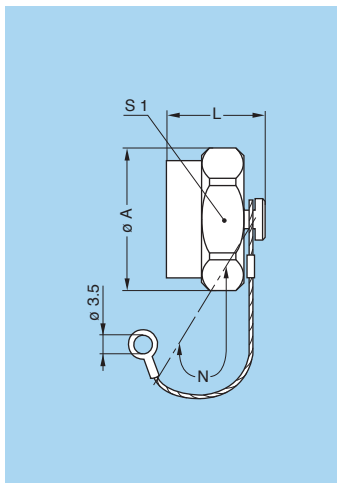


| Part number           | Series | Dimensions (mm) |    |         |      |                 |    |
|-----------------------|--------|-----------------|----|---------|------|-----------------|----|
|                       |        | A               | B  | e       | L    | N <sup>1)</sup> | S1 |
| <b>BFA.0V.100.●AZ</b> | 0V     | 17.2            | 6  | M14x1.0 | 12.5 | 85              | 16 |
| <b>BFA.1V.100.●AZ</b> | 1V     | 19.3            | 6  | M16x1.0 | 15.5 | 85              | 18 |
| <b>BFA.2V.100.●AZ</b> | 2V     | 23.5            | 6  | M20x1.0 | 17.5 | 85              | 22 |
| <b>BFA.3V.100.●AZ</b> | 3V     | 27.8            | 6  | M24x1.0 | 22.0 | 120             | 26 |
| <b>BFA.4V.100.●AZ</b> | 4V     | 34.3            | 10 | M30x1.0 | 22.5 | 120             | 32 |
| <b>BFA.5V.100.●AZ</b> | 5V     | 50.0            | 10 | M45x1.5 | 27.0 | 120             | 47 |

**Note:** 1) the tolerance on this dimension is  $\pm 5$  mm.

- Body material: ● = N, nickel-plated brass (Ni 3 $\mu$ m)  
● = S, stainless steel
- Lanyard material: Stainless steel
- Crimp ferrule material: Nickel-plated brass

### BRE Blanking caps for fixed sockets (This cap is only IP68 when installed)

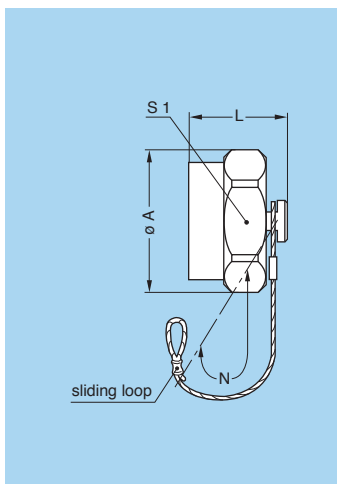


| Part number           | Series | Dimensions (mm) |      |                 |    |
|-----------------------|--------|-----------------|------|-----------------|----|
|                       |        | A               | L    | N <sup>1)</sup> | S1 |
| <b>BRE.0V.200.●AV</b> | 0V     | 17.2            | 13.7 | 85              | 16 |
| <b>BRE.1V.200.●AV</b> | 1V     | 19.3            | 13.7 | 85              | 18 |
| <b>BRE.2V.200.●AV</b> | 2V     | 23.5            | 14.7 | 85              | 22 |
| <b>BRE.3V.200.●AV</b> | 3V     | 27.8            | 14.7 | 120             | 26 |
| <b>BRE.4V.200.●AV</b> | 4V     | 34.3            | 14.7 | 120             | 32 |
| <b>BRE.5V.200.●AV</b> | 5V     | 50.0            | 16.2 | 120             | 47 |

**Note:** 1) the tolerance on this dimension is  $\pm 5$  mm.

- Body material: ● = N, nickel-plated brass (Ni 3 $\mu$ m)  
● = S, stainless steel
- Lanyard material: Stainless steel
- Crimp ferrule material: Nickel-plated brass
- O-ring: FPM (Viton®)

### BRF Blanking caps for free sockets (This cap is only IP68 when installed)

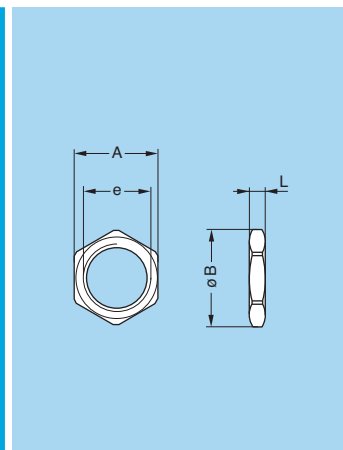


| Part number           | Series | Dimensions (mm) |      |                 |    |
|-----------------------|--------|-----------------|------|-----------------|----|
|                       |        | A               | L    | N <sup>1)</sup> | S1 |
| <b>BRF.0V.200.●AV</b> | 0V     | 17.2            | 13.7 | 85              | 16 |
| <b>BRF.1V.200.●AV</b> | 1V     | 19.3            | 13.7 | 85              | 18 |
| <b>BRF.2V.200.●AV</b> | 2V     | 23.5            | 14.7 | 85              | 22 |
| <b>BRF.3V.200.●AV</b> | 3V     | 27.8            | 14.7 | 120             | 26 |
| <b>BRF.4V.200.●AV</b> | 4V     | 34.3            | 14.7 | 120             | 32 |
| <b>BRF.5V.200.●AV</b> | 5V     | 50.0            | 16.2 | 120             | 47 |

**Note:** 1) the tolerance on this dimension is  $\pm 5$  mm.

- Body material: ● = N, nickel-plated brass (Ni 3 $\mu$ m)  
● = S, stainless steel
- Lanyard material: Stainless steel
- Crimp ferrule material: Nickel-plated brass
- O-ring: FPM (Viton®)

## GEA Hexagonal nuts

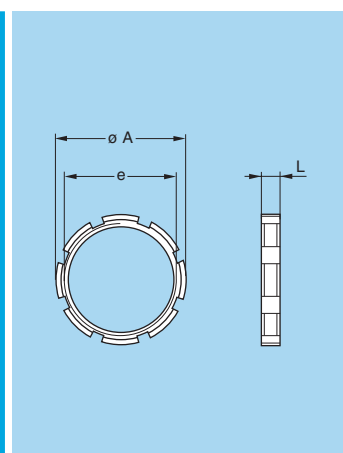


| Part number          | Series | Dimensions (mm) |      |            |     |
|----------------------|--------|-----------------|------|------------|-----|
|                      |        | A               | B    | e          | L   |
| <b>GEA.0E.240.LN</b> | 0V     | 17              | 19.2 | M14 x 1.00 | 2.5 |
| <b>GEA.1E.240.LN</b> | 1V     | 19              | 21.5 | M16 x 1.00 | 3.0 |
| <b>GEA.2E.240.LN</b> | 2V     | 24              | 27.0 | M20 x 1.00 | 4.0 |
| <b>GEA.3E.240.LN</b> | 3V     | 30              | 34.0 | M24 x 1.00 | 5.0 |
| <b>GEA.4E.240.LN</b> | 4V     | 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 stainless steel is desired, replace the last letters of the part number by «AZ».

- Material:
  - Nickel-plated brass (3  $\mu$ m)
  - Stainless steel

## GEB Round nuts

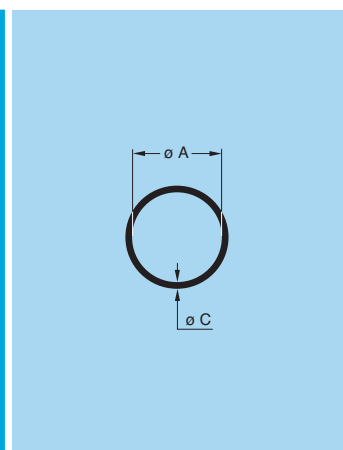
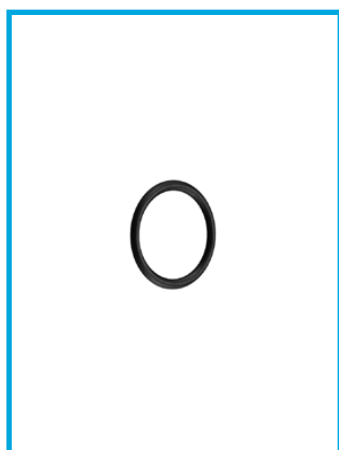


| Part number          | Series | Dimensions (mm) |           |     |
|----------------------|--------|-----------------|-----------|-----|
|                      |        | A               | e         | L   |
| <b>GEB.5E.240.LN</b> | 5V     | 54              | M45 X 1.5 | 8.0 |

**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 stainless steel is desired, replace the last letters of the part number by «AZ».

- Material:
  - Nickel-plated brass (3  $\mu$ m)
  - Stainless steel

## GDA O-ring for plug



| Part number             | Series | Dim. (mm) |     |
|-------------------------|--------|-----------|-----|
|                         |        | A         | C   |
| <b>GDA.99.080.100VK</b> | 0V     | 8.0       | 1.0 |
| <b>GDA.99.100.100VK</b> | 1V     | 10.0      | 1.0 |
| <b>GDA.99.130.150VK</b> | 2V     | 13.0      | 1.5 |
| <b>GDA.99.165.150VK</b> | 3V     | 16.5      | 1.5 |
| <b>GDA.99.210.200VK</b> | 4V     | 21.0      | 2.0 |
| <b>GDA.99.330.250VK</b> | 5V     | 33.0      | 2.5 |

- Material: FPM (Viton®)

## Cable assembly

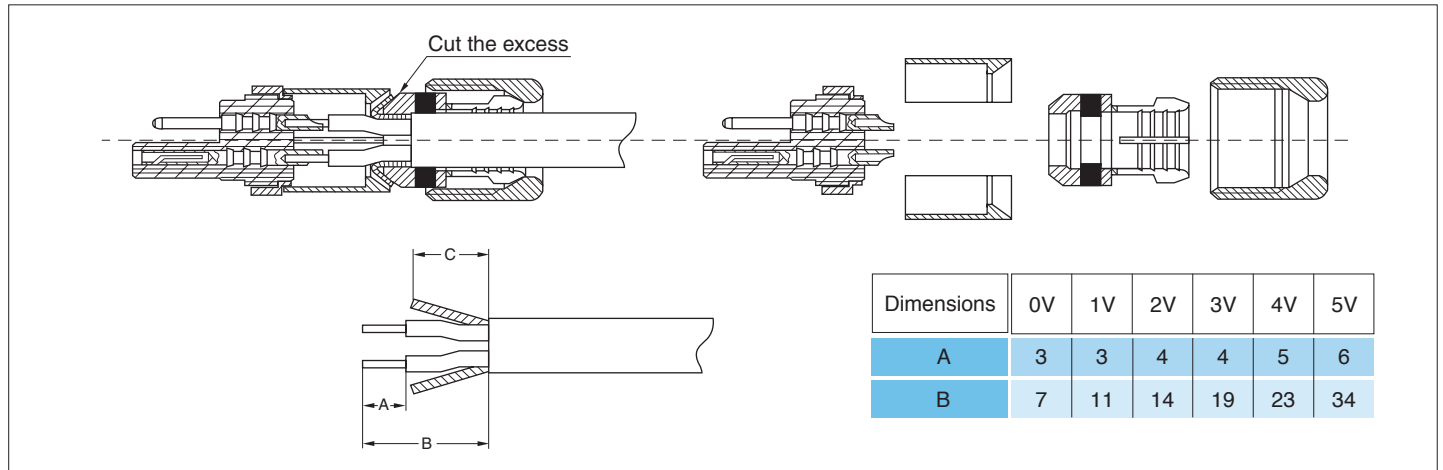
### Assembly instructions

In order to ensure the sealing of plugs and sockets on the cable side, it is imperatively necessary to complete their assembly by realizing it with an adapted technique.

We recommend the fitting of an heatshrink boot with inner melting coating of type ATUM (manufactured by the RAYCHEM company) or similar.

**This heatshrink boot is not provided with the connector.**

For multiconductors cables, the assembly instructions are the followings:



- 1) Preparation and stripping of cable (see above).
- 2) Slide the heatshrink boot over the cable; types and dimensions to have are:

| Series                                 | 0V     | 1V     | 2V     | 3V     | 4V      | 5V      |
|----------------------------------------|--------|--------|--------|--------|---------|---------|
| Type of heatshrink boot                | 12/3-0 | 12/3-0 | 19/6-0 | 19/6-0 | 24/6-0  | 40/13-0 |
| Length of the boot                     | 30     | 35     | 40     | 45     | 50      | 65      |
| Oversize collet                        | —      | 16/4-0 | 19/6-0 | 24/8-0 | 40/13-0 | —       |
| Length of the boot for oversize collet | —      | —      | 70     | —      | —       | —       |

- 3) After having soldered the conductors on the contacts of the plug/socket insulator, bring the earthing cone against the centre-piece. Cut the excess of screen.
- 4) Locate the insulator, the centre-piece, the earthing cone, the gland, the compression ring and the collet in the plug/socket shell.
- 5) Screw the collet nut at the recommended torque value.
- 6) Remove all grease left on plug/socket shells with acetone.
- 7) Place the heatshrink boot of the correct dimensions onto the rear end of the plug/socket against the coupling nut.
- 8) Heat the heatshrink boot until the melting coating totally melts and adheres perfectly onto the cable jacket.

## Product safety notice

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

### 1. SHOCK AND FIRE HAZARD

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

### 2. HANDLING

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

### 3. USE

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

### 4. TEST AND OPERATING VOLTAGES

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

### 5. CE MARKING

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

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

### 6. PRODUCT IMPROVEMENTS

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

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

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

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LEMO complete product range

|                    | B | S | K | E | F | 00 | 01 | 0A | 3T | 4A | 4M | 3K.93C | 1D | Y | 05 | 5G | 2G | 2C | L | H | R | N | 03 | V | W | U | T7 | P | D | K/S | 01 | DIN |
|--------------------|---|---|---|---|---|----|----|----|----|----|----|--------|----|---|----|----|----|----|---|---|---|---|----|---|---|---|----|---|---|-----|----|-----|
| Unipole            |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Multipole          |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Coaxial 50 Ω       |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Coaxial 75 Ω       |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Multi Coaxial      |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Mixed Coax + LV    |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Triaxial 50 Ω      |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Triaxial 75 Ω      |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Mixed Triax + LV   |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Quadrax            |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| High Voltage       |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Multi High Voltage |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Mixed HV + LV      |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Fibre Optic        |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Multi Fibre Optic  |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Mixed FO + LV      |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Thermocouple       |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Fluidic            |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Multi Fluidic      |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |
| Mixed Fluidic + LV |   |   |   |   |   |    |    |    |    |    |    |        |    |   |    |    |    |    |   |   |   |   |    |   |   |   |    |   |   |     |    |     |

Most frequently used in darker colour

● included in this catalogue

|                 |                      |                 |                 |                     |                |                  |
|-----------------|----------------------|-----------------|-----------------|---------------------|----------------|------------------|
| B Series Keyed  | S Series             | K Series Keyed  | E Series        | F Series Keyed      | 00 Series      | 01 Series        |
|                 |                      |                 |                 |                     |                |                  |
| 0A Series       | 3T Series            | 4A Series       | 4M Series Keyed | 3K.93C Series Keyed | 1D Series      | Y Series         |
|                 |                      |                 |                 |                     |                |                  |
| 05 Series       | 5G Series Keyed      | 2G Series Keyed | 2C Series       | L Series Keyed      | H Series       | M Series Keyed   |
|                 |                      |                 |                 |                     |                |                  |
| R Series Keyed  | N Series Keyed       | 03 Series Keyed | V Series        | W Series Keyed      | Cable assembly | K/S Series Keyed |
|                 |                      |                 |                 |                     |                |                  |
| REDEL T7 Series | REDEL P Series Keyed | REDEL D Series  | 01 Series Keyed | VAA Series          | SAA Series     | TAA Series       |
|                 |                      |                 |                 |                     |                |                  |

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