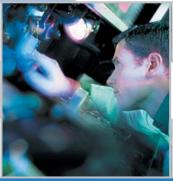
## LEMO's B and S Series Connectors

B Series - Mechanical Keying S Series - Hermaphroditic Keying























# Expect Success. Spec LEMO.

## A Global Leader

Since its beginning in Switzerland in 1946, LEMO® has evolved into a worldwide leader in the design and manufacture of circular connectors, with products sold in more than 80 countries.

Today, LEMO offers a product line for almost any application, from medical equipment to test and measurement instrumentation.

## LEMO Means "Quality"

The name LEMO has become synonymous with quality and customer service in the connector industry, setting standards that others strive to meet. Our connectors are designed in an ISO 9001 business environment, ensuring the highest quality products for our customers.

## LEMO – We Deliver Reliability

Ask for LEMO connectors for any application where quality, safety and ruggedness are essential; where reliability is critical or where connectors are frequently engaged and disengaged, even in the toughest environments.

LEMO Connectors offer a unique combination of benefits:

**Original QUICK-LOK**<sup>™</sup> push-pull, self-latching system saves space and time while ensuring durable connections.

**Precision construction** from machined brass, stainless steel or aluminum ensures safety and uniform mating.

**Gold plated contacts** assure excellent electrical performance.

## Collet-type strain relief

securely grips circumference of any round cable, protecting connection even under extreme stress.

Bend relief option offers additional cable protection, including color-coding for easy identification.



## **Custom Design**

If we don't have it, we'll build it.

Although we offer the most extensive product line in the industry, we understand that some application needs are unique. If we don't have exactly what you need, LEMO will design and build a connector that's just right for your application.

## **Cable Assembly**

Expand the quality of the connector to the cable assembly with our one-stop shop value-added service.

LEMO's skilled technicians build and test assemblies to your specifications.

## **Customer Support**

Customer Support when you need it.
Only LEMO offers extended customer service hours so you get technical support when you need it. LEMO's Customer Support Team includes in-house Product Specialists, plus a nationwide network of sales representatives and distributors.







## Table of Contents

General Information	Characteristics of Primary Series
General Characteristics	Outer Shell, Technical Characteristics.5Electrical Characteristics.6Insulator, Technical Characteristics.7Electrical Contact.8
B Series Connectors	Introduction13Interconnections14Part Section Showing Internal Components16Part Number Example18Models19Types42
S Series Connectors	Introduction.57Interconnections.58Part Section Showing Internal Components.59Part Number Example.61Models.62Types.80
C Series Connectors	Introduction.111Interconnecions.112Part Section Showing Internal Component.112Part Number Example.113Models.114Types.117
G Series Connectors	Introduction.121Interconnections.122Part Section Showing Internal Components.122Part Number Example.123Models.124Types.125
Accessories	Insulators for Crimp Contacts
Tooling	Wrenches and Assembly Tools
	Panel Cut-outs.150PCB Drilling Patterns.152Cable Fixing.158Technical Tables and Conversion.161Terms and Conditions.162Forms.164



## LEMO's Product Line

Connectors, accessories and tools found in this catalog.

Connectors

Single contact from 2 to 150 Amps Coaxial 50 and 75  $\Omega$ 

Coaxial 50 and 75  $\Omega$ Coaxial 50  $\Omega$  (NIM-CAMAC) Coaxial 50  $\Omega$  for frequency  $\rightarrow$  12 GHz Multicoaxial 50 and 75  $\Omega$ Multicontact from 2 to 66 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  $\Omega$ 

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  $\Omega$  Patch Panels

For video HDTV applications: 3 coax 75  $\Omega$  + 2LV

For fiber optic applications

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

Accessories Insulator for crimp contacts

Crimp contacts Coaxial contacts Triaxial contacts Fiber optic contacts Fiber optic ferrules Caps and bend relief

Heatshrink boot 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 for assembling plug

Assembly tool Pliers

Tap

Crimping tools

Positioners Crimping dies Banding Tool

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

## Characteristics of Primary Series

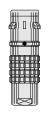






**KEYED** 

Metal or plastic









2	 _	0

01 (Minax)	1	
00 (NIM-CAMAC)		
00 (single contact)		
05 / R0	ľ	
0S to 6S		
0A / 4A		
1D / 2C	İ	
1Y-3Y-6Y	İ	

Metal or plastic

Stepped insert (Half-Moon)

Hermaphroditic or cylindrical

Solder or printed circuit





0K to 5K 00 (multicontact) 2N to 5N 0B to 5B 2G/5G

Push-Pull

Key (G) or other key-way code

Metal

KEYED WATERTIGHT 0F to 5F

Key (G) or other

key-way code

Metal

Cylindrical

Solder, crimp or printed circuit

REDEL® 1P REDEL® 2P REDEL® 3P

Kev (G) or other

key-way code

Plastic

**PLASTIC** 

**SCREW** 03 0V to 5V 0W to 5W 2U to 5U

Screw

Key (G) or stepped

insert (Half-Moon)

Metal

Hermaphroditic

or cylindrical Solder

(crimp or PC)

Latching	
	п

Shell

Key

Insert

Contact

LEMO USA • 800-444-5366 • www.lemousa.com

Metal



## LEMO's Line of Series by Types

	3 Em 10 01				,	JP					т										
Note:			I		1	I	I	I			ТУР	oes	I	I	I	1	1	1	1	Γ_	
= availa	led in this catalog ble but not led in this catalog.	Single contact	Coaxial 50 Ω	Coaxial 75 Ω	Multicontact	High Voltage	Triaxial 50 Ω	Triaxial 75 Ω	drax	Multi HV	Multi Coaxial	Mixed HV+LV	Mixed Coax+LV	Mixed Triax+LV	Fiber Optic	Multi FO	Mixed FO+LV	j <u>i</u>	Multi fluidic	Mixed fluidic+LV	Thermocouple
	Series	Sing	Coa	Coa	Multi	High	Triax	Triax	Quadrax	Multi	Multi	Mixe	Mixe	Mixe	Fibel	Multi	Mixe	Fluidic	Multi	Mixe	Ther
	01		•																		
	00		•				•											•			
0	05					•															
Ä	R0		•																		
(e)	0A		•	•																	
<u>×</u>	0S					•															•
ij	1S					•															•
odi	2S					•															•
76	3S 4S					•							-								
<u> </u>	5S							_													
Ĕ	6S																				
Hermaphroditic Keying	1D								•												
工	2C		•																		
	4A							•													
	1Y-3Y-6Y					•															
()	0E	•	•		•	•	•														•
<b>≝</b> 1	1E	•	•	•	•	•	•														•
rodii J – ight	2E	•	•	•	•	•	•	•				•	_								•
tig pri	3E 4E	•	•	•	•	•	•	•		•		•	•								
ap yir ter	5E				•					•	•	•	•								
rmaphr Keying Waterti	6E				•						•		•								
Hermaphroditic Keying — Watertight	3T			•				•													
工	4M						•	•													
	00														•						
_	0B														•			•			•
<u>5</u>	1B																				•
Mechanical Keying	2B 3B												-				•			•	•
e Sh	4B															•	•		•	•	
<u> </u>	5B															•					
2	2G																				
	5G									•											
	0K				•										•			•			•
Pt is	1K				•							•									•
Mechanical Keying — Watertight	2K				•						•	•	•	•			•			•	•
ing	3K 4K			•	•					•	•	•	•	•		•	•		•	•	
e e ste	5K				•					•	•	•	•	•		•					
$\leq \leq$	0F to 5F				•																
_	3N to 5N				•																
Plastic	1P to 3P				•								•	•				•			
	03		•		•																H
	0V	•	•		•		•						<del>                                     </del>	<del>                                     </del>						•	
	1V	•	•	•	•		•													•	
Screw	2V	•	•	•	•		•	•				•								•	
Cre	3V	•	•	•	•		•	•		•		•	•								
S	4V	•	•	•	•		•	•		_		•	•								
	5V	•			•	<u> </u>	<u> </u>		<u> </u>	•	•	•	•								
	0W to 5W 2U to 5U				•						•	•	•	•	•	•	•			•	•
	20 10 30		1			<u> </u>	l	1				1				_			1	1	I



## QUICK-LOK™ Push-Pull Self-Latching System



LEMO's Original QUICK-LOK push-pull, 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, and offers unique advantages for all applications:

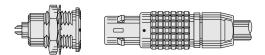
**Speed** – Engage connectors simply and quickly by pushing plugs axially into mating receptacles. Pull on outer shell to remove plug easily.

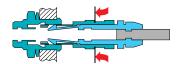
**Space Savings** – Just one finger clearance on two sides is needed to engage and disengage connectors, so there's no need to twist or turn a locking ring.

Reliability - Connections are reliable and assured when locking mechanism is engaged.

**Ruggedness** – Sturdy design, with sealed models to various IP levels.

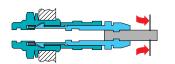
## How QUICK-LOK™ Works





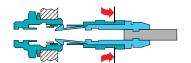
## **Engaging**

QUICK-LOK allows the connector to be mated by simply pushing the plug straight into the receptacle.



## Latched

Once firmly latched, connection cannot be broken by pulling on the cable or any other component part other than the outer release sleeve.



## Disengaging

When required, the connector is disengaged by a single straight pull on the outer release sleeve. This first disengages the latches and then withdraws the plug from the receptacle.

## Key:

Fv = average latching force. Fd = average unmating force with axial pull on the outer release

Fa = average pull force with axial pull on the collet nut.

## Latching Characteristics for B, S, 2C and 2G Series Connectors

Force	Series												
(N)	00	0B	1B	2B	2G	3B	4B	5B					
Fv	9	10	14	15	12	17	39	48					
Fd	7	8	11	12	12	14	38	38					
Fa	120	250	300	400	400	550	700	800					

Force	Series											
(N)	00	0S	1S	2C	2S	3S	4S	5S	6S			
Fv	9	14	15	12	17	20	40	60	70			
Fd	7	9	10	12	11	14	25	40	55			
Fa	120	140	250	400	350	500	650	750	900			

Notes: the forces were measured on outer shell not fitted with

contacts. The mechanical endurance represents the number of cycles after which the latching system is still effective (1 cycle = 1 latching/unlatching – 300 cycles per hour).

Mechanical endurance: 5000 cycles.

The values were measured according to the standard

MIL-STD-1344A method 2013.1.

1N = 0.102kg.



## General Characteristics

### Materials and Surface Treatment

### **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.

### 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.

		Surface treatment (µm)										
Component	Material (Standard)	c	hrom	e	nic	kel		gold	·	black	chr.	Notes
		Cu	Ni	Cr	Cu	Ni	Cu	Ni	Au	Ni	Cr	
	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)				wit	hout	treatn	nent				
	Avional (AA 2007)	_	_	_	_	5	_	_	_	_	_	1)
	Aluminium alloy (AA 6012)					ano	dized					
Outer shell,	POM (Delrin® or Ertacetal®), Polyoxymethylene, black						-					2)
collet nut, conical nut	PEEK, Polyether etherketone, beige						_					3)
or notched nut and oversized collet	PSU (Udel®), Polysulfone, grey or white						_					4)
	PPSU (Radel®), Polyphenylsulfone, cream	-										4)
	PA.6 (Grilon®), Polyamid											5)
	PPS (Ryton®), Polyphenilene sulfide, brown											6)
	Bronze (UNS C 54400) or special brass	_	_	_	0.5	3	0.5	3	1.0	_	_	7)
Grounding crown	Beryllium Copper (UNS C 17300)		-	-	0.5	3	0.5	3	1.0	-	_	8)
	Stainless steel (AISI 416 or 316L)				witl	hout	treatn	nent				9)
Latch sleeve	Special brass	0.5	3	0.3	0.5	3	0.5	3	0.5	_	_	
Later Siceve	Stainless steel (AISI 416 or 316L)	without treatment								9)		
Locking washer	Bronze (UNS C 52100)				0.5	3	0.5	3	0.5			
	Brass (UNS C 38500)				0.5	3	0.5	3	0.5			
Hexagonal or round nut	Stainless steel (AISI 303, 304 or 316L)	without treatment										10)
	Aluminium alloy (AA 6012)				an	odize	d nat	ural				10)
Other metallic compensate	Brass (UNS C 38500)	ı	I	-	0.5	3	0.5	3	0.5	ı	_	
Other metallic components	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

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

- gold-plating for single contact types used in 00 series free and fixed receptacles and couplers 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

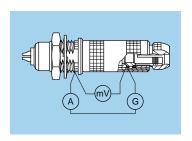


## **Electrical Characteristics**

## Shell electrical continuity: (measured according to IEC 60512-2 test 2f)

Test current: 1A A = Ampmeter mV = Millivoltmeter G = Generator

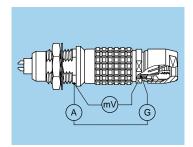
### **Standard Series**



Series	$R_1$ (m $\Omega$ )	$R_2$ (m $\Omega$ )
00	3.5	2.8
0S	2.8	1.6
1S	2.2	1.5
2C	_	_
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

- R<sub>1</sub> Values with grounding crown and latch sleeve or inner-sleeve nickel-plated.
- R<sub>2</sub> Values with gold-plated grounding crown and nickel-plated latch sleeve or inner sleeve.

### **Keyed Series**



Series	$R_1$ (m $\Omega$ )	$R_2 \pmod{m\Omega}$
00	3.5	2.8
0B	3.5	1.3
1B	2.5	1.1
2B	2.2	0.9
2G	-	-
3B	2.2	0.7
4B	1.5	0.5
5B	1.5	0.3

## Electromagnetic compatibility (EMC) and shielding efficiency

The electromagnetic compatibility of a device can only be en-sured by meeting a number of basic rules with the design of the device and by carefully selecting components, cables and connectors.

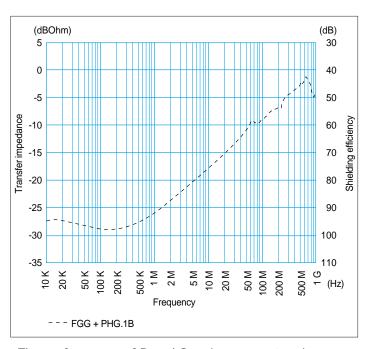
Electrical and electronic devices are to be designed to ensure the following:

- a) Reduce the emission of generated electromagnetic interference to a level where radios and telecommunication and other devices can properly function:
- b) 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.



## Insulator

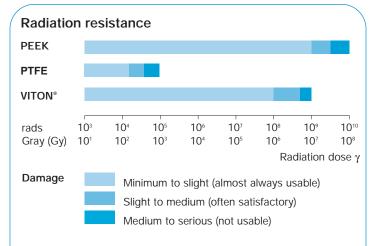
Plastic material used by LEMO for manufacturing insulators is selected according to the electric and thermal properties required for the various connector types. Characteristics examined for the two connector types are:

- 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

LEMO uses PEEK (Polyether Etherketone) for the insulator material. The performance of this thermo-plastic material is enhanced by the addition of glass fibers in the resin to acheive very high mechanical strength, to increase dielectric strength and to reduce water absorption rate. The above features of PEEK, plus its excellent chemical and radiation resistance, make it ideal for most applications. Sealing grommets are molded from Viton\*. Such polymer has inherently excellent electrical insulating properties which does not change when exposed to adverse environments.

Insulating resistance >10 $^{12}\Omega$  (per MIL-STD-1344A method 3003.1).



**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 Technical characteristics of plastic materials

Туре	Standard	Units	POM	PEEK	PSU	PPSU	PPS	PA.6	Silicone	FPM	Ероху
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	$\Omega \bullet \mathrm{cm}$	10 <sup>15</sup>	10 <sup>16</sup>	5x10 <sup>16</sup>	-	10 <sup>16</sup>	10 <sup>15</sup>	10 <sup>14</sup>	-	1014
Surface resistivity	ASTM D 257	Ω	10 <sup>13</sup>	10 <sup>15</sup>	_	_	_	_	_	_	
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	-76	-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 <sup>1)</sup>	8x10 <sup>3</sup>	10 <sup>7</sup>	10 <sup>5</sup>	-	> 10 <sup>7</sup>	5x10 <sup>3</sup>	10 <sup>5</sup>	8x10 <sup>4</sup>	2x10 <sup>6</sup>
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

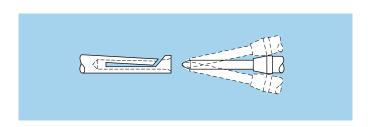
Note: Values of insulation resistance between contacts are given on page 9.



### **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.



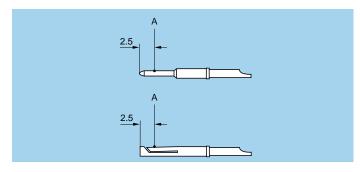
Bronze or brass

**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

Type	Material (standard)	Surf. treatment (µm)						
туре	iviateriai (Stariuaiu)	Cu	Ni	Au <sup>1)</sup>				
Male crimp	Brass (UNS C 34500)							
Maic Chinp	Brass (UNS C 38500)	0.5	3	1.0				
Male printed circuit	Brass (UNS C 38500)							
Femalle crimp	Bronze (UNS C 54400) Cu-Be (FS QQ-C-530)	0.5	3	1.5				
Female printed circuit	Cu-Be (FS QQ-C-530)	0.5	3	1.5				
Clina	Cu-Be (FS QQ-C-530)							
Clips	Stainless steel	_	_	_				
Wire <sup>2)</sup>	Brass	-	33)	-				

### Thickness comparison between the outside and the inside of female contacts



**Note:** A = inspection point

	Gold thickness					
Contact Ø A		female				
(mm)	male (µm)	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 <sup>1)</sup>	_	_	_			

Notes: 1) Contacts are silver plated.



## Contact resistance with relation to the number of mating cyles

Maximum values measured after the mating cycles and the salt spray test according to IEC 60512-6 test 11f.

A Ø (mm)	Contact resistance (mΩ)				۸ ~	Contact resistance (mΩ)		
	1000 cycles	3000 cycles	5000 cycles		A ø (mm)	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	_	-

(measured according to IEC 60512-2 test 2a)

### Insulation resistance between the contacts and contact/shell

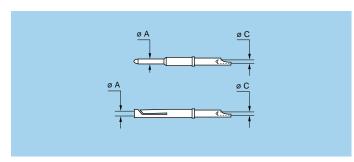
(measured according to IEC 60512-2 test 3a)

Insulating material	Multicontact	Single contact	
msulating material	PEEK	PTFE	
new	> 10 <sup>12</sup> Ω	> 10 <sup>12</sup> Ω	
after humidity test <sup>1)</sup>	> 10 <sup>10</sup> Ω	> 10 <sup>10</sup> Ω	

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.



Note:
1) For S, 2C, 2G series

2) For 00 multicontact series

<sup>3)</sup> For a given AWG, the diameter of some stranded conductor designs is larger than the solder cup diameter. Make sure that the maximum conductor diameter is smaller than ø C.

Con	tact	Conductor					
ø A ø C			Solid		Stranded		
(mm)	(mm)	AWG max.	Section max (mm <sup>2</sup> )	AWG max.	Section max (mm <sup>2</sup> )		
0.52)	0.402)	28	0.09	30	0.05		
0.5	0.45	28	0.09	28	0.09		
0.71)	0.601)	24	0.25	26	0.14		
0.7	0.80	22	0.34	223)	0.34		
0.9	0.80	22	0.34	223)	0.34		
1.3	1.00	20	0.50	203)	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 square form crimp method is used (MIL-C-22520F, class I, type 2) photo 1 for single contact contacts.

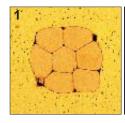
For multicontact contacts the standard four-identer crimp method is used, MIL-C-22520F, class I, type 1), photo 2. The crimp method requires a controlled compression to obtain a symmetrical deformation of the conductor strand and of the contact material. The radial hole in the side of the contact makes 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.

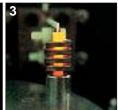
Only the crimping zone is annealed with the help of an induction heating machine designed by the LEMO Research and Development Department (see photo 3).

- practical, quick contact fixing outside the insulator
- possible use at high temperature
- no risk of heating the insulator during the conductorcontact fixing
- high tensile strength

Crimp contacts are available in standard version (microphoto 1) for mounting maximum size conductors. For some dimensions, these crimp contacts can be produced with reduced crimp barrels (microphoto 2) for mounting reduced size conductors.





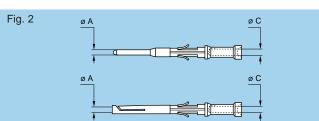


Contacts are provided in two forms: with a standard reduced crimp barrel for smaller conductors (see fig. 2).

crimp barrel for large conductors (see fig. 1), or with a

A detailed range of conductor dimensions that can be crimped into our contacts is given on the table below.

Fig. 1	Ø A	Ø C
	Ø A	ø C



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 ø C.

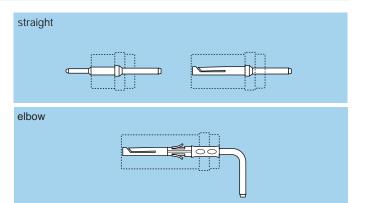
Contact				г			
øΑ	øС	Form	AWG stranded		Section	F <sub>r</sub> (N)	
(mm)	(mm)	per fig.	min.	max.	min.	max.	(,
0.5	0.45	1	32	28	0.035	0.09	12
0.7	0.80	1	26	221)	0.140	0.34	22
0.7	0.45	2	32	28	0.035	0.09	22
	1.10	1	24	20	0.250	0.50	
0.9	0.80	2	26	221)	0.140	0.34	30
	0.45	2	32	28	0.035	0.09	
	1.40	1	20	18	0.500	1.00	
1.3	1.10	2	24	20	0.250	0.50	40
	0.80	2	26	221)	0.140	0.34	
1.6	1.90	1	18	141)	1.000	1.50	50
1.0	1.40	2	22	18	0.340	1.00	30
2.0	2.40	1	16	12 <sup>1)</sup>	1.500	2.50	65
2.0	1.90	2	18	14	1.000	1.50	05
3.0	2.90	1	14	10 <sup>1)</sup>	2.500	4.00	75
4.0	4.00	1	12	10	4.000	6.00	90

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, mostly for straight and elbow receptacle models. Connection is made on flexible or rigid printed circuits by soldering.

Printed circuit contacts are gold-plated which guarantees optimum soldering, even after long-term storage. However for wave soldering, we recommend removal of the goldplating from the contact end on the printed circuit side before soldering according to the assembly procedures.





## Test Voltage

Test voltage (Ue):

(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 (Us):

It is proposed according to the following ratio: Us =  $\frac{Ue}{3}$ 

### 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.

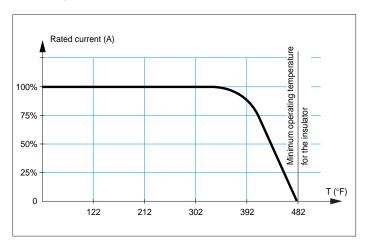
The current values are indicated in the table of insulator types in each series. For use at higher temperatures, acceptable rated current will be lower. It tends towards zero as the material is used at the maximum operating temperature accepted for the insulator.

In most cases, the current depends on the conductor dimension, or on the printed circuit dimension.

### Caution:

In general, connectors should not be unmated while live.

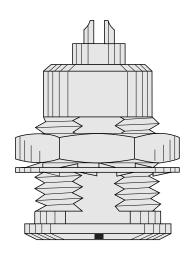
For connectors with PEEK insulator, maximum admissible current will follow the curve below depending on the operating temperature T.



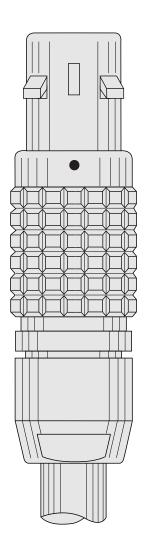








## B Series Connectors



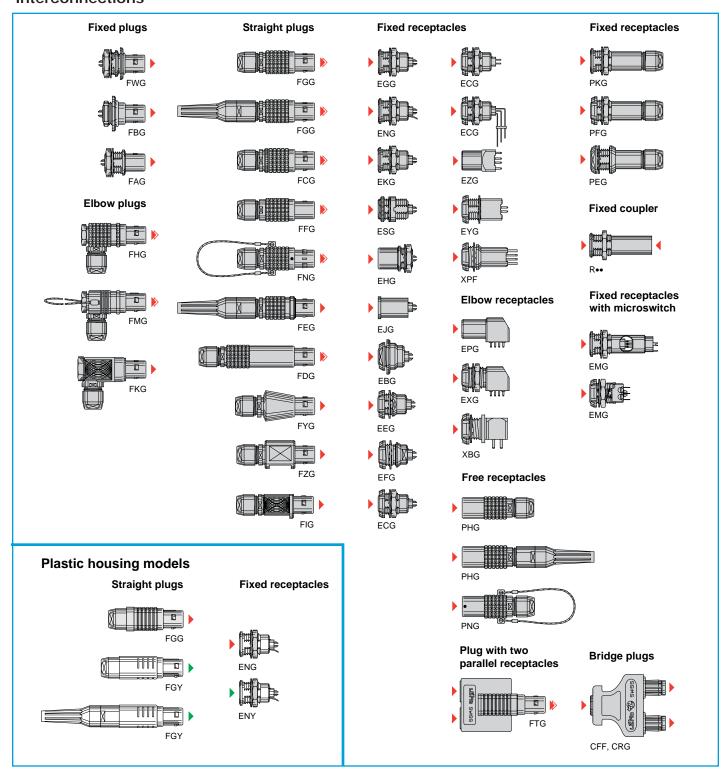


## **B Series Connectors**

B series connectors have the following main features:

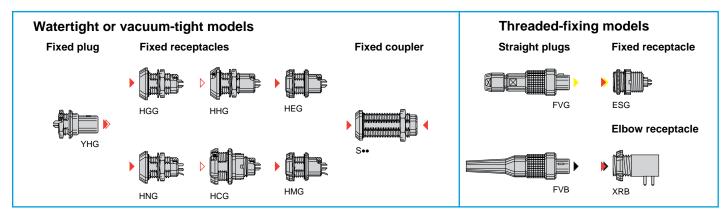
- security of the push-pull self-latching system
- multicontact types 2 to 64 contacts
- hybrid types (multicontact, high voltage, low voltage, coaxial)
- solder, crimp or printed circuit contacts (straight or elbow)keying system («G» key standard) for connector alignment
- multiple key options to avoid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

## Interconnections





## 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)
- 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
- 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,

- 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 Fixed receptacle with grounding tab, nut
- fixing, keys (Y), PSU or PPSU outer shell Elbow (90°) receptacle for printed circuit, key (G) or keys (A...F) (solder or screw
- 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)
  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) Fixed plug, non-latching, nut fixing,
- key (G) or keys (A...M and R) 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
- Straight plug, non-latching, key (G) or keys (A...M), cable collet
- 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
- Straight plug, key (G or J), cable collet, PEEK outer shell
- FGY Straight plug, keys (Y), cable collet and PSU or PPSU outer shell

- and PSU of PPSU outer snell

  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
- special anythrieff mark, knurred handling surface, cable collet

  FKG Elbow (90°) plug for remote handling, key (G) or keys (A...L), special alignment mark, knurred handling surface, cable collet
- FMG Elbow (90°) plug, key (G) or keys (A...M), cable collet and lanyard release,
- Straight plug, key (G) or keys (A...M and R), cable collet and lanyard release FTG Straight plug, key (G)
- and two parallel receptacles
- Straight plug, conical shell, key (G) or keys (A...M), cable collet Straight plug, keys (B), threaded-fixing
- for special cable crimping 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

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

- 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)

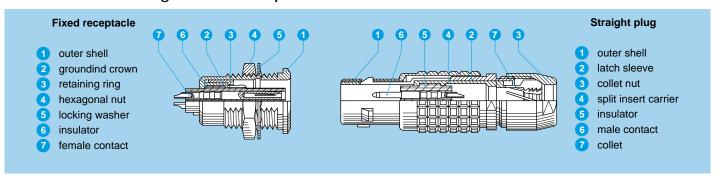
  HNG Fixed receptacle, nut fixing, with
- grounding tab, key (G) or keys (A...M), watertight or vacuum-tight
- PEG Fixed receptacle, nut fixing, key (G) or keys (A...L), cable collet (báck panel mounting)
- PFG Fixed receptacle, with two nuts, key (G) or keys (A...M and R), cable collet (back panel mounting)
- PHG Free receptacle, key (G) or keys A...M and R), cable collet
- 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
- 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
- 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)
- 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 <sup>1)</sup>	-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 <sup>1)</sup>	55/175/21	IEC 60068-1		

### **Electrical**

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

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 on page 5.

1) For watertight or vacuum-tight models see page 38.

## Available Models (series and types)

Model			Mul	ticon	tact		
	00	0B	1B	2B	3B	4B	5B
CFF		•	•				
CRG		•	•				
EBG							
ECG		•	•	•	•	•	
ECG <sup>2)</sup>							
EEG							
EFG		•					
EGG		•	•	•	•	•	
EHG			•				
EJG							
EKG							
EMG							
ENG			•				
ENG 3)			•		•	•	
ENY 4)							
EPG							
ESG			•				
EXG		•	•				
EYG		•	•				
EZG			•				

Model			Mul	ticon	tact		
	00	0B	1B	2B	3B	4B	5B
FAG	•	•	•	•	•	•	•
FBG							
FCG			•				
FDG			•	•			
FEG			•	•	•		
FFG			•		•		
FGG			•				
FGG <sup>5)</sup>			•		•		
FGG <sup>3)</sup>			•				
FGY <sup>4) 6)</sup>							
FGY 4) 5) 6)							
FHG			•		•		
FIG				•	•	•	
FKG							
FMG		•					
FNG		•	•	•	•	•	
FTG 1)		•					
FVB							
FVG							
FWG			•				

Model			Mul	ticor	tact		
	00	0B	1B	2B	3B	4B	5B
FYG		•					
FZG				•	•	•	
HCG		•		•			
HEG				•			
HGG		•		•	•	•	•
HHG		•		•	•		
HMG					•		
HNG		•					
PEG					•	•	
PFG		•		•	•	•	•
PHG					•	•	
PHG <sup>5)</sup>		•			•	•	
PKG		•		•	•	•	
PNG							
R●●					•	•	
See		•		•	•	•	•
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) The allow (202) 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 (series and types)

			•				
Model			H	lybri	d		
Model	00	0B	1B	2B	3В	4B	5B
CFF							
CRG							
EBG							•
ECG				•	•	•	•
ECG <sup>2)</sup>							
EEG				•	•	•	•
EFG				•	•	•	•
EGG			•	•	•	•	•
EHG							•
EJG							
EKG					•		•
EMG							
ENG					•		
ENG 3)							
ENY 4)							
EPG							
ESG							
EXG							
EYG							
EZG							

Model				lybri	d		
Wiodei	00	0B	1B	2B	3B	4B	5B
FAG			•	•	•	•	•
FBG							•
FCG						•	•
FDG				•			
FEG							
FFG							
FGG							•
FGG <sup>5)</sup>				•	•		
FGG <sup>3)</sup>							
FGY 4) 6)					•		
FGY 4) 5) 6)							
FHG					•	•	•
FIG							•
FKG							
FMG							
FNG							•
FTG <sup>1)</sup>							
FVB							
FVG							
FWG							

	_						
Model			H	lybri	d		
iviodei	00	0B	1B	2B	3B	4B	5B
FYG							
FZG				•	•	•	
HCG							
HEG							
HGG							
HHG							
HMG							
HNG							
PEG						•	
PFG						•	
PHG							
PHG <sup>5)</sup>				•	•	•	
PKG						•	
PNG						•	
R●●							
See							
XBG							
XRB							
XPF							
YHG							

## Alignment Key and Polarized Keying System

Note: See notes page 16

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	Angles		Series		Angles		Ser	ies			Contact typ	oe e	Note
	Mo	keys	Ang	00	0B	1B	Ang	2B	3B	4B	5B	Plug	Receptacle	Coupler 1)	Note
α	••G	1		0°	0°	0°		0°	0°	0°	0°	male	female	male-female	
	••A	2		30°	30°	30°		30°	30°	30°	30°	male	female	male-female	
	••B	2	α	60°	60°	60°	α	45°	45°	45°	45°	male	female	male-female	
	••C	2		-	90°	90°		60°	60°	60°	60°	male	female	male-female	
9	••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°	Ь	145°	145°	145°	145°	male	female	male-female	
	••J	2		45°	45°	45°	α	37.5°	37.5°	37.5°	37.5°	female	male	female-male	
γ	••K	2	γ	-	70°	70°	u	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°	-	-	-	-	ı	-	female	male	female-male	
	••Y	3	_	-	_	-	β	112.5°	126°	-	-	male	female		<b>2</b> )
	00	3	_	-	-	-	γ	100°	102°	-	-	male	lemale	_	
Front view of a receptacle	Model	# of	Angles		Series		Angles		Ser	ies			Contact typ	oe e	Note
d B	Mo	keys	Ang	00	0B	1B	Ang	2B	3B	4B	5B	Plug	Receptacle	Coupler 1)	Note
			α	_	_	-	α	_	-	-	95°				
	••R	5	β	-	-	-	β	-	-	1	115°	mala	female	male-female	
		3	γ	_	_	_	γ	_	_	-	20°	male	remale	maie-lemaie	
			δ	_	_	-	δ	_	_	-	30°				

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 40.

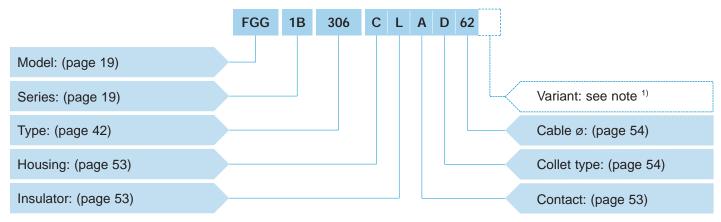
1) The first contact type mentioned is always the one at the flange end.
2) Only FGY and ENY models are available.

■ First choice alternative ☐ Special order alternative



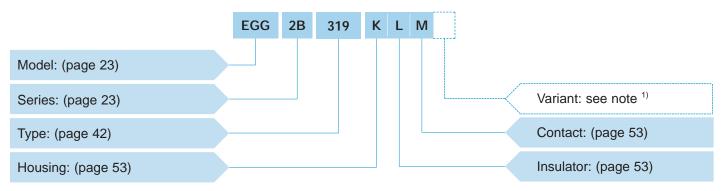
## Part Number Example

## Straight plug with cable collet



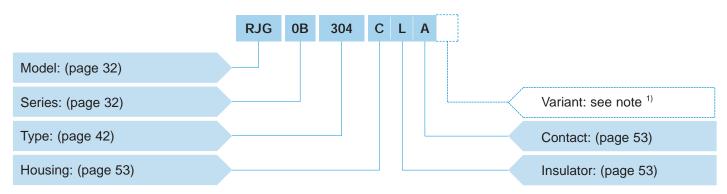
**FGG.1B.306.CLAD62** = straight plug with key (G) and cable collet, 1B series, multicontact type with 6 contacts, outer shell in chrome-plated brass, PEEK insulator, male solder contacts, D type collet for 6.0 mm diameter cable.

### 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.

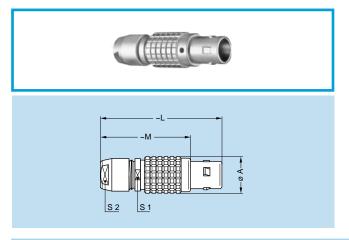
For models with collet nut for fitting the bend relief, a «Z» should be indicated and a bend relief can be ordered separately as indicated in the «Accessories» section. An order for a connector with bend relief should thus include two part numbers.

For the various housings available in colors, the corresponding letter in the part number for the color is indicated on page 55.

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



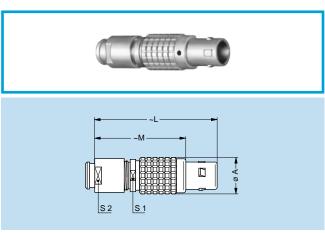
## Models



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

Refe	rence		Dime	nsions	(mm)		Availability
Model	Series	Α	L	М	S1	S2	Availability
FGG	00 <sup>1)</sup>	6.4	28.5	20.5	5.5	5	•
FGG	0B	9.5	36.0	26.0	8.0	7	•
FGG	1B	12.0	43.0	32.0	10.0	9	•
FGG	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	0

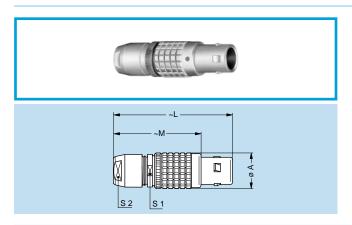
Note: 1) The surface design of the 00 series is different.



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

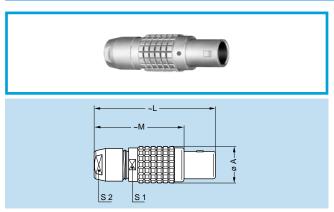
Refe	rence		Dime		Availability		
Model	Series	Α	L	М	S1	S2	Availability
FGG	00 <sup>1)</sup>	6.4	27.5	19.5	5.5	6	•
FGG	0B	9.5	35.0	25.0	8.0	7	•
FGG	1B	12.0	42.0	31.0	10.0	9	•
FGG	2B	15.0	49.0	37.0	13.0	12	•
FGG	3B	18.0	56.5	41.5	15.0	15	•
FGG	4B	25.0	71.0	53.0	21.0	20	0

Note: 1) The surface design of the 00 series is different. The bend relief must be ordered separately (see page 133).



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

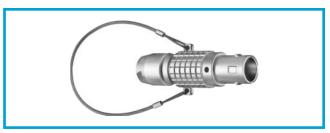
Refe	rence		Dime		Availability		
Model	Series	Α	L	М	S1	S2	Availability
FCG	1B	12	43	32	10	9	0
FCG	4B	25	75	57	21	20	0
FCG	5B	35	103	78	31	30	0

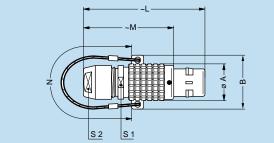


## FFG Straight plug, non-latching, key (G) or keys (A...M), cable collet

Refe	rence		Dime	nsions	(mm)		Availability
Model	Series	А	L	М	S1	S2	Availability
FFG	0B	9.5	36	26	8	7	•
FFG	1B	12.0	43	32	10	9	0
FFG	2B	15.0	50	38	13	12	0
FFG	3B	18.0	58	43	15	14	0
FFG	4B	25.0	75	57	21	20	0



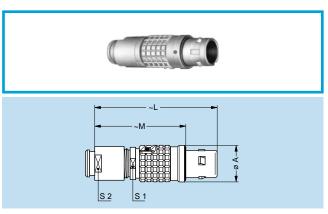




FNG Straight plug, key (G) or keys (A...M and R), cable collet and lanyard release

Refe	rence		Dimensions (mm)								
Model	Series	Α	В	L	М	N	S1	S2	ability		
FNG	0B	9.5	15.5	28.5	20.5	140	8	7	0		
FNG	1B	12.0	18.0	43.0	32.0	140	10	9	•		
FNG	2B	15.0	21.0	49.0	37.0	160	13	12	0		
FNG	3B	18.0	25.0	58.0	43.0	190	15	14	0		
FNG	4B	25.0	35.2	75.0	57.0	230	21	20	0		
FNG	5B	35.0	47.0	103.0	78.0	300	31	30	0		

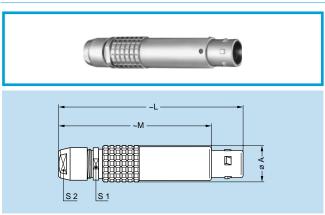
Note: Cable material: stainless steel with PVC sheath. In 4B and 5B series the outer shell is similar to the PNG model.



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)

Refe	rence		Dime	nsions	(mm)		Availability
Model	Series	Α	L	М	S1	S2	Availability
FEG	1B	13.5	42.0	33.0	10	9	0
FEG	2B	16.5	48.0	36.0	13	12	0
FEG	3B	19.0	56.5	41.5	15	15	0

Note: The bend relief must be ordered separately (see page 137).



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

Refe	rence		Dime		Availability		
Model	Series	Α	L	М	S1	S2	Availability
FDG	1B	12	68	57	10	9	0
FDG	2B	15	79	67	13	12	0



S 2 S 1

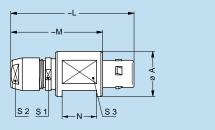
FYG Straight plug, conical shell, key (G) or keys (A...M), cable collet

Reference			Dime	Availability			
Model Series		Α	L	М	S1	S2	Availability
FYG	0B	15.5	36	26	8	7	•

Data Subject to Change







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

Refe	rence			Di	mensi	ons (m	ım)		Avail-
Model	Series	A L M N S1 S2 S3						ability	
FZG	2B	20	49	37	15	13	12	15	0
FZG	3B	22	58	43	18	15	14	18	0
FZG	4B	30	75	57	25	21	20	25	0
FZG	5B	40	103	78	35	31	30	35	0

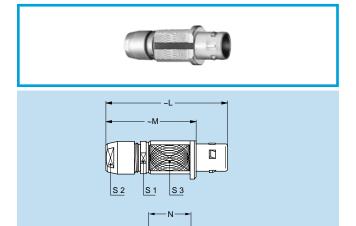
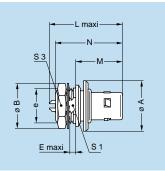


FIG Straight plug for remote handling, key (G) or keys (A...L and R), special alignment mark, knurled handling surface, cable collet

Refe	rence			D	imensi	ons (m	ım)		Avail-	
Model	Series	Α	A L M N S1 S2 S3							
FIG	2B	20	49	37	17.5	13	12	15	0	
FIG	3B	22	58	43	21.5	15	14	18	0	
FIG	4B	30	75	57	28.5	21	20	25	0	
FIG	5B	40	103	78	41.0	31	30	35	0	





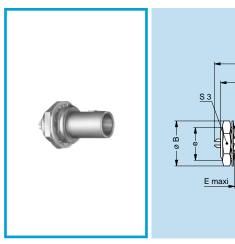
FWG Fixed plug, nut fixing, key (G) or keys (A...L)

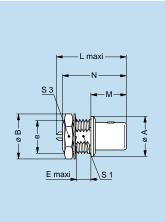
Refe	rence				Dime	ension	s (m	m)			Avail-
Model	Series	Α	A B e E L M N <sup>1)</sup> S1 S3								ability
FWG	1B	18.0	16.0	M12x1.0	3.0	24.9	17	24.8	10.5	14	0
FWG	2B	19.5	19.5	M15x1.0	5.2	28.6	18	27.3	13.5	17	0

Panel cut-out: P9

Note: 1) Maximum length with crimp contacts





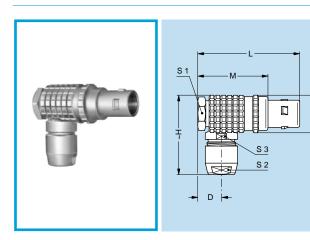


## FAG Fixed plug, non-latching, nut fixing, key (G) or keys (A...M and R)

Refer	ence		Dimensions (mm)								
Model	Series	Α	В	е	Е	L	М	N <sup>1)</sup>	S1	S3	ability
FAG	00	8	10.3	M7x0.5	2.4	18.1	9.0	15.2	6.3	9	0
FAG	0B	10	12.5	M9x0.6	3.3	20.8	11.2	18.4	8.2	11	0
FAG	1B	14	16.0	M12x1.0	6.5	25.2	12.5	22.6	10.5	14	0
FAG	2B	18	19.5	M15x1.0	5.8	28.7	13.8	25.4	13.5	17	0
FAG	3B	22	25.2	M18x1.0	7.6	32.1	17.0	29.1	16.5	22	0
FAG	4B	28	34.0	M25x1.0	8.1	37.1	20.5	35.1	23.5	30	0
FAG	5B	40	40.0	M35x1.0	7.5	47.1	28.0	43.6	33.5	_	0

Note:  $^{\rm 1)}$  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

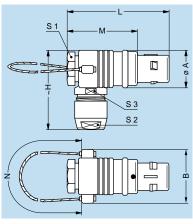


## FHG Elbow (90°) plug, key (G) or keys (A...M and R), cable collet

Refe	rence		Dimensions (mm)									
Model	Series	А	D	Н	L	М	S1	S2	S3	ability		
FHG	00 <sup>1)</sup>	7.7	5.2	18.0	24.5	16.5	7	5	5.5	0		
FHG	0B	11.0	6.5	26.0	31.6	21.6	10	7	8.0	•		
FHG	1B	13.5	8.0	30.5	37.8	26.3	12	9	10.0	•		
FHG	2B	16.5	9.0	34.0	41.5	29.5	14	12	13.0	•		
FHG	3B	19.0	10.0	37.0	50.0	35.0	17	14	15.0	0		
FHG	4B	26.0	15.0	52.0	67.0	49.0	22	20	21.0	0		
FHG	5B	36.0	21.0	74.0	90.0	65.0	32	30	31.0	0		

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



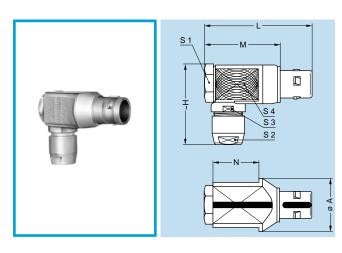


## FMG Elbow (90°) plug, key (G) or keys (A...M), cable collet and lanyard release, long key

Refe	rence				Di	mens	ions (	mm)			Avail-
Model	Series	А	A B H L M N S1 S2 S3								
FMG	0B	11 17 26 31.6 21.6 140 10 7 8								0	

**Note**: Dimension D is the same as for the FHG model. Cable material: stainless steel with PVC sheath. Long key is for the (G) keyway only.

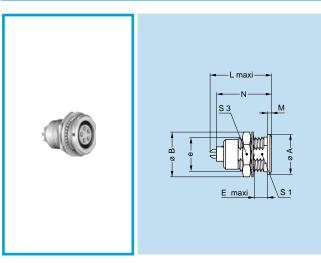




FKG Elbow (90°) plug for remote handling, key (G) or keys (A...L), special alignment mark, knurled handling surface, cable collet

Refe	rence				Dime	ension	s (mn	า)			Avail-
Model	Series	Α	A H L M N S1 S2 S3 S4								
FKG	3B	25	25   37   50   35   21.0   17   14   15   21								0
FKG	4B	51 52 67 49 28.5 22 20 21 28									0

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



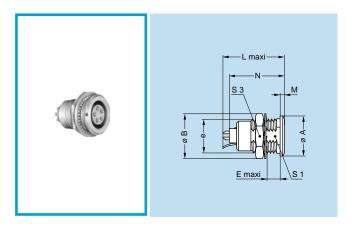
## EGG Fixed receptacle, nut fixing, key (G) or keys (A...M and R)

Refe	rence		Dimensions (mm)									
Model	Series	Α	В	е	Е	L	М	N <sup>1)</sup>	S1	S3	ability	
EGG	00	8	10.3	M7x0.5	6.0	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	0	
EGG	4B	28	34.0	M25x1.0	12.0	35.7	2.5	34.1	23.5	30	0	
EGG	5B	40	40.0	M35x1.0	11.0	43.5	3.0	39.6	33.5	_	0	

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)

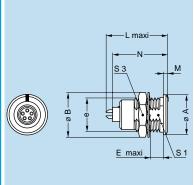
Re	erence				Di	mens	ions (	mm)				Avail-
Mode	el Serie	es	Α	В	е	Е	L	М	N <sup>1)</sup>	S1	S3	ability
ENG	OE	3	10	12.5	M9x0.6	7.0	20.7	1.2	19.1	8.2	11	0
ENG	1E	2)	14	16.0	M12x1.0	7.5	23.0	1.5	21.1	10.5	14	0
ENG	2E	3	18	19.5	M15x1.0	8.5	26.7	1.8	24.6	13.5	17	0
ENG	3E	3	22	25.0	M18x1.0	11.5	30.7	2.0	28.1	16.5	22	0
ENG	4E	3	28	34.0	M25x1.0	12.0	35.7	2.5	34.1	23.5	30	0

Panel cut-out: P1

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







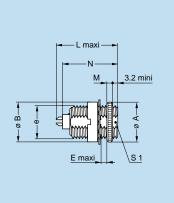
## EKG Fixed receptacle, nut fixing, key (G) or keys (A...L and R), special alignment mark on the front

Refer	ence			Di	mens	ions (	mm)				Avail-
Model	Series	Α	A B e E L M N <sup>1)</sup> S1 S3							ability	
EKG	2B	18	19.5	M15x1.0	8.5	26.7	1.8	24.6	13.5	17	0
EKG	3B	22	25.0	M18x1.0	11.5	30.7	2.0	28.1	16.5	22	0
EKG	4B	28 34.0 M25x1.0 12.0 35.7 2.5 34.1 23.5 30							0		

Panel cut-out: P1

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





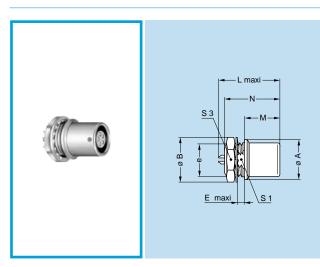
## Fixed receptacle with two round nuts, key (G) or keys (A...L), long threaded shell (back panel mounting)

	Refer	ence			Di	mens	sions	(mm)			Avail-
	Model	Series	A B e E L M N <sup>1)</sup> S1								ability
ĺ	ESG	00	9.5	9	M7x0.5	4.0	15.5	2	13.7	_	0
	ESG	1B	14.0	14	M12x1.0	8.0	23.0	2	21.1	10.5	0

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

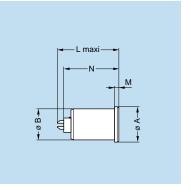
Refe	rence			Dir	nens	ions (	mm)				Avail-
Model	Series	Α	В	е	Е	L	М	N <sup>1)</sup>	S1	S3	ability
EHG	00	8.0	10.3	M7x0.5	2.0	15.5	8.5	13.7	6.3	9	0
EHG	0B	10.0	12.5	M9x0.6	2.5	19.5	12.5	19.1	8.2	11	0
EHG	1B	14.0	16.0	M12x1.0	4.2	21.7	12.0	21.1	10.5	14	0
EHG	2B	18.0	19.5	M15x1.0	5.2	22.7	12.5	24.6	13.5	17	0
EHG	3B	22.0	25.0	M18x1.0	4.2	30.7	12.5	28.1	16.5	22	0
EHG	5B	40.0	40.0	M35x1.0	2.5	43.5	28.5	39.6	33.5	_	0

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)

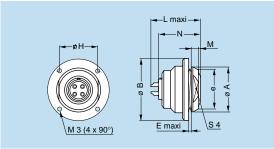
Refer	ence		Dime	nsions	(mm)		Availability
Model	Series	Α	В	L	М	N <sup>1)</sup>	Availability
EJG	0B	9.2	8.35	20.7	1.5	19.1	0
EJG	1B	12.5	11.20	23.0	1.5	21.1	0
EJG	2B	16.5	14.00	26.7	1.5	24.6	0

Panel cut-out: P5

Note: 1) Maximum length with crimp contacts.





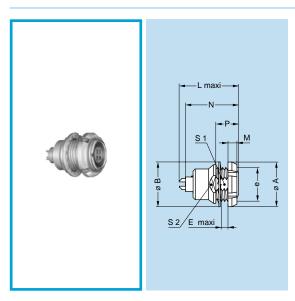


EBG Fixed receptacle, nut fixing, round flange, key (G) or keys (A...L and R), screw fixing (back panel mounting)

Refe	erence			Din	nens	ons (	mm)				Avail-
Model	Series	Α								ability	
EBG	5B	41	54	M35x1.0	4.0	34	43.5	5.0	39.6	37	0

Panel cut-out: P6

Note: 1) Maximum length with crimp contacts.

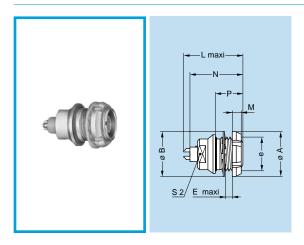


## **EEG** Fixed receptacle, nut fixing, key (G) or keys (A...M and R) (back panel mounting)

	Refe	erence				Dime	ensior	ns (mr	n)				Avail-
ľ	Model	Series	Α	В	е	Е	L	М	N <sup>1)</sup>	Р	S1	S2	ability
	EEG	00	10	9.5	M7x0.5	2.3	15.5	2.5	13.7	6.0	6.3	7.5	0
	EEG	0B	12	12.5	M9x0.6	2.4	20.7	2.5	19.1	6.3	8.2	9.0	0
	EEG	1B	16	16.0	M12x1.0	6.5	23.0	3.5	21.1	11.0	10.5	13.0	0
	EEG	2B	20	20.0	M15x1.0	3.0	26.7	3.5	24.6	9.0	13.5	15.0	0
	EEG	3B	24	25.0	M18x1.0	5.0	30.7	4.5	28.1	12.0	16.5	20.0	0
	EEG	5B	41	40.0	M35x1.0	13.5	43.5	5.0	39.6	19.5	33.5	38.0	0

Panel cut-out: P1

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.



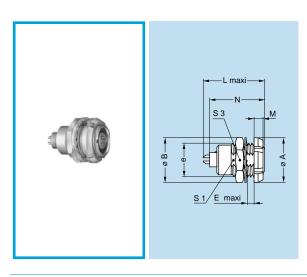
## Fixed receptacle, nut fixing, key (G) or keys (A...M), with two flats on the shell and O-ring $\,$ (back panel mounting)

Refer	rence			Di	mens	ions (	mm)				Avail-
Model	Series	Α	A B e E L M N1) P S2								ability
EFG	0B	12	2 12.5 M9x0.6 5.5 20.7 2.5 19.1 9 8								0

Panel cut-out: P2

Note: 1) Maximum length with crimp contacts.





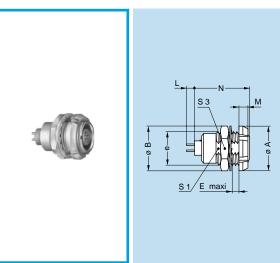
## ECG Fixed receptacle with two nuts, key (G) or keys (A...M and R) (back panel mounting)

Refe	rence		Dimensions (mm)									
Model	Series	А	В	е	Е	L	М	N <sup>1)</sup>	S1	S3	ability	
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	0	
ECG	3B	24	25.0	M18x1.0	9.0	30.7	4.5	28.1	16.5	22	0	
ECG	4B	30	32.0	M25x1.0	10.0	35.7	4.5	32.6	23.5	30	0	
ECG	5B	41	40.0	M35x1.0	9.0	43.5	5.0	39.6	33.5	_	0	

Panel cut-out: P1

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.



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

Refe	rence		Dimensions (mm)									
Model	Series	Α	В	е	Е	М	N	S1	S3	ability		
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	0		
ECG	3B	24	25.0	M18x1.0	9.0	4.5	25.8	16.5	22	0		
ECG	4B	30	32.0	M25x1.0	10.0	4.5	29.8	23.5	30	0		
ECG	5B	41	40.0	M35x1.0	9.0	5.0	36.8	33.5	_	0		

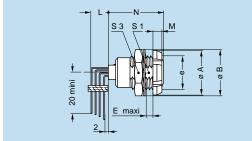
Panel cut-out: P1

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 153. 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)

Refe	rence			Din	nensic	ns (m	m)			Avail-
Model	Series	Α	В	е	Е	М	N max	S1	S3	ability
ECG	0B	12	12.5	M9x0.6	2.4	2.5	18.3	8.2	11	0
ECG	1B	16	16.0	M12x1.0	6.0	3.5	20.3	10.5	14	0
ECG	2B	20	20.0	M15x1.0	6.5	3.5	22.3	13.5	17	0
ECG	3B	24	25.0	M18x1.0	9.0	4.5	25.8	16.5	22	0

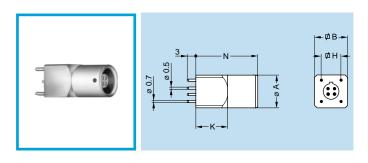
PCB drilling pattern: P17 Panel cut-out: P1

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

For male contacts, receptacles are available upon request, with J, K or L keys. The 3B series is delivered with a conical nut.

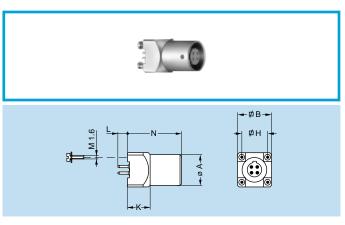




## EZG Straight receptacle for printed circuit, key (G) or keys (A, B)

Refe	ence	Dimensions (mm)					Availability
Model	Series	Α	В	Н	K	N	Availability
EZG	00	6.8	7	5.08	7	14	0

PCB drilling pattern: P15+P16



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

Refe	rence		Dime	ensions	(mm)		Availability
Model	Series	Α	В	Н	K	N	Availability
EZG	0B	9	10	7.62	8	15.0	0
EZG	1B	11	12	7.62	8	19.0	0
EZG	2B	14	15	10.16	9	22.5	0

PCB drilling pattern: P15 + P16

Note:

Length «L» depends on the number of contacts; see table on page 153.



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

Refe	rence				Dimensi	ons	(mm)				Avail-
Model	Series	Α	В	С	е	Е	М	N	Р	S1	ability
EYG	0B	12	10	12.5	M9x0.6	2.6	2.5	15	6	8.2	0
EYG	1B	14	12	16.0	M11x0.5	5.0	3.5	19	10	_	0

Panel cut-out: P1 0B series

Panel cut-out: P10 1B series

PCB drilling pattern: P15 + P16

Note:

₫ 7.62

Length «L» depends on the number of contacts; see table on page 153.



E maxi

# 

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

Refe	rence			Dime	nsion	s (mı	m)			Availability
Model	Series	Α	В	е	Е	М	N	Р	R	Availability
XPF	0B	12	11	M9x0.6	1.5	2.5	19	5	4	0

Panel cut-out: P2

PCB drilling pattern: P15 + P16

Note:

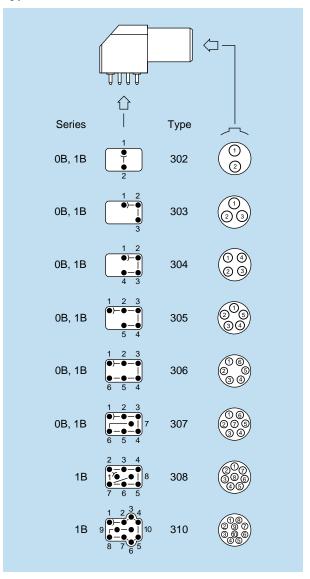
Length «L» depends on the number of contacts; see table on page 153.





## **Technical Characteristics**

## **Types**



## 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.

### **Materials and Treatment**

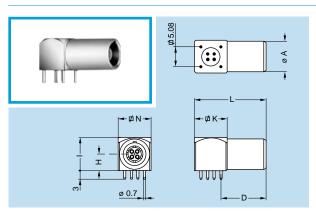
Component	Material	Surface treat. (µm)		
·		Cu	Ni	Au
Llouging	PPS 1)		_	
Housing	Brass	0.5	3	_
Metallic parts	Brass	0.5	3	_
Grounding crown	Bronze	0.5	3	_
Insulator	PEEK		_	
Female contact	Bronze	0.5	3	1.5

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) <sup>1)</sup> Contact-contact	Test voltage (kV rms) <sup>1)</sup> 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 10.



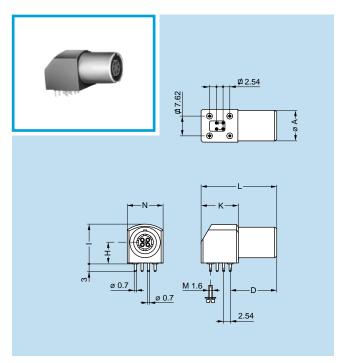
PCB drilling pattern: P18

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

Reference				Dimer	nsions	(mm)		Availability
Reference	Α	D	Н	I	K	L	N	Availability
EPG.00.302.NLN								•
EPG.00.303.NLN	6.8	11	3.5	7	7	17.5	7	0
EPG.00.304.NLN								•

Data Subject to Change



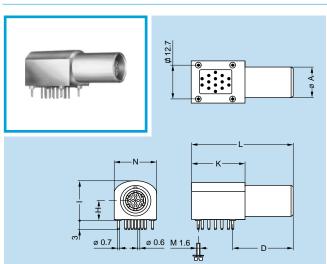


## EPG Elbow (90°) receptacle for printed circuit, key (G) or keys (A...F) (solder or screw fixing)

Deference		[	Dimer	sions	(mm)	)		Availability
Reference	Α	D	Н	ı	K	L	N	Availability
EPG.0B.302.HLN								•
EPG.0B.303.HLN						2 25	11.6	•
EPG.0B.304.HLN	9	14.6	6.9	127	13.2			•
EPG.0B.305.HLN	9	14.0	6.9	12.7	13.2		11.0	•
EPG.0B.306.HLN								0
EPG.0B.307.HLN								•
EPG.1B.302.HLN								
EPG.1B.303.HLN								0
EPG.1B.304.HLN								•
EPG.1B.305.HLN	11	16.5	7.7	14.0	13.2	27	12.6	•
EPG.1B.306.HLN	11	16.5	1.1	14.0	13.2	21	12.0	•
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)

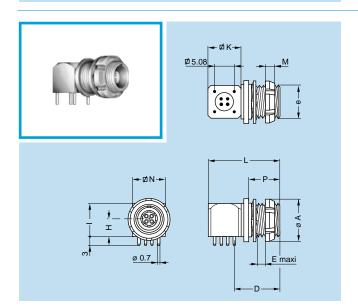


## EPG Elbow (90°) receptacle for printed circuit, key (G) or keys (A...F) (solder or screw fixing)

Reference		[	Dimer	sions	(mm	)		Availability
Reference	Α	D	Н	I	K	L	N	Availability
EPG.1B.314.NLN	11	21	•					

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)



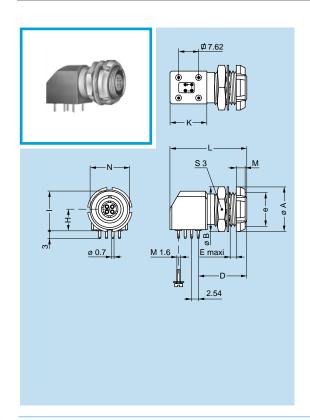
## XBG Elbow (90°) receptacle fixing nut for printed circuit, key (G) or keys (A, B) (back panel mounting)

Deference				Din	nens	ions	(mr	n)				Avail-
Reference	Α	D	е	Е	Н	Ι	K	L	М	Ν	Р	ability
XBG.00.302.NLN												0
XBG.00.303.NLN	10	11.5	7x0.5	1.8	3.5	7	7	17.5	2.5	7	9	0
XBG.00.304.NLN												0

Panel cut-out: P2

PCB drilling pattern: P18





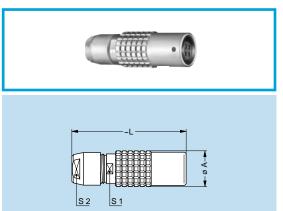
EXG Elbow (90°) receptacle for printed circuit with two nuts, key (G) or keys (A...F) (solder or screw fixing) (back panel mounting)

Reference				Di	men	sions	s (mn	า)					Avail-	
Reference	Α	В	D	е	Е	Н	I	K	L	М	N	S3	ability	
EXG.0B.302.HLN				M9x0.6									•	
EXG.0B.303.HLN								12.2	25	2.5			•	
EXG.0B.304.HLN	10	10 E	14.6		6.0	6.0	10.7				40.5	44	_ 0_	
EXG.0B.305.HLN	12	12.5	14.6		0.0	6.9	12.7	13.2	25	2.5	10.5		•	
EXG.0B.306.HLN													_ O_	
EXG.0B.307.HLN													0	
EXG.1B.302.HLN													0	
EXG.1B.303.HLN													•	
EXG.1B.304.HLN													•	
EXG.1B.305.HLN	   4	15.0	10 E	MAANO E	7.5	77	110	12.0	27	2 5	14.0	13	•	
EXG.1B.306.HLN	14	15.0	16.5	C.UXITIVI	7.5	7.5	1.1	14.0	13.2	21	3.5	14.0	13	0
EXG.1B.307.HLN													•	
EXG.1B.308.HLN													•	
EXG.1B.310.HLN													0	

Panel cut-out: P2 0B series Panel cut-out: P10 1B series

PCB drilling pattern: P19

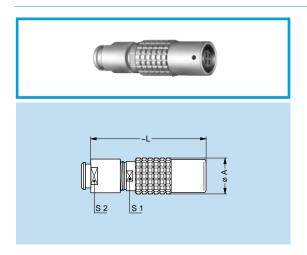
Note: To replace the four ground pins by four screws (M1.6) add an «S» to the end of the part number. (e.g.: EXG.0B.307.HLNS).



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

Refe	rence	D	imensi	ons (m	nm)	Avoilability
Model	Series	Α	L	S1	S2	Availability
PHG	00 <sup>1)</sup>	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	0
PHG	5B	34.2	99.0	31.0	30	0

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

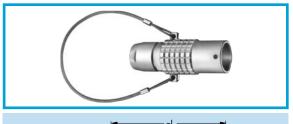


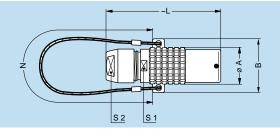
PHG Free receptacle, key (G) or keys (A...M), cable collet and nut for fitting a bend relief

Refe	rence	Di	mensi	ons (m	m)	Availability
Model	Series	Α	L	S1	S2	Availability
PHG	00 <sup>1)</sup>	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	0

Note: 1) The surface design of the 00 series is different. The bend relief must be ordered separately (see page 137).





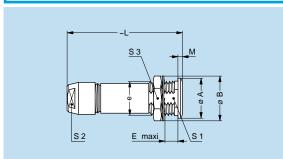


## PNG Free receptacle, nut fixing, key (G) or keys (A...L and R), cable collet with lanyard release

Refe	rence		Di	mensi	ons (m	m)		Availability
Model	Series	Α	В	L	N	S1	S2	Availability
PNG	1B	12.5	20.0	40.5	140	10	9	0
PNG	2B	16.5	24.2	47.0	160	13	12	0
PNG	3B	19.0	26.6	56.0	190	15	14	0
PNG	4B	26.0	36.2	73.0	230	21	20	0
PNG	5B	36.0	48.0	99.0	300	31	30	0

Note: Cable material: stainless steel with PVC sheath.





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

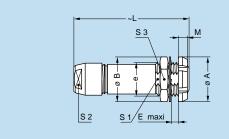
Refe	rence			D	imens	sions (	(mm)				Avail-
Model	Series	Α	В	е	Е	L	М	S1	S2	S3	ability
PKG	00	8	10.3	M7x0.5	6.5	27.0	1.0	6.3	5	9	0
PKG	0B	10	12.5	M9x0.6	7.0	35.5	1.2	8.2	7	11	0
PKG	1B	14	16.0	M12x1.0	7.5	40.5	1.5	10.5	9	14	0
PKG	2B	18	19.5	M15x1.0	8.5	47.0	1.8	13.5	12	17	0
PKG	3B	22	25.0	M18x1.0	11.5	56.0	2.0	16.5	14	22	0
PKG	4B	28	32.0	M25x1.0	12.0	73.0	2.5	23.5	20	30	0
PKG	5B	40	40.0	M35x1.0	11.0	99.0	3.0	33.5	30	_	0

Panel cut-out: P1

Note:

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





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

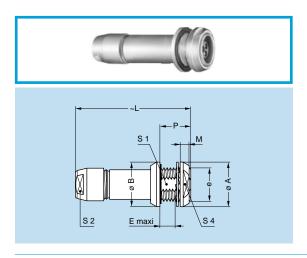
Refe	rence			D	imens	sions (	(mm)				Avail-
Model	Series	Α	В	е	Е	L	М	S1	S2	S3	ability
PFG	00	10	10.3	M7x0.5	5.3	27.0	2.5	6.3	5	9	0
PFG	0B	12	12.5	M9x0.6	5.0	35.5	2.5	8.2	7	11	•
PFG	1B	16	16.0	M12x1.0	5.0	40.5	3.5	10.5	9	14	•
PFG	2B	20	20.0	M15x1.0	6.5	47.0	3.5	13.5	12	17	•
PFG	3B	24	25.0	M18x1.0	9.0	56.0	4.5	16.5	14	22	0
PFG	4B	30	32.0	M25x1.0	11.0	73.0	4.5	23.5	20	30	0
PFG	5B	41	40.0	M35x1.0	10.0	99.0	5.0	33.5	30	_	0

Panel cut-out: P1

Note:

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





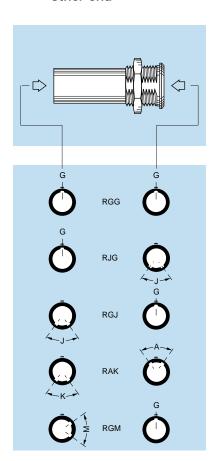
PEG Fixed receptacle, nut fixing, key (G) or keys (A...L), cable collet (back panel mounting)

Refe	ence				Dimer	nsions	s (mm	)				Avail-
Model	Series	Α	В	е	Е	L	М	S1	S2	S4	Р	ability
PEG	3B	24	22	M18x1.0	5.0	56	4.5	16.5	14	20	12	0
PEG	4B	32	34	M25x1.0	12.5	73	5.0	23.5	20	27	20	0

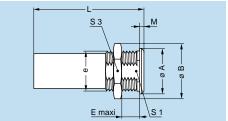
Panel cut-out: P1

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

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







Reference Contacts			Dimensions (mm)								- Availability	
Model	Series	Туре	Α	A B e E L M		М	S1	S3	Availability			
RGG 1)	0B	female – female	12	13.8	M10x0.75	8.0	34	2.0	9.0	12	0	
RGG <sup>2)</sup>	0B	female – female	12	13.8	M10x0.75	8.0	43	2.0	9.0	12	0	
RJG		male – female									0	
RGJ	0B	female – male	12	13.8	M10x0.75	8.0 34	34	2.0	9.0	12	0	
RAK	UD	female – male	12	13.0	W 10x0.75	W 10x0.75	0.0	34	2.0	9.0	12	0
RGM		female – male									0	
RGG <sup>2)</sup>	1B	female – female	16	19.5	M14x1.00	8.5	47	2.5	12.5	17	0	
RJG	1B	male – female	16	19.5	M14x1.00	8.5	20	20 0	2.5	12.5	17	0
RGJ	ID	female – male	10	19.5	W114X1.00	0.5	39 2.5		12.5	17	0	
RJG	2B	male – female female – male		21.8	M16x1.00	40.0	44	4.0	15.0	40	0	
RGJ	∠D			21.0	IVI TOX T.UU	12.0	44			19	0	
RGJ	3B	female – male	25	27.5	M20x1.00	32.0	53	4.0	18.5	24	0	
RGJ	4B	female – male	34	32.0	M25x1.00	50.0	65	4.0	23.5	30	0	

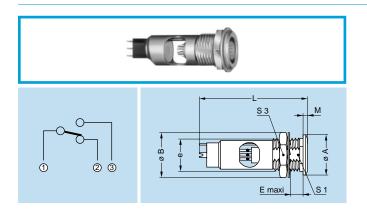
**Note**: 1) Only available with two contacts. 2) Only available with three contacts. For this fixed coupler, the first contact type mentioned is always the one at the flange end. On request, these couplers can be produced in other series, with other keys.

Panel cut-out: P4



## 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.



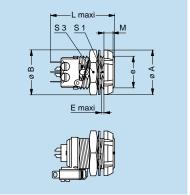
## EMG Fixed receptacle, nut fixing, microswitch, key (G) or keys (A...L)

Refe	Dimensions (mm)								Avail-	
Model	Series	А	A B e		Е	L	М	S1	S3	ability
EMG	0B	10	12.5	M9x0.6	5.5	35	1.2	8.2	11	0
EMG	1B	14	16.0	M12x1.0	7.0	38	1.5	10.5	14	0

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)

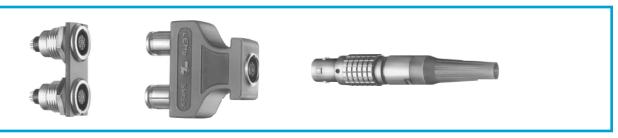
	Refe	rence	Dimensions (mm)								Avail-
	Model	Series	Α	В	3 е		L	М	S1	S3	ability
Ī	EMG	2B	20	19.5	M15x1.0	2.2	26.7	3.5	13.5	17	0

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			

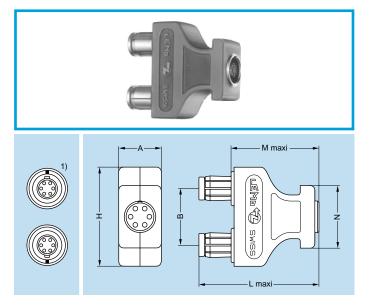
### Materials and Treatment

Component	Material	Surface treat. (µm)				
Plastic housing	-					
	Brass	0.5	3	_	-	
Metallic parts	Brass	0.5	3	0.3	_	
Insulator	PEEK	_				
Male contact	Brass	0.5	3	_	1.0	
Female contact	Bronze	0.5	3	1	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 m $\Omega$	IEC 60512-2 test 2a

Characteristics	Series	Audio-Mono	Audio-Stereo	Test voltage (kV rms) <sup>1) 2)</sup>	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 55).

1) See calculation method, caution and suggested standard on page 11.
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)

Refe		Avail-						
Model	Series	А	В	Н	L	М	N	ability
CFF-CRG	0B	13.5	14	27.5	37.2	27.2	22.5	0
CFF-CRG	1B	15.0	20	35.0	42.0	31.0	22.0	0

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

Data Subject to Change

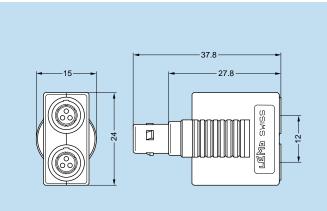


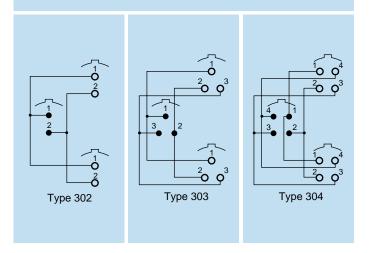
#### Plugs with parallel receptacles



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	Availability
FTG.0B.302.PLFG	0
FTG.0B.303.PLFG	0
FTG.0B.304.PLFG	0

#### **Technical Characteristics**

#### **Electrical**

Model	Number of contacts	Test voltage (kV rms) <sup>1) 2)</sup>	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	tı		face (µm Cr	) Au	
Plastic housing	Polyamide					
Matallia parta	Brass	0.5	3	_	_	
Metallic parts	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 11.
- 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.

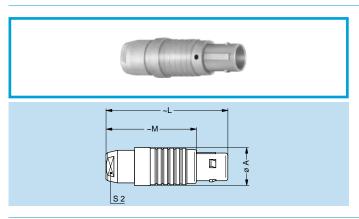
These connectors are particularly recommended for all applications requiring maximum electrical insulation when mated. The design, including a latch sleeve and a metal grounding crown, guarantees EMC screening efficiency to meet most requirements.

#### **Technical Characteristics**

#### Mechanical and Climatic

Characteristics		Value		Standard
Characteristics	PEEK	PSU	PPSU	Standard
Color	natural (beige)	white or grey	cream	_
Endurance	> 5000 cycles   > 5000 cycles		> 5000 cycles	IEC 60512-5 test 9a
Humidity		up to 95% at 14	0° 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	_

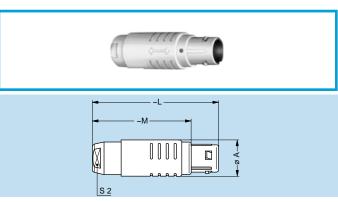
Note: 1) Steam sterilization with potting on rear connection



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

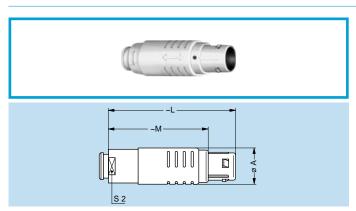
Refe	rence	Di	mensi	Availability		
Model	del Series		L	М	S2	Availability
FGG	1B	13.5	43.0	32.0	10	0
FGG	3B	19.0	62.0	47.0	15	0
FGG	4B	26.0	78.5	60.5	20	0

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

Refe	rence	Di	mensi	m)	Availability	
Model Series		Α	L	М	S2	Availability
FGY	2B	16.5	50.5	39.5	13	0
FGY	3B	19.0	58.0	43.0	15	0

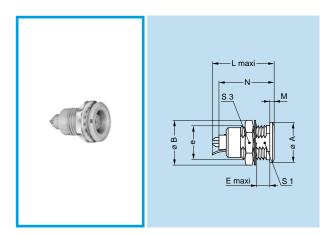


FGY Straight plug, keys (Y), cable collet and PSU or PPSU outer shell and nut for fitting a bend relief

Refe	rence	Di	mensi	m)	Availability		
Model	Series	Α	L	М	S2	Availability	
FGY	2B	16.5	49.5	38.5	13	0	
FGY	3B	19.0	56.5	41.5	15	0	

Note: The bend relief must be ordered separately (see page 137).



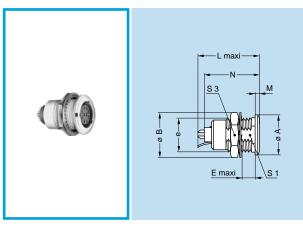


ENG Fixed receptacle with grounding tab, nut fixing, key (G or J), PEEK outer shell

Refe	rence		Dimensions (mm)								Avail-
Model	Series	Α	А В е		Е	L	М	N <sup>1)</sup>	S1	S3	ability
ENG	1B	14	16.0	M12x1.0	7.5	23.0	1.5	21.1	10.5	14	0
ENG	3B	22	25.0	M18x1.0	11.5	30.7	2.0	28.1	16.5	22	0
ENG	4B	28	32.0	M25x1.0	12.0	35.7	2.5	32.6	23.5	30	0

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

Refe		Dimensions (mm)								Avail-	
Model	Series	Α	В	е	E L		M N <sup>1)</sup>		S1	S3	ability
ENY	2B	18	19.5	M15x1.0	8.5	26.7	1.8	24.6	13.5	17	0
ENY	3B	22	25.0	M18x1.0	11.5	30.7	2.0	28.1	16.5	22	0

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 See 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 vacuumtight version. Such models are identified by an additional letter «V» at the end of the part number (certificate on request).

Epoxy resin is used to seal these models.

Part number example:

Watertight receptacle - HGG.1B.306.CLLP Vacuum-tight receptacle - HGG.1B.306.CLLPV

#### **Technical Characteristics**

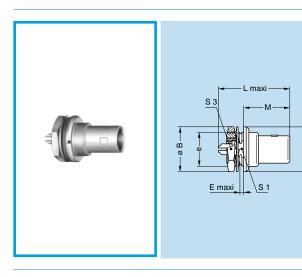
#### Mechanical and Climatic

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 tes	st	> 144h	IEC 60512-6 test 11f			
Protection index (mate	d)	IP 68	IEC 60529			
Climatic category		20/80/21	IEC 60068-1			
Leakage rate (He)1)		< 10 <sup>-7</sup> mbar.l.s <sup>-1</sup>	IEC 60512-7 test 14b			
	00	60 bars				
	0B	60 bars				
Marrianna ananatian	1B	60 bars				
Maximum operating pressure <sup>2)</sup>	2B	40 bars	IEC 60512-7 test 14d			
F	3B	30 bars				
	4B	15 bars				
	5B	5 bars				

#### Note:

1) Only for vacuum-tight models.

<sup>2)</sup> This value corresponds to the maximum allowed pressure difference for the assembled receptacle.

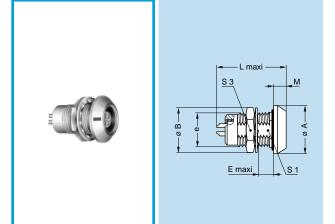


## YHG Fixed plug, nut fixing, non-latching, key (G) or keys (A...M)

Refer	ence		Dimensions (mm)								
Model	Series	Α	В	е	Е	L	М	S1	S3	ability	
YHG	0B	14.0	12.5	M9x0.6	2.9	24.1	14.6	8.2	11	0	
YHG	1B	16.0	16.0	M12x1.0	5.1	28.2	16.4	10.2	14	0	
YHG	2B	19.5	19.5	M15x1.0	4.7	30.2	18.2	13.5	17	0	
YHG	3B	22.0	25.2	M18x1.0	5.8	32.5	22.4	16.5	22	0	

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.



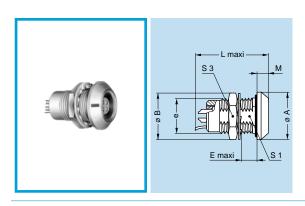
## HGG Fixed receptacle, nut fixing, key (G) or keys (A...M and R), watertight or vacuum-tight

Refer	ence		Dimensions (mm)								
Model	Series	Α	В	е	Е	L	М	S1	S3	ability	
HGG	00	11	10.3	M7x0.5	8.0	18.3	1.5	-	9	0	
HGG	0B	13	12.5	M9x0.6	7.0	20.7	3.0	8.2	11	0	
HGG	1B	18	16.0	M12x1.0	7.0	26.0	4.5	10.5	14	0	
HGG	2B	20	19.5	M15x1.0	8.0	29.7	4.0	13.5	17	0	
HGG	3B	25	25.0	M18x1.0	11.5	36.2	4.0	16.5	22	0	
HGG	4B	34	34.0	M25x1.0	11.0	44.7	4.0	23.5	30	0	
HGG	5B	45	40.0	M35x1.0	11.0	51.7	5.0	33.5	_	0	

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

Refe	rence				Dime	ension	s (mm	)		Avail-
Model	Series	Α	В	е	Е	L	М	S1	S3	ability
HNG	0B	13	12.5	M9x0.6	7	20.7	3	8.2	11	0

Panel cut-out: P9



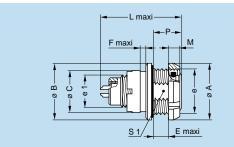
E maxi

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

Refe	rence				Dimer	nsions	(mm)	ı		Avail-
Model	Series	Α	В	е	Е	L	М	S1	S3	ability
HHG	0B	13	12.5	M9x0.6	7.0	23.7	4.8	8.2	11	0
HHG	1B	18	16.0	M12x1.0	7.0	29.7	5.2	10.5	14	0
HHG	2B	22	19.5	M15x1.0	8.0	33.7	6.0	13.5	17	0
HHG	3B	25	25.2	M18x1.0	11.5	41.4	7.2	16.5	22	0

Panel cut-out: P9



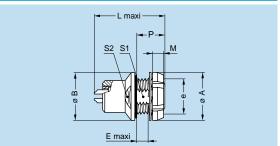


HCG Fixed receptacle, nut fixing, key (G) or keys (A...M), watertight or vacuum-tight (watertight when mated) (back panel mounting)

Refe	erence					Dimensi	ons	(mn	า)				Avail-
Model	Series	Α	В	С	е	e1	Е	F	L	М	Р	S1	ability
HCG	0B	18	18	12.0	M14x1.0	M9x0.6	3.9	1.0	23.7	3.5	7.5	12.5	0
HCG	1B	20	20	14.5	M16x1.0	M12x1.0	6.2	2.0	29.7	3.5	10.0	14.5	0
HCG	2B	24	24	17.5	M19x1.0	M14x1.0	6.7	1.5	33.7	3.5	11.3	17.0	0

Panel cut-out: P3





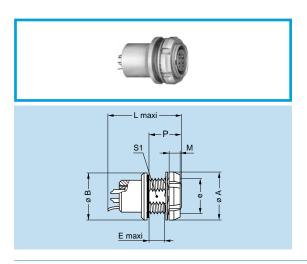
HEG Fixed receptacle, nut fixing, key (G) or keys (A...M), watertight or vacuum-tight (back panel mounting)

Refe	rence				Dim	ensior	ns (mr	n)			Avail-
Model	Series								ability		
HEG	2B	20	20	M15x1.0	5.4	33.7	3.5	9.6	13.5	15	0

Panel cut-out: P9

Data Subject to Change





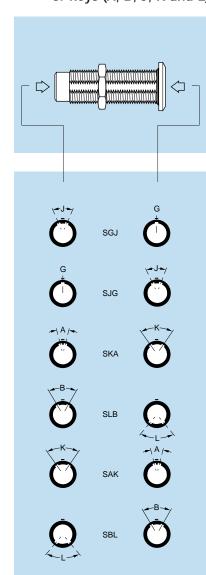
HMG Fixed receptacle with grounding tab, nut fixing, key (G) or keys (A...M), watertight or vacuum-tight (back panel mounting)

Refe	rence			Dim	ensio	ns (mn	n)			Avail-
Model	Series	Α				L	М	Р	S1	ability
HMG	0B	12	13	M9x0.6	4.7	20.7	2.5	9.0	8.2	0
HMG	1B	16	18	M12x1.0	5.5	26.0	3.5	11.0	10.5	0
HMG	3B	24	25	M18x1.0	7.5	36.2	4.5	13.6	16.5	0

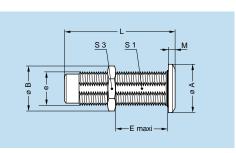
Panel cut-out: P9

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

Soo 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







Refe	rence	Contacts			Dime	ension	s (mr	n)			Avail-	
Model	Series	Туре	Α	В	е	Е	L	М	S1	S3	ability	
SGJ	0B	female – male	14	13.8	M10x0.75	17	34	2.0	9.0	12	0	
SJG	OB	male – female	17	10.0	1011000.73	' '	07	2.0	5.0	12		
SGJ	1B	female – male	17	16.0	M12x1.00	28	39	2.5	10.5	14	0	
SJG	10	male – female	17	10.0	WI12X1.00	20	33	2.5	10.5	14		
SGJ	2B	female – male	20	21.8	M16x1.00	25	44	4.0	15.0	19	0	
SJG	25	male – female	20	21.0	1011021.00	25	44	4.0	13.0	19		
SGJ		female – male	25									
SJG	3B	male – female	25	27.1	M20x1.00	30	53	4.0	18.5	24	0	
SAK	36	female – male	23	21.1	1012071.00	30	55	4.0	10.5	24	0	
SBL		female – male										
SAK		female – male		32.0								
SBL	4B	female – male	34		2.0 M25x1.00	50	65	4.0	23.5	30	0	
SGJ	46	female – male	34	32.0	1012371.00	50	03	4.0	23.3	30	0	
SJG		male – female										
SGJ		female – male										
SJG		male – female										
SKA	5B	male – female	45	40.0	M35x1.00	58	80	5.0	33.5	_	0	
SLB	JD	male – female	1-3	40.0	1000001.00	50	80 5.0	5.0 33.	55.5	_	0	
SAK		female – male										
SBL		female – male										

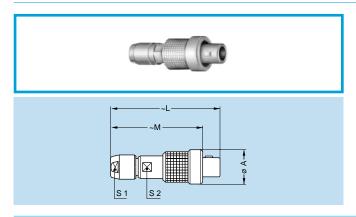
Panel cut-out: P4 Panel cut-out: **p9** 1B series

**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**

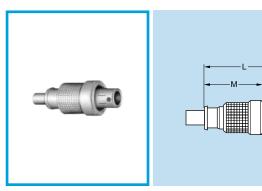
The 00 multicontact series includes two threaded-fixing plug models. These plugs can be mated with receptacles with a threaded front end (XRB or ESG). Plugs include an O-ring, guaranteeing an IP64 protection index when mated.



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

Refe	rence		Dime	nsions	(mm)		Avail-
Model	Series	A L			S1	S2	ability
FVG	00	9	28.5	24	5	5	0

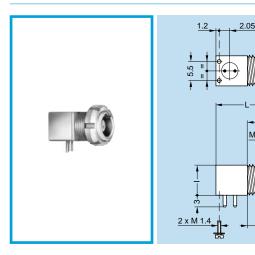
Note: To be ordered with nut for fitting a bend relief to obtain the rating IP 64.



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

Refe	rence	Dime	nsions	(mm)	Avail-
Model	Series	А	L	М	ability
FVB	00	9	20	15.4	0

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

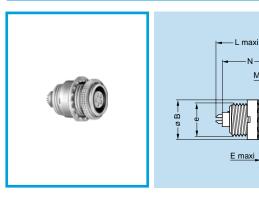


XRB Elbow (90°) receptacle fixing nut for printed circuit, keys (B), short shell, threaded-fixing (back panel mounting)

	Refe	rence		D	imens	sions (	mm)			Avail-
ı	Model	Series	Α	е	Е	I	L	М	Р	ability
	XRB	00	10 M7x0.5		1.8	7	14	2.5	7	0

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)

Refe	rence			Dimen	sions	(mm)			Avail-
Model	Series	Α	В	е	Е	L	М	N	ability
ESG	00	9.5 9 M7x0.5				15.5	2	13.7	0

Panel cut-out: P2

3.2 mini 1)

3.2 mini 1)

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



### Type

#### Multicontact

	<b>∀</b> 0						Contac	ct type ability			lder	Cri con	mp tact	
	Male solder contacts	Female solder contacts		cts				raight)	(woq	rms) <sup>1)</sup>	rms) <sup>1)</sup>	rms) <sup>1)</sup>	rms) <sup>1)</sup>	1)
	Male crimp contacts	Female crimp contacts	Reference	Number of contacts	ø A (mm)	Solder	Crimp	Printed circuit (straight)	Printed circuit (elbow)	Test voltage (kV rms) <sup>1)</sup> Contact-contact	Test voltage (kV rms) <sup>1)</sup> Contact-shell	Test voltage (kV rms) <sup>1)</sup> Contact-contact	Test voltage (kV rms) <sup>1)</sup> Contact-shell	Rated current (A) <sup>1)</sup>
00		8	302	2	0.5	•	0	0	0	1.00	0.95	1.15	1.20	5.0
00			303	3	0.5	•	0	0	0	0.80	0.95	1.35	1.10	3.0
			304	4	0.5	•	0	0	0	0.80	0.65	1.05	1.05	2.0
0B	(*)	8	302	2	0.9	•	•	0	0	1.30	1.05	1.45	1.20	10.02)
OD			303	3	0.9	•	•	0	0	1.20	0.90	1.70	1.60	8.02)
			304	4	0.7	•	•	•	0	0.85	0.70	1.35	1.10	7.02)
			305	5	0.7	•	•	0	0	1.00	0.70	1.25	1.20	6.52)
			306	6	0.5	•	0	0	0	0.85	0.65	1.40	1.20	2.5
			307	7	0.5	•	0	0	0	0.80	0.70	1.40	1.20	2.5
			309	9	0.5	0	0	0	0	0.60	0.50	1.00	0.85	2.0
1B		8	302	2	1.3	0	0	0	0	1.50	1.35	1.70	1.45	15.0 <sup>3)</sup>
			303	3	1.3	0	•	0	0	1.30	1.55	1.60	1.85	12.0
			304	4	0.9	•	•	0	0	1.35	1.45	1.70	1.80	10.02)
			305	5	0.9	•	•	0	0	1.25	1.15	1.30	1.55	9.02)
			306	6	0.7	•	•	0	0	1.05	1.20	1.35	1.45	7.02)
			307	7	0.7	•	•	•	0	0.95	1.05	1.45	1.45	7.02)
			308	8	0.7	•	0	0	0	0.95	1.15	1.30	1.30	5.0
			310	10	0.5	•	0	0	0	0.90	1.50	1.20	1.80	2.5
			314	14	0.5	0	0	0	0	0.80	1.20	0.95	1.60	2.0
			316	16	0.5	0	0	0	0	0.80	1.25	0.95	1.60	1.5

Note: 1) See calculation method, caution and suggested standard on page 11.
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.



Multio	contact													
							Contac	ct type ability			der tact	Cri con	mp tact	_
				60				ight)	(wc	18)1)	1s) <sup>1)</sup>	1s) <sup>1)</sup>	1s) <sup>1)</sup>	
	Male solder contacts	Female solder contacts		ontact				iit (stra	iit (elba	(kV rn tact	(kV rn	(kV rn tact	(kV rm	nt (A) <sup>1)</sup>
		<b>—</b>	Reference	Number of contacts	mm)	_		Printed circuit (straight)	Printed circuit (elbow)	Test voltage (kV rms) <sup>1)</sup> Contact-contact	Test voltage (kV rms) <sup>1)</sup> Contact-shell	Test voltage (kV rms) <sup>1)</sup> Contact-contact	Test voltage (kV rms) <sup>1)</sup> Contact-shell	Rated current (A) <sup>1)</sup>
	Male crimp contacts	Female crimp contacts	Refe	Num	ø A (mm)	Solder	Crimp	Printe	Printe	Test v Conta	Test Conta	Test \ Conta	Test Conta	Ratec
2B		8	302	2	2.0	•	0	0	0	2.10	1.75	2.85	2.70	30.03)
			303	3	1.6	0	0	0	0	2.40	1.85	1.90	1.90	17.03)
			304	4	1.3	•	0	0	0	1.85	1.85	2.20	2.20	15.03)
			305	5	1.3	•	0	0	0	1.75	1.60	2.15	2.15	14.03)
			306	6	1.3	•	0	0	0	1.35	1.45	2.00	2.35	12.0
			307	7	1.3	0	0	0	0	1.75	1.60	1.95	2.15	11.0
			308	8	0.9	•	•	0	0	1.50	1.25	1.95	1.95	10.02)
			310	10	0.9	•	•	•	0	1.45	1.30	1.80	2.10	8.02)
			312	12	0.7	•	0	•	0	1.25	1.35	1.65	2.00	7.02)
			314	14	0.7	0	0	0	0	1.15	1.35	1.55	1.95	6.5 <sup>2)</sup>
			316	16	0.7	0	0	0	0	0.95	1.25	1.55	1.75	6.0
			318	18	0.7	0	0	0	0	0.85	1.20	1.45	2.10	5.5
			319	19	0.7	•	0	0	0	0.95	1.25	1.55	1.65	5.0
			326	26	0.5	0	0	0	_	0.95	1.30	1.20	1.80	2.0
			332	32	0.5	0	0	0	_	0.80	1.2	0.95	1.60	1.5
	Note: 1) See calculation n	nethod caution and sug	nostad	tanda	rd on	nage 1	1							

Note: 1) See calculation method, caution and suggested standard on page 11



3B

contact						Contac availa	ct type		So	lder	Cri	mp	
						availa				tact	con		
Male solder contacts	Female solder contacts		acts				traight)	(woq)	rms) <sup>1)</sup>	rms) <sup>1)</sup>	rms) <sup>1)</sup>	rms) <sup>1)</sup>	()1)
	¢	Reference	Number of contacts	ø A (mm)	Solder	dμ	Printed circuit (straight)	Printed circuit (elbow)	Test voltage (kV rms) <sup>1)</sup> Contact-contact	Test voltage (kV rms) <sup>1)</sup> Contact-shell	Test voltage (kV rms) <sup>1)</sup> Contact-contact	Test voltage (kV rms) <sup>1)</sup> Contact-shell	Rated current (A) <sup>1)</sup>
Male crimp contacts	Female crimp contacts	Ref	N	Ø	Sol	Crimp	Pri	P	Cor	Cor	Cor	Cor	Rat
	8	302	2	3.0	0	0	0	_	2.10	1.55	2.30	1.80	35.0
		303	3	2.0	0	0	0	_	1.90	1.50	3.20	2.65	25.0
		304	4	2.0	0	0	0	_	1.45	1.25	2.50	2.20	19.0
		305	5	1.6	0	0	0	_	1.90	1.25	2.40	1.75	19.0
		306	6	1.6	0	0	0	_	1.60	1.15	1.90	1.80	17.0
		307	7	1.6	•	0	0	_	1.70	1.25	2.00	2.05	15.0
		308	8	1.3	0	0	0	0	1.65	1.15	1.85	1.75	13.0
		309	8	1.3 2.0	0	0	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	0	0	0	0	1.25	0.90	1.50	1.80	12.0
		312	12	0.9	0	0	0	0	1.45	1.00	1.65	1.85	9.0
		314	14	0.9	0	0	0	0	1.20	1.20	1.80	1.65	9.02)
		316	16	0.9	0	0	0	0	1.20	0.85	1.80	1.50	8.0
		318	18	0.9	0	0	0	0	1.20	1.05	1.85	1.60	7.0
		320	20	0.7	0	0	0	0	1.00	0.90	1.35	1.55	6.0
		322	22	0.7	0	0	0	0	1.00	0.90	1.70	1.45	5.5
		324	24	0.7	0	0	0	0	0.95	0.80	1.35	1.35	4.0
		326	26	0.7	0	0	0	0	0.95	0.70	1.50	1.30	4.0
	nethod, caution and sug	330	30	0.7	0	0	0	0	0.80	0.70	1.35	1.20	3.5

Note: 1) See calculation method, caution and suggested standard on page 11.
2) Rated current = 6A for receptacle with elbow (90°) contact for printed circuit.



viuitico	<b>4</b>					Co a\	ntact ty /ailabili	rpe ty		der tact	Cri con	mp tact	
	Male solder contacts	Female solder contacts		ontacts				t (straight)	(kV rms) <sup>1)</sup> act	(kV rms) <sup>1)</sup>	(kV rms) <sup>1)</sup> act	(kV rms) <sup>1)</sup>	t (A) <sup>1)</sup>
	Male crimp contacts	Female crimp contacts	Reference	Number of contacts	ø A (mm)	Solder	Crimp	Printed circuit (straight)	Test voltage (kV rms) <sup>1)</sup> Contact-contact	Test voltage (kV rms) <sup>1)</sup> Contact-shell	Test voltage (kV Contact-contact	Test voltage (kV rms) <sup>1)</sup> Contact-shell	Rated current (A) <sup>1)</sup>
4B			304	4	3.0	0	0	0	2.10	1.50	1.80	1.20	30.0
			306	6	2.0	0	0	0	2.00	1.75	2.75	2.40	24.0
			307	7	2.0	0	0	0	2.00	1.80	1.50	1.35	20.0
			310	10	1.6	0	0	0	1.85	1.30	1.90	1.95	17.0
			312	12	1.3	0	0	0	1.45	1.60	1.90	1.85	12.0
			316	16	0.9	0	0	0	1.35	1.50	2.30	2.10	10.0
			320	20	0.9	0	0	0	1.35	1.00	1.05	0.95	8.0
			324	24	0.9	0	0	0	1.20	1.45	1.80	2.05	7.0
			330	30	0.9	0	0	0	0.95	0.85	1.75	1.45	5.0
			340	40	0.7	0	0	0	0.90	0.95	1.35	1.30	2.0

Note:  $^{1)}$  See calculation method, caution and suggested standard on page 11



**5B** 

ic	ontact												
	A S					Co a\	ntact ty /ailabili	/pe ty	Sol con		Cri con	mp tact	
	Male solder contacts	Female solder contacts		Si Si				aight)	ns) <sup>1)</sup>	ns) <sup>1)</sup>	ns) <sup>1)</sup>	ns) <sup>1)</sup>	
	Male solder contacts	remaie solder contacts		contact				uit (stra	(kV m	(kV m	(kV m ntact	(kV m	int (A) <sup>1</sup>
	$\Rightarrow$	$\Diamond$	Reference	Number of contacts	ø A (mm)	er	<u>a</u>	Printed circuit (straight)	Test voltage (kV ms) <sup>1)</sup> Contact-contact	Test voltage (kV ms) <sup>1)</sup> Contact-shell	Test voltage (kV ms) <sup>1)</sup> Contact-contact	Test voltage (kV ms) <sup>1)</sup> Contact-shell	Rated current (A) <sup>1)</sup>
	Male crimp contacts	Female crimp contacts	Refe	Num	ø A (	Solder	Crimp	Print	Test	Test	Test	Test	Rate
			302	2	6.0	0	_	-	3.60	2.95	_	_	50.0
			304	4	4.0	0	0	0	2.95	2.65	3.20	2.40	35.0
			310	10	3.0	0	0	0	2.35	2.30	2.65	3.20	20.0
			314	14	2.0	0	0	0	2.10	2.00	2.85	2.95	18.0
			316	16	2.0	0	0	0	1.85	1.95	2.45	3.05	12.0
			320	20	1.6	0	0	0	1.90	1.70	2.20	2.40	10.0
			330	30	1.3	0	0	0	1.45	1.60	2.05	2.45	8.0
			340	40	1.3	0	0	0	1.30	1.45	2.00	1.95	7.0
			348	48	1.3	0	0	0	1.20	1.10	2.00	1.55	6.0
			350	50	0.9	0	0	0	1.30	1.60	1.20	1.45	6.0
			354	54	0.9	0	0	0	1.15	1.55	2.00	2.10	5.0
			364	64	0.9	0	0	0	1.30	1.55	1.35	1.85	3.0

Note: 1) See calculation method, caution and suggested standard on page 11.



#### Mixed (High Voltage + Low Voltage)

							High	n vol	tage							Lo	w vo	Itage			
	₩ e e e e e e e e e e e e e e e e e e e	4					, «G» <sup>2)</sup>		(c)	3)						ntact pe	Sc	lder	Cr	imp	
	LV male solder contacts	LV female solder contacts		ts			r with key	nax.	max. (mn	r material	lc) <sup>4)</sup>	(	ts				ms) <sup>4)</sup>	rms) <sup>4)</sup>	rms) <sup>4)</sup>	ms) <sup>4)</sup>	1)
	LV male crimp contacts	LV female crimp contacts	Reference	Number of contacts	Contact ø A (mm)	Contact type <sup>1)</sup>	HV contact gender with key «G» <sup>2)</sup>	Conductor AWG max.	Cable dielectric ø max. (mm)	Standard insulator material <sup>3)</sup>	Test voltage (kV dc) <sup>4)</sup>	Rated current (A)1)	Number of contacts	Contact ø A (mm)	Solder	Crimp	Test voltage (kV rms) <sup>4)</sup> Contact-contact	Test voltage (kV n Contact-shell	Test voltage (kV n Contact-contact	Test voltage (kV ms) <sup>4)</sup> Contact-shell	Rated current (A)4)
1B			702	1	0.7	S	L	26	1.5	L	7.5	2	2	1.3	0	0	1.2	0.9	0.6	0.50	8
			731	2	0.7	S	L	26	1.5	L	7.5	2	1	1.3	0	0	1.2	0.9	0.6	0.50	8
2B			704	1	1.3	S	L	20	3.4	L/T	7.5	8	4	0.7	0	0	0.85	1.2	0.6	1.0	5
			706	1	0.7	S	L	22	2.0	L	7.5	3	6	1.3	0	0	1.75	1.6	1.05	1.15	11
			708	1	0.9	S	L	22	3.0	L	8.0	4	8	0.9	0	0	1.5	1.25	0.75	0.75	10
3B			709	1	0.9	S	L	22	3.0	L	12	4	9	0.7	0	0	1.7	0.9	1.45	0.65	5
			712	1	0.9	S	L	22	3.0	L	12	4	12	0.9	0	0	1.2	0.85	0.75	0.60	5
			718	1	1.3	S	L	20	3.4	L/T	7.5	8	18	0.7	0	0	0.7	0.7	0.4	0.55	5.5
			740	2	0.9	S	L	22	3.0	L	12	3	10	0.7	0	0	8.0	0.7	0.5	0.55	5
4B			745	2	0.9	S	L	22	3.0	L	18	3	16	0.9	0	0	1.2	1.45	0.7	1.2	7
5B			752	2	2.0	S	Α	14	3.9	L	6.5	12	20	1.3 1.6		0 -	- 2.8	_ 2.8	1.5	1.5	8
			759	2	0.9	S	L	22	3.0	L	18	3	54	0.9	0	0	1.3	1.55	0.9	1.3	3

- Note:

  1) S = solder, C = crimp

  2) A = male for plug; female for socket, L = female for plug; male for socket

  3) L = Peek, T = PTFE
- 4) See calculation method, caution and suggested standard on page 11



#### Mixed (Coax + Low Voltage)

					Contac	ct type ability				Te Vol	est tage	
	Reference	Number of contacts	Coax Impedance / Coax contact type	ø A (mm)	Solder	Crimp	Solder wire max AWG	Crimp wire max AWG	Coax¹ cable group	AC (V)	DC (V)	Rated current (Amps)
2B	802	1 coax 2 LV	50 ohms Type A1	.7 .9	0	0	26 22	- 20	1-2-3	900 1000	1440 1500	5 8
	804	1 coax 4 LV	50 ohms Type A1	.7 .7	0	0	26 22	- 22	1-2-3	900 1200	1440 1800	5 5
	806	1 coax 6 LV	50 ohms Type A1	.7 .7	0	0	26 22	- 22	1-2-3	900 1200	1440 1800	5 5
	810	1 coax 10 LV	50 ohms Type C <sup>1</sup>	.7 .7	0	0	- 22	22 22	1-2-3	900 1700	1440 2500	5 6.5
3B	803	1 coax 3 LV	50 ohms Type A0	1.3 .9	0	0	20 22	- 20	6	3000 800	4200 1200	5 5
	806	1 coax 6 LV	50 ohms Type A1	.7 .7	0	0	26 22	- 22	1-2-3	900 1200	1440 1800	5 5
	809	1 coax 9 LV	50 ohms Type A1	.7 .7	0	0	26 22	- 22	1-2-3	900 1200	1440 1800	5 5
	812	1 coax 12 LV	50 ohms Type A1	.7 .9	0	0	26 22	- 20	1-2-3	900 1200	1440 1800	5 5
	813	1 coax 13 LV	50 ohms Type A1	.7 .7	0	0	26 22	22 22	1-2-3	900 1200	1440 1800	5 5
	822	1 coax 22 LV	50 ohms Type C <sup>1</sup>	.7 .7	0	0	- 22	22 22	1-2-3	1500 1200	2190 1800	2 5
	844	2 coax 4 LV	50 ohms Type C <sup>1</sup>	.7 .9	0	0	- 22	22 20	1-2-3	1500 1200	2190 1800	2 8
	846	2 coax 6 LV	50 ohms Type C <sup>1</sup>	.7 .9	0	0	22	22 20	1-2-3	1500 1200	2190 1800	2 8
	850	2 coax 10 LV	50 ohms Type C <sup>1</sup>	.7 .7	0	0	- 22	22 22	1-2-3	1500 600	2190 850	2 5
	856	2 coax 16 LV	50 ohms Type C <sup>1</sup>	.7 .7	0	0	- 22	22 22	1-2-3	1500 600	2190 850	2 3
	862	3 coax 2 LV	50 ohms Type C <sup>1</sup>	.7 .9	0	0	22	22 20	1-2-3	1500 1200	2190 1800	2 7
	242	2 coax	50 ohms Type C <sup>1</sup>	.7	0	0	-	22	1-2-3	1500	2190	2
	243	3 coax	50 ohms Type C <sup>1</sup>	.7	0	0	-	22	1-2-3	1500	2190	2

<sup>1)</sup> You may substitute fluidic/pneumatic or fiber optic contacts



## Mixed (Coax + Low Voltage)

						Conta av	ct type				Te Vol	est Itage	
		Reference	Number of contacts	Coax Impedance / Coax contact type	ø A (mm)	Solder	Crimp	Solder wire max AWG	Crimp wire max AWG	Coax¹ cable group	AC (V)	DC (V)	Rated current (Amps)
4B	802/	802	1 coax 2 LV	50 ohms Type A	1.6 .9	0	0	18 22	- 20	6	1800 1200	2700 1800	12 8
70	822	822	1 coax 2 LV	75 ohms Type A	1.3 .9	0	0	20 22	- 20	4-5-7 -	2400 1200	3300 1800	7 8
	804/	804	1 coax 4 LV	50 ohms Type A	1.6 .9	0	0	18 22	- 20	6	1800 1200	2700 1800	12 7
	824	824	1 coax 4 LV	75 ohms Type A	1.3 .9	0	0	20 22	- 20	4-5-7 -	2400 1200	3300 1800	7 7
	806/	806	1 coax 6 LV	50 ohms Type A	1.6 .9	0	0	18 22	- 20	6	1800 1200	2700 1800	12 5
	826	826	1 coax 6 LV	75 ohms Type A	1.3 .9	0	0	20 22	- 20	4-5-7 -	2400 1200	3300 1800	7 5
		842	2 coax 2 LV	50 ohms Type A1	.7 .9	0	0	26 22	- 20	1-2-3	900 1200	1440 1800	5 8
		844	2 coax 4 LV	50 ohms Type A1	.7 .9	0	0	26 22	- 20	1-2-3	900 1200	1440 1800	5 7
		852	2 coax 12 LV	50 ohms Type C <sup>1</sup>	.7 .9	0	0	- 22	22 20	1-2-3	1500 1200	2100 1800	2 4
		856	2 coax 16 LV	50 ohms Type C <sup>1</sup>	.7 .9	0	0	- 22	22 20	1-2-3	1500 1200	2100 1800	2 4
		858	2 coax 18 LV	50 ohms Type C <sup>1</sup>	.7 .7	0	0	- 22	22 22	1-2-3	1500 1500	2100 2100	2 2
		866	3 coax 6 LV	50 ohms Type C <sup>1</sup>	.7 .7	0	0	- 22	22 22	1-2-3	1500 1000	2100 1500	2 3
		879	4 coax 9 LV	50 ohms Type C <sup>1</sup>	.7 .7	0	0	- 22	22 22	1-2-3	1500 1000	2100 1500	2 3
		885	3 coax 12 LV	50 ohms Type C <sup>1</sup>	.7 .7	0	0	- 22	22 22	1-2-3	1500 1000	2100 1500	2 2
		244	4 coax	50 ohms Type C <sup>1</sup>	.7	0	0	-	22	1-2-3	1000	1500	2

<sup>1)</sup> You may substitute fluidic/pneumatic or fiber optic contacts



5B

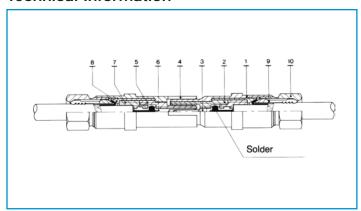
## Mixed (Coax + Low Voltage)

					ty	ntact pe ail.				Te Vol	est tage	
	Reference	Number of contacts	Coax Impedance / Coax contact type	ø A (mm)	Solder	Crimp	Solder wire max AWG	Crimp wire max AWG	Coax1 cable group	AC (V)	DC (V)	Rated current (Amps)
850/	850	2 coax 10 LV	50 ohms Type B	1.3 .9	0	0	- 22	20 20	1-2-6 -	840 1500	1380 2100	11 8
870	870	2 coax 10 LV	75 ohms Type B	.9 .9	0	0	- 22	22 20	3-5 -	2100 500	3000 2100	6 8
856/	856	2 coax 16 LV	50 ohms Type B	1.3 .9	0	0	- 22	20 20	1-2-6 -	840 1500	1380 2100	11 8
876	876	2 coax 16 LV	75 ohms Type B	.9 .9	0	0	- 22	22 20	3-5 -	2100 1500	3000 2100	6 8
©.© 857/	857	2 coax 17 LV	50 ohms Type B	1.3 2@2.0 15@.9	0	0	- 2@16 15@22	20 2@12 15@20	1-2-6	840 1500	1380 2100	11 2@30 15@8
	877	2 coax 17 LV	75 ohms Type B	.9 2@2.0 15@.9	0	0	- 2@16 15@22	22 2@12 15@20	3-5 -	2100 1500	3000 2100	6 2@30 15@8
864	864	2 coax 24 LV	50 ohms Type B	1.3 1.3	0	0	20	20	1-2-6 -	840 1500	1380 2100	11 8
	892	6 coax 10 LV	75 ohms Type D	.7 .9	0	0	22 22	- -	5	1000 600	1500 900	5 4
	240	10 coax	50 ohms Type C <sup>1</sup>	.7	0	0	-	24	1-2-3	1000	1500	2
	260	7 coax	75 ohms Type D	.7	0	0	22	-	5	1000	1500	5
	273	3 coax	75 ohms Type B	.9	0	0	-	22	3-5	2100	3000	6
	274	4 coax	75 ohms Type B	.9	0	0	-	22	3-5	2100	3000	6
	997	1 triax 32 LV	50 ohms Type A1	.9 1.3	0	0	22 20	- -	8 -	2400 1500	3300 2100	7 8

<sup>1)</sup> You may substitute fluidic/pneumatic or fiber optic contacts



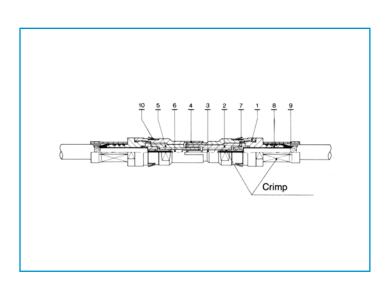
#### **Technical Information**



#### Coaxial, Type A0, A, A1 and type A3

The coaxial of this type is permanently fixed into the insert. The conductor is soldered and the shield is clamped.

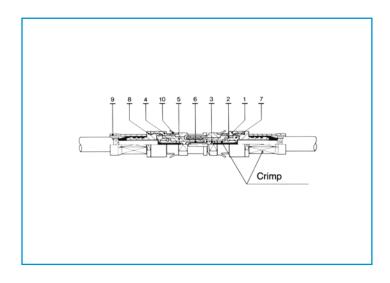
Component	Material	٦	Surfa Freatm	
Component.	Material	Cu	Ni	Au
1 Male Sleeve	Brass (UNS C 38500)	0.5	3	1.5
2 Insert	PTFE (UNS D 1457-83)	-	-	-
3 Male Contact	Brass (UNS C 38500)	0.5	3	1.5
4 Female Sleeve	Bronze (UNS C 54400)	0.5	3	2.0
5 Insert	PTFE (UNS D 1457-83)	-	-	-
6 Female Contact	Bronze (UNS C 54400)	0.5	3	2.5
7 Insulating Sleeve	PTFE (UNS D 1457-83)	-	-	-
8 Grounding Sleeve	Brass (UNS C 38500)	0.5	3	
9 Collet	Brass (UNS C 38500)	0.5	3	-
10 Ferrule	Brass (UNS C 38500)	0.5	3	-



#### Coaxial, Type B

In this type, the coaxial is removable and fixed in place by clips. The conductor and shield are crimped.

Component	Material	7	Surfa reatm		
Component	Material	Cu	Ni	Au	
1 Male Sleeve	Brass (UNS C 38500)	0.5	3	1.5	
2 Insert	PTFE (UNS D 1457-83)	-	-		
3 Male Contact	Brass (UNS C 38500)	0.5	3	1.5	
4 Female Sleeve	Bronze (UNS C 54400)	0.5	3	2.0	
5 Insert	PTFE (UNS D 1457-83)	-	-	-	
6 Female Contact	Bronze (UNS C 54400)	0.5	3	2.5	
7 Insulating Sleeve	PTFE (UNS D 1457-83)	-	-		
8 Crimp Nuts	Brass (UNS C 38500)	0.5	3	1.5	
9 Collet	Brass (UNS C 18700)	0.5	3	-	
10 Clips	Cu-Be (FS-QQ-C-530)	-	-	-	



#### Coaxial, Type C

In this type, the coaxial is removable and fixed in place by clips. The conductor and shield are crimped.

	Component	Material	Т	Surfa reatm	
	Сотпрополи	Material	Cu	Ni	Au
1	Male Sleeve	Brass (UNS C 38500)	0.5	3	1.5
2	Insert	PTFE (UNS D 1457-83)	-	-	
3	Male Contact	Brass (UNS C 38500)	0.5	3	1.5
4	Female Sleeve	Bronze (UNS C 54400)	0.5	3	2.0
5	Insert	PFTE (UNS D 1457-83)	-	-	-
6	Female Contact	Bronze (UNS C 54400)	0.5	3	2.5
7	Insulating Sleeve	PTFE (UNS D 1457-83)	-	-	-
8	Crimp Nuts	Brass (UNS C 38500)	0.5	3	1.5
9	Crimp Ferrule	Brass (UNS C 18700)	0.5	3	
10	Clips	Brass (UNS C 38500)	-	-	-

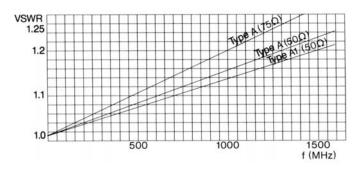


#### Technical characteristics for coax contacts

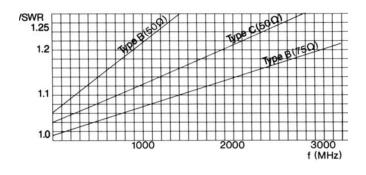
#### Coaxial, Type D

In this type, the coaxial is removable and fixed in place by clips. The conductor is solder the and shield is crimped.

Component	Material	Т	Surfa reatm	
Соттрологи	iviaterial	Cu	Ni	Au
1 Male Sleeve	Brass (UNS C 38500)	0.5	3	1.5
2 Insert	PTFE (UNS D 1457-83)	-	-	-
3 Male Contact	Brass (UNS C 38500)	0.5	3	1.5
4 Female Sleeve	Bronze (UNS C 54400)	0.5	3	2.0
5 Insert	PFTE (UNS D 1457-83)	-	-	-
6 Female Contact	Bronze (UNS C 54400)	0.5	3	2.5
7 Insulating Sleev	PTFE (UNS D 1457-83)	-	-	-
8 Crimp Nuts	Brass (UNS C 38500)	0.5	3	1.5
9 Crimp Ferrule	Brass (UNS C 18700)	0.5	3	ı
10 Clips	Brass (UNS C 38500)	-	-	-



Characteristics	Unit		oax oe A	Coax Type A1
Impedance	Ω	50	75	50
Operating voltage at 50 Hz	AC	600	800	300
Test voltage at 50 Hz	AC	1800	2300	800
Rated current	Α	12	7	5
Insulating resisance	Ω	>1012	>1012	>10 <sup>12</sup>
Contact resistance	mΩ	2.0	2.9	3.8
Shell to shell resistance	$m\Omega$	1.8	1.8	3
VSWR (f = GHz)	-	1.01 +0.156f	1.01 +0.063f	1.04 +0.127f



Characteristics	Unit	Coax Type B		Coax Type C
Impedance	Ω	50	75	50
Operating voltage at 50 Hz	AC	280	700	500
Test voltage at 50 Hz	AC	800	2100	1600
Rated current	Α	11	6	2
Insulating resisance	Ω	>10 <sup>12</sup>	>1012	>1012
Contact resistance	mΩ	4.1	5.7	5.8
Shell to shell resistance	$m\Omega$	3.2	3.2	3.7
		1.01	1.01	1.04
VSWR (f = GHz)	-	+0.156f	+0.063f	+0.064f

#### Recommended coaxial and triaxial cable for mixed coax and multicoax connectors

T	Group 1)								
Туре	1	2	3	4	5	6	7	8	9
RG.6 A/U									
RG.11 A/U									
RG.58 C/U									
RG.59 B/U									
RG.174 A/U									
RG.178 B/U									
RG.179 B/U									
RG.180 B/U									
RG.187 A/U									
RG.188 A/U									
RG.196 A/U									
RG.316 /U									
Triaxial									

1) The cable group number corrresponding to the chosen cable must be written in the variant position of the part number.



## Housings

		Surface t	Surface treatment				
Ref.	Material	Outer shell and collet nut	Latch sleeve and grounding crown	Note			
С	Brass	chrome	nickel				
N	Brass	nickel	nickel				
K	Brass	black chrome	nickel				
S	Stainless steel	ess steel without treatment nickel-plated					
Т	Stainless steel	without treatment	stainless steel				
U	Stainless steel1)	without treatment	stainless steel				
L	Aluminium alloy <sup>2)</sup>	anodized	nickel-plated brass				
Н	PPS3)/brass	rass without treat./Ni n					
G	PEEK <sup>4)</sup>	without treatment					
Р	PA.6 <sup>5)</sup>	without treatment	nickel-plated brass				
Р	PSU <sup>6)</sup>	without treatment	nickel-plated brass				
R	PPSU <sup>7)</sup>	without treatment	nickel-plated brass				
X	Avional <sup>8)</sup>	nickel	nickel-plated brass				

Note: detailed characteristics of these materials and treatments are presented on page 5.

1) The other metallic parts are in stainless steel.

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

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

of the B and S series.
Only available for FGG and ENG models of the B series.
Only for CFF and CRG bridge plugs.
Only available for ENY and FGY models of the B series. For the color, see the «variant» position.
Only available for ENY and FGY models of the B series.
Anthracite color.

■ First choice alternative ☐ Special order alternative

#### Insulators

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

Note: Detailed characteristics of these materials are presented on page 7.

1) For solder or printed circuit contacts.

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

#### Contacts for plugs, free or fixed receptacles

Ref.	Contact type			
Α	Male solder			
С	Male crimp (fig. 1) <sup>1)</sup>			
В	Male crimp (fig. 2)1)			
G	Male crimp (fig. 2)1)			
L	Female solder			

Ref.	Contact type
М	Female crimp (fig. 1) <sup>1)</sup>
Р	Female crimp (fig. 2) <sup>1)</sup>
U	Female crimp (fig. 2)1)
N	Female straight printed circuit
V	Female elbow printed circuit

Note: 1) There are two forms of crimp barrels. Please consult adjacent table for contact selection and page 10 for figures.

## Contacts for couplers, plug with receptacle and bridge

Ref.	Contact type
А	Male - Female
С	Male - Male
Е	Male - Male - Female

		Ref.
F Female - Female - Male	nale - Female - Male	F
L Female - Male	nale - Male	L

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

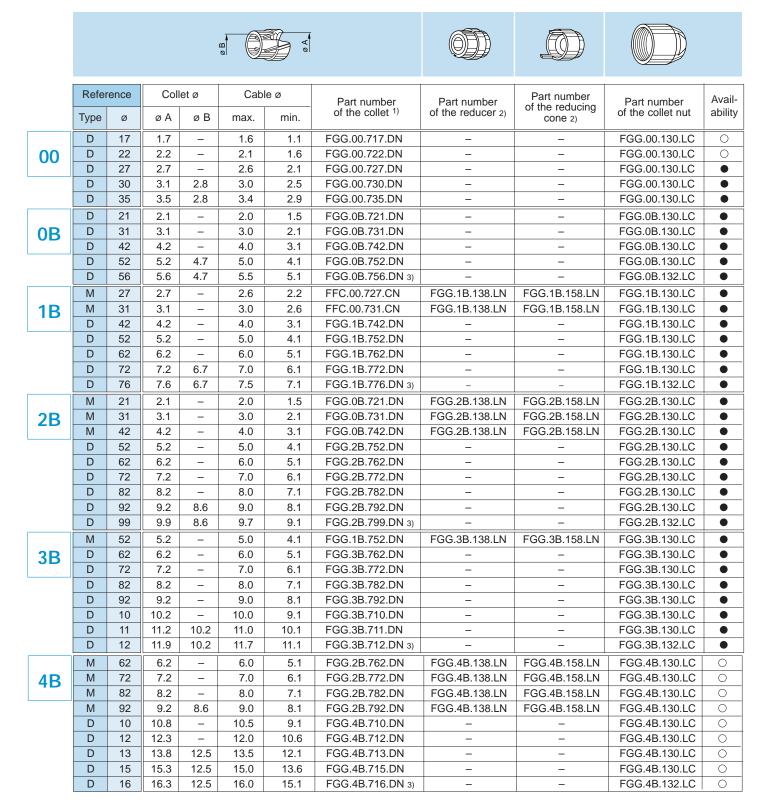
#### **Dimension of crimp barrels**

	Contact			Ref. con	Conductor					
	øΑ	ø A Ø C Form		Male	Female	AV	AWG		Section (mm <sup>2</sup> )	
	(mm)	(mm)	per fig.	iviale	remale	min.	max.	min.	max.	
	0.5	0.45	1	С	М	32	28	0.035	0.09	
	0.7	0.80	1	С	M	26	22	0.140	0.34	
	0.7	0.45	2	В	Р	32	28	0.035	0.09	
	0.9	1.10	1	С	M	24	20	0.250	0.50	
		0.80	2	В	Р	26	22	0.140	0.34	
		0.45	2	G	U	32	28	0.035	0.09	
		1.40	1	С	M	20	18	0.500	1.00	
	1.3	1.10	2	В	Р	24	20	0.250	0.50	
		0.80	2	G	U	26	22	0.140	0.34	
	1.6	1.90	1	С	M	18	14	1.000	1.50	
	1.0	1.40	2	В	Р	22	18	0.340	1.00	
	2.0	2.40	1	С	M	16	12	1.500	2.50	
	2.0	1.90	2	В	Р	18	14	1.000	1.50	
	3.0	2.90	1	С	M	14	10	2.500	4.00	
	4.0	4.00	1	С	М	12	10	4.000	6.00	



#### Collets

#### D and M type collets



#### Note:

1) For ordering collets separately.

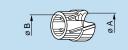
All dimensions are in millimeters.

<sup>2)</sup> For ordering an M type collet, a reducer and its reducing cone should also be ordered.

<sup>3)</sup> These collets cannot be used for connector models with nut for fitting a bend relief.



#### D and M type collets









	Refer	ence	Coll	let ø	Cal	ble ø	Part number	Part number	Part number	Part number	Avail-
	Туре	Ø	øΑ	øΒ	max.	min.	of the collet 1)	of the reducer 2)	of the reducing cone 2)	of the collet nut	ability
	D	11	11.8	-	11.5	9.6	FGG.5B.711.DN	-	_	FGG.5B.130.LC	0
5B	D	13	13.8	_	13.5	11.6	FGG.5B.713.DN	-	_	FGG.5B.130.LC	0
	D	15	15.8	_	15.5	13.6	FGG.5B.715.DN	_	_	FGG.5B.130.LC	0
	D	17	17.8	-	17.5	15.6	FGG.5B.717.DN 3)	_	_	FGG.5B.130.LC	0
	D	19	19.8	-	19.5	17.6	FGG.5B.719.DN 3)	_	_	FGG.5B.130.LC	0
	D	21	21.8	_	21.5	19.6	FGG.5B.721.DN 3)	-	_	FGG.5B.130.LC	0
	D	23	23.8	21.8	23.5	21.6	FGG.5B.723.DN 3)	_	_	FGG.5B.130.LC	0
	D	25	25.3	21.8	25.0	23.6	FGG.5B.725.DN 3)	_	_	FGG.5B.132.LC	0

#### Note:

1) For ordering collet separately.

2) For ordering an M type collet, a reducer and its reducing cone should also be ordered.

#### Bend relief collet nut and bend relief





	1101	CICIIOC	Part number	Bend relief to be used 1)		
	Type	Ø	of the collet nut	Delia relief to be asea 9		
2D	M	52	FFM.3B.131.LC	GMA.1B.•••.••		
3B	D	62 to 11	FFM.3B.130.LC	GMA.3B.•••.••		
40	M	62 and 72	FFM.4B.132.LC	GMA.2B.•••.••		
4B	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 137).

All dimensions are in millimeters.

#### Variant

## 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
Α	blue	J	yellow	S	orange
B1)	white	M	brown	V	green
F <sup>2)</sup>	cream	N	black		
G <sup>1)</sup>	grey	R	red		

#### Note:

1) PSU connector shells are only available in white or grey colors.

2) PPSU connector shells are only available in cream colors.

The variant position is also used to indicate epoxy filling of watertight and vacumm-tight receptacle models, the reference P is used.

#### Anodized color for Aluminum

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		
Α	blue		R	red		
J	yellow		Т	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.

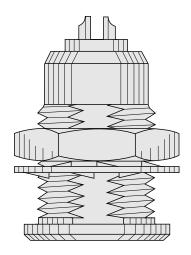
Data Subject to Change

<sup>3)</sup> These collets cannot be used for connector models with collet nut for fitting a bend relief.

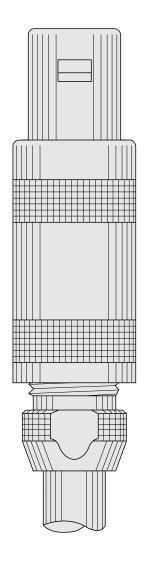








# S Series Connectors





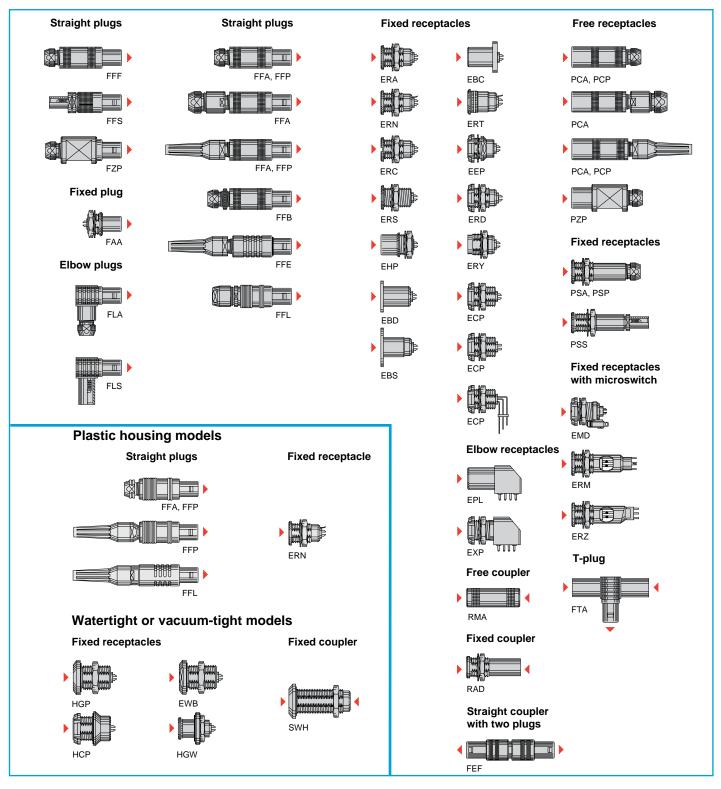
#### **S Series Connectors**

S series connectors have the following main features:

- security of the push-pull self-latching system
- 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

- hybrid types (multicontact, high voltage, low voltage, coaxial)
  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





#### Model Description

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

**FBD** Fixed receptacle with square flange and screw fixing
EBS Fixed receptacle with round flange

and screw fixing

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

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

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

(back panel mounting)

EHP Fixed receptacle, nut fixing, protruding shell

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

Elbow (90°) receptacle for printed circuit

ERA Fixed receptacle, nut fixing ERC Fixed receptacle, nut fixing with slot

in the flange

ERD Fixed receptacle with two nuts (back panel mounting)

ERM Fixed receptacle, nut fixing with microswitch

ERN Fixed receptacle, nut fixing, with

grounding tab

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

ERS Fixed receptacle, nut fixing, long

threaded shell, without flats Fixed receptacle, force fit, with grounding

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

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

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

Elbow (90°) receptacle for printed circuit with two nuts (back panel mounting)

Fixed plug non-latching, nut fixing **FEF** Straight coupler with two plugs

and front seal Straight plug, cable collet

Straight plug with oversize cable collet **FFA** 

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

Straight plug, cable collet, PEEK or POM outer shell

FFB Straight plug, cable collet and safety locking ring

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

Straight plug, non-latching, cable collet Straight plug, flats on latch sleeve,

cable collet and inner anti-rotating device Straight plug, cable collet, with PSU and PPSU outer shell, inner anti-rotating

device and nut for fitting a bend relief

Straight plug, cable collet and inner anti-rotating device

Straight plug, cable collet and inner anti-rotating device and nut for fitting a bend relief

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

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

FLA Elbow (90°) plug, cable collet FLS Elbow (90°) plug for cable crimping

FTA T-plug with two in line receptacles
FZP Straight plug for remote handling,
cable collet and inner anti-rotating device
HCP Fixed receptacle, nut fixing, watertight
or vacuum-tight (back panel mounting)

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

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

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

PCP Free receptacle, cable collet and inner anti-rotating device and nut for fitting a bend relief

PSA Fixed receptacle, nut fixing, cable collet

Fixed receptacle, nut fixing, cable collet

and inner anti-rotating device

PSS Free receptacle, nut fixing for cable crimping

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

RAD Fixed coupler, nut fixing

RMA Free coupler

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

#### Part Section Showing Internal Components

#### Straight plug **Fixed receptacle** 5 4 2 8 3 5 8 6 outer shell outer shell 2 latch sleeve 2 grounding crown 3 collet nut 3 retaining ring 4 center-piece 4 hexagonal nut 6 locking washer 6 insulator 6 male contact 6 insulator 7 female contact male contact 8 collet 8 female contact

#### Technical Characteristics

#### Mechanical and Climatic

Characteristics	Value	Standard				
Endurance	> 5000 cycles	IEC 60512-5 test 9a				
Humidity	up to 95	5% at 140° F				
Temperature range <sup>1)</sup>	-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 <sup>1)</sup>	55/175/21	IEC 60068-1				

#### **Electrical**

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

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 on page 5.

1) For watertight or vacuum-tight models: see page 76. are presented on page 5.



#### Available Models (series and types)

Madal	Single contact					Multicontact								
Model	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 <sup>4)</sup>		•	•	•	•	•		•	•	•	•	•		
FFA 6)	•													
FFB			•	•	•			•	•	•	•			
FFE		•	•	•	•			•	•	•	•			

Madal		(	Sing	e co	ntac	t				Mul	ticor	tact		
Model	00	0S	1S	2S	3S	4S	5S	0S	1S	2S	3S	4S	5S	6S
FFF	•	•	•	•				•	•	•				
FFL										•				
FFL <sup>5)</sup>														
FFP		•	•		•	•		•		•		•		
FFP 4)		•	•	•	•	•		•	•	•	•	•		
FFP <sup>2</sup> )			•							•				
FFP 6)		•	•	•	•				•	•	•			
FFS	•													
FLA	•	•	•	•	•				•	•	•	•		•
FLS	•													
FTA	•		•											
FZP			•											
HCP			•											
HGP		•	•		•	•		•		•		•		•
HGW								•						
PCA	•		•											
PCA 3)	•	•	•		•				•	•		•		
PCA 4)	•	•	•		•				•	•		•		
PCP		•	•					•		•		•		
PCP 4)		•	•	•	•	•		•	•	•	•	•		
PSA	•	•	•			•		•		•		•		•
PSP		•	•	•	•	•		•	•	•	•	•		
PSS	•													
PZP			•	•	•					•				
RAD	•	•	•	•	•	•			•	•		•		
RMA	•	•	•	•	•	•		•	•	•	•	•	•	
SWH		•	•	•	•				•		•	•		•

Model				lybri			
Wodo	00	0S	1S	2S	3S	4S	5S
EBC					•		•
EBD							
EBS							
ECP					•		
ECP 1)							
EEP							
EHP					•		
EMD							
EPL							
ERA					•	•	
ERC							
ERD						•	
ERM							
ERN					•		
ERN 2)							
ERS							
ERT							
ERY							
ERZ							

Model			F	lybri	d		
Model	0S	1S	2S	3S	4S	5S	6S
EWB							
EXP							
FAA				•	•		
FEF							
FFA				•	•		
FFA 3)				•	•	•	
FFA <sup>4)</sup>				•	•	•	
FFA 6)							
FFB				•			
FFE				•			
FFF							
FFL							
FFL 5)							
FFP				•			
FFP 4)						•	
FFP <sup>2)</sup>							
FFP 6)							
FFS							
FLA				•	•	•	

Marilal			F	lybri	d		
Model	00	0S	1S	2S	3S	4S	5S
FLS							
FTA							
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.

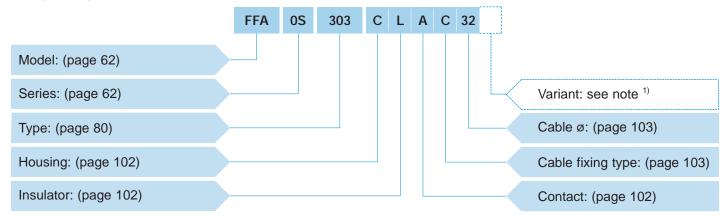
- = available models by series and types

Data Subject to Change



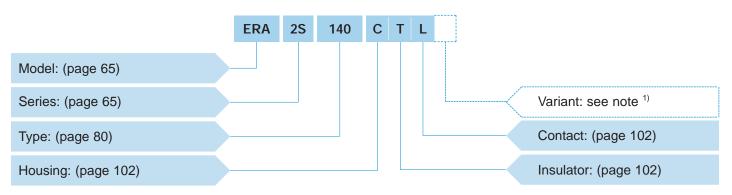
#### Part Number Example

Straight plug with cable collet



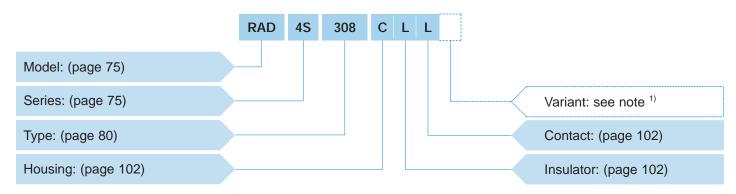
FFA.0S.303.CLAC32 = straight plug with cable collet, 0S series, multicontact type with three contacts, outer shell in chrome-plated brass, PEEK insulator, two male and one female solder contacts, C type collet for a 3.2 mm diameter cable.

#### Fixed receptacle



ERA.2S.140.CTL = fixed receptacle, nut fixing, 2S series, single contact type Ø 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

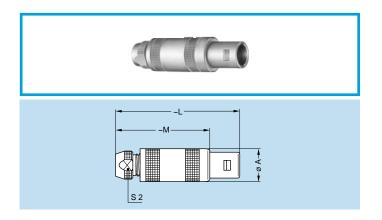
aluminium housings or the color of housings using plastic material.

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

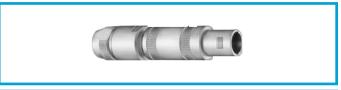


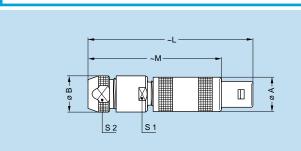
#### Models



#### FFA Straight plug, cable collet

Refe	Reference			ons (m	m)	Availability
Model	Series	Α	L M		S2	Availability
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	48	24.8	77.0	59.0	19.0	0
FFA	5S	35.1	103.0	78.0	29.0	0
FFA	6S	46.0	106.0	81.0	38.0	0

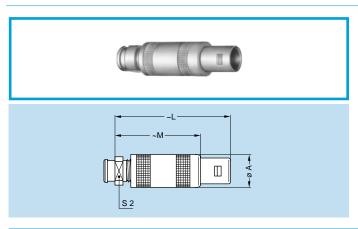




#### FFA Straight plug with oversize cable collet

Refe	rence		D	imensi	ons (m	nm)		Avail-
Model	Series	Α	В	L	М	S1	S2	ability
FFA	00	6.4	8.0	34.0	26.0	7.0	6.5	0
FFA	0\$	9.0	10.0	45.5	35.5	9.0	8.5	0
FFA	1S	12.0	13.0	57.0	46.0	12.0	11.0	0
FFA	2S	14.8	18.0	67.0	55.0	14.0	14.0	0
FFA	3S	17.8	21.0	85.0	70.0	19.0	19.0	0
FFA	48	24.8	31.8	107.0	89.0	28.5	29.0	0
FFA	5S	35.1	41.8	138.0	113.0	37.5	38.0	0

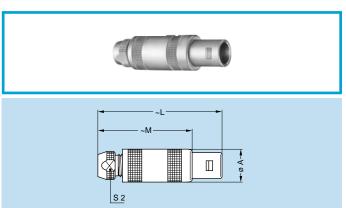
Note: The fitting of oversize collets onto this model allows them to be fitted to the cables that can be accommodated by the next housing size



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

Refe	Di	mensi	ons (m	m)	Availability	
Model	Series	Α	L	М	S2	Availability
FFA	00	6.4	26.0	18.0	6	•
FFA	08	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	0

Note: The bend relief must be ordered separately (see page 137).

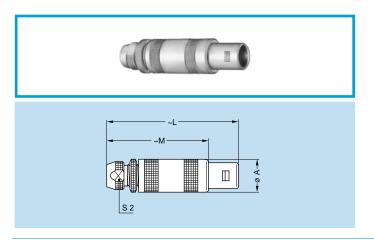


## Straight plug, cable collet and inner anti-rotating device

Refe	rence	Di	mensio	ons (m	m)	Availability
Model	Series	Α	L	М	S2	Availability
FFP	0S	9.0	34.5	24.5	6.5	0
FFP	1S	12.0	42.5	31.5	8.5	0
FFP	2S	14.8	52.0	40.0	11.0	0
FFP	3S	17.8	61.0	46.0	14.0	0
FFP	4S	24.8	77.0	59.0	19.0	0

Data Subject to Change

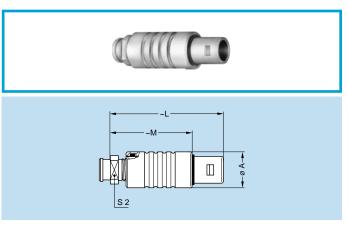




#### FFB Straight plug, cable collet and safety locking ring

	Refe	rence	Di	imensi	ons (m	ım)	Availability
M	lodel	Series	Α	L	М	S2	Availability
F	FFB	0S	9.0	36.8	26.8	6.5	0
F	FFB	1S	12.0	45.0	34.0	8.5	0
F	FFB	2S	14.8	55.5	43.5	11.0	0
F	FFB	3S	17.8	65.0	50.0	14.0	0

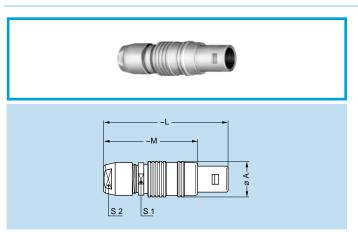
Note: Not available with nut for fitting a bend relief.



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

Refe	rence	Di	mensio	ons (m	m)	Availability
Model	Series	Α	L	М	S2	7 (Valiability
FFE	00	7.4	26.0	18.0	6	0
FFE	0S	10.0	34.5	24.5	7	0
FFE	1S	13.0	42.5	31.5	9	0
FFE	2S	16.0	52.0	40.0	12	0
FFE	3S	19.0	61.0	46.0	14	0

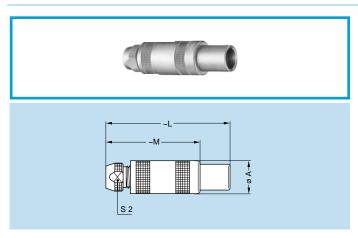
Note: The bend relief must be ordered separately (see page 137).



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

Refe	rence		Dime	Availability			
Model	Series	A L M S1 S2				S2	Availability
FFL	2S	15.0	49.0	37.0	13	12	0

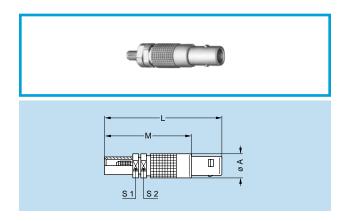
Note: This model is fitted with a «D or M» type collet system (see page 158). It is also adapted for crimp contacts.



#### Straight plug, non-latching, cable collet

Refe	rence	Dii	mensio	ons (m	m)	Availability
Model	Series	Α	L	М	S2	Availability
FFF	00	6.4	26.0	18.0	4.5	0
FFF	08	9.0	34.5	24.5	6.5	0
FFF	1S	12.0	42.5	31.5	8.5	0
FFF	2S	14.8	52.0	40.0	11.0	0



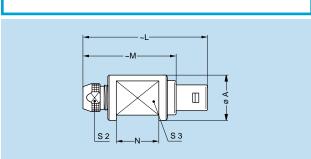


#### FFS Straight plug for cable crimping

	Refe	rence		Dime	Availability			
	Model	Series	Α	L				
Ī	FFS	00	6.4	31	23	5.5	5.5	•

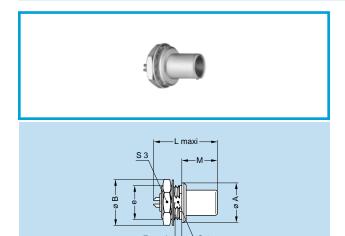
Note: Model available only with crimp backnut E31 similar to 00.250 series





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

Refe	rence		Di	mensi	ons (m	ım)		Avail-
Model	Series	Α	L	М	N	S2	S3	ability
FZP	1S	16	42.5	31.5	15	8.5	12	0
FZP	2S	24	52.0	40.0	21	11.0	18	0
FZP	3S	24	61.0	46.0	24	14.0	18	0
FZP	4S	35	77.0	59.0	30	19.0	28	0
FZP	5S	43	103.0	78.0	44	29.0	35	0
FZP	6S	60	106.0	81.0	44	38.0	50	0



#### FAA Fixed plug non-latching, nut fixing

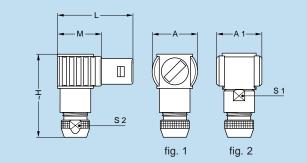
Refe	rence		Dimensions (mm)								Avail-
Model	Series	Α	В	е	Е	L	L1)	М	S1	S3	ability
FAA	00	8	10.3	M7x0.5	2.0	_	15.5	9.0	6.3	9	0
FAA	0S	10	12.5	M9x0.6	2.0	18.5	18.0	11.2	8.2	11	0
FAA	1S	14	16.0	M12x1.0	2.5	22.5	21.7	12.5	10.5	14	0
FAA	2S	18	19.5	M15x1.0	4.0	25.0	25.3	13.8	13.5	17	0
FAA	3S	22	25.2	M18x1.0	4.0	31.0	29.0	17.0	16.5	22	0
FAA	48	28	32.0	M25x1.0	2.5	35.5	39.0	20.5	23.5	30	0
FAA	5S	40	40.0	M35x1.0	2.5	45.0	_	28.0	33.5	_	0
FAA	6S	54	54.0	M48x1.5	2.5	45.0	_	28.0	_	_	0

Panel cut-out: P1

Panel cut-out: P2 6S series





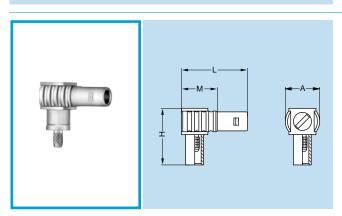


#### FLA Elbow (90°) plug, cable collet

Refe	rence			Dime	ensions	s (mm)			Avail-
Model	Series	Α	A1	Н	L	М	S1	S2	ability
FLA	00	9	_	16.0	17.5	9.5	-	4.5	0
FLA	0S	13	13	24.5	23.0	13.0	8	6.5	0
FLA	1S	16	16	28.5	26.5	15.5	10	8.5	0
FLA	2S	20	20	37.0	31.0	19.0	13	11.0	0
FLA	3S	21	21	44.0	38.5	23.5	15	14.0	0
FLA	4S	28	28	56.0	49.0	31.0	20	19.0	0
FLA	5S	_	37	76.5	65.0	40.0	30	29.0	0
FLA	6S	_	48	94.0	81.0	56.0	40	38.0	0

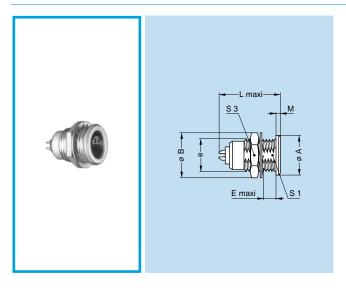
#### Note:

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



#### FLS Elbow (90°) plug for cable crimping

Refe	rence	Di	mensi	Availability		
Model	Series	Α	Н	L	М	Availability
FLS	00	9	16	17.5	9.5	0



#### **ERA** Fixed receptacle, nut fixing

Refe	rence			Di	mens	ions (	mm)				Avail-
Model	Series	Α	В	е	Е	L	L1)	М	S1	S3	ability
ERA	00	8	10.3	M7x0.5	5.5	_	14.5	1.0	6.3	9	•
ERA	0\$	10	12.5	M9x0.6	7.0	17.5	18.0	1.2	8.2	11	•
ERA	1S	14	16.0	M12x1.0	7.5	20.2	20.5	1.5	10.5	14	•
ERA	2S	18	19.5	M15x1.0	8.5	24.5	23.5	1.8	13.5	17	•
ERA	3S	22	25.2	M18x1.0	11.5	29.0	27.5	2.0	16.5	22	•
ERA	4S	28	32.0	M25x1.0	12.0	34.0	33.5	2.5	23.5	30	0
ERA	5S	40	40.0	M35x1.0	15.5	45.0	78.5	3.0	33.5	_	0
ERA	6S	54	54.0	M48x1.5	16.0	45.0	_	3.5	45.5	_	0

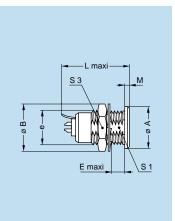
Panel cut-out: P1

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.







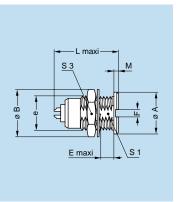
#### ERN Fixed receptacle, nut fixing, with grounding tab

Refer	ence		Dimensions (mm)								
Model	Series	А	В	е	Е	L	L1)	М	S1	S3	ability
ERN	08	10	12.5	M9x0.6	7.0	19.3	19.3	1.2	8.2	11	0
ERN	1S	14	16.0	M12x1.0	7.5	22.4	22.4	1.5	10.5	14	0
ERN	2S	18	19.5	M15x1.0	8.5	26.3	26.3	1.8	13.5	17	0
ERN	3S	22	25.2	M18x1.0	11.5	29.8	29.8	2.0	16.5	22	0

Panel cut-out: P1

Note: 1) Single contact model.





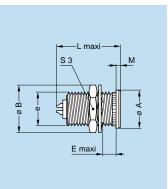
#### **ERC** Fixed receptacle, nut fixing with slot in the flange

Refer	rence			D	imer	nsion	ıs (mı	m)				Avail-
Model	Series	Α	В	е	Е	F	L	L1)	М	S1	S3	ability
ERC	00	8	10.3	M7x0.5	5.5	1.6	_	14.5	1.0	6.3	9	0
ERC	08	10	12.5	M9x0.6	7.0	2.0	17.5	18.0	1.2	8.2	11	0
ERC	1S	14	16.0	M12x1.0	7.5	2.5	20.2	20.5	1.5	10.5	14	0

Panel cut-out: P1

Note: 1) Single contact model.





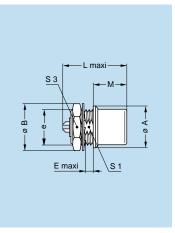
## ERS Fixed receptacle, nut fixing, long threaded shell, without flats

	Refer	ence			Dime	nsion	s (mn	า)			Avail-
	Model	Series	Α	A B e E L L <sup>1)</sup> I						S3	ability
I	ERS	0S	10	12.5	M9x0.6	10.5	17.5	18.0	1.2	11	0

Panel cut-out: P2

Note: 1) Single contact model.





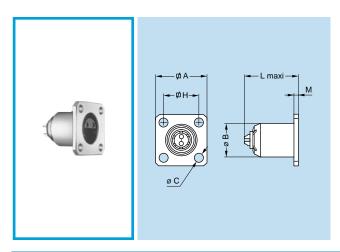
#### EHP Fixed receptacle, nut fixing, protruding shell

Refer	ence			Di	men	sions	(mm)				Avail-
Model	Series	Α	A B e E L L <sup>1)</sup> M S1 S						S3	ability	
EHP	0S	10	10   12.5   M9x0.6   2.5   17.5   18.0   12.5   8.2   11						11	0	
EHP	1S	14	16.0	M12x1.0	3.5	20.2	20.5	12.0	_	14	0
EHP	3S	22	22 25.2 M18x1.0 4.0 29.0 29.0 18.7 - 22						0		

Panel cut-out: P2

Panel cut-out: P1 0S series



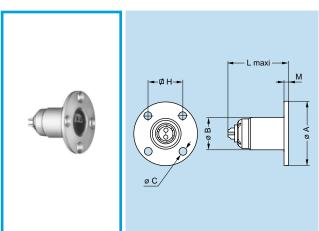


## Fixed receptacle with square flange and screw fixing

Refe	rence			D	imensi	ons (m	nm)		Avail-
Model	Series	Α	A B C H L L1) M						
EBD	2S	22	15	3.2	15.5	24.5	26	2	0

Panel cut-out: P6

Note: 1) Single contact model.

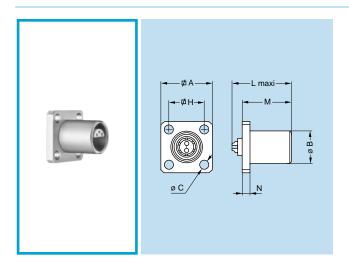


## EBS Fixed receptacle with round flange and screw fixing

Refe	rence			D	imensi	ons (n	nm)		Avail-
Model	Series	A B C H L					L1)	М	ability
EBS	1S	22	11	2.5	12.4	20.2	20.5	1.5	0

Panel cut-out: P7

Note: 1) Single contact model.



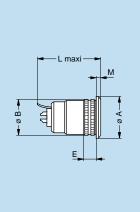
## **EBC** Fixed receptacle with square flange, protruding shell and screw fixing

Refer	rence				Dime	nsions	(mm)			Avail-
Model	Series	Α	В	С	Н	L	L <sup>1)</sup>	М	N	ability
EBC	1S	18	11.5	3.2	12.7	20.2	20.5	16.5	2.8	0
EBC	28	22	15.0	3.2	15.5	24.5	23.5	18.5	4.4	0
EBC	3S	25	18.0	3.2	18.0	29.0	27.5	23.5	3.0	0
EBC	5S	45	40.0	4.3	36.8	45.0	78.5	15.0	4.0	0

Panel cut-out: P6







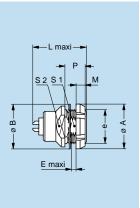
#### ERT Fixed receptacle, force fit, with grounding tab

Refe	rence		m)	Availability				
Model	Series	A B E L L <sup>1</sup>					М	Availability
ERT	1S	14	11.98	3.5	22.4	22.4	1.5	0

Panel cut-out: P5

Note: 1) Single contact model.





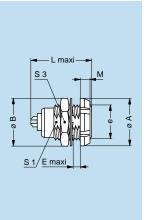
#### Fixed receptacle, nut fixing **EEP** (back panel mounting)

Refe	rence				I	Dimen	sions	(mm)				Avail-
Model	Series	A B e E L L <sup>1)</sup> M P S1 S2										ability
EEP	2S	20   19.5   M15x1.0   3.5   24.5   23.5   3.5   9   13.5   15								0		

Panel cut-out: P1

Note: 1) Single contact model.





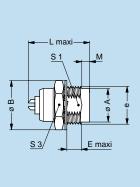
#### Fixed receptacle with two nuts (back panel mounting)

Refer	rence				Di	mensi	ions (r	mm)			Avail-
Model	Series	Α	В	е	Е	L	L1)	М	S1	S3	ability
ERD	0S	12	12.5	M9x0.6	5.5	17.5	18.0	2.5	8.2	11	0
ERD	1S	16	16.0	M12x1.0	6.0	20.2	20.5	3.5	10.5	14	0
ERD	2S	20	19.5	M15x1.0	6.5	24.5	23.5	3.5	13.5	17	0
ERD	3S	24	25.2	M18x1.0	9.0	29.0	27.5	4.5	16.5	22	0
ERD	4S	30	32.0	M25x1.0	10.0	34.0	33.5	4.5	23.5	30	0

Panel cut-out: P1

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



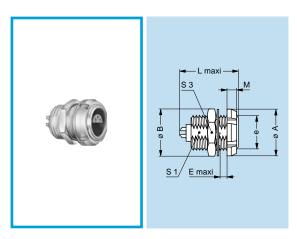


#### Fixed receptacle, protruding shell, screw fixing on the panel (back panel mounting)

Refer	rence				Dir	nensio	ons (n	nm)			Avail-
Model	Series	Α	A B e E L L <sup>1)</sup> M S1 S3								ability
ERY	2S	13.5 19.5 M15x1.0 6 24.5 26 3.1 13.5 17								0	

Panel cut-out: P1





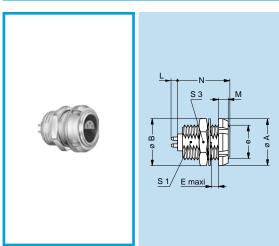
#### ECP Fixed receptacle with two nuts, long threaded shell (back panel mounting)

Refe	rence				D	imens	ions (	mm)			Avail-
Model	Series	А	В	е	Е	L	L1)	М	S1	S3	ability
ECP	0S	12	12.5	M9x0.6	8.5	17.5	18.5	2.5	8.2	11	0
ECP	1S	16	16.0	M12x1.0	10.0	20.2	21.5	3.5	10.5	14	0
ECP	2S	20	19.5	M15x1.0	11.0	24.5	26.0	3.5	13.5	17	0
ECP	3S	24	25.2	M18x1.0	14.0	29.0	30.0	4.5	16.5	22	0

Panel cut-out: P1

Note: 1) Single contact model.

The 3S series is delivered with a conical nut.



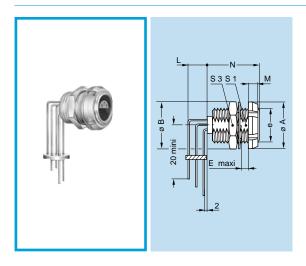
#### ECP Fixed receptacle with two nuts, long threaded shell, with straight contact for printed circuit (back panel mounting)

Refe	rence				Dim	nensio	ns (m	nm)		Availability
Model	Series	Α	В	е	Е	М	N	S1	S3	Availability
ECP	0S	12	12.5	M9x0.6	8.5	2.5	15.0	8.2	11	0
ECP	1S	16	16.0	M12x1.0	10.0	3.5	17.5	10.5	14	0
ECP	2S	20	19.5	M15x1.0	11.0	3.5	20.0	13.5	17	0
ECP	3S	24	25.2	M18x1.0	14.0	4.5	24.0	16.5	22	0

Panel cut-out: P1

PCB drilling pattern: P21

Note: This contact type is available for all E●● receptacle models. See page 156 for table of available types. Length «L» depends on the number of contacts, see table on page 156. 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)								Availability
Model	Series	А	В	е	Е	М	N	S1	S3	Availability
ECP	08	12	12.5	M9x0.6	8.5	2.5	15.0	8.2	11	0
ECP	1S	16	16.0	M12x1.0	10.0	3.5	17.5	10.5	14	0
ECP	2S	20	19.5	M15x1.0	11.0	3.5	20.0	13.5	17	0
ECP	3S	24	25.2	M18x1.0	14.0	4.5	24.0	16.5	22	0

Panel cut-out: P1

PCB drilling pattern: P24

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

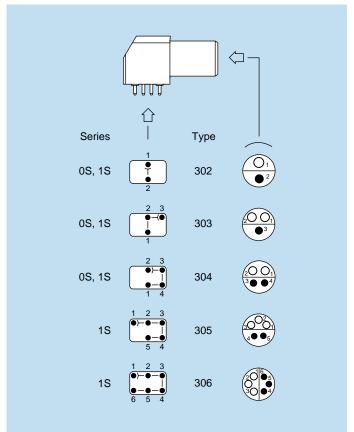
See page 156 for available types.
Length «L» depends on the number of contacts, see PCB drilling pattern on page 156.
The 3S series is delivered with a conical nut.





#### **Technical Characteristics**

#### **Types**



#### 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.

#### **Materials and Treatment**

Component	Material	Surface Treat. (µm)			
		Cu	Ni	Au	
Housing	PPS 1)		-		
Housing	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) <sup>1)</sup>	Rated current (A)	
EPL	08				
EXP	08	302-303-304	1.20	4.5	
EPL	1S	302-303-304	1.20	4.5	
EXP	1S				
EPL	1S	305-306	0.70	4.5	
EXP	1S	303-300	0.70	4.0	

# ₡ 2.54 TUUT 2.54

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

Dout November		Availability							
Part Number	Α	D	Н	I	K	L	N	Availability	
EPL.0S.302.HLN		14.5	6.9	12.7	7 13.2	2 25	11.6	0	
EPL.0S.303.HLN	9							0	
EPL.0S.304.HLN								•	
EPL.1S.302.HLN	11	16.5	7.7	14.0	0 13.2	2 27	12.6	0	
EPL.1S.303.HLN								0	
EPL.1S.304.HLN								0	
EPL.1S.305.HLN								0	
EPL.1S.306.HLN								0	

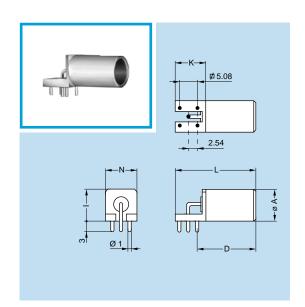
Note: To replace the 4 ground pins by 4 screws (M1.6) add an «S» to the end of the part number. (e.g.: EPL.1S.303.HLNS)

PCB drilling pattern: P22



<sup>1)</sup> See calculation method, caution and suggested standard on page 11.



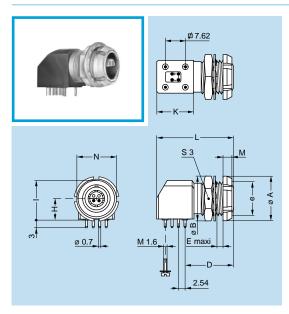


#### EPL Elbow (90°) receptacle for printed circuit

Dout Niveshou				Dime	nsion	s (mm	1)	Availability
Part Number	Α	D	Н	I	K	L	Ν	Availability
EPL.0S.116.DTL	8.8	16	12	9	7.7	22.7	9	0

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)

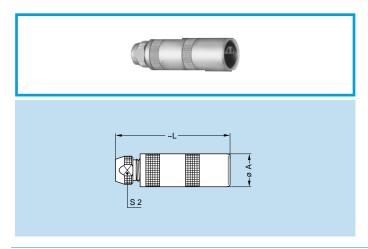
Deat Nearless					Din	nens	ions (	(mm)					Avail-
Part Number	Α	В	D	е	Е	Н	I	K	L	М	N	S3	ability
EXP.0S.302.HLN													0
EXP.0S.303.HLN	12	12.5	14.5	M9x0.6	6.0	6.9	12.7	13.2	25	2.5	11.6	11	0
EXP.0S.304.HLN													0
EXP.1S.302.HLN													0
EXP.1S.303.HLN													0
EXP.1S.304.HLN	14	15.0	16.5	M11x0.5	7.5	7.7	14.0	13.2	27	3.5	12.6	13	0
EXP.1S.305.HLN													0
EXP.1S.306.HLN													0

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

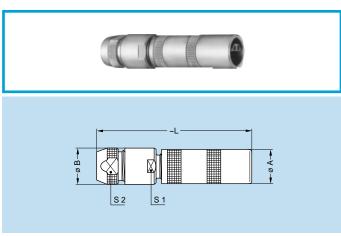
PCB drilling pattern: P22





#### PCA Free receptacle, cable collet

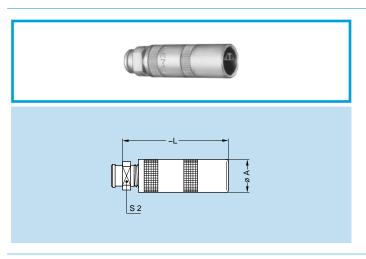
Refe	rence	Dime	nsions	(mm)	Availability		
Model	Series	Α	L	S2	Availability		
PCA	00	6.5	25.0	4.5	•		
PCA	0S	8.9	33.5	6.5	•		
PCA	1S	11.9	40.5	8.5	•		
PCA	2S	14.8	50.0	11.0	0		
PCA	3S	17.8	59.0	14.0	0		
PCA	4S	24.8	75.0	19.0	0		
PCA	5S	34.7	99.0	29.0	0		
PCA	6S	46.0	102.0	38.0	0		



#### PCA Free receptacle with oversize cable collet

Refe	rence		Dime	nsions	(mm)		Availability
Model	Series	A B L S1 S2		S2	Availability		
PCA	00	6.5	8.0	33.0	7.0	6.5	0
PCA	08	8.9	10.0	44.5	9.0	8.5	0
PCA	1S	11.9	13.0	55.0	12.0	11.0	0
PCA	2S	14.8	18.0	65.0	14.0	14.0	0
PCA	3S	17.8	21.0	83.0	19.0	19.0	0
PCA	4S	24.8	31.8	105.0	28.5	29.0	0

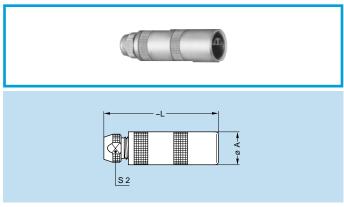
Note: The fitting of oversize collets onto this model allows it to be fitted to the cables that can be accommodated by the next housing size up.



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

Refe	rence	Dime	nsions	(mm)	Availability
Model	Series	Α	L	S2	Availability
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	0
PCA	3S	17.8	59.0	14	0
PCA	4S	24.8	24.8 75.0 20		0

Note: The bend relief must be ordered separately (see page 137).

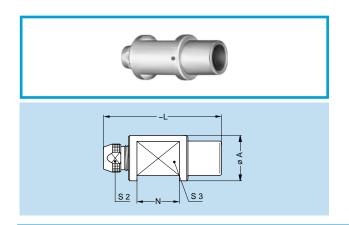


Refe	rence	Dime	nsions	(mm)	Availability
Model	Series	A L		S2	Availability
PCP	0S	8.9	33.5	6.5	0
PCP	1S	11.9	40.5	8.5	0
PCP	2S	14.8	50.0	11.0	0
PCP	3S	17.8	59.0	14.0	0
PCP	4S	24.8	75.0	19.0	0

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

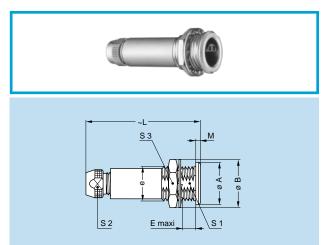
Data Subject to Change





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

Refe	rence			Dimer	nsions	(mm)	Availability
Model	Series	Α	L	N	S2	S3	Availability
PZP	1S	16	40.5	15	8.5	12	0
PZP	2S	24	50.0	21	11.0	18	0
PZP	3S	24	59.0	24	14.0	18	0

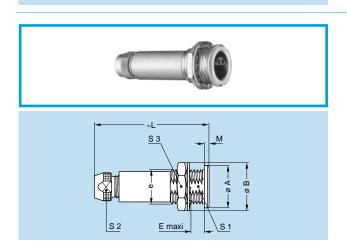


#### PSA Fixed receptacle, nut fixing, cable collet

Refe	rence				Dime	ensions	s (mn	า)			Avail-
Model	Series	Α	В	е	Е	L	М	S1	S2	S3	ability
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	0
PSA	1S	14	16.0	M12x1.0	7.5	40.5	1.5	10.5	8.5	14	0
PSA	2S	18	19.5	M15x1.0	8.5	50.0	1.8	13.5	11.0	17	0
PSA	3S	22	25.2	M18x1.0	11.5	59.0	2.0	16.5	14.0	22	0
PSA	4S	28	32.0	M25x1.0	12.0	75.0	2.5	23.5	19.0	30	0
PSA	5S	40	40.0	M35x1.0	15.5	99.0	3.0	33.5	29.0	_	0
PSA	6S	54	54.0	M48x1.5	16.0	102.0	3.5	45.5	38.0	_	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

Refe	rence				Dime	ension	s (m	m)			Avail-
Model	Series	Α	В	е	Е	L	М	S1	S2	S3	ability
PSP	0S	10	12.5	M9x0.6	7.0	33.5	1.2	8.2	6.5	11	0
PSP	1S	14	16.0	M12x1.0	7.5	40.5	1.5	10.5	8.5	14	0
PSP	2S	18	19.5	M15x1.0	8.5	50.0	1.8	13.5	11.0	17	0
PSP	3S	22	25.2	M18x1.0	11.5	59.0	2.0	16.5	14.0	22	0
PSP	48	28	32.0	M25x1.0	12.0	75.0	2.5	23.5	19.0	30	0

Panel cut-out: P1

# S3 M

#### PSS Free receptacle, nut fixing for cable crimping

Refe	rence				Dime	ension	ıs (m	m)			Avail-
Model	Series	Α	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	0

Panel cut-out: P1

<sup>Standard, typically 0-6 weeks delivery for quantities of 250 or less.

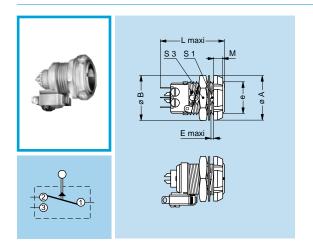
Non-standard product, contact LEMO USA, typically 6-12 weeks delivery for quantities of 250 or less.

Non-standard product is defined as any product which contains one or more components which are not standard.</sup> 



#### 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)

Refe	rence				Dim	nensio	ns (m	ım)		Availability
Model	Series	Α	A B e E L M S1 S3					Availability		
EMD	2S	20	19.5	M15x1.0	2.2	26.7	3.5	13.5	17	0

Panel cut-out: P1

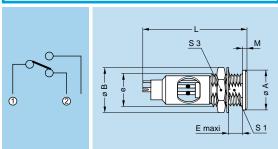
Note: Only exists in 10-contact version (type 310).

For the microswitch: maximum operating voltage: 250Veff/Vdc rated current:

7A/0.25A.



#### ERM Fixed receptacle, nut fixing with microswitch



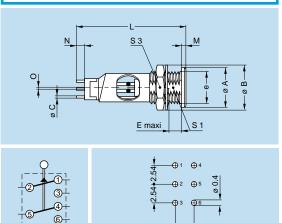
	Refe	rence				Din	nensio	ns (m	nm)		Availability
	Model	Series	Α	В	е	Е	L	М	S1	S3	Availability
Ì	ERM	1S	14	16	M12x1.0	7.5	38	1.5	10.5	14	0

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

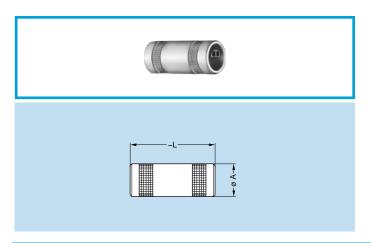


Refer	rence												Avail-
Model	Series	Α	B C e E L M N O S1 S3							ability			
ERZ	1S	14	16	0.4	M12x1.0	7.5	39	1.5	2.7	0.9	10.5	14	0

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.

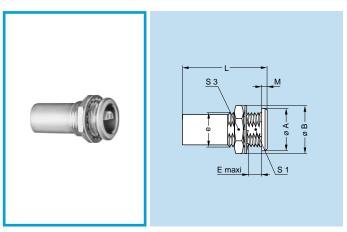




#### **RMA** Free coupler

Refe	rence	Dim.	(mm)	Availability
Model	Series	Α	L	Availability
RMA	00	6.4	22.0	0
RMA	0S	8.9	25.0	0
RMA	1S	11.9	28.5	0
RMA	2S	14.8	31.5	0
RMA	3S	17.8	38.5	0
RMA	4S	24.8	46.5	0
RMA	5S	34.7	60.5	0

Note: See page 101 for the available plug and contact configurations and in order to ensure correct contact alignment.



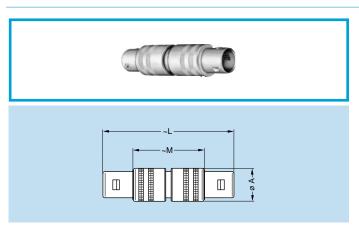
**Note:** See page 97 for the available plug and contact configurations and in order to ensure correct contact alignment.

#### RAD Fixed coupler, nut fixing

Refe	rence			[	Dimen	sions	(mm)	)		Avail-
Model	Series	Α	В	е	Е	L	М	S1	S2	ability
RAD	00	8	10.3	M7x0.5	5.5	22.0	1.0	6.3	9	0
RAD	0S	10	12.5	M9x0.6	7.0	25.0	1.2	8.2	11	0
RAD	1S	14	16.0	M12x1.0	7.5	28.5	1.5	10.5	14	0
RAD	2S	18	19.5	M15x1.0	8.5	31.5	1.8	13.5	17	0
RAD	3S	22	25.2	M18x1.0	11.5	38.5	2.0	16.5	22	0
RAD	4S	28	32.0	M25x1.0	12.0	46.5	2.5	_	30	0
RAD	5S	40	40.0	M35x1.0	15.5	60.5	3.0	_	_	0

Panel cut-out: P1 Panel cut-out: P2 4S and 5S series

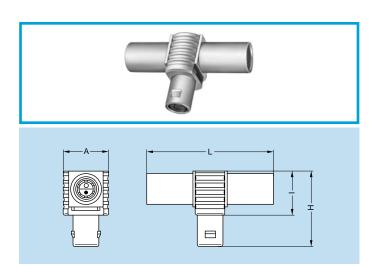
 $\ensuremath{\text{\textbf{Note:}}}$  The 5S series is delivered with a tapered washer and a round nut.



#### FEF Straight coupler with two plugs and front seal

Refe	rence	Dimer	nsions	(mm)	Availability	
Model	Series	A L		М	Availability	
FFF	58	39	130	80	0	





#### FTA T-plug with two in line receptacles

Refe	rence	Dir	mensic	ns (mi	m)	Availability
Model	del Series		Н	I	L	Availability
FTA	00	9	17.5	9.5	30	0
FTA	08	13	23.0	13.0	38	0
FTA	18	16	26.5	16.5	45	0
FTA	3S	21	38.5	23.5	64	0

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



#### **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

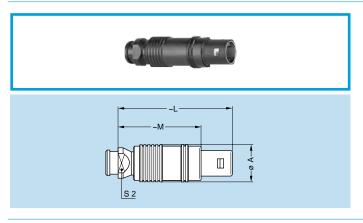
Characteristics		Va	lue		Standard
Citatacteristics	PEEK	POM	PSU	PPSU	Standard
Color	natural (beige)	black	white or grey	cream	_
Endurance	> 5000 cycles	> 5000 cycles	> 5000 cycles	> 5000 cycles	IEC 60512-5 test 9a
Humidity		up to 95% at 14	0° F		_
Temperature range	-58° F/+482° F	-58° F/+239° F	-58° 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

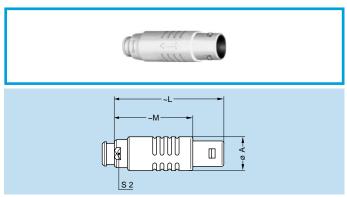
Refe	rence	Di	mensi	ons (m	m)	Availability
Model	Series	Α	L	М	S2	Availability
FFA	00	7.0	33.5	25.5	6.0	0
FFP	0\$	9.5	34.5	24.5	8.0	0
FFP	1S	12.0	42.5	31.5	10.0	0
FFP	2S	15.0	52.0	40.0	12.0	0
FFP	3S	18.0	61.0	46.0	14.0	0



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

Refe	rence	Di	mensio	ons (m	m)	Availability
Model	Series	Α	L	М	S2	Availability
FFP	08	9.5	33.5	23.5	7.0	0
FFP	1S	12.0	41.5	30.5	10.0	0
FFP	2S	15.0	51.0	39.0	12.0	0
FFP	3S	18.0	61.0	46.0	14.0	0

Note: The bend relief must be ordered separately (see page 137).



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

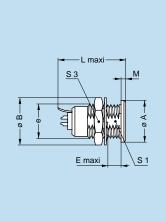
Refe	rence	Di	mensi	Availability			
Model Series		Α	L	S2	Availability		
FFL	FFL 2S		51.5	39.5	13	0	

Note: The bend relief must be ordered separately (see page 137). This model is fitted with a «D or M» type collet system (see page 158). It is also adapted for crimp contacts.

Data Subject to Change







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

Refe	rence		Dimensions (mm)								
Model	Series	Α	В	е	Е	L	L1)	М	S1	S3	ability
ERN	00	9	10.3	M7x0.5	5.5	_	14.5	1.0	6.3	9	0
ERN	08	11	12.5	M9x0.6	7.0	19.3	19.3	1.2	8.2	11	0
ERN	1S	14	16.0	M12x1.0	7.5	22.4	22.4	1.5	10.5	14	0
ERN	2S	18	19.5	M15x1.0	8.5	26.3	26.3	2.0	13.5	17	0
ERN	3S	22	25.2	M18x1.0	11.5	29.8	29.8	2.0	16.5	22	0

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

Epoxy resin is used to seal these models.

Part number example:

Watertight receptacle - HGP.1S.304.CLLP Vacuum-tight receptacle - HGP.1S.304.CLLPV

#### **Technical Characteristics**

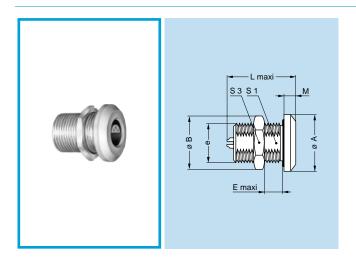
#### **Mechanical and Climatic**

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 tes	st	> 144h	IEC 60512-6 test 11f			
Protection index (mate	d)	IP 68	IEC 60529			
Climatic category		20/80/21	IEC 60068-1			
Leakage rate (He)1)		< 10 <sup>-7</sup> mbar.l.s <sup>-1</sup>	IEC 60512-7 test 14b			
	08	60 bars				
	1S	60 bars				
NA dayses	2S	40 bars				
Maximum operating pressure <sup>2)</sup>	3S	30 bars	IEC 60512-7 test 14d			
oporaming procedure	4S	15 bars				
	5S	5 bars				
	6S	5 bars				

#### Note:

1) Only for vacuum-tight models.

<sup>2)</sup> This value corresponds to the maximum allowed pressure difference for the assembled receptacle.



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

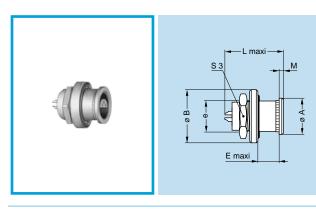
Refer	ence			Dimensions (mm)									
Model	Series	Α	A B e		Е	L	L1)	M	S1	S3	ability		
HGP	08	18	16.0	M12x1.0	11.5	20.5	21.5	4.0	10.5	14	0		
HGP	1S	20	19.5	M14x1.0	15.5	25.0	22.0	4.0	12.5	17	0		
HGP	2S	20	21.8	M16x1.0	17.0	29.5	28.0	4.0	14.5	19	0		
HGP	3S	28	27.0	M20x1.0	18.0	33.0	34.0	6.0	18.5	24	0		
HGP	4S	34	34.0	M25x1.0	22.5	39.0	43.0	6.5	23.5	30	0		
HGP	5S	45	40.0	M35x1.0	28.0	50.5	78.5	7.5	33.5	_	0		
HGP	6S	58	54.0	M48x1.5	22.0	50.0	_	6.0	45.5	_	0		

Panel cut-out: P3

Note: 1) Single contact model

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





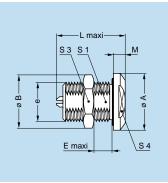
#### HGW Fixed receptacle, nut fixing, with back washer, watertight or vacuum-tight

Refe	rence			Dim	ensic	ns (m	m)		Avail-
Model	Series	Α	В	е	Е	L	М	S3	ability
HGW	08	10	15	M9x0.6	2	17.5	1.2	11	0
HGW	1S	14	18	M12x1.0	4	20.2	1.5	14	0

Panel cut-out: P11

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





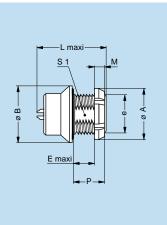
#### EWB Fixed receptacle, nut fixing, with two flats on the flange, watertight or vacuum-tight

Refe	rence				Dim	ensic	ons (n	nm)				Avail-
Model	Series	Α	В	е	Е	L	L1)	М	S1	S3	S4	ability
EWB	08	18	16.0	M12x1.0	11.0	20.5	_	4.0	10.5	14	14	0
EWB	1S	20	19.5	M14x1.0	15.5	25.5	25.5	4.0	12.5	17	16	0
EWB	2S	20	21.8	M16x1.0	17.0	28.0	26.5	4.0	14.5	19	16	0
EWB	48	34	34.0	M25x1.0	22.5	43.0	_	6.5	23.5	30	27	0

Panel cut-out: P3

Note: 1) Single contact model





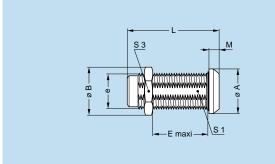
#### HCP Fixed receptacle, nut fixing, watertight or vacuum-tight (back panel mounting)

Refer	ence			Dir	nensi	ons (	mm)			Avail-
Model	Series	Α	В	е	Е	L	М	Р	S1	ability
HCP	1S	18	20	M14x1.0	8.6	25.5	3.5	12.0	_	0
HCP	2S	20	20	M16x1.0	12.5	29.0	3.5	16.5	14.5	0
HCP	48	27	34	M25x1.0	15.5	41.0	4.5	20.0	23.5	0

Panel cut-out: P3

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





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

Refe	rence			Dir	nens	ions (	mm)			Avail-
Model	Series	Α	В	е	Е	L	М	S1	S3	ability
SWH	08	14	13.8	M10x0.75	17	34	2.0	9.0	12	0
SWH	1S	17	16.0	M12x1.00	28	39	2.5	10.5	14	0
SWH	2S	20	21.8	M16x1.00	25	44	4.0	15.0	19	0
SWH	3S	25	27.0	M20x1.00	30	53	4.0	18.5	24	0
SWH	4S	34	32.0	M25x1.00	50	65	4.0	23.5	30	0
SWH	5S	45	40.0	M35x1.00	58	80	5.0	33.5	_	0
SWH	6S	58	54.0	M48x1.50	55	81	6.0	45.5	_	0

Panel cut-out: P4

Note: See page 96 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.

Data Subject to Change



## Type

## Single contact

					Conta	ct type ability	(1)	1)	
	Male solder contacts	Female solder contacts	Reference	ø A (mm)	Solder	Crimp	Test voltage (kV rms) <sup>1)</sup>	Test voltage (kV dc) <sup>1)</sup>	Rated current (A) <sup>1)</sup>
00	•		113	1.3	<b>2</b> )	0	0.8	1.2	8
0\$			116	1.6	<u></u>	-	1.5	2.1	12
15			120	2.0	<u></u>	_	1.8	2.7	18
			130	3.0	0	_	1.5	2.1	25
25			130	3.0	0	_	2.1	3.0	30
			140	4.0	0	_	1.8	2.4	40
3S			140	4.0	0	_	2.4	3.3	43
			160	6.0	0	-	1.8	2.4	65
45			140	4.0	0	_	3.0	4.2	46
			160	6.0	0	_	2.7	3.9	70
5\$			112	12.0	0	_	1.5	2.1	230

Note: 1) See calculation method, caution and suggested standard on page 11.
2) Also available with inversed contacts: plug = female, receptacle = male.



### Single contact high voltage

						A\ m	NG ax.				
		Reference	Contact ø A (mm)	Solder contact availability	HV contact gender <sup>2)</sup>	Solid	Stranded	Cable dielectric ø max. (mm)	Standard insulator material <sup>3)</sup>	Test voltage (kV dc) <sup>4)</sup>	Rated current (A) <sup>4)</sup>
08		403	0.9	0	A L	20	22	2.9	Т	6	4
		405	0.7	0	Α	24	26	2.9	L	12	4
18		405	1.3	0	A L	18	20	4.0	Т	10.5	8
		408	0.9	0	Α	20	22	4.0	L	18	6
28		408	2.0	0	A L	14	16	5.1	Т	12	10
35		405	4.0	0	Α	10	12	7.5	Т	10.5	15
		410	2.0	0	A L	12	14	7.3	Т	15	10
		415	1.3	0	A L	16	18	7.3	Т	21	8
4\$		410	2.5	0	А	6	8	9.5	Т	15	12

Note:

2) A = male for plug; female for socket, L = female for plug; male for socket

3) L = Peek, T = PTFE

4) See calculation method, caution and suggested standard on page 11



#### Coaxial

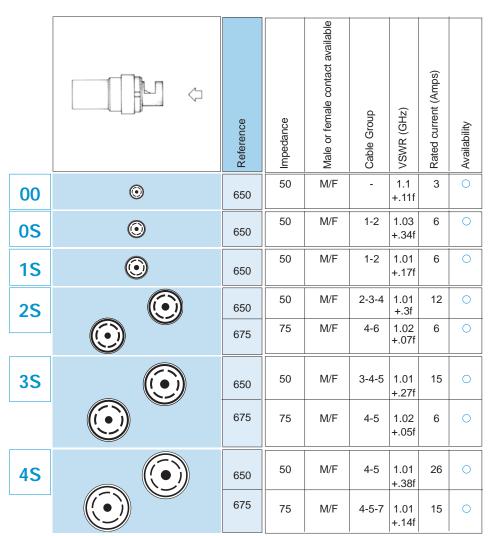
				ilable			Te Vol	est Itage		
	<b>(</b>	Reference	Impedance	Male or female contact available	Cable Group	VSWR (GHz)	AC (V)	DC (V)	Rated current (Amps)	Availability
00	©	250	50	M/F	1-3-5-6	1.09 +.11f	2100	3000	4	0
0\$	<b>©</b>	250	50	M/F	1-2-3-4	1.02 +.25f	3000	4200	6	0
15		250	50	M/F	1-2-3 4-6	1.01 +.08f	3000	4200	12	0
		275	75	M/F	5-6-7	1.02 +.08f	2400	3300	10	0
25		250	50	M/F	6-7	1.02 +.95f	3000	4200	15	0
		275	75	M/F	6-7	1.02 +.03f	1500	2100	12	0
35		250	50	M/F	8	1.06 +.5f	3000	4200	26	0
		275	75	M/F	8	1.04 +.05f	2700	3900	15	0
45		250	50		8-9	1.01 +1.9f	2100	3000	36	0
		275	75	M/F	8-9-0	1.01 .12f	1800	2700	26	0
<b>5S</b>		250	50		9	1.02 +2.3f	3000	4200	45	0
		275	75		9-0	1.01 +.7f	3000	4200	36	0

1) The cable group corresponding to the chosen cable must be written in the Variant position of the part number. See page 83.





#### **Triaxial**



#### Recommended coaxial cables

_				Gr	oup	1)								Gr	oup	1)						(	Grou	n 1)		
Туре	1	2	3	4	5	6	7	8	0	Type	1	2	3	4	5	6	7	8	9	Туре	2	3	4	<u> </u>	6	7
RG.11A/U										RG.178B/U										RG.302/U				İ	寸	ī
RG.12A/U										RG.179B/U										RG.316/U						_
RG.58C/U										RG.187A/U										RG.400/U						
RG.59B/U										RG.188 A/U										HF-2114 Datwyler						_
RG.115A/U										RG.196A/U										HF-5408/1 Datwyler						
RG.122/U										RG.213/U										2YCCY .4/2.4 Siemans						_
RG.142B/U										RG.214/U										CCE.99.281.505 LEMO						_
RG.144/U										RG.216/U										CCH.99.281.505 LEMO						
RG.165/U										RG.223/U																
RG.174 A/U										RG.225/U																

#### Recommended triaxial cables

T		Gr	oup	1)			Type		Grou	лр 1	)
Type	1	2	3	4	5		туре	4	5	6	7
CTA.99.290.803 LEMO						1	HF-2426 Datwyler				
CTD.99.391.505 LEMO							CTC.99.371.603 LEMO				
9222 Belden							12765700 F&G				
21.738 Amphenol							9627 Belden				
118202 Filotex							10069-C-G20 BIW				
21.204 Amphenol							12766400 F&G				
HF-2318 Datwyler							12766601 F&G				
8215 Belden							8233 Belden				
8232 Belden							9888 Bleden				

Standard, typically 0-6 weeks delivery for quantities of 250 or less.
 Non-standard product, contact LEMO USA, typically 6-12 weeks delivery for quantities of 250 or less.
 Non-standard product is defined as any product which contains one or more components which are not standard.



ividitio	Contact											
	41						Contac availa	ct type ability	<b>:</b>	)1)2)	) 2)	
	Male solder contacts	Female solder contacts	Reference	Number of contacts	ø A (mm)	Solder	Crimp	Printed circuit (straight)	Printed circuit (elbow)	Test voltage (kV rms) <sup>1) 2)</sup>	Test voltage (kV dc) <sup>1) 2)</sup>	Rated current (A) <sup>1)</sup>
00			302	2	0.9	•	0	0	0	1.5	2.1	10 <sup>3)</sup>
0\$			303	3	0.7	•	0	0	0	1.0	1.5	73)
			304	4	0.7	•	0	0	0	1.0	1.5	73)
			302	2	1.3	•	0	0	0	1.2	1.8	15 <sup>3)</sup>
15			303	3	0.9		0	0	0	1.2	1.8	103)
			304	4	0.9	•	0	0	0	1.2	1.8	10 <sup>3</sup> )
			305	2 3	0.9 0.7		0	0	0	1.5 1.5	2.1	103)
			306	6	0.7	•	0	0	0	1.5	2.1	7 <sup>3)</sup>
		10	302	2	1.6	0	0	0	0	1.7	2.4	204)
25	20	2 •	303	3	1.3	0	0	0	0	1.5	2.1	15 <sup>4)</sup>
	20 01		304	4	1.3	0	0	0	0	1.7	2.4	15 <sup>4)</sup>
			305	5	1.3	0	0	0	0	1.5	2.1	134)
			306	6	1.3	•	_5)	0	0	1.5	2.1	12
		00°00000000000000000000000000000000000	307	3 4	1.3 0.9	0	0	0	•	0.8	1.2 1.2	12 <sup>3)</sup> 9 <sup>3)</sup>
	3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		308	8	0.9	0	0	0	•	0.8	1.2	93)
		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	310	10	0.9	•	0	0	•	0.8	1.2	73)
3S	10-20	1 <u>0</u> 2	302	2	2.0	0	0	0	-	3.0	4.2	23
			303	3	2.0	0	0	0	_	1.5	2.1	20
	3 2 ● 1 3 ○ 04		304	4	2.0	0	0	0	_	1.5	2.1	18
			305	2	2.0 1.3	0	0	0	-	1.5 1.5	2.1 2.1	18 14
			306	6	1.3	0	0	0	_	2.1	3.0	14
Noto	(a)		307	7	1.3	0	0	0	-	1.0	1.5	12

Note:

1) See calculation method, caution and suggested standard on page 11



iviuitio	contact									ı		
							Conta availa	ct type ability	<del>)</del>	)1) 2)	) 2)	
	Male solder contacts	Female solder contacts	Reference	Number of contacts	ø A (mm)	Solder	Crimp	Printed circuit (straight)	Printed circuit (elbow)	Test voltage (kV rms) <sup>1) 2)</sup>	Test voltage (kV dc) <sup>1) 2)</sup>	Rated current (A) <sup>1)</sup>
3S			308	8	1.3	0	0	0	0	1.0	1.5	10
			310	10	1.3	0	0	0	0	1.0	1.5	9
	00000		312	12	0.9	0	0	0	0	1.5	2.1	8
	00000	0-0-0-0	313	13	0.9	0	0	0	0	1.5	2.1	8
			314	14	0.9	0	0	0	0	1.5	2.1	7
		\$00000 \$00000 \$00000	316	16	0.9	0	0	0	0	1.0	1.5	7
		(00000) (00000)	318	18	0.9	0	0	0	0	1.0	1.5	6
45	1 0	2 •	302	2	4.0	0	_	0	_	2.1	3.0	35
			303	3	3.0	0	_	0	_	2.1	3.0	25
	$ \begin{pmatrix} 2 & \bullet & 1 \\ \hline 3 & 0 & 4 \end{pmatrix} $		304	4	3.0	0	_	0	_	2.1	3.0	22
	(3 0 1) 4() (5)		305	2 3	3.0 2.0	0	-	0	_	2.1 2.1	3.0 3.0	22 16
			306	6	2.0	0	0	0	_	2.1	3.0	16
			307	3 4	2.0 1.3	0	_	0	_	2.1 2.1	3.0 3.0	16 13
	50 0 8		308	8	1.3	0	_	0	_	2.7	3.9	13
			309	9	1.3	0	_	0	_	2.1	3.0	12
	\$\begin{align*} \begin{align*} \begi	8 7 6 8 7 6 8 7 7 8 8 7 8 8 7 8 8 7 8 8 8 7 8 8 8 8 7 8	310	10	1.3	0	_	0	_	2.1	3.0	11
	8 9 9 (5 4 9 3 2 2 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9 1 9	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	312	12	1.3	0	-	0	_	2.1	3.0	9
	5 4 3 2 6 1 9 10 10 10 10 10 10 10 10 10 10 10 10 10	10203 000 0109 130 029 150 029	313	13	1.3	0	_	0	_	2.1	3.0	9

Note: 1) See calculation method, caution and suggested standard on page 11.
2) Lowest measured value; contact to contact or contact to shell.



ividitio	Contact										
						Cor Av	ntact 7 /ailabi	Гуре lity	1) 2)	) 2)	
	Male solder contacts	Female solder contacts	Reference	Number of contacts	ø A (mm)	Solder	Printed circuit (straight)	Printed circuit (elbow)	Test voltage (kV rms) <sup>1) 2)</sup>	Test voltage (kV dc) <sup>1) 2)</sup>	Rated current (A) <sup>1)</sup>
45		100004 01000205 1001400130	314	14	1.3	0	0	_	2.1	3.0	9
	(8 - 5 ) (720 - 0 5 ) (720 - 0 5 ) (720 - 13 )		316	16	0.9	0	0	_	2.1	3.0	7
			318	18	0.9	0	0	-	2.1	3.0	7
		(80-0-0-0) (10-0-0-0-0) (10-0-0-0-0) (10-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	320	20	0.9	0	0	-	2.1	3.0	7
	6 3 1 - 7 0 - 0 - 0 0 160 - 0 - 0 0 12 200 - 0 17 22 2 17	$ \begin{array}{c} 3000006\\ 70000001\\ 120000001\\ 1200000000 \end{array} $	322	22	0.9	0	0	_	2.1	3.0	7
	12 4 8 0000000 10000013 121000018	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	324	24	0.9	0	0	_	2.1	3.0	7
<b>5S</b>	1		302	2	6.0	0	_	_	3.7	5.2	50
	2 • 1		303	1 2	6.0 4.0	0	_	-	3.7 3.7	5.2 5.2	50 35
			304	4	4.0	0	_	_	3.7	5.2	35
			305	2 3	4.0 3.0	0	-	-	3.0 3.0	4.2 4.2	35 25
	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		306	6	3.0	0	_	_	3.0	4.2	25
	3		308	8	3.0	0	_	_	2.1	3.0	22
	6 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		310	10	2.0	0	_	_	2.1	3.0	18



iviuitio	contact										
						Coi av	ntact t ailabi	type lity	()1)2)	1) 2)	
	Male solder contacts	Female solder contacts	Reference	Number of contacts	ø A (mm)	Solder	Printed circuit (straight)	Printed aircuit (elbow)	Test voltage (kV ms) <sup>1) 2)</sup>	Test voltage (kV dc) <sup>1) 2)</sup>	Rated current (A) <sup>1)</sup>
<b>5S</b>			312	12	2.0	0	_	_	2.1	3.0	18
			314	2 12	3.0 2.0	0	_	_	1.8 1.8	2.4 2.4	20 15
		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	316	16	2.0	0	-	-	1.8	2.4	15
			318	2 16	3.0 1.6	0	-	-	1.8 1.8	2.4 2.4	18 11
		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	320	20	1.6	0	_	_	1.8	2.4	11
		13 13 15 15 15 15 15 15 15 15 15 15 15 15 15	322	2 20	3.0 1.6	0	_	_	1.8 1.8	2.4 2.4	16 9
			324	24	1.6	0	-	-	2.7	3.9	9
			330	30	1.3	0	_	_	1.8	2.4	8
		(0-0-0-0) (0-0-0-0-0) (0-0-0-0-0-0) (0-0-0-0-0-0) (0-0-0-0-0-0)	336	36	1.3	0	_	_	1.8	2.4	7
			340	40	1.3	0	_	_	1.2	1.8	7
		0000 3 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	344	44	1.3	0	-	-	1.2	1.8	6
	00000000 00000000000000000000000000000	(00000000) (00000000) (0000000000)	348	48	1.3	0	-	-	1.2	1.8	6

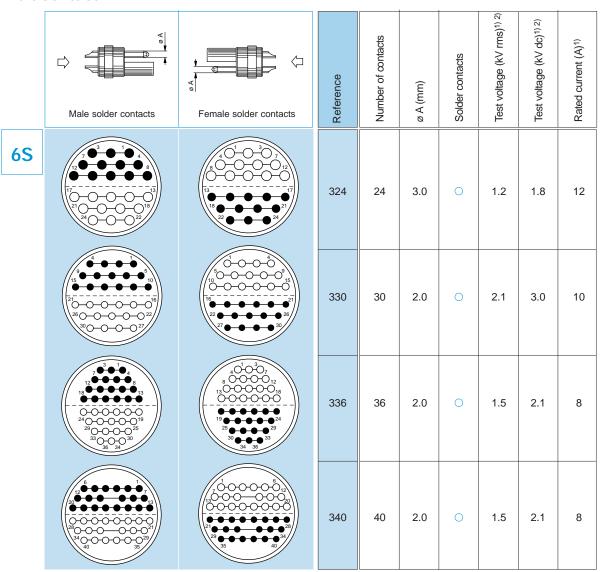
Note: 1) See calculation method, caution and suggested standard on page 11. 2) Lowest measured value; contact to contact or contact to shell.



	Male solder contacts	Female solder contacts	Reference	Number of contacts	ø A (mm)	Solder contacts	Test voltage (kV rms) <sup>1) 2)</sup>	Test voltage (kV dc) <sup>1) 2)</sup>	Rated current (A) <sup>1)</sup>
S	2 1 3 4		304	4	8.0	0	3.0	4.2	60
	5 4 3 3 2 5 11 0 1 6 12 0 10 7 8 9 9	12 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	312	12	4.0	0	2.1	3.0	22
	3 9 0 13 16 16 17	3 0 2 5 6 0 9 9 0 13 0 16 14 0 16	318	18	4.0	0	1.2	1.8	16
	10 2 10 4 6 15 0 11 19 0 16	2 10 5 6 0 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	320	20	3.0	0	1.5	2.1	14

Note: 1) See calculation method, caution and suggested standard on page 11.
2) Lowest measured value; contact to contact or contact to shell.





Note: 1) See calculation method, caution and suggested standard on page 11.
2) Lowest measured value; contact to contact or contact to shell.



**6S** 

Male solder contacts	Female solder contacts	Reference	Number of contacts	ø A (mm)	Solder contact Availability	Test voltage (kV rms) <sup>1) 2)</sup>	Test voltage (kV dc) <sup>1) 2)</sup>	Rated current (A) <sup>1)</sup>
		348	48	2.0	0	1.5	2.1	7
30 30 30 30 30 30 30 30 30 30	1000000 10000000 100000000 1000000000	360	60	1.6	0	1.5	2.1	5
		364	64	1.3	0	1.2	1.8	4
2 - 0 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	10-02 10-02 10-0-0-0-0-01 10-0-0-0-0-0-0 10-0-0-0-0-0-0 10-0-0-0-0-0-0 10-0-0-0-0-0-0 10-0-0-0-0-0-0-0 10-0-0-0-0-0-0-0 10-0-0-0-0-0-0-0 10-0-0-0-0-0-0-0 10-0-0-0-0-0-0-0-0 10-0-0-0-0-0-0-0-0 10-0-0-0-0-0-0-0-0-0 10-0-0-0-0-0-0-0-0-0 10-0-0-0-0-0-0-0-0-0 10-0-0-0-0-0-0-0-0-0-0-0 10-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-	372	72	1.3	0	1.2	1.8	4
30 - 1 - 2 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3	10000000000000000000000000000000000000	106	106	0.9	0	0.8	1.2	2

Note: 1) See calculation method, caution and suggested standard on page 11.
2) Lowest measured value; contact to contact or contact to shell.



## Mixed Contacts (High Voltage + Low Voltage)

ica con	tacts (High Voltage + L		onage	-)				T Vo	est Itage	
	¥ E	Reference	Number of contacts	High Voltage Dielectric	ø A (mm)	Solder Contact Availability	Solder wire max AWG	AC (V)	DC (V)	Rated current (Amps)
<b>2S</b>		702	1HV 2LV	1.3	1.3 2.0	0	20 16	6300 1500	9000 2100	6 18
3S		702	1HV 2LV	1.3	1.3 2.0	0	20 16	6300 1500	9000 2100	6 18
		703	1HV 2LV	1.3 -	1.3 1.3	0	20 20	6300 2100	9000 3000	6 14
		704	1HV 4LV	1.3	1.3 1.3	0	20 20	6300 1050	9000 1500	6 10
		705	1HV 5LV	1.3 -	1.3 1.3	0	20 20	6300 1050	9000 1500	6 9
		706	1HV 6LV	1.3	1.3 1.3	0	20 20	6300 1050	9000 1500	6 8
		707	1HV 7LV	1.3 -	1.3 1.3	0	20 20	6300 1050	9000 1500	6 8
		708	1HV 8LV	1.3 -	1.3 4@1.3 4@.9	0	20 4@20 4@22	6300 1050	9000 1500	6 4@6 4@8
		709	1HV 9LV	1.3	1.3 0.9	0	20 22	6300 750	9000 1200	6 6
		711	1HV 11LV	1.3 -	1.3 0.9	0	20 22	6300 750	9000 1200	6 6
		432	2HV	1.3	1.3	0	20	6300	9000	6
		732	2HV 2LV	1.3 -	1.3 1.3	0	20 20	6300 2100	9000 3000	6 14
		734	2HV 4LV	1.3	1.3 1.3	0	20 20	6300 2100	9000 3000	6 10
45		702	1HV 2LV	2.0	3.0	0	16 12	6300 2100	9000 3000	8 22
		703	1HV 3LV	2.0	2.0	0	16 16	6300 2100	9000 3000	8 16
		704	1HV 4LV	2.0	1.3	0	16 20	6300 2700	9000 3900	8 13
		705	1HV 5LV	2.0	1.3	0	16 20	6300 2100	9000 3000	8 11
		706	1HV 6LV	2.0	1.3	0	16 20	6300 2100	9000 3000	8 9
		707	1HV 7LV	2.0	1.3	0	16 20	6300 2100	9000 3000	8 9
		708	1HV 8LV	2.0	1.3	0	16 20	6300 2100	9000 3000	8 9
		709	1HV 9LV	2.0	0.9	0	16 22	6300 2100	9000 3000	8 7
		710	1HV 10LV	2.0	0.9	0	16 22	6300 2100	9000 3000	8 7



**4S** 

#### Mixe

ed	Contacts (High Voltag	je + L	ow Vo	oltage)	)					
								Te Vol	est tage	
	HV HV	Reference	Number of contacts	High Voltage Dielectric	ø A (mm)	Solder Contact Availability	Solder wire max AWG	AC (V)	DC (V)	Rated current (Amps)
		712	1HV 12LV	2.0	0.9	0	16 22	6300 2100	9000	8 7
		714	1HV 14LV	2.0	0.9	0	16 22	6300 2100	9000 3000	8 7
		716	1HV 16LV	2.0	0.9	0	16 22	6300 1500	9000 2100	8 6
		442	2HV	1.3	-	0	16	10500	15000	8
		732	2HV 2LV	2.0	3.0	0	16 12	6300 2100	9000 3000	8 22
		733	2HV 3LV	2.0	2.0	0	16 16	6300 2700	9000 3900	- 16
		734	2HV 4LV	2.0	- 1.3	0	16 20	6300 2700	9000 3900	13
		735	2HV 5LV	2.0	- 1.3	0	16 20	26300 2100	9000 3000	- 11
		736	2HV 6LV	2.0	- 1.3	0	16 20	6300 2100	9000 3000	9
		737	2HV 7LV	2.0	1.3	0	16 20	6300 2100	9000 3000	9
		739	2HV 9LV	2.0	0.9	0	16 22	6300 2100	9000 3000	7
		740	2HV 10LV	2.0	0.9	0	16 22	6300 2100	9000 3000	7
		742	2HV 12LV	2.0	0.9	0	16 22	6300 2100	9000 3000	7
		433	3HV	2.0	-	0	16	6300	9000	-
		434	4HV	2.0	-	0	16	6300	9000	-



### Mixed Contacts (High Voltage + Low Voltage)

	tacts (riight voltage + L							Te Vol	est tage	
	HZ HZ	Reference	Number of contacts	High Voltage Dielectric	ø A (mm)	Solder Contact Availability	Solder wire max AWG	AC (V)	DC (V)	Rated current (Amps)
5S		706	1HV 6LV	2.0	2.0	0	16 16	10500 2100	15000 3000	- 18
		708	1HV 8LV	2.0 -	2.0	0	16 16	10500 1200	15000 1800	- 15
		710	1HV 10LV	2.0	1.6	0	16 18	10500 1200	15000 1800	- 11
		730	1HV 10LV	2.0 -	2.0	0	16 16	21000 1200	3000 1800	- 15
		724	1HV 24LV	2.0	1.3	0	16 20	10500 1200	15000 1800`	6
		734	2HV 4LV	2.0	3.0	0	16 12	10500 2100	15000 3000	22
		736	2HV 6LV	2.0 -	2.0	0	16 16	10500 2100	15000 3000	18
		738	2HV 8LV	2.0 -	2.0	0	16 16	10500 2100	15000 3000	- 15
		740	2HV 10LV	2.0 -	1.6	0	16 18	10500 1800	15000 2400	11
		754	2HV 24LV	2.0	1.3	0	16 20	10500 1200	15000 1800	6



**5S** 

### Mixed Contacts (High Voltage + Low Voltage)

			<b>3</b>				Te	est tage	
¥ E	Reference	Number of contacts	High Voltage Dielectric	ø A (mm)	Solder Contact Availability	Solder wire max AWG	AC (V)	DC (V)	Rated current (Amps)
	764	3HV 4LV	2.0	2.0	0	16 16	10500 1200	15000 1800	- 18
	782	4HV 2LV	2.0	2.0	0	16 16	10500 1200	15000 1800	<u>-</u> 18
	442	2HV	2.0	-	0	16	10500	15000	-
	443	3HV	2.0	-	0	16	10500	15000	-
	444	4HV	2.0	-	0	16	10500	15000	-
	438	8HV	2.0	-	0	16	10500	15000	-



									Te Vol	est tage	
	Coax	Reference	Number of contacts	Coax Impedance / Coax contact type	ø A (mm)	Solder Contact Availability	Solder wire max AWG	Coax¹ cable group	AC (V)	DC (V)	Rated current (Amps)
3S		801	1 coax 1 multi	50 ohms Type A1	1.3	0	20	1-2-3	2100 2700	3000 3900	4 14
		802	1 coax 2 multi	50 ohms Type A1	1.3	0	- 20	1-2-3	2100 1200	3000 1800	4 14
		803	1 coax 3 multi	50 ohms Type A1	1.3	0	20	1-2-3	2100 2700	3000 3900	4 14
		804	1 coax 4 multi	50 ohms Type A1	1.3	0	20	1-2-3	2100 1200	3000 1800	4 10
		805	1 coax 5 multi	50 ohms Type A1	0.9	0	- 22	1-2-3	2100 1800	3000 2400	4 8
		806	1 coax 6 multi	50 ohms Type A1	- 1.3	0	20	1-2-3	2100 750	3000 1200	4 8
		807	1 coax 7 multi	50 ohms Type A1	0.9	0	22	1-2-3	2100 750	3000 1200	4 7
45		802	1 coax 2 multi	50 ohms Type A1	3.0	0	- 12	1-2-3	2100 2100	3000 3000	4 22
		803	1 coax 3 multi	50 ohms Type A1	2.0	0	- 16	1-2-3	2100 2100	3000 3000	4 16
		804	1 coax 4 multi	50 ohms Type A1	- 1.3	0	- 20	1-2-3	2100 2700	3000 3900	4 13
		805	1 coax 5 multi	50 ohms Type A1	1.3	0	- 20	1-2-3	2100 2100	3000 3000	4 11
		806	1 coax 6 multi	50 ohms Type A1	- 1.3	0	<u>-</u> 20	1-2-3	2100 2100	3000 3000	4 9
		807	1 coax 7 multi	50 ohms Type A1	1.3	0	<u>-</u> 20	1-2-3	2100 2100	3000 3000	4 8
		809	1 coax 9 multi	50 ohms Type A1	0.9	0	- 22	1-2-3	2100 2100	3000 3000	4 7
		810	1 coax 10 multi	50 ohms Type A1	0.9	0	- 22	1-2-3	2100 2100	3000 3000	4 7



	ded Contacts (Coaxiai			3-7					Te Vol	est tage	
	Coax	Reference	Number of contacts	Coax Impedance / Coax contact type	ø A (mm)	Solder Contact Availability	Solder wire max AWG	Coax¹ cable group	AC (V)	DC (V)	Rated current (Amps)
45		812	1 coax 12 multi	50 ohms Type A1	0.9	0	- 22	1-2-3	2100 2100	3000 3000	4 7
		202	2 coax	50 ohms Type A1	-	0	-	1-2-3	2100	3000	4
		832	2 coax 2 multi	50 ohms Type A1	1.3	0	- 20	1-2-3	2100 2100	3000 3000	4 13
		834	2 coax 4 multi	50 ohms Type A1	1.3	0	20	1-2-3	2100 2100	3000 3000	4 13
		836	2 coax 6 multi	50 ohms Type A1	0.9	0	- 22	1-2-3	2100 1800	3000 2400	4 7
		838	2 coax 8 multi	50 ohms Type A1	0.9	0	- 22	1-2-3	2100 1800	3000 2400	4 7
		842	2 coax 12 multi	50 ohms Type A1	0.9	0	- 22	1-2-3	2100 1800	3000 2400	4 7
5S		804		50 ohms Type A0	3.0	0	12	1-2-6	2100 1800	2400 2400	6 7
		810	1 coax 10 multi	50 ohms Type A1	1.6	0	- 18	1-2-3	2100 1800	3000 2400	4 11
		232	2 coax	50 ohms Type A0	-	0	-	1-2-6	3000	4200	6
		282	2 coax	50 ohms Type A1	-	0	-	6	3000	4200	12
		292	2 coax	75 ohms Type A	-	0	-	4-5-7	2400	3300	10
		832	2 coax 2 multi	50 ohms Type A0	2.0	0	- 16	1-2-6	3000 2100	4200 3000	6 18



IVIIACU	Contacts (Coaxial + L		Jitage	.)							
									Vol	est tage	
	Coax	Reference	Number of contacts	Coax Impedance / Coax contact type	ø A (mm)	Solder Contact Availability	Solder wire max AWG	Coax¹ cable group	AC (V)	DC (V)	Rated current (Amps)
5\$		834	2 coax 4 multi	50 ohms Type A0	2.0	0	- 16	1-2-6	3000 2100	4200 3000	6 18
		838	2 coax 8 multi	50 ohms Type A0	1.6	0	- 18	1-2-6	3000 1100	4200 2400	6 12
		842	2 coax 12 multi	50 ohms Type A0	- 1.3	0	- 20	1-2-6	2100 2100	3000 2400	6 9
		846	2 coax 16 multi	50 ohms Type A0	- 1.3	0	<u>-</u> 20	1-2-6	3000 750	4200 1200	6 8
		846	2 coax 16 multi	75 ohms Type A	- 1.3	0	<u>-</u> 20	4-5-7 -	2400 750	3300 1200	10 8
		850	2 coax 20 multi	50 ohms Type A0	1.3	0	20	1-2-6	3000 750	4200 1200	6 7
		854	2 coax 24 multi	50 ohms Type A0	1.3	0	<u>-</u> 20	1-2-6	3000 750	4200 1200	6
		234	4 coax	50 ohms Type A1	-	0	-	1-2-3	2100	3000	4
		876	4 coax 6 multi	50 ohms Type A1	1.3	0	- 20	1-2-3	2100 750	3000 1200	4 6



ľ	Mixed Contacts (Coaxia	al + L	ow Vo	oltage)	)						
	₹					llity			Vol:	est tage	
	Coax	Reference	Number of contacts	Coax Impedance / Coax contact type	ø A (mm)	Solder Contact Availability	Solder wire max AWG	Coax¹ cable group	AC (V)	DC (V)	Rated current (Amps)
6S		826	1 coax 26 multi	50 ohms Type A0	2.0	0	- 16	1-2-6 -	3000 1500	4200 2100	6 7
		826	1 coax 26 multi	75 ohms Type A	2.0	0	- 16	4-5-7 -	2400 1500	3300 2100	10 7
		830		50 ohms Type A	4 @ 3.0 30 @ 1.6	0	4 @ 12 30 @ 18	6 4-5-7	3000 1500	4200 2100	12 4 @14 30 @ 5
		830	1 coax 34 multi	75 ohms Type A	4 @ 3.0 30 @ 1.6	0	4 @ 12 4 @ 18	6 4-5-7	2400 1500	2100	10 4 @ 10 30 @ 14
		857	2 coax 33 multi	50 ohms Type A	<u>-</u> 1.3	0	- 20	4-5-7 -	2400 1200	3300 1800	10 4
		858	2 coax 34 multi	50 ohms Type A	6 @ 1.3 6 @ 1.6 5 @ 2.0 17 @ 0.9	0	- 20 18 16 22	6 -	3000 1200	4200 1800	12 4 5 10 2
		858	2 coax 34 multi	75 ohms Type A	- 6 @ 1.3 6 @ 1.6 5 @ 2.0 17 @ 0.9	0	- 20 18 16 22	4-5-7	2100 1200	3000 1800	10 4 5 10 7
		859	2 coax 40 multi	50 ohms Type A1	4 @3.0 36 @1.3	0	4 @ 12 36 @ 20	1-2-3	2100 1200	3000 1800	10 4 @ 14 36 @ 4
		866		50 ohms Type A0	2.0	0	- 16	1-2-6	13000 1200		6 7
		866	3 coax 26 multi	75 ohms Type A	- 1.3	0	- 16	4-5-7 -	2400 1000	3300 2100	10 4

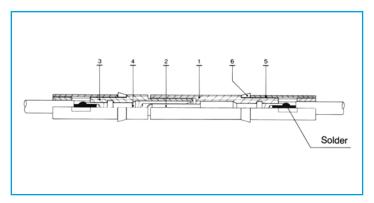


									Te Volt	st age	
	Coax	Reference	Number of contacts	Coax Impedance / Coax contact type	ø A (mm)	Solder Contact Availability	Solder wire max AWG	Coax¹ cable group	AC (V)	DC (V)	Rated current (Amps)
6\$		284	4 coax	50 ohms Type A	-	0	-	6	3000	4200	12
		294	4 coax	75 ohms Type A	-	0	-	6	2400	3300	10
	© © © O O O O O O O O O O O O O O O O O	880	4 coax 20 multi	50 ohms Type A1	1.3	0	- 20	4-5-7 -	2100 1200	3000 1800	4 4
		882	4 coax 26 multi	75 ohms Type A	0.9	0	- 22	4-5-7 -	2400 750	3300 1200	10 2
		887	5 coax 7 multi	50 ohms 1@Type A3 4@Type A1	- - 2.0	0	- - 16	1@9 4@1-2-3	3000 2100 1000	4200 3000 2100	26 4 10
		890	6 coax 4 multi	50 ohms Type A1	4.0	0	- 10	1-2-3 -	2100 1500	3000 2100	4 16
		893	6 coax 20 multi	50 ohms Type A1	1.6	0	- 18	1-2-3 -	2100 1500	3000 2100	4 5
		238	8 coax	50 ohms Type A0	-	0	-	1-2-6	3000	4200	6
		899	8 coax 20 multi	50 ohms Type A1	1.6	0	- 18	1-2-3 -	2100 1500	3000 2100	5 7



#### Technical Information

Example of high voltage contact construction for mixed high voltage and multi high voltage connectors



The high voltage contact is permanently fixed into the inserts. The conductor is secured by solder.

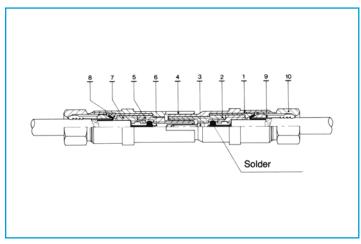
Component	Material	Surface Treatment			
Component	Iviaterial	Cu	Ni	Au	
1 Insert	PTFE (ASTM D 1457-83)				
2 Male Contact	Brass (UNS C 385)	0.5	3	1.5	
3 Insert	PTFE (ASTM D 1457-83)				
4 Female Contact	Bronze (UNS C 544)	0.5	3	2.5	
5 Insert Tube	PTFE (ASTM D 1457-83)				
6 Clips	Brass (UNS C 385)	0.5	3		

Example of coaxial contact construction for mixed coax and multi coax connectors

#### Coaxial type A0, A, A1 and type A3

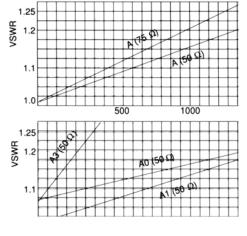
The coaxial of this type is permanetly fixed into the insert. The conductor is secured by solder and the shield by crimping.

The coax contact is permanently fixed into the inserts. The conductor is secured by solder and the shield by crimping.



	Component	Material	Surface Treatment		
	Component	Material	Cu	Ni	Au
1	Male Sleeve	Brass (UNS C 385)	0.5	3	1.5
2	Insert	PTFE (UNS D 1457-83)			
3 Male Contact		Brass (UNS C 385)	0.5	3	1.5
4	Female Sleeve	Bronze (UNS C 544)	0.5	3	2.0
5	Insert	PFTE (UNS D 1457-83)			
6	Female Contact	Bronze (UNS C 544)	0.5	3	2.5
7	Insulating Sleeve	PTFE (UNS D 1457-83)			
8	Grounding Sleeve	Brass (UNS C 385)	0.5	3	
9	Collet	Brass (UNS C 187)	0.5	3	
10	Ferrule	Brass (UNS C 385)	0.5	3	
10	retruie	Blass (UNS C 303)	0.5	3	

#### Technical characteristics of coax contacts



The coaxial part is permanetly fixed in the main insert. The inner conductomer of the cable is soldered to the contact while the outer conductor is clamped by the collet.

Characteristics
Impedance
Operating voltage at 50 Hz
Test voltage at 50 Hz
Rated current
Insulating resisance
Contact resistance
Shell to shell resistance
VSWR (f = GHz)

Unit		oax oe A	Coax Type A0	Coax Type A1	Coax Type A3
Ω	50   75		50	50	50
AC	600	800	1000	300	1000
AC	1800	2300	300	800	3000
Α	12	7	7	5	15
Ω	>10 <sub>12</sub>	>10 <sub>12</sub>	>10 <sub>12</sub>	>10 <sub>12</sub>	>10 <sub>12</sub>
mΩ	2.0	2.9	4.5	3.8	2.0
$m\Omega$	1.8	1.8	1.0	3.0	1.0
	1.01 +0.156f	1.01 +0.063f	1.06 +0.1f	1.04 +0.127f	1.06 +0.5f

Data Subject to Change



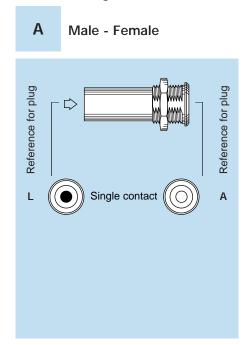
#### Recommended coaxial cable for mixed coax and multicoax connectors

	Group 1)					
Type	1	2	3	5	6	7
RG.58 C/U						
RG.59 B/U						
RG.115 A/U						
RG.122 /U						
RG.142 B/U						
RG.165 /U						
RG.174 A/U						
RG.178 B/U						

			Grou	ıp 1)		
Type	1	2	3	5	6	7
RG.188 A/U						
RG.196 A/U						
RG.213 /U						
RG.223 /U						
RG.302 /U						
RG.316 /U						
RG.400 /U						
CCE.99.281.505 LEMO						

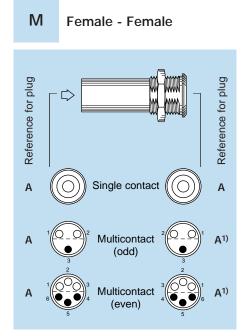
1) The cable group number corrresponding to the chosen cable must be written in the variant position of the part number.

#### Contact configuration for RMA, RAD and SWH fixed couplers



Reference for plug Reference for plug Single contact Α Multicontact (odd) Multicontact (even)

Female - Male



#### 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).

For coupling a plug fitted with male contacts (contact reference A) at the flange end for RAD and SWH Reference L

and an inverted plug fitted with female contacts (contact reference L) at the other end.

For the inverted version of code L. Reference A

#### 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.



## Housings

		Surface t	reatment	
Ref.	Material	Outer shell and collet nut	Latch sleeve and grounding crown	Note
С	Brass <sup>1)</sup>	chrome	nickel	
D	Brass	gold-plated	nickel	
N	Brass	nickel	nickel	
K	Brass	black chrome	nickel	
S	Stainless steel	without treatment	nickel-plated brass	
Т	Stainless steel	without treatment	stainless steel	
U	Stainless steel <sup>2)</sup>	without treatment	stainless steel	
L	Aluminium alloy3)	anodized	nickel-plated brass	
В	POM black <sup>4)</sup>	without treatment	nickel-plated brass	
Н	PPS/brass <sup>5)</sup>	without treat./nickel	nickel	
G	PEEK <sup>4)</sup>	without treatment	nickel-plated brass	
Р	PSU <sup>6)</sup>	without treatment	nickel-plated brass	
R	PPSU <sup>7)</sup>	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

#### Insulators

Ref.	Material or form	Note
L	PEEK	
Т	PTFE 1)	
Т	FEP 2)	

Ref.	Material or form	Note
V	PI <sup>2)</sup>	
N	PA6.6 3)	

#### Note:

- 1) Only for single contact types.
- 2) Only for multicontact types.
  3) Material for 5S and 6S series multicontact inserts. Detailed characteristics of these materials are presented on page 7.

#### Contacts

#### Contacts for plugs, free or fixed receptacles

Ref.	Contact type
Α	Male solder
С	Male crimp 1) 4)
L	Female solder
М	Female crimp <sup>2) 4)</sup>
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
Α	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.

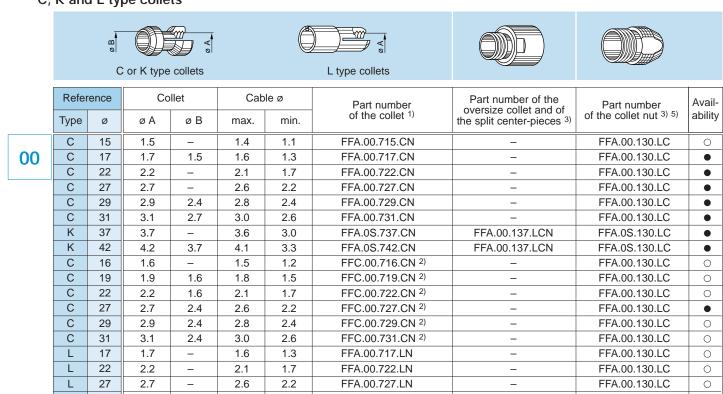
- 1) For the FFS model of the 00 series and FFA or FFL models of the S series.
- 2) For the PSS model of the 00 series and PCA or PSA models of the S series.
- 3) For the FTA model of the S series.
- 4) For conductor range that can fit with crimp contacts consult page 10.

Connectors can be configured « inverted» i.e. plugs equiped 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 previous page).



## Collets

#### C, K and L type collets



**0S** 

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	•
С	16	1.6	-	1.5	1.2	FFC.00.716.CN <sup>2)</sup>	_	FFA.00.130.LC	0
С	19	1.9	1.6	1.8	1.5	FFC.00.719.CN <sup>2)</sup>	_	FFA.00.130.LC	0
С	22	2.2	1.6	2.1	1.7	FFC.00.722.CN <sup>2)</sup>	-	FFA.00.130.LC	0
С	27	2.7	2.4	2.6	2.2	FFC.00.727.CN <sup>2)</sup>	-	FFA.00.130.LC	•
С	29	2.9	2.4	2.8	2.4	FFC.00.729.CN <sup>2)</sup>	_	FFA.00.130.LC	0
С	31	3.1	2.4	3.0	2.6	FFC.00.731.CN <sup>2)</sup>	_	FFA.00.130.LC	0
L	17	1.7	_	1.6	1.3	FFA.00.717.LN	_	FFA.00.130.LC	0
L	22	2.2	-	2.1	1.7	FFA.00.722.LN	-	FFA.00.130.LC	0
L	27	2.7	_	2.6	2.2	FFA.00.727.LN	_	FFA.00.130.LC	0
L	29	2.9	_	2.8	2.4	FFA.00.729.LN	_	FFA.00.130.LC	0
L	31	3.1	_	3.0	2.6	FFA.00.731.LN	_	FFA.00.130.LC	0
С	17	1.7	_	1.6	1.3	FFA.0S.717.CN	_	FFA.0S.130.LC	0
С	22	2.2	_	2.1	1.7	FFA.0S.722.CN	_	FFA.0S.130.LC	0
С	27	2.7	_	2.6	2.2	FFA.0S.727.CN	_	FFA.0S.130.LC	•
С	32	3.2	_	3.1	2.7	FFA.0S.732.CN	_	FFA.0S.130.LC	•
С	37	3.7	-	3.6	3.0	FFA.0S.737.CN	_	FFA.0S.130.LC	•
С	42	4.2	3.7	4.1	3.3	FFA.0S.742.CN	_	FFA.0S.130.LC	•
С	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	0
K	68	6.8	-	6.7	6.0	FFA.1S.768.CN 6)	FFA.0S.137.LCN	FFA.1S.131.LC	0
С	17	1.7	_	1.6	1.3	FLA.0S.717.CN <sup>4)</sup>	-	FFA.0S.130.LC	0
С	22	2.2	_	2.1	1.7	FLA.0S.722.CN <sup>4)</sup>	_	FFA.0S.130.LC	0
С	27	2.7	-	2.6	2.2	FLA.0S.727.CN <sup>4)</sup>	_	FFA.0S.130.LC	0
С	32	3.2	-	3.1	2.7	FLA.0S.732.CN <sup>4)</sup>	_	FFA.0S.130.LC	0
С	37	3.7	_	3.6	3.0	FLA.0S.737.CN <sup>4)</sup>	-	FFA.0S.130.LC	0
С	42	4.2	3.7	4.1	3.3	FLA.0S.742.CN <sup>4)</sup>	_	FFA.0S.130.LC	0
С	44	4.4	3.7	4.3	3.5	FLA.0S.744.CN <sup>4)</sup>	_	FFA.0S.132.LC	0
L	17	1.7	-	1.6	1.3	FFA.0S.717.LN	_	FFA.0S.130.LC	0
L	22	2.2	_	2.1	1.7	FFA.0S.722.LN	_	FFA.0S.130.LC	0
L	27	2.7	_	2.6	2.2	FFA.0S.727.LN	-	FFA.0S.130.LC	0
L	32	3.2	_	3.1	2.7	FFA.0S.732.LN	-	FFA.0S.130.LC	0
L	37	3.7	_	3.6	3.0	FFA.0S.737.LN	_	FFA.0S.130.LC	0
L	42	4.2	_	4.1	3.3	FFA.0S.742.LN	-	FFA.0S.130.LC	0
L	44	4.4	_	4.3	3.5	FFA.0S.744.LN	_	FFA.0S.132.LC	0

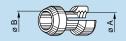
Note: See following page for text of notes  $^{1)}$  through  $^{6)}$ . All dimensions are in millimeters.

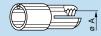
Data Subject to Change



#### C, K and L type collets

**1S** 









C or K type collet

L type collet

ı										
	Refer			Collet Cable ø			Part number of the collet 1)	Part number of the oversize collet and of	Part number of the collet nut 3) 5)	Avail- ability
	Type	Ø	ø A	øΒ	max.	min.	0. 1.10 00.101	the split center-pieces 3)		uzy
	С	17	1.7	_	1.6	1.3	FFA.1S.717.CN	_	FFA.1S.130.LC	0
	С	22	2.2	-	2.1	1.7	FFA.1S.722.CN	-	FFA.1S.130.LC	0
	С	27	2.7	_	2.6	2.2	FFA.1S.727.CN	_	FFA.1S.130.LC	•
	С	32	3.2	-	3.1	2.6	FFA.1S.732.CN	_	FFA.1S.130.LC	•
Ī	С	37	3.7	-	3.6	2.7	FFA.1S.737.CN	_	FFA.1S.130.LC	0
	С	42	4.2	-	4.1	3.3	FFA.1S.742.CN	-	FFA.1S.130.LC	•
	С	47	4.7	_	4.6	3.8	FFA.1S.747.CN	_	FFA.1S.130.LC	•
	С	52	5.2	-	5.1	4.3	FFA.1S.752.CN	_	FFA.1S.130.LC	•
	С	57	5.7	_	5.6	4.8	FFA.1S.757.CN	_	FFA.1S.130.LC	•
	С	62	6.2	5.2	6.1	5.3	FFA.1S.762.CN	_	FFA.1S.130.LC	•
	О	66	6.6	5.4	6.5	5.9	FFA.1S.766.CN 6)	_	FFA.1S.131.LC	0
	С	68	6.8	_	6.7	6.0	FFA.1S.768.CN 6)	_	FFA.1S.131.LC	0
	K	72	7.2	6.7	7.0	6.1	FFA.2S.772.CN	FFA.1S.137.LCN	FFA.2S.130.LC	0
	K	77	7.7	6.7	7.5	7.1	FFA.2S.777.CN	FFA.1S.137.LCN	FFA.2S.130.LC	0
	K	82	8.2	6.7	8.0	7.6	FFA.2S.782.CN	FFA.1S.137.LCN	FFA.2S.130.LC	0
	K	87	8.7	6.7	8.5	8.1	FFA.2S.787.CN	FFA.1S.137.LCN	FFA.2S.130.LC	0
	С	17	1.7	_	1.6	1.3	FLA.1S.717.CN <sup>4)</sup>	_	FFA.1S.130.LC	0
	С	22	2.2	-	2.1	1.7	FLA.1S.722.CN <sup>4)</sup>	_	FFA.1S.130.LC	0
	О	27	2.7	-	2.6	2.2	FLA.1S.727.CN <sup>4)</sup>	_	FFA.1S.130.LC	0
	С	32	3.2	_	3.1	2.6	FLA.1S.732.CN <sup>4)</sup>	_	FFA.1S.130.LC	0
	С	37	3.7	-	3.6	2.7	FLA.1S.737.CN <sup>4)</sup>	_	FFA.1S.130.LC	0
	С	42	4.2	_	4.1	3.3	FLA.1S.742.CN <sup>4)</sup>	_	FFA.1S.130.LC	0
	О	47	4.7	-	4.6	3.8	FLA.1S.747.CN <sup>4)</sup>	_	FFA.1S.130.LC	0
	С	52	5.2	_	5.1	4.3	FLA.1S.752.CN <sup>4)</sup>	_	FFA.1S.130.LC	0
	С	57	5.7	_	5.6	4.8	FLA.1S.757.CN <sup>4)</sup>	_	FFA.1S.130.LC	0
	С	62	6.2	5.2	6.1	5.3	FLA.1S.762.CN <sup>4)</sup>	_	FFA.1S.130.LC	0
	О	66	6.6	5.4	6.5	5.9	FLA.1S.766.CN <sup>4)</sup>	_	FFA.1S.131.LC	0
	О	68	6.8	5.5	6.7	6.0	FLA.1S.768.CN <sup>4)</sup>	_	FFA.1S.131.LC	0
	L	17	1.7	_	1.6	1.3	FFA.1S.717.LN	_	FFA.1S.130.LC	0
	L	22	2.2	_	2.1	1.7	FFA.1S.722.LN	_	FFA.1S.130.LC	0
	Г	27	2.7	-	2.6	2.2	FFA.1S.727.LN	_	FFA.1S.130.LC	0
	Г	32	3.2	_	3.1	2.6	FFA.1S.732.LN	_	FFA.1S.130.LC	0
	L	37	3.7	_	3.6	2.7	FFA.1S.737.LN	_	FFA.1S.130.LC	0
	L	42	4.2	_	4.1	3.3	FFA.1S.742.LN	_	FFA.1S.130.LC	0
	L	47	4.7	-	4.6	3.8	FFA.1S.747.LN	-	FFA.1S.130.LC	0
	L	50	5.0	-	4.9	4.7	FFA.1S.750.LN	-	FFA.1S.130.LC	0
	L	52	5.2	-	5.1	4.3	FFA.1S.752.LN	-	FFA.1S.130.LC	0
	L	57	5.7	_	5.6	4.8	FFA.1S.757.LN	_	FFA.1S.130.LC	0
	L	62	6.2	-	6.1	5.3	FFA.1S.762.LN	_	FFA.1S.130.LC	0
	L	66	6.6	_	6.5	5.9	FFA.1S.766.LN	_	FFA.1S.131.LC	0

Note:
1) For ordering collets separately.

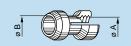
All dimensions are in millimeters.

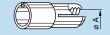
For ordering collets separately.
 These collets can only be used with the FLA model.
 For ordering a K type collet separately, the oversize collet and the corresponding collet nut should also be ordered.
 These collets should be used with FLA, FFP and PCP models.
 For models with bend relief, the FFM. • 130.LC collet nut should be ordered (see page 110).
 These collets cannot be used for connector models with collet nut for fitting a bend relief.



#### C, K and L type collets

**2S** 









C or K type collet

L type collet

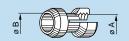
Reference		Collet		Cable ø		Part number	Part number of the	Part number	Avail-
Туре	Ø	ø A	ø B	max.	min.	of the collet 1)	oversize collet and of the split center-pieces <sup>3)</sup>	of the collet nut 3) 5)	ability
С	17	1.7	_	1.6	1.3	FFA.2S.717.CN	_	FFA.2S.130.LC	0
С	27	2.7	-	2.5	1.7	FFA.2S.727.CN	_	FFA.2S.130.LC	0
С	32	3.2	-	3.0	2.5	FFA.2S.732.CN	_	FFA.2S.130.LC	0
С	42	4.2	-	4.0	3.1	FFA.2S.742.CN	_	FFA.2S.130.LC	0
С	52	5.2	-	5.0	4.1	FFA.2S.752.CN	_	FFA.2S.130.LC	0
С	62	6.2	_	6.0	5.1	FFA.2S.762.CN	_	FFA.2S.130.LC	•
С	72	7.2	6.7	7.0	6.1	FFA.2S.772.CN	_	FFA.2S.130.LC	•
С	77	7.7	6.7	7.5	7.1	FFA.2S.777.CN	_	FFA.2S.130.LC	0
С	82	8.2	6.7	8.0	7.6	FFA.2S.782.CN	_	FFA.2S.130.LC	0
С	87	8.7	6.7	8.5	8.1	FFA.2S.787.CN	_	FFA.2S.130.LC	0
K	92	9.2	8.7	9.0	8.1	FFA.3S.792.CN	FFA.2S.137.LCN	FFA.3S.130.LC	0
K	97	9.7	8.7	9.5	9.1	FFA.3S.797.CN	FFA.2S.137.LCN	FFA.3S.130.LC	0
K	10	10.2	8.7	10.0	9.6	FFA.3S.710.CN	FFA.2S.137.LCN	FFA.3S.130.LC	0
K	11	10.7	9.0	10.5	10.1	FFA.3S.711.CN	FFA.2S.137.LCN	FFA.3S.130.LC	0
С	17	1.7	_	1.6	1.3	FLA.2S.717.CN <sup>4)</sup>	_	FFA.2S.130.LC	0
С	27	2.7	_	2.5	1.7	FLA.2S.727.CN <sup>4)</sup>	_	FFA.2S.130.LC	0
С	32	3.2	_	3.0	2.5	FLA.2S.732.CN <sup>4)</sup>	_	FFA.2S.130.LC	0
С	42	4.2	_	4.0	3.1	FLA.2S.742.CN 4)	_	FFA.2S.130.LC	0
С	52	5.2	_	5.0	4.1	FLA.2S.752.CN <sup>4)</sup>	_	FFA.2S.130.LC	0
С	62	6.2	_	6.0	5.1	FLA.2S.762.CN 4)	_	FFA.2S.130.LC	0
С	72	7.2	6.7	7.0	6.1	FLA.2S.772.CN 4)	_	FFA.2S.130.LC	0
С	77	7.7	6.7	7.5	7.1	FLA.2S.777.CN 4)	_	FFA.2S.130.LC	0
С	82	8.2	6.7	8.0	7.6	FLA.2S.782.CN <sup>4)</sup>	_	FFA.2S.130.LC	0
С	87	8.7	6.7	8.5	8.1	FLA.2S.787.CN <sup>4)</sup>	_	FFA.2S.130.LC	0
L	27	2.7	_	2.5	1.7	FFA.2S.727.LN	_	FFA.2S.130.LC	0
L	32	3.2	_	3.0	2.5	FFA.2S.732.LN	_	FFA.2S.130.LC	0
L	42	4.2	_	4.0	3.1	FFA.2S.742.LN	_	FFA.2S.130.LC	0
L	52	5.2	_	5.0	4.1	FFA.2S.752.LN	_	FFA.2S.130.LC	0
L	62	6.2	_	6.0	5.1	FFA.2S.762.LN	_	FFA.2S.130.LC	0
L	72	7.2	_	7.0	6.1	FFA.2S.772.LN	_	FFA.2S.130.LC	0
L	77	7.9	_	7.5	7.1	FFA.2S.777.LN	-	FFA.2S.130.LC	0
L	82	8.2	_	8.0	7.6	FFA.2S.782.LN	_	FFA.2S.130.LC	0
L	87	8.7	_	8.5	8.1	FFA.2S.787.LN	_	FFA.2S.130.LC	0

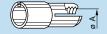
Note:
1) For ordering collets separately.
3) For ordering a K type collet separately, the oversize collet and the corresponding collet nut should also be ordered.
4) These collets should be used with FLA, FFP and PCP models.
5) For models with bend relief, the FFM. ••.130.LC collet nut should be ordered (see page 110).
All dimensions are in millimeters.



#### C, K and L type collets

**3S** 









C or K type collet

L type collet

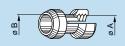
Reference		Collet		Cable ø		Part number	Part number of the	Part number	Avail-
Туре	Ø	ø A	ø B	max.	min.	of the collet 1)	oversize collet and of the split center-pieces <sup>3)</sup>	of the collet nut 3) 5)	ability
С	32	3.2	_	3.0	2.5	FFA.3S.732.CN	-	FFA.3S.130.LC	0
С	42	4.2	_	4.0	3.1	FFA.3S.742.CN	_	FFA.3S.130.LC	0
С	52	5.2	-	5.0	4.1	FFA.3S.752.CN	_	FFA.3S.130.LC	0
С	62	6.2	_	6.0	5.1	FFA.3S.762.CN	_	FFA.3S.130.LC	0
С	72	7.2	I	7.0	6.1	FFA.3S.772.CN	_	FFA.3S.130.LC	0
С	82	8.2	-	8.0	7.1	FFA.3S.782.CN	_	FFA.3S.130.LC	0
С	92	9.2	8.7	9.0	8.1	FFA.3S.792.CN	_	FFA.3S.130.LC	0
С	97	9.7	8.7	9.5	9.1	FFA.3S.797.CN	_	FFA.3S.130.LC	0
С	10	10.2	8.7	10.0	9.6	FFA.3S.710.CN	_	FFA.3S.130.LC	0
С	11	10.7	9.0	10.5	10.1	FFA.3S.711.CN	_	FFA.3S.130.LC	0
K	12	12.2	-	12.0	11.1	FFA.4S.712.CN	FFA.3S.137.LCN	FFA.4S.130.LC	0
K	13	13.2	12.2	13.0	12.1	FFA.4S.713.CN	FFA.3S.137.LCN	FFA.4S.130.LC	0
С	32	3.2	_	3.0	2.5	FLA.3S.732.CN <sup>4)</sup>	-	FFA.3S.130.LC	0
С	42	4.2	-	4.0	3.1	FLA.3S.742.CN 4)	_	FFA.3S.130.LC	0
С	52	5.2	-	5.0	4.1	FLA.3S.752.CN <sup>4)</sup>	-	FFA.3S.130.LC	0
С	62	6.2	_	6.0	5.1	FLA.3S.762.CN 4)	_	FFA.3S.130.LC	0
С	72	7.2	_	7.0	6.1	FLA.3S.772.CN <sup>4)</sup>	-	FFA.3S.130.LC	0
С	82	8.2	-	8.0	7.1	FLA.3S.782.CN 4)	_	FFA.3S.130.LC	0
С	92	9.2	8.7	9.0	8.1	FLA.3S.792.CN 4)	_	FFA.3S.130.LC	0
С	97	9.7	8.7	9.5	9.1	FLA.3S.797.CN 4)	_	FFA.3S.130.LC	0
С	10	10.7	8.7	10.5	9.8	FLA.3S.710.CN 4)	-	FFA.3S.130.LC	0
С	11	10.7	9.0	10.5	10.1	FLA.3S.711.CN <sup>4)</sup>	-	FFA.3S.130.LC	0
L	42	4.2	-	4.0	3.1	FFA.3S.742.LN	_	FFA.3S.130.LC	0
L	52	5.2	_	5.0	4.1	FFA.3S.752.LN	_	FFA.3S.130.LC	0
L	62	6.2	_	6.0	5.1	FFA.3S.762.LN	_	FFA.3S.130.LC	0
L	72	7.2	_	7.0	6.1	FFA.3S.772.LN	-	FFA.3S.130.LC	0
L	82	8.2	_	8.0	7.1	FFA.3S.782.LN	-	FFA.3S.130.LC	0
L	92	9.2	_	9.0	8.1	FFA.3S.792.LN	-	FFA.3S.130.LC	0
L	97	9.7	_	9.5	9.1	FFA.3S.797.LN	-	FFA.3S.130.LC	0
L	10	10.2	_	10.0	9.6	FFA.3S.710.LN	_	FFA.3S.130.LC	0
L	11	10.7	_	10.5	10.1	FFA.3S.711.LN	-	FFA.3S.130.LC	0

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 110).
All dimensions are in millimeters.

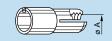


### C, K and L type collets

**4S** 













71										
Refer	Reference Collet				Cab	le ø	Part number	Part number of the oversize collet and of	Part number of the collet nut 3) 5)	Avail- ability
Type	Ø	ø A	øΒ	max.	min.	of the collet 1)	the split center-pieces 3)	of the collect nut of of	ability	
С	52	5.2	_	5.0	4.1	FFA.4S.752.CN	_	FFA.4S.130.LC	0	
С	62	6.2	_	6.0	5.1	FFA.4S.762.CN	_	FFA.4S.130.LC	0	
С	72	7.2	_	7.0	6.1	FFA.4S.772.CN	_	FFA.4S.130.LC	0	
С	82	8.2	_	8.0	7.1	FFA.4S.782.CN	_	FFA.4S.130.LC	0	
С	92	9.2	_	9.0	8.1	FFA.4S.792.CN	_	FFA.4S.130.LC	0	
С	10	10.2	_	10.0	9.1	FFA.4S.710.CN	_	FFA.4S.130.LC	0	
С	11	11.2	_	11.0	10.1	FFA.4S.711.CN	_	FFA.4S.130.LC	0	
С	12	12.2	_	12.0	11.1	FFA.4S.712.CN	_	FFA.4S.130.LC	0	
С	13	13.2	12.2	13.0	12.6	FFA.4S.713.CN	_	FFA.4S.130.LC	0	
K	14	14.2	_	14.0	13.1	FFA.5S.714.CN	FFA.4S.137.LCN	FFA.5S.130.LC	0	
K	15	15.2	_	15.0	14.1	FFA.5S.715.CN	FFA.4S.137.LCN	FFA.5S.130.LC	0	
K	16	16.2	_	16.0	15.1	FFA.5S.716.CN	FFA.4S.137.LCN	FFA.5S.130.LC	0	
K	17	17.2	_	17.0	16.1	FFA.5S.717.CN	FFA.4S.137.LCN	FFA.5S.130.LC	0	
K	18	18.2	_	18.0	17.1	FFA.5S.718.CN	FFA.4S.137.LCN	FFA.5S.130.LC	0	
K	19	19.2	_	19.0	18.1	FFA.5S.719.CN	FFA.4S.137.LCN	FFA.5S.130.LC	0	
K	20	20.2	19.7	20.0	19.1	FFA.5S.720.CN	FFA.4S.137.LCN	FFA.5S.130.LC	0	
K	21	21.2	19.7	21.0	20.1	FFA.5S.721.CN	FFA.4S.137.LCN	FFA.5S.130.LC	0	
K	22	22.2	19.7	22.0	21.1	FFA.5S.722.CN	FFA.4S.137.LCN	FFA.5S.130.LC	0	
С	52	5.2	_	5.0	4.1	FLA.4S.752.CN 4)	_	FFA.4S.130.LC	0	
С	62	6.2	_	6.0	5.1	FLA.4S.762.CN 4)	_	FFA.4S.130.LC	0	
С	72	7.2	_	7.0	6.1	FLA.4S.772.CN <sup>4)</sup>	_	FFA.4S.130.LC	0	
С	82	8.2	_	8.0	7.1	FLA.4S.782.CN <sup>4)</sup>	_	FFA.4S.130.LC	0	
С	92	9.2	_	9.0	8.1	FLA.4S.792.CN <sup>4)</sup>	_	FFA.4S.130.LC	0	
С	10	10.2	_	10.0	9.1	FLA.4S.710.CN <sup>4)</sup>	_	FFA.4S.130.LC	0	
С	11	11.2	_	11.0	10.1	FLA.4S.711.CN <sup>4)</sup>	_	FFA.4S.130.LC	0	
С	12	12.2	_	12.0	11.1	FLA.4S.712.CN 4)	_	FFA.4S.130.LC	0	
С	13	13.2	12.2	13.0	12.6	FLA.4S.713.CN <sup>4)</sup>	_	FFA.4S.130.LC	0	
L	52	5.2	_	5.0	4.1	FFA.4S.752.LN	_	FFA.4S.130.LC	0	
L	62	6.2	_	6.0	5.1	FFA.4S.762.LN	_	FFA.4S.130.LC	0	
L	72	7.2	-	7.0	6.1	FFA.4S.772.LN	_	FFA.4S.130.LC	0	
L	82	8.2	_	8.0	7.1	FFA.4S.782.LN		FFA.4S.130.LC	0	
L	92	9.2	_	9.0	8.1	FFA.4S.792.LN		FFA.4S.130.LC	0	
L	10	10.2	_	10.0	9.1	FFA.4S.710.LN	_	FFA.4S.130.LC	0	
L	11	11.2	_	11.0	10.1	FFA.4S.711.LN	-	FFA.4S.130.LC	0	
L	12	12.2	_	12.0	11.1	FFA.4S.712.LN		FFA.4S.130.LC	0	
L	13	13.2	_	13.0	12.6	FFA.4S.713.LN	-	FFA.4S.130.LC	0	

These notes also apply to the following page.

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 110).

All dimensions are in millimeters.



### C, K and L type collets

	C or K type collet					L type collet				
	Refer Type	ence	Co ø A	ø B	Cab max.	le ø min.	Part number of the collet 1)	Part number of the oversize collet and of the split center-pieces <sup>3)</sup>	Part number of the collet nut <sup>3)</sup>	Avail- ability
	С	72	7.2	_	7.0	6.1	FFA.5S.772.CN	_	FFA.5S.130.LC	
<b>5S</b>	С	82	8.2	_	8.0	7.1	FFA.5S.782.CN	_	FFA.5S.130.LC	0
	С	92	9.2	_	9.0	8.1	FFA.5S.792.CN	_	FFA.5S.130.LC	0
,	С	10	10.2	_	10.0	9.1	FFA.5S.710.CN	_	FFA.5S.130.LC	0
	С	11	11.2	_	11.0	10.1	FFA.5S.711.CN	_	FFA.5S.130.LC	0
	С	12	12.2	_	12.0	11.1	FFA.5S.712.CN	_	FFA.5S.130.LC	0
	С	13	13.2	_	13.0	12.1	FFA.5S.713.CN	_	FFA.5S.130.LC	0
	С	14	14.2	_	14.0	13.1	FFA.5S.714.CN	_	FFA.5S.130.LC	0
	С	15	15.2	_	15.0	14.1	FFA.5S.715.CN	_	FFA.5S.130.LC	0
	С	16	16.2	_	16.0	15.1	FFA.5S.716.CN	_	FFA.5S.130.LC	0
	С	17	17.2	_	17.0	16.1	FFA.5S.717.CN	_	FFA.5S.130.LC	0
	С	18	18.2	_	18.0	17.1	FFA.5S.718.CN	_	FFA.5S.130.LC	0
	С	19	19.2	_	19.0	18.1	FFA.5S.719.CN	-	FFA.5S.130.LC	0
	С	20	20.2	19.7	20.0	19.1	FFA.5S.720.CN	-	FFA.5S.130.LC	0
	С	21	21.2	19.7	21.0	20.1	FFA.5S.721.CN	-	FFA.5S.130.LC	0
	С	22	22.2	19.7	22.0	21.1	FFA.5S.722.CN	_	FFA.5S.130.LC	0
	K	23	23.2	_	23.0	22.1	FFA.6S.723.CN	FFA.5S.137.LCN	FFA.6S.130.LC	0
	K	24	24.2	_	24.0	23.1	FFA.6S.724.CN	FFA.5S.137.LCN	FFA.6S.130.LC	0
	K	25	25.2	_	25.0	24.1	FFA.6S.725.CN	FFA.5S.137.LCN	FFA.6S.130.LC	0
	K	26	26.2	_	26.0	25.1	FFA.6S.726.CN	FFA.5S.137.LCN	FFA.6S.130.LC	0
	K	27	27.2	_	27.0	26.1	FFA.6S.727.CN	FFA.5S.137.LCN	FFA.6S.130.LC	0
	K	28	28.2	27.2	28.0	27.1	FFA.6S.728.CN	FFA.5S.137.LCN	FFA.6S.130.LC	0
	K	29	29.2	27.2	29.0	28.1	FFA.6S.729.CN	FFA.5S.137.LCN	FFA.6S.130.LC	0
	K	30	30.2	27.2	30.0	29.1	FFA.6S.730.CN	FFA.5S.137.LCN	FFA.6S.130.LC	0
	С	72	7.2	_	7.0	6.1	FLA.5S.772.CN <sup>2)</sup>	_	FFA.5S.130.LC	0
	С	82	8.2	_	8.0	7.1	FLA.5S.782.CN <sup>2)</sup>	_	FFA.5S.130.LC	0
	С	92	9.2	_	9.0	8.1	FLA.5S.792.CN <sup>2)</sup>	_	FFA.5S.130.LC	0
	С	10	10.2	_	10.0	9.1	FLA.5S.710.CN <sup>2)</sup>	_	FFA.5S.130.LC	0
	С	11	11.2	-	11.0	10.1	FLA.5S.711.CN <sup>2)</sup>	-	FFA.5S.130.LC	0
	С	12	12.2	_	12.0	11.1	FLA.5S.712.CN <sup>2)</sup>	_	FFA.5S.130.LC	0
	С	13	13.2	_	13.0	12.1	FLA.5S.713.CN <sup>2)</sup>	_	FFA.5S.130.LC	0
	С	14	14.2	-	14.0	13.1	FLA.5S.714.CN <sup>2)</sup>	-	FFA.5S.130.LC	0
	С	15	15.2	_	15.0	14.1	FLA.5S.715.CN <sup>2)</sup>	_	FFA.5S.130.LC	0
	С	16	16.2	_	16.0	15.1	FLA.5S.716.CN <sup>2)</sup>	-	FFA.5S.130.LC	0
	С	17	17.2	_	17.0	16.1	FLA.5S.717.CN <sup>2)</sup>	-	FFA.5S.130.LC	0
	С	18	18.2	_	18.0	17.1	FLA.5S.718.CN <sup>2)</sup>	-	FFA.5S.130.LC	0
	С	19	19.2	_	19.0	18.1	FLA.5S.719.CN <sup>2)</sup>	-	FFA.5S.130.LC	0
	С	20	20.2	19.7	20.0	19.1	FLA.5S.720.CN <sup>2)</sup>	-	FFA.5S.130.LC	0
	С	21	21.2	19.7	21.0	20.1	FLA.5S.721.CN <sup>2)</sup>	-	FFA.5S.130.LC	0
	С	22	22.2	19.7	22.0	21.1	FLA.5S.722.CN <sup>2)</sup>	_	FFA.5S.130.LC	0
	L	92	9.2	_	9.0	8.1	FFA.5S.792.LN	-	FFA.5S.130.LC	0
	L	10	10.2	_	10.0	9.1	FFA.5S.710.LN	-	FFA.5S.130.LC	0
	L	11	11.2	-	11.0	10.1	FFA.5S.711.LN	-	FFA.5S.130.LC	0
	L	12	12.2	_	12.0	11.1	FFA.5S.712.LN	_	FFA.5S.130.LC	0
	L	13	13.2	-	13.0	12.1	FFA.5S.713.LN	-	FFA.5S.130.LC	0
	L	14	14.2	-	14.0	13.1	FFA.5S.714.LN	-	FFA.5S.130.LC	0
	L	15	15.2	_	15.0	14.1	FFA.5S.715.LN	-	FFA.5S.130.LC	0
	L	16	16.2	-	16.0	15.1	FFA.5S.716.LN	-	FFA.5S.130.LC	0
	L	17	17.2	-	17.0	16.1	FFA.5S.717.LN	-	FFA.5S.130.LC	0
	L	18	18.2	_	18.0	17.1	FFA.5S.718.LN	_	FFA.5S.130.LC	0
	L	19	19.2	_	19.0	18.1	FFA.5S.719.LN	_	FFA.5S.130.LC	0
		20	00.0	1	000	10.1	EEV EC 200 I M	1	EEV EC 400 L C	

Note: The L type collet is the only possible for the 5S.112 type.

20.0

21.0

19.1

20.1

FFA.5S.720.LN

FFA.5S.721.LN

L

20

21

FFA.5S.130.LC

FFA.5S.130.LC

0

0

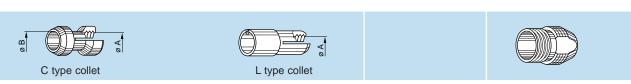
20.2

21.2



## C and L type collets

**6S** 

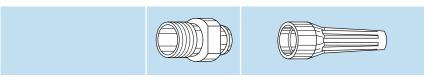


	Reference		Co	llet	Cable ø		Part number	Part number of the	Part number	Avail-
-	Туре	Ø	ø A	øΒ	max.	min.	of the collet 1)	oversize collet and of the split center-pieces	of the collet nut	ability
	С	12	12.2	_	12.0	11.1	FFA.6S.712.CN	_	FFA.6S.130.LC	0
	С	13	13.2	_	13.0	12.1	FFA.6S.713.CN	-	FFA.6S.130.LC	0
	С	14	14.2	-	14.0	13.1	FFA.6S.714.CN	-	FFA.6S.130.LC	0
	С	15	15.2	_	15.0	14.1	FFA.6S.715.CN	-	FFA.6S.130.LC	0
	С	16	16.2	-	16.0	15.1	FFA.6S.716.CN	-	FFA.6S.130.LC	0
	С	17	17.2	_	17.0	16.1	FFA.6S.717.CN	_	FFA.6S.130.LC	0
	С	18	18.2	-	18.0	17.1	FFA.6S.718.CN	-	FFA.6S.130.LC	0
	С	19	19.2	_	19.0	18.1	FFA.6S.719.CN	-	FFA.6S.130.LC	0
	С	20	20.2	_	20.0	19.1	FFA.6S.720.CN	_	FFA.6S.130.LC	0
	С	21	21.2	_	21.0	20.1	FFA.6S.721.CN	_	FFA.6S.130.LC	0
	С	22	22.2	_	22.0	21.1	FFA.6S.722.CN	_	FFA.6S.130.LC	0
	С	23	23.2	_	23.0	22.1	FFA.6S.723.CN	_	FFA.6S.130.LC	0
	С	24	24.2	_	24.0	23.1	FFA.6S.724.CN	_	FFA.6S.130.LC	0
	С	25	25.2	_	25.0	24.1	FFA.6S.725.CN	_	FFA.6S.130.LC	0
	С	26	26.2	_	26.0	25.1	FFA.6S.726.CN	_	FFA.6S.130.LC	0
	С	27	27.2	_	27.0	26.1	FFA.6S.727.CN	_	FFA.6S.130.LC	0
	С	28	28.2	27.2	28.0	27.1	FFA.6S.728.CN	_	FFA.6S.130.LC	0
	С	29	29.2	27.2	29.0	28.1	FFA.6S.729.CN	_	FFA.6S.130.LC	0
	С	30	30.2	27.2	30.0	29.1	FFA.6S.730.CN	_	FFA.6S.130.LC	0
	L	13	12.2	_	12.0	11.1	FFA.6S.712.LN	_	FFA.6S.130.LC	0
	L	14	13.2	_	13.0	12.1	FFA.6S.713.LN	_	FFA.6S.130.LC	0
	L	15	14.2	_	14.0	13.1	FFA.6S.714.LN	_	FFA.6S.130.LC	0
	L	16	15.2	_	15.0	14.1	FFA.6S.715.LN	_	FFA.6S.130.LC	0
	L	17	16.2	_	16.0	15.1	FFA.6S.716.LN	_	FFA.6S.130.LC	0
	L	18	17.2	-	17.0	16.1	FFA.6S.717.LN	_	FFA.6S.130.LC	0
	L	19	18.2	_	18.0	17.1	FFA.6S.718.LN	_	FFA.6S.130.LC	0
	L	20	19.2	-	19.0	18.1	FFA.6S.719.LN	-	FFA.6S.130.LC	0
	L	21	20.2	_	20.0	19.1	FFA.6S.720.LN	-	FFA.6S.130.LC	0
	L	22	21.2	_	21.0	20.1	FFA.6S.721.LN	-	FFA.6S.130.LC	0
	L	23	22.2	-	22.0	21.1	FFA.6S.722.LN	-	FFA.6S.130.LC	0
	L	24	23.2	_	23.0	22.1	FFA.6S.723.LN	-	FFA.6S.130.LC	0
	L	25	24.2	_	24.0	23.1	FFA.6S.724.LN	-	FFA.6S.130.LC	0
	L	26	25.2	_	25.0	24.1	FFA.6S.725.LN	-	FFA.6S.130.LC	0
	L	27	26.2	_	26.0	25.1	FFA.6S.726.LN	-	FFA.6S.130.LC	0
	L	28	27.2	_	27.0	26.1	FFA.6S.727.LN	-	FFA.6S.130.LC	0
	L	29	28.2	_	28.0	27.1	FFA.6S.728.LN	-	FFA.6S.130.LC	0
	L	30	29.2	_	29.0	28.1	FFA.6S.729.LN	-	FFA.6S.130.LC	0
	L	31	30.2	_	30.0	29.1	FFA.6S.730.LN	-	FFA.6S.130.LC	0

**Note:**<sup>1)</sup> For ordering collets separately. All dimensions are in millimeters.



### Bend relief nut and bend relief



	Refe	rence	Part number	Bend relief to be used 1)	
Туре		Ø	of the collet nut	bena relief to be asea 17	
00	С	15 to 31	FFM.00.130.LC	GMA.00.0●●.D●	
00	С	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●	
00	С	27 to 42	FFM.0S.130.LC	GMA.0B.0●●.D●	
<b>0S</b>	K	47 to 62	FFM.1S.130.LC	GMA.1B.0●●.D●	
	L	27 to 42	FFM.0S.130.LC	GMA.0B.0●●.D●	
10	С	27 to 62	FFM.1S.130.LC	GMA.1B.0●●.D●	
<b>1S</b>	K	72 to 82	FFM.2S.130.LC	GMA.2B.0●●.D●	
	L	27 to 62	FFM.1S.130.LC	GMA.1B.0••.D•	
20	С	42 to 82	FFM.2S.130.LC	GMA.2B.0●●.D●	
<b>2S</b>	K	92 to 10	FFM.3S.130.LC	GMA.3B.0••.D•	
	L	42 to 82	FFM.2S.130.LC	GMA.2B.0••.D•	
20	С	52 to 10	FFM.3S.130.LC	GMA.3B.0●●.D●	
35	K	12 to 13	FFM.4S.130.LC	GMA.4B.0●●.D●	
	L	52 to 10	FFM.3S.130.LC	GMA.3B.0••.D•	
40	С	82 to 13	FFM.4S.130.LC	GMA.4B.0●●.D●	
48	L	82 to 13	FFM.4S.130.LC	GMA.4B.0●●.D●	

Note: 1) The bend relief is to be ordered separately (see pages 137).

## 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

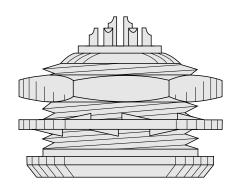
Ref.	Anodized color
Α	blue
J	yellow
N	black

Ref.	Anodized color
R	red
Т	natural
V	green

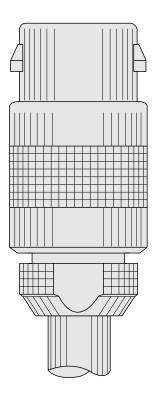
Part number for connector with bend relief backnut

Ref.	Anodized color
L	black
Х	natural

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



# 2C Series Connectors



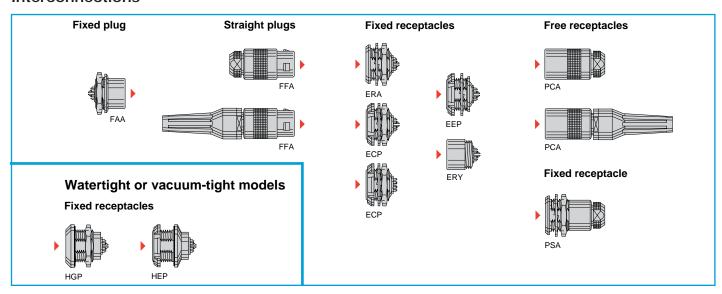


## **2C Series Connectors**

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

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

Straight plug, cable collet FFA

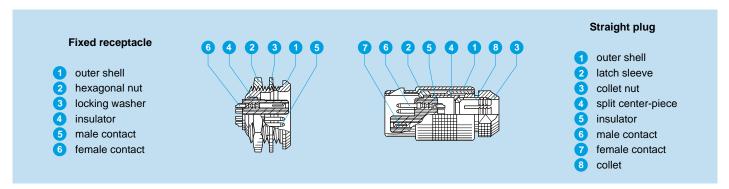
Straight plug, cable collet and nut for fitting a bend relief FFA

HEP Fixed receptacle, 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 <sup>1)</sup>	-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		

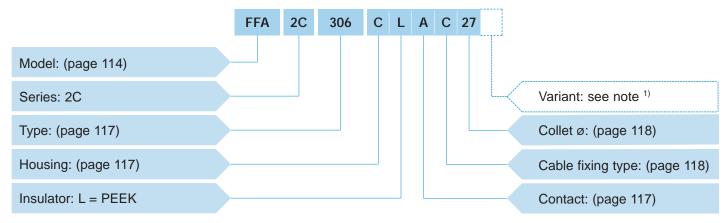
Various tests have been carried out with FFA and ERA connector pairs, with chrome-plated brass shell and PEEK insulator. Detailed electrical characteristics, as well as materials and treatment are presented in the chapter Technical Characteristics on page 5.

1) For watertight or vacuum-tight models: -4° F, +176° F



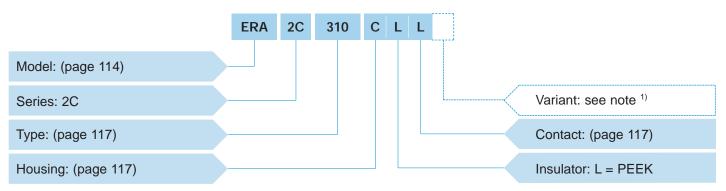
## Part Number Example

### Straight plug with cable collet



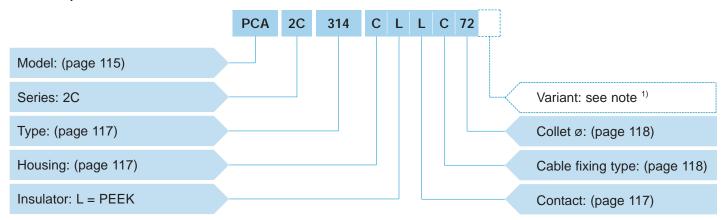
FFA.2C.306.CLAC27 = straight plug with cable collet, 2C series, multicontact type with six contacts, outer shell in chrome-plated brass, PEEK insulator, male solder contacts, C type collet for 2.7 mm diameter cable.

### 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. See page 118.
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.

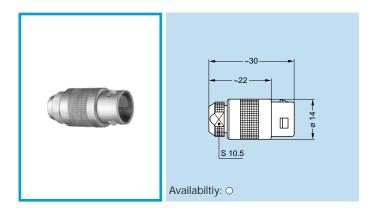
For the various housings available in colors, the corresponding letter in the part number for the color is indicated on page 118. For the watertight models of receptacle, the letter «P» is used; for the vacuum-tight models of receptacle the letters «PV» shall be indicated.

Data Subject to Change

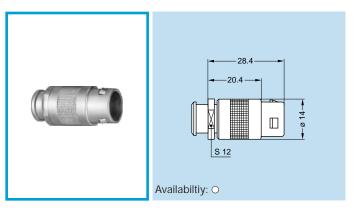


## Models

FFA.2C Straight plug, cable collet

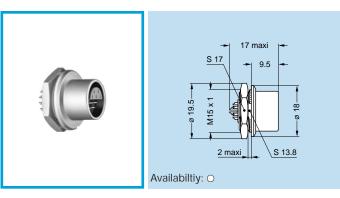


FFA.2C Straight plug, cable collet and nut for fitting a bend relief

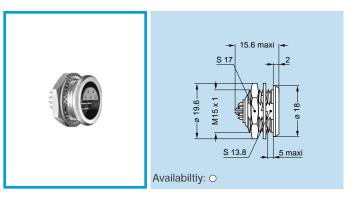


Note: The bend relief must be ordered separately (see page 137).

FAA.2C Fixed plug, nut fixing, non-latching

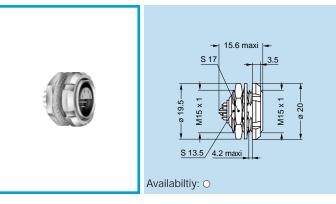


ERA.2C Fixed receptacle, nut fixing



Panel cut-out (page 119) Panel cut-out (page 119)

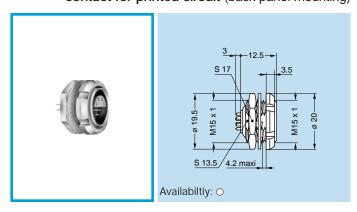
**ECP.2C** Fixed receptacle with two nuts (back panel mounting)



Panel cut-out (page 119)

Note: All dimensions are in millimeters.

ECP.2C Fixed receptacle with two nuts, straight contact for printed circuit (back panel mounting)

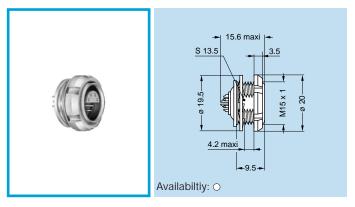


Panel cut-out (page 115)

PCB drilling pattern (page 119)

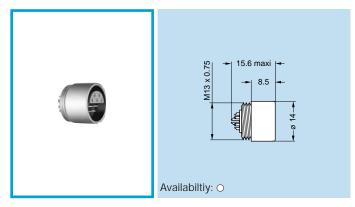


EEP.2C Fixed receptacle, nut fixing (back panel mounting)



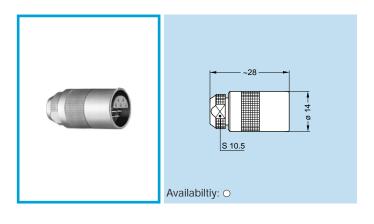
Panel cut-out (page 119)

ERY.2C Fixed receptacle, protruding shell, (screw fixing on the panel)

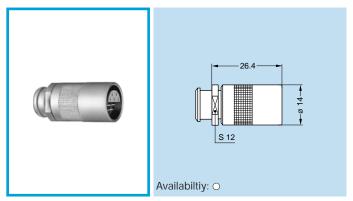


Panel cut-out (page 119)

PCA.2C Free receptacle, cable collet

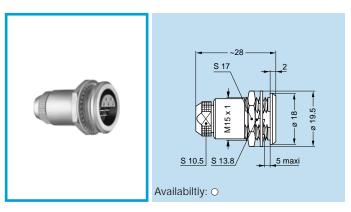


PCA.2C Free receptacle, cable collet and nut for fitting a bend relief



Note: The bend relief must be ordered separately (see page 137).

PSA.2C Fixed receptacle nut fixing, cable collet



Panel cut-out (page 119)

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.

Part number example:

Watertight receptacle – HGP.2C.304.CLLP Vacuum-tight receptacle – HGP.2C.304.CLLPV

### **Technical Characteristics**

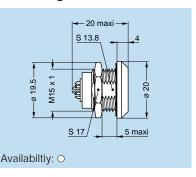
### Mechanical and Climatic

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 <sup>-7</sup> mbar.l.s <sup>-1</sup>	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

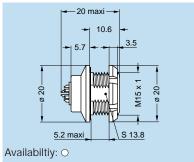




Panel cut-out (page 119)

HEP.2C Fixed receptacle, nut fixing, watertight or vacuum-tight (back panel mounting)





Panel cut-out (page 119)



## Type

### Multicontact

					Conta Avail	ct Type ability	()1)2)	1) 2)	
Male solder contacts	Female solder contacts	Reference	Number of contacts	ø A (mm)	Solder	Printed circuit	Test voltage (KV mns) <sup>1) 2)</sup>	Test voltage (kV dc) <sup>1) 2)</sup>	Rated current (A) <sup>1)</sup>
10-20	10	302	2	1.6	0	-	1.80	2.40	20
	•3	303	3	1.3	0	-	1.50	2.10	15
(2 • • 1) 30 • 04		304	4	1.3	0	-	1.80	2.40	15
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		306	6	1.3	0	_	1.50	2.10	12
- 100 m	(0°	308	8	0.7	0	0	0.95	1.35	7
000	(0°300) 0°000 0°000	310	10	0.7	0	0	0.95	1.35	7
0000	(0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	312	12	0.7	0	0	0.60	0.90	5
0000		314	14	0.7	0	0	0.60	0.90	5

Note: 1) See calculation method, caution and suggested standard on page 11 2) Lowest measured value; contact to contact or contact to shell.

## Housings

		Surface treatment				
Ref.	Material	Outer shell and collet nut	Latch sleeve and grounding crown	Note		
С	Brass	chrome	nickel			
N	Brass	nickel	nickel			
K	Brass	black chrome	nickel			
1	Aluminium allov1)	anodized	nickel-plated			

### Note:

1) The «Variant» position of the reference is used to specify the anodized color.

■ First choice alternative ☐ Special order alternative

## Contacts

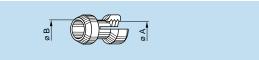
Ref.	Contact type				
Α	Male solder				
L	Female solder				
N	Female printed circuit				

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

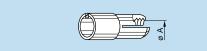
### **Short collet**



Refer	ence	Coll	et ø	Cab	le ø	Part number	Avail-
Туре	Ø	øΑ	øΒ	max.	min.	of the collet 1)	ability
С	27	2.7	_	2.6	2.2	FFA.2C.727.CN	0
С	32	3.2	_	3.1	2.7	FFA.2C.732.CN	0
С	37	3.7	_	3.6	3.2	FFA.2C.737.CN	0
С	42	4.2	-	4.1	3.7	FFA.2C.742.CN	0
С	47	4.7	_	4.6	4.2	FFA.2C.747.CN	0
С	52	5.2	_	5.1	4.7	FFA.2C.752.CN	0
С	57	5.7	_	5.6	5.2	FFA.2C.757.CN	0
С	62	6.2	_	6.1	5.7	FFA.2C.762.CN	0
С	67	6.7	6.2	6.6	6.2	FFA.2C.767.CN	0
С	72	7.2	6.2	7.1	6.7	FFA.2C.772.CN	0
С	75	7.5	6.2	7.4	7.2	FFA.2C.775.CN	0
С	80	8.0	6.2	7.9	7.5	FFA.2C.780.CN	0

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

## Long collet



Refer	rence	Coll	et ø	Cab	le ø	Part number	Avail-
Туре	Ø	ø A	øΒ	max.	min.	of the collet 1)	ability
L	14	1.4	_	1.3	0.8	FFA.2C.714.LN	0
L	27	2.7	_	2.6	2.2	FFA.2C.727.LN	0
L	32	3.2	_	3.1	2.7	FFA.2C.732.LN	0
L	37	3.7	_	3.6	3.2	FFA.2C.737.LN	0
L	42	4.2	_	4.1	3.7	FFA.2C.742.LN	0
L	47	4.7	_	4.6	4.2	FFA.2C.747.LN	0
L	52	5.2	_	5.1	4.7	FFA.2C.752.LN	0
L	57	5.7	_	5.6	5.2	FFA.2C.757.LN	0
L	62	6.2	_	6.1	5.7	FFA.2C.762.LN	0
L	67	6.7	_	6.6	6.2	FFA.2C.767.LN	0
L	72	7.2	_	7.1	6.7	FFA.2C.772.LN	0
L	77	7.7	_	7.6	7.2	FFA.2C.777.LN	0
L	82	8.2	_	8.1	7.7	FFA.2C.782.LN	0

## Variant

### Anodized color for Aluminum housing

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
Α	blue
J	yellow
N	black

Ref.	Anodized color
R	red
Т	natural
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 collet nut. Please consult us.

## Accessories

Accessories for the 2C series are identical with the 2G series. Please refer to corresponding pages (page 128,129).

## Tooling

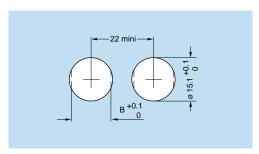
Please consult the «Tooling» section (page 144).



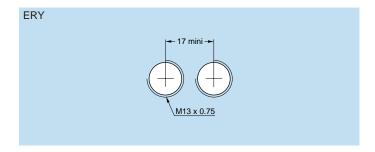


## Panel Cut-Outs

### Panel cut-outs

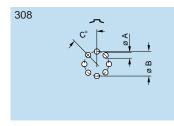


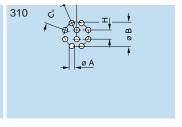
Model	B (mm)
ECP	13.6
EEP	13.6
ERA	13.9
FAA	13.9
HEP	13.9
HGP	13.9
PSA	13.9

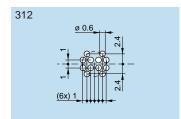


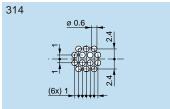
Note: Mounting nut torque: 6 Nm (1N = 0.102 kg)

## PCB drilling patterns



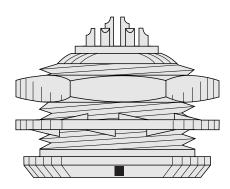




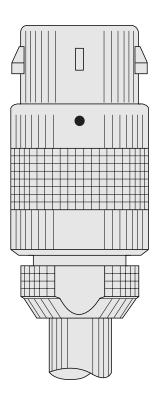








# 2G Series Connectors

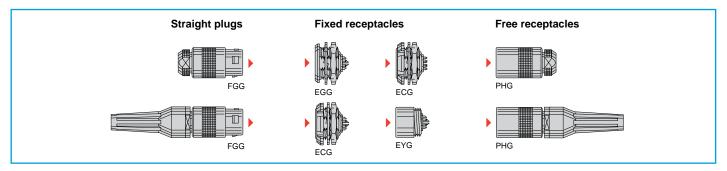




## **2G Series Connectors**

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

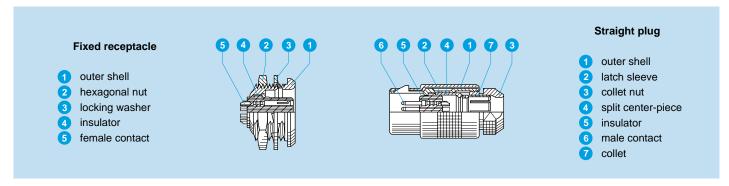
(screw fixing on the panel)

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 Free receptacle, key (G), cable collet and nut for fitting a bend relief

### **Part Section Showing Internal Components**



### **Technical Characteristics**

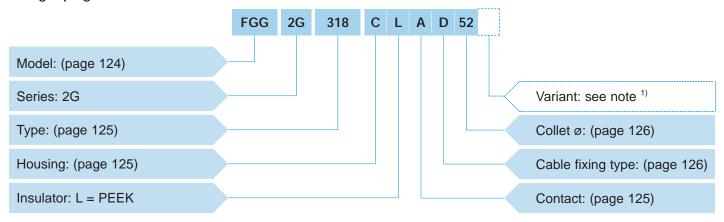
### Mechanical and Climatic

Characterisitcs	Value	Standard		
Endurance	> 500 cycles IEC 60512-5 test 9a			
Humidity	up	to 95% at 140° F		
Temperature range	-	67° F +482° F	Note:	
Salt spray corrosion test	> 144 h	IEC 60512-6 test 11f	The various tests have been carried out with FGG and EGG connector pairs,	
Protection index	IP50	IEC 60529	with chrome-plated brass shell and PEEK insulator.	
Climatic category	55/175/21	IEC 60068-1	Detailed electrical characteristics, as well as materials and treatment at presented on page 5.	



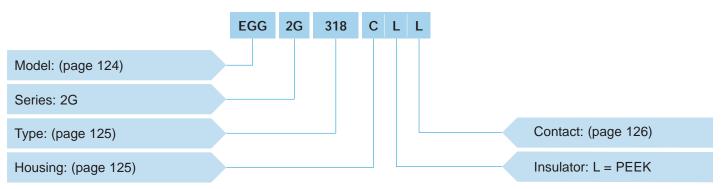
## Part Number Example

### Straight plug with cable collet



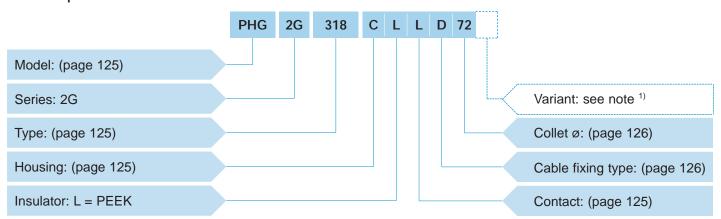
**FGG.2G.318.CLAD52** = straight plug with cable collet, 2G series, multicontact type with 18 contacts, outer shell in chrome-plated brass, PEEK insulator, male solder contacts, D type collet for 5.2 mm diameter cable.

### 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



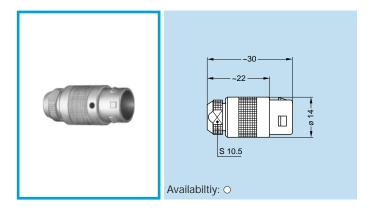
PHG.2G.318.CLLD72 = straight receptacle with cable collet, 2G series, multicontact type with 18 contacts, outer shell in chrome-plated brass, PEEK insulator, female solder contacts, D type collet for 7.2 mm diameter cable.

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.

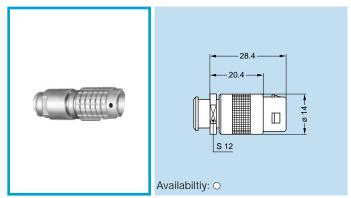


## Models

FGG.2G Straight plug, key (G), cable collet

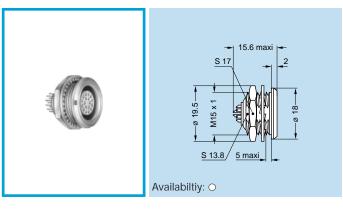


FGG.2G Straight plug, key (G), cable collet and nut for fitting a bend relief



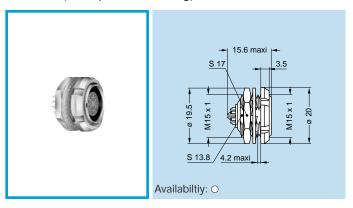
Note: The bend relief must be ordered separately (see page 137).

EGG.2G Fixed receptacle, nut fixing, key (G)



Panel cut-out (see page 127)

ECG.2G Fixed receptacle with two nuts, key (G) (back panel mounting)



Panel cut-out (see page 127)

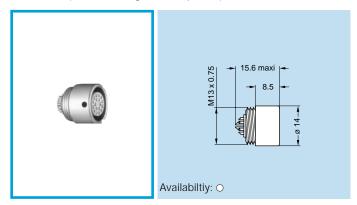
ECG.2G Fixed receptacle with two nuts, key (G), straight contact for printed circuit (back panel mounting)



Panel cut-out (see page 127)

PCB drilling pattern (page 127)

EYG.2G Fixed receptacle, key (G), protruding shell (screw fixing on the panel)

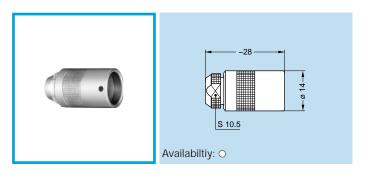


Panel cut-out (see page 127)

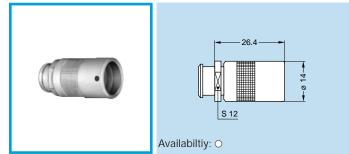
Note: All dimensions are in millimeters.



PHG.2G Free receptacle, key (G), cable collet

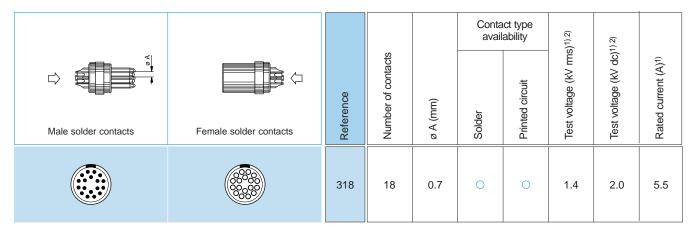


PHG.2G Free receptacle, key (G), cable collet and nut for fitting a bend relief



Note: The bend relief must be ordered separately (see page 137).

## Types



Note: 1) See calculation method, caution and suggested standard on page 11.
2) Lowest measured value; contact to contact or contact to shell.

## Housings

		Surface treatment					
Ref.	Material	Outer shell and collet nut	Latch sleeve and grounding crown	Note			
С	Brass	chrome	nickel				
N	Brass	nickel	nickel				
K	Brass	Brass black chrome					

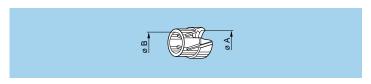
■ First choice alternative
□ Special order alternative

## Contact

Ref.	Contact type
Α	Male solder
L	Female solder
N	Female printed circuit



## Collets



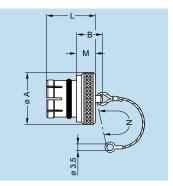
Refer	rence	Coll	Collet ø Cable ø		Part number		Availability
Туре	Ø	ø A	øΒ	max.	min.	of the collet 1)	Availability
D	52	5.2	_	5.1	4.5	FFA.2C.752.DN	0
D	62	6.2	_	6.1	5.5	FFA.2C.762.DN	0
D	72	7.2	6.2	7.1	6.5	FFA.2C.772.DN	0
D	80	8.0	6.2	7.9	7.5	FFA.2C.780.DN	0

### Note:

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

### Accessories





### BRE Blanking caps for fixed and free receptacles

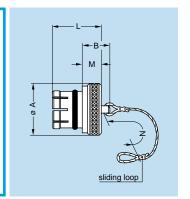
Part number		Dime	Availability			
Part Humber	Α	В	L	М	Ν	Availability
BRE.2G.200.NAS	18	12	10.6	6.0	85	0

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».

- Body material: Nickel-plated brass (Ni 3  $\mu$ m) Lanyard material: Stainless steel O-ring material: Silicone rubber or FPM

**BRF** Blanking caps for fixed receptacles

Maximum operating temperature: 392° F Watertightness: IP61 according to IEC 60529



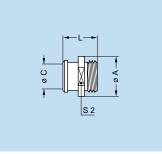
Part number		Dime	Availability			
Part number	Α	В	L	М	Ν	Availability
BRF.2G.200.NAS	18	12	14.0	6.0	85	0

**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».

- Body material: Nickel-plated brass (Ni 3 µm) Lanyard material: Stainless steel O-ring material: Silicone rubber or FPM

- Maximum operating temperature: 392° F
- Watertightness: IP61 according to IEC 60529





### FFM Nut for bend relief

Part number	Dir	nensic	m)	Availability	
Part number	Α	С	L	S2	Availability
FFM.2C.130.LC	14	8	12.2	12	0

Note: For bend reliefs to be used with this nut see section «Accessories» page 137.

Material: Chrome-plated brass (0.3 μm)

Note: Other accessories are also available. See section «Accessories» on page 129.

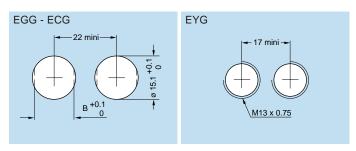


# Tooling

Please consult the «Tooling» section (page 129).

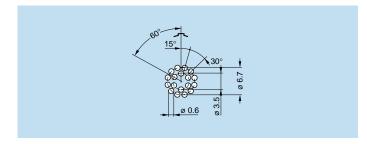
## Panel cut-outs

### Panel cut-outs



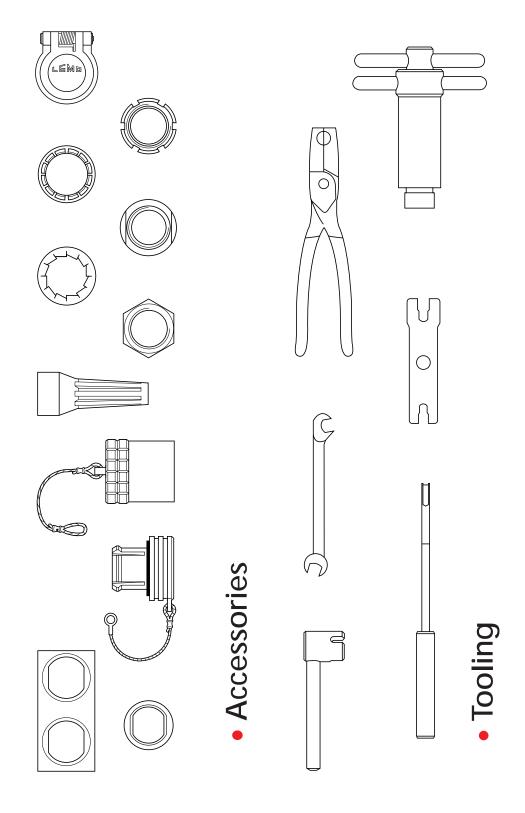
Note: Mounting nut torque -6 Nm (1N = 0.102 kg)

### PCB drilling pattern





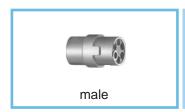






## Accessories

### **FGG-EGG** Insulators for crimp contacts





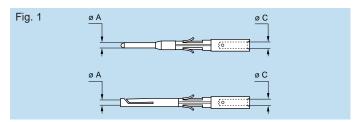
		Ins	Insulator part number								
	Type	Male contact	Avail- ability	Female contact	Avail- ability						
	302	FGG.00.302.YL	0	EGG.00.402.YL	0						
00	303	FGG.00.303.YL	0	EGG.00.403.YL	0						
	304	FGG.00.304.YL	0	EGG.00.404.YL	0						
	302	FGG.0B.302.YL	•	EGG.0B.402.YL	•						
0B	303	FGG.0B.303.YL	•	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	0	-							
	307	FGG.0B.307.YL	0	-							
	309	FGG.0B.309.YL	0	-							
	302	FGG.1B.302.YL	0	EGG.1B.402.YL	0						
1B	303	FGG.1B.303.YL	•	EGG.1B.403.YL	0						
	304	FGG.1B.304.YL	•	EGG.1B.404.YL	•						
	305	FGG.1B.305.YL	•	EGG.1B.405.YL	0						
	306	FGG.1B.306.YL	•	EGG.1B.406.YL	•						
	307	FGG.1B.307.YL	•	EGG.1B.407.YL	0						
	308	FGG.1B.308.YL	0	EGG.1B.408.YL	0						
	310	FGG.1B.310.YL	0	-							
	314	FGG.1B.314.YL	0	-							
	316	FGG.1B.316.YL	0	-							
	302	FGG.2B.302.YL	0	EGG.2B.402.YL	0						
2B	303	FGG.2B.303.YL	0	EGG.2B.403.YL	0						
	304	FGG.2B.304.YL	•	EGG.2B.404.YL	0						
	305	FGG.2B.305.YL	0	EGG.2B.405.YL	0						
	306	FGG.2B.306.YL	•	EGG.2B.406.YL	0						
	307	FGG.2B.307.YL	•	EGG.2B.407.YL	0						
	308	FGG.2B.308.YL	0	EGG.2B.408.YL	0						
	310	FGG.2B.310.YL	0	EGG.2B.410.YL	0						
	312	FGG.2B.312.YL	0	EGG.2B.412.YL	0						
	314	FGG.2B.314.YL	0	EGG.2B.414.YL	0						
	316	FGG.2B.316.YL	0	EGG.2B.416.YL	0						
	318	FGG.2B.318.YL	0	EGG.2B.418.YL	0						
	319	FGG.2B.319.YL	0	EGG.2B.419.YL	0						
	326	FGG.2B.326.YL	0	-							
	332	FGG.2B.332.YL	0	-							
	302	FGG.3B.302.YL	0	EGG.3B.402.YL	0						
3B	303	FGG.3B.303.YL	0	EGG.3B.403.YL	0						
	304	FGG.3B.304.YL	0	EGG.3B.404.YL	0						
	305	FGG.3B.305.YL	0	EGG.3B.405.YL	0						
	306	FGG.3B.306.YL	0	EGG.3B.406.YL	0						
	307	FGG.3B.307.YL	0	EGG.3B.407.YL	0						

		Ins	ulator r	part number	
	Туре	Male contact	Avail- ability	Female contact	Avail- ability
	308	FGG.3B.308.YL	•	EGG.3B.408.YL	0
3B	309	FGG.3B.309.ML	0	EGG.3B.409.ML	0
	310	FGG.3B.310.YL	•	EGG.3B.410.YL	0
	312	FGG.3B.312.YL	•	EGG.3B.412.YL	0
	314	FGG.3B.314.YL	0	EGG.3B.414.YL	0
	316	FGG.3B.316.YL	0	EGG.3B.416.YL	0
	318	FGG.3B.318.YL	0	EGG.3B.418.YL	0
	320	FGG.3B.320.YL	0	EGG.3B.420.YL	0
	322	FGG.3B.322.YL	0	EGG.3B.422.YL	0
	324	FGG.3B.324.YL	0	EGG.3B.424.YL	0
	326	FGG.3B.326.YL	0	EGG.3B.426.YL	0
	330	FGG.3B.330.YL	0	EGG.3B.430.YL	0
	304	FGG.4B.304.YL	0	EGG.4B.404.YL	0
4B	306	FGG.4B.306.YL	0	EGG.4B.406.YL	0
	307	FGG.4B.307.YL	0	EGG.4B.407.YL	0
	310	FGG.4B.310.YL	0	EGG.4B.410.YL	0
	312	FGG.4B.312.YL	0	EGG.4B.412.YL	0
	316	FGG.4B.316.YL	0	EGG.4B.416.YL	0
	320	FGG.4B.320.YL	0	EGG.4B.420.YL	0
	324	FGG.4B.324.YL	0	EGG.4B.424.YL	0
	330	FGG.4B.330.YL	0	EGG.4B.430.YL	0
	340	FGG.4B.340.YL	0	EGG.4B.440.YL	0
	304	FGG.5B.304.ML	0	EGG.5B.404.ML	0
5B	310	FGG.5B.310.YL	0	EGG.5B.410.YL	0
	314	FGG.5B.314.YL	0	EGG.5B.414.YL	0
	316	FGG.5B.316.YL	0	EGG.5B.416.YL	0
	320	FGG.5B.320.YL	0	EGG.5B.420.YL	0
	330	FGG.5B.330.YL	0	EGG.5B.430.YL	0
	340	FGG.5B.340.YL	0	EGG.5B.440.YL	0
	348	FGG.5B.348.YL	0	EGG.5B.448.YL	0
	350	FGG.5B.350.ML	0	EGG.5B.450.ML	0
	354	FGG.5B.354.YL	0	EGG.5B.454.YL	0
	364	FGG.5B.364.YL	0	EGG.5B.464.YL	0

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 131,132.



## **FGG-EGG** Crimp contacts

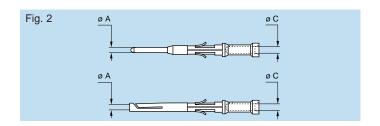


Note: See next page for additional style

	Types	(mm)	(mm)	Cor	ntact pa	art number	
	Турсо	ø A (	Ø C	Male	Avail- ability	Female	Avail- ability
	302	0.5	0.45	FGG.00.554.ZZC	0	EGG.00.654.ZZM	0
00	303	0.5	0.45	FGG.00.554.ZZC	0	EGG.00.654.ZZM	0
	304	0.5	0.45	FGG.00.554.ZZC	0	EGG.00.654.ZZM	0
	302/303	0.9	1.10	FGG.0B.560.ZZC	•	EGG.0B.660.ZZM	•
0B	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	0	EGG.0B.654.ZZM	0
0S	302	0.9	1.10	FGG.0B.560.ZZC	•	EGG.0B.660.ZZM	•
	302/303	1.3	1.40	FGG.1B.565.ZZC	•	EGG.1B.665.ZZM	0
1B	304/305		1.10	FGG.1B.560.ZZC	•	EGG.1B.660.ZZM	•
	306/307/308	0.7		FGG.1B.555.ZZC	•	EGG.1B.655.ZZM	•
	310/314/316	0.5	0.45	FGG.1B.554.ZZC	0	EGG.1B.654.ZZM	0
	302	1.3	1.40	FGG.1B.565.ZZC	•	EGG.1B.665.ZZM	•
<b>1S</b>	304		1.10	FGG.1B.560.ZZC	•	EGG.1B.660.ZZM	•
	302	2.0	2.40	FGG.2B.575.ZZC	•	EGG.2B.675.ZZM	•
2B	303	_	1.90	FGG.2B.570.ZZC	•	EGG.2B.670.ZZM	•
	304/305		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	0	EGG.2B.654.ZZM	0
<b>2S</b>	306	1.3	1.40	FGG.2B.565.ZZC	•	EGG.2B.665.ZZM	•
	302	3.0	2.90	FGG.3B.580.ZZC	0	EGG.3B.680.ZZM	0
3B	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	•
	304	3.0	2.90	FGG.4B.580.ZZC	0	EGG.4B.680.ZZM	0
4B	306/307	2.0	2.40	FGG.4B.575.ZZC	0	EGG.4B.675.ZZM	0
	310	1.6	1.90	FGG.4B.570.ZZC	0	EGG.4B.670.ZZM	0
	312	1.3	1.40	FGG.4B.565.ZZC	0	EGG.4B.665.ZZM	0
	316/320	0.9	1.10	FGG.4B.560.ZZC	0	EGG.4B.660.ZZM	0
	324/330	0.9	1.10	FGG.4B.560.ZZC	0	EGG.4B.660.ZZM	0
	340	0.7	0.80	FGG.4B.555.ZZC	0	EGG.4B.655.ZZM	0
	304	4.0	4.00	FGG.5B.582.ZZC	0	EGG.5B.682.ZZM	0
5B	310	3.0	2.90	FGG.5B.580.ZZC	0	EGG.5B.680.ZZM	0
	314/316	2.0	2.40	FGG.5B.575.ZZC	0	EGG.5B.675.ZZM	0
	320	1.6	1.90	FGG.5B.570.ZZC	0	EGG.5B.670.ZZM	0
	330/340/348	1.3	1.40	FGG.5B.565.ZZC	0	EGG.5B.665.ZZM	0
	350/354/364	0.9	1.10	FGG.5B.560.ZZC	0	EGG.5B.660.ZZM	0



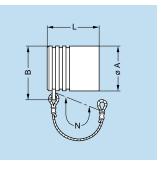
### **FGG-EGG** Crimp contacts



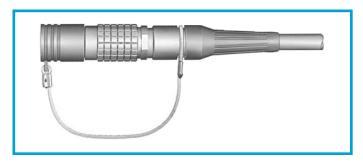
	Types	(mm)	(mm)	Cor	ntact pa	art number	
	Types	Ø A (	O Ø	Male	Avail- ability	Female	Avail- ability
	302/303	0.9	0.80	FGG.0B.561.ZZC	0	EGG.0B.661.ZZM	0
0B	302/303	0.9	0.45	FGG.0B.562.ZZC	0	EGG.0B.662.ZZM	0
	304/305	0.7	0.45	FGG.0B.556.ZZC	0	EGG.0B.656.ZZM	0
	302	0.9	0.80	FGG.0B.561.ZZC	0	EGG.0B.661.ZZM	0
0S	302	0.9	0.45	FGG.0B.562.ZZC	0	EGG.0B.662.ZZM	0
	302/303	1.3	1.10	FGG.1B.566.ZZC	0	EGG.1B.666.ZZM	0
1B	304/305	0.9	0.80	FGG.1B.561.ZZC	0	EGG.1B.661.ZZM	0
	306/307/308	0.7	0.45	FGG.1B.556.ZZC	0	EGG.1B.656.ZZM	0
	302	1.3	1.10	FGG.1B.566.ZZC	0	EGG.1B.666.ZZM	0
1S	304	0.9	0.80	FGG.1B.561.ZZC	0	EGG.1B.661.ZZM	0
	302	2.0	1.90	FGG.2B.576.ZZC	0	EGG.2B.676.ZZM	0
2B	303		1.40	FGG.2B.571.ZZC	0	EGG.2B.671.ZZM	0
	304/305		1.10	FGG.2B.566.ZZC	0	EGG.2B.666.ZZM	0
	306/307		1.10	FGG.2B.566.ZZC	0	EGG.2B.666.ZZM	0
	304/305		0.80	FGG.2B.567.ZZC	0	EGG.2B.667.ZZM	0
	306/307		0.80	FGG.2B.567.ZZC	0	EGG.2B.667.ZZM	0
	308/310	0.9	0.80	FGG.2B.561.ZZC	0	EGG.2B.661.ZZM	0
	308/310	0.9	0.45	FGG.2B.562.ZZC	0	EGG.2B.662.ZZM	0
	312/314/316	0.7	0.45	FGG.2B.556.ZZC	0	EGG.2B.656.ZZM	0
	318/319	0.7	0.45	FGG.2B.556.ZZC	0	EGG.2B.656.ZZM	0
	306	1.3	1.10	FGG.2B.566.ZZC	0	EGG.2B.666.ZZM	0
<b>2S</b>	306	1.3	0.80	FGG.2B.567.ZZC	0	EGG.2B.667.ZZM	0
	303/304/309	2.0	1.90	FGG.3B.576.ZZC	0	EGG.3B.676.ZZM	0
3B	305/306/307	1.6	1.40	FGG.3B.571.ZZC	0	EGG.3B.671.ZZM	0
	308/309/310	1.3	1.10	FGG.3B.566.ZZC	0	EGG.3B.666.ZZM	0
	312/314	0.9	0.80	FGG.3B.561.ZZC	0	EGG.3B.661.ZZM	0
	316/318	0.9	0.80	FGG.3B.561.ZZC	0	EGG.3B.661.ZZM	0
	320/322/324	0.7	0.45	FGG.3B.556.ZZC	0	EGG.3B.656.ZZM	0
	326/330	0.7	0.45	FGG.3B.556.ZZC	0	EGG.3B.656.ZZM	0
	306/307	2.0	1.90	FGG.4B.576.ZZC	0	EGG.4B.676.ZZM	0
4B	310	1.6	1.40	FGG.4B.571.ZZC	0	EGG.4B.671.ZZM	0
	312	1.3	1.10	FGG.4B.566.ZZC	0	EGG.4B.666.ZZM	0
	316/320	0.9	0.80	FGG.4B.561.ZZC	0	EGG.4B.661.ZZM	0
	324/330	0.9	0.80	FGG.4B.561.ZZC	0	EGG.4B.661.ZZM	0
	340	0.7	0.45	FGG.4B.556.ZZC	0	EGG.4B.656.ZZM	0
]	314/316	2.0	1.90	FGG.5B.576.ZZC	0	EGG.5B.676.ZZM	0
5B	320	1.6	1.40	FGG.5B.571.ZZC	0	EGG.5B.671.ZZM	0
	330/340/348	1.3	1.10	FGG.5B.566.ZZC	0	EGG.5B.666.ZZM	0
	350/354/364	0.9	0.80	FGG.5B.561.ZZC	0	EGG.5B.661.ZZM	0







- 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



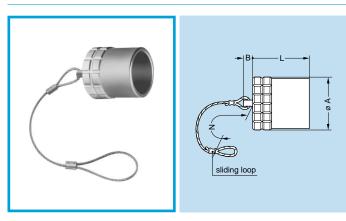
### **BFG** Plug caps

Part number	0	Dir	mensio	ons (mi	m)	Availability
Part number	Series	Α	В	L	N	Availability
BFG.00.100 PCSG	00	7.5	10	10.0	60	0
BFG.0B.100.PCSG	0S-0B	9.5	12	12.2	85	0
BFG.1B.100.PCSG	1S-1B	12.0	15	13.8	85	0
BFG.2B.100.PCSG	2S-2B	15.0	18	15.0	85	0
BFG.3B.100.PCSG	3S-3B	18.5	22	18.5	95	0

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.

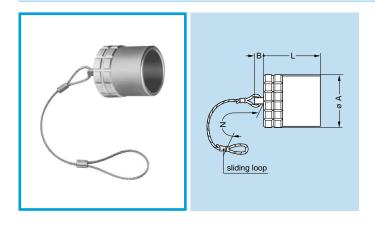


### **BFA** Plug caps

Part number	Cariaa	Dir	mensio	ons (m	m)	Availability	
Part Humber	Series	Α	В	L	N	Availability	
BFA.4S.100.NAS	4S	25.0	10	22.0	120	0	
BFA.5S.100.NAS	5S	36.0	10	30.0	150	0	
BFA.6S.100.NAS	6S	46.0	10	33.0	150	0	

**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



### BFG Plug caps with key (G)

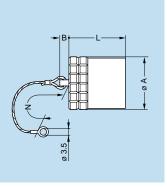
Part number	Corios	Dir	mensio	m)	Availability	
Part Humber	Series	Α	В	L	N	Availability
BFG.4B.100.NAS	4B	25.0	10	20.0	120	0
BFG.5B.100.NAS	5B	36.0	10	27.0	150	0

Note: This cap is available only with an alignment key (G). The last letter  ${}^{\mathsf{c}}S{}^{\mathsf{w}}$  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







### BHG Plug caps, nut fixing or flange

Pou	t number	Series	Dir	mensic	m)	Availability		
Fai	rait ilullibei		Α	В	L	N	Availability	
BHG.4	B.100.NAS	4B	25.0	10	20.0	120	0	
BHG.5	B.100.NAS	5B	36.0	10	27.0	150	0	

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».

Part number

BRA.00.200.PCSG

BRA.0B.200.PCSG

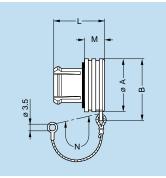
BRA.1B.200.PCSG

BRA.2B.200.PCSG

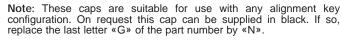
BRA.3B.200.PCSG

- 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





- 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



Α

7.5 10.0

10.0

14.0

18.0

22.0

Dimensions (mm)

ı

8.2

11.0

13.5

14.5

17.0

M

2.7

4.8

5.6

6.0

7.0

Ν

60

60

60

60

60

В

12.5

17.0

21.0

25.5

Avail-

ability

0

0

0

0

0

**BRA** Blanking caps for fixed receptacles and free straight receptacles

Series

0S-0B

1S-1B

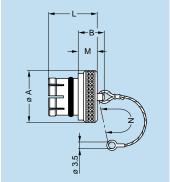
2S-2B

2C-2G

3S-3B

00





- 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

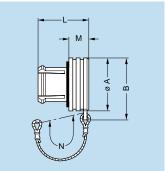
# BRE Blanking caps for fixed and free receptacles

Part number	Series		Dime	nsions	(mm)		Avail-
Fait number	Series	Α	В	L	М	N	ability
BRE.00.200.NAS	00	8	9.5	8.8	3.5	60	0
BRE.0S.200.NAS	0S-0B	10	10.5	10.5	4.5	85	0
BRE.1S.200.NAS	1S-1B	14	11.0	12.5	5.0	85	0
BRE.2S.200.NAS	2S-2B	18	12.0	14.0	6.0	85	0
BRE.3S.200.NAS	3S-3B	22	14.0	18.0	8.0	120	0
BRE.4S.200.NAS	4S-4B	28	20.0	23.0	10.0	120	0
BRE.5S.200.NAS	5S-5B	40	22.0	30.0	12.0	150	0
BRE.6S.200.NAS	6S	54	22.0	30.0	12.0	150	0

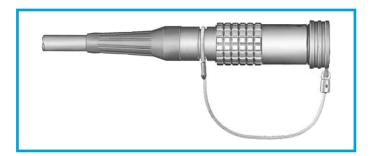
Note: These caps are suitable for use with any alignment key configuration. The last letter «S» of the part number stands for the O-ring material (silicone rubber). O-rings made from FPM are also available; if required, replace the letter «S» by «V».







Body material: 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

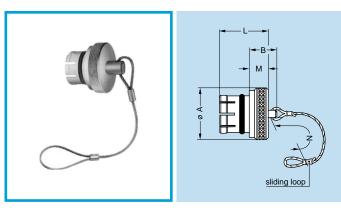
Part number	C = = = = =		Dime	nsions	(mm)		Avail-
Part number	Series	Α	В	L	М	N	ability
BRD.00.200.PCSG	00	7.5	10.0	8.2	2.7	60	0
BRD.0B.200.PCSG	0S-0B	10.0	12.5	11.0	4.8	85	0
BRD.1B.200.PCSG	1S-1B	14.0	17.0	13.5	5.6	85	0
BRD.2B.200.PCSG	2S-2B	18.0	21.0	14.5	6.0	85	0
BRD.3B.200.PCSG	3S-3B	22.0	25.5	17.0	7.0	95	0

Note: On request this cap is available in black. If required, replace the last letter  ${\rm ``G"}$  of the part number by  ${\rm ``N"}$ .

### 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	Corios		Dime	nsions	(mm)		Avail-
Fait number	Series	Α	В	L	М	N	ability
BRF.00.200.NAS	00	8	9.5	8.8	3.5	85	0
BRF.0S.200.NAS	0S-0B	10	10.5	10.5	4.5	85	0
BRF.1S.200.NAS	1S-1B	14	11.0	12.5	5.0	85	0
BRF.2S.200.NAS	2S-2B	18	12.0	14.0	6.0	85	0
BRF.3S.200.NAS	3S-3B	22	14.0	18.0	8.0	120	0
BRF.4S.200.NAS	4S-4B	28	20.0	23.0	10.0	120	0
BRF.5S.200.NAS	5S-5B	40	22.0	30.0	12.0	150	0
BRF.6S.200.NAS	6S	54	22.0	30.0	12.0	150	0

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: Polyoxymethylene (POM) grey (or black)
- Gasket material: Silicone rubber

E maxi

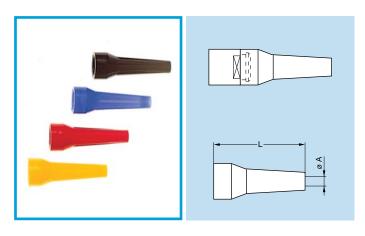
# BRR Spring loaded dust caps for ERA, ERN and EG• receptacles or PSA and PK• fixed receptacles

Part number	C-=:	Dimensions (mm)								
Fait number	Series	Α	В	С	Е	L	М	N	ability	
BRR.0S.200.PZSG	0S-0B	11.0	13.3	9.0	5.8	5.0	1.2	15.3	0	
BRR.1S.200.PZSG	1S-1B	14.2	17.1	12.0	6.0	6.3	1.5	20.3	0	
BRR.2S.200.PZSG	2S-2B 2C-2G	18.6	22.4	15.2	6.5	8.2	2.0	26.2	0	
BRR.3S.200.PZSG	3S-3B	22.5	26.5	18.2	9.0	8.8	2.5	30.8	0	

Note: On request, this cap is available in black. If so replace the last letter  ${\rm ``G"}$  of the part number by  ${\rm ``N"}$ .

- Spring material: Stainless steel Maximum operating temperature: 212° F Watertightness: IP61 according to IEC 60529





### Main characteristics

- Material: Polyurethane elastomer
- Temperature range in dry atmosphere: -40° F to +176° F

### 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 140).

Use the part numbers shown below to order this accessory separately.



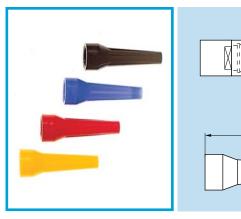
	l		ons (m			Part number		Avail-				
Part number	Bend			le ø	Series	of nut for fitting the bend relief	Note	ability				
	Α	L	max.	min.		the bend relief		" ,				
GMA.00.012.DG	1.2	22	1.4	1.1				0				
GMA.00.018.DG	1.8	22	2.1	1.8				0				
GMB.00.025.DG	2.5	22	2.8	2.5				0				
GMB.00.028.DG	2.8	22	3.1	2.8	00	FFM.00.130.LC <sup>1)</sup>	For single contact connectors     For multicontact connectors	0				
GMB.00.032.DG	3.2	22	3.5	3.2	00	FFM.00.131.LC <sup>2)</sup>	2) For multicontact connectors	0				
GMD.00.025.DG	2.5	22	2.8	2.5				•				
GMD.00.028.DG	2.8	22	3.1	2.8			The «GMD» are thin bend reliefs (for very flexible cables).	•				
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	1) For use only with connectors from series 2B equipped	•				
GMA.0B.030.DG	3.0	24	3.4	3.0		FFM.2B.132.LC <sup>1)</sup>	For use only with connectors from series 2B equipped with cable fixing type M and where a bend relief from series	•				
GMA.0B.035.DG	3.5	24	3.9	3.5	0S	FFM.0S.130.LC	0B is used.	•				
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		FFM.1B.130.LC		0				
GMA.1B.030.DG	3.0	30	3.4	3.0	1B	FFM.3B.131.LC <sup>1)</sup>	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.035.DG	3.5	30	3.9	3.5								
GMA.1B.040.DG	4.0	30	4.4	4.0	1S	FFM.1S.130.LC						
GMA.1B.045.DG	4.5	30	4.9	4.5				•				
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	1)For use only with connectors from series 4B equipped with	0				
GMA.2B.045.DG	4.5	36	5.0	4.5		FFM.4B.132.LC <sup>1)</sup>	cable fixing type M and where a bend relief from series 2B is used.	•				
GMA.2B.050.DG	5.0	36	5.5	5.0	2S	FFM.2S.130.LC	10 4004.	•				
GMA.2B.060.DG	6.0	36	6.5	6.0				•				
GMA.2B.070.DG	7.0	36	7.7	7.0				•				
GMA.2B.080.DG	7.8	36	8.8	7.8	2C-2G	FFM.2C.130.LC		•				
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				•				
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 48 420 LC		0				
GMA.4B.010.DG	10.0	60	10.9	10.0	45	FFM.4S.130.LC		0				
GMA.4B.011.DG	11.0	60	11.9	11.0	4B	FFM.4B.130.LC		0				
GMA.4B.012.DG	12.0	60	13.0					0				
GMA.4B.013.DG	13.5	60	14.5					0				

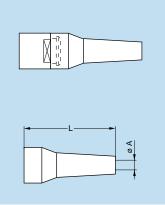
Note: The last letter «G» of the part number indicates the grey color of the bend relief. For ordering a bend relief with another color, see table on page 138 and replace the letter «G» by the letter of the required color.

See also detailed information for each series: B series on page 55; S series on page 110.

Data Subject to Change







### **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)

	Dir	mensio	ons (m	m)		Part number		Avroil
Part number	Bend	relief	Cab	le ø	Series	of nut for fitting	Note	Avail- ability
	Α	L	max.	min.		the bend relief		ability
GMA.0B.025.RG	2.5	27	2.9	2.5	0B	FFM.0B.130.LC	1) For use only with connectors from series 2B equipped	0
GMA.0B.030.RG	3.0	27	3.4	3.0		FFM.2B.132.LC <sup>1)</sup>	with cable fixing type M and where a bend relief from series OB is used.	0
GMA.0B.035.RG	3.5	27	3.9	3.5	0S	FFM.0S.130.LC	OB is used.	0
GMA.0B.040.RG	4.0	27	4.4	4.0				0
GMA.0B.045.RG	4.5	27	5.2	4.5				0
GMA.1B.025.RG	2.5	34	2.9	2.5		FFM.1B.130.LC	<sup>1)</sup> For use only with connectors from series 3B equipped witt	0
GMA.1B.030.RG	3.0	34	3.4	3.0	1B	FFM.3B.131.LC <sup>1)</sup>	cable fixing type M and where a bend relief from series 1B is used.	0
GMA.1B.035.RG	3.5	34	3.9	3.5				0
GMA.1B.040.RG	4.0	34	4.4	4.0	1S	FFM.1S.130.LC		0
GMA.1B.045.RG	4.5	34	5.0	4.5	13	FFIVI. 13. 130.LC		0
GMA.1B.051.RG	5.1	34	5.6	5.1				0
GMA.1B.057.RG	5.7	34	6.2	5.7				0
GMA.1B.063.RG	6.3	34	7.0	6.3				0
GMA.2B.040.RG	4.0	41	4.4	4.0	2B	FFM.2B.130.LC	1)For use only with connectors from series 4B equipped with	0
GMA.2B.045.RG	4.5	41	5.0	4.5	20	FFM.4B.132.LC <sup>1)</sup>	cable fixing type M and where a bend relief from series 2B is used.	0
GMA.2B.051.RG	5.1	41	5.6	5.1	2S	FFM.2S.130.LC		0
GMA.2B.057.RG	5.7	41	6.2	5.7				0
GMA.2B.063.RG	6.3	41	7.0	6.3				0
GMA.2B.071.RG	7.1	41	7.9	7.1	20.20	FFM 2C 420 LC		0
GMA.2B.080.RG	8.0	41	9.0	8.0	2C-2G	FFM.2C.130.LC		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 this page and replace the letter «G» by the letter of the required color. See also detailed information for each series: B series on page 55; S series on page 110.

**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
Α	blue
В	white
G	grey
J	yellow
M	brown

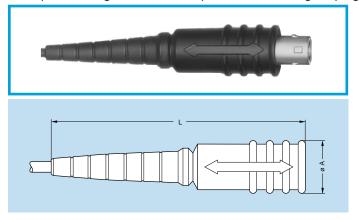
Ref.	Color
N	black
R	red
S	orange
V	green



### GMo 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.



Defe		Di	mensio	ons (m	m)	
Refe	rence	Overa	all pro-	Cab	le ø	Availability
		lective c	ovening			Availability
Model	Series	Α	A L		min.	
GMF	0S-0B	14.7	14.7 60.5		1.0	0

16.0 72.0

22.0 95.0 8.2

**GMF** Overall protective covering for plug

Material: Elastomere

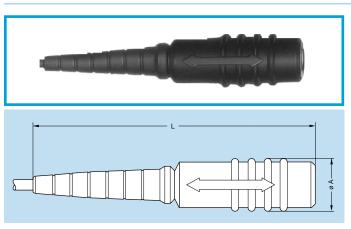
1S-1B

2S-2B

**GMF** 

**GMF** 

Operating temperature: -22° F to +248° F



### **GMP** Overall protective covering for free receptacle

6.2

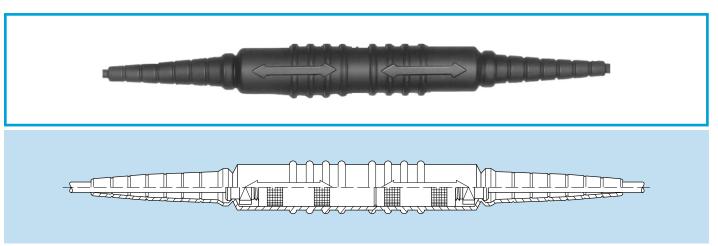
2.5

0

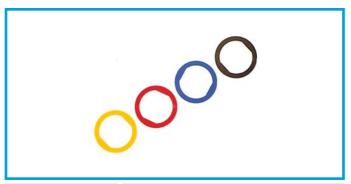
0

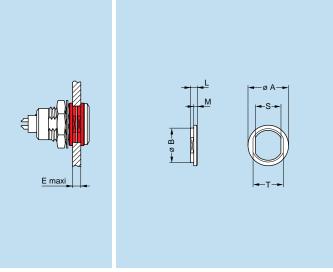
Refe	rence	Overall pro- tective covering		ons (m Cab		Availability
Model	Series	A	L	max.	min.	Availability
GMP	0S-0B	14.7	69.5	3.5	1.0	0
GMP	1S-1B	16.0	79.0	6.2	2.5	0
GMP	2S-2B	22.0	102.5	8.2	5.0	0

- Material: Elastomere
- Operating temperature: -22° F to +248° F

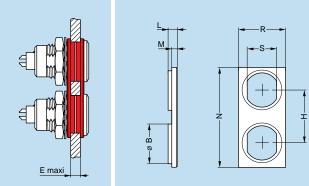








- Material: Polyamide
- Maximum operating temperature: 194° F



- Material: Polyamide
- Maximum operating temperature: 194° F

## Data Subject to Change

### **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)							
Part number	Series	Α	В	Е	L	М	S	Т	ability
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	0

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
Α	blue	N	black
В	white	R	red
G	grey	S	orange
J	yellow	V	green
М	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 section «Panel cut-out» on page 150.

### **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			Di	men	sions	(mm	1)		Avail-
Fait number	Selles	В	Е	Н	L	М	N	R	S	ability
GRC.0S.260.HG	0S-0B	10.9	5	14	2.5	1.5	26.5	12.5	8.3	0
GRC.1B.260.HG	1S-1B	13.9	5	20	3.3	1.8	34.5	14.5	10.6	0

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.

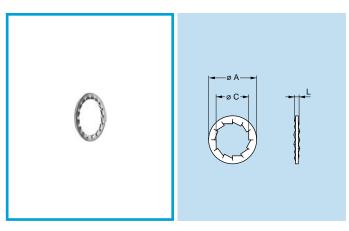
Ref.	Color
Α	blue
В	white
G	grey
J	yellow
М	brown

Color				
black				
red				
orange				
green				

**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 150.



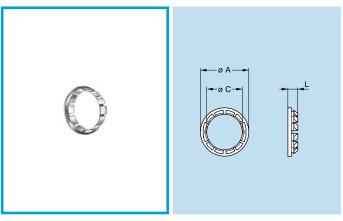


### Material: Nickel-plated bronze (3 μm)

## **GBA** Locking washers

Part number	Series	Dime	nsions	Availability	
Fait number	Selles	Α	С	L	7 (Valiability
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	16.0	12.1	1.0	•
OD 4 00 050 EN	2S-2B	19.5	15.1	1.2	•
GBA.2S.250.FN	2C-2G				
GBA.3S.250.FN	3S-3B	25.0	18.1	1.4	•
GBA.4S.250.FN	4S-4B	32.0	25.1	1.4	0

Note: To order this accessory separately, use the above part numbers.



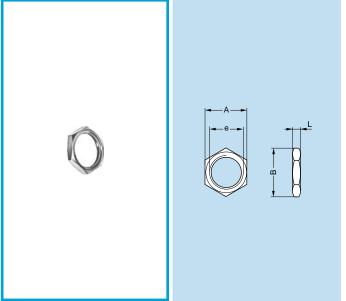
## Material: Nickel-plated brass (3 μm)

### **GBB** Tapered washers

Part number	Series	Dime	nsions	Availability	
Fait Hullibei		Α	С	L	Availability
GBB.00.250.LN	00	9	7.1	2.0	0
GBB.0S.250.LN	0S-0B	11	9.1	2.5	0
GBB.1S.250.LN	1S-1B	15	12.1	3.5	0
GBB.2S.250.LN	2S-2B 2C-2G	18	15.1	4.0	0
GBB.3S.250.LN	3S-3B	22	18.1	4.5	0
GBB.4S.250.LN	4S-4B	28	25.2	5.0	0
GBB.5S.250.LN	5S-5B	40	35.2	7.5	0

Note: Receptacles of series 5B and 5S are always supplied with a tapered washer. To order this accessory separately, use the above part





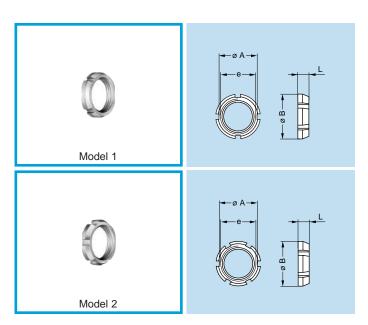
Part number	Series		Availa-			
Fait Humber	Selles	Α	В	е	L	bility
GEA.00.240.LN	00	9	10.2	M7 x 0.50	2.0	•
GEA.0S.240.LN	0S-0B	11	12.4	M 9 x 0.60	2.0	•
GEA.0S.241.LN	0S-0B	12	13.8	M10 x 0.75	2.5	•
GEA.0E.240.LN	1S-1B	17	19.2	M14 x 1.00	2.5	•
GEA.1S.240.LN	1S-1B	14	15.8	M12 x 1.00	2.5	•
GEA.1E.240.LN	2S-2B	19	21.5	M16 x 1.00	3.0	•
GEA.2S.240.LN	2S-2B	17	19.2	M15 x 1.00	2.7	•
GEA.3S.240.LN	3S-3B	22	25.0	M18 x 1.00	3.0	•
GEA.4S.240.LN	4S-4B	30	34.0	M25 x 1.00	5.0	0

- Material:

  - Nickel-plated brass (3 μm)
    Natural anodized aluminium alloy
  - Stainless steel

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.



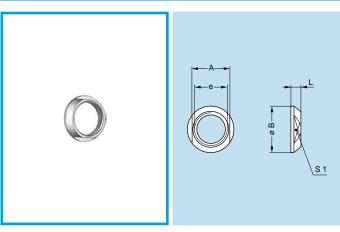


### **GEG** Notched nut

Part number	Model		Avail-			
rait ilullibel	Model	Α	В	е	L	ability
GEG.00 240.LC	1	8.7	10	M7 x 0.5	2.5	0
GEG.0S.240.LC	1	10.5	12	M9 x 0.6	2.5	•
GEG.1S.240.LC	1	14.0	16	M12 x 1.0	3.5	•
GEG.1S.242.LC	1	12.1	14	M11 x 0.5	3.5	0
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	0

Material: Chrome-plated brass (Ni 3 μm + Cr 0.3 μm)

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.

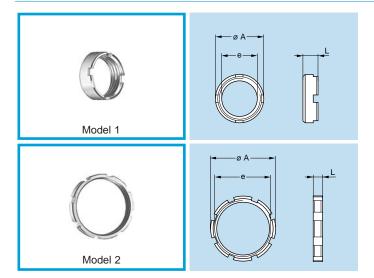


Material: Chrome-plated brass (Ni 3 μm + Cr 0.3 μm)

Note: 3B, 3S, 4B, 4S, 5B, 5S, and 6S 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.

### **GEC** Conical nuts

Part number		Avai-				
Part number	Α	В	е	L	S1	lability
GEC.00 240.LC	8	10.0	M7 x 0.5	2.5	8	0
GEC.0S.240.LC	10	12.0	M9 x 0.6	2.5	10	0
GEC.1S.240.LC	13	16.0	M12 x 1.0	3.2	13	0
GEC.1S.241.LC	17	20.0	M16 x 1.0	4.0	17	0
GEC.1S.242.LC	12	14.0	M11 x 0.5	3.2	12	0
GEC.2S.240.LC	17	20.0	M15 x 1.0	3.8	17	0
GEC.2S.241.LC	20	24.0	M19 x 1.0	5.8	20	0
GEC.3S.240.LC	20	24.0	M18 x 1.0	4.5	20	0
GEC.4S.240.LC	27	30.0	M25 x 1.0	4.5	27	0
GEC.5S.240.LC	37	41.0	M35 x 1.0	5.0	37	0



Material: Nickel-plated brass (3 μm)

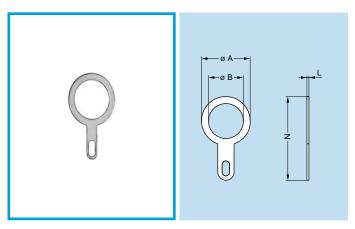
### **GEB** Round nuts

Part number	Model	Dii	Availability			
Part Humber	IVIOUEI	Α	A e L		Availability	
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	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	0	
GEB.2S.240.LN	1	18.0	M15 x 1.00	5.5	0	
GEB.2B.240.LN	2	17.5	M15 x 0.75	2.5	0	
GEB.3S.240.LN	1	22.0	M18 x 1.00	5.5	0	
GEB.4S.240.LN	1	28.0	M25 x 1.00	6.0	0	
GEB.5S.240.LN	2	40.0	M35 x 1.00	8.0	0	
GEB.5E.240.LN	2	54.0	M45 x 1.50	8.0	0	
GEB.6S.241.LN	2	54.0	M48 x 1.50	8.0	0	
GEB.6E.240.LN	2	65.0	M55 x 2.00	9.0	0	

Note: 5B, 5S, and 6S series receptacles are always supplied with model 2 round nuts. To order this accessory separately, use the part numbers in the above table.

Standard, typically 0-6 weeks delivery for quantities of 250 or less.
 Non-standard product, contact LEMO USA, typically 6-12 weeks delivery for quantities of 250 or less.
 Non-standard product is defined as any product which contains one or more components which are not standard.

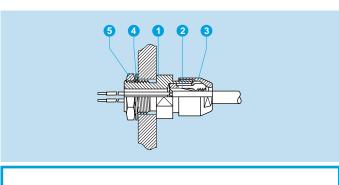




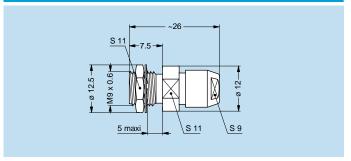
#### **GCA** Grounding lug

Part number	Series	Dir	Availability			
Fait number	Selles	Α	В	L	N	7 (Valiability
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.1S.255.LT	1S-1B	17	12.2	0.5	27.5	•
GCA.2S.255.LT	2S-2B	20	15.2	0.5	32.0	•
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	0
GCA.5S.255.LT	5S-5B	42	35.1	0.7	57.5	0

Material: CuSnZn plated brass (2 μm)







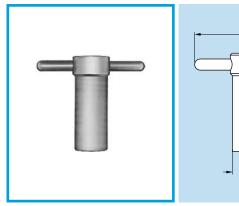
#### GSC Lead-through with cable collet

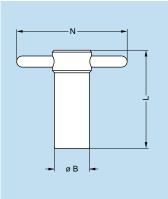
Part number	Cable	ø (mm)	Availability
Part number	max.	min.	Availability
GSC.1S.290.ND42	4.0	3.1	0
GSC.1S.290.ND52	5.0	4.1	0
GSC.1S.290.ND62	6.0	5.1	0
GSC.1S.290.ND72	7.0	6.1	0
GSC.1S.290.ND76	7.5	7.1	0

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



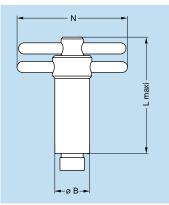


#### **DCG** Wrench for hexagonal nuts

Part number	Dime	nsions	(mm)	Part number
Part number	В	L	N	of the nut
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



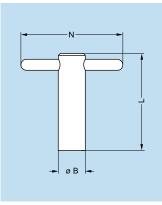


# DCA Wrench for hexagonal nuts, with alignment of the receptacles by the flats

Part number	Dime	nsions	(mm)		
Part number	В	L	N	of the nut	
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



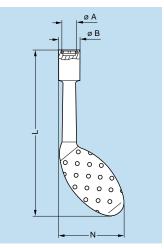


#### DCB Spanner type wrench for model 1 round nuts

Part number	Dime	nsions	(mm)		
Part number	В	L	N	of the nut	
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



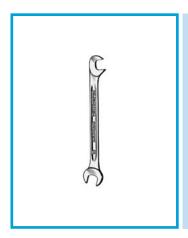


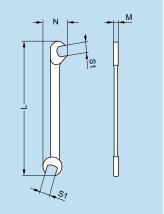
#### **DCH** Wrench for conical nut

Part number	Di	mensio	ons (m	Part number	
Part number	Α	В	L	N	of the nut
DCH.91.101.PA	10.1	12.8	124	48.3	GEC.00.240.LC
DCH.91.121.PA	12.1	14.8	124	49.3	GEC.0S.240.LC
DCH.91.161.PA	16.1	21.0	124	51.9	GEC.1S.240.LC
DCH.91.201.PA	20.1	22.8	129	53.5	GEC.2S.240.LC

Material: Dark grey polyurethane





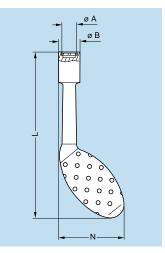


#### **DCP** Flat wrench for collet nut

Part number	Dimensions (mm)					
Part Humber	L	М	Ν	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



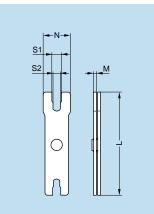


#### **DCH** Wrench for notched nuts

Part number	Di	mensio	ons (m	Part number	
Part number	Α	В	L	N	of the nut
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





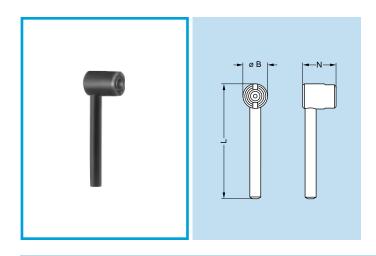
#### **DCP** Wrench for tightening backnut

Part number	Corion	Series Dimensions (mm)					
rait ilullibei	Selles	L	М	Ν	S1	S2	
DCP.91.001.TN 0B		95	2.5	21	8.1	7.1	
DCP.91.001.1N	1B	95	2.5	25	10.1	9.1	
DODO4 000 TN	2B	115	3.0	30	13.1	12.1	
DCP.91.023.TN	3B	115	3.0 35 15.1	14.1			
DCP.91.045.TN	4B	130	3.5	40	21.2	20.2	
DCP.91.045.11N	5B	130	3.5	45	31.2	30.2	

Material: blackened steel





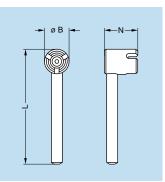


# DCL Wrench whish secures straight plug with two latching tabs while tightening collet nut

Part number	Series	Dimensions (mm)			
Part Humber	Selles	В	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

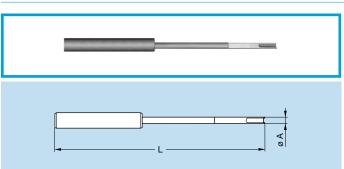




# DCN Wrench which secures straight plug with three latching tabs while tightening collet nut

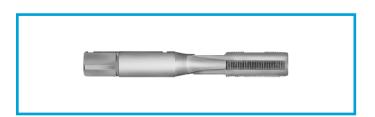
Part number	Series	Dime	Dimensions (mm)			
Part number	Selles	В	L	N		
DCN.91.905.0TK	00	9	42	12		
DCN.91.125.0TK	0S	12	47	17		
DCN.91.149.0TK	1S	14	53	19		
DCN.91.171.2TK	2S-2C	17	63	20		
DCN.91.201.5TK	3S	20	74	22		

Material: blackened steel



#### DCL Assembly tool for FVB.00.303.NLA plugs

Part number	Series	Dim. (mm)		
Part Humber	Selles	Α	L	
DCL.91.516.5TK	00	5	165	

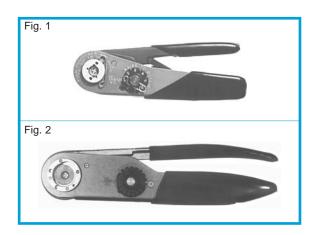


#### **DTA** Taps

Part number	Series	Thread
DTA.99.700.5Z	00	M7 x 0.5
DTA.99.900.6Z	0S-0B	M9 x 0.6



### Crimp Tooling for Crimp contacts



#### Manual crimping tools

		Part number	
Supplier	contact ø 0.5-0.7 0.9-1.3 (Fig. 1)	contact ø 1.6-2.0 (Fig. 2)	contact ø 3.0-4.0 (Fig. 2)
LEMO	DPC.91.701.V <sup>1)</sup>	DPC.91.101.A <sup>2)</sup>	DPC.91.102.V
DANIELS	MH860 <sup>1)</sup>	AF8 <sup>2</sup> )	M300BT
BALMAR	23-000	55-000	55-000
BUCHANAN	616336 <sup>1)</sup>	615708 <sup>2)</sup>	615708

- $^{\rm 1)}$  According to specification MIL-C-22520/7-01.  $^{\rm 2)}$  According to specification MIL-C-22520/1-01.



#### Pneumatic crimping tools

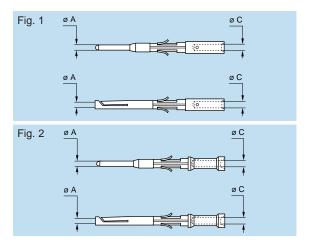
Supplier	Part number
LEMO	DPC.91.701.C
BALMAR	85230
BUCHANAN	621101

According to specification MIL-C-22520/7-01. For LEMO contacts ø 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.



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.

#### DCE Positioners for crimp contacts Ø 0.5-0.7-0.9 and 1.3 mm

	Co	nne	ctor +	Со	ntact	Positioners	part number
	Туре	Αø	o C	Fig.	Conductor AWG	For male contact	For female contact
00	302 303 304	0.5	0.45	1	28-30-32	DCE.91.050.0VC	DCE.91.050.0VM
	2024)	0.9	1.10	1	20-22-24	DCE.91.090.BVC	DCE.91.090.BVM
0B	302 <sup>1)</sup> 303	0.9	0.80	2	22-24-26	DCE.91.090.6VC	DCE.91.090.DVIVI
0S		0.9	0.45	2	28-30-32	DCE.91.090.AVC	DCE.91.090.AVM
	304/305	0.7	0.80	1	22-24-26	DCE.91.070.BVC	DCE.91.070.BVM
	304/303	0.7	0.45	2	28-30-32	DCL.91.070.DVC	DCL.91.070.DVIVI
	306/307 309	0.5	0.45	1	28-30-32	DCE.91.050.BVC	DCE.91.050.BVM
	3021)	1.3	1.40	1	18-20	DOE 04 404 DV0	DOE 04 404 DV/M
1B	303	1.3	1.10	2	20-22-24	DCE.91.131.BVC	DCE.91.131.BVM
15	3041)	0.9	1.10	1	20-22-24	DCE.91.091.BVC	DCE.91.091.BVM
	305	0.9	0.80	2	22-24-26	DCE.91.091.6VC	DCE.91.091.DVW
	306/307	0.7	0.80	1	22-24-26	DCE.91.071.BVC	DCE.91.071.BVM
	308	0.7	0.45	2	28-30-32	DOL:31:071:DVO	BOL.ST.O7 T.BVIVI
	310/314 316	0.5	0.45	1	28-30-32	DCE.91.051.BVC	DCE.91.051.BVM
	304/305	1.3	1.40	1	18-20	DCE.91.132.BVC	DCE.91.132.BVM
2B	3061)	1.3	1.10	2	20-22-24	DCE.91.132.DVC	DCE.91.132.DVIVI
<b>2S</b>	307	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		
		0.9	0.45	2	28-30-32	DCE.91.092.AVC	DCE.91.092.AVM
	312/314 316/318	0.7	0.80	1	22-24-26	DCE.91.072.BVC	DCE.91.072.BVM
	319	0.7	0.45	2	28-30-32		
	326/332	0.5	0.45	1	28-30-32	DCE.91.052.BVC	DCE.91.052.BVM

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

		Co	nne	ctor +	Со	ntact	Positioners	part number
		Type	ØΑ	Ø C	Fig.	Conductor AWG	For male contact	For female contact
		308/309	1.3	1.40	1	18-20	DOE 04 400 DV0	DOE 04 400 DV/44
	3B	310	1.3	1.10	2	20-22-24	DCE.91.133.BVC	DCE.91.133.BVM
	OD	312/314	0.9	1.10	1	20-22-24	DOE 04 000 DV0	DOE 04 000 DV/14
Ī		316/318	0.9	0.80	2	22-24-26	DCE.91.093.BVC	DCE.91.093.BVM
		320/322 324/326	0.7	0.80	1	22-24-26	DCE.91.073.BVC	DCE.91.073.BVM
		328/330	0.7	0.45	2	28-30-32	562.61.676.576	
ſ		312	1.3	1.40	1	18-20	DCE.91.134.BVC	DCE.91.134.BVM
	4B	312	1.3	1.10	2	20-22-24	DCE.91.134.DVC	DCE.91.134.6VW
		316/320	0.9	1.10	1	20-22-24	DCE.91.094.BVC	DCE.91.094.BVM
		324/330	0.9	0.80	2	22-24-26	DCE.91.094.6VC	DCE.91.094.6VIVI
		340	0.7	0.80	1	22-24-26	DCE.91.074.BVC	DCE.91.074.BVM
		340	0.7	0.45	2	28-30-32	DCL.91.074.BVC	DCL.91.074.6VW
ſ		330/340	1.3	1.40	1	18-20	DOE 04 405 DV0	DOE 04 405 DV/M
	5B	348	1.3	1.10	2	20-22-24	DCE.91.135.BVC	DCE.91.135.BVM
		350/354	0.9	1.10	1	20-22-24	DCE 04 005 DVC	DCE 04 005 DVM
Ī		364	0.9	0.80	2	22-24-26	DCE.91.095.BVC	DCE.91.095.BVM

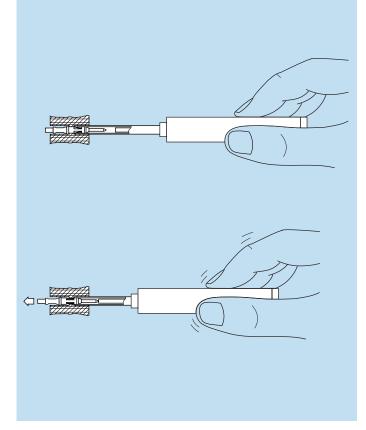


**Note:** These turrets can be used with manual crimping tool according to MIL-C-22520/1-01 standard.

# DCE Turret for crimp contacts 1.6-2.0-3.0 and 4.0 mm diameter

	Co	nnec	ctor +	Со	ntact	Positioners
	Туре	ØΑ	O Ø	Fig.	Conductor AWG	Part number
	302	2.0	2.4	1	12-14-16	DCE.91.202.BVCM
2B	302	2.0	1.9	2	14-16-18	DCL.91.202.BVCW
	303	1.6	1.9	1	14-16-18	DCE.91.162.BVCM
	303	1.6	1.4	2	18-20-22	DCL.91.102.DVCW
	302	3.0	2.9	1	10-12-14	DCE.91.303.BVCM
3B	303/304	2.0	2.4	1	12-14-16	DCE.91.203.BVCM
	309	2.0	1.9	2	14-16-18	DCE.91.203.6VCW
	305/306	1.6	1.9	1	14-16-18	DCE.91.163.BVCM
	307	1.6	1.4	2	18-20-22	DCL.91.103.BVCW
	304	3.0	2.9	1	10-12-14	DCE.91.304.BVCM
4B	306/307	2.0	2.4	1	12-14-16	DCE.91.204.BVCM
	306/307	2.0	1.9	2	14-16-18	DCE.91.204.6VCW
	310	1.6	1.9	1	14-16-18	DCE.91.164.BVCM
	310	1.6	1.4	2	18-20-22	DCL.91.104.DVCW
	304	4.0	4.0	1	8-10-12	DCE.91.405.BVCM
5B	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
	314/310	2.0	1.9	2	14-16-18	DCE.91.205.BVCIVI
	320	1.6	1.9	1	14-16-18	DCE.91.165.BVCM
	320	1.6	1.4	2	18-20-22	DGE.91.100.BVCIVI



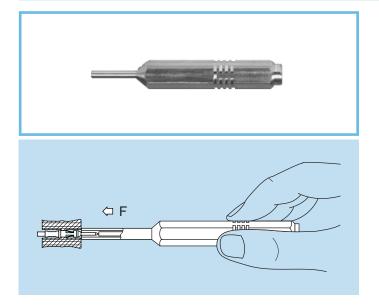


Note: This model is used for male and female contacts.

### DCF Extraction tools for crimp contacts

	Connector		Extractors
	Туре	Contact ø A	Part number
00	302/303/304	0.5	DCF.91.050.2LT
	302/303	0.9	DCF.91.090.2LT
0B	304/305	0.7	DCF.91.070.2LT
	306/307/309	0.5	DCF.91.050.2LT
	302/303	1.3	DCF.91.131.2LT
1B	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
	302	2.0	DCF.91.202.2LT
2B	303	1.6	DCF.91.162.2LT
20	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
	302	3.0	DCF.91.303.5LT
3B	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
	304	3.0	DCF.91.303.5LT
4B	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
	304	4.0	DCF.91.405.5LT
5B	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

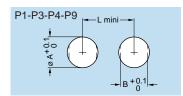
DCK Retention testing tools for crimp contacts 0.5-0.7-0.9 and 1.3 mm diameter

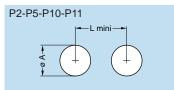


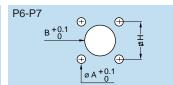
Comtont	Tast	Testing tool	part number
Contact ø A	Test force (N)	For male contact	For female contact
0.5	8	DCK.91.050.8LRC	DCK.91.050.8LRM
0.7	14	DCK.91.071.4LRC	DCK.91.071.4LRM
0.9	14	DCK.91.091.4LRC	DCK.91.091.4LRM
1.3	25	DCK.91.132.5LRC	DCK.91.132.5LRM

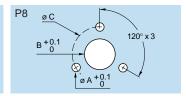


### **Panel Cut-Outs**









#### B series

Series		P1		Р	2		P3			P4		F	5		P6			P8			P9		P1	10
Selles	øΑ	В	L	øΑ	L	øΑ	В	L	øΑ	В	L	ø A2)	L	øΑ	В	Н	øΑ	В	С	øΑ	В	L	øΑ	L
00	7.1	6.4	12.5	7.1	11.5	_	_	_	_	_	_	_	_	_	_	_	_	_	_	7.1	_	12	_	_
0B	9.1	8.3	14.5	9.1	13.5	14.1	12.6	20.1	10.1	9.1	15.0	8.30	10.5	_	_	_	_	_	-	9.1	8.3	15	_	_
1B	12.1	10.6	18.5	_	_	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	22.5	_	_	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	36.0	-	_	-	_	_	25.2	23.6	36.1	_	_	-	_	_	_	_	-	25.2	23.6	36	_	_
5B	35.2 <sup>1)</sup>	33.6	44.0	_	_	ı	_	ı	35.2	33.6	47.1	_	ı	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:  $^{+}$   $_{0}^{0.02}$ 

#### **Cut-out types**

Model	Туре	Мо	del	Туре
EBG	P6	EKG	3	P1
ECG	P1	EMO	3	P1
EEG	P1	ENG	}	P1
EGG	P1	ENY	′	P1
EFG	P2	ESG	3	P1/P2
EHG	P1	EXC	F	P2/P10
EJG	P5	EYG	E F	P1/P10

Model	Туре
FAG	P1
FBG	P8
FWG	P9
HCG	P3
HEG	P9
HGG	P9
HHG	P9

Model	Туре
HMG	P9
HNG	P9
PEG	P1
PFG	P1
PKG	P1
R●●	P4
See	P4/P9 <sup>3)</sup>

#### Model Туре **XBG** P2 **XPF** P2 **XRB** P2 YHG P9

#### Mounting nut torque

Series	Torque	e (Nm)
Selles	Metal shell	Plastic shell <sup>4)</sup>
00	1.0	0.4
0B	2.5	0.4
1B	4.5	0.7
2B	6.0	8.0
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		Р	2		P3			P4		Р	5		P6			P7		P1	10	P1	1
Selles	øΑ	В	L	øΑ	L	øΑ	В	L	øΑ	В	L	ø A <sup>2)</sup>	L	øΑ	В	Н	øΑ	В	Н	øΑ	L	øΑ	L
00	7.1	6.4	12.5	7.1	11.5	_	_	_	_	_	_	_	_	_	_	-	_	_	_	_	_	-	_
0S	9.1	8.3	14.5	9.1	13.5	12.1	10.6	20.0	10.1	9.1	15	_	-	_	-	-	_	-	ı	ı	-	9.1	16
1S	12.1	10.6	18.5	12.1	19.0	14.1	12.6	21.0	12.1	10.6	18	11.92	15.5	3.3	12.1	12.7	2.7	11.1	12.4	11.1	17	12.1	19
2S	15.1	13.6	22.5	15.1	21.5	16.1	14.6	22.0	16.1	15.1	23	_	-	3.3	15.1	15.5	_	_	ı	-	_	_	_
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	_	_	ı	-	_	_	_
4S	25.2	23.6	36.0	25.2	34.0	25.2	23.6	36.0	25.2	23.6	36	_	-	_	_	-	_	_	ı	ı	-	_	_
5S	35.2 <sup>1)</sup>	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:  $^{+}$   $^{0.02}$ 

#### **Cut-out types**

Model	Туре	
EBC	P6	
EBD	P6	
EBS	P7	
ECP	P1	
EEP	P1	
EHP	P2/P1	

Model	Туре
EMD	P1
ERA	P1
ERC	P1
ERD	P1
ERM	P1
ERN	P1

Model	Туре
ERS	P2
ERT	P5
ERY	P1
ERZ	P1
EXP	P2/P10
EWB	P3

Model	Туре
FAA	P1/P2 <sup>3)</sup>
HCP	P3 <sup>4)</sup>
HGP	P3
HGW	P11
PSA	P1
PSP	P1

Model	Туре
PSS	P1
RAD	P1/P2 <sup>5)</sup>
SWH	P4

1 N = 0.102 kg

#### Mounting nut torque

Series	Torque	e (Nm)
Selles	Metal shell	Plastic shell <sup>6)</sup>
0S	2.5	0.4
1S	4.5	0.7
2S	6.0	8.0
3S	9.0	1.0
4S	12.0	5.0
5S	17.0	_
6S	22.0	_

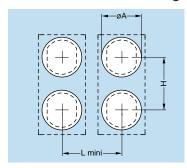
Note:  $^{3)}$  In series 6S use P2.  $^{4)}$  Use only ø A in 1S series.  $^{5)}$  In series 4S and 5S use P2.

Note: 6) These values apply when metal shell are mounted with insulating washer.





### Panel cut-out for mounting with insulating washer or double panel washer (B-S series)

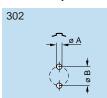


Series	Dimensions (mm)					
Series	øΑ	Н	L			
0S-0B	11	14	13.5			
1S-1B	14	20	17.0			

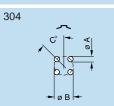


## PCB Drilling Patterns

#### Fixed receptacle with straight printed circuit contact (B series)



Corios	Dimensions			
Series	Α	В		
00	0.6	1.2		
0B	0.8	2.2		
1B	0.8	2.8		
2B	0.8	4.4		



Series		Dimension	S
Selles	Α	В	С
00	0.6	1.6	45°
0B	0.6	2.5	45°
1B	0.8	3.1	45°
2B	0.8	5.0	45°
3B	0.8	6.2	45°

		'		
306				
C,	<b>7</b> 0 0		₩ Ø ₩	

Series	Dimensions			
Series	A B		С	
0B	0.6	3.0	60°	
1B	0.8	3.7	60°	

307				
	ပိ <i>ု</i>	000	¥   0	<u>†</u> <u>@</u> <u>@</u>

Series	Dimensions			
Selles	Α	В	С	
0B	0.6	3.0	60°	
1B	0.8	3.7	60°	
2B	0.8	5.8	60°	

Α

8.0

8.0

Series

Series

1B

2B

3B

2B

3B

Dimensions

В

6.4

7.5

Dimensions

90°

90°

1.90 1.80

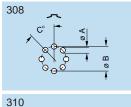
2.65 2.65

3.40 3.40

С

45°

45°



Series		Dir	nensi	ons	
Series	Α	В	С	D	Н
1B	0.6	3.95	45°	22°30'	1.40
2B	0.8	6.20	45°	22°30'	2.15
3B	8.0	7.90	45°	22°30'	2.80

ВС

4.4

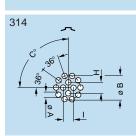
6.5

8.2

0.6

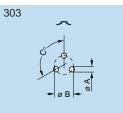
8.0

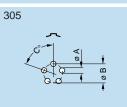
8.0



	Series	Dimensions					
	Selles	Α	В	С	D	Е	Н
	2B	8.0	6.7	60°	30°	15°	3.50
I	3B	0.8	8.4	60°	30°	15°	4 34



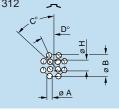


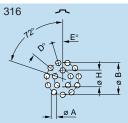


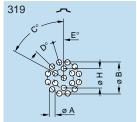
306				
		_ ∢	ı	ı
	0-	0 0	ļ — ,	<u>I</u> m
	(A)	<u> </u>	T .	ø E
	٧. ١		†	¥
	C°			

308	~		
7	° 000	∀ ø	<b>≠</b> ⊗ B
	0-0		4

° C°	
	<b>+</b>
0 0 0	Ø
■ ø A	*
040	







Corios	Dimensions			
Series	A B		С	
00	0.6	1.35	120°	
0B	0.8	2.30	120°	
1B	0.8	3.00	120°	
2B	0.8	4.60	120°	
3B	0.8	5.60	120°	

Series	Dimensions				
Selles	Α	В	С		
0B	0.6	2.8	72°		
1B	0.8	3.4	72°		
2B	0.8	5.2	72°		

Corios	Dimensions		
Series	Α	В	С
2B	0.8	5.6	72°

Series	Dimensions			
Series	Α	В	С	
1B	0.8	3.8	51°26'	

Series	Dimensions				
Series	Α	В	С		
3B	0.8	7.5	45°		

Series	Dimensions					
Selles	Α	В	С	D	Н	
2B	0.8	6.50	45°	22°30'	2.80	
3B	0.8	8.20	45°	22°30'	3.40	

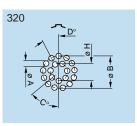
	Dimensions						
Α	В	D	Е	Н			
0.6	4.4	32°44'	16°22'	2.00			
0.8	6.6	32°44'	16°22'	3.10			
0.8	8.4	32°44'	16°22'	3.86			
0.6	10.5	32°44'	16°22'	5.00			
	0.6 0.8 0.8	A B  0.6 4.4  0.8 6.6  0.8 8.4	A B D  0.6 4.4 32°44'  0.8 6.6 32°44'  0.8 8.4 32°44'	0.6 4.4 32°44' 16°22' 0.8 6.6 32°44' 16°22' 0.8 8.4 32°44' 16°22'			

Series		Dimensions					
Series	Α	В	С	D	Е	Н	
2B	8.0	6.7	60°	30°	15°	3.5	

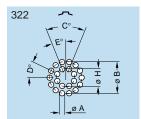


318

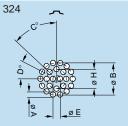




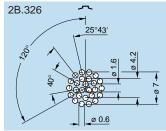
Series		Dimensions					
Series	Α	В	С	D	Н		
3B	0.6	8.62	51°26'	27°42'	4.78		
4B	0.6	11.00	51°26'	27°42'	6.00		

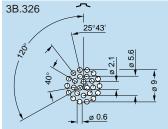


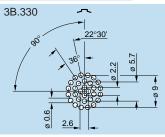
Series			Dim	ension	S	
Series	Α	В	С	D	Е	Н
3B	0.6	8.8	45°	25°43'	22°30'	5

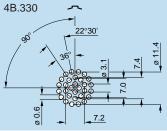


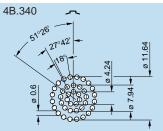
	Corios		Dimensions						
Series	Α	В	С	D	Е	Н			
	3B	0.6	8.8	45°	25°43'	1.8	5.30		
	4B	0.6	11.1	45°	25°43'	2.2	6.65		

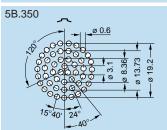


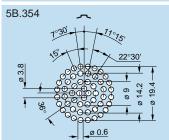


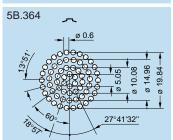










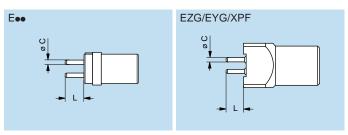


#### Length of straight printed circuit contacts (for receptacle E••)

	Туре		nsions
			L
	302	0.5	3.0
00	303	0.5	3.0
	304	0.5	3.0
	302/303	0.7	3.0
0B	304/305	0.5	3.0
	306/307	0.5	3.0
	302/303/304/305	0.7	3.0
1B	306/307/308	0.7	3.0
	310/314/316	0.5	3.0
	302	0.7	3.0
2B	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
	303/304/308/309/310	0.7	3.0
3B	312/314/316/318	0.7	3.0
	320/322/324/326/328/330	0.5	4.5
	316/320	0.5	5.0
4B	324/330	0.5	5.0
יי	340	0.5	5.0
	350	0.5	5.0
5B	354	0.5	5.0
	364	0.5	5.0

# Length of straight printed circuit contacts (for receptacle EZG/EYG/XPF)

			Mod	dels	
	Туре	Type EZG/EYG		XPF	
		øС	L	øС	L
	302/303	0.7	4.3	-	-
0B	304/305	0.5	4.3	0.7	2.9
	306/307	0.5/0.8	3/4.3	_	_
	302/303/304/305	0.7	3.6	-	_
1B	306/307/308	0.7	3.6	1	-
	310/314/316	0.5	3.6	-	-
	303/304/305/306/307/308/310	0.7	4	-	-
2B	312/314/316/318/319	0.7	5	-	-



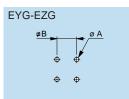
Note: This table does not apply for receptacle H●•; receptacle EH• and plug FA•.



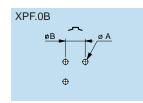
## Fixed receptacle for printed circuit (B series)

P16

Holes for fixing the housing:



Dimensions			
Α	В		
0.81)	5.08		
1.72)	7.62		
1.72)	7.62		
1.72)	10.16		
	A 0.8 <sup>1)</sup> 1.7 <sup>2)</sup> 1.7 <sup>2)</sup>		

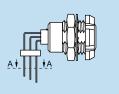


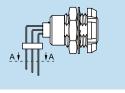
Corios	Dimensions		
Series	Α	В	
0B	1.7	5.08	

Note: 1) To solder. 2) To screw.

#### Fixed receptacle with elbow printed circuit contact (B series)

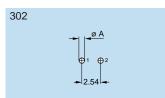
P17



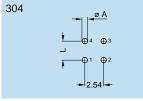


303	→ → → → → → → → → → → → → → → → → → →
	2.54

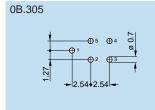
Series	Di	m.
Selles	Α	L
0B	0.7	1.27
1B	0.9	1.27
2B	0.9	2.54

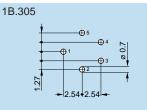


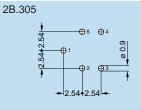


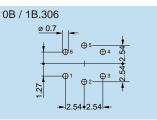


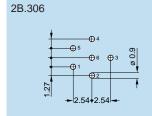
Series	Dim.		
Selles	Α	L	
0B	0.7	2.54	
1B	0.7	2.54	
2B	0.9	3.50	

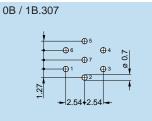


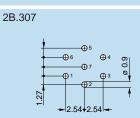


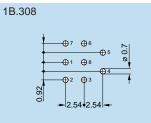


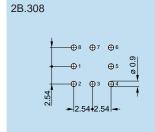


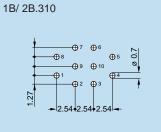


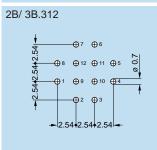


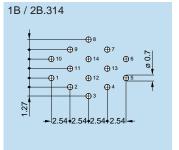


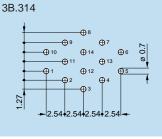


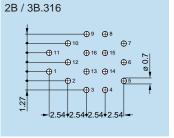


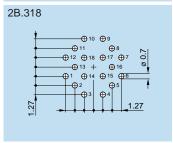


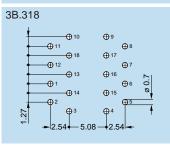




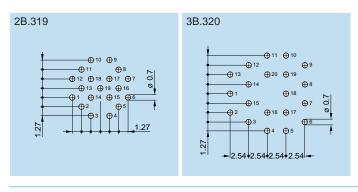


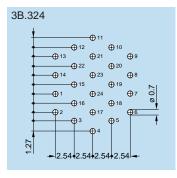


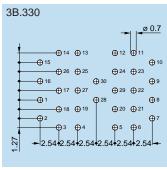




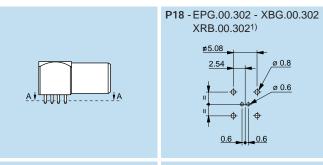




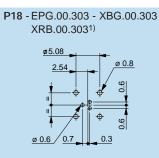


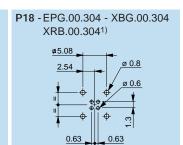


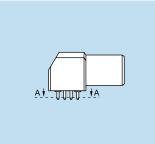
#### Elbow receptacle (90°) for printed circuit (B series)

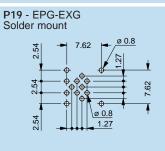


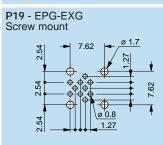


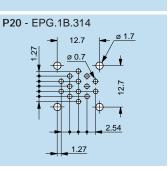






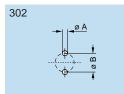




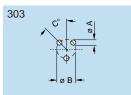


Note: 1) For the XRB.00 series, the holes for shell fixing are different (see p. 41).

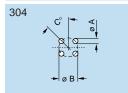
#### Fixed receptacle with straight printed circuit contact (S series)



Dimensions		
Α	В	
0.6	2.2	
0.8	3.0	
	A 0.6	



Series	Dimensions			
Selles	Α	С		
0S	0.6	2.8	45°	
1S	0.8	3.5	45°	
2S	0.8	5.5	60°	



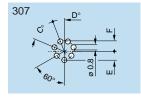
Series	Dimensions			
Series	Α	В	С	
0S	0.6	2.8	45°	
1S	0.8	3.5	45°	
2S	0.8	5.0	45°	

305				
	<°-	V V	, +	
	N N	0	Ø	
	V <sub>D°</sub>	•	+	

Series	Dimensions					
Selles	A B C D					
1S	0.8	3.5	60°	45°		
2S	0.8	5.5	60°	60°		

306					
	<°⁻		۷ إه	÷	
	Ø,	0	<del>-</del>	ø B	
	,	,		4	

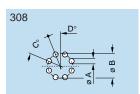
Series		Dimension	S		
Selles	Α	В	С		
1S	0.8	3.5	60°		
2S	0.8	5.5	60°		
3S	0.8 6.5 60°				



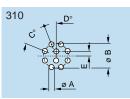
Series		Dimer	sions			
Selles	C D E F					
2S	45°	22°30'	2.75	3.25		
3S	45°	22°30'	3.25	3.90		

Note: All views are from the side of the receptacle.

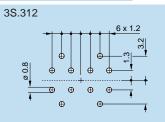


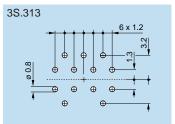


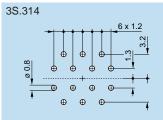
Series	Dimensions				
Series	A B C D				
2S	0.8	6.5	45°	22°30'	
3S	0.8	7.8	45°	22°30'	

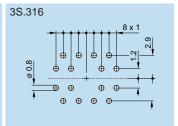


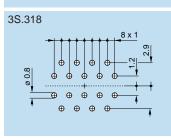
Series		Dir	nensi	ons	
Selles	Α	В	С	D	Е
2S	8.0	6.5	45°	22°30'	1.25
3S	0.8	7.8	45°	22°30'	1.50



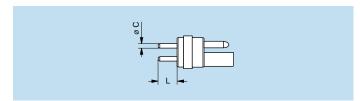








#### Length of straight printed circuit contacts (for receptacle E••)



	Туре		Dimensions		
			L		
	302	0.7	3.0		
0\$	303	0.5	3.0		
	304	0.5	3.0		
	302	0.7	3.0		
1S	303/304/305	0.7	3.0		
	305/306	0.5	3.0		
	303/304/305	0.8	3.0		
<b>2S</b>	306/307	0.8	3.0		
	307/308/310	0.7	3.0		
3S	305/306/307/308/310	0.7	3.0		
	312/313/314	0.7	3.0		
	316/318	0.7	3.0		

 $\ensuremath{\text{\textbf{Note}}}\xspace$  This table does not apply for HGP and EHP receptacles and for FAA plugs.

#### Elbow receptacle (90°) for printed circuit (S series)

P22 - EPL - EXP Solder mount

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

7.62

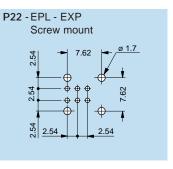
7.62

7.62

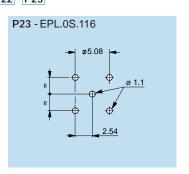
7.62

7.62

7.62



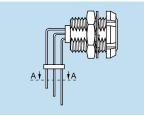
P22 P23 Note: All dimensions are in millimeters.

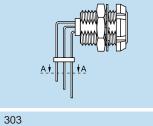






#### Fixed receptacle with elbow printed circuit contact (S series)

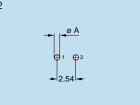




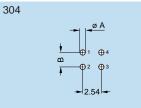
ø A ⊢	
± 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	

Series	Dimensions					
Selles	Α	В	С			
0S	0.7	2.00	1.00			
1S	0.7	2.48	1.24			

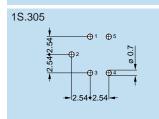




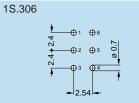
Carias	Dim.
Series	Α
0S	0.7
1S	0.9



Series	Dimensions			
Selles	Α	В		
0S	0.7	2.00		
1S	0.7	3.50		
2S	0.9	3.50		

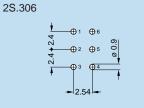


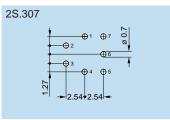
2S.308

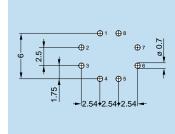


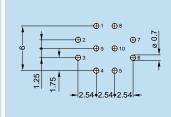
2S / 3S.310

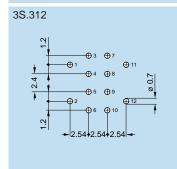


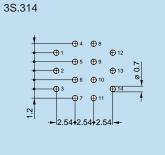


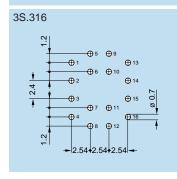














#### Cable fixing

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).

#### Material and treatment

		S	urface	Surface treatment (µm)				
Component	Material (standard)	Nic	kel	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	_						
Gasket	FPM (Viton®)							

Notes: Standards for surface treatment are as follows: Nickel-plated: FS QQ-N-290A.

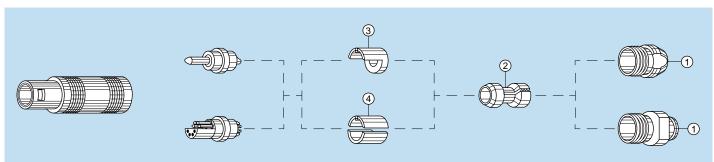
#### Cable clamping

#### Type C cable clamping (S 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.



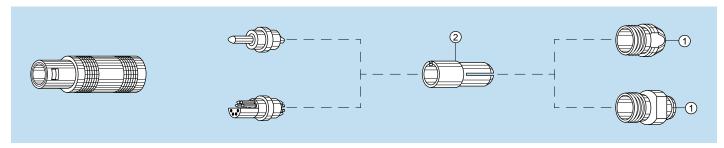


#### Type D cable clamping (FFL model 2S series)

This clamping system is assembled onto FFL plugs designed for crimp contacts. It includes the same components as the B series, see page 160.

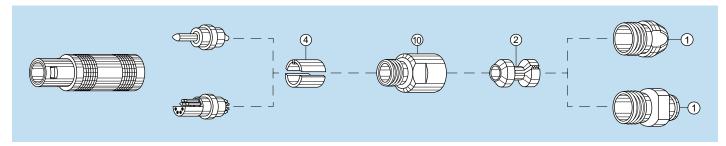
#### Type L cable clamping (S and 2C series)

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.



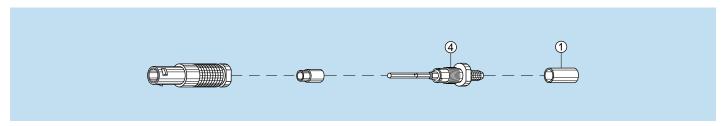
#### Type K cable clamping (S series)

This clamping system provides for screened or unscreened cables with diameters larger than maximum specified for each series. It includes an oversize collet housing ®, the collet ② and the collet nut ① of the next series size up. It requires a long-er split center-piece ④.



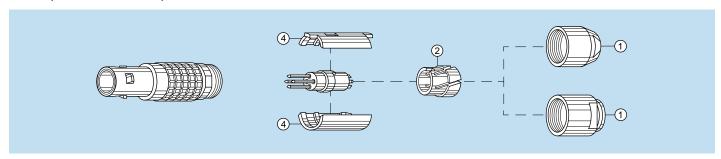
#### Type E cable clamping (00 single contact series)

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 and 2G 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.

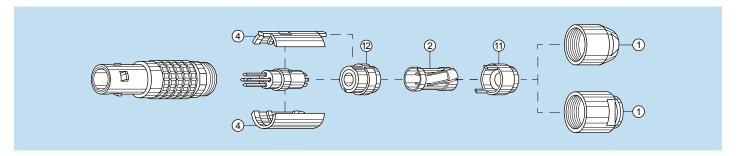


Data Subject to Change



#### 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 0, a collet of a smaller series 2 and a reducing cone 1. These parts have the same function as the D type collet.





### Technical Tables

#### **Table of Wire Gauges**

	Constr	uction	ø wire	max	Wire section			
AWG	Strand	AWG/			. 0			
	no.	strand	(mm)	(in)	(mm <sup>2</sup> )	(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 <sup>1)</sup>	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 <sup>1)</sup>	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 <sup>1)</sup>	7	24	1.5494	0.061	1.4330	0.0022		
16	1	16	1.3208	0.052	1.3076	0.0020		
18 <sup>1)</sup>	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 <sup>-4</sup>		
20	19	32	1.0414	0.041	0.6162	0.0010		
20	10	30	1.0160 0.9906	0.04	0.5067 0.5631	7.9 x 10 <sup>-4</sup>		
20	7	28 20		0.039		8.7 x 10 <sup>-4</sup> 8.0 x 10 <sup>-4</sup>		
22	19	34	0.8382 0.8382	0.033	0.5189 0.3821	5.9 x 10 <sup>-4</sup>		
22	7	30	0.7874	0.033	0.3547	5.5 x 10 <sup>-4</sup>		
22	1	22	0.6604	0.026	0.3243	5.0 x 10 <sup>-4</sup>		
24 1)	42	40	0.6604	0.026	0.3245	3.2 x 10 <sup>-4</sup>		
24	19	36	0.6858	0.027	0.2407	3.7 x 10 <sup>-4</sup>		
24	7	32	0.6350	0.025	0.2270	3.5 x 10 <sup>-4</sup>		
24	1	24	0.5588	0.022	0.2047	3.2 x 10 <sup>-4</sup>		
26	19	38	0.5588	0.022	0.1540	2.4 x 10 <sup>-4</sup>		
26	7	34	0.5080	0.02	0.1408	2.2 x 10 <sup>-4</sup>		
26	1	26	0.4318	0.017	0.1281	2.0 x 10 <sup>-4</sup>		
28 <sup>1)</sup>	19	40	0.4318	0.017	0.0925	1.4 x 10 <sup>-4</sup>		
28	7	36	0.4064	0.016	0.0887	1.4 x 10 <sup>-4</sup>		
28	1	28	0.3302	0.013	0.0804	1.2 x 10 <sup>-4</sup>		
30	7	38	0.3302	0.013	0.0568	8.8 x 10 <sup>-5</sup>		
30	1	30	0.2794	0.011	0.0507	7.9 x 10 <sup>-5</sup>		
32	7	40	0.2794	0.011	0.0341	5.3 x 10 <sup>-5</sup>		
32	1	32	0.2286	0.009	0.0324	5.0 x 10 <sup>-5</sup>		
34	1	34	0.1693	0.007	0.0201	3.1 x 10 <sup>-5</sup>		
36	1	36	0.127	0.005	0.0127	2.0 x 10 <sup>-5</sup>		
38	1	38	0.1016	0.004	0.0081	1.3 x 10 <sup>-5</sup>		
40	1	40	0.078	0.003	0.0049	7.5 x 10 <sup>-6</sup>		

#### Table of wire gauges according to IEC-228 standard

Conductor no	Max Ø	Max Ø	Section	Section
x Ø (mm)	(mm)	(in)	(mm <sup>2</sup> )	(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 <sup>-4</sup>
16 x 0.20	0.90	0.035	0.50	7.7 x 10 <sup>-4</sup>
1 x 0.80	0.80	0.031	0.50	7.7 x 10 <sup>-4</sup>
7 x 0.25	0.75	0.029	0.34	5.2 x 10 <sup>-4</sup>
1 x 0.60	0.60	0.023	0.28	4.3 x 10 <sup>-4</sup>
14 x 0.15	0.75	0.029	0.25	3.8 x 10 <sup>-4</sup>
7 x 0.20	0.65	0.023	0.22	3.4 x 10 <sup>-4</sup>
18 x 0.10	0.50	0.019	0.14	2.1 x 10 <sup>-4</sup>
14 x 0.10	0.40	0.015	0.11	1.7 x 10 <sup>-4</sup>
21 x 0.07	0.40	0.015	0.09	1.3 x 10 <sup>-4</sup>
14 x 0.10	0.40	0.015	0.09	1.3 x 10 <sup>-4</sup>

Note: 1) Not included in the standard



## Conversion Tables — millimeters/inches

(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
0.02	0.0007	1.37	0.0539	3.90	0.1535	8.90	0.3504	16.00	0.6299	29.50	1.1614
0.03	0.0011	1.40	0.0551	4.00	0.1575	9.00	0.3543	16.10	0.6338	30.00	1.1811
0.10	0.0039	1.50	0.0590	4.36	0.1716	9.40	0.3701	17.00	0.6693	30.80	1.2125
0.16	0.0062	1.52	0.0598	4.50	0.1771	9.50	0.3740	17.50	0.6889	31.00	1.2204
0.18	0.0071	1.60	0.0629	5.00	0.1968	9.60	0.3779	17.80	0.7007	31.80	1.2519
0.20	0.0078	1.70	0.0669	5.08	0.1999	9.70	0.3818	18.00	0.7086	32.00	1.2598
0.30	0.0118	1.71	0.0673	5.20	0.2047	10.00	0.3937	18.20	0.7165	33.00	1.2992
0.40	0.0157	1.80	0.0708	5.37	0.2114	10.30	0.4055	18.50	0.7283	33.50	1.3188
0.48	0.0188	2.00	0.0787	5.50	0.2165	10.40	0.4094	19.00	0.7480	34.00	1.3385
0.50	0.0196	2.10	0.0826	5.80	0.2283	10.50	0.4134	19.50	0.7677	34.50	1.3582
0.51	0.0201	2.20	0.0866	6.00	0.2362	10.70	0.4212	20.00	0.7874	35.70	1.4055
0.54	0.0212	2.42	0.0953	6.20	0.2441	10.80	0.4252	20.50	0.8071	36.00	1.4173
0.60	0.0236	2.50	0.0984	6.30	0.2480	11.00	0.4331	20.60	0.8110	40.00	1.5748
0.70	0.0275	2.60	0.1023	6.40	0.2519	11.50	0.4527	21.00	0.8267	41.00	1.6141
0.80	0.0315	2.70	0.1063	6.50	0.2559	11.70	0.4606	21.50	0.8464	42.00	1.6535
0.86	0.0338	2.80	0.1102	6.80	0.2677	12.00	0.4724	21.80	0.8582	43.00	1.6929
0.87	0.0342	2.95	0.1161	7.00	0.2755	12.60	0.4961	22.00	0.8661	45.00	1.7716
0.90	0.0354	3.00	0.1181	7.10	0.2795	12.90	0.5078	23.00	0.9055	45.50	1.7913
0.91	0.0358	3.05	0.1201	7.40	0.2913	13.00	0.5118	23.80	0.9370	46.50	1.8307
0.95	0.0374	3.10	0.1220	7.50	0.2952	13.70	0.5393	24.00	0.9448	50.00	1.9685
1.00	0.0393	3.20	0.1259	8.00	0.3149	14.00	0.5512	25.00	0.9842	60.00	2.3622
1.21	0.0476	3.30	0.1299	8.30	0.3267	14.30	0.5629	25.50	1.0039	65.00	2.5590
1.29	0.0507	3.50	0.1378	8.60	0.3385	14.50	0.5708	26.00	1.0236	70.00	2.7559
1.30	0.0512	3.78	0.1488	8.70	0.3425	15.00	0.5905	28.00	1.1023	78.00	3.0708
1.32	0.0519	3.80	0.1496	8.80	0.3464	15.50	0.6102	28.50	1.1220	150.00	5.9055



### Terms and Conditions

- 1. Acceptance: If Buyer's order contains written, printed or stamped provisions or conditions inconsistent with the written, printed or stamped provisions of this Agreement attached hereto, the provisions and conditions of this Agreement shall prevail. Buyer shall contact LEMO USA within 10 days of receipt of LEMO USA Terms and Conditions if any objection is raised. Failure of Buyer to timely object shall be deemed an acceptance by Buyer of LEMO USA's Terms and Conditions. If a timely objection is raised by the Buyer to the LEMO USA Terms and Conditions, the order(s) will not be entered until agreement in writing is reached. All orders are subject to acceptance by Seller. Seller's acceptance is expressly conditional upon Buyer's acceptance of LEMO USA Terms and Conditions.
- 2. Pricing: Prices are based on continuous manufacture rates of delivery specified. Buyer will be charged any direct additional cost to which Seller is put by reason of any interruption of production due to Buyer's request, act or default.
- 3. Applicable Law: Purchase Order is subject to the applicable provisions of the Uniform Commercial Code, under the laws of the State of California.
- 4. Buyer's Liability: Buyer is liable for all costs associated with completed units, shipped or unshipped, labor and materials on work in process, and raw materials on hand and/or specific to Buyer's Order and all reasonable direct damages, for lead time specified in advance of requested date of cancellation.
- 5. License: The submission of a quotation or order acknowledgment does not grant or imply a license under any patents now owned or controlled by Seller, or which may become owned or controlled by Seller.
- 6. Buyer's Default: In the event Buyer cancels the contract embodied by Buyer's Order and this acceptance thereof, in whole or in part, or such contract is canceled by Seller because of default by the Buyer, the Buyer shall pay Seller by reason of such cancellation or default for reasonable direct damages sustained, including costs associated with completed units, shipped or unshipped, labor and materials on work in process, and raw materials on hand and/or specific to Buyer's Order and all reasonable direct damages, for lead time specified in advance of requested date of cancellation, at the current price applicable to the total quantity ordered at the time of default. Notwithstanding the foregoing, if item or items ordered are NON-CANCELABLE/NON-RETURNABLE, the Buyer shall purchase 100% of quantity ordered.

In the event Seller does not meet the confirmed delivery date agreed to with the Buyer as evidenced in writing, Seller shall be allowed one opportunity to reschedule the delivery and Buyer shall not be entitled to cancel the Order for such reason. In the event Seller does not meet said rescheduled delivery, Buyer may cancel the Order and not be in default under the Agreement, including the terms of this Section 6.

7. Indemnity: Buyer hereby specifically agrees to save Seller harmless and indemnify Seller against all claims for damage or profits and for all costs and attorney fees incurred by Seller resulting from any suit or suits arising from alleged infringements of patents, design copyrights, or trademarks with respect to all goods manufactured, either in whole or in part, to Buyer's specifications.

Seller, at its expense, will defend Buyer and its customer against any reasonable and good faith claim based on an allegation that an unaltered LEMO USA product infringes a patent or copyright of another; provided however, that no such obligation shall apply to (i) any LEMO USA product manufactured to Buyer's specifications and/or designs or (ii) any product that has been modified, altered, misused or damaged by Buyer or a third party. Seller shall pay any reasonable resulting costs, damages and attorney's fees finally awarded against Buyer or its customer that are attributable to such claim or will pay the part of any settlement that is attributable to such claim, provided that: (a) Buyer notifies Seller promptly in writing of the claim; (b) Seller is permitted to control the defense or settlement of the claim; and (c) Buyer and its customer cooperate reasonably in such defense or settlement.

- 8. Returns: All NON-CANCELABLE/NON-RETURNABLE products shall not be returned. Subject to Section D, Subsection 3 of the Distribution Agreement, If Buyer intends to return standard product, a return authorization number is required prior to return shipment and the product may be subjected to a restocking fee. Seller reserves the right not to issue a return authorization. Product must be returned (with shipping costs prepaid) in original packaging and in original condition as when purchased, undamaged, not reconfigured, not obsolete, fit for use, and shall not have been previously shipped from Seller to Buyer or its customer more than one year prior to the date of return. Seller reserves the right to not accept damaged product for credit, replacement, or substitution. If damaged product is accepted by Seller for credit, and damage is caused by the negligence of the Buyer, the Buyer will pay all costs for refurbishment of damaged product. Discovery of product defect and return of product shall be made in the period of time following delivery as provided in the applicable sections of the Uniform Commercial Code. In the event of a return, Seller shall have the right, in its sole discretion, to replace, substitute, or issue a credit to Buyer.
- 9. Payment: All invoices are delinquent at 30 days past invoice date and will be subject to 1% per month finance charge. Overdue accounts may be placed on credit hold and shipments held. Buyer agrees to pay all reasonable collection charges, including attorney fees, in the event his account is delinquent more than 30 days.
- 10. Payment Taxes: In the event any sales tax, manufacturer's tax, or other tax is applicable to any shipment made by the Buyer on Buyer's order, such tax shall be added to the selling price and shall be paid by the Buyer.

Data Subject to Change



- 11. Title/Risk of Loss: All prices are F.O.B. Rohnert Park, California, 1% 10 days/Net 30 days and all Seller obligations hereunder are completed when Seller delivers the items, properly consigned, to a common carrier, Seller's delivery to such carrier shall constitute delivery thereof to the Buyer.
- 12. Warranties: Seller warrants to Buyer that the Goods will conform to the applicable drawings or design standards. The express warranty set forth in this agreement is exclusive and is in lieu of all other express or implied warranties, but not limited to, warranties of merchantability and fitness for a particular purpose.
  - EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, THE SELLER DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTIES, WARRANTIES OF MERCHANTABILITY AND WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR USE.
- 13. Disputes and Resolution; Attorney's Fees: The parties agree that any disputes or questions arising hereunder including the construction or application of the Agreement, including these Terms and Conditions shall be settled in the State of California, according to the laws of the State of California. The parties hereto hereby consent to jurisdiction and venue in the Superior Court of Sonoma County, California, and in the Federal District Court for the Northern District of California, with respect to all disputes or disagreements under the Agreement, including these Terms and Conditions and agree that any action with respect to any of the foregoing shall be brought and maintained only in such courts sitting in the Northern District of California or Sonoma County, as appropriate. In any court action at law or in equity, which is brought by one of the parties to enforce or interpret the provisions of the Agreement, including these Terms and Conditions, the prevailing party will be entitled to costs and reasonable attorney's fees, in addition to any other relief to which that party may be entitled.
- 14. Confidentiality: Both parties acknowledge that during the course of business, each may obtain confidential information regarding the other party's business. Both parties agree to treat all such information as confidential and to take all reasonable precautions against disclosure of such information to unauthorized third parties during and for five (5) years after the term of all orders. Upon request by an owner, all documents relating to the confidential information will be returned to such owner.
- 15. Assignment: It is agreed by the parties that there will be no assignment or transfer of any order or any interest in any orders.

  Action by a party in violation of this provision will dismiss the other party from any further obligations arising from any orders.
- 16. Entire Terms & Conditions: These Terms & Conditions, together with the Agreement contain the entire agreement of the parties and there are no other promises or conditions in any other agreements whether oral or written. This document, together with the Agreement, supersedes any prior written or oral agreements between the parties.
- 17. Amendment: These Terms & Conditions may be modified or amended if the amendment is made in writing and is signed by both parties; provided however, that the terms of the Agreement shall control in any case where there is a conflict between these Terms & Conditions and the Agreement.
- 18. Severability: If any provision of these Terms & Conditions shall be held to be invalid or unenforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court finds that any provision is invalid or unenforceable, but that by limiting such provision it would become valid and enforceable, then such provision shall be deemed to be written, construed and enforced as so limited.
- 19. Waiver of Contractual Right: The failure of either party to enforce any provision of these Terms & Conditions shall not be construed as a waiver or limitation of that party's right to subsequently enforce and compel strict compliance with every provision of this Contract.
- 20. Limitation on Damages: Buyer's consequential or incidental damages for any Seller breach of the contract, except for Seller's gross negligence or willful misconduct, will be limited to the purchase price. Subject to Section 7 hereof, Seller will have no liability to Buyer for any damages, losses, liabilities, injuries, claims, demands or expenses arising out of or directly or indirectly connected with the use of the product. Seller shall not be liable for any exemplary, indirect, incidental, or consequential damages sustained or incurred in connection with the use of the product regardless of the form of action, whether in contract, tort (including negligence) or strict liability.

SELLER SHALL NOT BE LIABLE FOR ANY DAMAGES DUE TO CAUSES BEYOND THE REASONABLE CONTROL OF SELLER OR ATTRIBUTABLE TO ANY SERVICE, PRODUCTS, OR ACTIONS OF ANY PERSON OTHER THAN SELLER REGARDLESS OF THE FORM OF ACTION AND WHETHER OR NOT SUCH DAMAGES ARE FORESEEABLE.

NEITHER PARTY SHALL BE LIABLE IN ANY WAY TO THE OTHER PARTY FOR DELAYS, FAILURE IN PERFORMANCE, OR LOSS OR DAMAGE DUE TO FORCE MAJEURE CONDITIONS SUCH AS: FIRE; LIGHTENING; STRIKE; EMBARGO; EXPLOSION; POWER SURGE OR FAILURE; ACTS OF GOD; WAR; TERRORIST ATTACKS, LABOR DISPUTES; CIVIL DISTURBANCES; ACTS OF CIVIL OR MILITARY AUTHORITY; INABILITY TO SECURE MATERIALS, FUEL, PRODUCTS OR TRANSPORTATION FACILITIES; ACTS OR OMISSIONS OF SUPPLIERS, OR ANY OTHER CAUSES BEYOND ITS REASONABLE CONTROL, WHETHER OR NOT SIMILAR TO THE FOREGOING.



### 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 USE OF CONNECTORS CAN RESULT IN HAZARDOUS SITUATIONS.

#### 1. SHOCK AND FIRE HAZARD

Incorrect wiring, the use of damaged components, foreign objects (such as metal debris), and / or the presence of 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 is applied to a complete product or device, and implies that the device complies with one or several European safety directives. CE Marking can NOT be applied 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.



### Design Engineering Services

DATE:
-------

LEMO creates custom designs to fit your unique application, ranging from connector to multi-component assemblies.

- **Custom Connectors** Precision designs tested to your specifications
- Cable Assembly Electronic and hybrid fiber optic cable assemblies to meet a wide variety of demanding applications
- Cable Assembly Integration Consultation on routing of cable and connections within your product
- Rapid Prototyping Onsite engineering and rapid prototyping capabilities to assist in the high demands of product development
- Pro/ENGINEER® 3D solid CAD models available

#### Manufacturing Services

Outsource your manufacturing challenges. LEMO's capable engineering staff can create solutions for your cable assembly or component sub-assembly designs.

- Cable Assembly Expertise in both electronic and fiber optic connector termination
- Overmolding Design and Manufacture Custom overmold designs to enhance aesthetics while providing durability and strength
- Sub-Assembly Build Combine our connectors and cable assemblies with your sub-assemblies to provide a tested and proven module

I am interested in:									
☐ Design Engineering Services									
☐ Manufacturing Services									
·									
Please send me information on:									
	1	Rep. Name	1						
		inopi mami							
Title	Telephone	Fax	Email						
Company Name									
Street									
Sileet									
City	State	Zip	_						
,		•							

Please detach and fax directly to LEMO at (707) 578-0869, or mail to LEMO USA, Attn.: Engineering, P.O. Box 2408, Rohnert Park, CA 94927-2408



### Custom Interconnect Solutions □ BUY □ BUDGETARY Rep. Name Telephone Fax Email Company Name Street State ASSEMBLY QUANTITIES \_\_\_\_ \_\_\_ LENGTH (TIP TO TIP)\_\_\_\_\_ CONNECTORS: \_\_\_ END #1 END #2 STRAIN RELIEF: \( \subseteq \text{NO} \subseteq \text{YES} \) IF YES, SPECIFY COLOR \( \subseteq \) END #2 OVERMOLDING: NO YES IF YES, PROVIDE DETAILED DRAWING AND MATERIAL SPECIFICATION WHAT IS YOUR APPLICATION? \_\_\_ LENGTH (TIP TO TIP) \_\_\_\_ CUSTOMER SUPPLIED CABLE: NO YES IF YES, PLEASE SUPPLY CABLE SPECIFICATIONS\_ IF NO, DO YOU REQUIRE CABLE SELECTION ASSISTANCE? ☐ NO ☐ YES IF NO, PLEASE PROVIDE PART NUMBER AND MANUFACTURER OF CABLE YOU WISH LEMO TO USE: IF YES, PLEASE FILL IN THE INFORMATION BELOW: TWISTED PAIRS: 🗆 NO 🗆 YES WIRE GAUGE<u>:</u> NUMBER OF CONDUCTORS\_ SHIELDING: □ NO □ YES IF YES, PLEASE SPECIFY TYPE: JACKET MATERIALS / JACKET COLOR (GRAY IS STANDARD) OPERATING ENVIRONMENT: VOLTAGE: \_\_\_\_\_\_ CURRENT: \_\_\_\_\_ TEMPERATURE RANGE: HIGH: \_\_\_\_\_ LOW: \_\_\_ ☐ UNDERWATER: DEPTH: \_\_\_ ☐ CLEAN ☐ WASH DOWN OR SPLASH ☐ SALT WATER SPRAY ☐ DIRT ☐ OTHER: \_\_\_\_\_\_ STERILIZATION: NO YES IF YES, NUMBER OF CYCLES: \_\_\_\_\_ \_\_\_\_\_ RADIATION: TYPE: \_\_\_ ☐ AUTOCLAVING: \_\_\_\_\_ CHEMICALS: TYPE:\_\_ ☐ FLUIDS: TYPE: \_\_\_ ☐ GASES: TYPE: \_\_\_\_\_ EXPECTED DELIVERY DATE: PROTOTYPE ORDER QUANTITY: \_\_\_ PRODUCTION ORDER QUANTITY: \_ EXPECTED DELIVERY DATE: \_\_\_\_ \_\_\_\_\_ TARGET PRICING: \$ \_\_\_ PLEASE ATTACHED DRAWING IF POSSIBLE

Please detach and fax directly to LEMO at (707) 578-0869, or mail to LEMO USA, Attn.: Cable Assembly, P.O. Box 2408, Rohnert Park, CA 94927-2408 Data Subject to Change



#### Connector Specification Request Form DATE: Name Rep. Name Title Fax Telephone Email Company Name Street City Customer Profile APPLICATION DESCRIPTION: \_\_\_\_ BUDGET: IS THE PROJECT FUNDED? ☐ YES ☐ NO EXPLANATION: \_\_\_\_\_\_ SECOND SOURCE: DOES THE CUSTOMER REQUIRE A SECOND SOURCE? $\Box$ YES $\Box$ NO WHY IS LEMO BEING CONSIDERED? DOES LEMO HAVE A COMPETITIVE ADVANTAGE ACKNOWLEDGED BY THE CUSTOMER? Connector Description SHELL CONFIGURATION: \_\_\_\_\_ —— NUMBER OF CONTACTS: —— SERIES/SIZE: \_\_\_\_\_ TYPE OF TERMINATION PREFERRED: SOLDER CRIMP PRINTED CIRCUIT OTHER JACKET O.D. OF THE CABLE AND TYPE OF MATERIAL: CONDUCTOR DIAMETER OF THE CABLE (AWG) \_\_\_\_\_ \_\_\_\_\_ IF COAX, CABLE TYPE \_\_\_ **Electrical Characteristics** WORKING VOLTAGE: \_\_\_\_\_\_ PEAK: \_\_\_\_\_\_ CURRENT (AMPS) \_ IMPEDANCE (OHMS): \_\_\_\_ \_\_\_\_\_ MAXIMUM VSWR AT MAX. FREQUENCY: \_\_\_ WORKING FREQUENCY: NORMAL \_\_\_\_\_ MAXIMUM \_ NUMBER OF INSERTION CYCLES (1 CYCLE = 1 INSERTION = 1 WITHDRAWL):\_\_\_ Environment OPERATING TEMPERATURES:\_ ☐ WASH DOWN OR SPLASH ☐ SALT WATER SPRAY ENVIRONMENT: ☐ CLEAN ☐ UNDERWATER ☐ FLUIDS\_\_\_\_\_ ☐ DUST □ DIRT ☐ GASES\_ ☐ IP RATING ☐ EXPLOSIVES ☐ CHEMICALS ☐ RADIATION STERILIZATION: ☐ YES □ NO METHOD\_\_\_\_ \_\_\_\_ CYCLES \_\_\_\_ \_\_\_\_\_\_ TEMP\_\_ **Purchase Projections** PROTOTYPE ORDER QUANTITY (3 OR LESS): \_\_\_\_\_\_EXPECTED DELIVERY DATE: \_\_\_\_\_ PRODUCTION ORDER OUANTITY: \_\_\_\_\_EXPECTED DELIVERY DATE: \_\_\_ \_\_\_\_\_EXPECTED DELIVERY DATE: \_\_\_ PREPRODUCTION ORDER QUANTITY: \_\_\_ \_\_\_\_\_TARGET PRICING: \$ \_\_\_\_\_ EXPECTED QUANTITY INVOLVED EACH YEAR: \_\_\_\_\_ APPLICABLE STANDARDS: ☐ UL ☐ OTHER \_\_\_\_\_ ☐ IEC PLEASE ATTACH DRAWING IF POSSIBLE OR NECESSARY

Please detach and fax directly to LEMO at (707) 578-0869, or mail to LEMO USA, Attn.: Engineering, P.O. Box 2408, Rohnert Park, CA 94927-2408





Located 50 miles north of San Francisco, LEMO USA offers a nationwide network of product specialists, sales consultants and distributors, who work closely with customers in offering sales and technical support.



635 Park Court, Rohnert Park, CA 94928 P.O. Box 2408, Rohnert Park, CA 94927-2408 (800) 444-5366 • (707) 578-8811 • fax: (707) 578-0869 www.lemousa.com • e-mail: info@lemousa.com