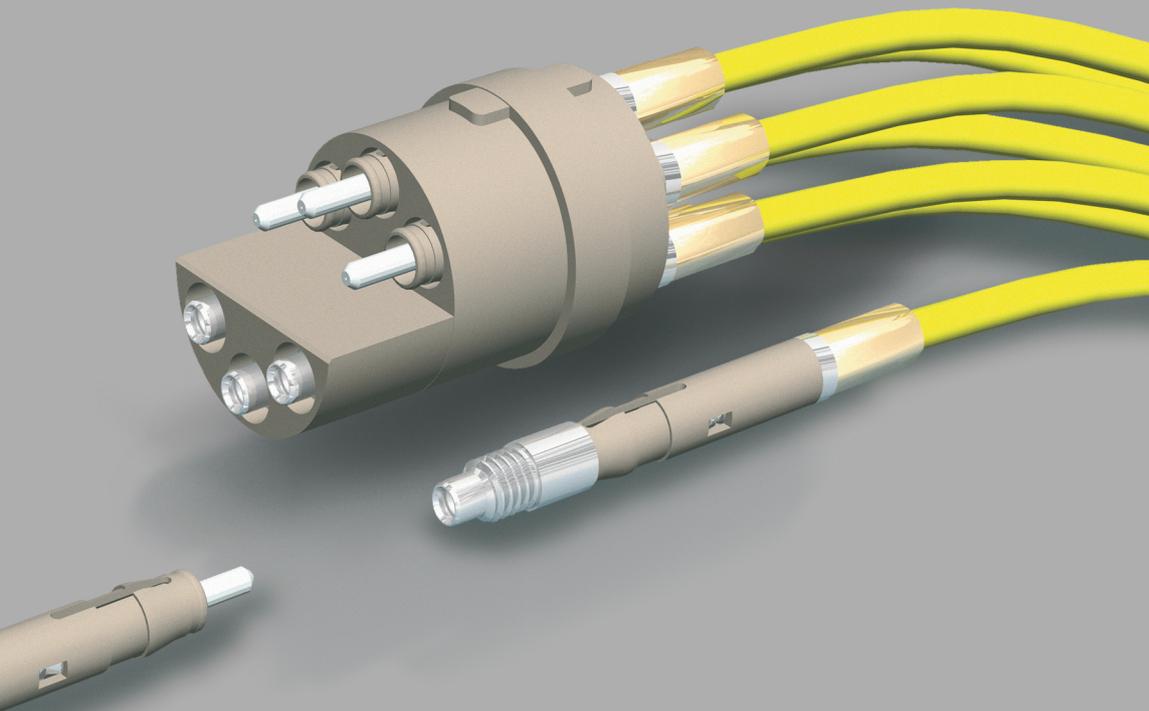


**MINIATURE F7 CONTACT  
FOR MULTI & HYBRID  
FIBRE OPTIC CONNECTORS**



## MINIATURE FIBRE-OPTIC F7 CONTACT FOR MULTIFIBRE OR HYBRID OPTICAL/ELECTRICAL OF THE 1K-5K AND 1B-5B SERIES

In addition to the existing F2 fibre optic contact shown in our catalogue of Fibre-Optic connectors No 5, the B and K series can now also be fitted with the new miniature F7 contact. The main benefits of using this contact are:

- Reduced size allowing increased contact density. As an example, a 4-channel fibre optic connector is now possible in series 3K/3B.
- Use of industry standard 1.25 mm diameter ferrule and polishing processes.

Contact design is based on the well-proven F2. Contacts fit onto buffered fibres or semitight jacket cables up to 2 mm in diameter.

This brochure shows only a sample of the available models of connectors. Refer to our catalogue No 5 for more detailed information of the full range of LEMO fibre optic connectors. Refer also to catalogue No 5 for accessories or tools specific to the electrical contacts used in hybrid connectors.



5 Fibre Optic Connectors

### Product safety notice & disclaimers

Please read and follow all instructions specified on the last page or on our [website](#) carefully and consult all relevant national and international safety regulations for your application. Improper handling, cable assembly, or wrong use of connectors can result in hazardous situations.

LEMO products and services are provided “as is.” LEMO makes no warranties or representations with regard to LEMO product & services or use of them, express, implied or statutory, including for accuracy, completeness, or security.

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# F7 Fibre Optic Contact

## Introduction

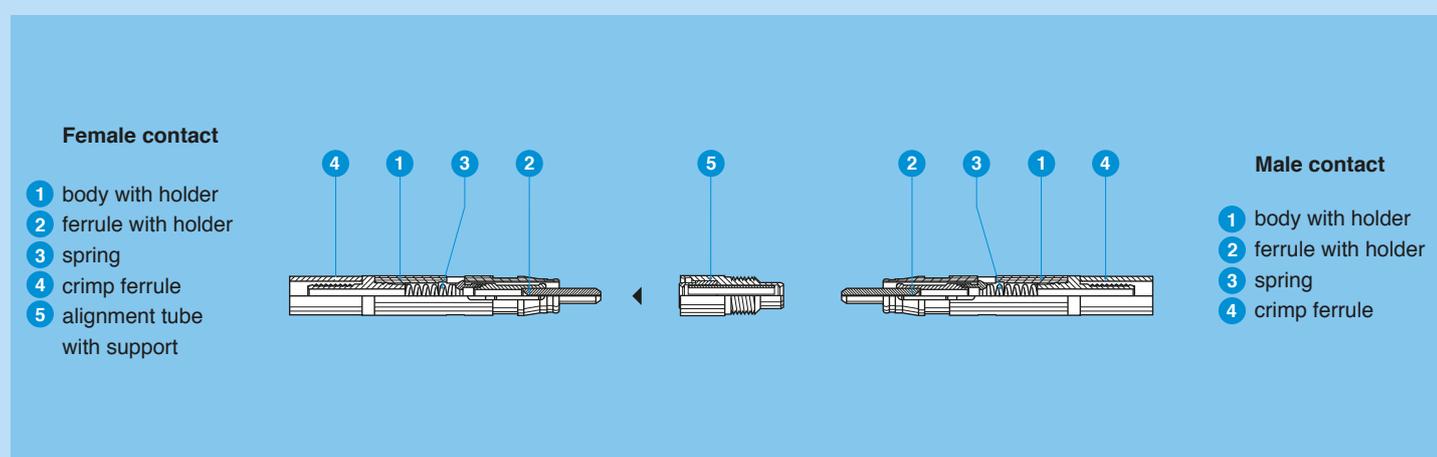
The F7 type contact is designed to fit multi fibre connectors or hybrid fibre optical/electrical connectors from 1B to 5B, 1K to 5K series. The design is based on the well proven F2 contact.

Its main features are as follows:

- Ceramic ferrules diameter 1.25 mm
- Simple and fast polishing ensuring the physical contact of the fibre end face
- After mounting on the cable, the contact is very easily installed in the main connector insulator, the particular shape of the contact body retains it in the insulator
- Single type of cable assembly, regardless of connector shell used
- The alignment tube can be easily removed in order to clean the fibre end face.

This contact makes it possible to use single fibre cables with single-mode or multi-mode fibres of the following sizes; 9/125, 50/125 and 62.5/125.

## Part Section Showing Internal Components



## Technical Characteristics

### Material and Treatment

Component	Material	Surface treatment (µm)	
		Cu	Ni
Body	PEEK	without treatment	
Ferrule	Ceramic	without treatment	
Holder	Alloy CuNiZn	without treatment	
Crimp holder	Brass	0.5	3
Spring	Stainless steel	without treatment	
Crimp ferrule	Cu 99	0.5	3
Support	Alloy CuNiZn	without treatment	
Alignment tube	Ceramic	without treatment	

### Optical

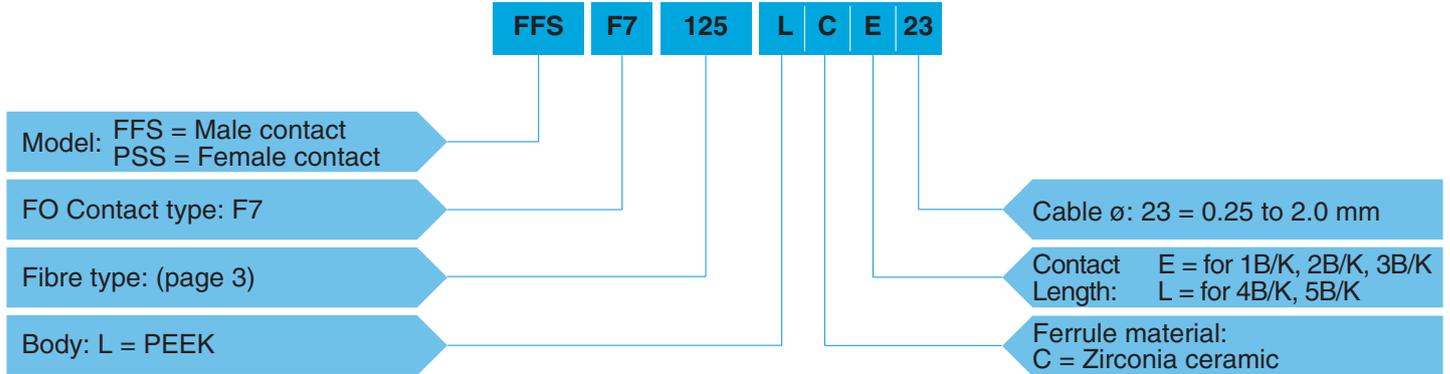
Characteristic	Value	Standard	Method
Average insertion loss fibre 9/125 µm	0.18 dB	IEC 61300-03-34	Method 2
Average insertion loss fibre 50/125 µm	0.25 dB	IEC 61300-03-34	Method 2
Return loss fibre 9/125 µm (UPC)	≥45 dB	IEC 61300-03-06	Coupler Method
Return loss fibre 9/125 µm (Hand polish)	>25 dB	IEC 61300-03-06	Coupler Method

### Mechanical and Environmental

Characteristic	Value	Standard
Mating durability	> 1000 cycles	IEC 61300-02-02
Damp heat steady state	up to 93 % RH at 40°C	IEC 61300-02-19
High temperature	+85°C	IEC 61300-02-18
Low temperature	-40°C	IEC 61300-02-17
Cable retention	100 N	IEC 61300-02-04
Vibration (3 axes)	100 to 2000 Hz, 2 hrs	–
Change of temperature	-40 to +75°C	IEC 61300-02-22
Temperature/humidity	-10 to +65°C at 93 % RH	IEC 61300-02-21

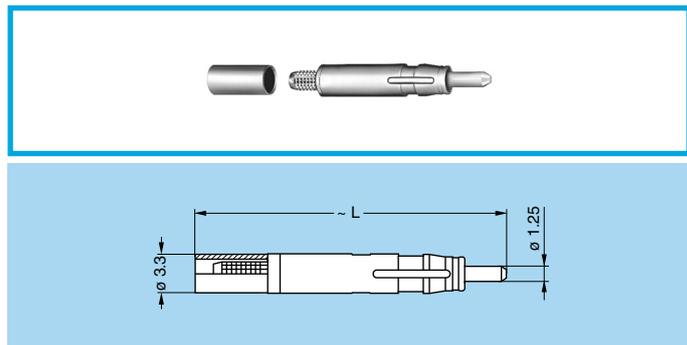
## Part Number Example

- F7 contacts are designed in 2 different lengths:
- the short version for 1B/K, 2B/K and 3B/K series, code E.
  - the long version for 4B/K and 5B/K series, code L.



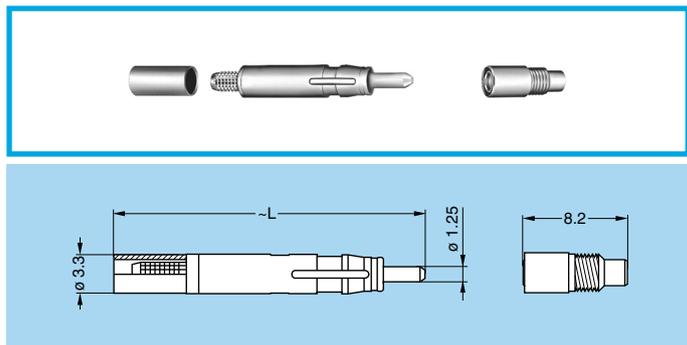
**FFS.F7.125.LCE23** = Male F7 type fibre optic contact, ferrule bore diameter of 125  $\mu$ m, PEEK body, Zirconia ceramic ferrule, contact length for 1B/K, 2B/K or 3B/K series, for cable with diameter max = 2.0 mm.

## Model - FO Contact Type



**FFS.F7** Male F7 Fibre Optic Contact

Reference		Dimensions (mm)
Model	Series	L
FFS.F7	1B, 1K, 2B, 2K, 3B, 3K	25.8
FFS.F7	4B, 4K, 5B, 5K	32.8



**PSS.F7** Female F7 Fibre Optic Contact

Reference		Dimensions (mm)
Model	Series	L
PSS.F7	1B, 1K, 2B, 2K, 3B, 3K	25.8
PSS.F7	4B, 4K, 5B, 5K	32.8

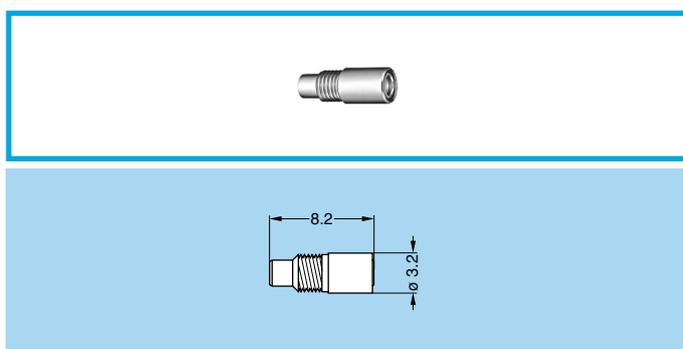
## Fibre Type

The choice of the ferrule hole diameter is dependent upon the fibre cladding size. LEMO offers a range of ferrule hole diameters to suit the users' specific requirements.

Reference	∅ Core/Cladding (µm)	Ferrule hole diameter (µm)	Note 1)
125	9/125 50/125 62.5/125	125	●
126		126	●
128		128	○

● First choice alternative    ○ Special order alternative

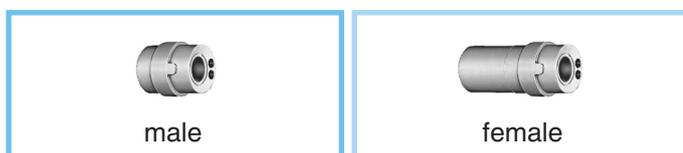
## Accessories



### PSS Alignment device for F7 fibre optic contact

Part number
PSS.F7.290.NZZ

**Note:** Alignment device should be ordered as replacement item.



### FGG-EGG Insulators

Insulators for 1B-5B and 1K-5K series vary according to the fibre optic contact type. For the new F7 contact insulators are:

	FO Contact	Insulator part number	
	Type F7	Male contact	Female contact
<b>1B/1K</b>	92A	FGG.1B.302.FL	EGG.1B.402.FL
	<b>2B/2K</b>	03A	FGG.2B.302.FL
<b>3B/3K</b>	93B	FGG.2B.324.FL	EGG.2B.424.FL
	03C	FGG.3B.304.FL	EGG.3B.404.FL
<b>4B/4K</b>	95B	FGG.3B.344.FL	EGG.3B.444.FL
	03G	FGG.4B.308.FL	EGG.4B.408.FL
	03H	FGG.4B.309.FL	EGG.4B.409.FL
<b>5B/5K</b>	97B	FGG.4B.362.FL	EGG.4B.462.FL
	03R	FGG.5B.316.FL	EGG.5B.416.FL
	03W	FGG.5B.321.FL	EGG.5B.421.FL

# 1K-5K Series

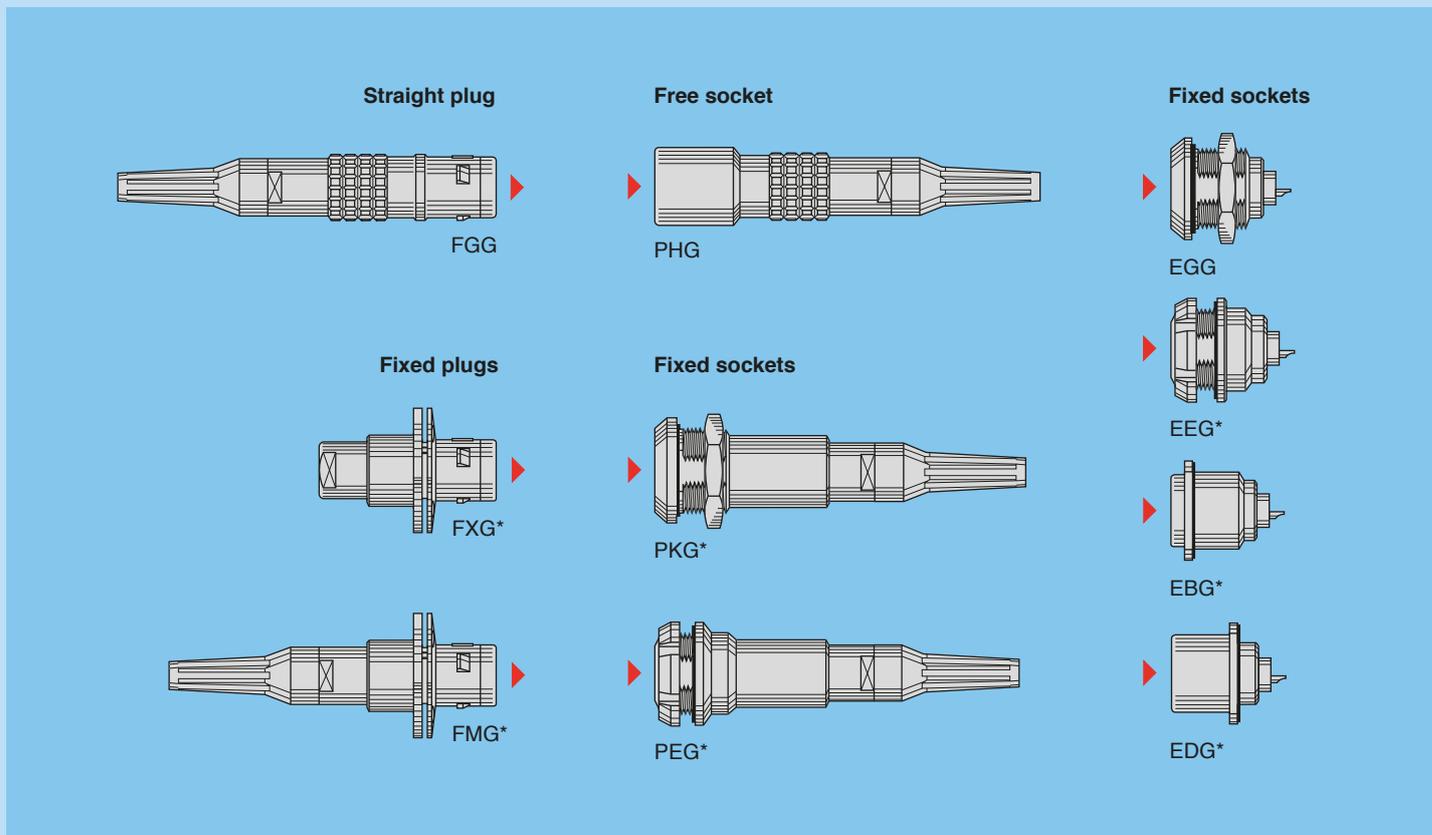
The new **F7** fibre optic contact has been designed to work in the 1K-5K series.

The main features of these series are as follows:

- Security of the LEMO Push-Pull self-latching system
- Specially designed for outdoors applications. All these models are waterproof when mated and reach a protection index of IP 66-IP 68, according to the IEC 60529 standard
- Protection against accidental contamination or damage to the fibre end face because the ferrules are recessed within the connector shell
- The alignment key (G, A...F, L and R) ensures excellent repeatability of performance during frequent matings
- A choice of configurations of multi fibre or hybrid optical/electrical contacts
- The new miniature F7 contact allows hybrid configuration in the 1K series and multi fibre up to 21 channels in the 5K series.

The 1K-5K series consists of ten models which will accept outer cable diameters ranging from 2.6 mm to 23.5 mm.

## Interconnections



## Model Description

**EBG** Fixed socket with square flange, key (G) or keys (A...F, L and R), four holes fixing

**EDG** Fixed socket with square flange, key (G) or keys (A...F, L and R), protruding shell and earthing tag, screw fixing

**EEG** Fixed socket, nut fixing, key (G) or keys (A...F, L and R) (back panel mounting)

**EGG** Fixed socket, nut fixing, key (G) or keys (A...F, L and R)

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

**FMG** Fixed plug with round flange, four holes fixing, key (G) or keys (A...F, L and R), cable adapter and nut for fitting a bend relief

**FXG** Fixed plug with round flange, four holes fixing, key (G) or keys (A...F, L and R)

**PEG** Fixed socket, nut fixing, key (G) or keys (A...F, L and R), cable adapter and nut for fitting a bend relief (back panel mounting)

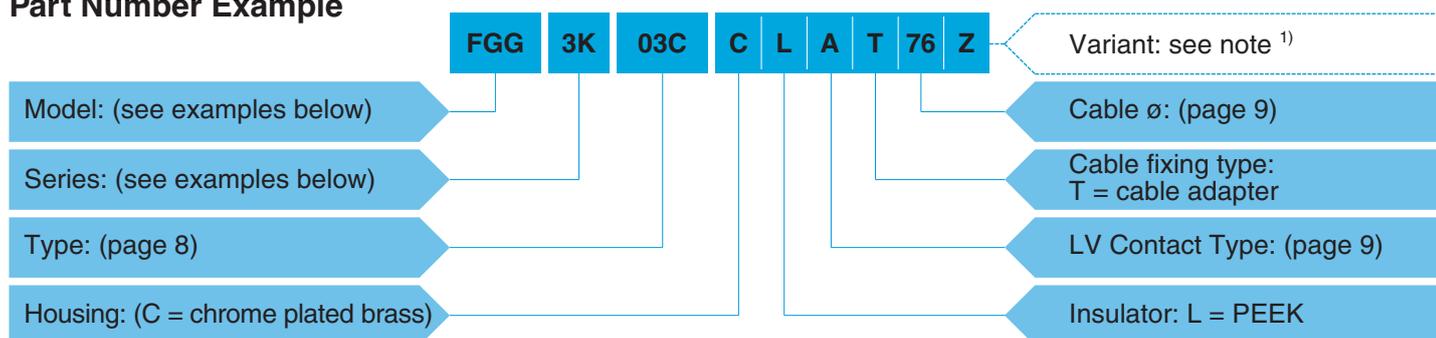
**PHG** Free socket, key (G) or keys (A...F, L and R), cable adapter and nut for fitting a bend relief

**PKG** Fixed socket, nut fixing, key (G) or keys (A...F, L and R), cable adapter and nut for fitting a bend relief

\* Not show in this catalogue. Refer to our catalogue No 5.

Certain models and certain key-ways may not be available in all series. Please consult us.

## Part Number Example

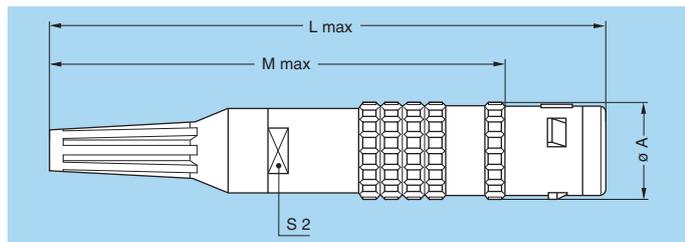
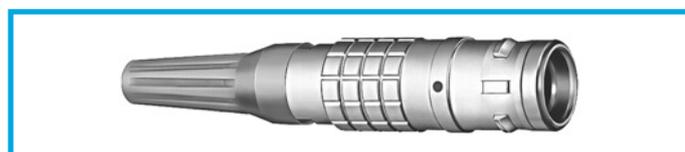


**FGG.3K.03C.CLAT76Z** = Straight plug with key (G), 3K series, multi-fibre type to accept 4 F7 type fibre optic contacts, chrome-plated brass housing, PEEK insulator, cable fixing type T for 7.5 mm diameter cable, and nut for fitting a bend relief.

**Connectors are delivered without fibre optic contacts. F7 fibre optic contacts must be ordered separately according to size and type of fibre (see pages 1 to 3).**

**Note:** <sup>1)</sup> The «Variant» position in the reference is used to indicate the presence of a collet nut for fitting the bend relief. The bend relief must be ordered separately.

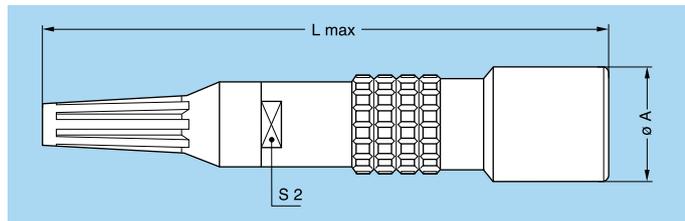
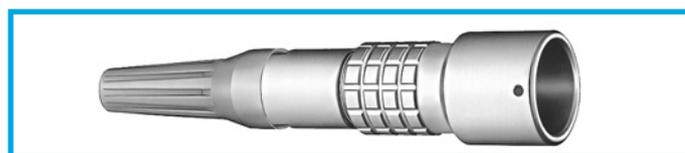
## Sample Models



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

Reference		Dimensions (mm)			
Model	Series	A	L	M	S2
FGG	1K	13	92	78.0	9
FGG	2K	16	101	85.0	12
FGG	3K	19	109	89.0	15
FGG	4K	25	131	110.5	19
FGG	5K	38	160	135.0	30

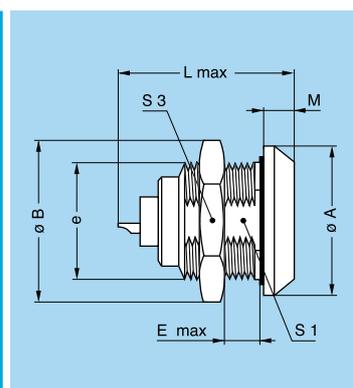
**Note:** The overall length dimension is with bend relief



**PHG** Free socket, key (G) or keys (A...F, L and R), cable adapter and nut for fitting a bend relief

Reference		Dimensions (mm)		
Model	Series	A	L	S2
PHG	1K	15	95.0	9
PHG	2K	19	103.0	12
PHG	3K	23	113.0	15
PHG	4K	29	135.5	19
PHG	5K	42	164.0	30

**Note:** The overall length dimension is with bend relief



**EGG** Fixed socket, nut fixing, key (G) or keys (A...F, L and R)

Reference		Dimensions (mm)								
Model	Series	A	B	e	E	L max <sup>1)</sup>		M	S1	S3
						F1	F2			
EGG	1K	20	21.5	M16x1.0	9	31.0	41.0	4.5	14.5	19
EGG	2K	25	27.0	M20x1.0	9	31.0	41.0	5.0	18.5	24
EGG	3K	31	34.0	M24x1.0	11	35.5	42.5	6.0	22.5	30
EGG	4K	37	40.5	M30x1.0	9	37.0	41.0	6.5	28.5	36
EGG	5K	55	54.0	M45x1.5	10	40.5	42.0	9.0	42.5	—

**Note:** <sup>1)</sup> The overall length (L) may vary depending upon the type of electrical LV or fibre optic contact fitted.

# 1B-5B Series

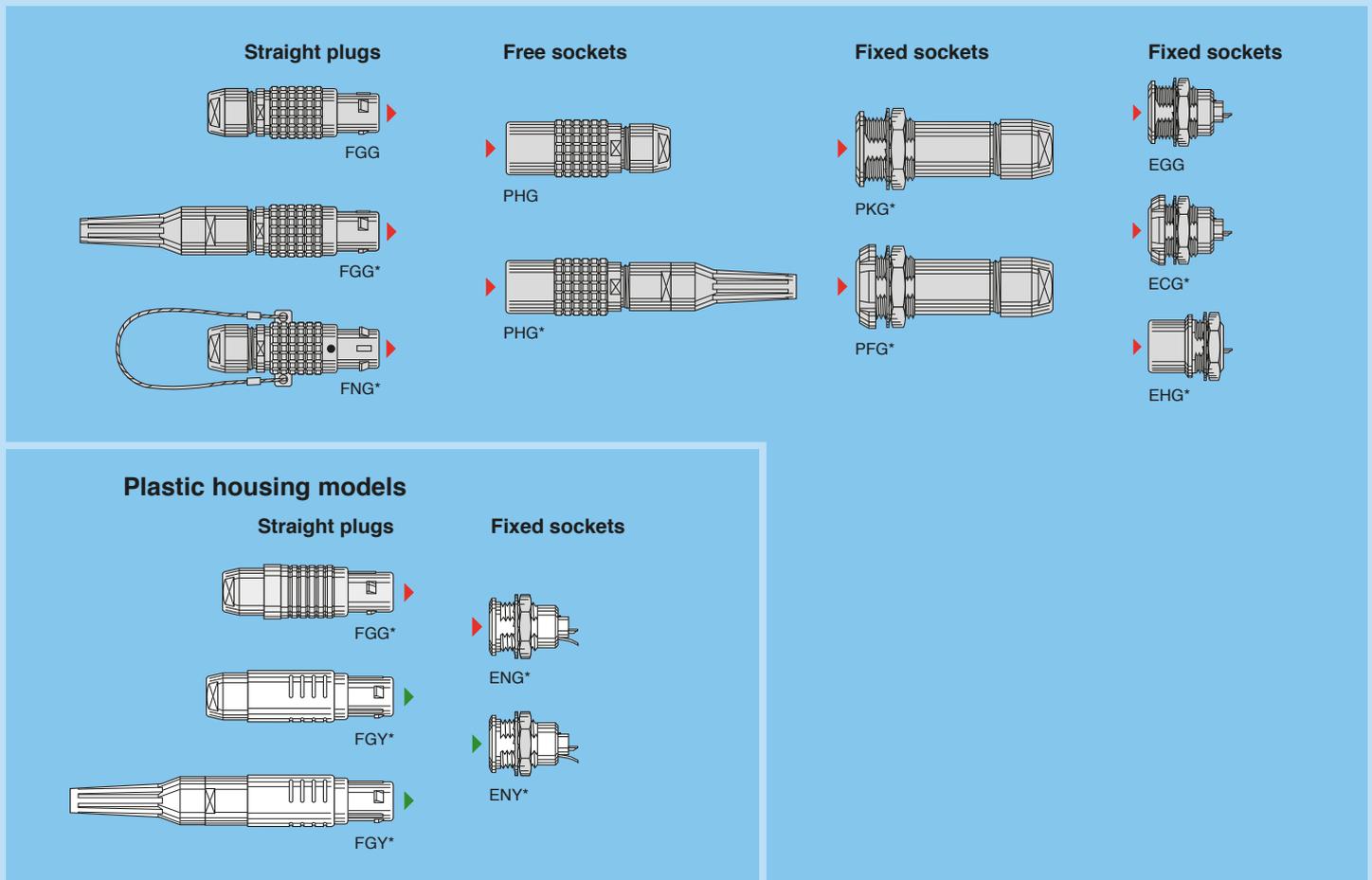
The new **F7** fibre optic contact has been designed to work in the 1B-5B series.

The main features of these series are as follows:

- Security of the LEMO Push-Pull self-latching system
- Protection against accidental contamination or damage to the fibre end face because the ferrules are recessed within the connector shell
- The alignment key (G, A...L, Y and R) ensures excellent repeatability of performance during frequent matings
- A choice of configurations of multi fibre or hybrid optical/electrical contacts
- The new miniature F7 contact allows hybrid configuration in the 1B series and multi fibre up to 21 channels in the 5B series.

The 1B-5B series consist of fifteen models. The possible outer cable diameters range from 2.1 to 25 mm.

## Interconnections

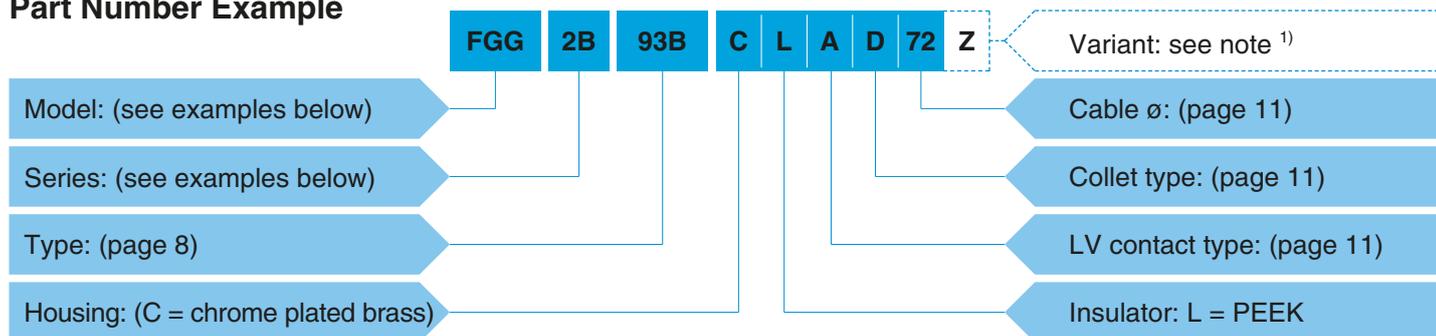


## Model Description

<b>ECG</b> Fixed socket, with two nuts, key (G) or keys (A...L and R), (back panel mounting)	<b>FGG</b> Straight plug, key (G or J), cable collet, PEEK outer shell	<b>PHG</b> Free socket, key (G) or keys (A...L) and cable collet and nut for fitting a bend relief
<b>EGG</b> Fixed socket, nut fixing, key (G) or keys (A...L and R)	<b>FGY</b> Straight plug, keys (Y), cable collet and PSU or PPSU outer shell	<b>PKG</b> Fixed socket, nut fixing, key (G) or keys (A...L and R) and cable collet
<b>EHG</b> Fixed socket, nut fixing, key (G) or keys (A...L and R) with visible shell	<b>FGY</b> Straight plug, keys (Y), cable collet and PSU or PPSU outer shell and nut for fitting a bend relief	
<b>ENG</b> Fixed socket with grounding tab, nut fixing, key (G or J), PEEK outer shell	<b>FNG</b> Straight plug, key (G) or keys (A...L and R) and cable collet with lanyard release	
<b>ENY</b> Fixed socket with grounding tab, nut fixing, keys (Y), PSU or PPSU outer shell	<b>PFG</b> Fixed socket, with two nuts, key (G) or keys (A...L and R) and cable collet (back panel mounting)	
<b>FGG</b> Straight plug, key (G) or keys (A...L and R) and cable collet	<b>PHG</b> Free socket, key (G) or keys (A...L and R) and cable collet	
<b>FGG</b> Straight plug, key (G) or keys (A...L) cable collet and nut for fitting a bend relief		* Not show in this catalogue. Refer to our catalogue No 5.

Certain models and certain key-ways may not be available in all series. Please consult us.

## Part Number Example

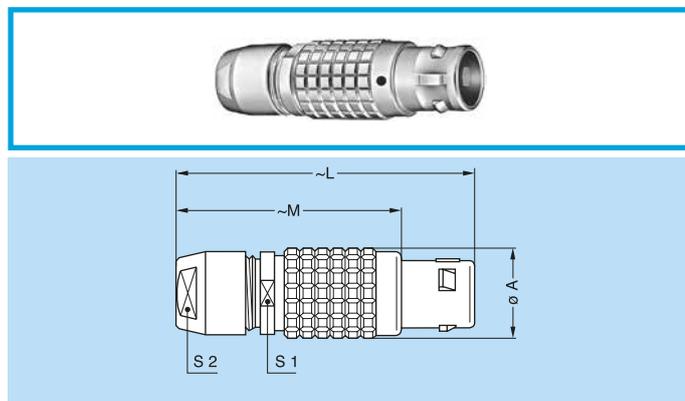


**FGG.2B.93B.CLAD72Z** = Straight plug with key (G), 2B series, hybrid type to accept 2 F7 fibre optic contact and 4 low voltage electrical contacts, chrome-plated brass housing, PEEK insulator, 4 male solder electrical contacts, type D collet system to suit a 7.0 to 6.1 mm diameter cable, and a nut for fitting a bend relief.

**Connectors are delivered without fibre optic contacts. F7 fibre optic contacts must be ordered separately according to size and type of fibre (see pages 1 to 3).**

**Note:** <sup>1)</sup> The «Variant» position in the reference is used to indicate the presence of a collet nut for fitting the bend relief. The bend relief must be ordered separately.

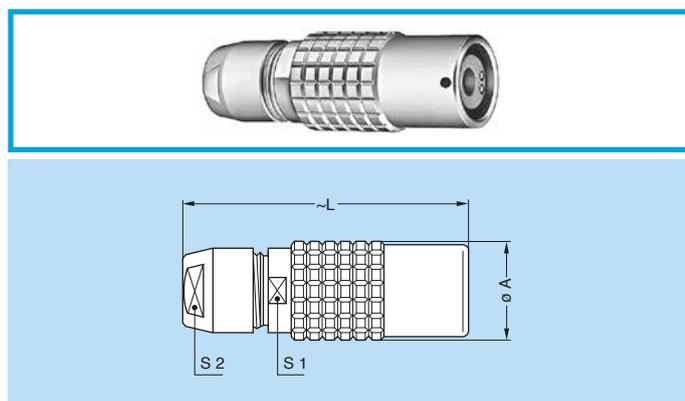
## Sample Models



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

Reference		Dimensions (mm)				
Model	Series	A	L	M	S1	S2
FGG <sup>1)</sup>	1B	12	72 <sup>2)</sup>	61 <sup>2)</sup>	10	9
FGG	2B	15	50	38	13	12
FGG	3B	18	58	43	15	14
FGG	4B	25	75	57	21	20
FGG	5B	35	103	78	31	30

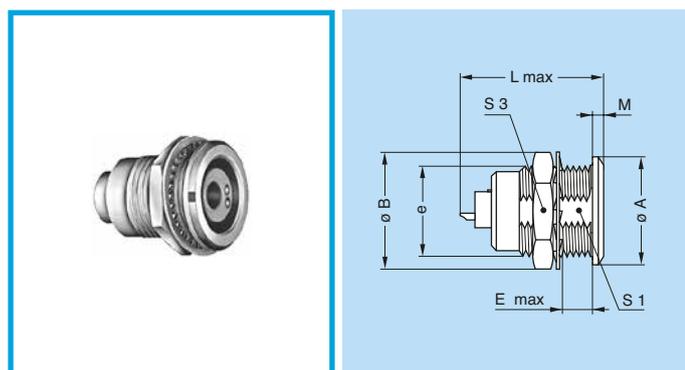
**Note:** <sup>1)</sup> Models can be delivered only with «T» type of cable adapter and nut for fitting a bend relief.  
<sup>2)</sup> Lengths include the bend relief.



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

Reference		Dimensions (mm)			
Model	Series	A	L	S1	S2
PHG <sup>1)</sup>	1B	12.5	69.5 <sup>2)</sup>	10	9
PHG	2B	16.5	47.0	13	12
PHG	3B	19.0	56.0	15	14
PHG	4B	24.4	73.0	21	20
PHG	5B	34.2	99.0	31	30

**Note:** <sup>1)</sup> Models can be delivered only with «T» type of cable adapter and nut for fitting a bend relief.  
<sup>2)</sup> Lengths include the bend relief.



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

Reference		Dimensions (mm)								
Model	Series	A	B	e	E	L max <sup>1)</sup>		M	S1	S3
						F1	F2			
EGG	1B	14	16	M12x1	7.5	27.0	37.0	1.5	10.5	14
EGG	2B	18	19.2	M15x1	8.5	27.0	37.0	1.8	13.5	17
EGG	3B	22	25.0	M18x1	11.5	30.0	37.0	2.0	16.5	22
EGG	4B	28	34.0	M25x1	12.0	34.5	38.5	2.5	23.5	30
EGG	5B	40	40.0	M35x1	11.0	36.5	38.0	3.0	33.5	—

**Note:** <sup>1)</sup> The overall length (L) may vary depending upon the type of electrical LV or fibre optic contact fitted.

# Types

## Multi fibre and Hybrid fibre optic (F7 contact) + LV

				Reference FO Contact Type	Low Voltage contact										
					Fibre optic No	Contact No	ø A (mm)	Contact type		Solder contact		Crimp contact		Rated current (A)	
				Solder				Crimp	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			
Male solder contacts Female solder contacts Male crimp contacts Female crimp contacts				F7											
<b>1B</b> <b>1K</b>				92A	1	2	0.9	●	●	0.90	1.50	1.20	1.80	7.0	
<b>2B</b> <b>2K</b>				03A	2	-	-	-	-	-	-	-	-	-	
				93B	2	4	0.7	●	●	0.85	1.20	0.85	1.25	6.0	
<b>3B</b> <b>3K</b>				03C	4	-	-	-	-	-	-	-	-	-	
				95B	4	4	0.9	●	●	1.20	1.05	1.00	0.80	8.0	
<b>4B</b> <b>4K</b>				03G	8	-	-	-	-	-	-	-	-	-	
				03H	9	-	-	-	-	-	-	-	-	-	-
				97B	6	2	1.6	●	●	1.20	1.30	1.30	1.05	13	
<b>5B</b> <b>5K</b>				03R	16	-	-	-	-	-	-	-	-	-	
				03W	21	-	-	-	-	-	-	-	-	-	-

**Note:** <sup>1)</sup> Test voltage

Test voltage (U<sub>e</sub>):  
(measured according to the IEC 60512-2 test 4a standard).

It corresponds to 75% of the mean breakdown voltage.  
Test voltage is applied at 500 V/s and the test duration is one minute.

This test has been carried out with a mated plug and

receptacle, with power supply only on the plug end.

Operating voltage (U<sub>s</sub>):

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

**Caution:**

**For a number of applications, safety requirements for electrical appliances are more severe with regard to operating voltage.**



## Electrical Contact

### Contact for plug, socket, and fixed socket

Ref.	Contact type
A	male solder
C	male crimp
L	female solder
M	female crimp
Z	no contact



## Collets (K and B series)

### T type cable adapter

	Reference		Cable $\varnothing$		Bend relief to be used <sup>1)</sup>
	Type	$\varnothing$	max.	min.	
<b>1B</b>	T	36	3.5	2.6	GMA.1B.030.D●
	T	46	4.5	3.6	GMA.1B.040.D●
<b>2K</b>	T	46	4.5	3.6	GMA.2B.040.D●
	T	56	5.5	4.6	GMA.2B.050.D●
	T	66	6.5	5.6	GMA.2B.060.D●
<b>3K</b>	T	46	4.5	3.6	GMA.2B.040.D●
	T	56	5.5	4.6	GMA.2B.050.D●
	T	66	6.5	5.6	GMA.2B.060.D●
	T	76	7.5	6.6	GMA.3B.070.D●
	T	86	8.5	7.6	GMA.3B.080.D●
<b>4K</b>	T	91	9.0	8.1	GMA.3B.080.D●
	T	46	4.5	3.6	GMA.2B.040.D●
	T	56	5.5	4.6	GMA.2B.050.D●
	T	66	6.5	5.6	GMA.2B.060.D●
	T	76	7.5	6.6	GMA.3B.070.D●
	T	86	8.5	7.6	GMA.3B.080.D●
	T	96	9.5	8.6	GMA.4B.010.D● <sup>2)</sup>
<b>5K</b>	T	11	11.5	10.6	GMA.4B.011.D●
	T	13	13.5	12.6	GMA.4B.013.D●
	T	61	6.0	5.1	GMA.2B.057.R●
	T	71	7.0	6.1	GMA.3B.060.D●
	T	81	8.0	7.1	GMA.3B.070.D●
	T	91	9.0	8.1	GMA.3B.080.D●
	T	96	9.5	8.6	GMA.4B.010.D● <sup>2)</sup>
	T	10	10.5	9.6	GMA.4B.010.D●
	T	11	11.5	10.6	GMA.4B.011.D●
	T	12	12.5	11.6	GMA.4B.012.D●
	T	13	13.5	12.6	GMA.4B.013.D●
T	14	14.5	13.6	GMA.4B.013.D●	
T	15	15.5	14.6	heat-shrink tube <sup>3)</sup>	
T	16	16.5	15.6	heat-shrink tube	
T	17	17.5	16.6	heat-shrink tube	
T	18	18.5	17.6	heat-shrink tube	
T	19	19.5	18.6	heat-shrink tube	
T	20	20.5	19.6	heat-shrink tube	
T	21	21.5	20.6	heat-shrink tube	
T	22	22.5	21.6	heat-shrink tube	
T	23	23.5	22.6	heat-shrink tube	

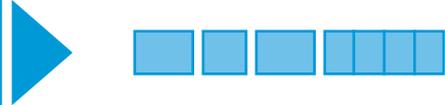
### D and M type collets

	Reference		Cable $\varnothing$	
	Type	$\varnothing$	max.	min.
<b>2B</b>	M	31	3.2	> 2.2
	D	42	4.2	> 3.2
	D	52	5.2	> 4.2
	D	62	6.2	> 5.2
	D	72	7.2	> 6.2
	D	82	8.2	> 7.2
<b>3B</b>	D	92	9.2	> 8.2
	M	52	5.2	> 4.2
	D	62	6.2	4.9
	D	72	7.7	> 6.2
	D	92	9.2	> 7.7
<b>4B</b>	D	10	10.0	> 9.2
	D	12	11.9	10.8
	M	62	6.2	4.9
	M	72	7.7	> 6.2
	M	92	9.2	> 7.7
	D	10	10.5	9.1
<b>5B</b>	D	12	12.0	10.6
	D	13	13.5	12.1
	D	15	15.0	13.6
	D	11	11.5	9.6
	D	13	13.5	11.6
	D	15	15.5	13.6
	D	17	17.5	15.6
	D	19	19.5	17.6
	D	21	21.5	19.6
	D	23	23.5	21.6
	D	25	25.0	23.6

#### Note:

- <sup>1)</sup> The bend relief is to be ordered separately.
- <sup>2)</sup> Add a short piece of heat-shrink tubing under the bend relief.
- <sup>3)</sup> The heat-shrink tube is supplied.

All dimensions are in millimeters.



## Fibre Optic Tooling

We offer a complete range of tools for fibre optic connector cable assembly. Some tools are specific to each fibre optic contact type. When selecting necessary tooling, make sure you identify correctly the contact type used in the selected product.



### DRV Complete workstation for fibre optic contact

#### Description

Comprehensive range of tools for terminating both single-mode and multi-mode fibres. Includes specific tools for F7 fibre optic contacts. Detachable termination case lid for use as polishing platform during field termination. Rugged but aesthetically pleasing termination case which is ideal for field use or in-house terminations. Curing oven and inspection microscope should be ordered separately.

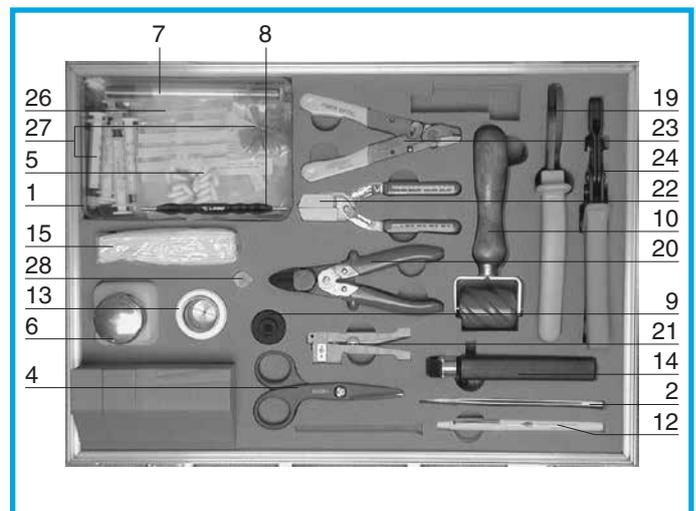
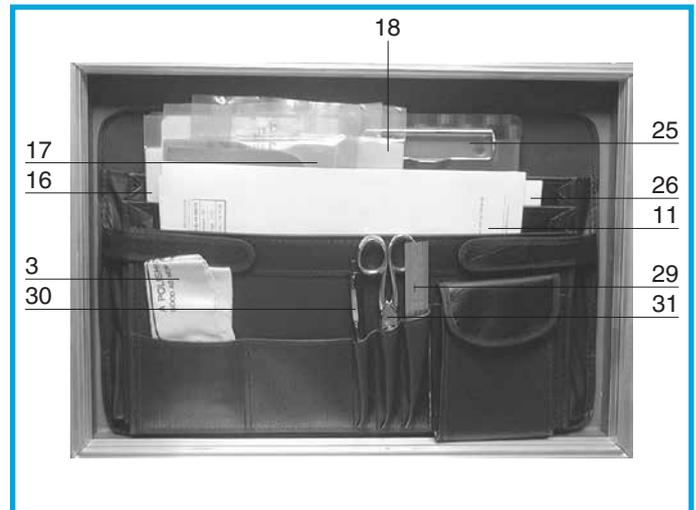
Part number

DRV.91.CF7.PN

### Workstation Contents

Part Number	Description	Quantity	Number
WST.BT.175.55PT	Plastic box	1	1
WST.BR.150.8AC	Tweezers	1	2
WST.CH.252.5SR	Lint-free Cloth	1	3
WST.CS.125.CE	Kevlar cutters	1	4
WST.CO.020.52	Cotton bud (sachet of 20 pcs)	1	5
WST.DS.290.PT	Alcohol dispenser (supplied empty)	1	6
DCC.91.CF7.LAG	Extraction tool for F7 contact	1	7
DCS.F7.035.PN	Alignment device tool	1	8
DCS.91.G90.6E125	Microscope adapter for F7 contacts	1	9
WST.ME.354.8R	Epoxy mixer and pad	1	10
DOC.FO.CF7.0000	Terminating instructions for F7 contacts	1	11
WST.OU.135.10SZ	Fibre scribe	1	12
DCS.91.D01.LC	Polishing tool for F7 contacts	1	13
WST.OU.452.5MN	Large cable stripper	1	14
WST.PA.105.5525	Cleaning tissues	1	15
WST.PA.012.AOJ	Lapping film 12µm (yellow)	20	16
WST.PA.005.AOM	Lapping film 5µm (brown)	20	17
WST.PA.001.DIL	Lapping film 1µm (lavander) diamond	5	18
WST.PN.210.AS	Armoured cable cutter	1	19
WST.PN.145.AR	Cable cutter	1	20
WST.PN.103.OPG	Outer jacket stripper	1	21
WST.PN.203.CR	Buffer coating stripping tool	1	22
WST.PN.102.3CR	Primary coat stripper	1	23
DPE.99.003.1K	Crimp tool	1	24
WST.PL.322.5PT	Polishing platform	1	25
WST.RE.353.EPO	Epoxy resin + safety instructions	10	26
WST.SE.305.8PH	Syringe with needle # 19 & # 20	10	27
WST.TU.193.LN	Fibre shield for F7 contacts	4	28
WST.RG.150.AZ	Steel rule 6" (152 mm)	1	29
WST.SY.135.PA	Fibre length marking pen	1	30
WST.CS.155.AZ	Scissors	1	31

**Note:** The interior of the case is fitted with pre-formed plastic foam to provide secure storage of the tools.





### DPE Crimping tool for F7 fibre optic contact

#### Description

Crimping tool for capturing KEVLAR® strand on contact body.

Part number

DPE.99.003.1K <sup>1)</sup>

**Note:** <sup>1)</sup> Included in the LEMO F7 workstation.



### WST Epoxy curing oven

#### Description

Oven for assisting in curing epoxy.

Part number

Voltage

WST.FR.220.VA 220 volts

WST.FR.110.VA 110 volts

### DCS Polishing tool for fibre optic contacts

#### Description

Precision tool for polishing terminated fibre optic contacts with 1.25 mm ferrule.

Part number

DCS.91.D01.LC <sup>1)</sup>

**Note:** <sup>1)</sup> Included in the LEMO F7 workstation.



### WST Fibre Inspection Microscope

#### Description

Microscope to assist in viewing termination operations and verifying fibre end finish. Zoom with 200 → 400 x magnification. See adaptor below.

Part number

WST.FB.G00.301



### DCS Microscope adaptor for fibre optic contacts

#### Description

Adaptor for final inspection of fibre optic contacts with 1.25 mm ferrule. To be used with microscope WST.FB.G00.301.

Part number

DCS.91.G90.6E125 <sup>1)</sup>

**Note:** <sup>1)</sup> Included in the LEMO F7 workstation.



### DCC Extractor for F7 fibre optic contact

#### Description

Manual tool for the extraction of the F7 contact.

Part number

DCC.91.CF7.LAG <sup>1)</sup>

**Note:** <sup>1)</sup> Included in the LEMO F7 workstation.



### DCS F7 contact alignment device tool

#### Description

Simple tool with two threaded end for installation/extraction of the F7 contact alignment device.

Part number

DCS.F7.035.PN <sup>1)</sup>

**Note:** <sup>1)</sup> Included in the LEMO F7 workstation.



### WST Fibre shield for F7 fibre optic contact

#### Description

To protect ferrule when curing epoxy.

Part number

WST.TU.193.LN <sup>1)</sup>

**Note:** <sup>1)</sup> Included in the LEMO F7 workstation.

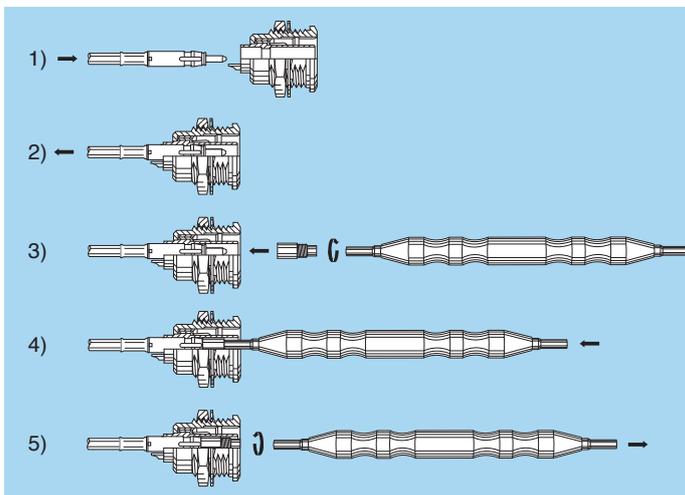
## Cable Termination

Detailed instructions for terminating single fibre cables with LEMO F7 fibre optic contacts are given in the reference manual DOC.FO.CF7.0000 supplied with the complete termination workstation (see page 10). After termination contacts shall be introduced in the main insulator as shown below. For purpose of cleaning they can also be removed.

## Installation of F7 contact and alignment device

### Insertion

The male fibre optic contact terminated on the cable must be inserted into the connector insulator from the back end until it comes to a stop. Make sure that the contact is correctly positioned into the inner antirotation key. Key is in line with the red dot on the rear of the contact (step 1). Check that the contact is correctly retained by gently pulling on it (step 2).

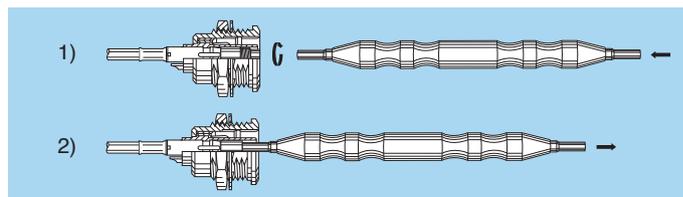


For female contacts, the alignment device shall be clip-ped onto the fibre optic contacts which is already fitted into female insulator. This procedure is performed using the tool, reference DCS.F7.035.PN.

The alignment device shall be first installed onto threaded end of the tool (step 3). Then clip the adapter (step 4), unscrew and remove the tool (step 5).

### Extraction of alignment device

Screw the threaded end of the tool reference DCS.F7.035.PN (step 1) onto the alignment device. Pull out strongly (step 2).



### Extraction of F7 contact

Possible only for fixed socket, using the manual tool DCC.91.307.5LA. Shall be made with great care.

**Note:** The life time installation of the alignment device is minimum 300 cycles.

## Product safety notice

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

### 1. SHOCK AND FIRE HAZARD

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

### 2. HANDLING

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

### 3. USE

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

### 4. TEST AND OPERATING VOLTAGES

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

### 5. CE MARKING

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

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

### 6. PRODUCT IMPROVEMENTS

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

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

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

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