PLASTIC CONNECTORS

P SERIES

REDEL®

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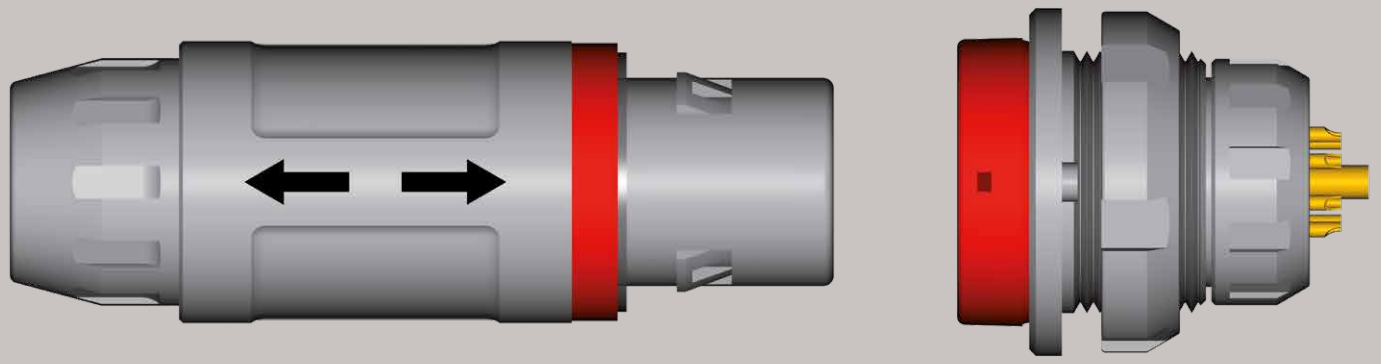
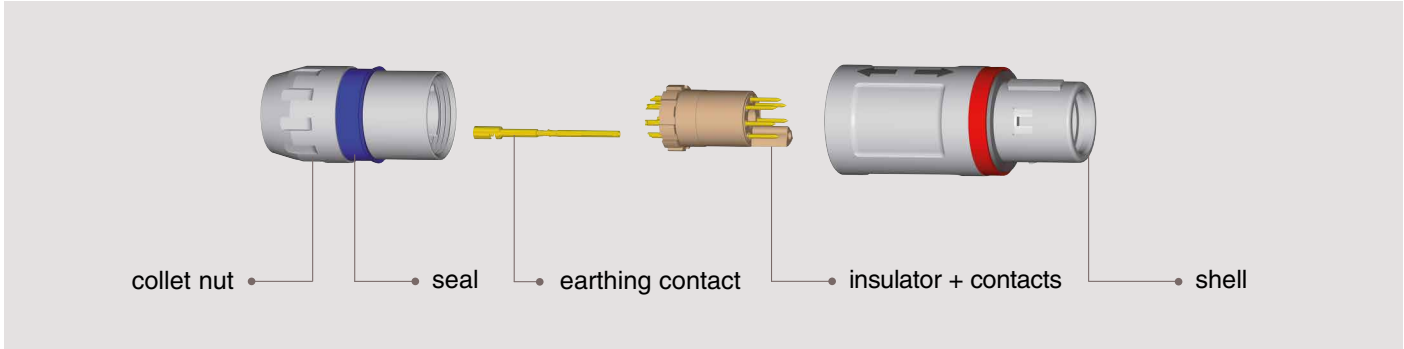
3P SERIES

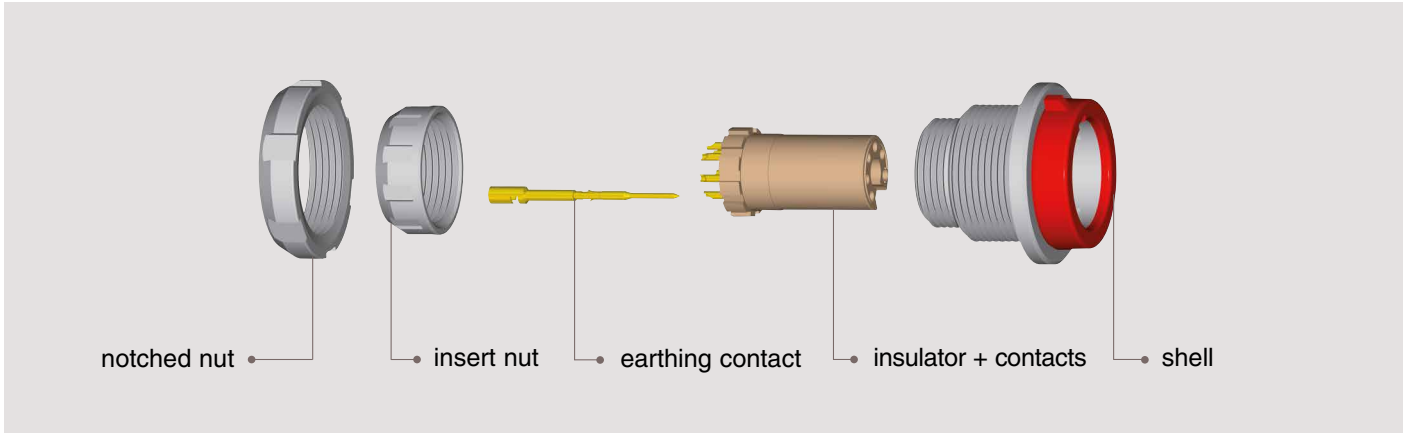


Exploded view of the REDEL 3P

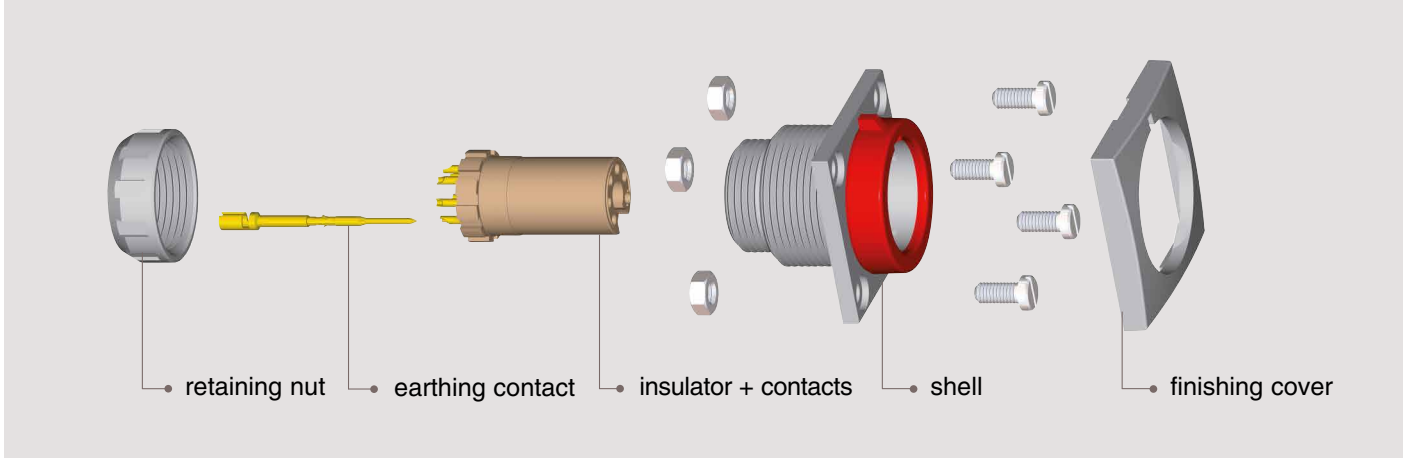
Straight plug



Fixed socket



Fixed socket with square flange

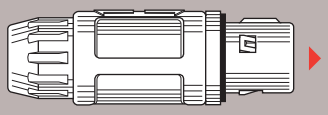


3P Series

Historically the 3P is LEMO's first series of completely plastic connectors. It is designed to accommodate cable diameters up to 9.5 mm. Available in 11 different contact configurations including multicontact, and hybrid HV/electrical; coax/electrical; fibre optic/electrical, fluidic, the 3P series has been specifically designed for all applications requiring minimum weight, maximum electrical insulation values, and high thermal and mechanical properties, as well as suitability for either vapour or gas sterilization and for cold sterilization with a chemical product.These connectors provide remarkable safety by using nonconductive materials and four different systems to prevent accidental cross-mating, i. e. colour coding, housing keying, insert keying and insert polarization.

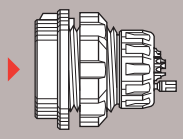
Standard models

Straight plug

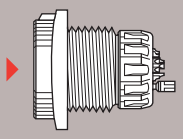


FGG

Fixed sockets

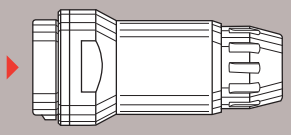


EGG



EBG

Free socket

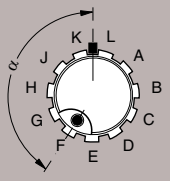


PHG

Alignment keys and insert polarization

The 3P series makes it possible for the user to configure his own keying system.
The insert can be located into 11 different angular positions relative to the external alignment key.

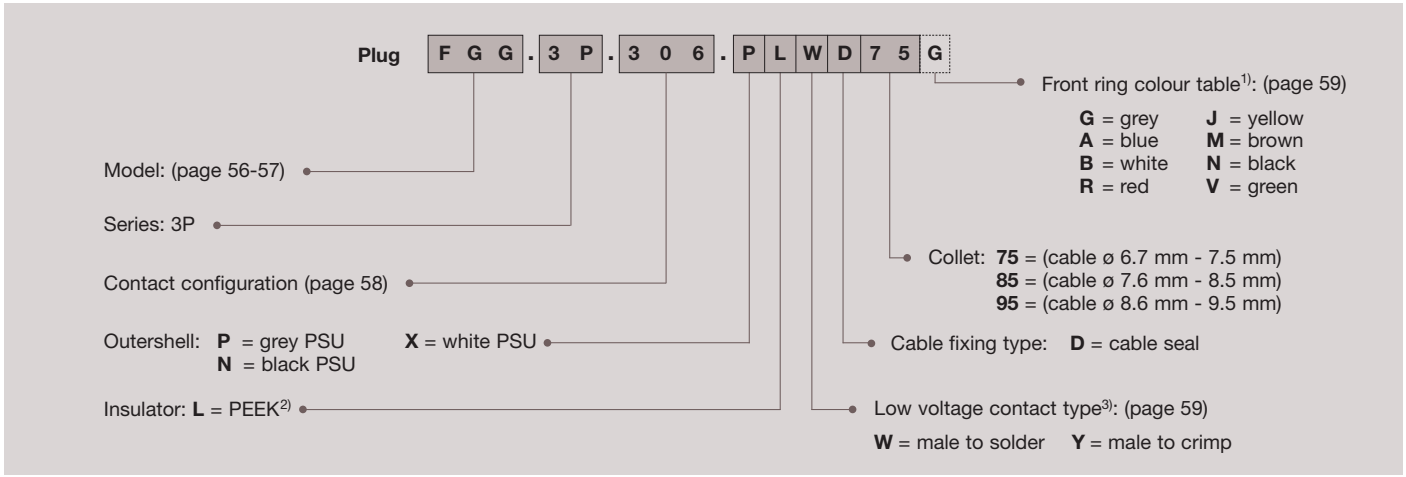
Rear view of a socket

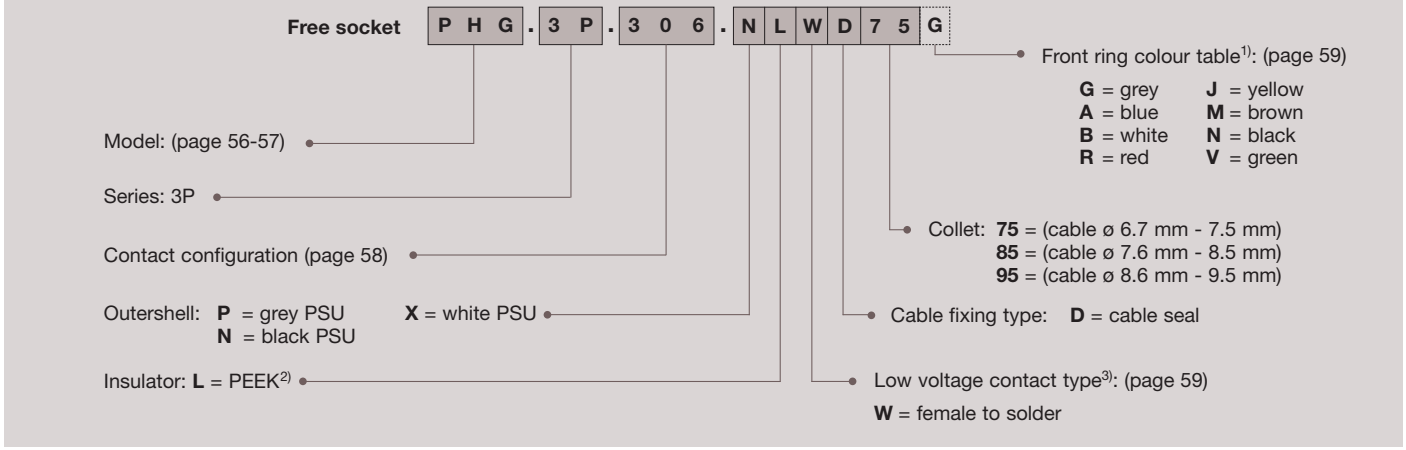


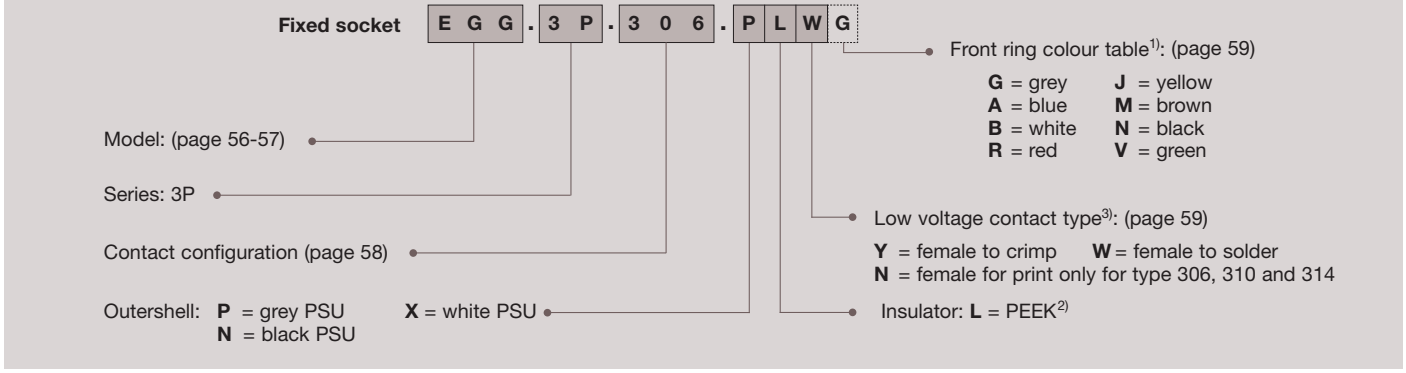
Insert code	Angle	
	Plug	Socket
A	180°	180°
B	147° 16'	212° 44'
C	114° 33'	245° 27'
D	81° 49'	278° 11'
E	49° 05'	310° 55'
F	16° 22'	343° 38'
G	343° 38'	16° 22'
H	310° 55'	49° 05'
J	278° 11'	81° 49'
K	245° 27'	114° 33'
L	212° 44'	147° 16'

Note: the reference letter:
- on the plug insert, is placed to the left of the alignment key.
- on the socket insert, is placed to the right of the alignment key.

Part numbering system







FGG.3P.306.PLWD75G Straight plug with key and cable seal, 3P series, multipole type with 6 contacts, outer shell in grey PSU, PEEK insulator, male solder contact, D type collet for 6.7 mmm to 7.5 mm diameter cable and grey coloured ring.

PHG.3P.310.NLWD75G Free socket with key and cable seal, 3P series, multipole with 6 contacts, outer shell in black PSU, PEEK insulator, female solder contact, D type collet for 6.7 mm to 7.5 mm diameter cable and grey coloured ring.

EGG.3P.306.PLWG Fixed socket with key, 3P series, multipole type with 6 contacts, outer shell in grey PSU, PEEK insulator, female solder contact and grey coloured ring.

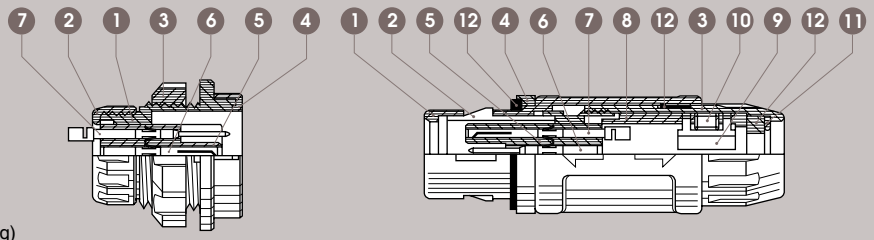
Note: 1) the variant position of the part number is used to specify the colour of the coloured ring. For grey PSU (material Code P).
2) for the high voltage type «709» use «J» enhanced PEEK material code. The standard colour is grey and nothing is mentionned in the variant position.
3) the letters W or Y are also used for special arrangements.

Standard models (IP61)

.3P..

Fixed socket

1 Outershell
2 Retaining nut
3 Round nut
4 Coloured ring
5 Insulator
6 Female contact
7 Male contact (earthing)



Straight plug

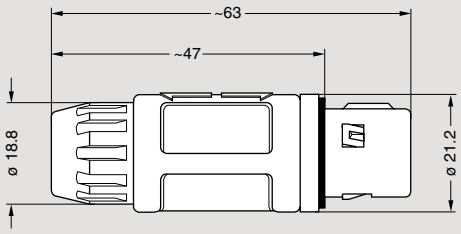
1 Outershell
2 Latch sleeve
3 Collet nut
4 Coloured ring
5 Insulator
6 Male contact
7 Female contact (earthing)
8 Clamping sleeve
9 Clamp
10 Screw
11 Washer
12 Seal

Characteristics	Value	Standards
Average retention force when pulling on the cable 1N = 0.102 kg	120 N	IEC 60512-8 test 15f
Cable retention force (depends on cable construction) 1N = 0.102 kg	100 - 200 N	IEC 60512-9 test 17c

Characteristics	Value	Standards
Endurance (latching)	> 1000 cycles	IEC 60512-5 test 9a
Working temperature range[1)] (PSU)	-50/+150°C	–
Watertightness (mated)	IP61	IEC 60529

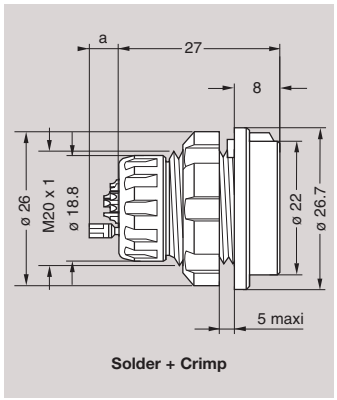
Note: 1) for the type hybrid LV + fibre optic, the temperature is: -40/+80°C

FGG Straight plug with key and cable seal

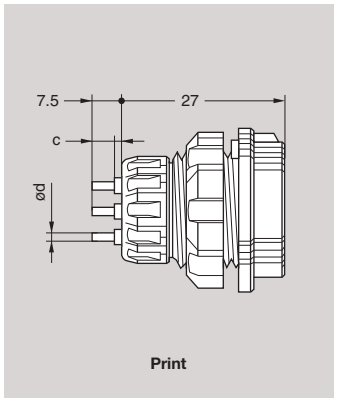


Part Number	Cable ø	
	min	max
FGG.3P.●●●.PLWD75G	6.7	7.5
FGG.3P.●●●.PLWD85G	7.6	8.5
FGG.3P.●●●.PLWD95G	8.6	9.5

EGG Fixed socket with key, nut fixing



Solder + Crimp

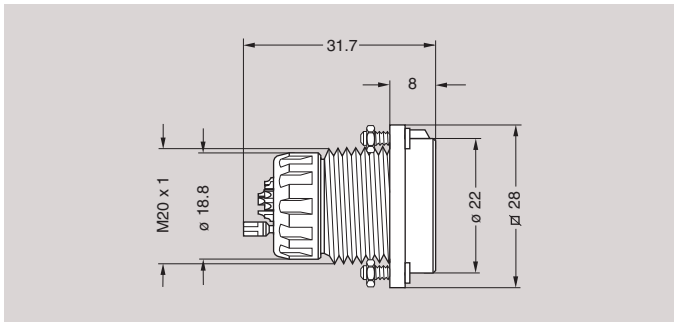


Print

Part Number	number of contacts	Contact					
		Solder		Crimp		Print	
		N	a max	N	a	c	ø d
EGG.3P.306.PLWG	6+1LV	27	4.7	27	4.7	5.5	0.7
EGG.3P.310.PLWG	10+1LV	27	4.7	27	4.7	5.5	0.7
EGG.3P.314.PLWG	14+1LV	27	4.7	27	4.7	5.5	0.7
EGG.3P.318.PLWG	18+1LV	27	4.7	27	4.7	-	-

Note: for PCB drilling pattern see page 65.
Panel hole see page 65.

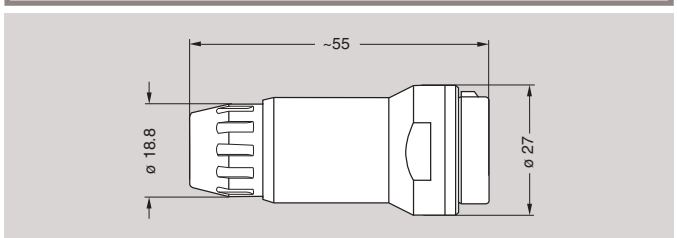
EBG Fixed socket with key, square flange and screw fixing



Part Number
EBG.3P.306.PLWG
EBG.3P.310.PLWG
EBG.3P.314.PLWG

Note: for PCB drilling pattern see page 65.
Panel hole see page 65.

PHG Free socket with key and cable seal

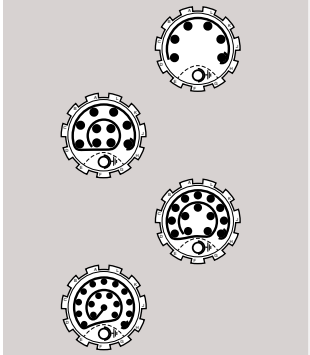
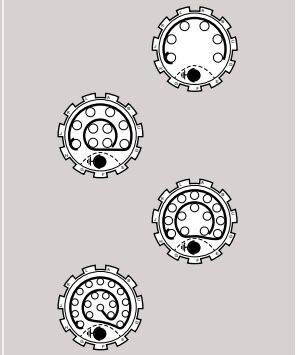
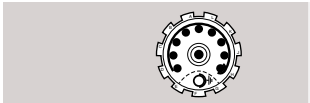
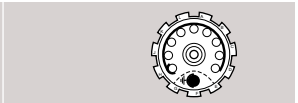
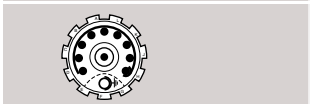
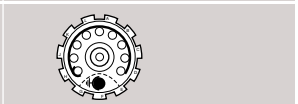
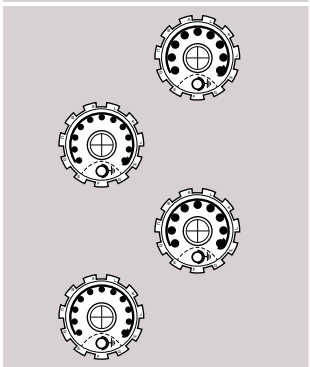
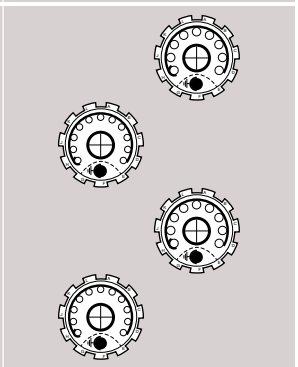
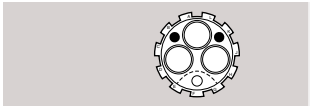
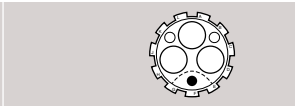


Part Number	Cable ø	
	min	max
PHG.3P.●●●.NLWD75N	6.7	7.5
PHG.3P.●●●.NLWD85N	7.6	8.5
PHG.3P.●●●.NLWD95N	8.6	9.5

Note: the picture shows outershell in black PSU.

Insert configuration

. 3 P . . .

	Male solder contacts / Male crimp contacts	Female solder contacts / Female crimp contacts	Reference	Number of contacts	ø A (mm)	Solder bucket ø (mm)[5]	Contact type: Solder	Contact type: Crimp	Contact type: Print (straight)	Test voltage (kV rms)[1] Contact-contact	Air clearance min[2] (mm)	Creepage distance min[3] (mm)	Rated current (A)
Multipole			306	6+1LV	0.9	0.8	•	•	•	3.9	1.95	1.95	6.0
			310	10+1LV	0.9	0.8	•	•	•	3.3	1.25	1.25	5.0
			314	14+1LV	0.9	0.8	•	•	•	1.7	0.90	0.90	4.0
			318	18+1LV	0.7	0.6	•	–	–	1.3	0.70	0.70	3.0
H.V. Hybrid +LV			709	9+1LV 1HV	0.9	0.8	•	•	–	1.7	0.90	0.90	4.0
Coaxial Hybrid +LV			809	9+1LV 1Coax[6]	0.9	0.8	•	•	–	1.7	0.90	0.90	4.0
Fibre optic Hybrid +LV			92H	9+1LV 1FO[4]	0.9	0.8	•	•	–	1.7	0.90	0.90	4.0
			92K	11+1LV 1FO[4]	0.7	0.6	•	–	–	2.7	0.75	0.75	3.0
			96H	9+1LV 1FO[4]	0.9	0.8	•	•	–	1.7	0.90	0.90	4.0
			96K	11+1LV 1FO[4]	0.7	0.6	•	–	–	2.7	0.75	0.75	3.0
Fluidic Hybrid +LV			033	3 Fluid. + 3LV	0.9	–	–	•	–	3.0	1.45	1.45	9.0

Note: 1) depending on specific application and related standard, more restrictive operating voltage may apply, see page 68.
2) shortest distance in air between two conductive parts.
3) shortest distance along the surface of the insulating material between two conductive parts.
4) fibre optic contact must be ordered seperately (see page 61). **F2 contact for 92H/92K and F1 contact for 96H/96K.**
5) for a given AWG, the diameter of some stranded conductor design is larger than the solder cup diameter (see page 69).
6) configuration 809 use «C» type coaxial contact.

Contact type

Select the type of contact: solder or crimp?

Plug

Type	Male
solder	W
crimp	Y

Socket

Type	Female
solder	W
crimp	Y
print	N

When should I use crimp rather than solder contacts ?

Soldering

- recommended for small volumes
- requires little amount of tooling (soldering iron)
- requires more time

Crimping

- recommended for large volumes
- no heat is required to make the connection
- for contacts with high density
- for use in high temperature environment
- requires extra tooling (crimping tools)

Colour coding

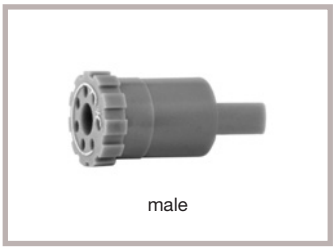
	Colours							
	grey	blue	yellow	black	red	green	brown	white
Reference	G	A	J	N	R	V	M	B
RAL code	7001	5002	1016	9005	3020	6024	8002	9003

Note: the RAL colours are indicative and depend on raw material and production process. Colour may differ.

Easy identification with the assistance of colour coding. Outershell is only available in grey, black or white (see page 55).

Accessories

FGG-EGG Insulator for crimp contacts

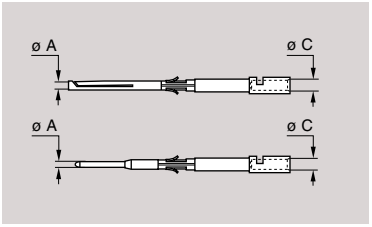


Contact configuration	Insulator part number	
	For plug	For socket
306	FGG.3P.306.ML	EGG.3P.406.ML
310	FGG.3P.310.ML	EGG.3P.410.ML
314	FGG.3P.314.ML	EGG.3P.414.ML

FGG-EGG Crimp contacts, kit with the number of contacts in a tube

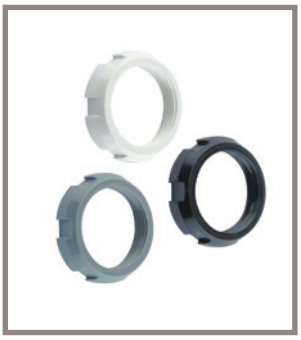
Contact configuration	ø A (mm)	ø C (mm)	Contact part number	
			Male	Female
306	0.9	1.1	FGG.3P.306.ZZYT	EGG.3P.306.ZZYT
310	0.9	1.1	FGG.3P.310.ZZYT	EGG.3P.310.ZZYT
314	0.9	1.1	FGG.3P.314.ZZYT	EGG.3P.314.ZZYT

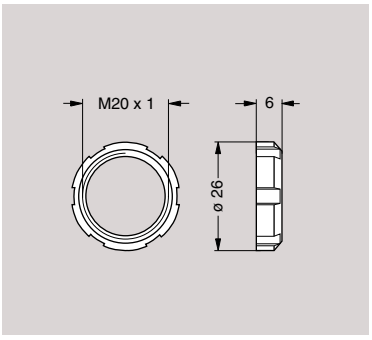
FGG-EGG Earthing contacts



Type	ø A (mm)	ø C (mm)	Contact part number	
			Male	Female
306 - 310	0.9	2.0	FGG.3P.561.ZZY	EGG.3P.661.ZZY
314 - 318	0.9	2.0	FGG.3P.561.ZZY	EGG.3P.661.ZZY
709 - 809	0.9	2.0	FGG.3P.561.ZZY	EGG.3P.661.ZZY
96H - 92H	0.9	2.0	FGG.3P.561.ZZY	EGG.3P.661.ZZY
96K - 92K	0.9	2.0	FGG.3P.561.ZZY	EGG.3P.661.ZZY

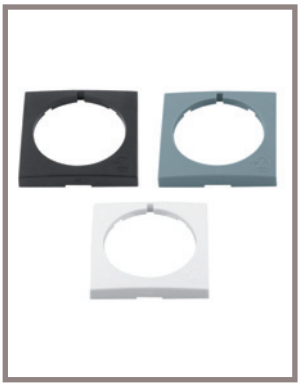
GEB Plastic nut

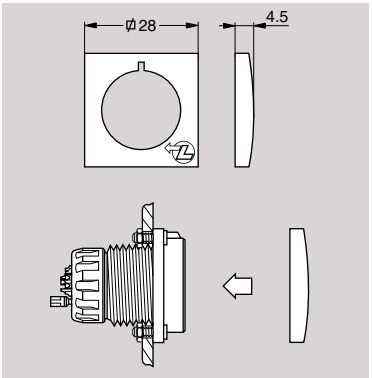




Part Number	Mat.	Colours
GEB.3P.240.UB	PSU	white
GEB.3P.240.UG	PSU	grey
GEB.3P.240.UN	PSU	black

EBG Finishing cover



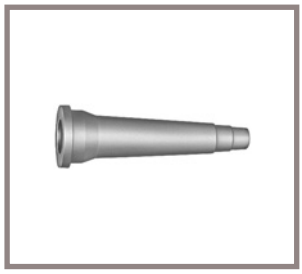


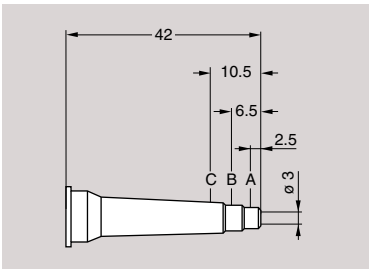
Part Number	Mat.	Colours
EBG.3P.260.UB	PSU	white
EBG.3P.260.UG	PSU	grey
EBG.3P.260.UN	PSU	black

Note: a finishing cover is supplied with all EBG fixed sockets with a square flange. Models EBG sockets, with a square flange, can also be mounted without using the fixing screws.

Note: all dimensions are in millimeters

GMA Bend relief





Part Number	Cut	Cable ø (mm)	
		min.	max.
GMA.3P.050.SN	–	3.0	3.9
	A	4.0	4.9
	B	5.0	5.9
	C	6.0	7.0

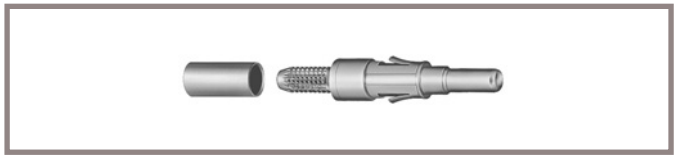
Material: Black thermoplastic rubber

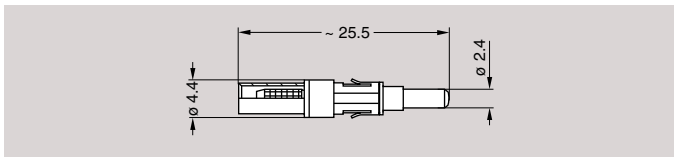
Note: the cable entry of the FGG plugs can be fitted with a flexible bend relief which can accommodate cables of 3 to 7 mm in diameter.
The adjustment to the diameter is done by cutting the conical end. The bend relief is mounted inside the nut.
The cable must have a sheath with a large enough diameter in order to be held by the clamping system.

Fibre optic contact

For the hybrid type LV + fibre optic, fibre optic contacts must be ordered separately.

FFS.F1 Male F1 Fibre Optic Contact for plug

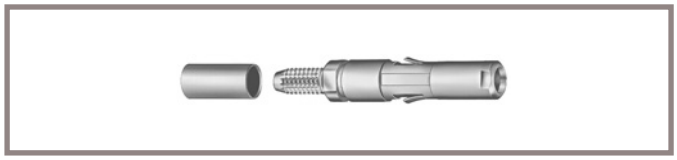


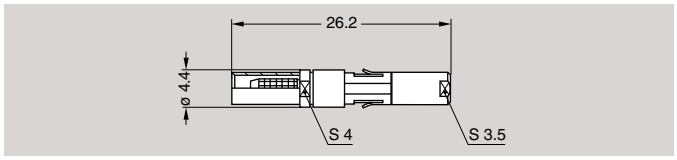


Reference	Ferrule inside ø (µm)	Fibre type
FFS.F1.GB1.ACE30	235	HCS
FFS.F1.HB1.AAE30	335	HCS
FFS.F1.JB1.AAE30	435	HCS
FFS.F1.KB1.AAE30	640	HCS
FFS.F1.RB1.AAE30	1100	Polymer

Note: other ferrule inside diameter, consult us.

PSS.F1 Female F1 Fibre Optic Contact for socket

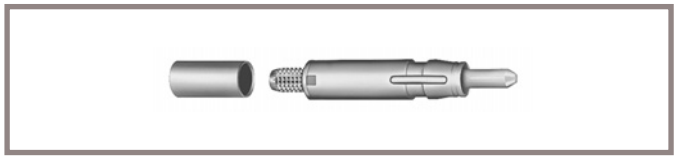


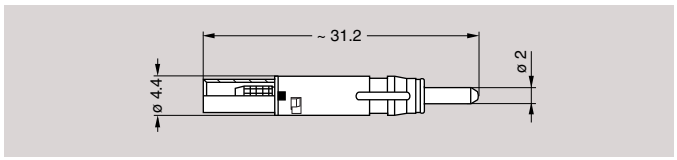


Reference	Ferrule inside ø (µm)	Fibre type
PSS.F1.GB1.ACE30	235	HCS
PSS.F1.HB1.AAE30	335	HCS
PSS.F1.JB1.AAE30	435	HCS
PSS.F1.KB1.AAE30	640	HCS
PSS.F1.RB1.AAE30	1100	Polymer

Note: other ferrule inside diameter, consult us.

FFS.F2 Male F2 Fibre Optic Contact for plug

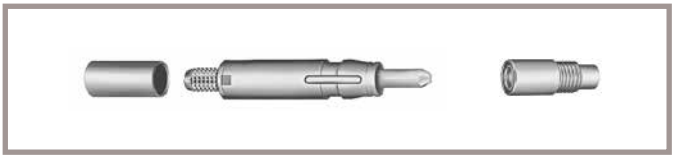


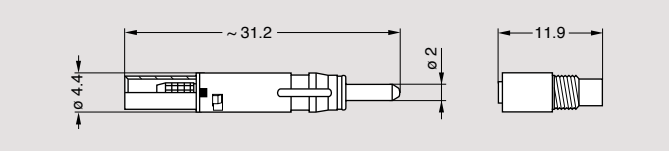


Reference	Ferrule inside ø (µm)	Fibre type
FFS.F2.BA2.LCE30	125	9/125
FFS.F2.BB2.LCE30	126	9/125
FFS.F2.BD2.LCE30	128	50/125
FFS.F2.BD2.LCE30	128	62.5/125
FFS.F2.FB2.LCE30	144	100/40

Note: all dimensions are in millimeters.

PSS.F2 Female F2 Fibre Optic Contact for socket





Reference	Ferrule inside ø (µm)	Fibre type
PSS.F2.BA2.LCE30	125	9/125
PSS.F2.BB2.LCE30	126	9/125
PSS.F2.BD2.LCE30	128	50/125
PSS.F2.BD2.LCE30	128	62.5/125
PSS.F2.FB2.LCE30	144	100/40

Note: all dimensions are in millimeters.

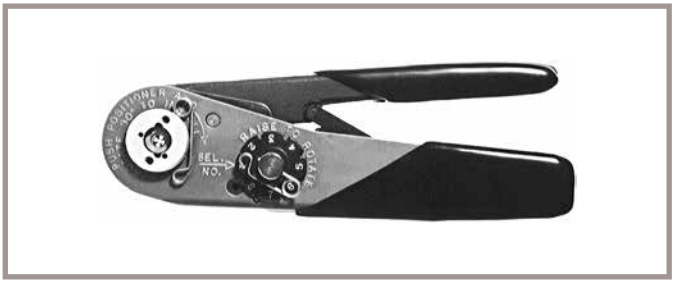
Recommended coaxial cables

Group[1)]			Type
1	2	3	
•			RG.174A/U
	•		RG.178B/U
		•	RG.179B/U
		•	RG.187A/U
•			RG.188A/U
	•		RG.196A/U
•			RG.316/U

Note: 1) the cable group number corresponding to the cable must be written in the variant position of the part number (see page 55).

Tooling

DPC.91.701.V Crimping tool

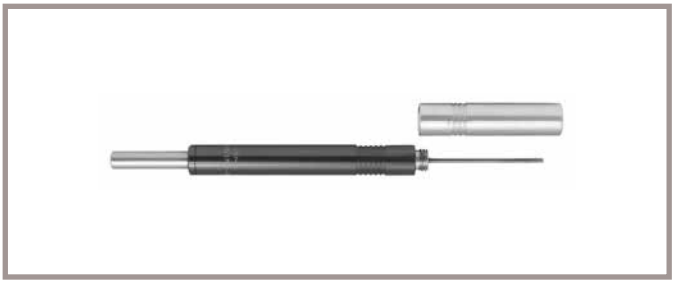


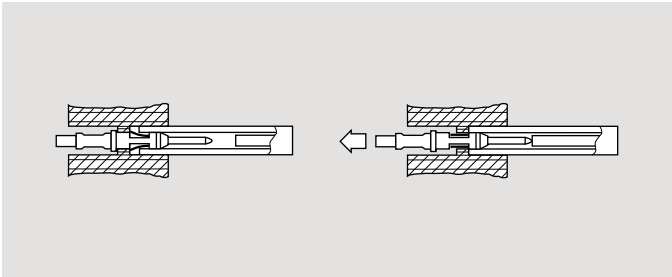
DCE Positioners for crimp contacts

male

female

DCC Manual extractor for crimp contacts

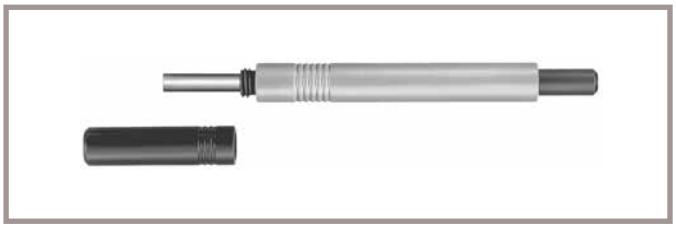




Contact type	Contact ø (mm)	Conductor AWG	Positioner part number		Selector No Setting	Part number extractor
			Male	Female		
306	0.9	20-22-24	DCE.91.093.PVC	DCE.91.093.PVM	6-5-5	DCC.09.05B.LAG
310	0.9	20-22-24	DCE.91.093.PVC	DCE.91.093.PVM	6-5-5	DCC.09.05B.LAG
314	0.9	20-22-24	DCE.91.093.PVC	DCE.91.093.PVM	6-5-5	DCC.09.05B.LAG

Note: this model is used for male and female contacts.
The variance in conductor stranding diameter for the minimum AWG is such that some can have a cross section which is not sufficient to guarantee crimping as per IEC 60352-2 standard. All dimensions are in millimeters.

DCC Manual extractor for coax contact type «C»

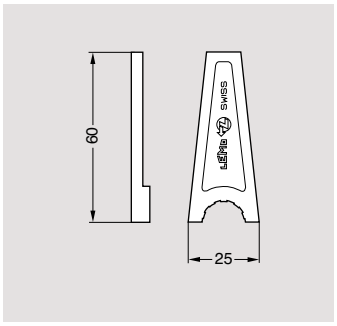


Part Number	Contact type
DCC.91.CP1.LAG	809

DPE Crimping tool for coax contact type «C»

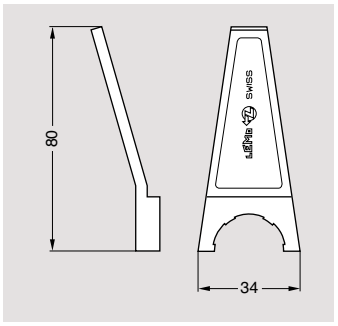
Part Number	Cable group
DPE.99.103.8K	1-3
DPE.99.103.1K	2

DCP.91.019.HN Spanners with notch for securing the collet nut



Material: Black polyamide

DCP.91.026.HN Spanners for securing the socket nut



Material: Black polyamide

DCS Polishing tool for fibre optic contact

Part Number	Contact type
DCS.91.F24.LC	F2
DCS.91.F13.LC	F1

Note: all dimensions are in millimeters.

DRV.91.CF2.PN F2 contact fibre optic work station

DPE.99.524.337K Crimp tool for fibre optic contact F1 and F2 type

DCC.91.F12.LAG Manual extractor for fibre optic contact F1 and F2 type

DCS Microscope adaptor for fibre optic contact

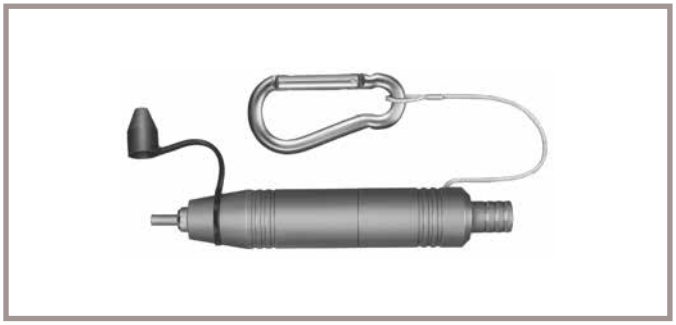
Part Number	Contact type
DCS.91.G90.6E200	F2
DCS.91.G90.6E240	F1

WST Epoxy curing oven for fibre optic contact

Part Number	Voltage
WST.FR.220.VA	220 volts
WST.FR.110.VA	110 volts

WST.FB.G00.301 Fibre inspection microscope

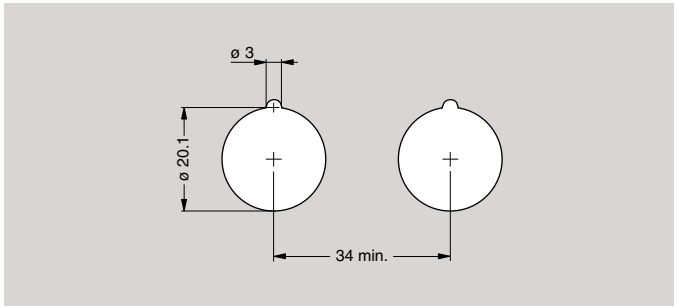
DCS.91.F23.LA Cleaning tool for F2 contact



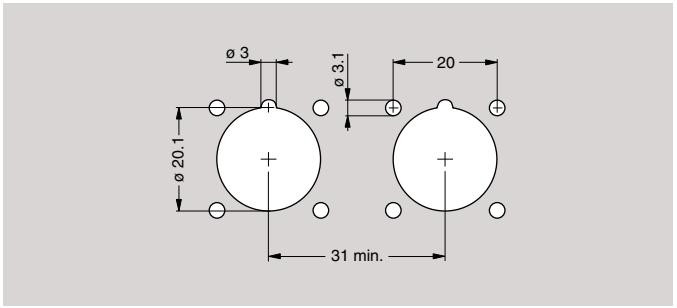
DCS.F2.035.PN F2 contact alignment device installation/extraction tool

Panel hole

For EGG

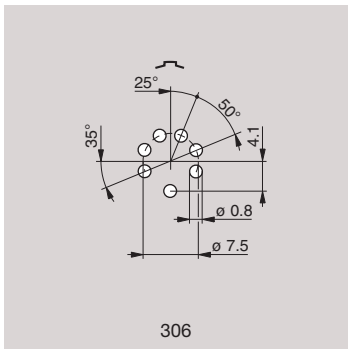


For EBG

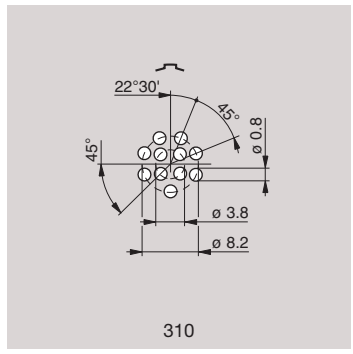


PCB drilling pattern

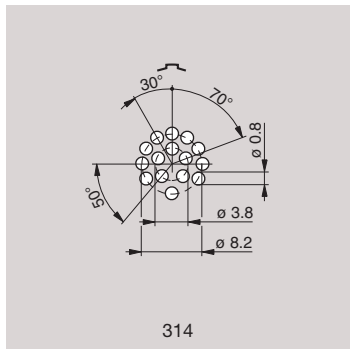
For straight contacts



306



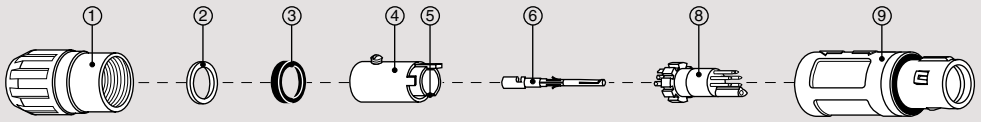
310



314

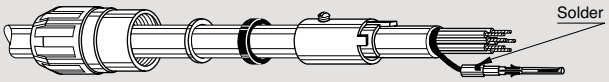
Assembly instructions

Solder LV contacts

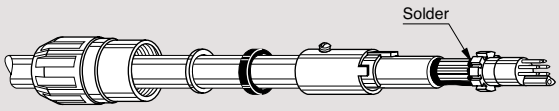


1. Strip the cable according to the lengths given in the table. Tin the conductors. In case of a screened cable separate the braid and twist it apart as shown.

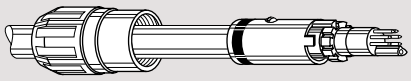
Configuration	Dimensions (mm)	
	L	T
306 - 310	13.0	3.0
314 - 318	13.0	3.0



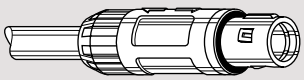
2. Slide the collet nut ①, the washer ②, the seal ③ and the clamping sleeve ④. In case of a screened cable solder the braid into the earthing contact ⑥.



3. In case of a screened cable introduce the earthing contact ⑥ into the insert ⑧. Check that contact is correctly located and remains in position when given a gentle pull.
Solder conductors into contacts, making sure that neither solder nor flux gets onto the insulator or cable insulation.



4. Slide the clamping sleeve ④ forward and locate tag ⑤ into one of the insulator slot according to the selected polarization code. Make sure that same code is used for plug and socket.
Tight the screw of the clamping sleeve ④ to secure the cable. Slide washer and seal against clamping sleeve.

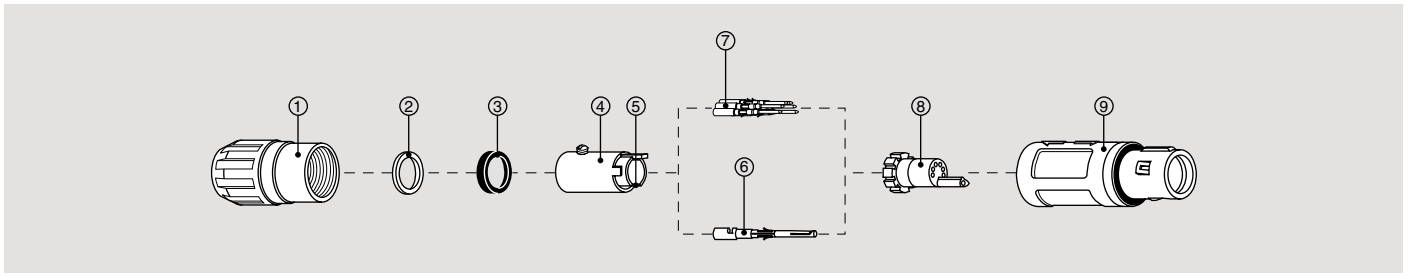


5. Push the whole assembly into the shell ⑨ whilst turning it to insure that the tag ⑤ is correctly located in the inside slot of the shell. Tighten the collet nut ① to the maximum torque of 1.2 Nm.

   – Socket mounting nut or screws = 2.3 Nm.

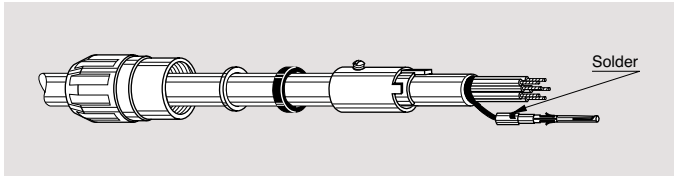
For PSU only:
We recommend ONLY the use of VTVC-6 Clear Vibra-tite or ThreeBond 1401 to secure the connector collet nut. The use of other materials could result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

Crimp LV contacts

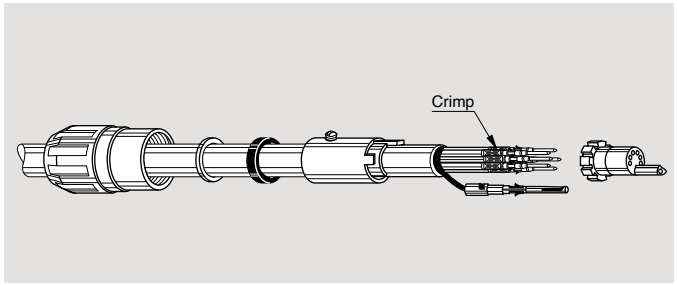


1. Strip the cable according to the lengths given in the table. Tin the conductors. In case of a screened cable separate the braid and twist it apart as shown.

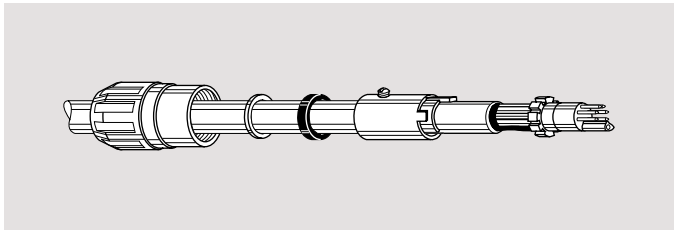
Configuration	Dimensions (mm)	
	L	T
306, 310, 314	19.0	5.4



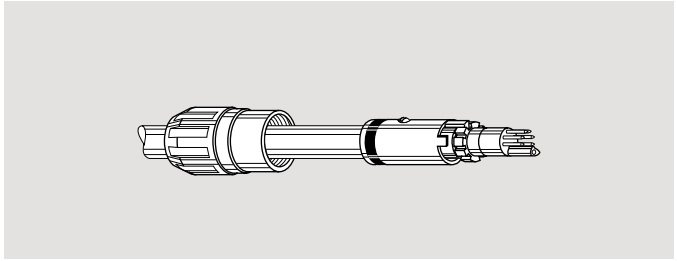
2. Slide the collet nut ①, the washer ②, the seal ③ and the clamping sleeve ④.
In case of a screened cable solder the braid into the earthing contact ⑥.



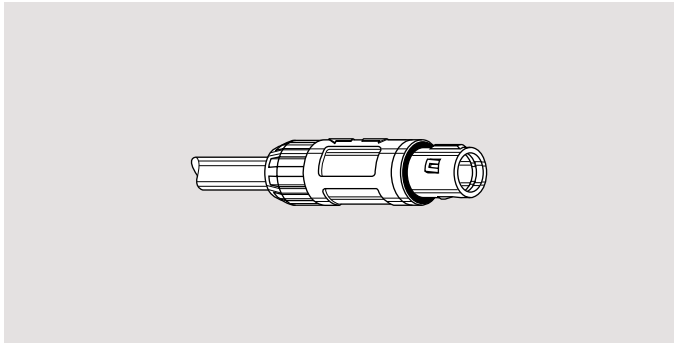
3. Fix the appropriate positioner (table page 51) in the crimping tool. Set selector to the number corresponding to the conductor AWG as indicated on the positioner label. Fit conductor into contact ⑦ and make sure it is visible through the inspection hole in the crimp barrel. Slide conductor-contact combination into the open crimping tool; make sure that the contact is fully pushed into the positioner. Close the tool. Remove from crimping tool and check that conductor is secure in contact and shows in inspection hole.



4. Now arrange contact-conductor combinations according to the insert marking and locate them into the insert ⑤. Check that all contacts are correctly located and remain in position when given a gentle pull. In case of a screened cable introduce the earthing contact ⑥ into the insert ⑧. Check that contact is correctly located and remains in position when given a gentle pull.



5. Slide the clamping sleeve ④ forward and locate tag ⑤ into one of the insulator slot according to the selected polarization code. Make sure that same code is used for plug and socket.
Tight the screw of the clamping sleeve ④ to secure the cable. Slide washer and seal against clamping sleeve.

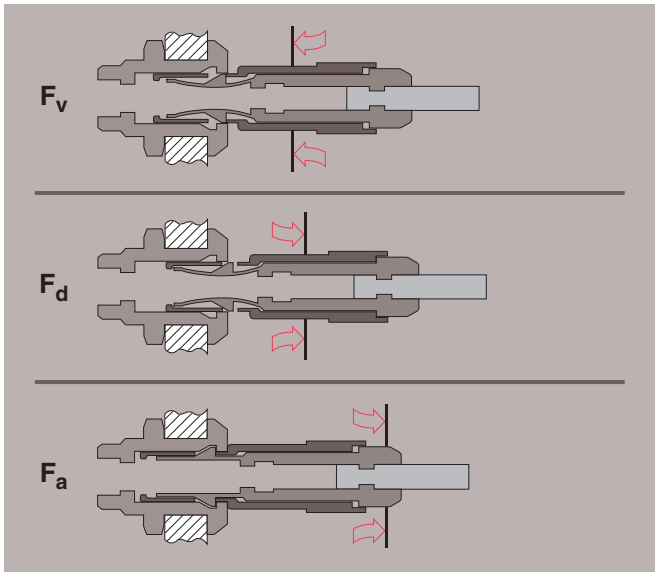


6. Push the whole assembly into the shell ⑨ whilst turning it to insure that the tag ⑤ is correctly located in the inside slot of the shell. Tighten the collet nut ① to the maximum torque of 1.2 Nm.

   – Socket mounting nut or screws = 2.3 Nm.

For PSU only:
We recommend ONLY the use of VTVC-6 Clear Vibra-tite or ThreeBond 1401 to secure the connector collet nut. The use of other materials could result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

Mechanical latching characteristics



F_V: average latching force

F_d: average unmating force with axial pull on the outer release sleeve

F_a: average retention force for straight pull on the collet nut

PSU shell material

Force (N)	Series		
	1P	2P	3P
Fv	8.0	5.5	7.5
Fd	8.0	8.5	17.0
Fa	100	150	120

PEI shell material

Force (N)	Series	
	1P	2P
Fv	6.5	6.0
Fd	6.5	9.0
Fa	120	100

Notes: 1N = 0.102 kg.
Mechanical endurance: 1000 cycles.

Notes: The forces were measured on PSU outer shells 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). The values were measured according to the standard IEC 60512-7, test 13a. 2P, for standard models only.

Contact resistance with relation to the number of mating cyles

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

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

A ø (mm)	Contact resistance (mΩ)
	1000 cycles
0.5	< 8.5
0.7	< 6.5
0.9	< 4.5
1.3	< 2.8
1.6	< 2.9
2.0	< 2.6

Note: 1) 21 days at 95% RH according to IEC 60068-2-3.

Insulation resistance between the contacts and contact/shell

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

Insulating material	Multipole
	PEEK
new	> 10^{12} Ω
after humidity test[1)]	> 10^{10} Ω

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 1 minute.

This test has been carried out with a mated plug and socket, with power supply only on the plug end.

The operating voltage value definition is at the entire responsibility of the customer who defines this value according to the safety factors that they apply to their equipment and system.

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.

Technical tables

Table of American Wire Gauge

AWG	Construction		ø wire max		Wire section	
	Strand nb	AWG/ strand	(mm)	(in)	(mm^2)	(sq in)
0	259	24	11.277	0.444	52.90	0.0820
1	817	30	9.702	0.382	41.40	0.0641
2	259	26	8.89	0.35	33.20	0.0514
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	37	28	2.3114	0.091	2.9765	0.0046
12	19	25	2.3622	0.093	3.0847	0.0048
12 1)	7	20	2.5400	0.10	3.6321	0.0056
12	1	12	2.0828	0.082	3.3081	0.0051
14	41	30	2.0574	0.081	2.0775	0.0032
14	19	27	1.8542	0.073	1.9413	0.0030
14 1)	7	22	2.0828	0.082	2.2704	0.0035
14	1	14	1.6510	0.065	2.0820	0.0032
16 1)	65	34	1.5748	0.062	1.3072	0.0020
16	26	30	1.5748	0.062	1.3174	0.0020
16	19	29	1.4986	0.059	1.2293	0.0019
16 1)	7	24	1.5494	0.061	1.4330	0.0022
16	1	16	1.3208	0.052	1.3076	0.0020
18 1)	65	36	1.2700	0.05	0.8234	0.0013
18 1)	42	34	1.2700	0.05	0.8447	0.0013
18	19	30	1.3208	0.052	0.9627	0.0015
18	16	30	1.2954	0.051	0.8107	0.0013
18	7	26	1.2700	0.05	0.8967	0.0014
18	1	18	1.0414	0.041	0.8229	0.0013
20 1)	42	36	1.0160	0.04	0.5320	$8.2x10^{-4}$
20	19	32	1.0414	0.041	0.6162	0.0010
20	10	30	1.0160	0.04	0.5067	$7.9x10^{-4}$
20	7	28	0.9906	0.039	0.5631	$8.7x10^{-4}$
20	1	20	0.8382	0.033	0.5189	$8.0x10^{-4}$
22	19	34	0.8382	0.033	0.3821	$5.9x10^{-4}$
22	7	30	0.7874	0.031	0.3547	$5.5x10^{-4}$
22	1	22	0.6604	0.026	0.3243	$5.0x10^{-4}$
24 1)	42	40	0.6604	0.026	0.2045	$3.2x10^{-4}$
24	19	36	0.6858	0.027	0.2407	$3.7x10^{-4}$
24	7	32	0.6350	0.025	0.2270	$3.5x10^{-4}$
24	1	24	0.5588	0.022	0.2047	$3.2x10^{-4}$
26	19	38	0.5588	0.022	0.1540	$2.4x10^{-4}$
26	7	34	0.5080	0.02	0.1408	$2.2x10^{-4}$
26	1	26	0.4318	0.017	0.1281	$2.0x10^{-4}$
28 1)	19	40	0.4318	0.017	0.0925	$1.4x10^{-4}$
28	7	36	0.4064	0.016	0.0887	$1.4x10^{-4}$
28	1	28	0.3302	0.013	0.0804	$1.2x10^{-4}$
30	7	38	0.3302	0.013	0.0568	$8.8x10^{-5}$
30	1	30	0.2794	0.011	0.0507	$7.9x10^{-5}$
32	7	40	0.2794	0.011	0.0341	$5.3x10^{-5}$
32	1	32	0.2286	0.009	0.0324	$5.0x10^{-5}$
34	1	34	0.1693	0.007	0.0201	$3.1x10^{-5}$
36	1	36	0.127	0.005	0.0127	$2.0x10^{-5}$
38	1	38	0.1016	0.004	0.0081	$1.3x10^{-5}$
40	1	40	0.078	0.003	0.0049	$7.5x10^{-6}$

Table of wire gauges according to IEC-60228 standard

Conductor no x Ø (mm)	Max Ø (mm)	Max Ø (in)	Section (mm^2)	Section (sq in)
196x0.40	7.50	0.295	25.00	0.0387
7x2.14	6.10	0.240	25.00	0.0387
125x0.40	6.00	0.236	16.00	0.0248
7x1.72	4.90	0.192	16.00	0.0248
1x4.50	4.50	0.177	16.00	0.0248
80x0.40	4.70	0.155	10.00	0.0155
7x1.38	3.95	0.155	10.00	0.0155
1x3.60	3.60	0.141	10.00	0.0155
84x0.30	3.70	0.145	6.00	0.0093
7x1.50	3.15	0.124	6.00	0.0093
1x2.76	2.76	0.108	6.00	0.0093
56x0.30	2.80	0.110	4.00	0.0062
7x0.86	2.58	0.098	4.00	0.0062
1x2.25	2.25	0.082	4.00	0.0062
50x0.25	2.15	0.084	2.50	0.0038
7x0.68	2.04	0.080	2.50	0.0038
1x1.78	1.78	0.070	2.50	0.0038
30x0.25	1.60	0.062	1.50	0.0023
7x0.52	1.56	0.061	1.50	0.0023
1x1.4	1.40	0.055	1.50	0.0023
32x0.20	1.35	0.053	1.00	0.0015
7x0.43	1.29	0.050	1.00	0.0015
1x1.15	1.15	0.045	1.00	0.0015
42x0.15	1.20	0.047	0.75	0.0011
28x0.20	1.15	0.045	0.75	0.0011
1x1.0	1.00	0.039	0.75	0.0011
28x0.15	0.95	0.037	0.50	$7.7x10^{-4}$
16x0.20	0.90	0.035	0.50	$7.7x10^{-4}$
1x0.80	0.80	0.031	0.50	$7.7x10^{-4}$
7x0.25	0.75	0.029	0.34	$5.2x10^{-4}$
1x0.60	0.60	0.023	0.28	$4.3x10^{-4}$
14x0.15	0.75	0.029	0.25	$3.8x10^{-4}$
7x0.20	0.65	0.023	0.22	$3.4x10^{-4}$
18x0.10	0.50	0.019	0.14	$2.1x10^{-4}$
14x0.10	0.40	0.015	0.11	$1.7x10^{-4}$
21x0.07	0.40	0.015	0.09	$1.3x10^{-4}$
14x0.10	0.40	0.015	0.09	$1.3x10^{-4}$

Note: 1) not included in the standard

Product safety notice

PLEASE READ AND FOLLOW ALL INSTUCTIONS CAREFULLY AND CONSULT ALL RELEVENT 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**
   CE marking CE means that the appliance or equipment bearing it complies with the protection requirements of one or several European safety directives.
   CE marking CE 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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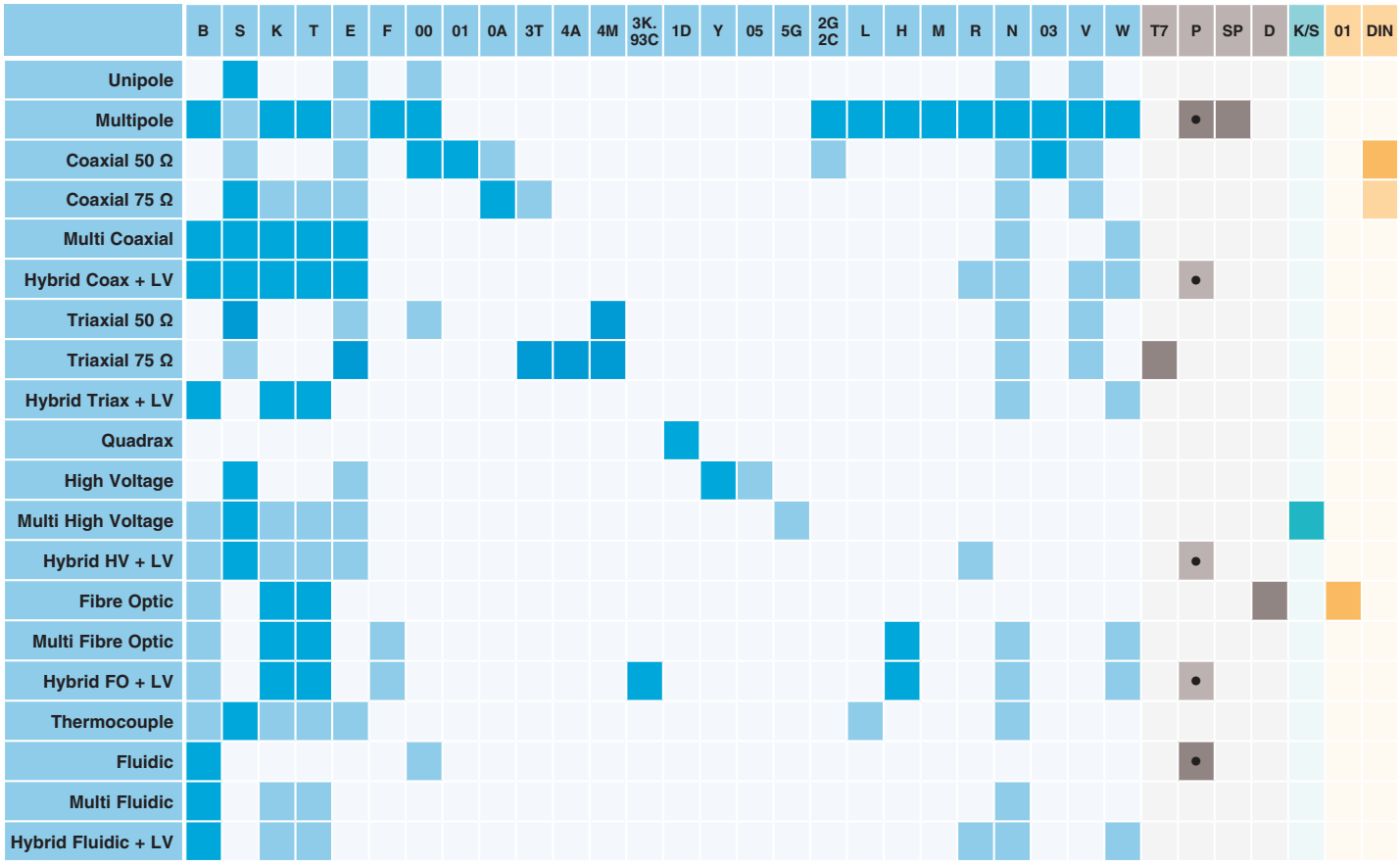

Most frequently used in darker colour

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K Series Keyed

T Series

E Series

F Series Keyed

00 Series

01 Series

0A Series

3T Series

4A Series

4M Series Keyed

3K.93C Series Keyed

1D Series

Y Series

05 Series

5G Series Keyed

2G Series Keyed

2C Series

L Series Keyed

H Series

M Series Keyed

R Series Keyed

N Series Keyed

03 Series Keyed

V Series

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