LEMO's Plastic Connectors

REDEL® 1P, 2P and 3P Series

for Medical, Fluidic and

Pneumatic Applications

REDEL

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™ 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 bend 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 applications 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.

LEMO

• Table of Contents

• LEMO's Product Line

• Connectors, accessories and tools found in this catalog.

Connectors
Single contact from 2 to 150 Amps
Coaxial 50 and 75 Ω
Coaxial 50 Ω (NIM-CAMAC)
Coaxial 50 Ω for frequency → 12 GHz
Multicoaxial 50 and 75 Ω
• Multicontact from 2 to 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 Ω
Quadrax
• Mixed: High Voltage (HV) + Low Voltage (LV)
• Mixed: Coax + LV
Mixed: Triax + LV
Thermocouple
Multithermocouple
Fiber optic singlemode
Fiber optic multimode
• Mixed: fiber optic + LV
Mixed: fiber optic + coax + LVΩ
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 aluminum outer shell
With stainless steel outer shell
With special radiation resistant insulator material
With screw thread coupling for very high pressure
With microswitch

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

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

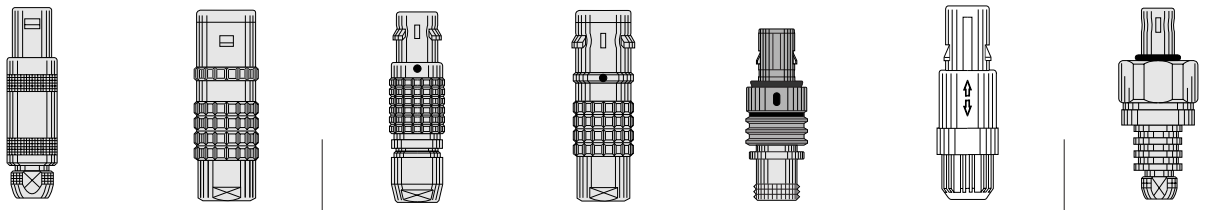
Adaptors
For BNC, C, UHF, N, CINCH, GEN-RADIO connectors
For TNC, SMA connectors

Accessories
• Insulator for crimp contacts
• Crimp contacts
Coaxial contacts
Triaxial contacts
• Fiber optic contacts
Fiber optic ferrules
• Caps and bend relief
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
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



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

• LEMO's Series by Types

Note:

■ = included in this catalog
● = available but not included in this catalog.

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

● 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:

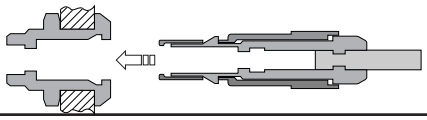
Speed – Engage connectors simply and quickly by pushing plugs axially into mating receptacles. Pull on outer shell to remove plug easily.

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.

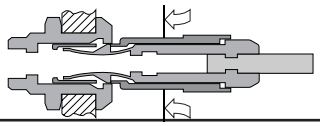
Reliability – Connections are reliable and assured when locking mechanism is engaged.

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

How QUICK-LOK™ Works

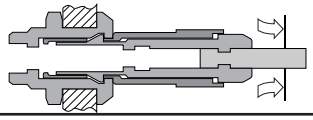


Latching Characteristics for REDEL 1P–3P Connectors



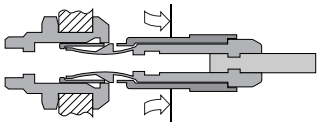
Engaging
QUICK-LOK allows the connector to be mated by simply pushing the plug straight into the receptacle.

Force (N)	1P	2P	3P
Fv	3	5	8



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

Force (N)	1P	2P	3P
Fa	90	150	120



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.

Force (N)	1P	2P	3P
Fd	4	8	9

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.

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: 1000 cycles.

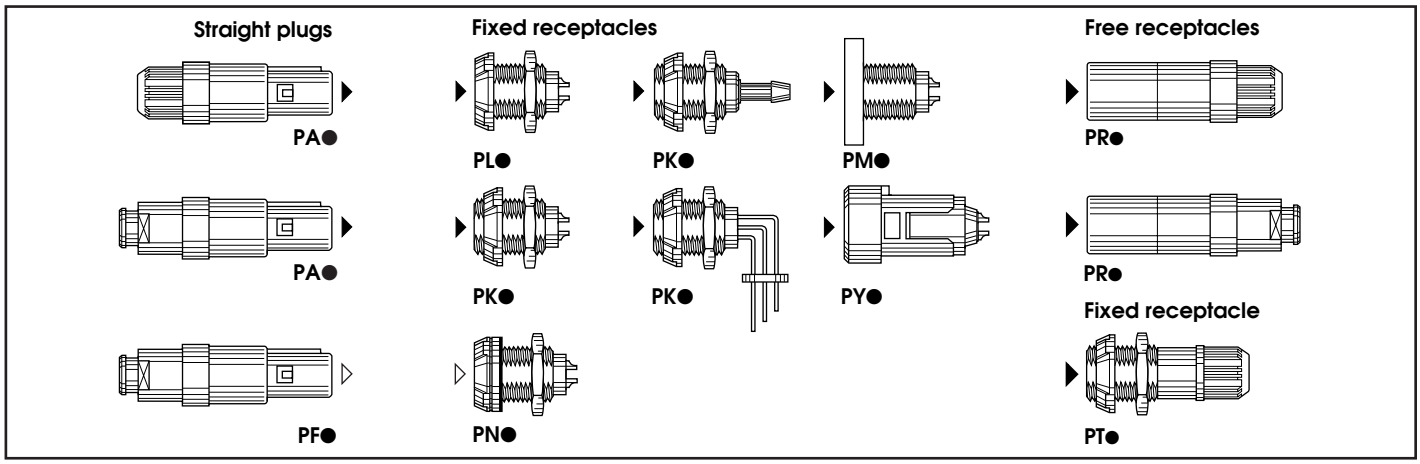
The values were measured according to the standard MIL-STD-1344A method 2013.1.

1N = 0.102kg.; 1N-m = 8.8 lbf-in

• REDEL® 1P Series Connectors

– A well proven connector of a small size to accommodate cable ø up to 7 mm and allow up to 14 solder contacts.
– Top quality lightweight and rugged materials have been chosen to optimize most applications. Polysulfone (PSU), UL certified as autoextinguishable, can be sterilized by gas or by steam.
– For extensive steam sterilization we recommend Polyetherimide ULTEM® (PEI).
– The contacts are gold-plated over copper and nickel to ensure at least 1000 mating/unmating cycles while maintaining signal performance.
– A keying system combined with color coding can be incorporated on all connector types to assist in the prevention of mismating.
– Color coding of the plug collet nut and receptacle flange will give an instant visual indication as to whether connectors are compatible or not.
– A new fluidic connector is available.

Interconnections



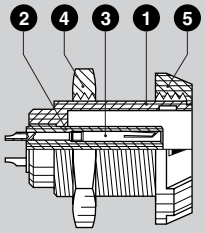
Model Description

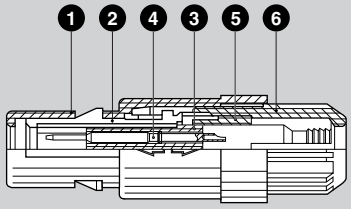
PA● Straight plug with cable collet
PA● Straight plug with cable collet and nut for fitting a bend relief
PF● Straight plug with cable collet and nut for fitting a bend relief, watertight (IP 64)
PK● Fixed receptacle with two nuts (back panel mounting)
PK● Fixed receptacle with fluidic contact, with two nuts (back panel mounting)
PK● Fixed receptacle with two nuts, with 90° contacts for printed circuit (back panel mounting)
PL● Fixed receptacle, nut fixing
PM● Fixed receptacle with square flange
PN● Fixed receptacle, nut fixing, watertight (IP 64)
PR● Free receptacle with cable collet
PR● Free receptacle with cable collet and nut for fitting a bend relief
PT● Fixed receptacle with two nuts and cable collet (back panel mounting)
PY● Fixed receptacle, snap-on mounting
PY● Free receptacle, when used with backshell

Part Section Showing Internal Components

Fixed receptacle

1 Outershell
2 Insulator
3 Female contact
4 Hexagonal nut
5 Front nut





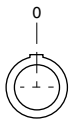
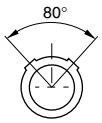
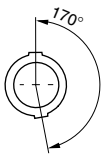
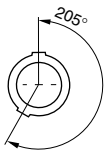
Straight plug

1 Outershell
2 Latch sleeve
3 Insulator
4 Male contact
5 Collet
6 Collet nut

Technical Characteristics for 1P Series Connectors

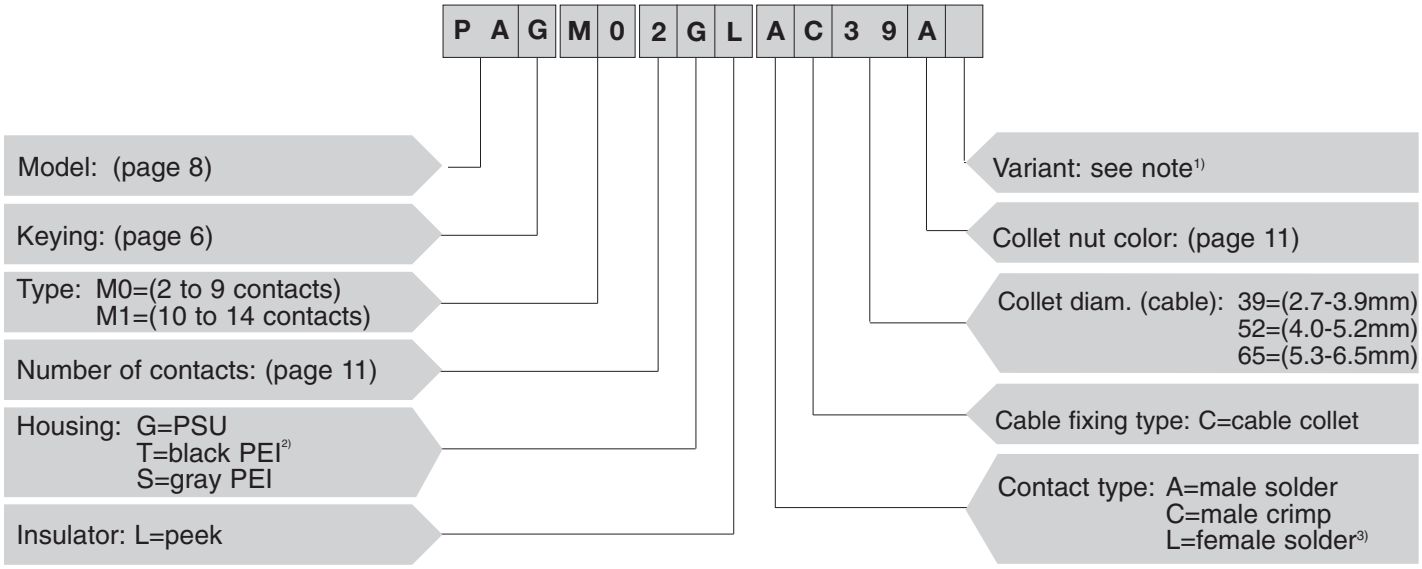
Characteristics		Value	Standards
Average retention force when pulling on the cable	1N = 0.102 kg	90 N	IEC 60512-8 test 15f
Cable retention force (depends on cable construction)	1N = 0.102 kg	50 - 150 N	IEC 60512-9 test 17c
Endurance		> 1000 cycles	IEC 60512-5 test 9a
Working temperature range (PSU shell)		-50°C/+150°C	–
Working temperature range (PEI shell)		-50°C/+170°C	–

Alignment Key and Polarized Keying System

Keying (plug front view)	 G	 A	 B	 C	 H	 J		
Contact type for plug	male	male	male	male	female	female		
Contact type for receptacle	female	female	female	female	male	male		
Number of contacts	2 to 14				8, 10 or 14			

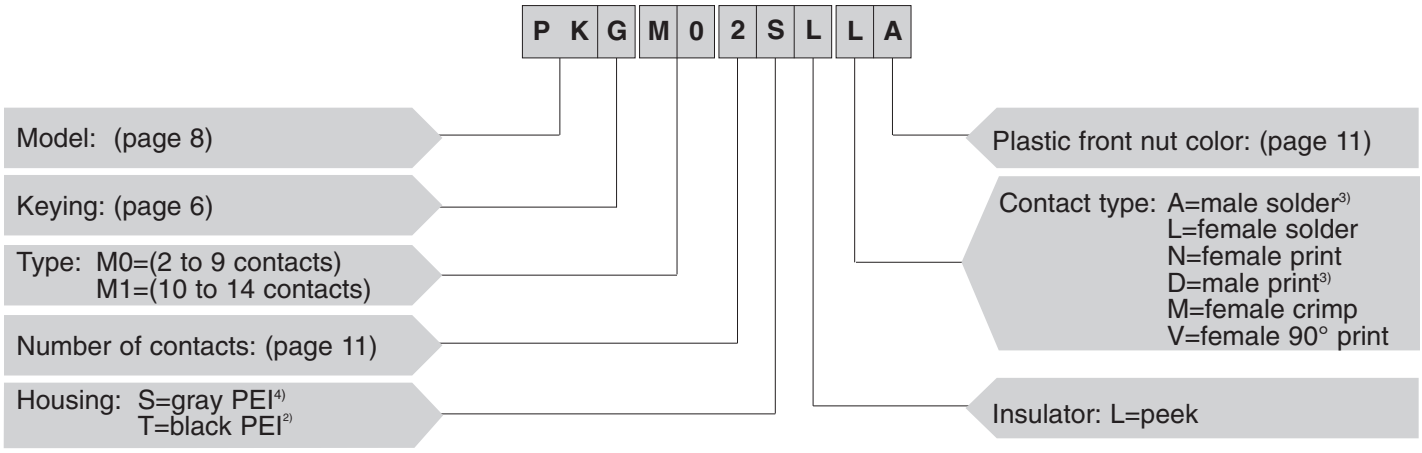
Part Number Example

Straight plug with cable collet



PAG.M0.2GL.AC39A Straight plug with cable collet and alignment key (G), multicontact type with 2 male contacts to solder, gray PSU outershell, PEEK insulator, collet for a cable ø 2.7 to 3.9 mm and blue collet nut.

Fixed receptacle with two nuts



PKG.M0.2SL.LA Fixed receptacle with two nuts and alignment key (G), multicontact type with 2 female contacts to solder, gray PEI outershell, PEEK insulator, and blue PSU front nut.

Note:

1) to order a model with cable collet and nut for fitting a bend relief, you must write a "Z" in the variant position. Bend reliefs to be ordered separately (see page 23).

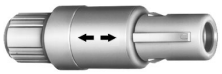
2) all parts are only available in black.

3) only with H and J keyway and with 8, 10 or 14 contacts.

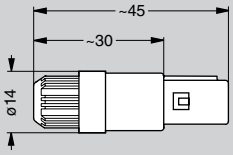
4) replaced gray PSU (code G) as standard material in fixed receptacles.

• 1P Series Models

PA● Straight plug with cable collet

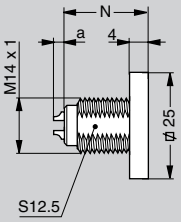


Availability: ●



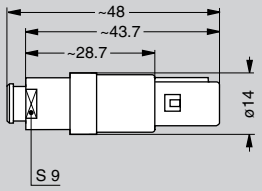
PM● Fixed receptacle with square flange

Availability: ○



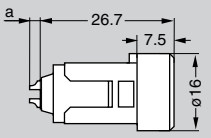
PA● Straight plug with cable collet and nut for fitting a bend relief

Availability: ○



PY● Fixed receptacle, snap-on mounting

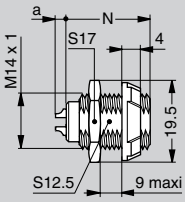
Availability: ●



Note: only with A or B keyway (2 to 14 contacts), H (8, 10 or 14 contacts) or J (10 contacts).

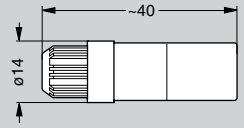
PK● Fixed receptacle with two nuts (back panel mounting)

Availability: ●



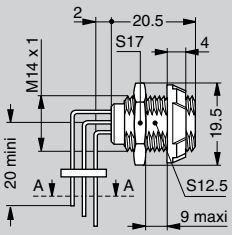
PR● Free receptacle with cable collet

Availability: ●



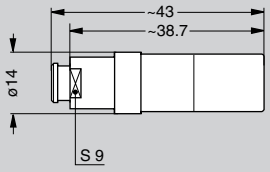
PK● Fixed receptacle with two nuts, with 90° contacts for printed circuit (back panel mounting)

Availability: ○



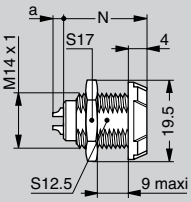
PR● Free receptacle with cable collet and nut for fitting a bend relief

Availability: ○



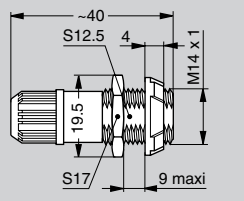
PL● Fixed receptacle, nut fixing

Availability: ○



PT● Fixed receptacle with two nuts and cable collet (back panel mounting)

Availability: ●



Note: all dimensions are in millimeters. Dimensions a and N are indicated on page 11.

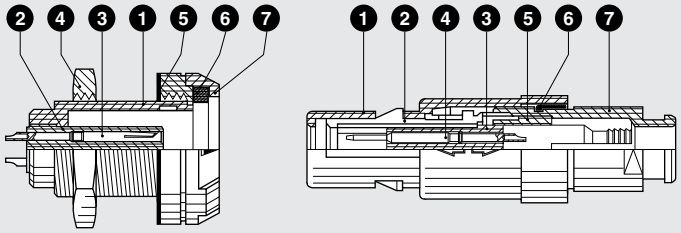
● Standard, typically 0-6 weeks delivery for quantities of 250 or less.
○ Non-standard product, contact LEMO USA, typically 6-12 weeks delivery for quantities of 250 or less.
Non-standard product is defined as any product which contains one or more components which are not standard.

Watertight Models (IP 64) (according to IEC 60529)

Part Section Showing Internal Components

Fixed receptacle

1 Outershell
2 Insulator
3 Female contact
4 Hexagonal nut
5 Flat gasket
6 Gasket
7 Front nut

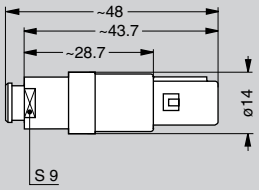


Straight plug

1 Outershell
2 Latch sleeve
3 Insulator
4 Male contact
5 Collet
6 Gasket
7 Collet nut

PF● Straight plug with cable collet and nut for fitting a bend relief

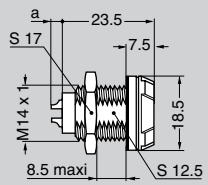
Availability: ○



Gasket material: Elastomer SEBS

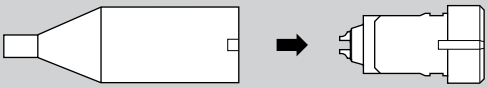
PN● Fixed receptacle, nut fixing

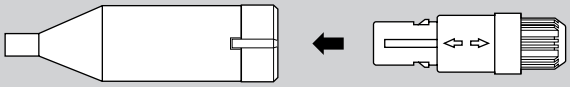
Availability: ○



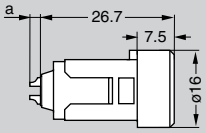
Gasket material: Elastomer SEBS + Silicone

1P Series Disposable Models



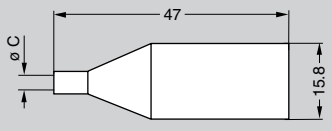


PY● One piece fixed receptacle or snap-on mounting



Fixed receptacle part #	Avail.	Mating straight plug part #	Avail.
PYG.M0.4GG.LG	●	PAG.M0.4GL.AC●●G	●
PYH.M0.8GG.AB	○	PAH.M0.8GL.LC●●GZ	○
PYH.M1.0GG.AA	●	PAH.M1.0GL.LC●●A	●
PYJ.M1.0GG.AV	●	PAJ.M1.0GL.LC●●V	●

PYG Backshell for PY●



Protective backshell part #	ø C (mm)	Mat.	Colors	Availability
PYG.02.5YG.0ABS	2.5	ABS	gray	●
PYG.02.7YG.0ABS	2.7	ABS	gray	●
PYG.02.5YG.0PSU	2.5	PSU	gray	●
PYG.03.8YG.0ABS	3.8	ABS	gray	○

Notes: The outershell and the insulator are molded out of the same material (PSU). All dimensions are in millimeters. Dimension “a” is indicated on page 11. ABS working temperature: -30°C +90°C. Additional styles may be available. Please contact LEMO USA for more information.

● 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.

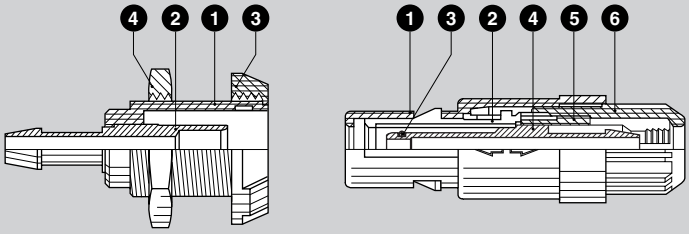
Fluidic Models

This REDEL fluidic connector has many applications in medical and dentistry equipment.
The connector is of the monotube type and primarily intended for use with air or inert gas.

Part Section Showing Internal Components

Fixed receptacle

1 Outershell
2 Fluidic tube
3 Front nut
4 Hexagonal nut

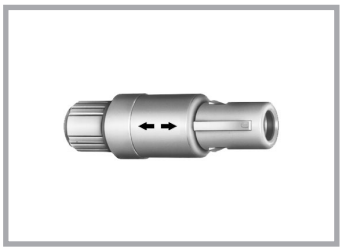


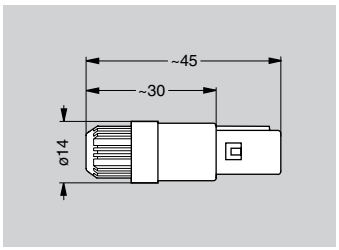
Straight plug

1 Outershell
2 Latch sleeve
3 O-ring
4 Fluidic tube
5 Collet
6 Collet nut

Technical Characteristics

Characteristics	Value	Standards
Max. working pressure	2 bars	–
Endurance	> 1000 cycles	IEC 60512-5 test 9a
Working temperature range (PSU shell)	-20°C/+150°C	–
Inner fluidic contact diameter	2.6 mm	–
Tube diameter internal/external	4 mm / 6 mm	–



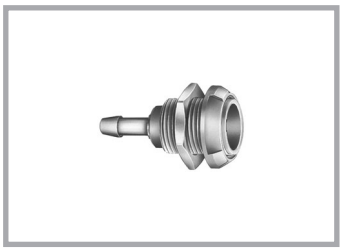


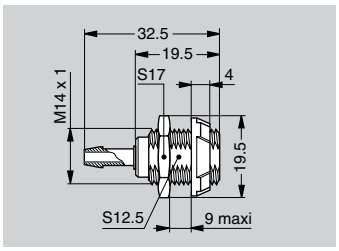
Fluidic tube material: Ni plated brass / O-ring material: FPM (Viton®)

PA● Straight plug with cable collet

Part number	ø max. tube (mm)	Availability
PAG.A0.1GZ.ZC65●	6.5	○

Note: ● = Collet nut color (see table page 11)





Fluidic tube material: Ni plated brass

Note: all dimensions are in millimeters.

PK● Fixed receptacle with fluidic contact, with two nuts(back panel mounting)

Part number	Availability
PKG.A0.1SZ.Z●	○

Note: ● = Front nut color (see table page 11)

● 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.

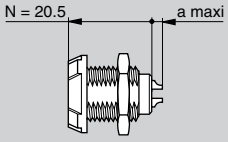
• Type

Characteristics	Standards	Units									
Availability			•	•	•	•	•	•	•	•	•
Reference			M02	M04	M05	M06	M07	M08	M09	M10	M14
Number of contacts			2	4	5	6	7	8	9	10	14
Contact ø (male pin)		mm	1.3	0.9	0.9	0.7	0.7	0.7	0.5	0.5	0.5
Solder bucket ø		mm	1.1	0.85	0.85	0.6	0.6	0.6	0.45	0.45	0.45
AWG max.			20	22	22	26	26	26	28	28	28
Crimp bucket ø		mm	1.4	1.1	1.1	0.8	0.8	0.8	–	–	–
AWG max. - min. 3)			18-20	20-24	20-24	22-26 4)	22-26 4)	22-26 4)	–	–	–
Wire insulator ø max.		mm	2.2	1.7	1.7	1.4	1.4	1.4	–	–	–
Contact resistance 2)	IEC 60512-2 test 2a	m Ω	< 3.5	< 4.5	< 4.5	< 6.5	< 6.5	< 6.5	< 8.5	< 8.5	< 8.5
Insulation resistance	IEC 60512-2 test 3a	Ω	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}
Air clearance min. 5)	IEC 60664-1 (§ 1.3.2)	mm	1.3	1.2	0.8	0.85	0.85	0.6	0.6	0.45	0.5
Creepage dist. min. 6)	IEC 60664-1 (§ 1.3.3)	mm	1.3	1.2	0.8	0.85	0.85	0.6	0.6	0.45	0.5
Operating voltage 1)		kV dc	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.3
Operating voltage 1)		kV rms	0.4	0.4	0.35	0.35	0.35	0.35	0.29	0.29	0.2
Test voltage	IEC 60512-2 test 4a	kV dc	1.8	1.8	1.5	1.5	1.5	1.5	1.2	1.2	0.9
Test voltage	IEC 60512-2 test 4a	kV rms	1.2	1.2	1.05	1.05	1.05	1.05	0.85	0.85	0.6
Breakdown voltage	IEC 60601-1 (§ 20.1)	kV dc	13	13	13	13	13	13	13	13	13
Rated current	IEC 60512-3 test 5a	A	10	8	7	6	5	5	3	3	2

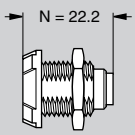
Note: coding shown on insulator is from rear side of plug.

1) **Depending on specific application and related standard, more restrictive operating voltage may apply. We suggest operating voltage ≥ 1/3 test voltage.**
2) After 1000 mating cycles and corrosion test per IEC 60512-6 test 11f.
3) The variance in conductor strandings which are quoted as being a specific AWG is so large that some can have cross section which is not sufficient to guarantee a crimp as per the IEC 60352-2 standard.
4) If conductor ø < 0.8 mm.
5) Shortest distance in air between two conductive parts (for solder contacts).
6) Shortest distance along the surface of the insulating material between two conductive parts (for solder contacts).

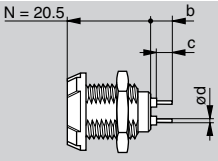
Contacts



Solder contact



Crimp contact



Print contact

The female contacts are made of bronze Bz4 (UNS C54400). The male contacts are made of brass (UNS C38500 or C34500). All contacts receive three different platings, copper (0.3 µm) then nickel (3 µm as per FS-QQ-N-290A) and finally 0.5 µm of gold (as per ISO 4523).

Types	Dimensions (mm)			
	a	b	c	d
M02	2.5	6	5	0.7
M04	2.5	6	5	0.7
M05	2.5	6	5	0.7
M06	2.5	4	3	0.5
M07	4.5	4	3	0.5
M08	4.5	4	3	0.5
M09	3.9	4	3	0.5
M10	3.9	4	3	0.5
M14	3.9	4	3	0.5

Color Table

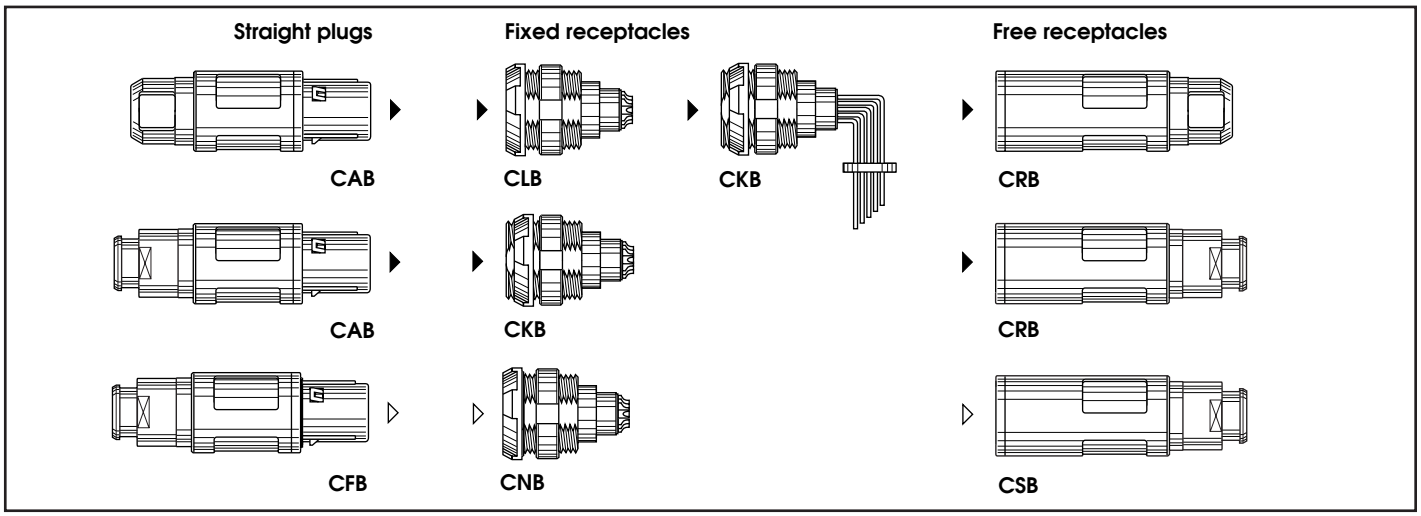
Ref.	Colors	Ref.	Colors	Ref.	Colors
G	gray	N	black	B	white
A	blue	R	red		
J	yellow	V	green		

● 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.

• REDEL® 2P Series Connectors

– This 18 mm ø connector accommodates cables up to 9 mm ø and allows up to 32 solder or crimp contacts.
– Top quality lightweight but rugged materials have been chosen to optimize most applications. Polysulfone (PSU), UL certified as autoextinguishable, can be sterilized by gas or by steam.
– The contacts are gold-plated over copper and nickel to ensure at least 1000 mating/unmating cycles while maintaining the electrical characteristics.
– Three keys on the plug nose will allow blind mating.
– Color coding of the plug and receptacle flange will give an instant visual indication as to whether connectors are compatible or not.
– Water resistant standard options to IP 66 are available.

Interconnections



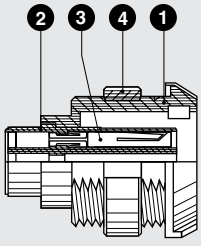
Model Description

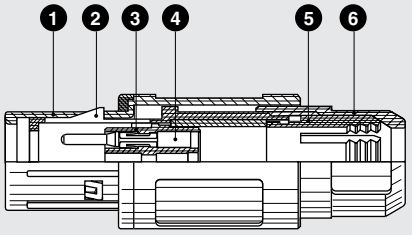
CAB Straight plug with cable collet
CAB Straight plug with cable collet and nut for fitting a bend relief
CFB Straight plug with cable collet and nut for fitting a bend relief, watertight (IP 66)
CLB Fixed receptacle, nut fixing
CKB Fixed receptacle with two nuts (back panel mounting)
CKB Fixed receptacle with two nuts, with 90° contacts for printed circuit (back panel mounting)
CNB Fixed receptacle, nut fixing, watertight (IP 66)
CRB Free receptacle with cable collet
CRB Free receptacle with cable collet and nut for fitting a bend relief
CSB Free receptacle with cable collet and nut for fitting a bend relief watertight (IP 66)

Part Section Showing Internal Components

Fixed receptacle

1 Outershell
2 Insulator
3 Female crimp contact
4 Nut





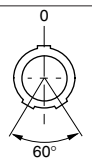
Straight plug

1 Outershell
2 Latch sleeve
3 Insulator
4 Male crimp contact
5 Collet + mid piece
6 Collet nut

Technical Characteristics for 2P Series Connectors

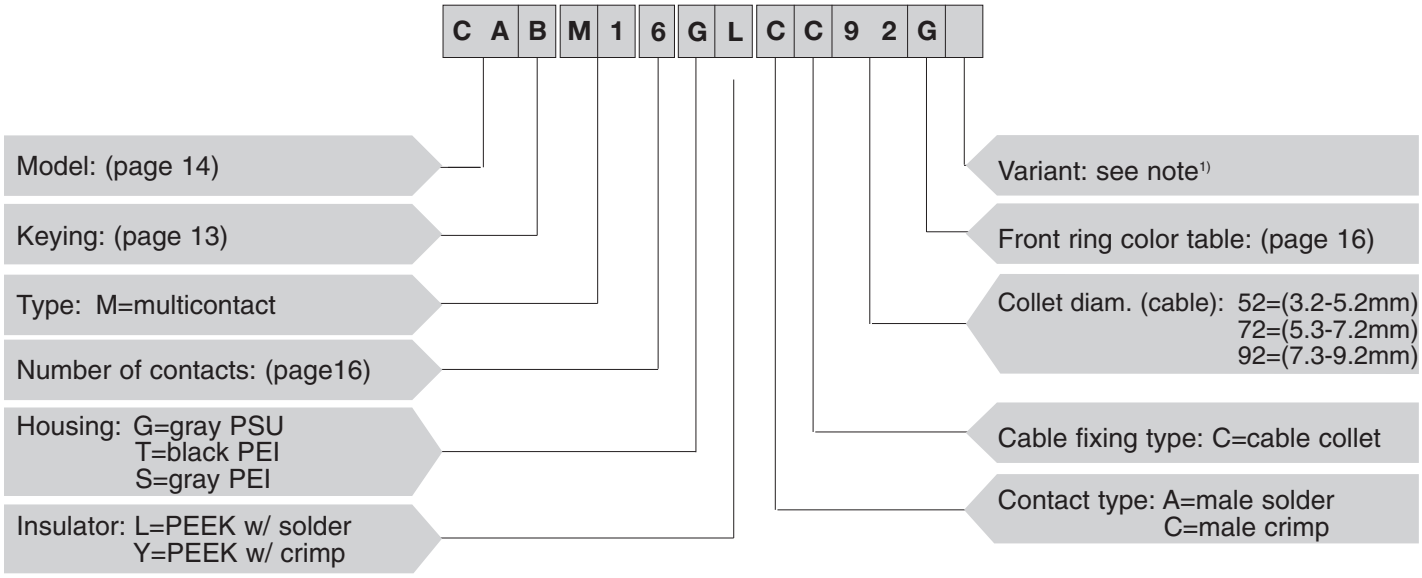
Characteristics		Value	Standards
Average retention force when pulling on the cable	1N = 0.102 kg	150 N	IEC 60512-8 test 15f
Cable retention force (depends on cable construction)	1N = 0.102 kg	150-250 N	IEC 60512-9 test 17c
Endurance		> 1000 cycles	IEC 60512-5 test 9a
Working temperature range		-50°C/+150°C	–

Alignment Keys

Keying (plug front view)	 **B**
Contact type for plug	male
Contact type for receptacle	female
Number of contacts	16 to 32

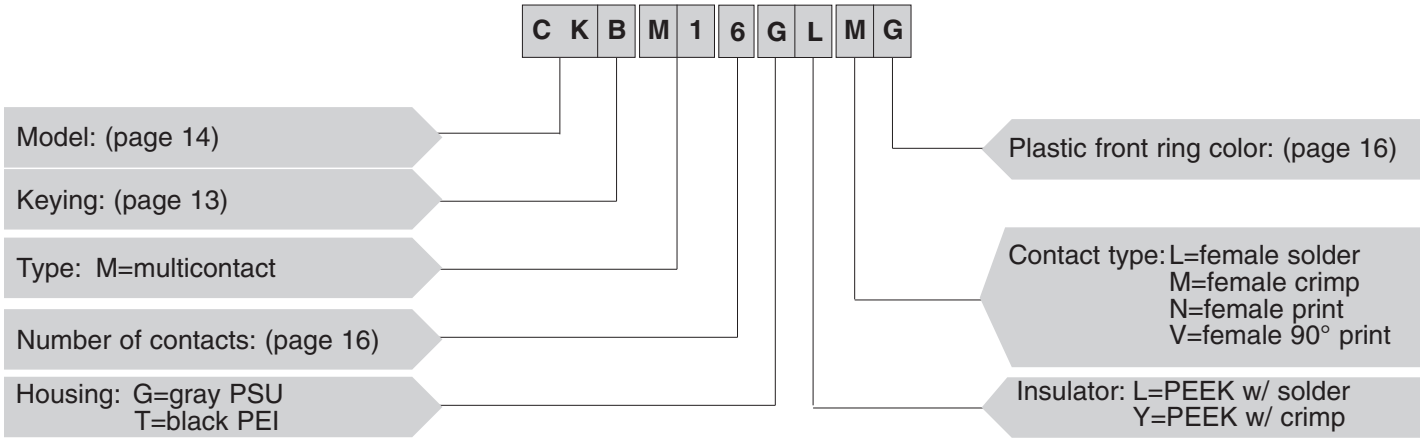
Part Number Example

Straight plug with cable collet



CAB.M1.6GL.CC92G Straight plug with cable collet and alignment key (B), multicontact type with 16 male contacts to solder, gray PSU outershell, PEEK insulator, collet for a cable ø 7.3 to 9.2 mm and gray front ring.

Fixed receptacle with two nuts



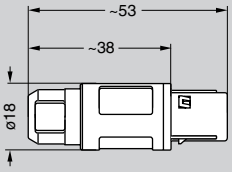
CKB.M1.6GL.MG Fixed receptacle with two nuts and alignment key (B), multicontact type with 16 female contacts to solder, gray PSU outershell, PEEK insulator, and gray plastic front ring.

Note:
1) to order a model with cable collet and nut for fitting a bend relief, you must write a "Z" in the variant position.
Bend reliefs to be ordered separately (see page 25).

• 2P Series Models

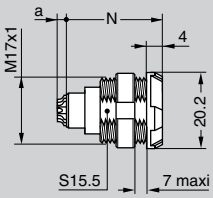
CAB Straight plug with cable collet

Availability: ●



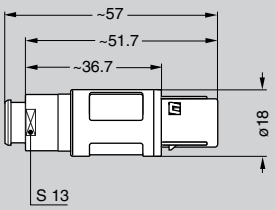
CLB Fixed receptacle, nut fixing

Availability: ○



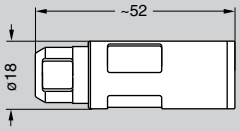
CAB Straight plug with cable collet and nut for fitting a bend relief

Availability: ●



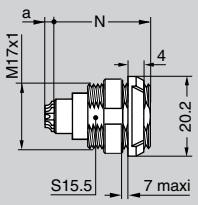
CRB Free receptacle with cable collet

Availability: ●



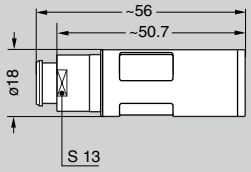
CKB Fixed receptacle with two nuts (back panel mounting)

Availability: ○



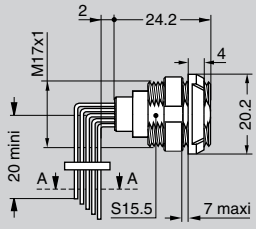
CRB Free receptacle with cable collet and nut for fitting a bend relief

Availability: ●



CKB Fixed receptacle with two nuts, with 90° contacts for printed circuit (back panel mounting)

Availability: ○



Note: only available with 16 or 19 contacts.

Note: all dimensions are in millimeters. Dimensions a and N are indicated on page 16.

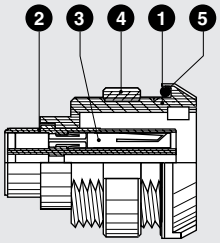
● Standard, typically 0-6 weeks delivery for quantities of 250 or less.
○ Non-standard product, contact LEMO USA, typically 6-12 weeks delivery for quantities of 250 or less.
Non-standard product is defined as any product which contains one or more components which are not standard.

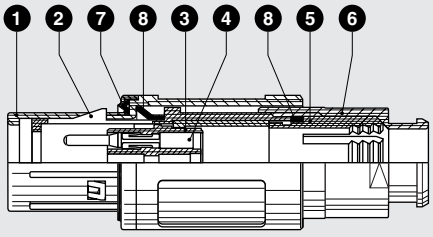
Watertight Models (IP 66) (according to IEC60529)

Part Section Showing Internal Components

Fixed receptacle

1 Outershell
2 Insulator
3 Female crimp contact
4 Hexagonal nut
5 O-ring



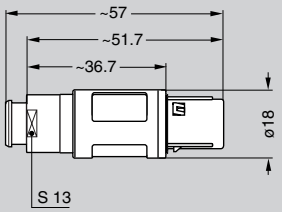


Straight plug

1 Outershell
2 Latch sleeve
3 Insulator
4 Male crimp contact
5 Collet + mid piece
6 Collet nut
7 Front seal
8 Gasket

CFB Straight plug with cable collet, watertight (IP 66) and nut for fitting a bend relief

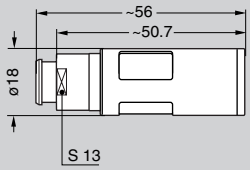
Availability: ○



Gasket material: Silicone

CSB Free receptacle with cable collet, watertight (IP 66) and nut for fitting a bend relief

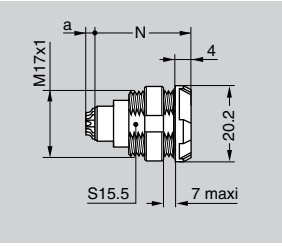
Availability: ○



Gasket material: Silicone

CNB Fixed receptacle, nut fixing, watertight (IP 66)

Availability: ○



Gasket material: Silicone

Note: all dimensions are in millimeters. Dimensions a and N are indicated on page 16.

● 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.

• Type

Characteristics	Standards	Units				
Availability			○	○	○	○
Reference			M16	M19	M26	M32
Number of contacts			16	19	26	32
Contact ø (male pin)		mm	0.7	0.7	0.5	0.5
Solder bucket ø		mm	0.8	0.8	0.4	0.4
AWG max.			22 4)	22 4)	28	28
Crimp bucket ø		mm	0.8	0.8	–	–
AWG max. - min. 3)			22-26 4)	22-26 4)	–	–
Wire insulator ø max.		mm	1.3	1.3	–	–
Contact resistance 2)	IEC 60512-2 test 2a	m Ω	< 6.5	< 6.5	< 8.5	< 8.5
Insulation resistance	IEC 60512-2 test 3a	Ω	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}
Air clearance min. 5)	IEC 60664-1 (§ 1.3.2)	mm	0.65	0.6	0.55	0.35
Creepage dist. min. 6)	IEC 60664-1 (§ 1.3.3)	mm	0.65	0.6	0.55	0.35
Operating voltage 1)		kV dc	0.73	0.66	0.45	0.33
Operating voltage 1)		kV rms	0.5	0.46	0.35	0.23
Test voltage	IEC 60512-2 test 4a	kV dc	2.2	2.0	1.35	1
Test voltage	IEC 60512-2 test 4a	kV rms	1.5	1.4	1	0.7
Breakdown voltage	IEC 60601-1 (§ 20.1)	kV dc	12	12	12	12
Rated current	IEC 60512-3 test 5a	A	6	5	2	1.5

Note: coding shown on insulator is from rear side of plug.

1) Depending on specific application and related standard, more restrictive operating voltage may apply. We suggest operating voltage ≥ 1/3 test voltage.

2) After 1000 mating cycles and corrosion test per IEC 60512-6 test 11f.

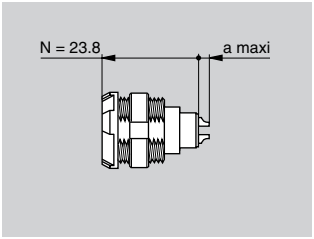
3) The variance in conductor strandings which are quoted as being a specific AWG is so large that some can have cross section which is not sufficient to guarantee a crimp as per the IEC 60352-2 standard.

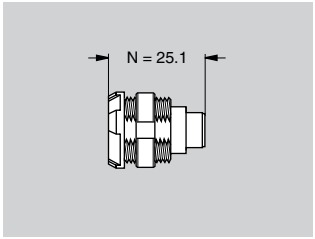
4) If conductor ø < 0.8 mm.

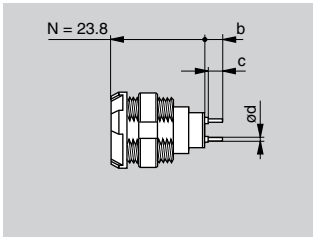
5) Shortest distance in air between two conductive parts (for solder contacts).

6) Shortest distance along the surface of the insulating material between two conductive parts (for solder contacts).

Contacts







Types	Dimensions (mm)			
	a	b	c	d
M16	3.4	6	5.6	0.7
M19	4.9	6	5.6	0.7
M26	4.7	3.4	3.4	0.5
M32	4.7	3.4	3.4	0.5

The female contacts are made of bronze Bz4 (UNS C54400). The male contacts are made of brass (UNS C38500 or C34500). All contacts receive three different platings, copper (0.3 µm) then nickel (3 µm as per FS-QQ-N-290A) and finally 0.5 µm of gold (as per ISO 4523).

Note: all dimensions are in millimeters.

Color Table

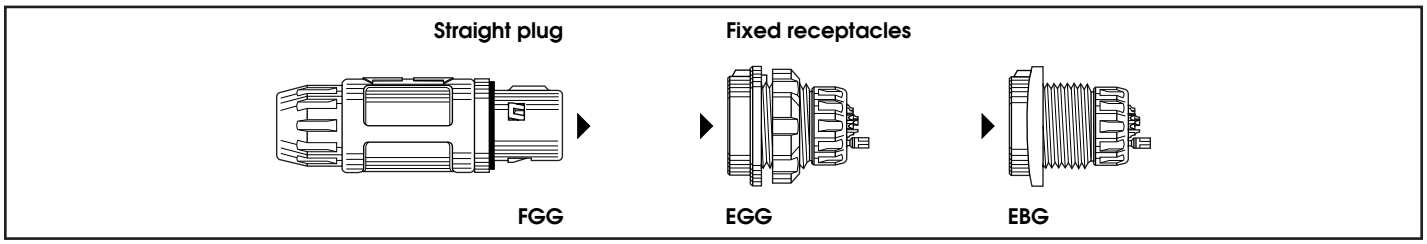
Ref.	Colors	Ref.	Colors
G	gray	N	black
A	blue	R	red
J	yellow	V	green

● 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.

• REDEL® 3P Series Connectors

– Accomodates cable diameter up to 9.5mm
– Available in 9 different contact configurations
– Multicontact, hybrid High Voltage/Low Voltage, Coaxial/Low Voltage, Fiber Optic/Low Voltage
– Specifically designed for all applications requiring minimum weight with maximum electrical values
– High thermal and mechanical properties
– Well suited for either vapor or gas sterilization and for cold sterilization with a chemical product
– Provide safety by using non-conductive materials and four different systems to prevent cross mating
– Color coding, housing key, insert keying and insert polarization

Interconnections



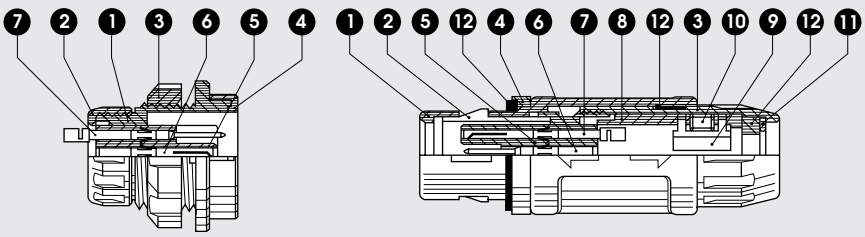
Model Description

EBG Fixed receptacle with key, square flange and screw fixing
EGG Fixed receptacle, nut fixing with key
FGG Straight plug with key and cable seal

Part Section Showing Internal Components

Fixed receptacle

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



Straight plug

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

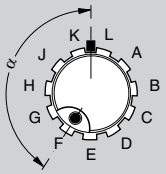
Technical Characteristics

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
Endurance		> 1000 cycles	IEC 60512-5, test 9a
Working temperature range [1)]		-50°C/+150°C	–
Watertightness (mated)		IP 61	IEC 60529

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

Alignment Keys

Rear view of a receptacle



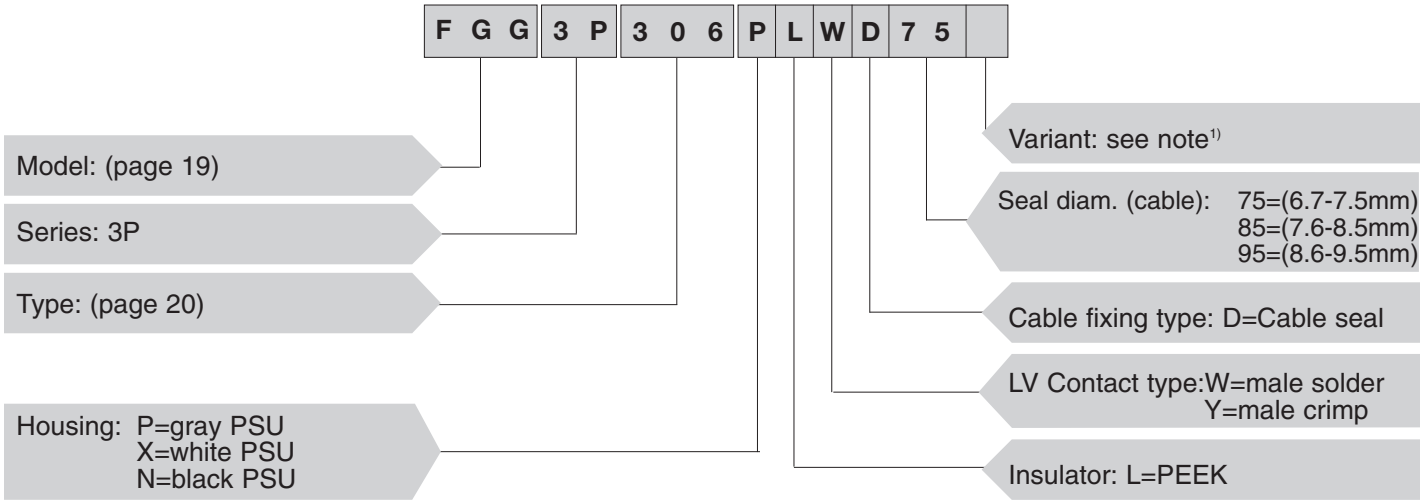
Insert code	Angle α	
	Plug	Receptacle
A	180°	180°
B	147° 16'	212° 44'
C	114° 33'	245° 27'
D	81° 49'	278° 11'
E	49° 05'	310° 55'
F	16° 22'	343° 38'
G	343° 38'	16° 22'
H	310° 55'	49° 05'
J	278° 11'	81° 49'
K	245° 27'	114° 33'
L	212° 44'	147° 16'

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.

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

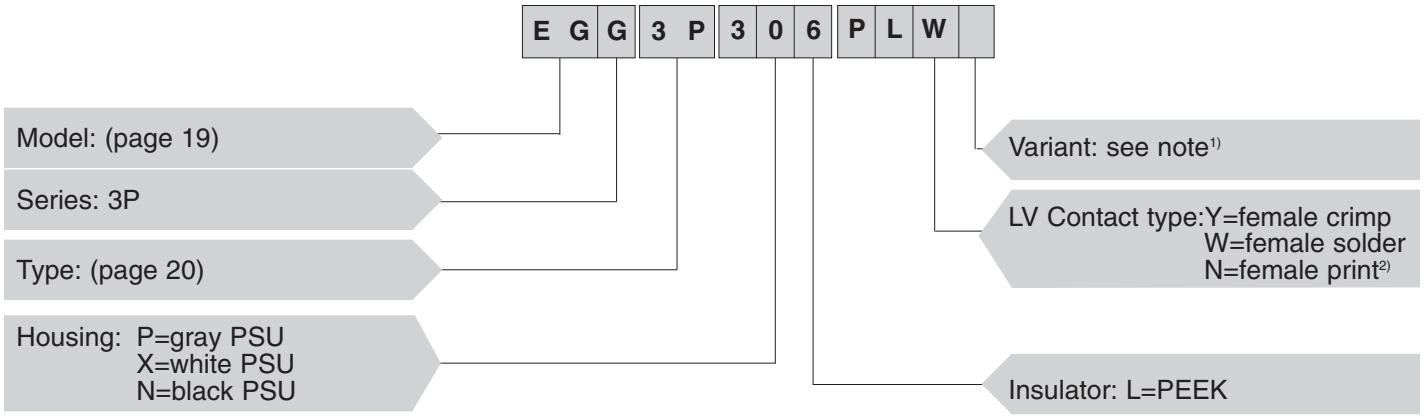
Part Number Example

Straight plug with cable collet



PAG.M0.2GL.AC39A Straight plug with cable collet and alignment key (G), multicontact type with 2 male contacts to solder, gray PSU outershell, PEEK insulator, collet for a cable ø 2.7 to 3.9 mm and blue collet nut.

Fixed receptacle with two nuts



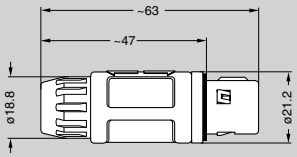
PKG.M0.2GL.LA Fixed receptacle with two nuts and alignment key (G), multicontact type with 2 female contacts to solder, gray PSU outershell, PEEK insulator, and blue plastic front nut.

Note:
1) the variant position of the part number is used to specify the color of the colored ring (see page 21).
For gray PSU (material code P), the standard color is gray and nothing is mentioned in the variant position.
For the hybrid type "809", the variant position is used for the coax cable group. (See page 21).
2) for types 306, 310, and 314 only

• 3P Series Models

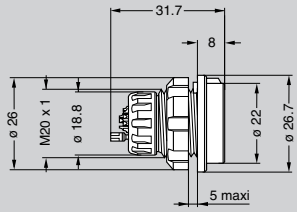
FGG Straight plug with key and cable seal

Availability: ○

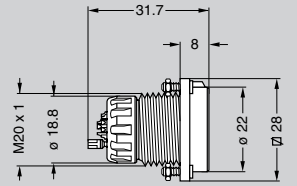


EGG Fixed receptacle, nut fixing with key

Availability: ○



EBG Fixed receptacle with key, square flange and screw fixing

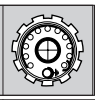


Note: all dimensions are in millimeters.

● 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.

● Type

Availability: ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Characteristics		Standards											
Reference				306	310	314	318	709	809	96H	92H	96K	92K
Number contacts +1 = grounding contact				6+1 LV	10+1 LV	14+1 LV	18+1 LV	9+1 LV 1 HV	9+1 LV 1 Coax	9+1 LV 1 FO 4)	9+1 LV 1 FO 4)	11+1 LV 1 FO 4)	11+1 LV 1 FO 4)
Contact ø (male pin)			mm	0.9	0.9	0.9	0.7	0.9	0.9	0.9	0.9	0.7	0.7
Solder bucket ø			mm	0.8	0.8	0.8	0.6	0.8	0.8	0.8	0.8	0.6	0.6
AWG max				22	22	22	26	22	22	22	22	26	26
Crimp bucket ø			mm	1.1	1.1	1.1	–	1.1	1.1	1.1	1.1	–	–
AWG max. - min. 3)				20-24	20-24	20-24	–	20-24	20-24	20-24	20-24	–	–
Contact resistance 2)		IEC 60512-2 test 2a	mΩ	< 4.5	< 4.5	< 4.5	< 6.5	< 4.5	< 4.5	< 4.5	< 4.5	< 6.5	< 6.5
Insulation resistance		IEC 60512-2 test 3a	Ω	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}	> 10^{12}
Air clearance min. 5)		IEC 60664-1 (§ 1.3.2)	mm	1.95	1.25	0.9	0.7	0.9	0.9	0.9	0.9	0.75	0.75
Creepage dist. min. 6)		IEC 60664-1 (§ 1.3.3)	mm	1.95	1.25	0.9	0.7	0.9	0.9	0.9	0.9	0.75	0.75
Operating voltage 1)			kV dc	1.3	1.1	0.6	0.9	0.6	0.6	0.6	0.6	0.9	0.9
Operating voltage 1)			kV rms	0.9	0.8	0.4	0.6	0.4	0.4	0.4	0.4	0.6	0.6
Test voltage		IEC 60512-2 test 4a	kV dc	3.9	3.3	1.7	2.7	1.7	1.7	1.7	1.7	2.7	2.7
Test voltage		IEC 60512-2 test 4a	kV rms	2.7	2.3	1.2	1.9	1.2	1.2	1.2	1.2	1.9	1.9
Rated current		IEC 60512-3 test 5a	A	6	5	4	3	4	4	4	4	3	3
Type of annex contact				–	–	–	–	HV	coax C	f.o. F1	f.o. F2	f.o. F1	f.o. F2
HV contact	Contact ø (male pin)		mm	–	–	–	–	0.9	–	–	–	–	–
	AWG max			–	–	–	–	22	–	–	–	–	–
	Operating voltage 1) 7)		kV dc	–	–	–	–	6	–	–	–	–	–
	Test voltage 7)	IEC 60512-2 test 4a	kV dc	–	–	–	–	18	–	–	–	–	–
Coax contact	Impedance		Ω	–	–	–	–	–	50	–	–	–	–
	Test voltage	IEC 60512-2 test 4a	kV rms	–	–	–	–	–	1.6	–	–	–	–
	Rated current	IEC 60512-3 test 5a	A	–	–	–	–	–	2	–	–	–	–
	Frequency range		GHz	–	–	–	–	–	1.6	–	–	–	–
	Cable group			–	–	–	–	–	1-2-3	–	–	–	–
F.O. contact	Ferrule material			–	–	–	–	–	–	metal/ ceram.	ceram.	metal/ ceram.	ceram.
	Insertion loss	IEC 60874-1 fiber 9/125	dB	–	–	–	–	–	–	–	< 0.33	–	< 0.33
	Insertion loss	IEC 60874-1 fiber 200/230	dB	–	–	–	–	–	–	< 1.13	–	< 1.13	–
	Return loss	IEC 60874-1 fiber 9/125	dB	–	–	–	–	–	–	–	-28	–	-28
	Contact ordering 4)			–	–	–	–	–	–	see pg. 26	see pg. 26	see pg. 26	see pg. 26

Note: coding shown on insulator is from rear side of plug.

1) Depending on specific application and related standard,more restrictive operating voltage may apply. We suggest operating voltage ≥1/3 test voltage.

2) After 1000 mating cycles and corrosion test per IEC 60512-6 test 11f.

3) The variance in conductor strandings which are quoted as being a specific AWG is so large that some can have cross section which is not sufficient to guarantee a crimp as per the IEC 60352-2 standard.

4) Fiber-optic contact must be ordered separately (see page 26).

5) Shortest distance in air between two conductive parts (for solder contacts).

6) Shortest distance along the surface of the insulating material between two conductive parts (for solder contacts).

7) Assembly shall be made using an additional heat-shrink tube after contact soldering (consult factory).

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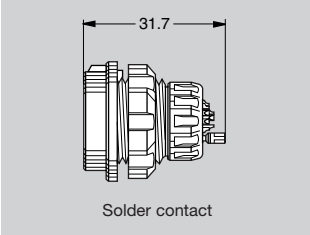
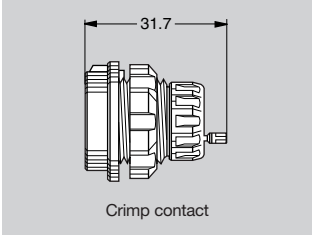
○ Non-standard product, contact LEMO USA, typically 6-12 weeks delivery for quantities of 250 or less.
Non-standard product is defined as any product which contains one or more components which are not standard.

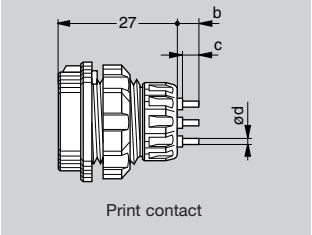
Contacts



Solder contact



Crimp contact



Print contact

Types	Dimensions (mm)		
	b	c	d
306	7.5	5.5	0.7
310	7.5	5.5	0.7
314	7.5	5.5	0.7

The female contacts are made of bronze Bz4 (UNS C54400). The male contacts are made of brass (UNS C38500 or C34500). All contacts receive three different platings, copper (0.3 µm) then nickel (3 µm as per FS-QQ-N-290A) and finally 0.5 µm of gold (as per ISO 4523).

Color Table

Ref.	Colors	Ref.	Colors
A	blue	M	brown
B	white	N	black
G	gray	R	red
J	yellow	V	green

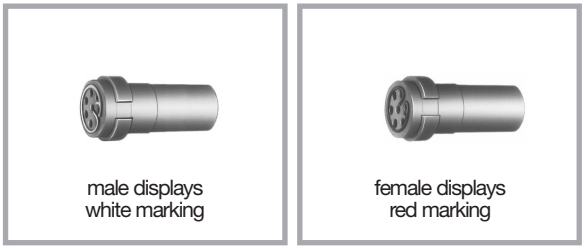
Recommended Coaxial Cables

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. Contact LEMO for further information.

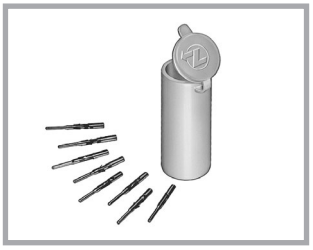
• Accessories for 1P Series

Insulator for crimp contacts



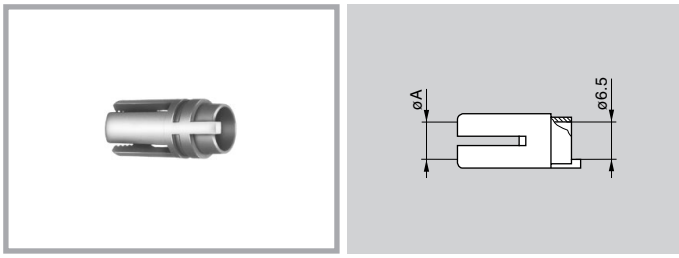
Type	Insulator part number			
	Male	Avail.	Female	Avail.
M02	PAG.30.2YL.0	○	PAG.30.2YL.0	○
M04	PAG.30.4YL.0	○	PLG.40.4YL.0	○
M05	PAG.30.5YL.0	○	PLG.40.5YL.0	○
M06	PAG.30.6YL.0	○	PLG.40.6YL.0	○
M07	PAG.30.7YL.0	○	PLG.40.7YL.0	○
M08	PAG.30.8YL.0	○	PLG.40.8YL.0	○

Crimp contacts kit with the appropriate number of contacts in a tube



Type	Contacts	ø Contact (mm)	Kit contact part number			
			Male	Avail.	Female	Avail.
M02	2	1.3	PAG.02.567.ZZC	○	PKG.02.667.ZZM	○
M04	4	0.9	PAG.04.562.ZZC	○	PKG.04.662.ZZM	○
M05	5	0.9	PAG.05.562.ZZC	○	PKG.05.662.ZZM	○
M06	6	0.7	PAG.06.557.ZZC	○	PKG.06.657.ZZM	○
M07	7	0.7	PAG.07.557.ZZC	○	PKG.07.657.ZZM	○
M08	8	0.7	PAG.08.557.ZZC	○	PKG.08.657.ZZM	○

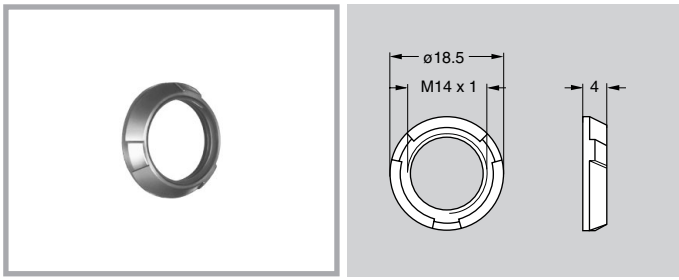
PLA Collet



Part number	ø A (mm)	ø cable (mm)		Availability
		min.	max.	
PLA.73.9●●.0	3.9	2.7	3.9	●
PLA.75.2●●.0	5.2	4.0	5.2	●
PLA.76.5●●.0	6.5	5.3	6.5	●

Note: ●● = UG (gray PSU) or TN (black PEI)

PKG Plastic front nut for PK● and PT● models



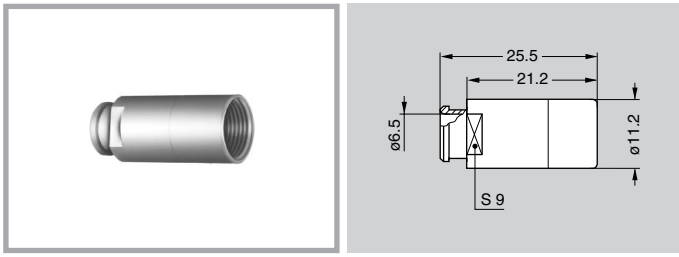
Part number	Mat.	Color	Availability
PKG.22.0UG.0	PSU	gray	●
PKG.22.0UA.0	PSU	blue	●
PKG.22.0UJ.0	PSU	yellow	●
PKG.22.0UN.0	PSU	black	●
PKG.22.0UR.0	PSU	red	●
PKG.22.0UV.0	PSU	green	●
PKG.22.0TN.0	PEI	black	●
* PKG.22.0UN.1	Delrin	black	●

* used with BRR.2S.200.PZSN

Note: If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

ND Vibra-Tite is a registered trademark of ND Industries, Inc.

PAM.13.0●●.0 Nut for fitting a GMA.1B bend relief

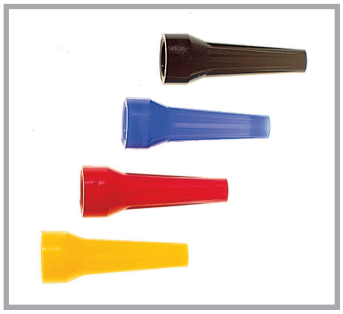


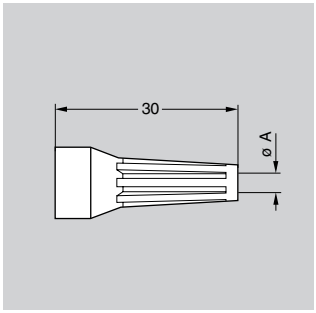
Note: dimensions are in millimeters.

Note: ●● = UG (gray PSU) or TN (black PEI). Only for PA● or PR● models.

● 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.

GMA.1B Bend relief





Part number	Bend relief	cable ø	
	A	max.	min.
GMA.1B.025.D●	2.5	2.9	2.5
GMA.1B.030.D●	3.0	3.4	3.0
GMA.1B.035.D●	3.5	3.9	3.5
GMA.1B.040.D●	4.0	4.4	4.0
GMA.1B.045.D●	4.5	4.9	4.5
GMA.1B.054.D●	5.4	6.0	5.4
GMA.1B.065.D●	6.5	7.0	6.5

Note: see table below and replace the ● with the reference letter of the color required.

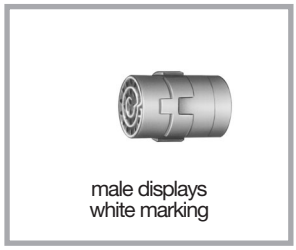
Ref.	Colors	Ref.	Colors	Ref.	Colors
A	blue	J	yellow	R	red
B	white	M	brown	S	orange
G	gray	N	black	V	green

Material: Polyurethane Elastomer
Operating temp: -40°C +80°C

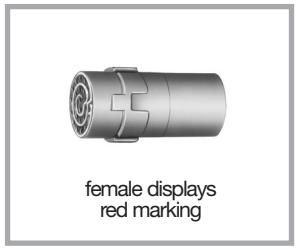
Notes: Silicone bend reliefs are also available. Contact LEMO USA for ordering information.
Contact LEMO USA for availability of all bend reliefs.

• Accessories for 2P Series

Insulator for crimp contacts



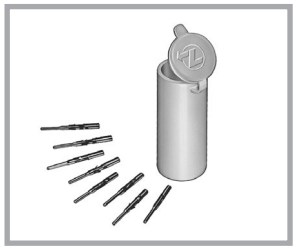
male displays white marking



female displays red marking

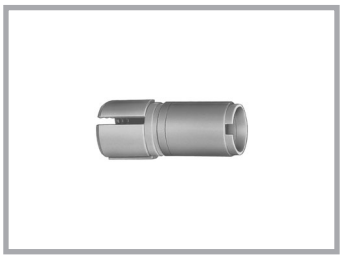
Type	Insulator part number			
	Male	Avail.	Female	Avail.
M16	CAG.316.YL	○	CLG.416.YL	○
M19	CAG.319.YL	○	CLG.419.YL	○

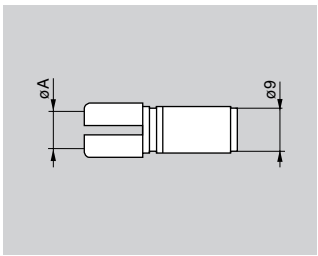
Crimp contacts kit with the appropriate number of contacts in a tube



Type	Contacts	ø Contact (mm)	Kit contact part number			
			Male	Avail.	Female	Avail.
M16	16	0.7	CAG.16.555.ZZC	○	CLG.16.655.ZZM	○
M19	19	0.7	CAG.19.555.ZZC	○	CLG.19.655.ZZM	○

CAG Collet



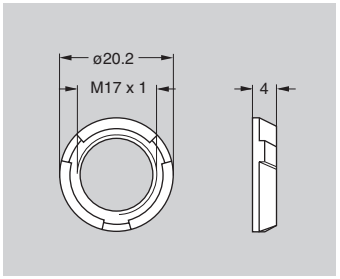


Part number	ø A (mm)	ø cable (mm)		Availability
		min.	max.	
CAG.752.UGG	5.2	3.2	5.2	○
CAG.772.UGG	7.2	5.3	7.2	○
CAG.792.UGG	9.2	7.3	9.2	○

Material: gray PSU

● 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.

CKG Plastic front nut

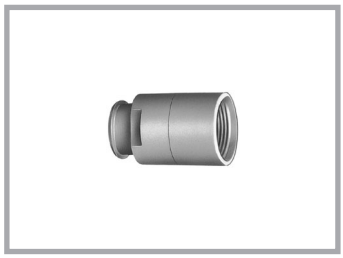


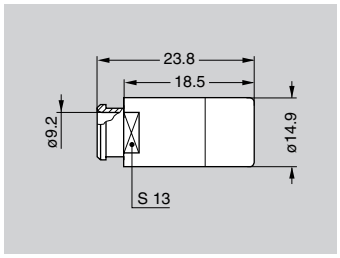
Part number	Mat.	Colors	Availability
CKG.240.UG	PSU	gray	○
CKG.240.UA	PSU	blue	○
CKG.240.UJ	PSU	yellow	○
CKG.240.UN	PSU	black	○
CKG.240.UR	PSU	red	○
CKG.240.UV	PSU	green	○

Note: If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

ND Vibra-Tite is a registered trademark of ND Industries, Inc.

CAM.130.UG Nut for fitting a GMA.2B bend relief

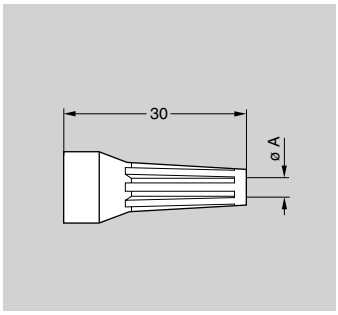




Material: gray PSU

Note: dimensions are in millimeters.

GMA.2B Bend relief



Part number	Bend relief	cable ø	
	A	max.	min.
GMA.2B.040.D●	4.0	4.5	4.0
GMA.2B.045.D●	4.5	5.0	4.5
GMA.2B.050.D●	5.0	5.5	5.0
GMA.2B.060.D●	6.0	6.5	6.0
GMA.2B.070.D●	7.0	7.7	7.0
GMA.2B.080.D●	7.8	8.8	7.8

Note: see table below and replace the ● with the reference letter of the color required.

Ref.	Colors	Ref.	Colors	Ref.	Colors
A	blue	J	yellow	R	red
B	white	M	brown	S	orange
G	gray	N	black	V	green

Material: Polyurethane Elastomer
Operating temp: -40°C +80°C

Notes: Silicone bend reliefs are also available. Contact LEMO USA for ordering information.

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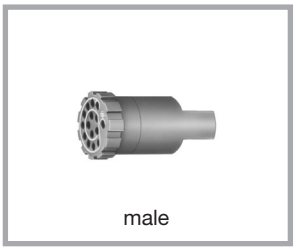
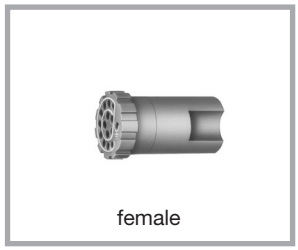
Non-standard product is defined as any product which contains one or more components which are not standard.

• Accessories for 3P Series

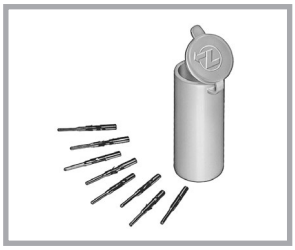
FGG-EGG Insulator for crimp contacts





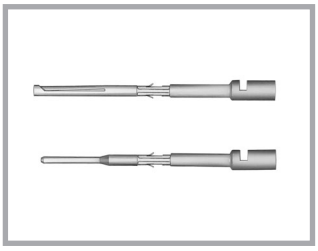
Type	Insulator part number			
	Male	Avail.	Female	Avail.
306	FGG.3P.306.ML	○	EGG.3P.406.ML	○
310	FGG.3P.310.ML	○	EGG.3P.410.ML	○
314	FGG.3P.314.ML	○	EGG.3P.414.ML	○

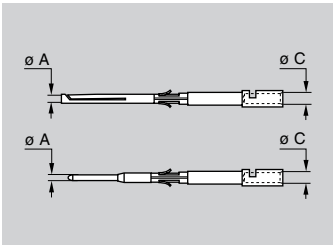
FGG-EGG Crimp contacts, kit with the appropriate number of contacts in a tube



Type	ø A (mm)	ø C (mm)	Kit contact part number			
			Male	Avail.	Female	Avail.
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	○

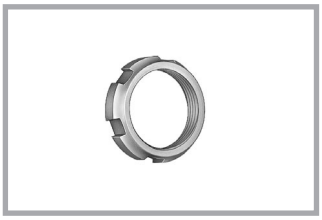
FGG-EGG Grounding contacts

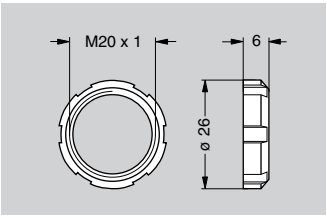




Type	ø A (mm)	ø C (mm)	Contact part number			
			Male contact for receptacle	Avail.	Female contact for plug	Avail.
306 - 310	0.9	2.0	FGG.3P.561.ZZY	○	EGG.3P.661.ZZY	○
314 - 318	0.9	2.0	FGG.3P.561.ZZY	○	EGG.3P.661.ZZY	○
709 - 809	0.9	2.0	FGG.3P.561.ZZY	○	EGG.3P.661.ZZY	○
96H - 92H	0.9	2.0	FGG.3P.561.ZZY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

GEB Nut





Part number	Availability
GEB.3P.240.UG	○

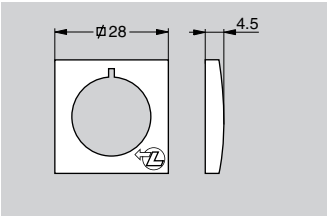
Material: Gray polysulfone

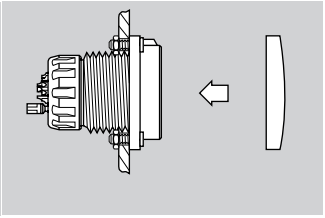
Note: models EBG receptacles, with a square flange, can also be mounted without using the fixing screws.

Note: If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

ND Vibra-Tite is a registered trademark of ND Industries, Inc.

EBG Finishing cover



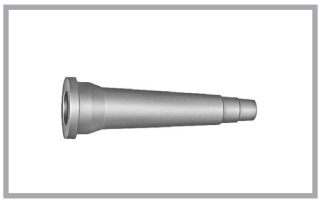


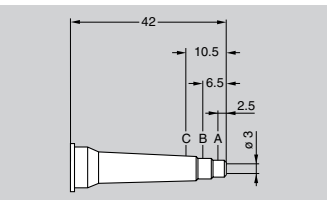
Part number	Availability
EBG.3P.260.UG	○

Material: Gray polysulfone

Note: a finishing cover is supplied with all EBG fixed receptacles with a square flange.

GMA Bend relief





Part number	Cut	ø cable (mm)		Availability
		max.	min.	
GMA.3P.050.SN	–	3.9	3	○
	A	4.9	4	○
	B	5.9	5	○
	C	7.0	6	○

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 collet nut.
The cable must have a jacket with a large enough diameter in order to be held by the clamping system.

Note: dimensions are in millimeters.

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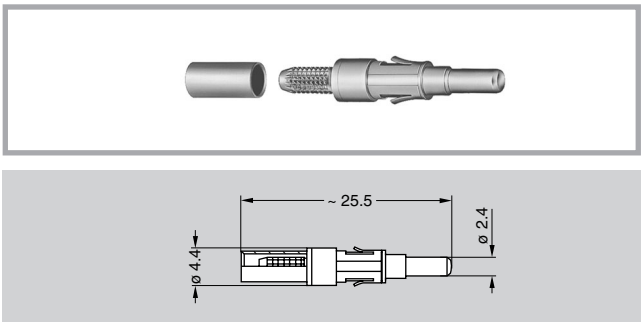
• Fiber Optic Contacts

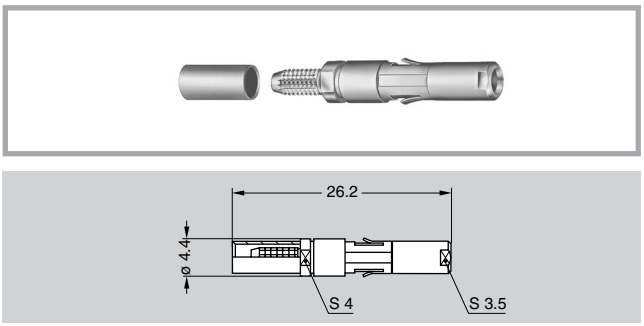
For the hybrid type LV + fiber optic, fiber optic contacts must be ordered separately.



FFS.F1 Male F1 Fiber Optic Contact for plug

Reference	Ferrule inside ø (µm)	Fiber type	Availability
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	○

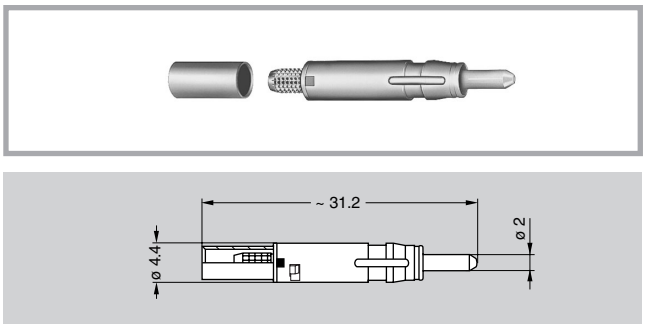
Note: For other ferrule diameters, consult LEMO for further information.



PSS.F1 Female F1 Fiber Optic Contact for receptacle

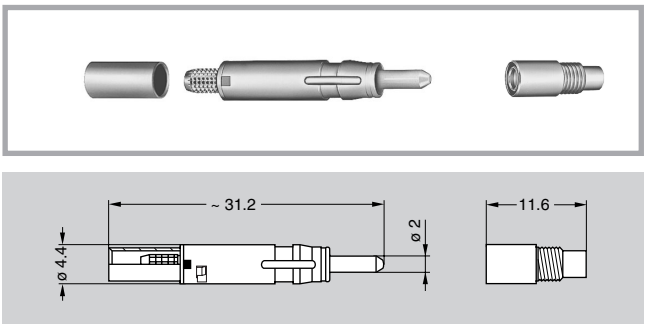
Reference	Ferrule inside ø (µm)	Fiber type	Availability
PSS.F1.GB1.ACE30	235	HCS	○
PSS.F1.HB1.AAE30	335	HCS	○
PSS.F1.JB1.AAE30	435	HCS	○
PSS.F1.KB1.AAE30	640	HCS	○
PSS.F1.RB1.AAE30	1100	Polymer	○

Note: For other ferrule diameters, consult LEMO for further information.



FFS.F2 Male F2 Fiber Optic Contact for plug

Reference	Ferrule inside ø (µm)	Fiber type (µm)	Availability
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	100/140	○



PSS.F2 Female F2 Fiber Optic Contact for receptacle

Reference	Ferrule inside ø (µm)	Fiber type (µm)	Availability
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	100/140	○

Note: all dimensions are in millimeters.

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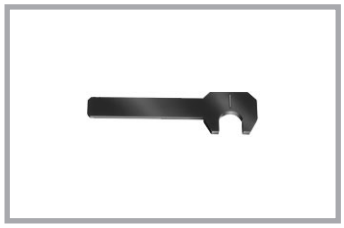
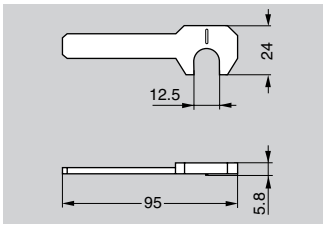
• Tooling for 1P and 2P Series

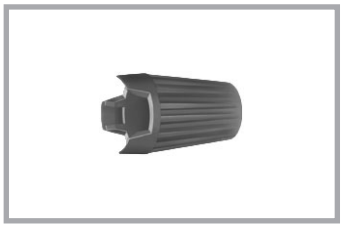
POP.12.5GN.0 Spanner for 1P receptacle outershell[1)]

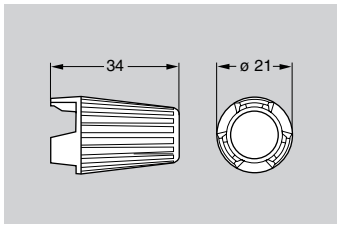




Material: PA 6.6

POB.18.6GN.0 Spanner for PKG plastic front nut [1)]

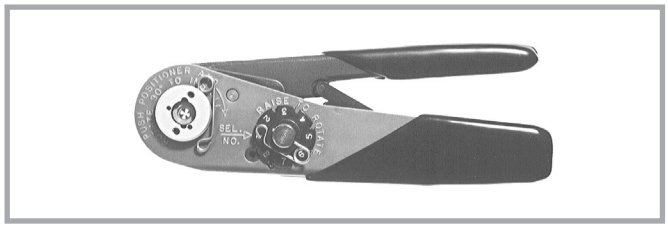




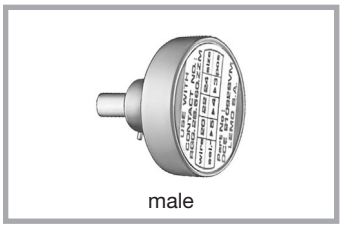
Material: PA 6.6

Note: 1) both spanners available as a kit, ref. POZ.12.18G.N

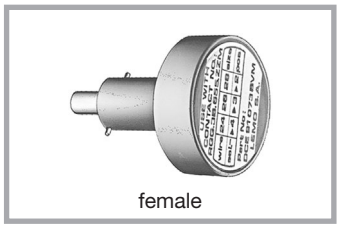
DPC.91.701V Crimping tool



DCE Positioners for crimp contacts

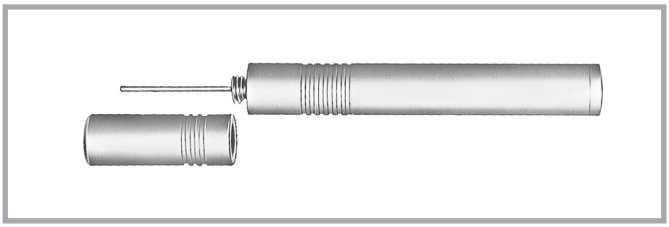


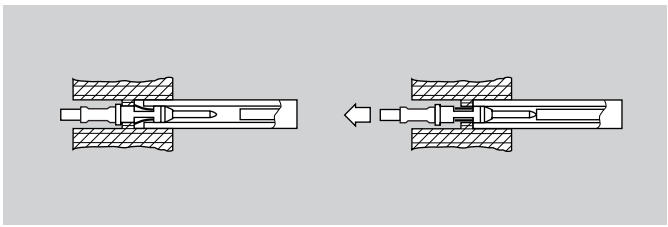
male



female

DCF Extraction tools for crimp contacts





For 1P Series Connectors:

Type	Contact ø (mm)	Conductor AWG [1)]	Positioner part number		Selector N°	Extractor (automatic)
			male	female		
M02	1.3	18-20	DCE.91.135.BVC	DCE.91.130.BVM	8-7	DCF.91.133.5LT
M04/M05	0.9	20-22-24	DCE.91.095.BVC	DCE.91.090.BVM	6-5-5	DCF.91.093.5LT
M06/M07/M08	0.7	22-24-26	DCE.91.075.BVC	DCE.91.070.BVM	6-5-5	DCF.91.073.5LT

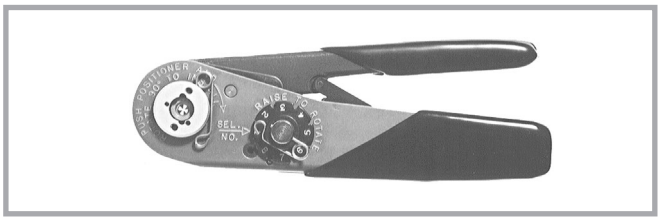
For 2P Series Connectors:

Type	Contact ø (mm)	Conductor AWG [1)]	Positioner part number		Selector N°	Extractor (automatic)
			male	female		
M16/M19	0.7	22-24-26	DCE.91.072.BVC	DCE.91.072.BVM	6-5-5	DCF.91.070.2LT

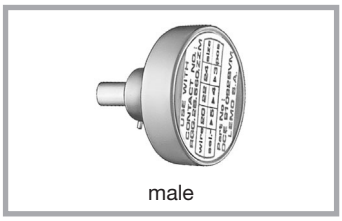
Note: 1) the variance in conductor stranding diameter for the minimum AWG is such that some can have a cross section which is not sufficient to guarantee crimping as per IEC 60352-2 standard. All dimensions are in millimeters.

• Tooling for 3P Series

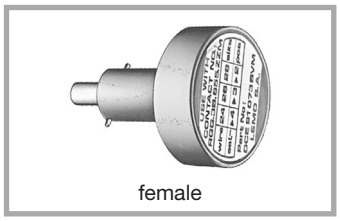
DPC.91.701V Crimping tool



DCE Positioners for crimp contacts

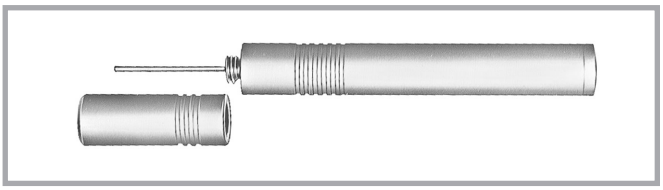


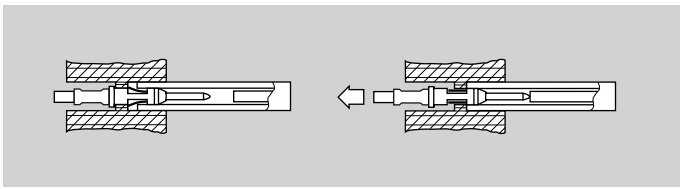
male



female

DCF Extraction tools for crimp contacts

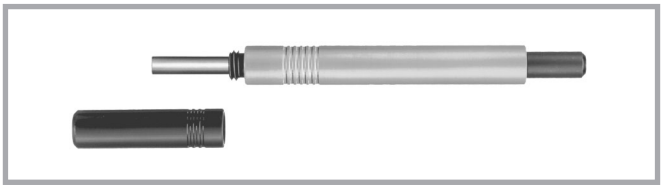




Type	Contact ø (mm)	Conductor AWG 1)	Positioner part number		Selector N°	Extractor (automatic)
			male	female		
306	0.9	20-22-24	DCE.91.093.PVC	DCE.91.093.PVM	6-5-5	DCF.91.093.5LT
310	0.9	20-22-24	DCE.91.093.PVC	DCE.91.093.PVM	6-5-5	DCF.91.093.5LT
314	0.9	20-22-24	DCE.91.093.PVC	DCE.91.093.PVM	6-5-5	DCF.91.093.5LT

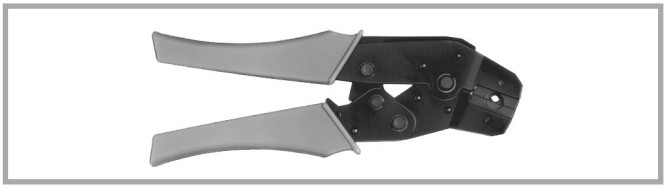
Note: 1) the variance in conductor stranding diameter for the minimum AWG is such that some can have a cross section which is not sufficient to guarantee crimping as per IEC 60352-2 standard.

DCC Extraction tool for coax contact type “C”



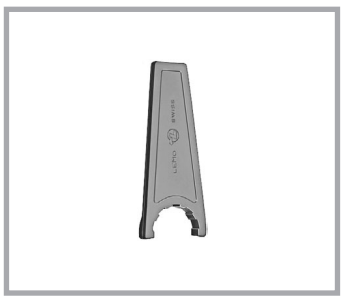
Part number	Type
DCC.91.384.5LA	809

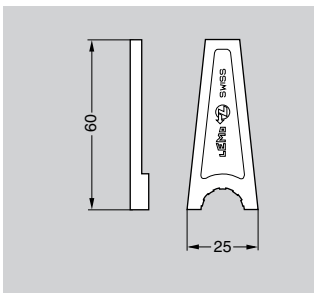
DPE Crimping tool for coax contact type “C”



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

DCP Spanners for securing the receptacle nut

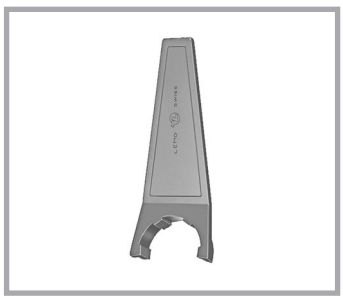


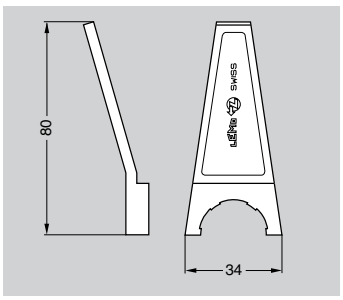


Part number
DCP.91.019.HN

Material: Black polyamide

DCP Spanners with notch for securing the collet nut





Part number
DCP.91.026.HN

Material: Black polyamide

DRV F2 contact fiber optic work station

Part number	Contact type
DRV.91.CF2.PN	F2

DCS Polishing tool for fiber optic contact

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

DPE Crimp tool for fiber optic contact

Part number	Contact type
DPE.99.524.337K	F1, F2

DCS Microscope adapter for fiber optic contact

Part number	Contact type
DCS.91.G20.0C	F2
DCS.91.G24.0C	F1

WST Fiber Inspection Microscope

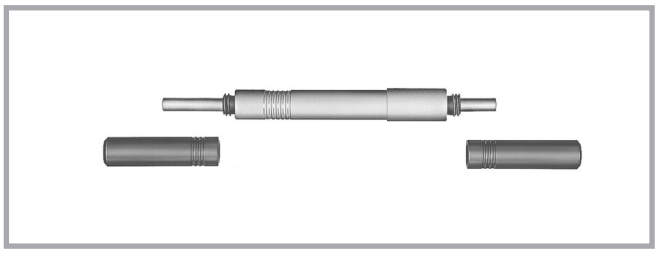
Part number
WST.FB.G10.4N

WST Epoxy Curing Oven for fiber optic contact

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

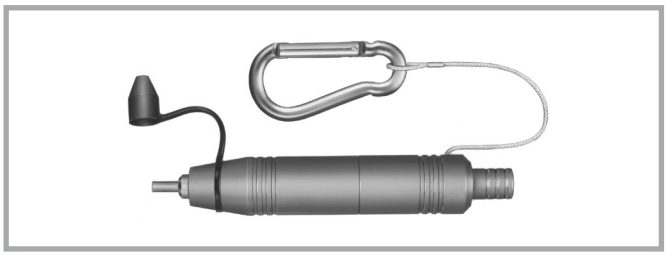
Note: Other more specialized tools may be available. Please contact LEMO USA for more information.

DCC Extraction/Installation tool for fiber optic contact



Part number	Contact type
DCC.91.312.5LA	F1, F2

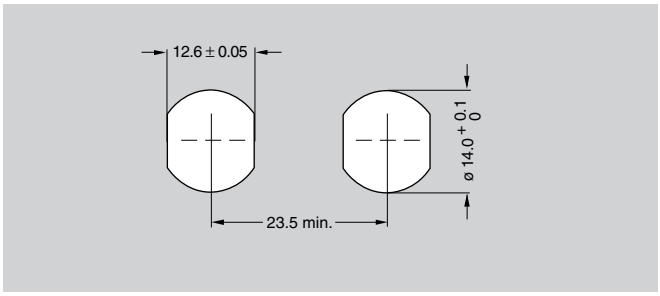
DCS Cleaning tool for F2 contact



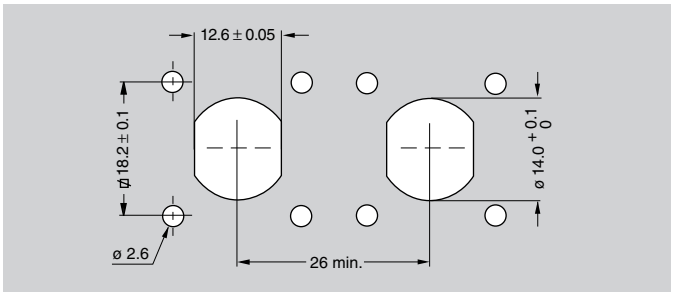
Part number
DCS.91.F23.LA

• Panel Cut-Outs for 1P Series

For PL●, PK●, PN● and PT●



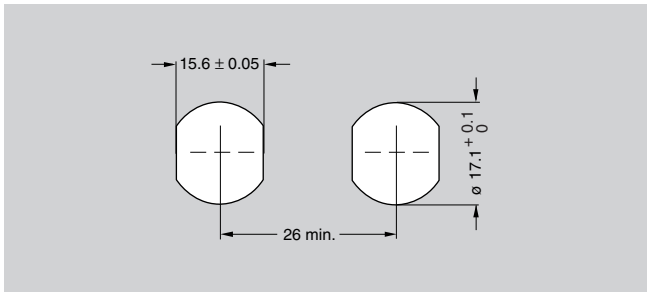
For PM●



– Receptacle mounting nut torque = 1.5 Nm.

• Panel Cut-Outs for 2P Series

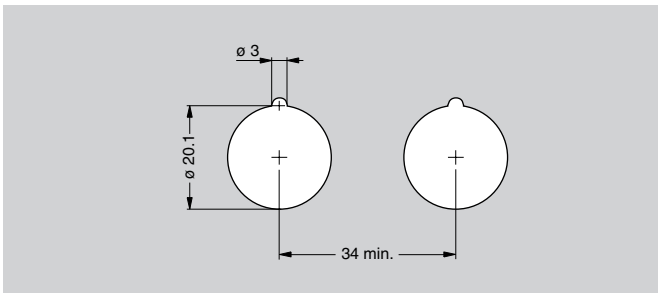
For CLB, CNB and CKB



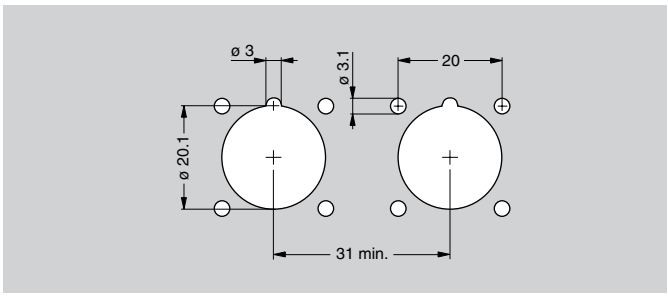
– Receptacle mounting nut torque = 0.8 Nm.

• Panel Cut-Outs for 3P Series

For EGG



For EBG



– Receptacle mounting nut torque = 2.3 Nm.

Note: All dimensions are in millimeters.

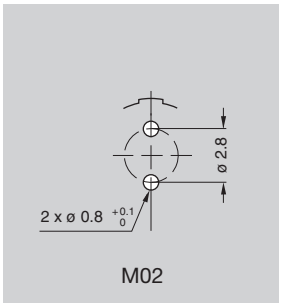
Note: PY● is also designed for snap-on mounting into customer housing. Contact LEMO for further information.

Note: If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

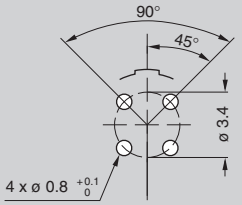
ND Vibra-Tite is a registered trademark of ND Industries, Inc.

• PCB Drilling Patterns for 1P Series

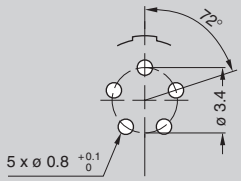
For straight contacts



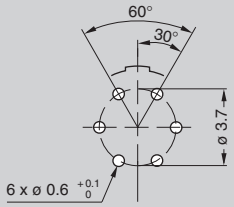
M02



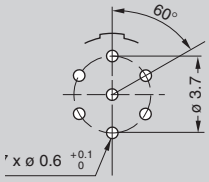
M04



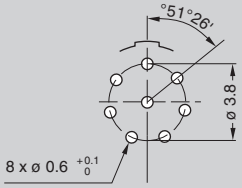
M05



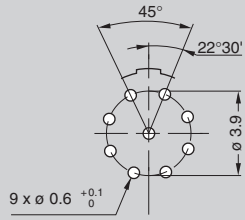
M06



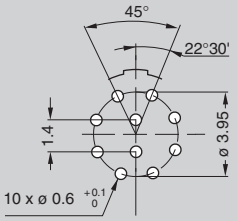
M07



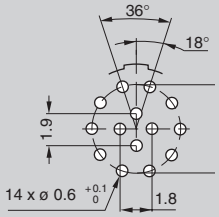
M08



M09

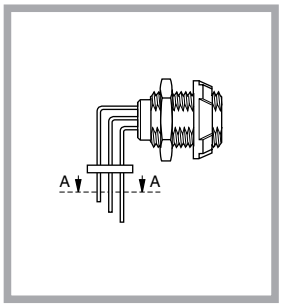


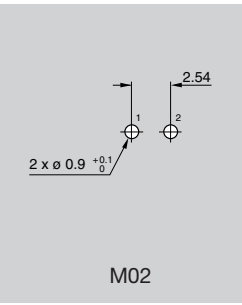
M10



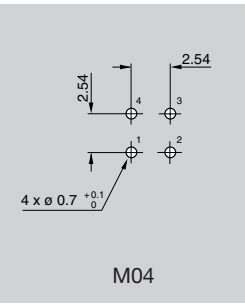
M14

For 90° elbow contacts (A-A view)

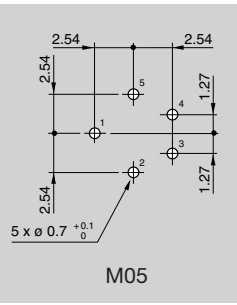




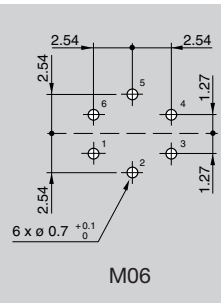
M02



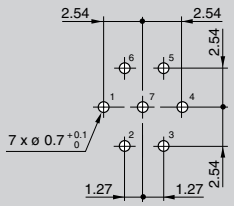
M04



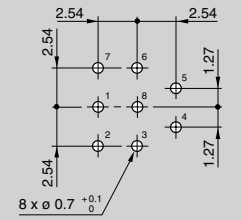
M05



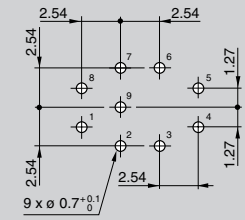
M06



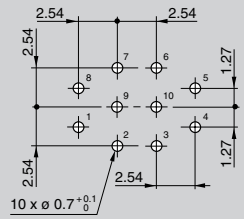
M07



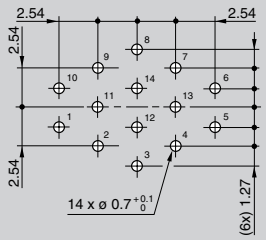
M08



M09



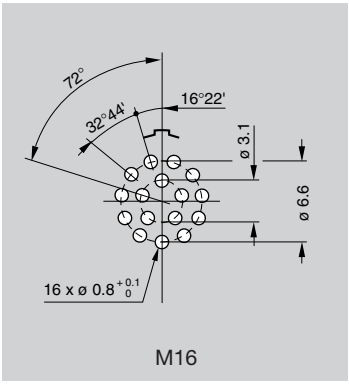
M10



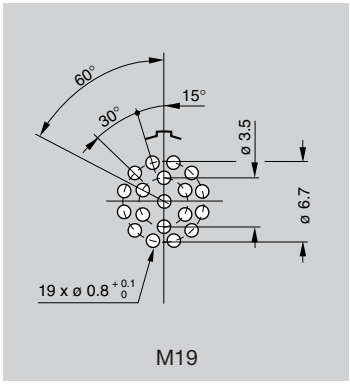
M14

• PCB Drilling Patterns for 2P Series

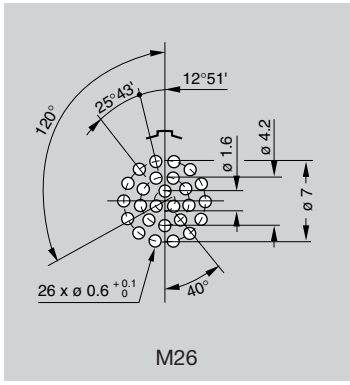
For straight contacts



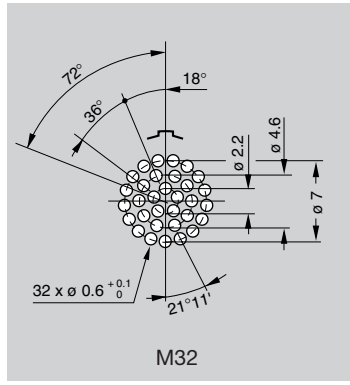
M16



M19

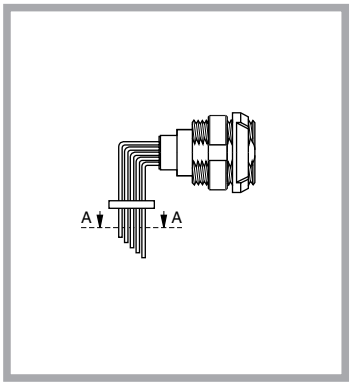


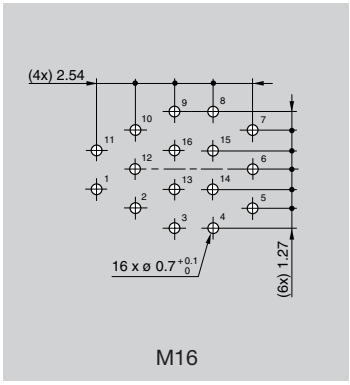
M26



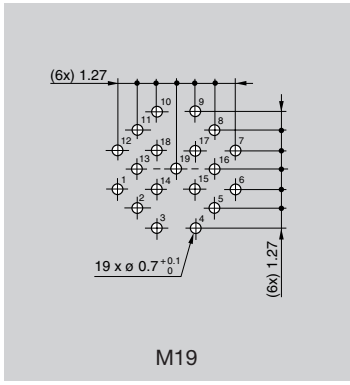
M32

For 90° elbow contacts (A-A view)



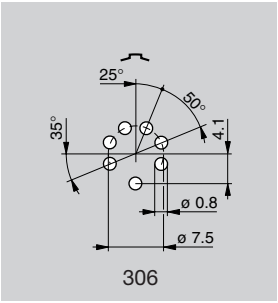


M16

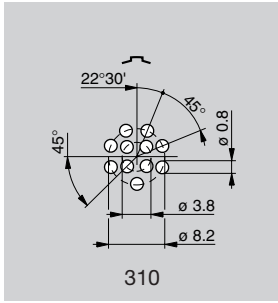


M19

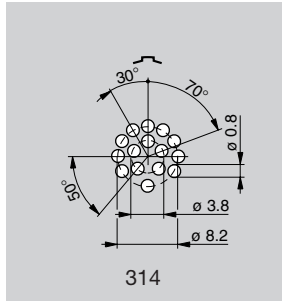
• PCB Drilling Patterns for 3P Series



306



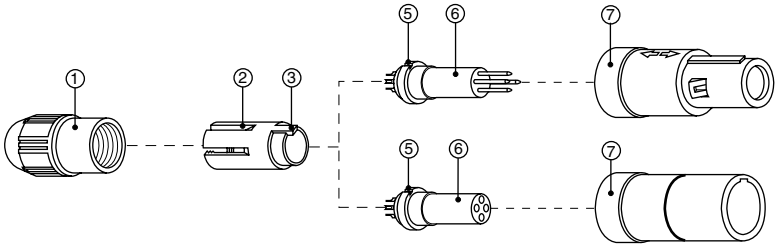
310



314

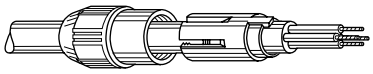
Note: All dimensions are in millimeters.

• Assembly Instructions for 1P Series — Solder Contacts

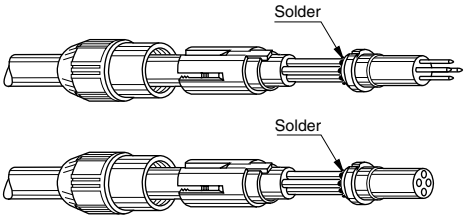


1. Strip the cable[1] according to the lengths given in the table.[2] Tin the conductors.

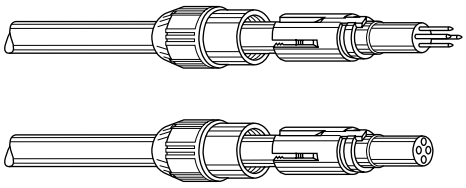
TYPE	Dimensions	
	L	T
M02	14.0	4.0
M04, M05	13.0	3.0
M06–M14	12.5	2.5



2. Slide the collet nut ① and then the collet ② onto the cable.

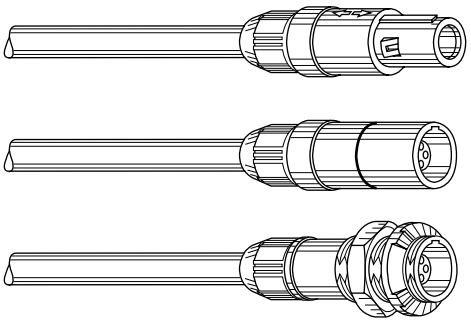


3. Solder conductors into contacts, making sure that neither solder nor flux gets onto the insulator or cable insulation.[3]



4. Slide the collet ② forward and locate tab ③ in the slot ⑤ on the insulator ⑥. Slide collet nut ① over collet ② and then push the whole assembly into the shell ⑦ while turning it to ensure that the tab ③ locates in the inside slot of the shell. Tighten the collet nut ① to the maximum torque of 0.25 N-m.

—Receptacle mounting nut torque maximum = 1.5 N-m.[4]



For PSU only:

If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

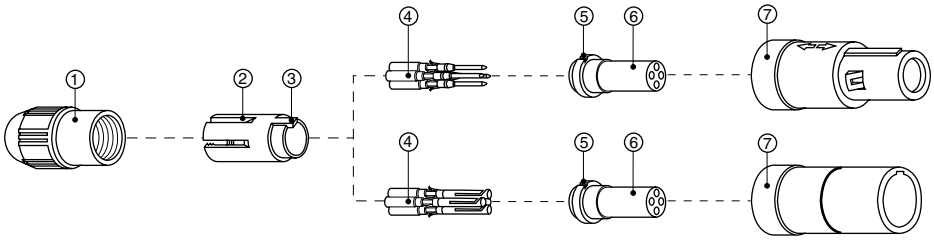
ND Vibra-Tite is a registered trademark of ND Industries, Inc.

Recommended Soldering Materials:[5]

Rosin core solder such as Kester SN63PB37 flux "44" and a non-corrosive solder flux such as GC Electronics, Part # 10-4216. For RoHS compliant assemblies, LEMO recommends flux core solder such as Kester #58/275 Lead-Free wire solder with no-clean flux and when required, a non-corrosive flux such as Kester 959T no-clean liquid flux. Use of any other flux may cause serious damage to the connectors.

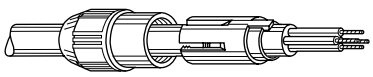
Note:
1) Specified strip lengths are recommended values and may need to be adjusted to accommodate cable construction and other variables unique to each application.
2) Some inserts with stepped, multi-row contacts may require shorter middle conductor lengths.
3) For potted assemblies, in addition to selecting a potting material that meets the requirements of the application environment, the potting material must also be chemically compatible with the connector materials. Dependent upon the specific part number, this could include PEI, PSU, ABS and/or PEEK. LEMO recommends LOCTITE® M-31CL as a potting material that is compatible with all LEMO Redel series materials.
4) Collet nut torque should not exceed recommended value. Optimal torque value depends upon cable construction. Please contact LEMO USA with any questions.
5) All LEMO connectors with solder-style contacts are fully compatible with lead-free solder and the required higher temperatures.

• Assembly Instructions for 1P Series — Crimp Contacts

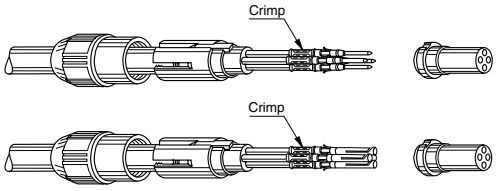


1. Strip the cable[1)] according to the lengths given in the table.[2)]

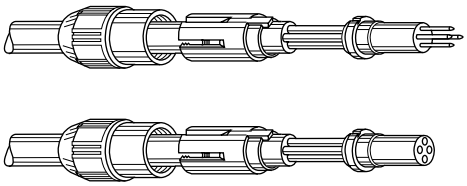
TYPE	Dimensions	
	L	T
M02 – M08	5	3.9



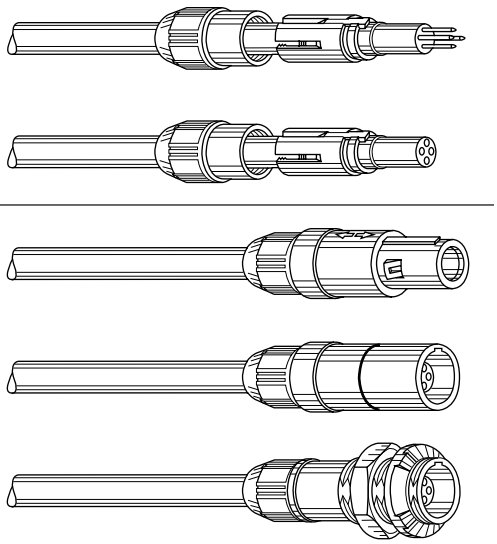
2. Slide the collet nut ① and then the collet ② onto the cable.



3. Fix the appropriate positioner (male or female) in the crimping tool. Set selector to the number corresponding to the conductor AWG as indicated on the positioner label. Fit conductor into contact ④ and make sure it is visible through the inspection hole in the crimp barrel. Slide contact-conductor 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 ⑥. Check that all contacts are correctly located and remain in position when given a gentle pull.[3)]



5. Slide the collet ② forward and locate tab ③ in the slot ⑤ on the insulator ⑥. Slide collet nut ① over collet ② and then push the whole assembly into the shell ⑦ while turning it to ensure that the tab ③ locates in the inside slot of the shell. Tighten the collet nut ① to the maximum torque of 0.25 N-m.

—Receptacle mounting nut torque = 1.5 N-m.[4)]

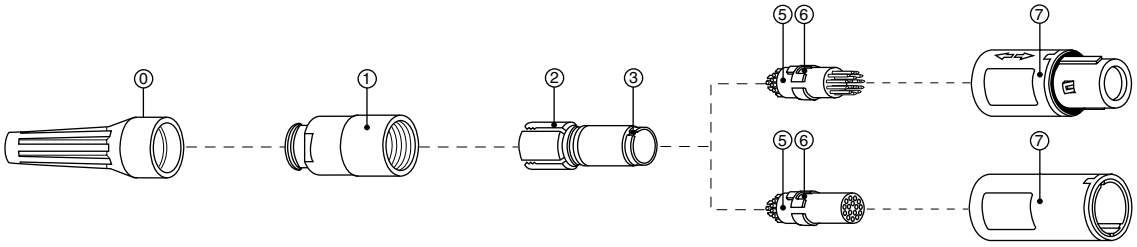
For PSU only:

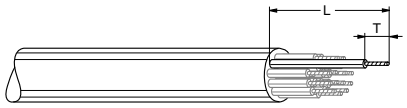
If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

ND Vibra-Tite is a registered trademark of ND Industries, Inc.

Note: 1) Specified strip lengths are recommended values and may need to be adjusted to accommodate cable construction and other variables unique to each application.
2) Some inserts with stepped, multi-row contacts may require shorter middle conductor lengths.
3) For potted assemblies, in addition to selecting a potting material that meets the requirements of the application environment, the potting material must also be chemically compatible with the connector materials. Dependent upon the specific part number, this could include PEI, PSU, ABS and/or PEEK. LEMO recommends LOCTITE® M-31CL as a potting material that is compatible with all LEMO Redel series materials.
4) Collet nut torque should not exceed recommended value. Optimal torque value depends upon cable construction. Please contact LEMO USA with any questions.

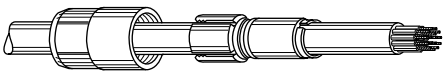
• Assembly Instructions for 2P Series — Solder Contacts



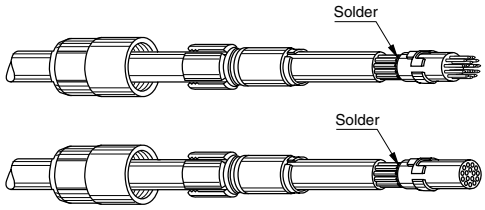


1. Strip the cable[1] according to the lengths given in the table.[2] Tin the conductors.

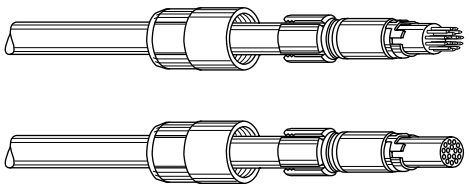
TYPE	Dimensions	
	L	T
M16, M19	17.0	3.0
M26, M32	17.0	2.5



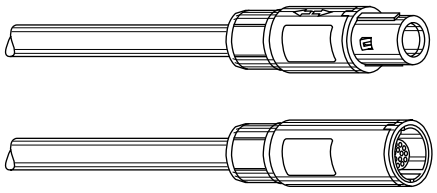
2. Slide the collet nut ① and then the collet ② onto the cable.



3. Solder conductors into contacts, making sure that neither solder nor flux gets onto the insulator or cable insulation.[3]



4. Slide the collet ② forward and locate slot ③ in the key of the insulator ⑤. Slide collet nut ① over collet ② and then push the whole assembly into the shell ⑦ while positioning it to ensure that the rounded slot ⑥ of insulator ⑤ aligns with the arrows on the outside of the shell. Tighten the collet nut ① to the maximum torque of 0.5 N-m.[4]



For PSU only:

If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

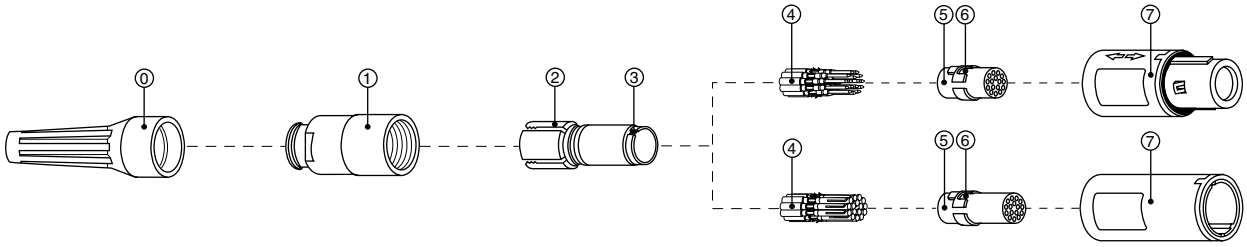
ND Vibra-Tite is a registered trademark of ND Industries, Inc.

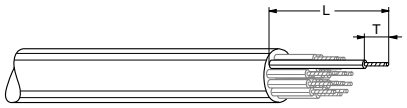
Recommended Soldering Materials: [5]

Rosin core solder such as Kester SN63PB37 flux "44" and a non-corrosive solder flux such as GC Electronics, Part # 10-4216. For RoHS compliant assemblies, LEMO recommends flux core solder such as Kester #58/275 Lead-Free wire solder with no-clean flux and when required, a non-corrosive flux such as Kester 959T no-clean liquid flux. Use of any other flux may cause serious damage to the connectors.

Note: 1) Specified strip lengths are recommended values and may need to be adjusted to accommodate cable construction and other variables unique to each application.
2) Some inserts with stepped, multi-row contacts may require shorter middle conductor lengths.
3) For potted assemblies, in addition to selecting a potting material that meets the requirements of the application environment, the potting material must also be chemically compatible with the connector materials. Dependent upon the specific part number, this could include PEI, PSU, ABS and/or PEEK. LEMO recommends LOCTITE® M-31CL as a potting material that is compatible with all LEMO Redel series materials.
4) Collet nut torque should not exceed recommended value. Optimal torque value depends upon cable construction. Please contact LEMO USA with any questions.
5) All LEMO connectors with solder-style contacts are fully compatible with lead-free solder and the required higher temperatures.

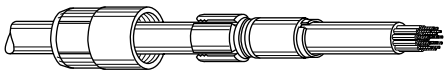
• Assembly Instructions for 2P Series — Crimp Contacts



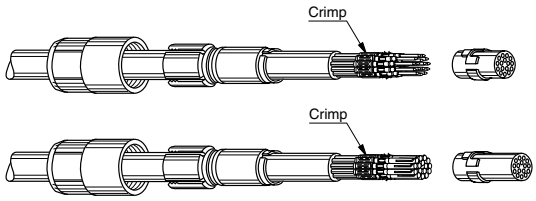


1. Strip the cable[1] according to the lengths given in the table.[2]

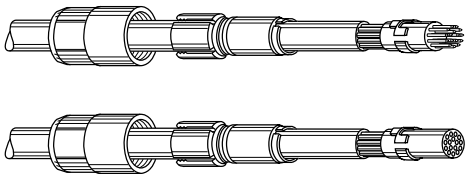
TYPE	Dimensions	
	L	T
M16, M19	15.0	3.9



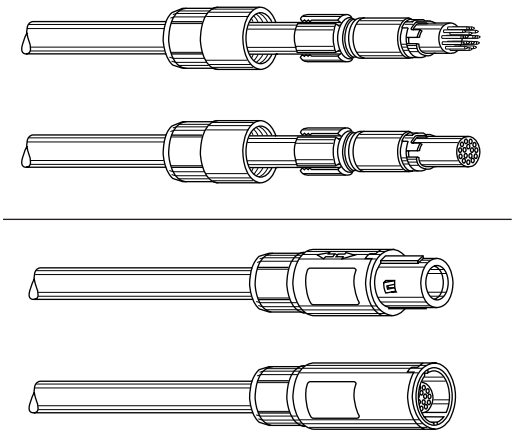
2. Slide the collet nut ① and then the collet ② onto the cable.



3. Fix the appropriate positioner (male or female) in the crimping tool. Set selector to the number corresponding to the conductor AWG as indicated on the positioner label. Fit conductor into contact ④ and make sure it is visible through the inspection hole in the crimp barrel. Slide contact-conductor 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 ⑥. Check that all contacts are correctly located and remain in position when given a gentle pull.[3]



5. Slide the collet ② forward and locate slot ③ in the key of the insulator ⑤. Slide collet nut ① over collet ② and then push the whole assembly into the shell ⑦ while positioning it to ensure that the rounded slot ⑥ of the insulator ⑤ aligns with the arrows on the outside of the shell. Tighten the collet nut ① to the maximum torque of 0.5 N-m.[4]

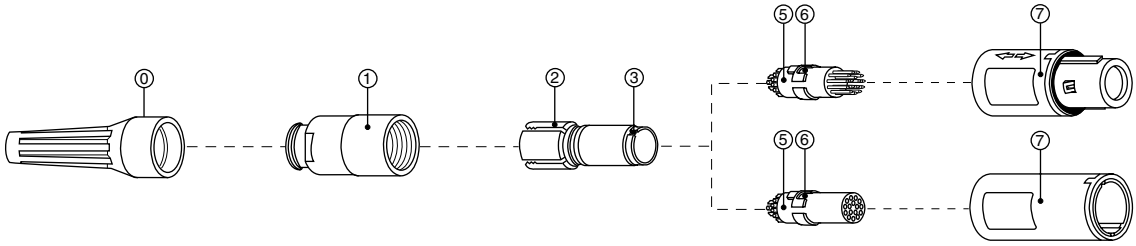
For PSU only:

If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

ND Vibra-Tite is a registered trademark of ND Industries, Inc.

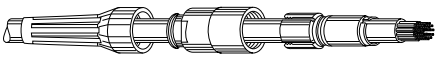
Note:
1) Specified strip lengths are recommended values and may need to be adjusted to accommodate cable construction and other variables unique to each application.
2) Some inserts with stepped, multi-row contacts may require shorter middle conductor lengths.
3) For potted assemblies, in addition to selecting a potting material that meets the requirements of the application environment, the potting material must also be chemically compatible with the connector materials. Dependent upon the specific part number, this could include PEI, PSU, ABS and/or PEEK. LEMO recommends LOCTITE® M-31CL as a potting material that is compatible with all LEMO Redel series materials.
4) Collet nut torque should not exceed recommended value. Optimal torque value depends upon cable construction. Please contact LEMO USA with any questions.

• Assembly Instructions for 2P Watertight Series — Solder Contacts

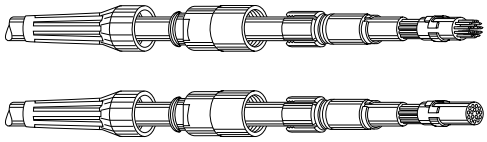


1. Strip the cable[1] according to the lengths given in the table.[2] Tin the conductors.

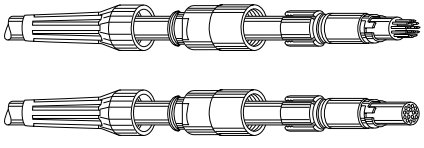
TYPE	Dimensions	
	L	T
M16, M19	17.0	3.0
M26, M32	17.0	2.5



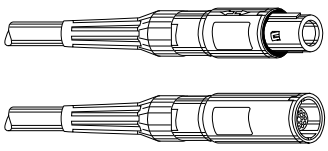
2. Slide the bend relief ⓪, the collet nut ① and then the collet ② onto the cable.



3. Solder conductors into contacts, making sure that neither solder nor flux gets onto the insulator or cable insulation. Fill up completely the inside of the collet ② and the gap between conductors with the adhesive/sealant DOW CORNING type 3145RTV.[3]



4. Slide the collet ② forward and locate slot ③ in the key of the insulator ⑤. Slide collet nut ① over collet ② and then push the whole assembly into the shell ⑦ while positioning it to ensure that the rounded slot ⑥ of insulator ⑤ aligns with the arrows on the outside of the shell. Tighten the collet nut ① to the maximum torque of 0.5 N-m.[4]



5. Push the bend relief ⓪ onto the collet nut ①.

For PSU only:

If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

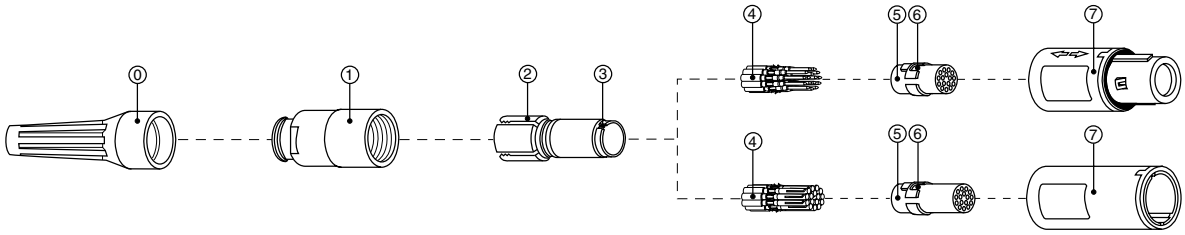
ND Vibra-Tite is a registered trademark of ND Industries, Inc.

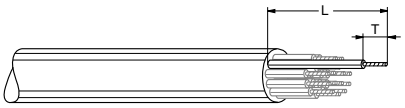
Recommended Soldering Materials:[5]

Rosin core solder such as Kester SN63PB37 flux "44" and a non-corrosive solder flux such as GC Electronics, Part # 10-4216. For RoHS compliant assemblies, LEMO recommends flux core solder such as Kester #58/275 Lead-Free wire solder with no-clean flux and when required, a non-corrosive flux such as Kester 959T no-clean liquid flux. Use of any other flux may cause serious damage to the connectors.

Note:
1) Specified strip lengths are recommended values and may need to be adjusted to accommodate cable construction and other variables unique to each application.
2) Some inserts with stepped, multi-row contacts may require shorter middle conductor lengths.
3) For potted assemblies, in addition to selecting a potting material that meets the requirements of the application environment, the potting material must also be chemically compatible with the connector materials. Dependent upon the specific part number, this could include PEI, PSU, ABS and/or PEEK. LEMO recommends LOCTITE® M-31CL as a potting material that is compatible with all LEMO Redel series materials.
4) Collet nut torque should not exceed recommended value. Optimal torque value depends upon cable construction. Please contact LEMO USA with any questions.
5) All LEMO connectors with solder-style contacts are fully compatible with lead-free solder and the required higher temperatures.

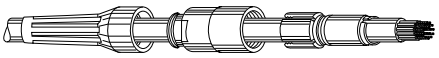
• Assembly Instructions for 2P Watertight Series — Crimp Contacts



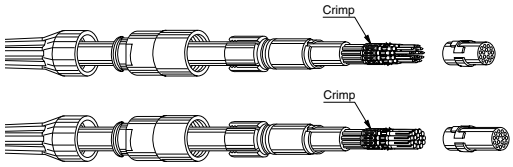


1. Strip the cable[1] according to the lengths given in the table.[2] Tin the conductors.

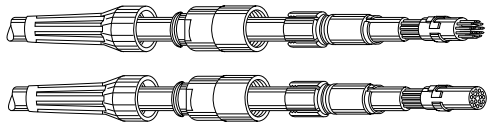
TYPE	Dimensions	
	L	T
M16, M19	15.0	3.9



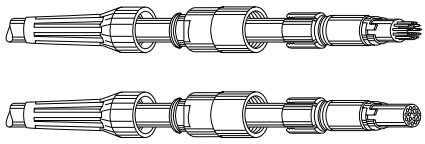
2. Slide the bend relief ⓪, the collet nut ① and then the collet ② onto the cable.



3. Fix the appropriate positioner (male or female) in the crimping tool. Set selector to the number corresponding to the conductor AWG as indicated on the positioner label. Fit conductor into contact ④ and make sure it is visible through the inspection hole in the crimp barrel. Slide contact-conductor 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.

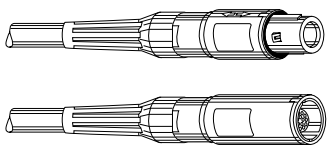


4. Now arrange contact-conductor combinations according to the insert marking and locate them into the insert ⑥. Check that all contacts are correctly located and remain in position when given a gentle pull.



5. Fill up completely the inside of the collet ② and the gap between conductors with the adhesive/sealant DOW CORNING type 3145RTV.[3]

6. Slide the collet ② forward and locate slot ③ in the key of the insulator ⑤. Slide collet nut ① over collet ② and then push the whole assembly into the shell ⑦ while positioning it to ensure that the rounded slot ⑥ of the insulator ⑤ aligns with the arrows on the outside of the shell. Tighten the collet nut ① to the maximum torque of 0.5 N-m.[4]



7. Push the bend relief ⑤ onto the collet nut ①.

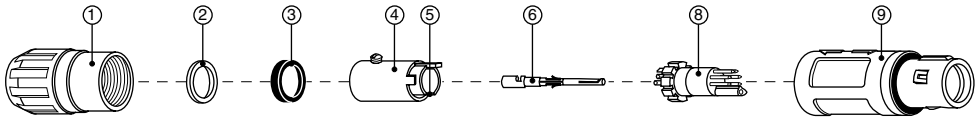
For PSU only:

If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

ND Vibra-Tite is a registered trademark of ND Industries, Inc.

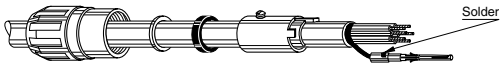
Note:
1) Specified strip lengths are recommended values and may need to be adjusted to accommodate cable construction and other variables unique to each application.
2) Some inserts with stepped, multi-row contacts may require shorter middle conductor lengths.
3) For potted assemblies, in addition to selecting a potting material that meets the requirements of the application environment, the potting material must also be chemically compatible with the connector materials. Dependent upon the specific part number, this could include PEI, PSU, ABS and/or PEEK. LEMO recommends LOCTITE® M-31CL as a potting material that is compatible with all LEMO Redel series materials.
4) Collet nut torque should not exceed recommended value. Optimal torque value depends upon cable construction. Please contact LEMO USA with any questions.

• Assembly Instructions for 3P LV Series — Solder Contacts

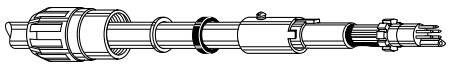


1. Strip the cable[1] according to the lengths given in the table.[2] Tin the conductors. In case of a screened cable, separate the shield and twist it apart as shown.

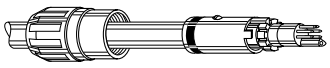
TYPE	Dimensions	
	L	T
306—310	13.0	3.0
314—318	13.0	3.0



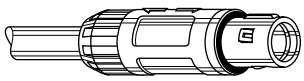
2. Slide the retaining nut ①, the washer ②, the seal ③, and the clamping sleeve ④ onto the cable. In case of a screened cable, solder the shield into the grounding contact ⑥.



3. In case of a screened cable, introduce the grounding 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 into the insulator or cable insulation.[3]



4. Slide the clamping sleeve ④ forward and locate tab ⑤ into the appropriate insulator slot ⑥ according to the selected polarization code. Make sure that the same code is used for plug and socket. Tighten 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 while turning it to insure that the tab ⑤ is correctly located in the inside slot of the shell. Tighten the retaining nut ① to the maximum torque of 1.2 N-m.[4]

For PSU only:

If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

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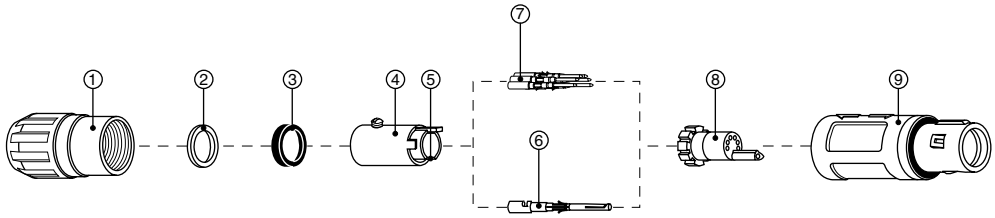
Recommended Soldering Materials:[5]

Rosin core solder such as Kester SN63PB37 flux "44" and a non-corrosive solder flux such as GC Electronics, Part # 10-4216. For RoHS compliant assemblies, LEMO recommends flux core solder such as Kester #58/275 Lead-Free wire solder with no-clean flux and when required, a non-corrosive flux such as Kester 959T no-clean liquid flux. Use of any other flux may cause serious damage to the connectors.

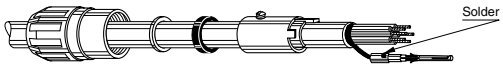
Note:
1) Specified strip lengths are recommended values and may need to be adjusted to accommodate cable construction and other variables unique to each application.
2) Some inserts with stepped, multi-row contacts may require shorter middle conductor lengths.
3) For potted assemblies, in addition to selecting a potting material that meets the requirements of the application environment, the potting material must also be chemically compatible with the connector materials. Dependent upon the specific part number, this could include PEI, PSU, ABS and/or PEEK. LEMO recommends LOCTITE® M-31CL as a potting material that is compatible with all LEMO Redel series materials.
4) Collet nut torque should not exceed recommended value. Optimal torque value depends upon cable construction. Please contact LEMO USA with any questions.
5) All LEMO connectors with solder-style contacts are fully compatible with lead-free solder and the required higher temperatures.

• Assembly Instructions for 3P LV Series — Crimp Contacts

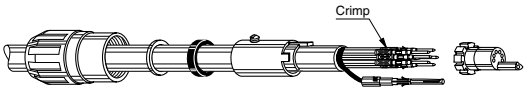


1. Strip the cable[1] according to the lengths given in the table.[2] Tin the conductors. In case of a screened cable, separate the shield and twist it apart as shown.

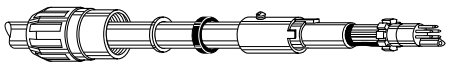
TYPE	Dimensions	
	L	T
306, 310, 314	19.0	5.4



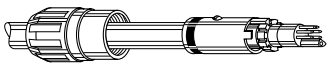
2. Slide the retaining nut ①, the washer ②, the seal ③, and the clamping sleeve ④ onto the cable. In case of a screened cable, solder the shield into the grounding contact ⑥.



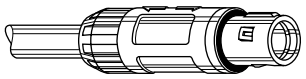
3. Fix the appropriate positioner (male or female) in the crimping tool. Set selector to the number corresponding to the conductor AWG as indicated on the positioner label. Fit conductor into contact ⑦ and make sure it is visible through the inspection hole in the crimp barrel. Slide contact-conductor 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. In case of a screened cable, introduce the grounding contact ⑥ into the insert ⑧. Check that all contacts are correctly located and remain in position when given a gentle pull.[3]



5. Slide the clamping sleeve ④ forward and locate tab ⑤ into the appropriate insulator slot ⑥ according to the selected polarization code. Make sure that the same code is used for plug and socket. Tighten 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 while turning it to ensure that the tab ⑤ is correctly located in the inside slot of the shell. Tighten the retaining nut ① to the maximum torque of 1.2 N-m.[4]

For PSU only:

If you wish to use a liquid thread-locker in your application, we recommend only ND Vibra-Tite® VTCS-6 clear or ThreeBond 1401. The use of other materials may result in damage to the connector. The only recommended chemical cleaner is Isopropyl Alcohol.

ND Vibra-Tite is a registered trademark of ND Industries, Inc.

Note:
1) Specified strip lengths are recommended values and may need to be adjusted to accommodate cable construction and other variables unique to each application.
2) Some inserts with stepped, multi-row contacts may require shorter middle conductor lengths.
3) For potted assemblies, in addition to selecting a potting material that meets the requirements of the application environment, the potting material must also be chemically compatible with the connector materials. Dependent upon the specific part number, this could include PEI, PSU, ABS and/or PEEK. LEMO recommends LOCTITE® M-31CL as a potting material that is compatible with all LEMO Redel series materials.
4) Collet nut torque should not exceed recommended value. Optimal torque value depends upon cable construction. Please contact LEMO USA with any questions.

• 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

• LEMO USA 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.

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:

_____

_____

_____

_____

_____

_____

_____

_____

Name | Rep. Name

Title | Telephone | Fax

Company Name | Email

Street

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

• Cable Assembly Request Form

Complete this form online at
http://www.lemousa.com/cable_assembly

DATE:_____ ☐ BID ☐ BUY ☐ BUDGETARY

Name | Rep. Name

Title | Telephone | Fax

Company Name | Email

Street

City | State | Zip

ASSEMBLY QUANTITIES _____ LENGTH (TIP TO TIP) _____

CONNECTORS: _____
END #1 END #2

STRAIN RELIEF: ☐ NO ☐ YES IF YES, SPECIFY COLOR _____
END #1 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:

NUMBER OF CONDUCTORS _____ TWISTED PAIRS: ☐ NO ☐ YES WIRE GAUGE: _____

SHIELDING: ☐ NO ☐ YES IF YES, PLEASE SPECIFY TYPE: _____

JACKET MATERIALS / JACKET COLOR (GREY 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: _____

☐ AUTOCLAVING: _____ ☐ RADIATION: TYPE: _____

☐ FLUIDS: TYPE: _____ ☐ CHEMICALS: TYPE: _____

☐ GASES: TYPE: _____

PROTOTYPE ORDER QUANTITY: _____ EXPECTED DELIVERY DATE: _____

PRODUCTION ORDER QUANTITY: _____ EXPECTED DELIVERY DATE: _____

EAU: _____ 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

Custom Connector Design Request Form

Complete this form online at
http://www.lemousa.com/custom_connector

DATE: _____

Name | Rep. Name

Title | Telephone | Fax | Email

Company Name

Street

City | State | Zip

Customer Profile

APPLICATION DESCRIPTION: _____

BUDGET: IS THE PROJECT FUNDED? ☐ YES ☐ NO EXPLANATION: _____

SECOND SOURCE: DOES THE CUSTOMER REQUIRE A SECOND SOURCE? ☐ YES ☐ 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: _____ IS BEND RELIEF REQUIRED: ☐ YES ☐ NO

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: _____

ENVIRONMENT:
☐ CLEAN ☐ WASH DOWN OR SPLASH ☐ SALT WATER SPRAY ☐ UNDERWATER
☐ DIRT ☐ FLUIDS _____ ☐ DUST ☐ GASES _____
☐ CHEMICALS ☐ IP RATING _____ ☐ EXPLOSIVES ☐ RADIATION

STERILIZATION: ☐ YES ☐ NO METHOD _____ CYCLES _____ TEMP _____

Purchase Projections

PROTOTYPE ORDER QUANTITY (3 OR LESS): _____ EXPECTED DELIVERY DATE: _____

PRODUCTION ORDER QUANTITY: _____ EXPECTED DELIVERY DATE: _____

PREPRODUCTION ORDER QUANTITY: _____ EXPECTED DELIVERY DATE: _____

EXPECTED QUANTITY INVOLVED EACH YEAR: _____ TARGET PRICING: $ _____

APPLICABLE STANDARDS: ☐ UL ☐ IEC ☐ OTHER _____

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.

LEMO

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