SP Series
Plastic connectors

LEMO

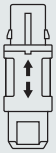
LEMO Solutions
Portfolio

1 ORIGINALS

Your configurable solution

- Self-Latching Push-Pull locking
- Wide & modular range
- Broad application reach
- Indoor & outdoor

Series	B, K, T
	S, E



2 REDEL

Your trusted medical solution

- Medical and Industrial grade plastics
- Device ergonomics
- Electrical safety
- High density & modularity

Series	P
	SP
	MP

3 OPTIMA

Your optimised solution

- Compact & miniature
- Lightweight & low-profile
- High vibration resistance
- IP68 & MIL-STD tested

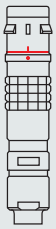
Series	M
	F
	D

4 SUPREME

Your extreme solution

- High/Low pressure
- Radiation & corrosion
- High Voltage
- Regulated environments

Series	N
	W
	Y



5 SPECIALTIES

Your specialised solution

- Industry standards
- Special configurations
- Historical products

Series	3K.93C.Y, 00 Nim-Camac
	H, V, 2G/2C, R, ...

6 CABLES

Your unique cable solution

- Design expertise
- In house prototype to production
- Custom cables
- Conductive & hybrid

Series	Technical cables
	Biocompatibility
	Automation & high-flex
	Retractile coil cords
	Ruggedised

SERVICES

	Cable assembly services (single-end, double-end, custom harness, overmolding, ...)
	Custom solution (connector, cable, device)
	Signal integrity end-to-end services

Understanding LEMO's product selection benefits:

Standard versus **Special**.

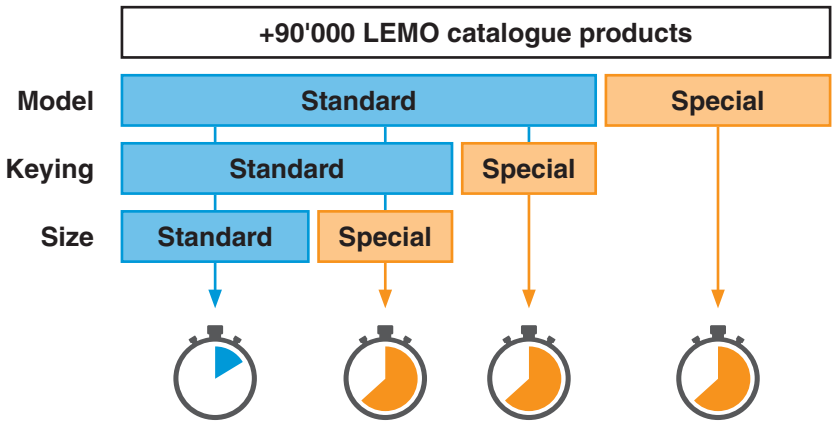
LEMO has a +75 years history of developing custom connectivity solutions. Our very broad offering of models combined with our modular insert design results in a range of over 90'000 connector solutions. This vast product portfolio enables you to select the ideal connector configuration to suit almost any specific requirement in the most demanding markets, including yours.

In this product catalogue we have structured our product offering into two categories:

- **STANDARD** products (in blue) – Most commonly used products for which we can ensure the best availability and shorter lead times.
- **SPECIAL** products (in orange) – More niche products designed for customers with specific requirements. For these products a minimum order quantity (MOQ) will apply, prices might be higher and lead times are typically longer.

And this differentiation between **STANDARD** and **SPECIAL** applies on three different levels:

1. **MODEL** – Outershell / Backshell shape
2. **KEYING** – Alignment key for differentiated mating
3. **SIZE** – Physical dimensions of the connector



Only if Model + Keying + Size are all within the STANDARD product offering, you will have the best availability and shorter lead time. We recommend you find as much as possible the right solution for your connectivity challenge within our standard product offer.
For all other, special products, we recommend you contact your local LEMO representative to discuss your overall project's life span and long-term needs, so we can align your forecast with applicable MOQ quantities.

By clearly distinguishing between Standard and Special products, LEMO ensures maximum flexibility while still offering the perfect solution to fully meet our customer needs.

Product safety notice & disclaimers

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

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

In no event shall LEMO be liable for any direct, indirect, punitive, incidental, special consequential damages, to property or life, whatsoever arising out of or connected with the use or misuse of LEMO’s products.

Table of contents

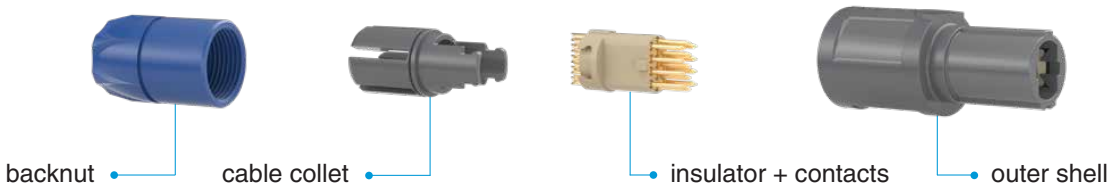
REDEL SP Series
Remarkable design delivering top performance

Designed for demanding environments such as medical and test & measurement applications, REDEL SP connectors offer a compact, reliable, and easily integrable solution. The Polyphenylsulfone (PPSU) housing endures repeated sterilisation cycles, while the patented internal push-pull locking system ensures secure connections, enhanced mating and shock resistance, as well as superior system protection against imitation.

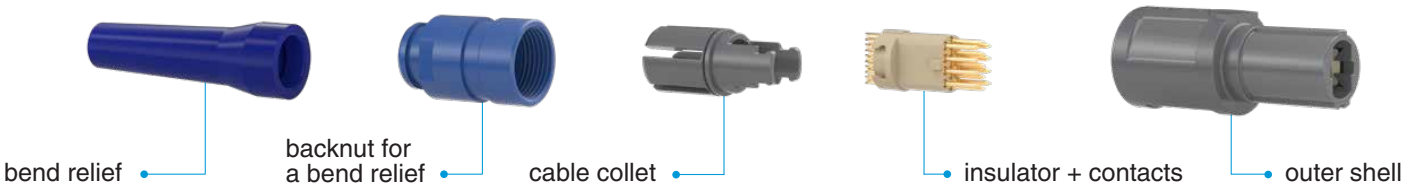
Featuring high contact density, an ergonomic and modular design, and simplified wiring, REDEL SP is the trusted choice of demanding professionals who require uncompromising performance and reliability — where failure is simply not an option.

Exploded view of the REDEL SP (IP50 models)

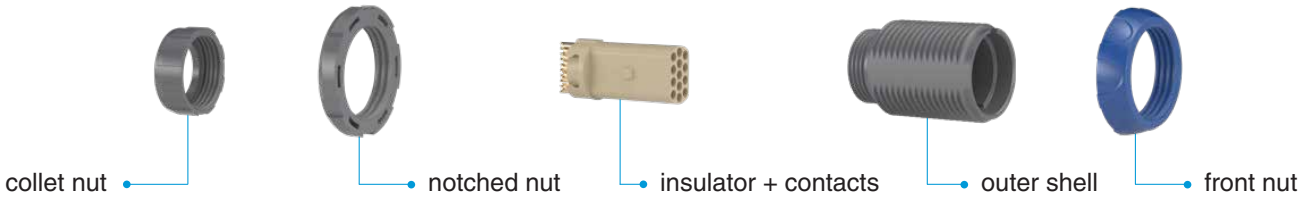
Straight plug



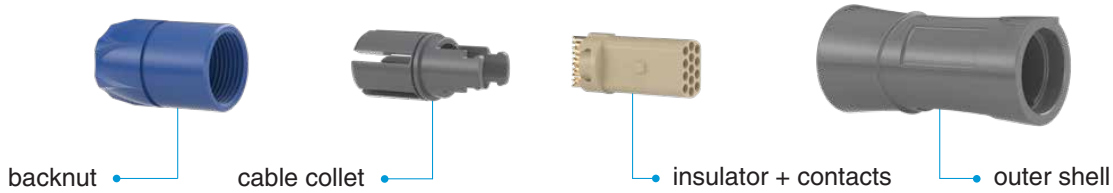
Straight plug with bend relief



Socket

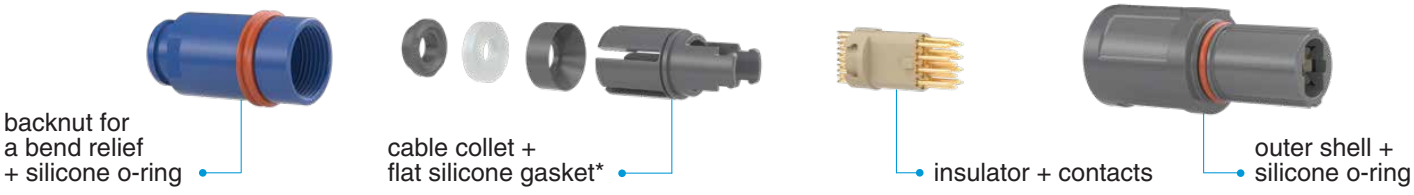


Free cable socket

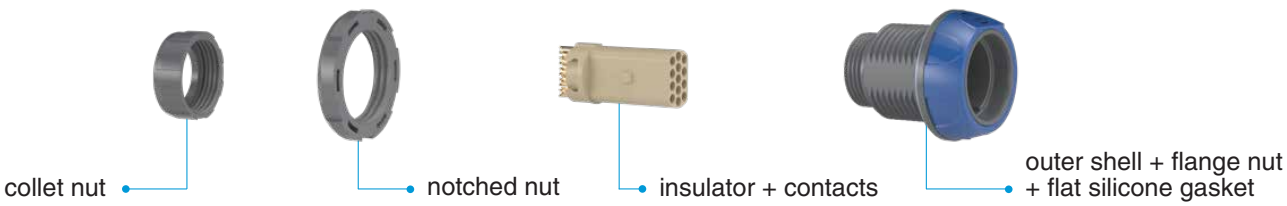


Exploded view of the REDEL SP (IP68 models)

Straight plug



Socket

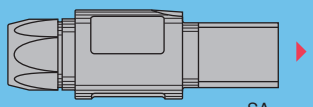


* The orientation of the sealing gasket and the two positioners must be strictly observed

SP series (standard models)

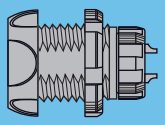
Standard models (page 11)

Straight plugs

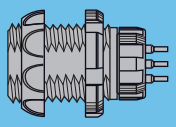


SA•

Sockets

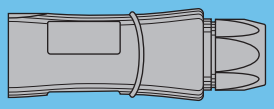


SL•



SK•

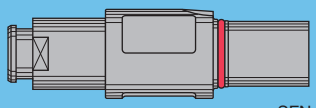
Free cable socket



SR•

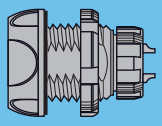
Watertight models (page 14)

Straight plug



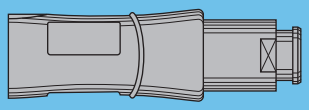
SFN

Socket



SNN

Free cable socket (coming soon)

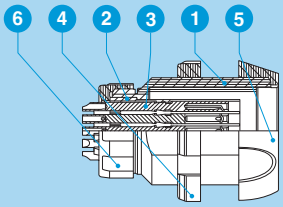


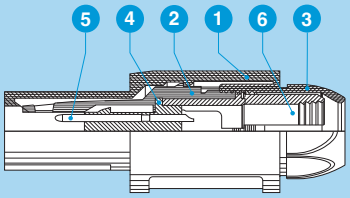
SSN

Part section showing internal components

Socket

1. outer shell
2. insulator
3. female contact
4. notched nut
5. front nut
6. collet nut





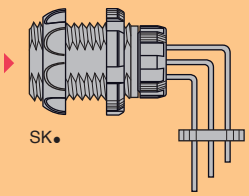
Straight plug

1. outer shell
2. latch sleeve
3. backnut
4. insulator
5. male contact
6. cable collet

SP series (special model)

Special model (page 12)

Elbow socket model



SK•

Available colours

The SP series outer shell, flange nut, front nut, backnut and bend relief is available in different colours.

Outer shell

Standard colours: grey (**G**) or black (**N**)

Backnut (not available for IP68)

Standard colours: grey (**G**), black (**N**) or blue (**A**)

Special colours: red (**R**) or green (**V**)

Backnut for fitting a bend relief

Standard colours: grey (**G**), black (**N**) or blue (**A**)

Special colours: red (**R**) or green (**V**)

Bend relief available in TPU or silicone elastomer (see page 20 for more informations)

Standard colours: grey (**G**), black (**N**), blue (**A**), white (**B**), orange (**S**), yellow (**J**), red (**R**), green (**V**)

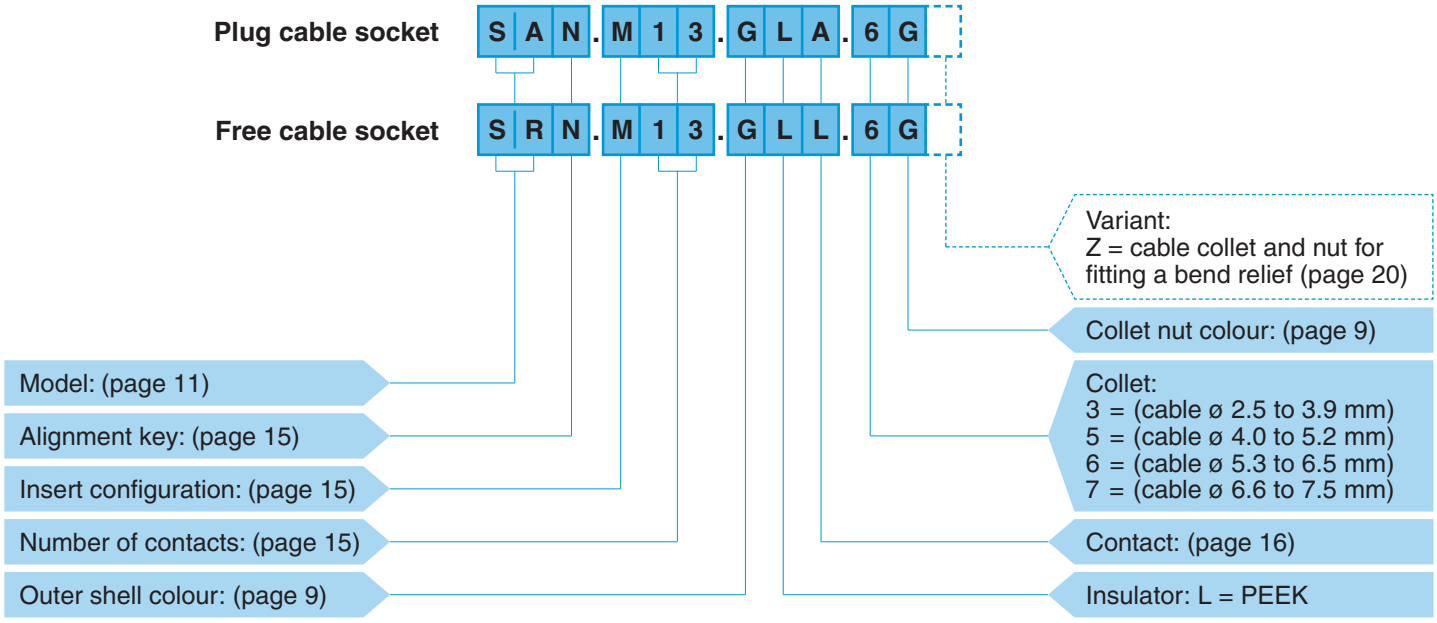
Flange, front nut (front nut not available for IP68)

Standard colours: grey (**G**), black (**N**) or blue (**A**)

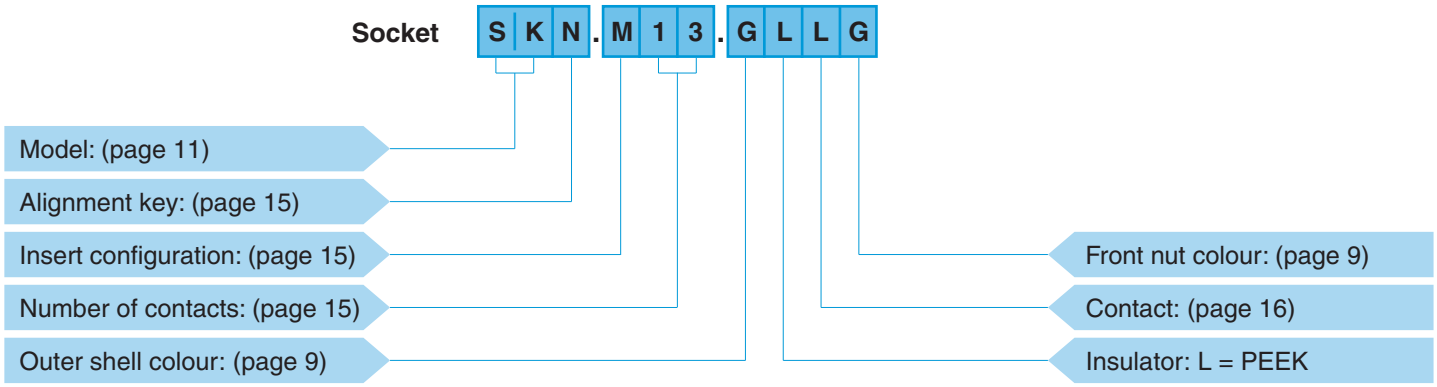
Special colours: red (**R**) or green (**V**)

Part numbering system (IP50)

Standard models part numbering system



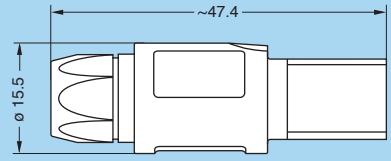
SAN.M13.GLA.6G = straight plug with cable collet and alignment key (N), multipole type with 13 male contacts to solder, grey Proprietary sulfone shell, PEEK insulator, collet for maximum cable ø 6.5 mm and grey collet nut.



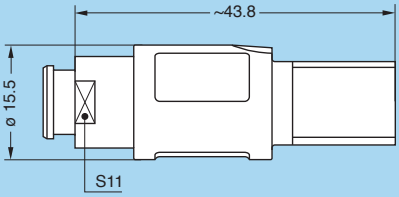
SKN.M13.GLLG = socket with two nuts and alignment key (N), multipole type with 13 female contacts to solder, grey Proprietary sulfone shell, PEEK insulator and grey plastic front nut.

Standard models (IP50)

SA● Straight plug, key (N or P, T), with cable collet



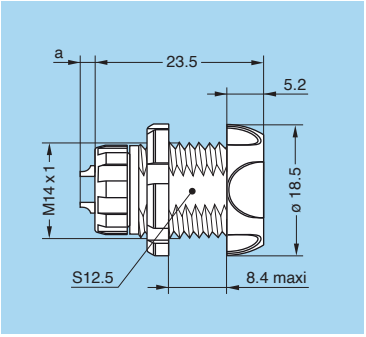
Cable collet and nut for fitting a bend relief [1)]



Part number	Cable ø (mm)	
	min	max
SA●.M●●.●L●.3●	2.5	3.9
SA●.M●●.●L●.5●	4.0	5.2
SA●.M●●.●L●.6●	5.3	6.5
SA●.M●●.●L●.7●	6.6	7.5

Note: [1)] to order, add a «Z» at the end of the reference.
The bend relief must be ordered separately (see page 20).

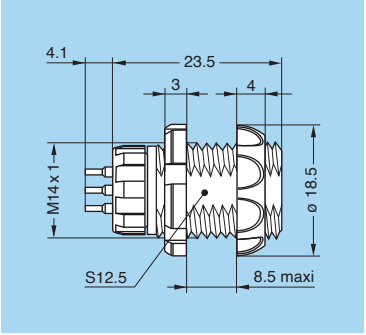
SL● Socket, nut fixing, key (N or P, T)



Part number	Contact	
	Solder	Crimp
	a max (mm)	a (mm)
SL●.M●●.●L●●	2.2	0

Panel cut-out (page 22)

SK● Socket with two nuts, key (N or P, T) and straight print contact (back panel mounting)

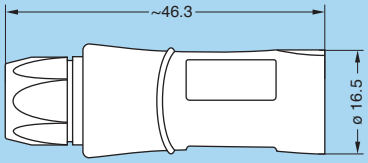


Part number
SK●.M●●.●LN●

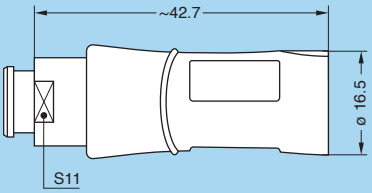
Panel cut-out (page 22)

PCB drilling pattern (page 23)

SR● Free cable socket, key (N or P, T), with cable collet



Cable collet and nut for fitting a bend relief [1)]



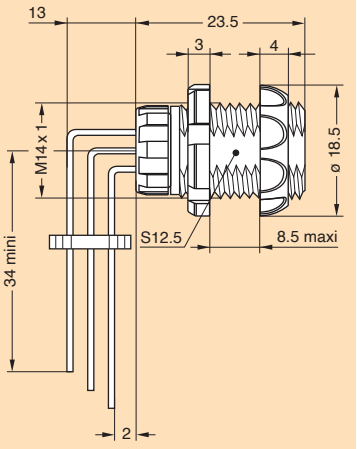
Part number	Cable ø (mm)	
	min	max
SR●.M●●.●L●.3●	2.5	3.9
SR●.M●●.●L●.5●	4.0	5.2
SR●.M●●.●L●.6●	5.3	6.5
SR●.M●●.●L●.7●	6.6	7.5

Note: [1)] to order, add a «Z» at the end of the reference.
The bend relief must be ordered separately (see page 20).

S K M L V

Special model (IP50)

SK● Socket with two nuts, key (N or P) and with elbow print contact (back panel mounting)



Part number
SK●.M●●.●LV●

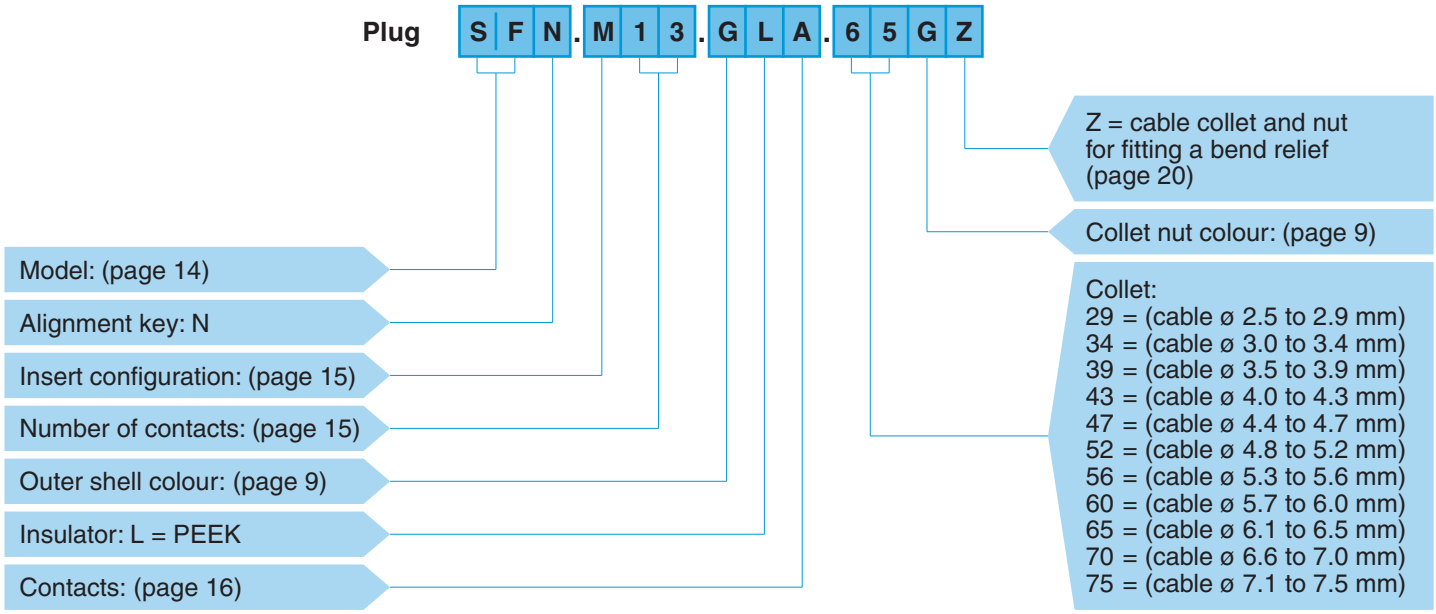
Panel cut-out (page 22)

PCB drilling pattern (page 23)

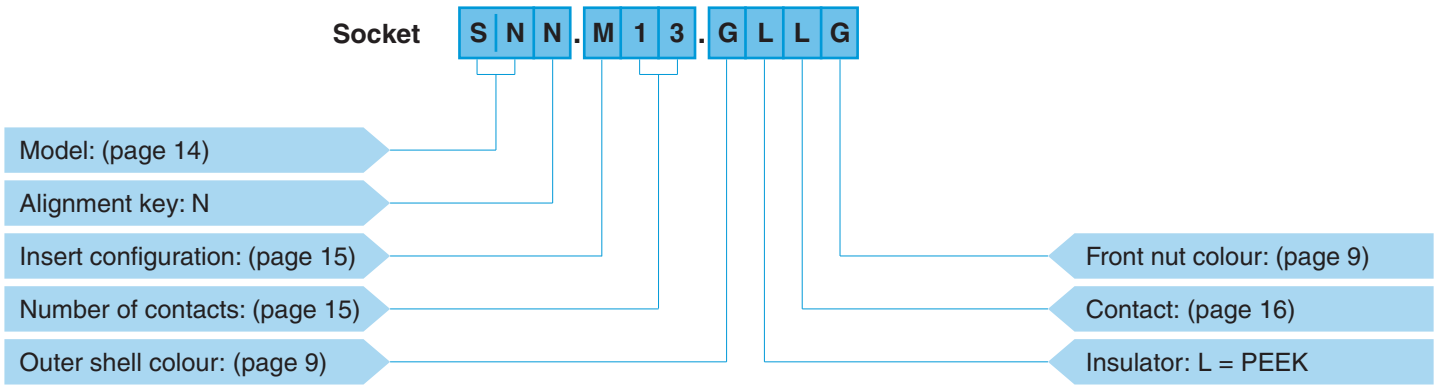
S N M L Z

Part numbering system (IP68*)

Watertight models part numbering system



SFN.M13.GLA.65GZ = straight plug with cable collet and alignment key (N), multipole type with 13 male contacts to solder, grey Proprietary sulfone shell, PEEK insulator, collet for maximum cable ø 6.5 mm and nut for fitting a bend relief.



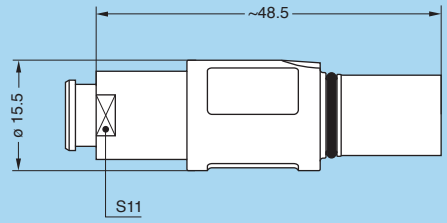
SNN.M13.GLLG = socket, nut fixing, alignment key (N), multipole type with 13 female contacts to solder, grey Proprietary sulfone shell, PEEK insulator and grey plastic front nut.

Note: * 2 meters - 2 hours (mated)

S N M L Z

Watertight models (IP68*)

SFN Straight plug, key (N), cable collet, nut for fitting a bend relief, watertight IP68 (when mated)

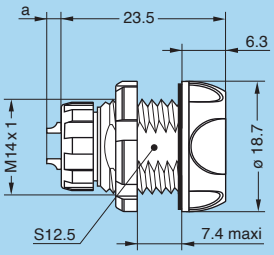


Part number	Cable ø (mm)	
	min	max
SFN.M••.•L•.29•Z	2.5	2.9
SFN.M••.•L•.34•Z	3.0	3.4
SFN.M••.•L•.39•Z	3.5	3.9
SFN.M••.•L•.43•Z	4.0	4.3
SFN.M••.•L•.47•Z	4.4	4.7
SFN.M••.•L•.52•Z	4.8	5.2
SFN.M••.•L•.56•Z	5.3	5.6
SFN.M••.•L•.60•Z	5.7	6.0
SFN.M••.•L•.65•Z	6.1	6.5
SFN.M••.•L•.70•Z	6.6	7.0
SFN.M••.•L•.75•Z	7.1	7.5

To ensure optimal sealing under all conditions, it is recommended to regularly replace the plug nose O-ring (ref. GDA.99.095.125SK) (see page 19).

Note: the bend relief must be ordered separately (silicone version only) (see page 20).

SNN Socket, nut fixing, key (N), watertight IP68 (when mated)



Part number	Contact	
	Solder	Crimp
	a max (mm)	a (mm)
SNN.M••.•L••	2.2	0

Note: fixed nut version only, designed for front panel mounting to ensure sealing on the panel side.

Panel cut-out (page 22)

SSN Free cable socket, key (N), cable collet, nut for fitting a bend relief, watertight IP68 (when mated) (coming soon)

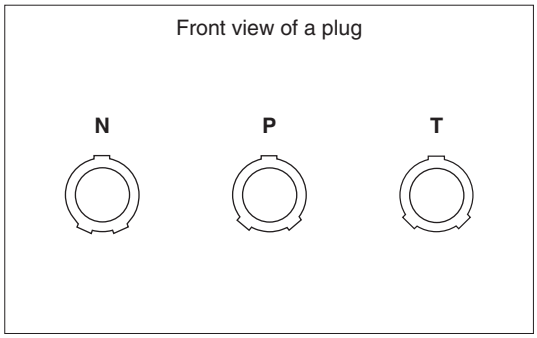
coming soon

Part number	Cable ø (mm)	
	min	max
SSN.M••.•L•.29•Z	2.5	2.9
SSN.M••.•L•.34•Z	3.0	3.4
SSN.M••.•L•.39•Z	3.5	3.9
SSN.M••.•L•.43•Z	4.0	4.3
SSN.M••.•L•.47•Z	4.4	4.7
SSN.M••.•L•.52•Z	4.8	5.2
SSN.M••.•L•.56•Z	5.3	5.6
SSN.M••.•L•.60•Z	5.7	6.0
SSN.M••.•L•.65•Z	6.1	6.5
SSN.M••.•L•.70•Z	6.6	7.0
SSN.M••.•L•.75•Z	7.1	7.5

Note: the bend relief must be ordered separately (silicone version only) (see page 20).

Alignment key

Verify the third digit of the part number in order to select the right keying. The standard keying is «N» coded.

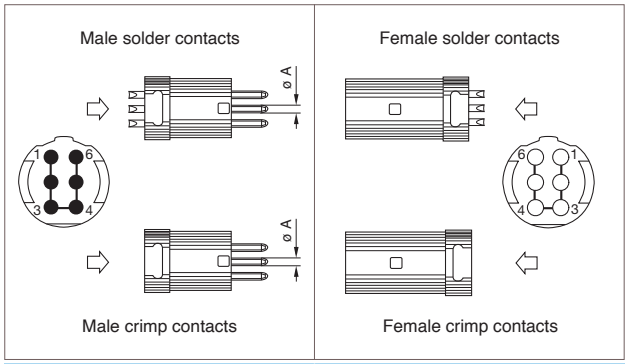


Ref.	Gender	Contact type	
		Plug	Socket
N	standard	male	female
P	standard	male	female
T	reverse	female	male

● Standard
● Special

Multipole insert configuration

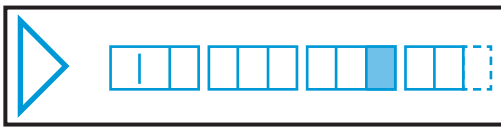
Multipole



Reference	Number of contacts	Contact ø A (mm)	Solder bucket ø (mm)[4]	Crimp bucket ø (mm)[4]	AWG[4] Crimp contact (max-min)	AWG[4] Solder contact (max-min)	Contact type Solder / Crimp / Print (straight)	Contact type Print (elbow)	Solder Test voltage (kV DC)[1] Contact-contact	Solder Air clearance min (mm)[2] Creepage distance min (mm)[3]	Solder Rated current (A)	Crimp Test voltage (kV DC)[1] Contact-contact	Crimp Air clearance min (mm)[2] Creepage distance min (mm)[3]	Crimp Rated current (A)
M04	4	1.3	1.10	1.40	18 20 22	20 28	●	●	2.26	0.95	11.5	2.54	1.35	11.5
M06	6	0.9	0.80	1.10	20 22 24	22 30	●	●	2.20	1.20	8.5	2.70	1.50	8.5
M08	8	0.9	0.80	1.10	20 22 24	22 30	●	●	2.10	0.75	5.0	2.10	1.1	5.0
M10	10	0.7	0.80	0.80	22 24 26	22 30	●	●	1.65	0.70	4.2	2.17	1.1	4.2
M13	13	0.7	0.80	0.80	22 24 26	22 30	●	●	1.50	0.50	4.0	1.80	0.9	4.0
M16	16	0.5	0.45	0.45	28 30 32	28 34	●	–	1.05	0.47	3.0	1.88	0.8	3.0
M18	18	0.5	0.45	0.45	28 30 32	28 34	●	–	1.00	0.47	2.5	1.60	0.8	2.5
M22	22	0.5	0.45	0.45	28 30 32	28 34	●	–	0.90	0.48	2.0	1.90	0.8	1.2

Note: [1] depending on specific application and related standard, more restrictive operating voltage may apply (see page 27).
[2] shortest distance in air between two conductive parts.
[3] shortest distance along the surface of the insulating material between two conductive parts.
[4] for a given AWG, the diameter of some stranded conductor design is larger than the solder cup diameter (see page 24).

● Standard
● Special



Contact type

Select the type of contact: solder or crimp?

Plug

Type	Reference	
	Male	Female
Solder	**A**	**L**[1)]
Crimp	**C**	**M**[1)]

Note: [1)] only for T keying.

Socket

Type	Reference	
	Male	Female
Solder	**A**[1)]	**L**
Crimp	**C**	**M**
Print	**D**[1)]	**N**
Print 90°	–	**V**

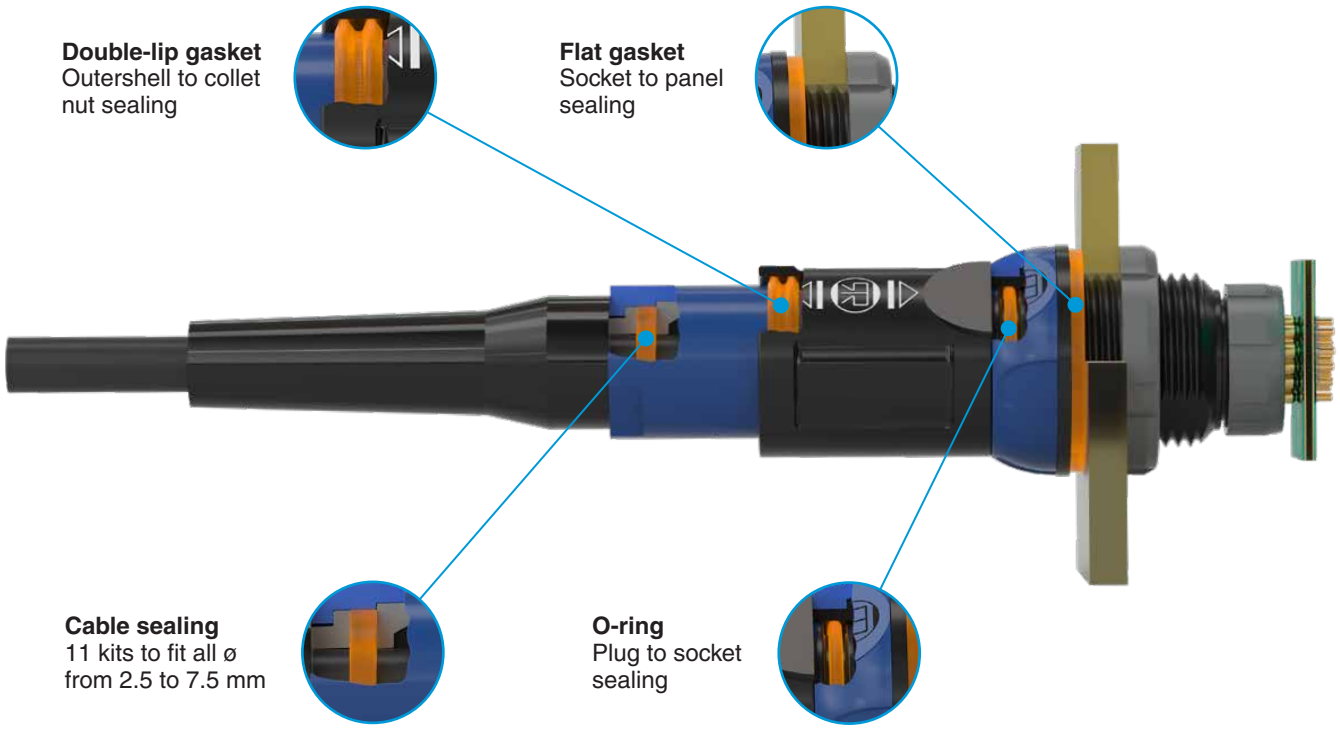
● Standard
● Special

Note: [1)] only for T keying.

Cable assembly

LEMO offers an advanced cabling design ensuring a reliable mechanical, resin-free water ingress protection (IP68 - mated or unmated with caps). Assembly is performed in ISO 13485–certified facilities to guarantee process control and consistency.

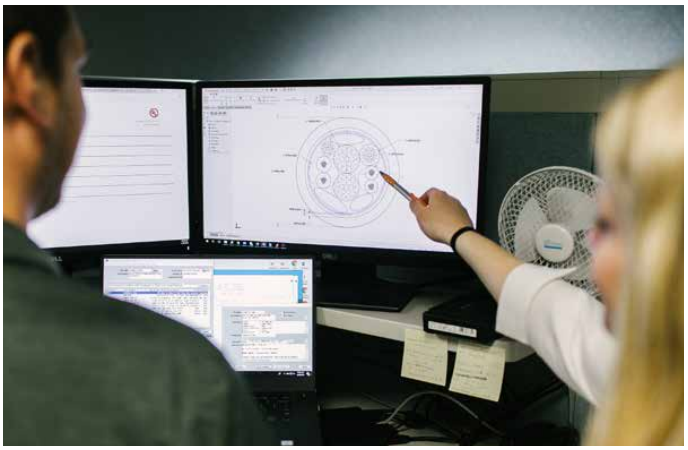
- Custom medical-grade cables (BioCompatic®) designed for flexibility, biocompatibility, sterilization resistance, and signal integrity.
- Four-level mechanical sealing (100% silicone) system guarantees resin-free IP68 protection.



Cables engineered for medical excellence

Custom medical-grade cables designed for flexibility, biocompatibility, sterilisation resistance, and signal integrity. BioCompatic® – A high-performance USP Class VI

- **Patient-friendly & biocompatible:** Free of bisphenol, phthalate, latex, and halogen
- **Durable & chemical-resistant:** Withstands chemicals, cuts, crush, and abrasion
- **Sterilization ready:** Endures steam autoclave (500 cycles at 134°C), Gamma, EtO, and STERRAD™
- **Extreme temperature resistance:** Operates from -80°C to +105°C
- **Medical-grade compliant:** USP Class VI, ISO 10993-5:2009, ISO 10993-10:2021, RoHS3
- **Highly flexible:** Designed to bend, torque, and retract repeatedly
- **Faster lead times:** No curing needed, enabling quicker time to market



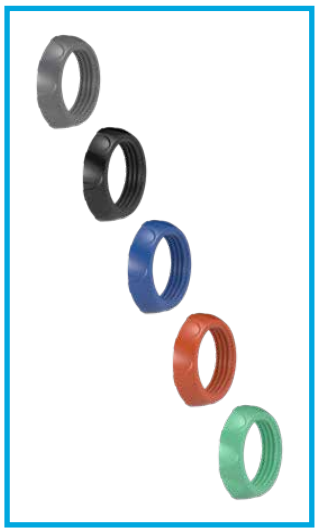
Cable assemblies you can trust

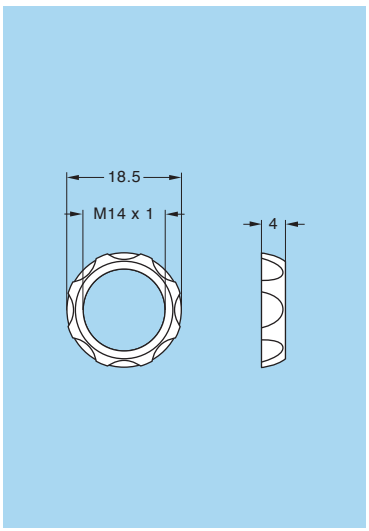
Comprehensive cable assembly capabilities from design to production, we deliver plug-and-play assemblies that ensure seamless integration and reliability.

- **Full-Service offering:** Pre-assembled cable and connector sets tailored to your application, tested and ready for integration.
- **Custom solutions:** Expert in complex cable harnesses, assemblies, and thermoplastic overmolding.
- **Private labeling:** Tailored branding for sensitive projects.
- **Certified quality:** IPC-620, ISO 9001, ISO 13485, and more.
- **Sustainability:** Eco-conscious manufacturing aligned with strict industry standards.
- **End-to-end support:** From design to delivery, with timely and reliable service.Single point of contact: One trusted partner from connector and cable selection to final cable assembly delivery.
- **Global support:** Available worldwide through LEMO's international network, with local support and logistics.
- **Design & engineering support:** Technical drawings, system-level expertise.
- **Extensively tested:** Each assembly undergoes thorough electrical, mechanical, and visual testing to guarantee performance and safety.

Accessories

SKN Plastic front nut for SK● models (not available for IP68 sockets)

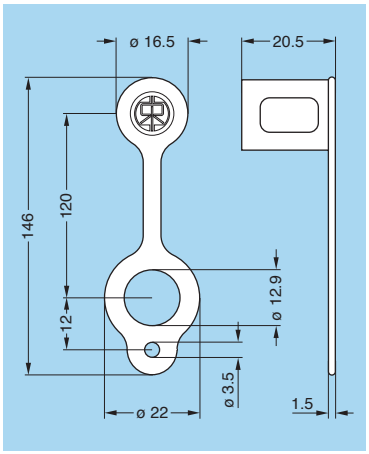




Part number	Colours
SKN.220.RG	Grey
SKN.220.RN	Black
SKN.220.RA	Blue
SKN.220.RR	Red
SKN.220.RV	Green

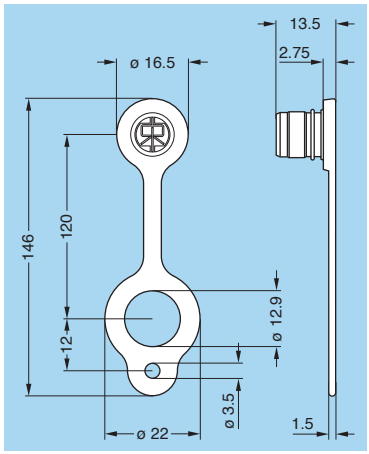
● Standard
● Special

SBZ.100.SN Blanking caps for IP68 plugs



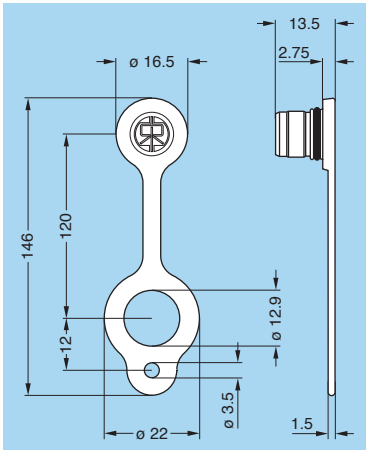
● Material: Santoprene TPV

SBZ.200.SN Blanking caps for sockets



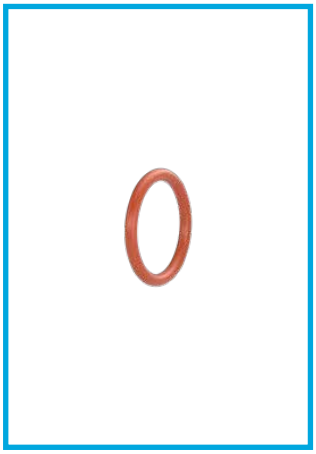
● Material: Santoprene TPV

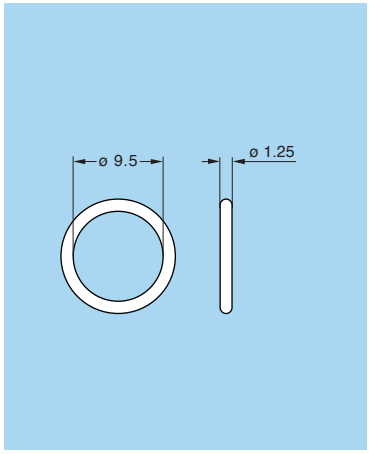
SBZ.200.SNS Blanking caps for IP68 sockets



● Material: Santoprene TPV

GDA.99.095.125SK O-ring for IP68 SFN plug

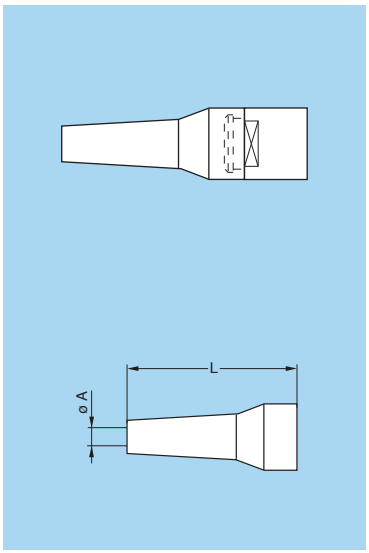




● Material: Silicone VMQ

Note: after more than 20 sterilization cycles, replacing the O-ring on the plug is recommended to maintain IP68 sealing performance.

GMA.1B Bend relief



A bend relief absorbs the angular force that may be exerted on cables.
These are designed for plugs and free sockets with cable collet and nut.
Bend reliefs are available in 8 different colours. This can help you create differentiation where needed. Please note that the colour will slighty differ from the one on the hard plastic parts of connectors.

Part number	Dimensions (mm)				Material	Temperature range	
	Bend relief		Cable ø			in dry atmosphere	in water steam
	A	L	min	max			
GMA.1B.025.DG	2.5	30	2.5	2.9	TPU Thermoplastic Polyurethane	-40°C, +80°C	–
GMA.1B.030.DG	3.0	30	3.0	3.4			
GMA.1B.035.DG	3.5	30	3.5	3.9			
GMA.1B.040.DG	4.0	30	4.0	4.4			
GMA.1B.045.DG	4.5	30	4.5	4.9			
GMA.1B.054.DG	5.4	30	5.4	6.0			
GMA.1B.065.DG	6.5	30	6.5	7.0			
GMA.1B.025.RG	2.5	34	2.5	2.9	Silicone elastomer VMQ	-60°C, +200°C	+140°C
GMA.1B.030.RG	3.0	34	3.0	3.4			
GMA.1B.035.RG	3.5	34	3.5	3.9			
GMA.1B.040.RG	4.0	34	4.0	4.4			
GMA.1B.045.RG	4.5	34	4.5	5.0			
GMA.1B.051.RG	5.1	34	5.1	5.6			
GMA.1B.057.RG	5.7	34	5.7	6.2			
GMA.1B.063.RG	6.3	34	6.3	7.0			

Note: The last letter «G» of the part number indicates a grey colour, see the table below and replace letter «G» by the letter of the colour required.
All dimensions are in millimeters

Reference	Colours
A	Blue
B	White
G	Grey

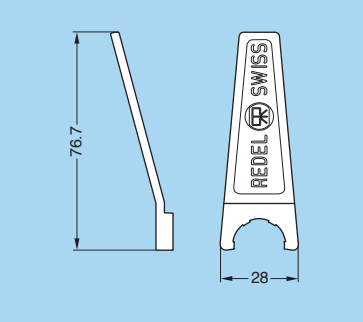
Reference	Colours
J	Yellow
N	Black
R	Red

Reference	Colours
S	Orange
V	Green

Note: the selection of pigments, which should remain stable at high temperature, is limited by the new regulations.
The selected solutions represent the best possible compromise.

Tooling

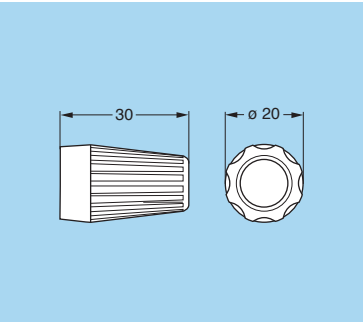
SOP Spanners with notch for securing the notched nut



Part number	Note
SOP.019.HN	for notched nut SLN.240.RG

- Material: black polyamide

SOB Spanners for nut



Part number	Note
SOB.186.GN	for nut SLN.220.R●
SOB.187.GN	for front nut SKN.220.R●

- Material: black polyamide

SOE Positioners for crimp contacts

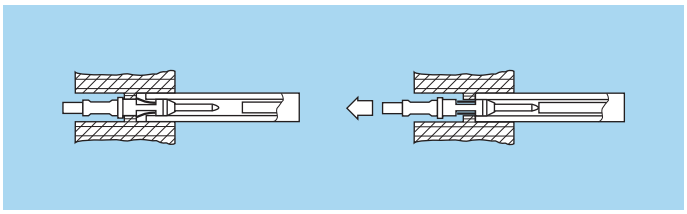
Male

Female

Part number		Configuration	Contact ø (mm)	Conductor AWG	Selector No Setting
Male contact	Female contact				
SOE.130.VC	**SOE.130.VM**	M04	1.3	18-20	8-7
SOE.090.VC	**SOE.090.VM**	M06/M08	0.9	20-22-24	6-5-5
SOE.070.VC	**SOE.070.VM**	M10/M13	0.7	22-24-26	6-5-5
SOE.050.VC	**SOE.050.VM**	M16/M18/M22	0.5	28-30-32	4-3-3

Note: 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 Manual extractors for crimp contacts



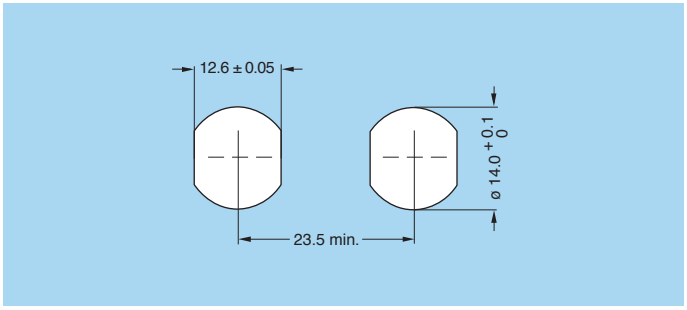
Part number	Configuration	Contact ø (mm)	Conductor AWG
DCC.13.15B.LAG	M04	1.3	18-20
DCC.09.05B.LAG	M06/M08	0.9	20-22-24
DCC.07.04B.LAG	M10/M13	0.7	22-24-26
DCC.05.02B.LAG	M16/M18/M22	0.5	28-30-32

Note: 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.

DPC.91.701.V Crimping tool

Panel cut-outs

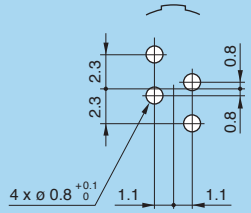
For SL●, SK● and SNN models



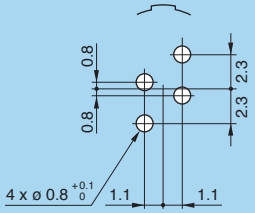
Note: Socket mounting nut torque = 1 Nm.
All dimensions are in millimeters.

PCB drilling pattern

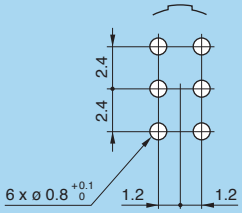
Socket with straight print contact



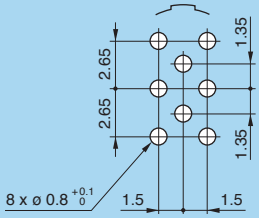
M04 (for «P» or «N» keying)



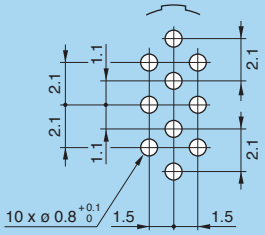
M04 (for «T» keying)



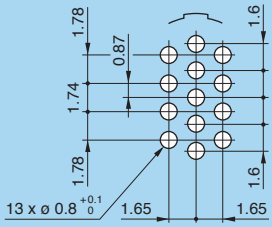
M06



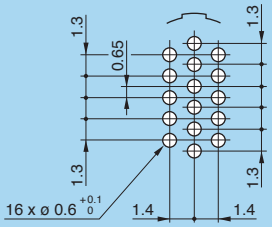
M08



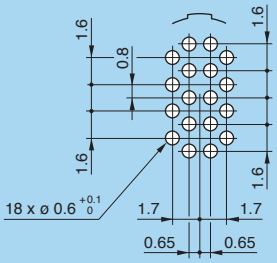
M10



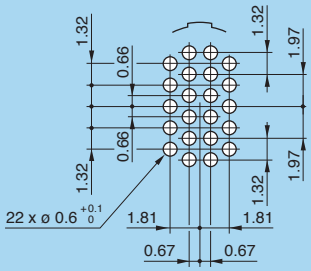
M13



M16

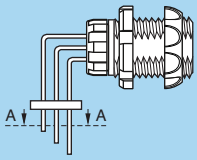


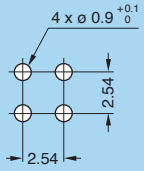
M18



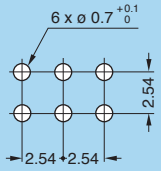
M22

Socket with elbow print contact

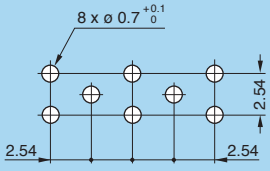




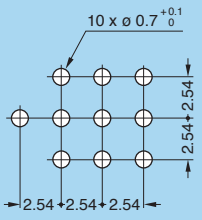
M04



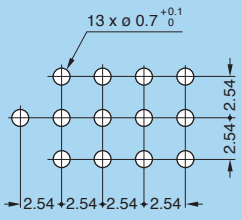
M06



M08



M10



M13

Technical characteristics

Characteristics	Value	Standards
Mechanical endurance	> 5000 mating cycles	IEC 60512-5 test 9a
Ingress protection index (mated)	IP50 / IP68 watertight (2 meters / 2 hours)	IEC 60529
Housing material	PPSU (Polyphenylsulfone)	–
Working temperature range	-50°C / +170°C	–
Sterilisation	Steam / ETO	–
Autoclave cycles	> 100 times (IP50) / > 20 times (IP68)	–
ESD contact and air discharge	15 kV DC	IEC 61000-4-2
Max ø wire size	AWG 18 (crimp cts) / AWG 20 (solder cts)	–

Table of American Wire Gauge

AWG	Construction		ø wire max		Wire section	
	Strand nb	AWG/ strand	(mm)	(in)	(mm^2)	(sq in)
0	259	24	11.277	0.444	52.90	0.0820
1	817	30	9.702	0.382	41.40	0.0641
2	259	26	8.89	0.35	33.20	0.0514
4	133	25	6.9596	0.274	21.5925	0.0335
6	133	27	5.5118	0.217	13.5885	0.0211
8	168	30	4.4450	0.175	8.5127	0.0132
8	133	29	4.3942	0.173	8.6053	0.0133
10	105	30	3.3020	0.13	5.3204	0.0082
10	37	26	2.9210	0.115	4.7397	0.0073
10	1	10	2.6162	0.103	5.2614	0.0082
12	37	28	2.3114	0.091	2.9765	0.0046
12	19	25	2.3622	0.093	3.0847	0.0048
12[1)]	7	20	2.5400	0.10	3.6321	0.0056
12	1	12	2.0828	0.082	3.3081	0.0051
14	41	30	2.0574	0.081	2.0775	0.0032
14	19	27	1.8542	0.073	1.9413	0.0030
14[1)]	7	22	2.0828	0.082	2.2704	0.0035
14	1	14	1.6510	0.065	2.0820	0.0032
16[1)]	65	34	1.5748	0.062	1.3072	0.0020
16	26	30	1.5748	0.062	1.3174	0.0020
16	19	29	1.4986	0.059	1.2293	0.0019
16[1)]	7	24	1.5494	0.061	1.4330	0.0022
16	1	16	1.3208	0.052	1.3076	0.0020
18[1)]	65	36	1.2700	0.05	0.8234	0.0013
18[1)]	42	34	1.2700	0.05	0.8447	0.0013
18	19	30	1.3208	0.052	0.9627	0.0015
18	16	30	1.2954	0.051	0.8107	0.0013
18	7	26	1.2700	0.05	0.8967	0.0014
18	1	18	1.0414	0.041	0.8229	0.0013

AWG	Construction		ø wire max		Wire section	
	Strand nb	AWG/ strand	(mm)	(in)	(mm^2)	(sq in)
20[1)]	42	36	1.0160	0.04	0.5320	$8.2x10^{-4}$
20	19	32	1.0414	0.041	0.6162	0.0010
20	10	30	1.0160	0.04	0.5067	$7.9x10^{-4}$
20	7	28	0.9906	0.039	0.5631	$8.7x10^{-4}$
20	1	20	0.8382	0.033	0.5189	$8.0x10^{-4}$
22	19	34	0.8382	0.033	0.3821	$5.9x10^{-4}$
22	7	30	0.7874	0.031	0.3547	$5.5x10^{-4}$
22	1	22	0.6604	0.026	0.3243	$5.0x10^{-4}$
24[1)]	42	40	0.6604	0.026	0.2045	$3.2x10^{-4}$
24	19	36	0.6858	0.027	0.2407	$3.7x10^{-4}$
24	7	32	0.6350	0.025	0.2270	$3.5x10^{-4}$
24	1	24	0.5588	0.022	0.2047	$3.2x10^{-4}$
26	19	38	0.5588	0.022	0.1540	$2.4x10^{-4}$
26	7	34	0.5080	0.02	0.1408	$2.2x10^{-4}$
26	1	26	0.4318	0.017	0.1281	$2.0x10^{-4}$
28[1)]	19	40	0.4318	0.017	0.0925	$1.4x10^{-4}$
28	7	36	0.4064	0.016	0.0887	$1.4x10^{-4}$
28	1	28	0.3302	0.013	0.0804	$1.2x10^{-4}$
30	7	38	0.3302	0.013	0.0568	$8.8x10^{-5}$
30	1	30	0.2794	0.011	0.0507	$7.9x10^{-5}$
32	7	40	0.2794	0.011	0.0341	$5.3x10^{-5}$
32	1	32	0.2286	0.009	0.0324	$5.0x10^{-5}$
34	1	34	0.1693	0.007	0.0201	$3.1x10^{-5}$
36	1	36	0.127	0.005	0.0127	$2.0x10^{-5}$
38	1	38	0.1016	0.004	0.0081	$1.3x10^{-5}$
40	1	40	0.078	0.003	0.0049	$7.5x10^{-6}$

Note: [1)] not included in the standard

Table of wire gauges according to IEC-60228 standard

Conductor no x ø (mm)	Max ø (mm)	Max ø (in)	Section (mm^2)	Section (sq in)
196x0.40	7.50	0.295	25.00	0.0387
7x2.14	6.10	0.240	25.00	0.0387
125x0.40	6.00	0.236	16.00	0.0248
7x1.72	4.90	0.192	16.00	0.0248
1x4.50	4.50	0.177	16.00	0.0248
80x0.40	4.70	0.155	10.00	0.0155
7x1.38	3.95	0.155	10.00	0.0155
1x3.60	3.60	0.141	10.00	0.0155
84x0.30	3.70	0.145	6.00	0.0093
7x1.50	3.15	0.124	6.00	0.0093
1x2.76	2.76	0.108	6.00	0.0093
56x0.30	2.80	0.110	4.00	0.0062
7x0.86	2.58	0.098	4.00	0.0062
1x2.25	2.25	0.082	4.00	0.0062
50x0.25	2.15	0.084	2.50	0.0038
7x0.68	2.04	0.080	2.50	0.0038
1x1.78	1.78	0.070	2.50	0.0038
30x0.25	1.60	0.062	1.50	0.0023
7x0.52	1.56	0.061	1.50	0.0023

Conductor no x ø (mm)	Max ø (mm)	Max ø (in)	Section (mm^2)	Section (sq in)
1x1.4	1.40	0.055	1.50	0.0023
32x0.20	1.35	0.053	1.00	0.0015
7x0.43	1.29	0.050	1.00	0.0015
1x1.15	1.15	0.045	1.00	0.0015
42x0.15	1.20	0.047	0.75	0.0011
28x0.20	1.15	0.045	0.75	0.0011
1x1.0	1.00	0.039	0.75	0.0011
28x0.15	0.95	0.037	0.50	$7.7x10^{-4}$
16x0.20	0.90	0.035	0.50	$7.7x10^{-4}$
1x0.80	0.80	0.031	0.50	$7.7x10^{-4}$
7x0.25	0.75	0.029	0.34	$5.2x10^{-4}$
1x0.60	0.60	0.023	0.28	$4.3x10^{-4}$
14x0.15	0.75	0.029	0.25	$3.8x10^{-4}$
7x0.20	0.65	0.023	0.22	$3.4x10^{-4}$
18x0.10	0.50	0.019	0.14	$2.1x10^{-4}$
14x0.10	0.40	0.015	0.11	$1.7x10^{-4}$
21x0.07	0.40	0.015	0.09	$1.3x10^{-4}$
14x0.10	0.40	0.015	0.09	$1.3x10^{-4}$

Note:

Product safety notice & Disclaimers

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

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

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

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

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

5. CE MARKING CE
CE marking CE means that the appliance or equipment bearing it complies with the protection requirements of one or several European safety directives. CE marking CE applies to complete products or equipment, **but not to electromechanical components, such as connectors**.

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

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

8. UL RECOGNITION
LEMO connectors are components recognized by the Underwriters Laboratories (UL), facilitating the UL approval of the complete system (including LEMO connector, cable and your equipment).

9. REACH AND ROHS
LEMO connector specifications comply with the requirements of the RoHS directive (2011/65/EU) and REACH regulation (1907/2006/EU) of the European Parliament and latest amendments. These REACH and ROHS regulations specify the restrictions of the use of hazardous substances in LEMO products marketed in Europe.

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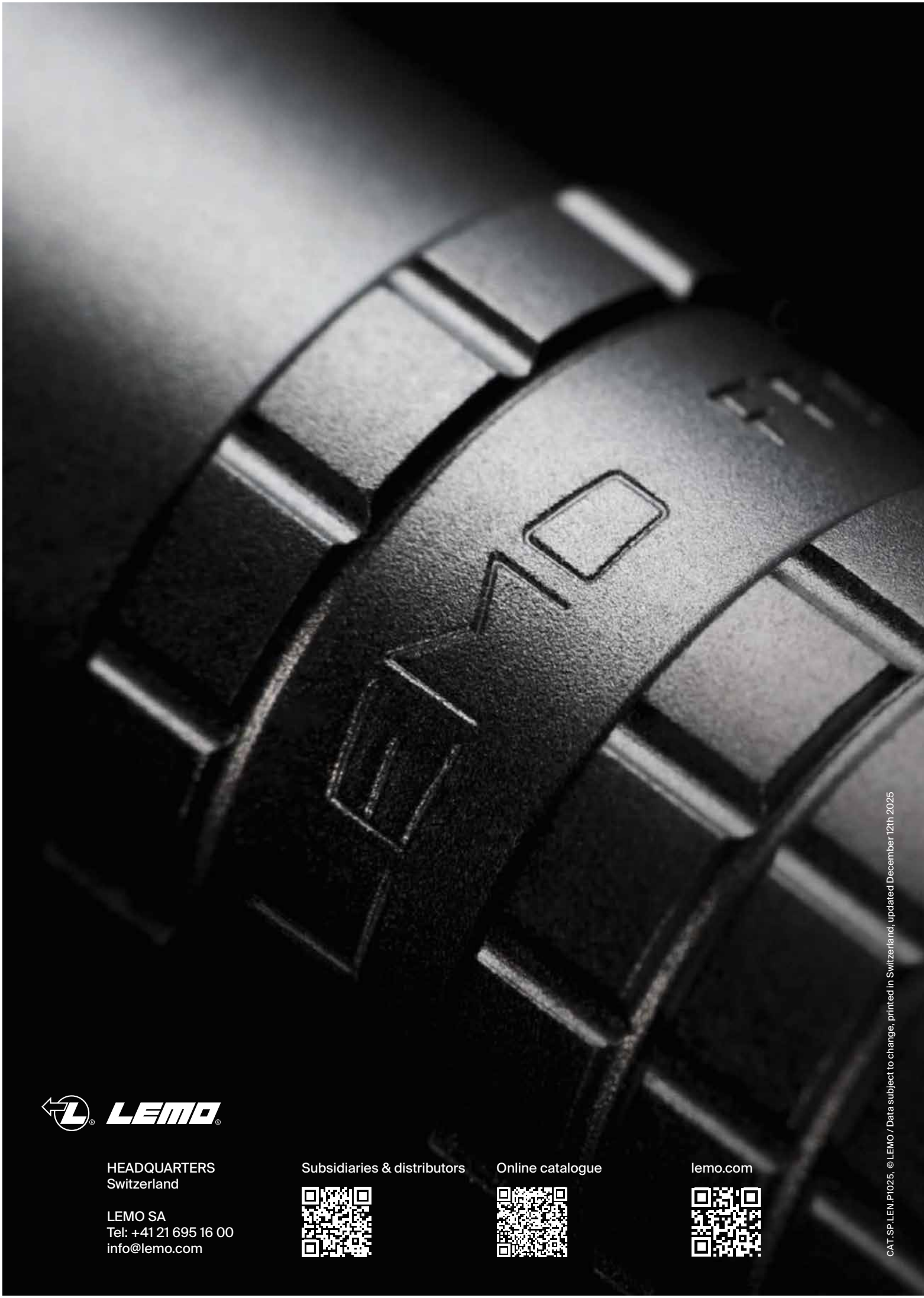

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