

# Solutions Selection guide



With a strong legacy of excellence and innovation, the LEMO Group is a global leader in providing high-performance custom interconnect solutions. From the depth of the oceans to the far reaches of outer space, no matter how harsh the environment may be, our connector and cable solutions are chosen, wherever connections are too critical, precious, or vital to fail.

Offering over 90,000 product combinations that continue to grow through custom specific designs, our subsidiaries and 20 distributors have built a global network of strong, dedicated local resources with unmatched technical expertise and understanding of customer requirements. Thanks to our global network, we serve more than 150,000 customers in over 80 countries worldwide.

All our staff of 2000 people are united to accomplish the same mission: to guarantee to our customers interconnect solutions that exceed their current requirements and anticipate their future expectations.

**+75**

years of excellence

**+150,000**

customers worldwide

**+2000**

employees

**Empower  
connectivity**

# Our **application** fields

LEMO solutions have been designed for the most demanding applications, wherever connections are too critical, precious, or vital to fail or to be even momentarily disrupted. Our solutions connect critical systems for key industries such as:



# Reliable connections when failure is not an option

## Complete connectivity

### End-to-end interconnect solutions

LEMO's three generations of experience extends far beyond its technical expertise in precision connectors and custom cables. LEMO offers complete solutions including cable assembly services meeting the most stringent specifications.

## Extensive product range

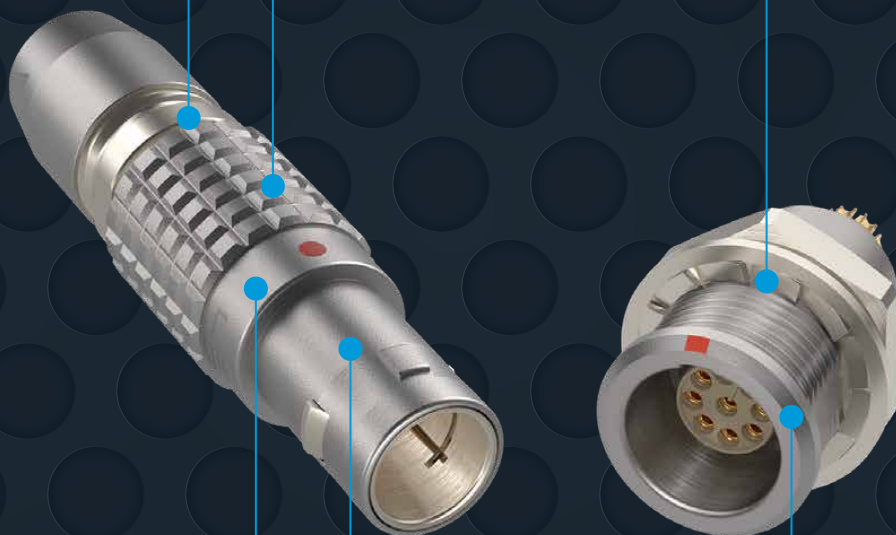
### An outstanding solution portfolio that exceeds customer requirements

The modular design of the LEMO range provides over 90'000 combinations that enables you to select the ideal interconnect solution for your specific application. With a rich legacy of excellence, LEMO offers a wide range of high-quality connectors meticulously designed to meet your precise needs.

## Reliability and quality

### Swiss-made performance for the most demanding applications

LEMO's precision engineered components meet or exceed the listed specifications for the duration of the product life cycle, regardless of harsh operating or environmental conditions.



## Leading innovation

### Over 75 years of innovation and technology leadership

LEMO's globally recognized technological leadership stems from the pioneering Push-Pull connector invented by the founder Léon Mouttet, a revolution in connector technology. Our innovations and high-quality interconnect solutions define industry excellence and standards.

## Global partner

### Our worldwide reach, your local expert

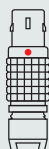
Relying on a global network of local subsidiaries and distributors, customers anywhere in the world can benefit from the same unmatched technical expertise of LEMO's leading technical advisors, as well as from our full inventory of products.

## Vertically integrated ecosystem

### Our total independence, an asset for our clients

Founded in Switzerland in 1946, LEMO has always been able to maintain full control over its business, with the aim of ensuring high quality and performance of its solutions. Such stability is what ultimately enables LEMO to successfully build long-term partnerships and ensure consistent customised support.

# 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 medical preferred solution

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

Series	P
	SP



## 3 OPTIMA

Your optimised solution

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

Series	M
	F



## 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
- Media converters

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



## 6 CABLES

Your unique cable solution

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

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

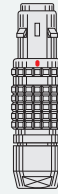
## SERVICES

Cable assembly services (single-end, double-end, custom harness, overmolding, ...)

Custom solution (connector, cable, device)

Signal integrity end-to-end services

# 1 ORIGINALS



## TECHNICAL INFO

	B	K	T	S	E
Locking	Push-Pull				
Material [std]	Brass				
Colour [std]	Silver				
Sealing Mated [std]	IP50	IP68		IP50	IP68
Number of shell models	60	28	14	50	22
Number of guides for keying	1, 2, 3 or 5	1, 2 or 5	1 or 2	Stepped insert	
Shell Sizes	00 (multip)		TT	00 (unip)	
	0B	0K	0T	0S	0E
	1B, XB	1K	1T	1S	1E
	2B	2K	2T	2S	2E
	3B	3K	3T	3S	3E
	4B	4K		4S	4E
	5B	5K		5S	5E
				6S	6E
Max number of contacts (Low Voltage)	64	64	32	106	106
Low Voltage	✓	✓	✓	✓	✓
High Voltage					
Coax	✓	✓	✓	✓	✓
Triax				✓	✓
Fibre Optic	✓	✓	✓		
Fluidic	✓	✓	✓		
Thermocouple	✓	✓		✓	✓

## INDUSTRIES

Test & Measurement	✓✓	✓✓	✓✓	✓✓	✓✓
Energy & Industrial	✓✓	✓✓	✓✓	✓✓	✓✓
Medical	✓✓	✓	✓	✓	✓
Semiconductor	✓✓	✓	✓	✓✓	✓
Audio Video	✓✓	✓	✓	✓✓	✓
Security & Defence	✓	✓	✓	✓	✓
Motorsport					
Transportation, Aerospace & UAV	✓✓		✓		
Specialties & Other	✓✓				

# 2



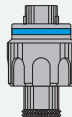


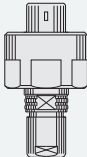
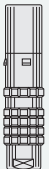
## REDEL

# 3

## OPTIMA

# 4

## SUPREME

						
P	SP	M	F	N	W	Y
Push-Pull	Inner Push-Pull	Screw	Push-Pull	Push-Pull	Screw	Push-Pull
Plastic		Aluminium		Stainless Steel	Brass	
Grey		Anthracite		Silver		
IP50/66	IP50	IP68	IP67	IP66	IP68	IP50
12	8	40	12	18	9	19
1, 2 or 3	3	3 or 5	3 or 5	1	1 or 2	N/A
		MM	FF			
		OM	OF		OW	
1P	SP	1M	1F		1W	1Y
2P		2M	2F	2N	2W	
3P		3M	3F	3N	3W	3Y
		TM, 4M, LM	4F, LF	4N	4W	
		5M	5F	5N	5W	
						6Y
34	22	114	68	64	64	1 (High Voltage)
✓	✓	✓	✓	✓	✓	
✓		✓				✓
		✓		✓	✓	
		✓	✓		✓	
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# ORIGINALS

## Your configurable solution

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



**B**  
**Indoor keyed**

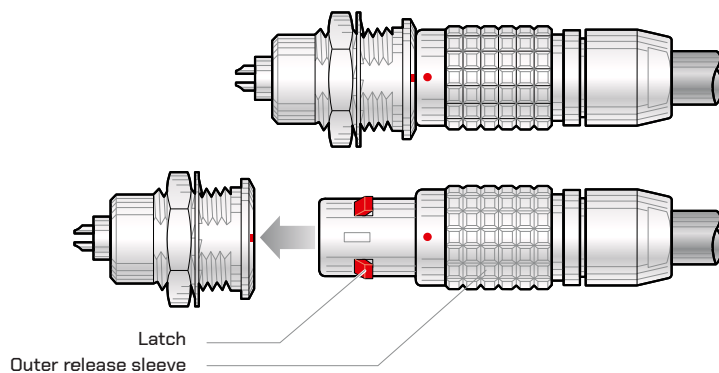


**K**  
**Outdoor keyed**



**T**  
**Small Outdoor keyed**

Description	LEMO original Push-Pull solution for protected environments	LEMO original Push-Pull solution for outdoor environments	LEMO original miniature Push-Pull solution for outdoor environments
Locking	Push-Pull	Push-Pull	Push-Pull
Size (ø diameter)	8 sizes from ø 6.4 to ø 35.0 mm (plugs)	6 sizes from ø 11.0 to ø 38.0 mm (plugs)	5 sizes from ø 7.0 to ø 18.8 mm (plugs)
Keying	13 keyway options	9 keyway options	5 keyway options
Shell Types	Over 60 shell styles	Over 28 shell styles	Over 14 shell styles
Shell Material	Brass	Brass	Brass
Plating	Chrome	Chrome	Chrome
Cable Diameter	1.4 to 25 mm	1.0 to 23.5 mm	2.4 to 15 mm
NB of contact	2 to 64	2 to 64	2 to 32
AWG	8 to 32	8 to 32	12 to 32
Contact types	Multipole / Coax / Fibre Optic / Fluidic / High Voltage / Mixed / Thermocouple	Multipole / Coax / Fibre Optic / Fluidic / High Voltage / Mixed / Thermocouple	Multipole / Coax / Fibre Optic / Fluidic / High Voltage / Mixed / Thermocouple
Contact Termination	Solder / Crimp / Print (PCB)	Solder / Crimp / Print (PCB)	Solder / Crimp / Print (PCB)
Data Protocols	USB 2.0 / USB 3.1 / Eth Cat6a / SPE	USB 2.0 / USB 3.1 / Eth Cat6a / SPE	USB 2.0 / USB 3.1 / Eth Cat6a / SPE
Sealing Level	IP50 / Hermetic sockets	IP68 / Hermetic sockets	IP68 / Hermetic sockets
Temperature Range	-55°C to 250°C	-55°C to 200°C	-55°C to 200°C
Mating Cycles	> 5000	> 5000	> 3000



### The original Push-Pull connector

Constantly upgraded with the latest technologies since its invention by LEMO, the Push-Pull connector has been the trusted solution to build long-lasting, safe and high precision interconnect solutions for more than 60 years. The revolutionary system became a new global standard across the electronics industry. Today, like yesterday, LEMO is recognized as the expert and benchmark of Push-Pull connectors.



## S

### Indoor stepped insert

## E

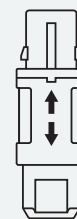
### Outdoor stepped insert

Description	LEMO original Push-Pull solution with unmatched mating ergonomy	LEMO original Push-Pull solution for outdoor environments with unmatched mating ergonomy
Locking	Push-Pull	Push-Pull
Size (ø diameter)	8 sizes from ø 6.4 to ø 46.0 mm [plugs]	7 sizes from ø 11.0 to ø 47.0 mm [plugs]
Keying	1 [stepped inserts]	1 [stepped inserts]
Shell Types	Over 50 shell styles	Over 22 shell styles
Shell Material	Brass	Brass
Plating	Chrome	Chrome
Cable Diameter	1.3 to 30 mm	1.0 to 30 mm
NB of contact	1 to 106	1 to 106
AWG	0 to 32	0 to 32
Contact types	Unipole / Multipole / Coax / Fibre Optic / Fluidic / Mixed / Thermocouple	Unipole / Multipole / Coax / Fibre Optic / Fluidic / Mixed / Thermocouple
Contact Termination	Solder / Crimp / Print [PCB]	Solder / Crimp / Print [PCB]
Data Protocols	-	-
Sealing Level	IP50 / Hermetic sockets	IP68 / Hermetic sockets
Temperature Range	-55°C to 250°C	-55°C to 200°C
Mating Cycles	> 5000	> 5000

# REDEL

## Your medical preferred solution

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



### P

#### Push-Pull

### SP

#### Inner Push-Pull

Description	Highly configurable plastic Push-Pull connector	Highly configurable plastic connector with inner Push-Pull
Locking	Push-Pull	Inner Push-Pull
Size (ø diameter)	3 sizes from ø 14.0 to ø 21.2 mm [plugs]	1 size ø 15.5 mm [plugs]
Keying	6 keyway + 7 colour options	4 keyway + 7 colour options
Shell Type	Over 12 shell styles	Over 8 shell styles
Shell Material	PEI / PSU	PPSU
Plating	—	—
Cable Diameter	1.7 to 9.5 mm	2.5 to 7.5 mm
NB of contact	2 to 34	4 to 22
AWG	12 to 32	18 to 32
Contact types	Multipole / Coax / Fibre Optic / Fluidic / High Voltage / Mixed / Thermocouple	Multipole
Contact Termination	Solder / Crimp / Print [PCB]	Solder / Crimp / Print [PCB]
Sterilization	Steam / ETO / Serris / Gamma	Steam / ETO / Serris / Gamma
Sealing level	IP50 / IP66	IP50
Temperature range	-55°C to 170°C	-50°C to 170°C
Mating Cycles	> 2000	> 2000

# OPTIMA

## Your optimised solution

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



### M

#### Rugged Ratchet coupling



### F

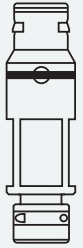
#### Rugged Push-Pull

Description	LEMO lightweight, compact, high vibration resistant (Mil STD 202 & 810F), IP68 screw locking connector	LEMO lightweight, compact, high vibration resistant (Mil STD 810F), IP67 Push-Pull connector
Locking	Triple start, 3/4 turn ratchet coupling	Push-Pull
Size (ø diameter)	9 sizes from ø 11.1 to ø 34.0 mm (plugs)	8 sizes from ø 8.5 to ø 36.1 mm (plugs)
Keying	10 keyway options	6 keyway options
Shell Types	Over 40 shell styles	Over 12 shell styles
Shell Material	Aluminium or Brass	Aluminium or Brass
Plating	Anthracite nickel or Chrome	Anthracite nickel or Chrome
Cable Diameter	2.2 to 34 mm 4 backshell options available	2.2 to 34 mm 1 backshell option
NB of contact	2 to 114	2 to 68
AWG	Low Voltage 16 to 32 High Power 1 to 8	18 to 32
Contact types	Multipole / Coax / Fibre Optic / Fluidic / Mixed / High power	Multipole / Fibre Optic
Contact Termination	Crimp / Print (PCB)	Crimp / Print (PCB)
Data Protocols	USB 2.0 / Eth Cat6	-
Sealing level	IP68 / Hermetic sockets	IP67 / Hermetic sockets
Temperature range	-55°C to 200°C	-55°C to 200°C
Mating Cycles	> 3000	300 / 5000 acc. to sizes/material

# SUPREME

## Your extreme solution

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



### N Nuclear Stainless Steel



### W Underwater



### Y High Voltage Unipole

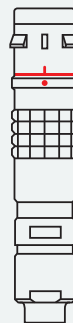
Description	Flawless performances in highly regulated environments such as nuclear hot cells	High water pressure screw locking connectors designed for demanding marine and underwater applications	Single pole high voltage connectors in high grade materials for research applications
Locking	Push-Pull telemanipulator	Screw locking	Push-Pull
Size (ø diameter)	4 sizes from ø 22.0 to ø 45.0 mm [plugs]	6 sizes from ø 17.2 to 50.0 mm [plugs]	3 sizes from ø 13.0 to 47.0 mm [plugs]
Keying	2 keyway	4 keyway	No keyway (unipole)
Shell Type	Special shell design	Over 9 shell styles	Over 19 shell styles
Shell Material	Stainless steel	Stainless steel or Brass	Brass
Plating	–	Chrome on brass version	Chrome
Cable Diameter	6.1 to 30.0 mm	1.0 to 23.5 mm	1.2 to 31.3 mm
NB of contact	2 to 64	1 to 64	1
AWG	8 to 32	8 to 32	1.45 to 6.6 mm
Contact types	Multipole / Coax	Multipole / Coax / Fibre / Fluidic	High Voltage
Contact Termination	Solder / Crimp	Solder / Crimp / Print [PCB]	Solder
Sterilization	up to 3.6 kV [rms]	up to 3.6 kV [rms]	up to 70 kV [rms]
Sealing level	IP66	IP68, 30 bars	IP50
Temperature range	-40°C to 160°C	-20°C to 200°C	-55°C to 230°C
Mating Cycles	> 5000	> 1000	> 1000

# SPECIALTIES

## Your specialised solutions

- Industry standards
- Special configurations
- Historical products
- Media converters

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



### 3K.93C.Y - SMPTE Hybrid

The standard for high-definition TV (SMPTE 304). Robust hybrid fibre optic connector guaranteeing certified signal integrity.



### 00 NIM-CAMAC & 01 Series

The micro miniature 50 Ohms Coaxial self-latching connectors.



### H Series

Hermaphroditic self-latching Push-Pull connectors.



### R Series

Rectangular low-profile Push-Pull connectors.



### Media Converter

Coax to fibre AVB converters.

# CABLES

## Your unique cable solution

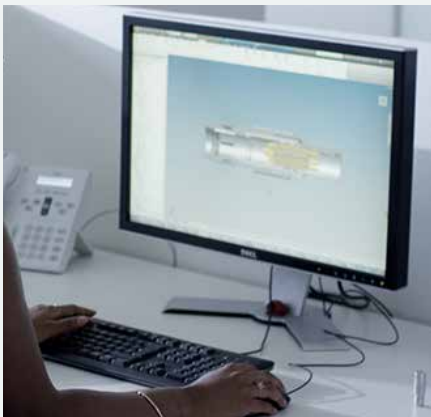
- Design expertise
- In house prototype to production
- Custom cables
- Conductive & hybrid

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



# SERVICES

## Connectivity Services for High-Performance Solutions



### Customised solutions

**Transform challenges into solutions with LEMO**

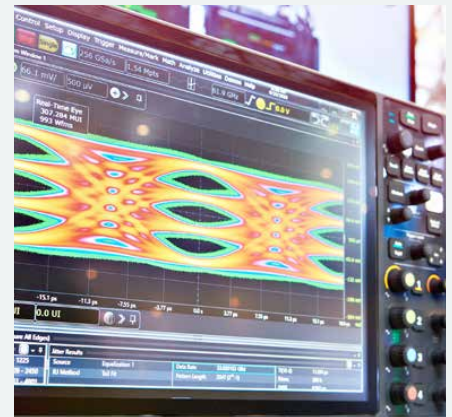
Using state-of-the-art technology, LEMO designs, tests and builds customised connectivity solutions, employing our customers' most stringent requirements as our guide. From a thorough needs analysis and an evaluation of our customer's specifications, our engineers and technical advisers can accompany our customers from the design to the delivery of your connectivity solutions.



### Cable assembly service

**Cable assembly for complete interconnect solutions**

By combining in-house cable assembly with our expertise in connectors and cables, LEMO established integrated solutions as the standard for connectivity. We offer comprehensive interconnect solutions, ensuring optimal connections between our connectors and suitable cables. Our certified teams design, build, and test complex cable assemblies, driven by customer requirements.



### End-to-end signal integrity services

**From pins to protocols**

In order to ensure that high-speed signals travel from one device to another without loss or distortion, special attention needs to be given to the connector design, cable selection and cable assembly, in order to limit the effect of insertion loss, attenuation, return loss and crosstalk. For connectors or cable assemblies requiring unique signal integrity, LEMO can design, simulate and test bespoke solutions to meet customers' specifications.



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