

# 2P High Voltage

**Patent-pending design bringing 5kV  
on 34 contacts in only Ø 18 mm**

- **From 2x18 kV up to 34x5 kV**
- **Best-in-class LEMO Push-Pull self-latching system**
- **Perfect User Safety:  
compliant with IEC60601-1  
regulation**

LEMO, a global leader in **high-quality medical connectors**, introduces a new high-voltage connector innovation, achieving 5kV on an **exceptional** contact density of 26 and 34 contacts.

These advancements, enabling new groundbreaking medical applications such as Pulsed Field Ablation (PFA) **enrich the renowned REDEL 2P High Voltage Series**.

This comprehensive range presents numerous key advantages, including **robustness and reliability**, ensuring **maximum safety** for both technicians and patients, and elevates LEMO to the status of **exclusive partner** with numerous manufacturers/integrators.

The **miniaturisation and ergonomic design** of these products significantly enhance user experience, while the possibility of **tailor-made solutions** through a wide selection of contacts, keyings and color codes precisely **meets the specific needs** of each application.

# The 2P High Voltage Configurations

Benefiting from cutting-edge technical and industrial expertise as well as a strong presence in the medical market, the renowned **REDEL Series 2P High Voltage connectors** with **2, 5, and 8 contacts** laid the groundwork for even more innovative engineering to meet the rapid evolution of new **Pulsed Field Ablation (PFA)** cardiac surgery technologies and its increased demands for **robust, ergonomic and safe connectors**.

The patented design developed by LEMO combines **high density** contacts and **high voltage**, providing **unmatched performance and reliable integration** into the latest generation of PFA medical devices.



Reverse Gender configurations available for all

	Male solder contacts	Female solder contacts	Reference	Number of contacts	Contact ø (mm)	Solder bucket ø (mm)	Crimp bucket ø (mm)	Contact type				Test voltage (kV DC) Contact-contact	Air clearance min (mm) Creepage distance min (mm)	Rated current (A)
								Solder	Crimp	Print (straight)	Print (elbow)			
			H02*	2	0.7	0.8	—	•	—	—	—	17.96	8.90	11.0
			H05*	5	0.7	0.8	—	•	—	—	—	16.4	7.96	8.0
			H08*	8	0.7	0.8	—	•	—	—	—	14.56	7.42	6.5
NEW!			H26**	26	0.5	0.4	—	•	—	—	—	6.0	5.6	1.0
			H34**	34	0.5	0.4	—	•	—	—	—	5.6	5.6	1.0

#### \* For insert config. H02, H05 and H08:

The use of potting type Epoxy\* or / and adhesive-lined (strongly recommended) heatshrink tubes over each termination is necessary to achieve the indicated Air Clearance and Creepage distance values as well as the indicated Test voltage.

#### \*\* For insert config. H26 and H34:

The installation of the dedicated tubes on each contact, **supplied with the connector** is essential to achieve the creepage and air clearance distances indicated in the table. For the additional potting we recommend using the biocompatible EPO-TEK MED-353ND resin.

## Key features

- Best-in-class LEMO Push-Pull self-latching system
- Wide range of keying and colour coding for failsafe set-ups in critical environments
- Strong blind mating (3 unique keyways)
- Easy installation and maintenance to ensure optimal cost efficiency
- RoHS compliant / UL Recognition
- For cable range from 3,2 mm up to 9,2 mm (diam.)
- Premium and biocompatible plastic materials
- Disposable fixed socket: on demand

## Technical characteristics

Endurance	<b>Plug &gt; 2000 matings</b> <b>Fixed socket &gt; 5000 matings</b>
Ingress Protection Index (mated)	<b>IP50 / IP66 available</b>
Housing material	<b>PEI (PSU available)</b>
Min. & Max. operating temperature	<b>-50°C/+170°C (PEI)</b> <b>-50°C/+150°C (PSU)</b>
Sterilisation cycles	<b>&gt; 20 cycles (PEI) / 5 cycles (PSU)</b>
Sterilisation	<b>Steam / ETO / Gamma</b>
ESD contact discharge - IEC 61000-4-2	<b>&gt; 8 kV DC</b>
ESD air discharge - IEC 61000-4-2	<b>&gt; 15 kV DC</b>
Max ø wire size	<b>AWG 28</b>

PSU: Polysulfone / PEI: Polyetherimide

## User's benefits

**Miniaturisation and Ergonomics:** Enhanced performance in small spaces. Intuitive use.

**Tailored to your application:** Large selection of pin counts, colour codings and possible customisation.

**Standardised wiring:** Simplified cable assembly, ensuring overall cost control.

**Watertight range available – IP66** when mated.

**Extremely robust and fully sterilisable:** >5,000 mating cycles, ensuring reliable integration **throughout the medical device's lifespan.**

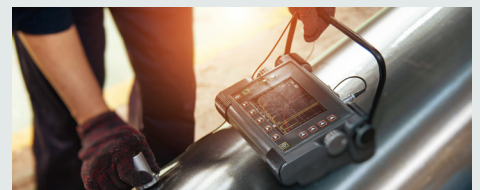


## Main applications

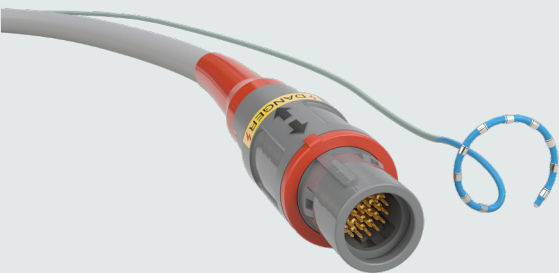
The inherent safety, high-voltage specification (up to 18kV) lightweight design, modularity and IP66 rating make the 2P High Voltage Series the ideal solution for all applications requiring compact and extremely high-performing interconnect solutions.



**Medical**  
Cardiac mapping and Pulsed Field Ablation



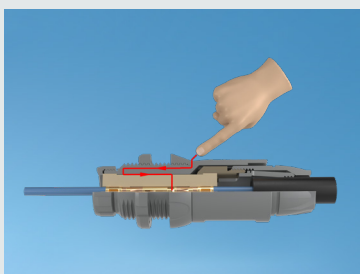
**Test & Measurement**



**NEW! High-voltage and high-density 26 and 34 pins 2P HV Series.**  
**The ideal solution for PFA integration.**

Cardiac **mapping** precisely identifies cardiac arrhythmias. The application of PFA therapy ablates the arrhythmia with **ultra-short high-voltage pulses**. LEMO's REDEL 2P HV Series connectors, with **patented contact miniaturisation technology**, provides **high voltage (up to 5kV)** and **high signal density (up to 34 pins)** without compromising ergonomics, size, or safety.

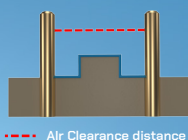
## IEC 60601-1 compliant with 3 required aspects:



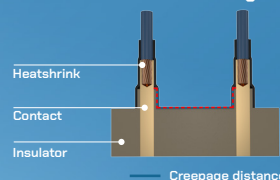
### ESD (Electrostatic Discharge) 15 kV

Protection that aims to prevent electrostatic discharges that can damage sensitive electronic components. The specially designed LEMO connectors ensure this protection reliably.

### Front Insert (Rg 1)



### Back Insert (Rg 2)



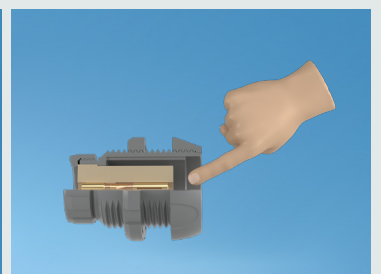
--- Air Clearance distance

— Creepage distance

\* The contribution to the creepage distance of any groove or air gap less than 1mm wide shall be limited to its width

### MOPP (Means of Patient Protection) and MOOP (Means of Operator Protection)

Stringent protective measures designed to ensure the safety of patients and operators against the risk of electrocution associated with the use of medical devices. They specify the minimum isolation and separation distances between conductive parts to prevent electric shocks.



### Test Finger

Design conformity according to IEC 61032 that guarantees no access to the electrical contacts. All LEMO connectors comply with these stringent requirements.



# Empowering connectivity

## About LEMO

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 connectors 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.

Years of experience	+75
Employees	+2000
Custom solutions	90000
Subsidiaries	20
Distributors	+20
Customers worldwide	+150000
Countries	+80

## LEMO, your ideal partner

• One-on-One local engineering expertise and technical support for system integration

• Strong supply chain and global distribution network

• Custom interconnect solutions for specific project requirements including rapid prototyping

• Certified interconnect solutions in compliance with industry standards

• Vertical integration ensuring reliable, high-quality interconnect solutions and sustained availability



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