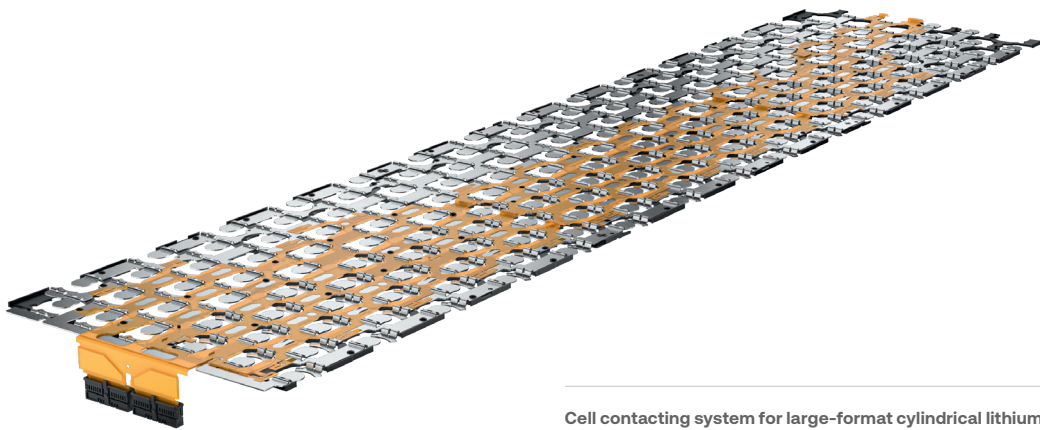


FACT SHEET

# Cell Contacting System-CCS

Cell contacting systems for lithium-Ion batteries of various configuration levels from ElringKlinger are matched exactly to customer specifications and can be positioned and welded directly onto the cell group. They consist of a plastic support frame that holds the cell connectors and ensures installation in all close -tolerance positions.



Cell contacting system for large-format cylindrical lithium-ion cells (46-x) with flexible printed circuit board as signal carrier

The necessary voltage and temperature sensors are already fitted into the systems. In addition, the monitoring electronics (CSC) itself can also be integrated. Both approved and newly developed automotive plug-in systems can be used on a plug-and-play basis at the interfaces. Voltage taps are used to monitor the cells and enable active/passive cell balancing. For thermal monitoring of the cells, a wide range of temperature sensor

shapes with optimal heat transfer can be used on the cell connectors. Our cell contacting system are made in fully automated inline production and undergo 100 % end-of-line testing. ElringKlinger cell contacting systems are suitable for use in both hybrid and purely electric vehicles and non automotive applications.



## ELRINGKLINGER – YOUR PARTNER FOR E-MOBILITY SOLUTIONS WITH BATTERY TECHNOLOGY

Cell Expertise – Module and System Design – Installation Space Optimization – Simulation and Testing – Certification – Prototyping – Process Engineering – Industrialization – Integrated Solutions and Components – Recycling

# Technology

- + Specific designed cell connectors with regard to thermal losses and power distribution, to customers' requirements
- + Integrated voltage and temperature measurement
- + Broad knowledge regarding the design of mech. compensating elements in connection with durability, cell swelling/ breathing, shock, vibration and thermal expansion
- + Integrated variable fuse at sense path (LV) and/or at cell connectors (HV) according to customer specification
- + Innovative flexible PCB design, allows different circuit variants in multi-layer design
- + Highly automated CCS assembly lines
- + CCS solutions scalable in size, from module CCS solutions to large format CCS for module-to-chassis (MTC) and cell-to-pack (CTP) applications

# Parameters

- + Capabilities to design and engineer fully integrated solutions
- + Cell voltage tapping via laser welding or bonded connections
- + Own power tab design
- + Flexible PCB allows low overall height with tolerance compensation shafts (in x and y directions)
- + High CCS part variation possible, with module connector, cover,...

# Benefits

- + Over a decade, expertise in CCS Series production
- + Large scale mass production global capabilities
- + Specific customer solutions for different kind of cell types, cylindrical, pouch and prismatic cells
- + In-house tool development and production
- + ElingKlinger own FPC development
- + Strong relationships to major players for FPC Assembly
- + Own parts development, design, FEM and computer-aided electro-mechanical topology optimization

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