

CELL-PLX™ CUSTOMIZED BATTERY INTERCONNECT SYSTEM

Addresses design complexities and space constraints with a **thin and robust** solution that provides **excellent current density spread** for consistent performance, temperature uniformity and low loss energy transfer.



EXCELLENT CURRENT DENSITY SPREAD

- Patent-pending U-Turn design ensures current density is distributed as evenly as possible.



SUPPORTS VARIOUS BATTERY CELL TYPES

- Cylindrical and prismatic battery module designs.



THIN, LIGHTWEIGHT YET ROBUST

- Effectively handles increasing variety of battery module sizes and configurations.

DIELECTRIC LAYER

- Different types of materials available, such as PET.
- Cold and hot lamination options available.

CURRENT COLLECTOR

- High-precision stamped for tight tolerances.
- Single/multi-layer options.
- Dielectric insulation layers incorporated.
- Specific configurations to attain required outputs.
- Positive and negative terminals can be formed down to cell level for laser weld or wire bond attachment.

DATA COLLECTION MEDIA

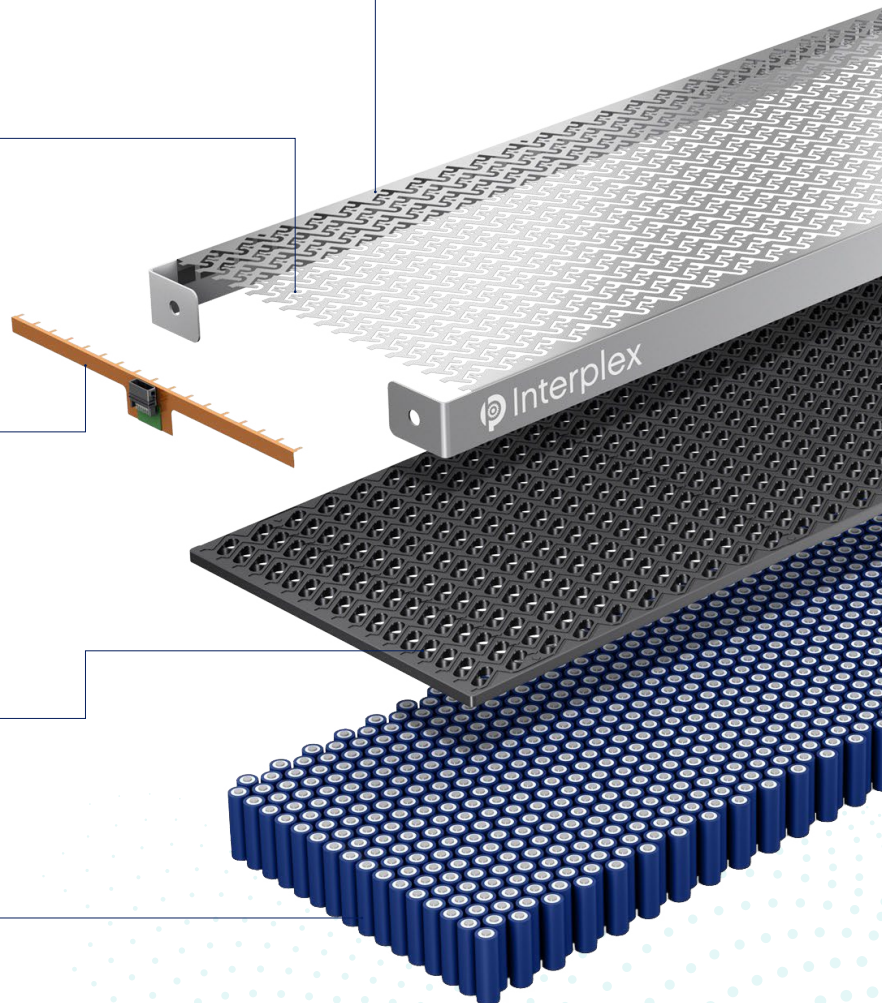
- Connected to current collectors for voltage and temperature sensing.
- Seamless assembly of flexible printed circuit board with built-in fusible link design.
- Provides robust connection to control board.
- Incorporate signal connectors.

BATTERY CELL HOLDER

- Customized configurations to meet your requirements.
- Various plastic material options available.

BATTERY CELLS

- Customized impact extruded battery cans with no side-wall-to-bottom-layer thickness ratio limit.
- Ensures precision control on material thickness.



BATTERY SYSTEM CELL-PLX™ CUSTOMIZED BATTERY INTERCONNECT SYSTEM

All specification values indicated herein are within a typical value range; actual specifications depend on end applications and requirements.

MATERIAL SPECIFICATIONS

PARAMETER	TYPICAL VALUE RANGE	REMARKS
CURRENT COLLECTORS	AL1000 Series, C1000 Series, Nickel	
DIELECTRIC LAYERS	PET, PI	
BATTERY CELL HOLDER	PPA, PC/ABS, Nylon 6, PA66, PBT	Service temperature of plastics $\leq 130^{\circ}\text{C}$
SURFACE TREATMENT OF CURRENT COLLECTOR	Nickel plating option	For anti-corrosion and welding purposes
FLAMMABILITY RATING	UL 94 V-0	For battery cell holder and dielectric layers

MECHANICAL SPECIFICATIONS

PARAMETER	TYPICAL VALUE RANGE	REMARKS
BATTERY CELL TYPES	Cylindrical, prismatic	
BATTERY MODULE CONNECTION TYPES	Nut/bolt, pin/socket, custom configurations possible	
CURRENT COLLECTOR SIZES (LENGTH)	100mm – 2500mm	
CURRENT COLLECTOR THICKNESS	0.254 – 3mm	
CELL TERMINAL THICKNESS	0.125 – 0.3mm	Laser Weld: Terminal thickness $< 0.3\text{mm}$ Wire Bond: Various thicknesses possible
CELL TERMINAL POSITIONAL TOLERANCE	$\pm 0.127\text{mm}$	
DIELECTRIC LAYER THICKNESS	0.1 – 0.3mm	Pressure-sensitive and thermal-activated adhesive

PERFORMANCE SPECIFICATIONS

PARAMETER	TYPICAL VALUE RANGE	REMARKS
BATTERY MODULE VOLTAGE	12 – 800V and higher	
BATTERY MODULE CAPACITY	50 – 400A	
BATTERY MODULE ENERGY	0.60 – 48kWh	
MODULE-TO-MODULE CONNECTIONS	$< 400\text{A}$, off-shelf or customized	
CURRENT DENSITY	$< 15\text{A}/\text{mm}^2$, maintaining $< 60^{\circ}\text{C}$ with cooling	
DIELECTRIC STRENGTH OF INSULATION MATERIALS	$< 7.5\text{kV}/0.025\text{mm}$, ASTM D149	
DIELECTRIC CONTINUOUS USE TEMPERATURE	$< 220^{\circ}\text{C}$	
VOLTAGE SENSE LINE	$< 2\text{A}$, 50V	Flex printed circuit
TEMPERATURE SENSING	4.7K Ω AT 25°C , thermistor placement	
OVERLOAD CONDITION	$< 200\%$ for 10s without degradation	

NEED A CUSTOMIZED SOLUTION?

CONTACT US