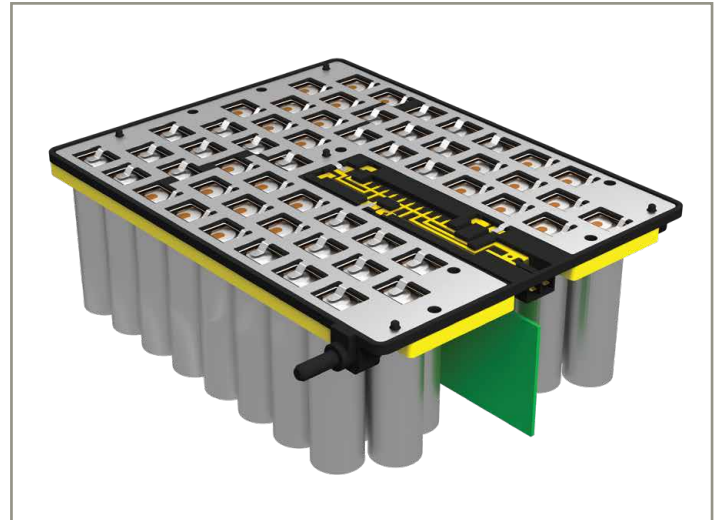


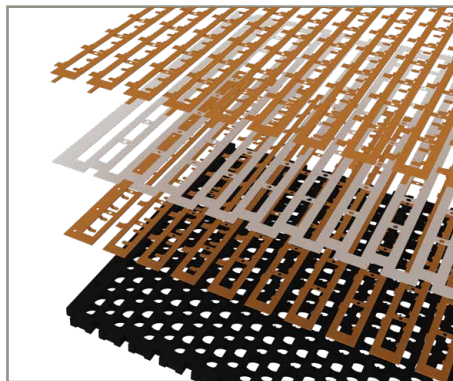
# Cell-PLX™

## Customized Battery Interconnect Systems

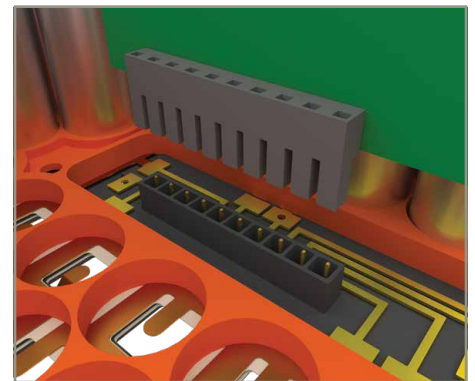
- Customized tight-tolerance current collectors; single/multi-layer designs
- Supports various current densities and cell array configurations
- Laser weld/wire bond attachment options
- Robust packaging for high-vibration environments
- Multiple module-to-module connection options
- Seamless integration of passive and active components for safety and cell monitoring
- Quick time-to-market; vertically integrated in-house production capabilities



Positive and negative terminals have reduced thickness and are formed for cell attachment



Cell holder with dielectric layer between current collectors

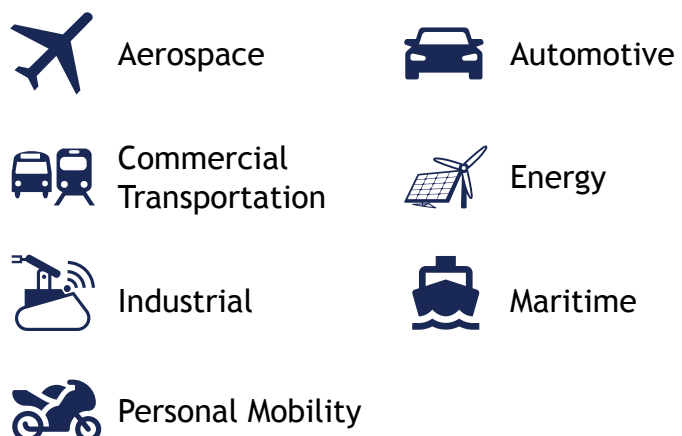


Customized I/O connectors for Battery Management Systems (BMS)

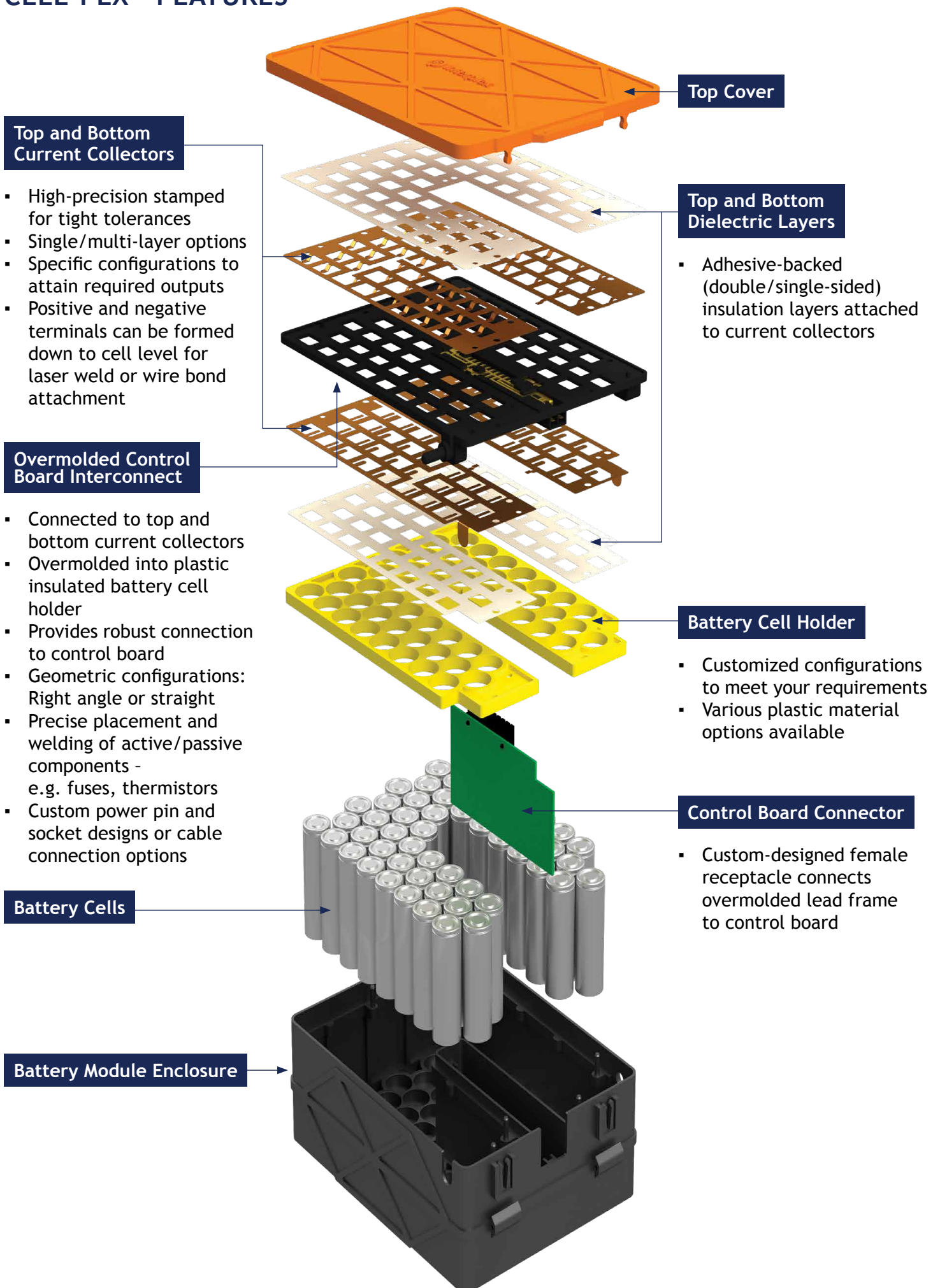
## Applications

- Electric vehicles
- Maritime vessels: Boats, ferries
- Commercial transportation: Buses, light trucks, tractor trailers, trains, subway systems
- Personal mobility devices: Motorcycles, electric scooters, bicycles
- Energy storage: Wind, solar

## Industries



# CELL-PLX™ FEATURES



## Top and Bottom Current Collectors

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

## Overmolded Control Board Interconnect

- Connected to top and bottom current collectors
- Overmolded into plastic insulated battery cell holder
- Provides robust connection to control board
- Geometric configurations: Right angle or straight
- Precise placement and welding of active/passive components - e.g. fuses, thermistors
- Custom power pin and socket designs or cable connection options

## Battery Cells

## Battery Module Enclosure

## Top Cover

## Top and Bottom Dielectric Layers

- Adhesive-backed (double/single-sided) insulation layers attached to current collectors

## Battery Cell Holder

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

## Control Board Connector

- Custom-designed female receptacle connects overmolded lead frame to control board

## MATERIAL SPECIFICATIONS

Parameter	Typical Value Range	Remarks
Current Collectors	AL1100, C1100, Nickel	
Dielectric Layers	<b>Plastic Resin:</b> PPA, PC/ABS, Nylon 6, XAREC, Noryl, Lupoy, PBT, PA66 <b>Thin Film:</b> Polyimide, Nomex, Lexan, Mylar, Epoxy in various thicknesses	
Lead Frame	C510 phosphor bronze, beryllium copper	
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	21700, 18650, prismatic, pouch	
Battery Module Connection Types	Nut/bolt, pin/socket	Customized configurations possible
Current Collector Sizes (W x L)	100 x 100mm - 500 x 900mm	
Current Collector Thickness	0.254 - 3mm	
Cell Terminal Thickness	0.125 - 0.3mm	Laser Weld: Terminal thickness $\leq 0.3\text{mm}$ Wire Bond: Various thicknesses possible
Cell Terminal Positional Tolerance	$\pm 0.127\text{mm}$	
Dielectric Layer Thickness	0.127 - 0.3mm	Pressure-sensitive and thermal-activated adhesive
Lead Frame Thickness	0.64mm typical	

## PERFORMANCE SPECIFICATIONS

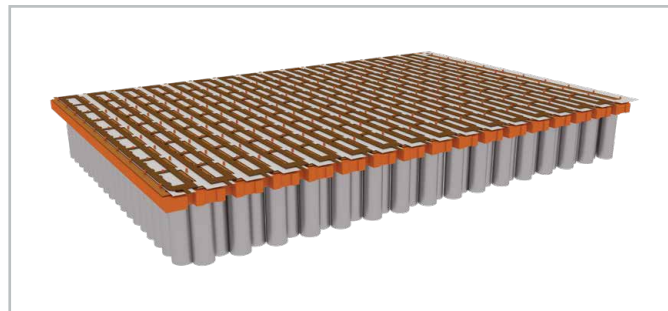
Parameter	Typical Value Range	Remarks
Battery Module Voltage	12 - 120V	
Battery Module Capacity	50 - 400Ah	
Battery Module Energy	0.60 - 48kWh	
Module-to-module Connections	$\leq 400\text{A}$	Off-shelf or customized
Current Density	Copper: $\leq 70\text{A}/\text{mm}^2$ Aluminum: $\leq 45\text{A}/\text{mm}^2$	Maintaining $\leq 80^{\circ}\text{C}$ with cooling
Dielectric Strength of Insulation Materials	$\leq 7.5\text{kV}/0.025\text{mm}$	ASTM D149
Dielectric Continuous Use Temperature	$\leq 220^{\circ}\text{C}$	
Voltage Sense Line	$\leq 2\text{A}$ , 50V	Cable, flex circuit, overmolded lead frame
Temperature Sensing	4.7k $\Omega$ at $25^{\circ}\text{C}$	Thermistor placement
Overload Condition	$\leq 200\%$	For 5s without degradation

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

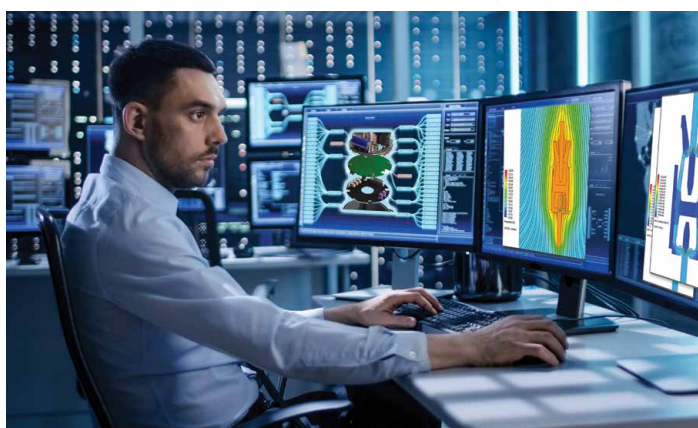
# NEED A BATTERY INTERCONNECT SYSTEM FOR YOUR EV? CELL-PLX™ IS YOUR ANSWER. CUSTOMIZE YOUR SOLUTION NOW!

At Interplex, we think out of the box. Cell-PLX™ is not a simplistic, off-the-shelf product. It is a solution - your customized solution.

Cell-PLX™ can be designed to your exacting specifications, and is customizable to various module sizes and configurations.



## ENGINEERING AND DEVELOPMENT EXPERTISE



The Interplex Product Development (IPD) team is dedicated to working with you to tackle your full range of battery design requirements.

Coupled with our vertically integrated in-house production capabilities, we can provide you with a quick time-to-market customized solution that transforms your battery interconnect system ideas into a reality.

Bring out the best in your battery system with Cell-PLX™.

Find out more at: [www.interplex.com/cell-plx](http://www.interplex.com/cell-plx)



Interplex is a leading multinational technological manufacturer and award-winning custom applications specialist. We are 100% dedicated to providing the best customized solutions for top tier companies to tackle their most demanding engineering challenges.

Our diverse portfolio encompasses complex precision mechanical and electro-mechanical components, precision rubber elements, and integrated modules and systems. Our engineering, manufacturing, R&D and testing expertise excels in numerous industries including automotive, medical and life sciences, datacom and telecom, and so much more. With an expansive global footprint, we take pride in consistently delivering **Any solution, Anywhere™** to our valued customers regardless of their location.