FINELINE
DEFINING EXCELLENCE

BATTERY ENERGY STORAGE SYSTEMS

BESS Product Portfolio

Your engineering & supply chain partner for every battery component

JULY 2026

FINELINE AT A GLANCE

Engineering-First

Dedicated BESS engineering team: from component design and thermal simulation to full Design Verification and Product Validation.

Global Supply Chain

25 approved and audited factories across the world.

Complete Portfolio

Every component your battery module needs: CCS, FPCA, thermal management, and insulation. From one partner.

14	50
Global offices	Countries supplied
+ 400	+ 130M
Global experts	Components shipped per year

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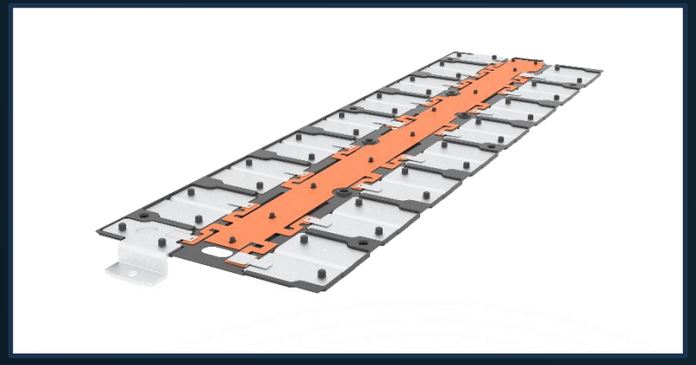
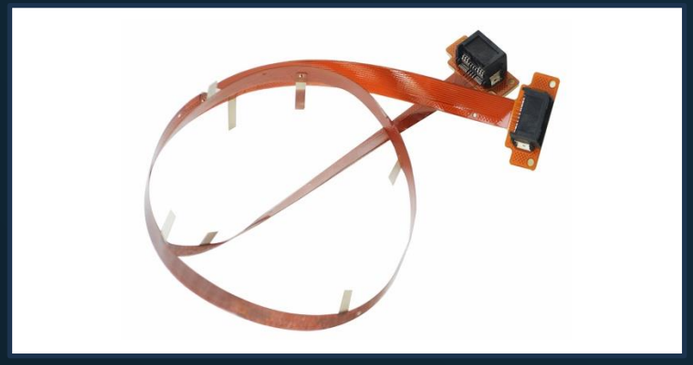
A COMPLETE BESS COMPONENT PORTFOLIO

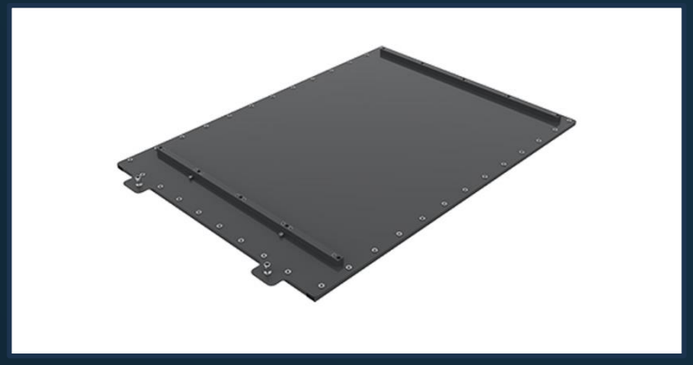
One partner for every component your battery module needs



CCS
Cell Contacting Systems

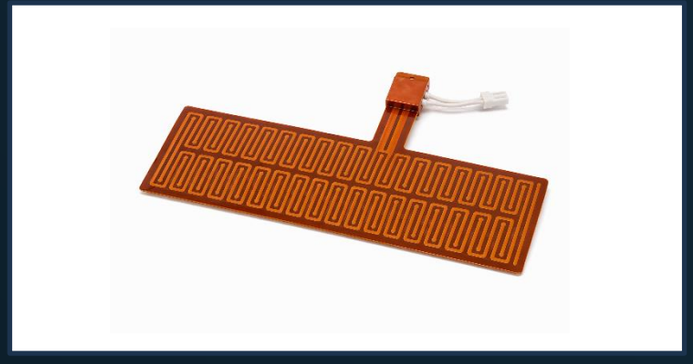


FCPA
Flexible PCB Assembly



Cooling Plates
Liquid Thermal Management

Cooling Units
System-Level Cooling



Heating Pads
Cold-Climate Performance

Insulation Pads
Thermal Runaway Protection

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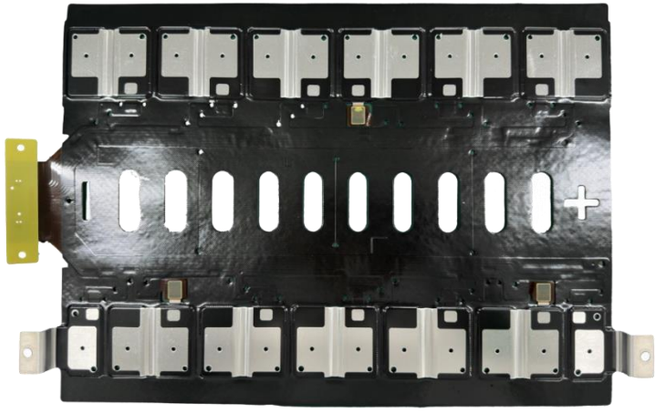
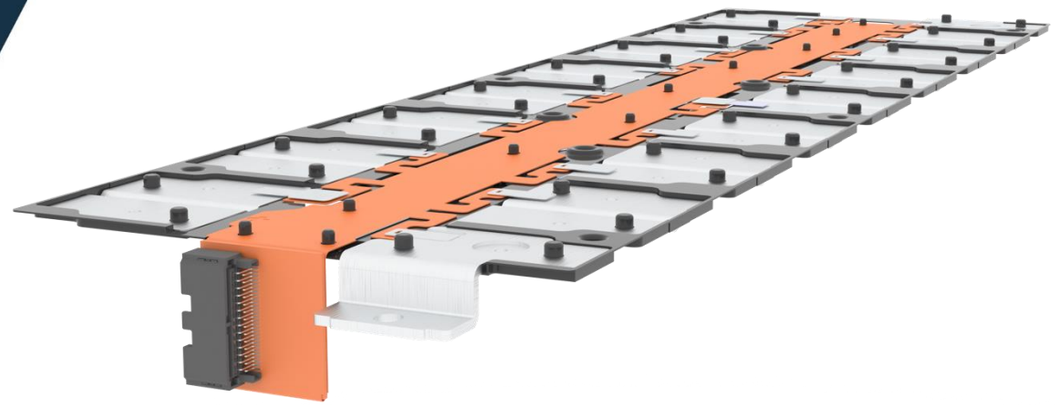
CELL CONTACTING SYSTEMS

Electrical & mechanical cell interconnect for any battery module

- Compatible with all cell formats: prismatic, cylindrical & pouch
- Carrier lengths up to 2 meters, scalable to any module size
- Integrated voltage & temperature sensing, direct BMS feedback
- Carrier technology: Rigid Plastic Carrier, Vacuum Formed Carried, Laminated Array and Adhesive film.





OPERATING TEMP	ANNUAL CAPACITY	COMPLIANCE
−40 to +140 °C	**10M+ units / yr**	**RoHS · REACH · ELV**

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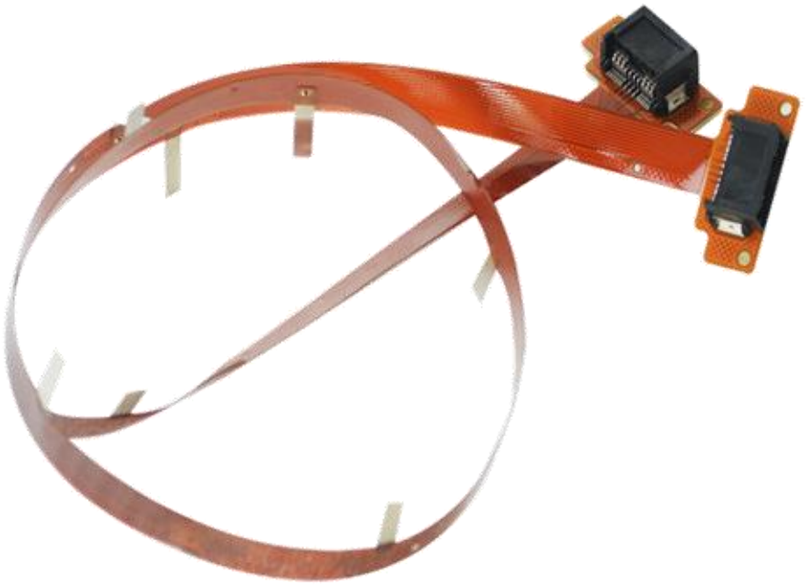
FPCA

Flexible Printed Circuit board assembly for thermal and voltage sensing in batteries.

- Sensing accuracy ΔT ≤ 2 °C — reliable, consistent data to your BMS
- Single Layer, Dual Access & Double Layer build configurations
- NTC, PTC & fuse components in one compact flexible assembly



OPERATING TEMP	FLAMMABILITY	INSPECTION GRADE
−40 to +125 °C	UL 94 V-0	IPC 6013 Class 3

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LIQUID COOLING PLATES

Cell-level thermal management for direct & indirect liquid-cooled systems.

- CAE thermal simulation included in the design service
- Cooling Plate technology: Air Cooled, Liquid Cooled, Immersed Liquid Cooling, Integrated Heating & Cooling (GB 38031-2025)

MAX DIMENSIONS
1172 × 810 mm

LOAD CAPACITY
Up to 750 kg

MATERIAL GRADES
Main Body - Al3003MOD (Al4343)

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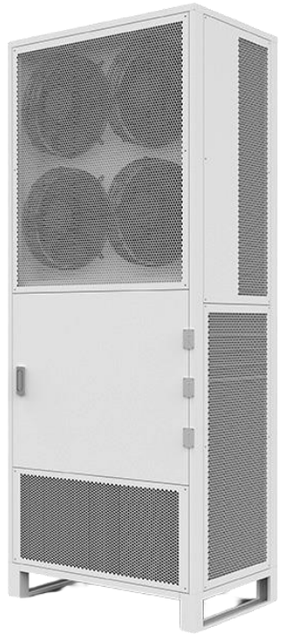
LIQUID COOLING UNITS

System-level thermal control from module to large-scale BESS.

- 3 kW to 80 kW cooling capacity — scales with your system
- From 2 to 24 kW Electric heating capacity
- CE Marked · RS485/CAN communication built in



TEMP CONTROL
5 – 40 °C

IP RATING
Up to IP55

COOLANT
EG-Water 50/50

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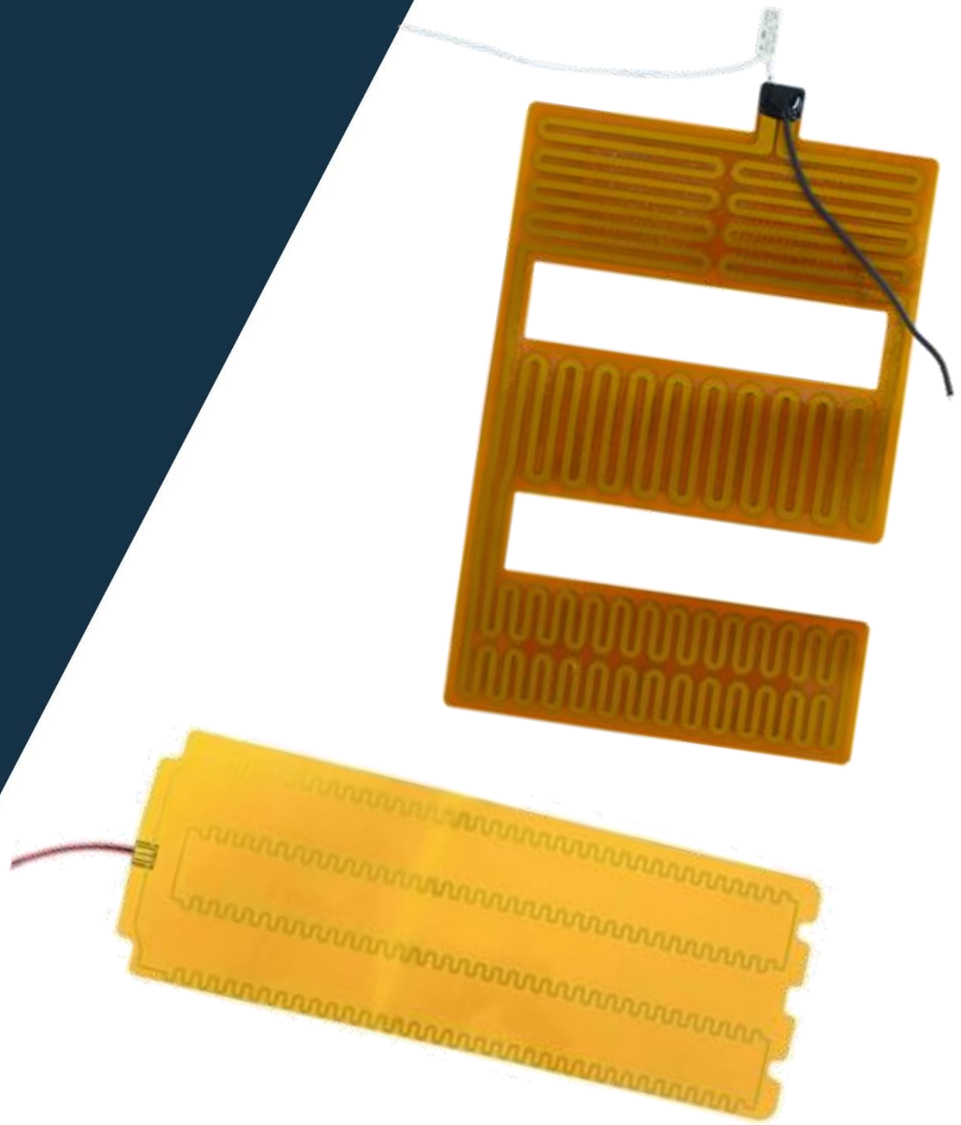
HEATING PADS

Cold-climate battery performance down to −40 °C.

- Enables full battery operation in extreme cold environments
- Four technologies: Silicone Rubber, Flexible Polyimide, Rigid FR4 Epoxy & PTC
- Designed to your power density & thermal specification



TEMP. RANGE	MAX SIZE	MAX POWER DENSITY
−40 to +150 °C	1 M × 1.5 M	Up to 1.2 W/cm²

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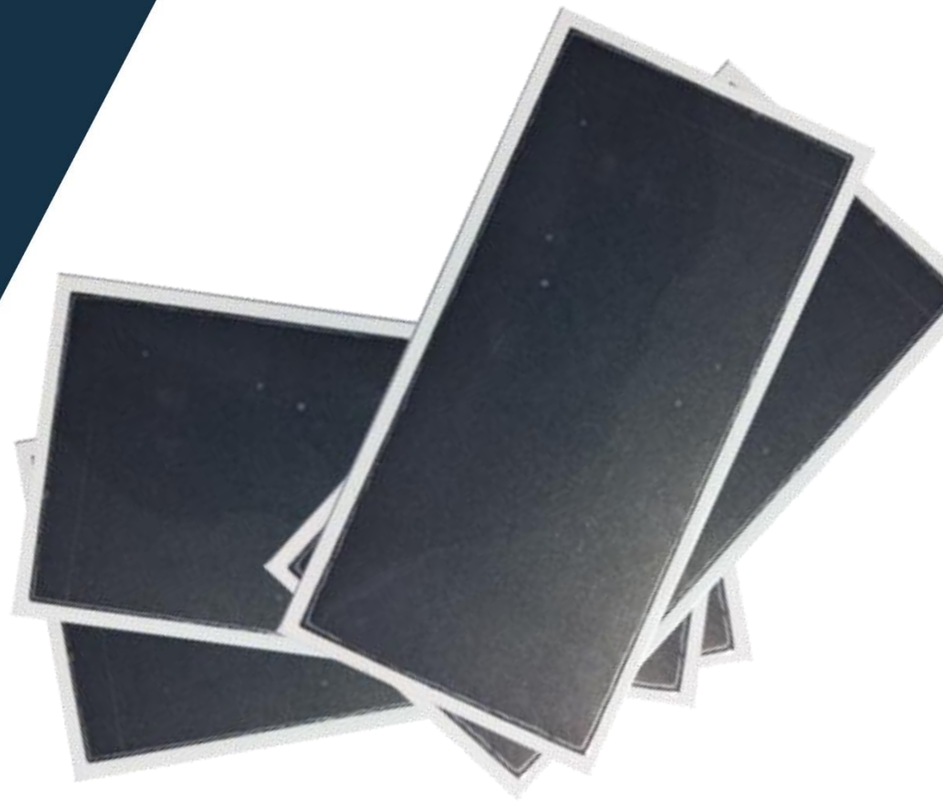
INSULATION PADS

Aerogel technology — cell-to-cell thermal barrier & thermal runaway containment.

- Compression to accommodate cell expansion and contraction during operational life
- Three variants: Pre-Oxygenated Felt 350 °C, Glass Fibr Fabic 550 °C & Ceramic Fibre Fabric 800 °C
- UL 94 V-0 · RoHS / REACH
- Framed & unframed options

THICKNESS RANGE	MAX SIZE	THERMAL CONDUCTIVITY
0.52 – 5.0 mm	**1.4 M × 0.5 M**	**≤ 0.03 W/(m·K)**



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WHY CHOOSE FINELINE

One Partner. Every Component.

SUPPLY

Global delivery, 50 countries, 130M+ parts per year

VALIDATE

In-house DV & PV testing across all BESS product lines

SIMULATE

CAE thermal simulation for cooling plates & thermal stack

DESIGN

Component design engineered to your cell & module spec

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Thank you!
For any inquiries, please contact us at

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www.fineline-global.com

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