

Hybrid and Electric Vehicle Thermal-Management Technologies



LONG®
Thermal Products



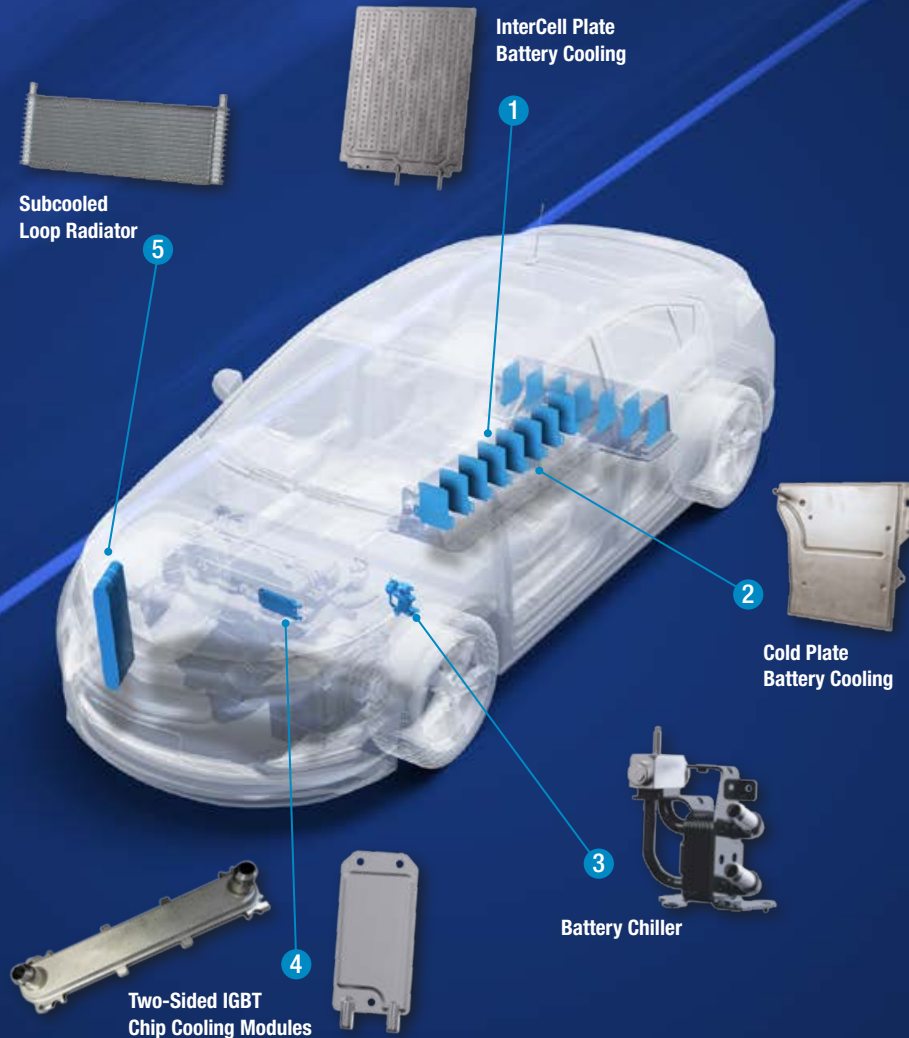
Thermal product solutions for hybrid and electric vehicles.

Dana designs, develops, and manufactures custom heat transfer products for vehicle electrification. Our extensive range of Long® brand thermal-management products sets the industry standard for innovation and quality.



Thermal-management technologies for the most advanced vehicles.

Dana offers a range of thermal-management products for battery, chiller, and power electronics applications, for both light- and heavy-duty vehicles. Dana's extensive R&D facilities enable custom-designed cooling solutions that feature lightweight aluminum constructions and ultra-clean products.



- 1 InterCell Plate Battery Cooling**
 - Thin (1 mm) plate cooler with internal liquid-cooling channels
 - Interleaved between cells for maximum thermal surface contact
 - Best achieved cell temperature uniformity for extended battery life
 - Effective cooling during fast charge/discharge
 - Integrated dielectric separation coating
- 2 Cold Plate Battery Cooling**
 - Liquid-cooled plate for mounting hard can battery modules
 - Lightweight, stamped aluminum construction – fluxless joined for non-ionic coolant compatibility
 - Flow balanced designs for uniform battery pack temperature
 - Customized fluid connectors and routing lines
- 3 Battery Chiller**
 - Refrigerant to glycol loop chiller
 - Transfers heat from battery to vehicle's A/C system
 - Compact, high-performance design with integrated expansion valve
- 4 Two-Sided Insulated Gate Bipolar Transistor (IGBT) Chip Cooling Modules**
 - For DC/AC inverter and DC/DC converter IGBT cooling
 - Lightweight, fluxless joined aluminum construction
 - Superior flatness for chip thermal contact
- 5 Subcooled Loop Radiator**
 - For battery subcooled loop heat rejection
 - High-performance internal heat transfer augmentation for low grade heat rejection
 - Fluxless joined aluminum for compatibility with non-ionic coolants

With deep expertise and problem-solving ability in thermal-management applications, Dana provides solutions that are customized to exact OEM needs.

Learn more today by visiting dana.com/light-vehicle.

dana.com/ptg/contact



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Application Policy

Capacity ratings, features, and specifications vary depending upon the model and type of service. Application approvals must be obtained from Dana; contact your representative for application approval. We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.