

HC-STAK 25 HIGH-VOLTAGE INTERCONNECTION SYSTEM

- Voltage ratings up to 1000 VDC, capable of carrying current of up to 247 A at 85°C in wires ranging from 25mm² to 50 mm²
- Double-ended fork terminal system provides a low contact resistance



Since the advent of electric mobility, there has been a need for compact, robust, and reliable high-performance connection interfaces to transfer power in the most efficient manner from the charging inlet through the battery pack to the inverter and drive motors.

TE Connectivity's HC-STAK 25 High Voltage Interconnection System is designed to provide a safe and reliable connection between the HV battery and inverter or the power distribution system and e-motor. With a voltage rating of up to 1000 VDC and a current carrying capability of up to 247 A at 85°C (50 mm² wire) the HC-STAK 25 connector is a high-performance system that is both scalable and capable of reliable high-power distribution to each aggregate. A noteworthy double ended-fork terminal system provides a low contact resistance arrangement while meeting sealing, shielding, and touch-safe requirements in a very compact package. It has the flexibility to interconnect with a wide range of conductor cross-sections, geometry, and materials.

KEY BENEFITS

- Built for power & acceleration: maintains electrical integrity under rapid acceleration & high-load scenarios
- Proven fork-style terminal system: up to 40 double ended fork contacts per circuit for reliable connections
- Scalable power for its size: supports up to 247 A of current and 1000 VDC in a space-saving footprint
- Modular contact design: layered forks can be customized to meet application-specific current requirements
- Low-resistance interface: stacked fork contacts flex under stress and are optimized to minimize power loss
- EMI control: 360-degree shielding delivers system integrity in highly electromagnetic environments
- Copper or aluminum ready: supports ultrasonically welded single-core Al or Cu conductors for flexibility
- Compact & lightweight: delivers high current in a small package; simplifies integration in space-constrained areas
- Touch-safe & sealed: meets IP2XB and IP6X9X standards for touch protection and environmental sealing
- Automation-ready: supports automated production and inspection to reduce system-level cost & complexity

TARGET MARKETS

- E-mobility: fully electric, hybrid, plug-in hybrid, and fuel cell passenger cars and pickup trucks
- Industrial & Commercial Transportation: electric and hybrid delivery vans, trucks, and other vehicles

APPLICATIONS

- Inlet to battery
- Battery to inverter
- Power distribution to e-motor

PRODUCT FEATURES

- Poles: 2
- Voltage Rating: 1000 VDC
- Current Carrying Capability: 247 A at 85°C (50 mm²)
- Wire sizes: 25, 35, or 50 mm²
- Wire Type: Shielded
- Terminal size/type: 2.5 mm double-ended forks
- Maximum contact points: Up to 40 per circuit (20 forks)
- IP Rating, Mated: IP6K7, IP6K9K; Unmated: IP2XB
- HV Interlock Option: Shunted in Plug
- Latch Access Type: Lever with integrated CPA
- Fire Classification: V0 (Inner Housing)
- Vibration Level: USCAR-2 Class V1
- Temperature Range: -40°C up to 125°C

LEARN MORE

- [HC-STAK 25 Product Brochure](#)
- [HC-STAK 25 Technical Solution Paper](#)
- [HC-STAK 25 Plug - Reference Drawing](#)
- [HC-STAK 25 Plug - Application Specification](#)
- [HC-STAK 25 Header - Reference Drawing](#)
- [HC-STAK 25 Header - Instruction Sheet](#)
- [HC-STAK 25 Product Specification](#)