HIGH VOLTAGE PDU
DC750-PDU

Market Capabilities Showcase – Showcased Product Not Available for Purchase

The DC750-PDU high voltage power distribution unit has been designed as an example of capabilities we offer our customers that require custom solutions.

Description

Our customizable HV PDU can be designed and manufactured for any voltage, providing solutions for OEMs installing the latest electric vehicle (EV) battery technology.

By combining our high-voltage DC contactors and fuses in an IP67/6K9K-rated enclosure, optimizing power distribution with busbars and PCBAs, and adding temperature sensing and current sensing capabilities, the HV PDU safely, reliably, and efficiently distributes power from a high-voltage battery module to the high-voltage systems of a vehicle.

The high-voltage components are electrically connected through the busbar and wiring harness, which creates a high-voltage system for electric and hybrid-electric vehicles.

The system provides functions such as charge and discharge control, high-voltage component power-on control, circuit overload and short-circuit protection, high-voltage sampling, and low-voltage control. These functions protect and monitor the operation of the high-voltage system.

The HV PDU can also integrate battery master switch main control, charging module, DC/DC converter, PTC control module, and other functions. Compared to traditional PDUs, the HV PDU features more vehicle functional modules, which are more integrated in function and more complicated in structure, with heat dissipation structures such as water cooling or air cooling.

Whether you're designing a hybrid electric vehicle (HEV) for the road or manufacturing an off-highway electric vehicle, such as an electric tractor or an electric forklift, our HV PDUs are flexible and ready to handle the challenges of powering next-generation vehicles. Our engineers will work with you to customize and develop an HV PDU configuration to match the requirements of your specific application.

Overview Specification

Voltage Range:	750-1000V DC
Main Current Rating:	400A
Operation Temperature:	-40C - + 85C
Ingress Protection Rate:	IP67, IP69K
Withstand Voltage Rate:	2500VDC 60s, Leakage Current < 3mA
Isolation Resistance Rate:	1000VDC 60s, Isolation Resistance >500MΩ
Vibration Resistance:	ISO 16750-3, QC/T413-2002
Shock Resistance:	ISO 16750-3
Dimensions:	Customer Vehicle Dependent
DC/DC Converter:	300KWh
Input Connectors:	Various types and manufacturers
Output Connectors:	Various types and manufacturers
Maximum Weight:	50 lbs

Web Resources

To find more information on our HV PDU, Please visit us at **Littelfuse.com/HV-PDU**

Contact Us

For more on how to create your own customizable High Voltage PDU, please contact us at **littelfuse.com/HV-PDU**

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Mechanical and Electrical Data

MECHANICAL DATA	
OPERATING TEMPERATURE	-40C - + 85C
IP PROTECTION	IP 67/6k9k
WEIGHT	50 lbs
DIMENSIONS	Customer Vehicle Dependent
HOUSING	Case Al
BUSBAR MATERIAL	Copper
BOLT	M6 Bolt Fixation
PIN DEFINITION	Vcc, Vout, GND

ELECTRICAL DATA	
CONNECTORS	LF will integrate market available HV connectors from manufactures such as TE, Ampehnol
INTEGRATED COMPONENTS	Current Sensor Temperature Sensor
ELEC COMPONENTS	Littelfuse HV Fuses (828, EV1K) Littelfuse HV DC Contactors PCBA & Busbar

Mounting Recommendations

MOUNTING RECOMMENDATIONS	
CONNECTOR	Industry Standard Connectors
MATING CONNECTOR	Industry Standard Connectors
INSTRUCTIONS	Screw mounted with flat washer and spring washer or flanged screw serrated are recommended.
ASSEMBLY TORQUE	7N·m± 10%

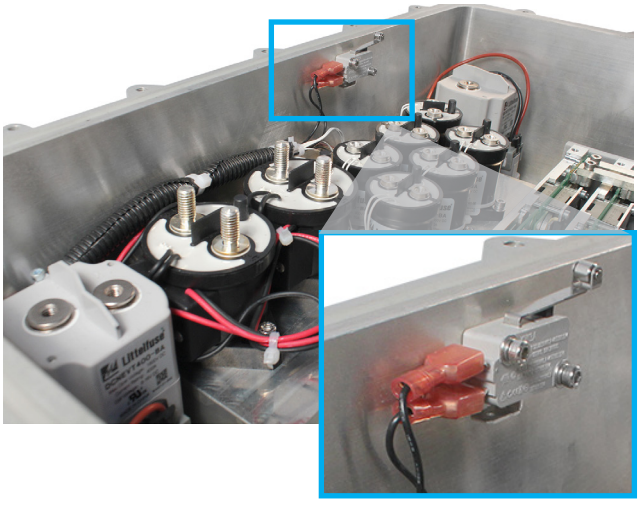
Applications

- eMobility Solutions
- Hybrid Electric Vehicles (HEV)
- Battery Electric Vehicles (BEV)
- Off-Highway Electric Vehicles
- Electric Forklifts
- Electric Tractors

Features and Benefits

- Can be designed and manufactured for any voltage
- Configurable with Littelfuse high-voltage DC contactors for safe high-voltage switching
- Optimized power distribution through an integrated PCBA
- Integrated DC current sensor
- Integrated temperature sensor
- IP67/6K9K rating ensures reliability in harsh environments
- High-voltage fuses deliver circuit protection for system-wide safety
- High Isolation resistance
- Designed to manage heat dissipation
- On-board liquid cooling available for thermal management
- Designed for easy maintenance & safety
- Cover sealing with double interference and special bolt to assure cover is secure
- HVIL: High Voltage Internal Lock

HVIL Lid Switch



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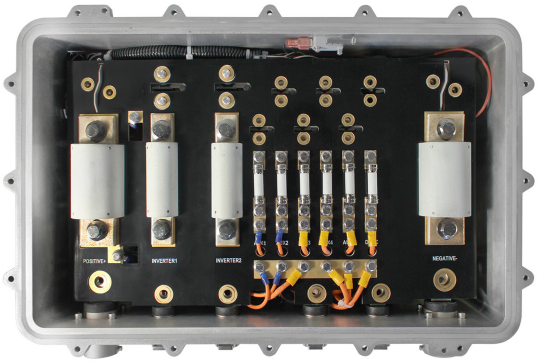
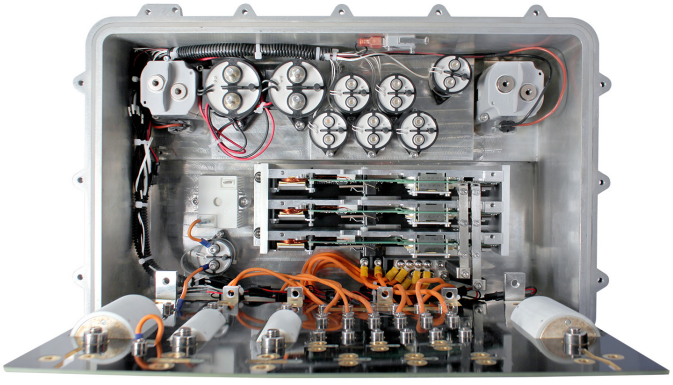
Assembly Interface

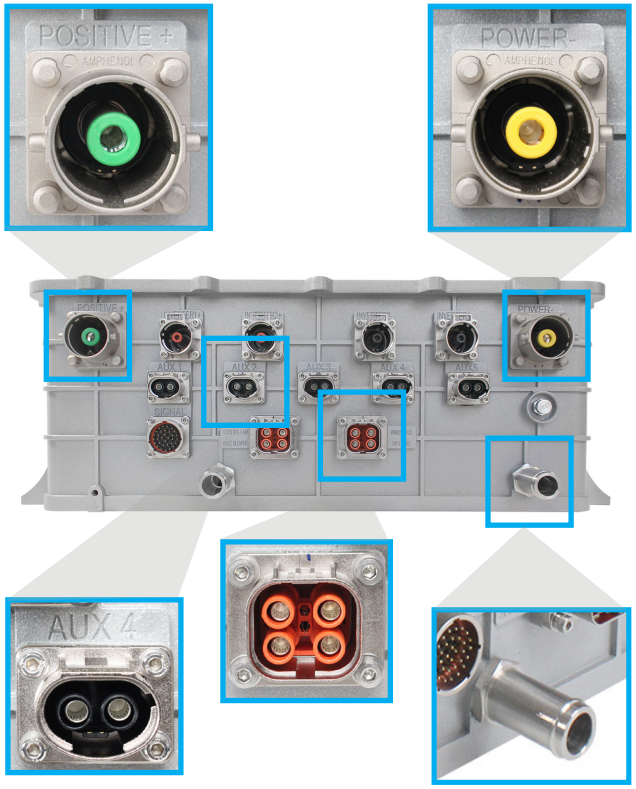
Top Interface



Bottom Interface



Connectors



DC/DC Cooling System

Related Products

EVK1 Series Semiconductor Fuses

The Littelfuse EV1K series is an electric vehicle (EV) fuse designed to protect high-voltage, high-current on-board applications in electric and hybrid vehicles as well as off-board charging. It was specifically built from the ground up to meet the stringent requirements and standards of the electric vehicle industry.

littelfuse.com/EV1K

DC High Voltage Contactor Relays

Littelfuse has a broad offering of high voltage DC contactor relays for electric, hybrid, and industrial applications. Multiple current ratings, coil voltage ratings, and auxiliary contacts provide design flexibility. Ingress protection ratings help ensure long-term reliability in harsh environments.

littelfuse.com/DC-Contactors

828 Series 10x38mm Fuses

The 828 series fuses are specifically designed and tested to the circuit protection needs of compact auto-electronics applications, which is 1000V DC rated with remarkable interrupting rating. Featuring Littelfuse internal AEC Q200 compliance, they can be used on the on-board charger and power distribution unit for electric vehicles. With available through-hole and bolt-down versions, they allow for either PCB or screw assembly.

littelfuse.com/828