

Power Distribution Unit

The Cross Power Distribution Unit (PDU) is a power delivery component for off-highway electric vehicles that manages the distribution of power from the energy source, such as a battery or fuel cell, to various critical subsystem loads such as traction inverters and on-board charging devices. The PDU offers a sealed, corrosion-resistant enclosure that houses robust circuit protection devices such as fuses, circuit breakers, and contactors to ensure safe and reliable power delivery.

FEATURES/FUNCTIONS

Multiple Voltage Capabilities and Ranges (12V-80V)

The Cross PDU is optimized for 48VDC architectures but can be customized and adapted for 12V, 24V, 36V, 72V, 96V, and beyond.

Optimized for Inventus 48V Batteries

As an integration partner for Inventus Power, the Cross PDU is optimized for interfacing with Inventus 48V batteries, providing the necessary control signals for charge and discharge enabling.

300A Connector and Contactor Rating

Standard components are rated for 300A continuous use, providing high power delivery to various subsystems.

48V and 12V Switched Fuse Outputs

Ability to control loads on both system voltage buses with internal relays allows for flexibility and consolidation of components on your machine.

Dedicated Bulkhead Connectors for OBC, DC/DC, Inverter, Signal Wiring

Common loads such as on-board chargers, DC-DC converters, and motor inverters have dedicated bulkhead

connectors simplifying connections outside of the PDU.

Low current signal wiring is routed through a single Deutsch bulkhead connector. Designed for single inverter use. Multi-inverter use available on request.

Compact Enclosure for Mounting

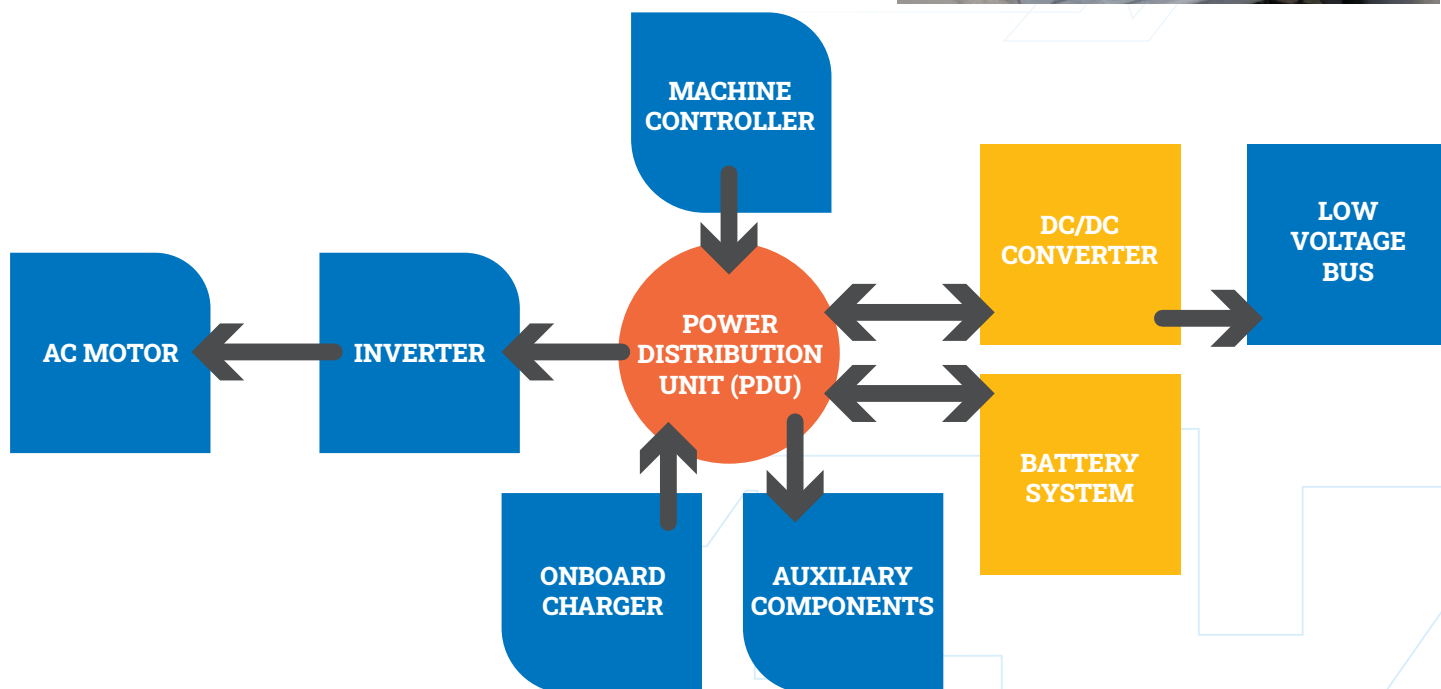
Small footprint enclosure combined with an engineered panel layout means less space taken on the machine and more options for mounting in tight spaces. Removable top lid for easy maintenance

IP-Protected Housing (IP65)

Enclosure is IP65-rated for protection against dust and water ingress, keeping electrical components operating in all external conditions.

MECHANICAL DATA	
Voltage Range	12-80VDC
Primary Current Rating	300A
Operating Temperature	-35° to 55°C
Ingress Protection	IP65
Busbar Material	Copper
Weight	10 lbs.
Dimensions	10.05" x 6.75" x 6.20"
ELECTRICAL DATA	
High Power Connector	Amphenol SurLok Plus
Mid Power Connector	Amphenol PowerLok 4.0, Deutsch DTP04
Signal Connector	Deutsch HDP24-24-31SE
Components	1 x 300A 80VDC Fuse
	2 x 70A 80VDC Fuse
	Altran Contactor - Non Economized
	Omron Relays - Keyswitch, 2 x Spare

Customization of PDU for specific applications available on request.



ABOUT CROSS MOBILE SYSTEMS INTEGRATION

Cross Mobile Systems Integration works with off-highway OEMs to improve their machine design and performance. Whether it's hydraulics, electronics, controls or a full overhaul from ICE to electrified, Cross's team of engineers works as an extension of our customer's engineering team. We take the time to understand the unique requirements of each piece of mobile equipment and then design, prototype and build an optimized system for the machine.