



# HV PDU

HIGH VOLTAGE  
POWER DISTRIBUTION UNIT



# HIGH VOLTAGE POWER DISTRIBUTION UNIT SYSTEM FOR eVTOL

## INTRODUCING HVPDU

The **HVPDU** is a high voltage power distribution solution **developed by Ocellott** to manage high voltage systems for **eVTOL**, designed to ensure safety, flexibility, and efficiency in high voltage applications for the whole product life cycle.

With advanced protection algorithms and programmable logic, the **HVPDU** adapts to various power supply conditions. It supports **FPGA or DSP-based control**, offering flexibility and reliability.

Built with advanced composite materials, the **HVPDU** meets **IEC 60664-1** standards for creepage and clearance. It features aerospace-grade connectors (according to **MIL-DTL**) and is designed for passive cooling, depending on customer requirements.

## PRODUCT LIFE CYCLE

High Voltage aspects of the **HVPDU** are controlled throughout all phases of the product lifecycle:

- **Design phase:** Specify the HV design aspects in the products, standard works and design guidelines
- **Test and verification:** Verification of HV components and functionalities
- **Documentation and operation:** Clear instructions for installation and operation
- **Maintenance:** Guidelines for maintenance of HV equipment and additional safety measures
- **Safety assessment:** Includes the HV aspects in the standard safety assessment process

## KEY TECHNICAL ASPECTS

- Operating voltage up to **1000V** and current up to **400A**
- Wide temperature range: **-45°C to 70°C**
- Programmable protection: curves, thresholds, and more
- Capability to develop for **DAL A** or **DAL B**
- Integration with **SSPC** (Solid State Power Controller)
- Use of **SiC MOSFETs** for improved efficiency
- Extensive component-level **testing available**



Performance Data	
Operating voltage	Up to 1000V
Operating temperature	-45°C to 70°C
Protection	Programmable (protection curves, threshold, etc.)
SSPC	Compatible with Solid State Power Controller
Operating current	Up to 400A
Semiconductor	Silicon carbide MOSFET (increased efficiency)
Development	Extensive component-level testing (available for customer test conditions)

Protection and Control	
Protection algorithms	Advanced protection algorithm
Flexibility	Adaptable to customer power supply requirements
Control hardware	FPGA or other DSP
DAL compatibility	Capability to develop for DAL A or DAL B
Programmable protection	Curves and thresholds configurable

Mechanical Design	
Enclosure material	Advanced composite material
Insulation standards	Creepage and clearance distances (IEC 60664-1)
Connectors	Aerospace grade (MIL-DTL compliant)
Cooling	Designed for passive cooling (according to customer requirements)





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