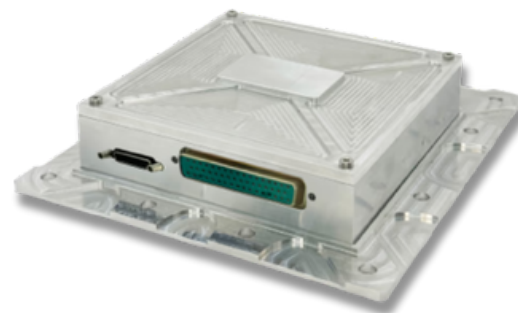




# Power Distribution Unit

- **Reconfigured in Minutes**
- **Wide Input and Output Voltage Range**

The Power Distribution Unit (PDU) takes an unregulated bus voltage as an input and supplies the correct voltage and current levels needed by different satellite components. Configurable latching-current limiters are added to ensure protection in case of a power anomaly. Example use-cases are power supply for payloads, propulsion subsystems, AOCS subsystems, vision-based navigation, and in-orbit demonstrations.



Our vertically integrated system uses in-house designed semiconductors that are perfect for the PDU performance. We guarantee the highest reliability - from component to system level - while also offering the latest in CMOS performance with highly integrated solutions and advanced features. Our design process starts by drawing the transistor structures in silicon allowing us to provide radiation tolerance and advanced system level redundancy. Combining CMOS integration, wide-bandgap power devices and high-speed switching we offer the best power and feature density on the market.

The system is built with speed and flexibility in mind. Our approach delivers unique features such as optional software control of voltage/current settings during integration. Final settings can be burnt into error protected fuse memories before flight. We provide off the shelf modules for speed while also being highly flexible to power the software-defined-satellite.

**Satellite power systems are still being built with techniques from the last century, We bring the satellite power system into the modern world.**

## Best-in-class Performance

- 6 - 40V Input Range
- High-efficiency DC/DC Converters
- Fast Transient Response

## Best-in-class Reliability

- SET Rejecting Digital Control Loop
- Over Voltage/Current/Temp. Protection
- Minimal Solder Joint Quantity Design

Optional:

- Radiation Hard (100 krad / 62.5 MeV)
- Isolated Topology
- Single Fault Free Architecture

## Best-in-class Flexibility

- Software-Defined Voltage and Current
- Full TMTC Observability & Control

Optional:

- Extra AIT Firmware Control
- Anomaly Detection Alarm

**We design next generation systems by controlling all layers of the technology stack including dedicated semiconductor design with the singular goal of delivering technical excellence.**

**The team has built satellite systems for NASA & ESA and has thousands of hours of on-orbit success.**

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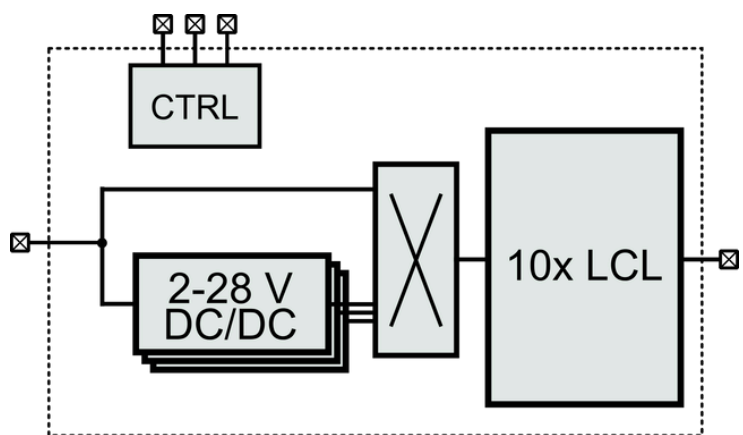


## Defining Features

The PDU is specifically designed to enable rapid iteration and reconfiguration. If you require an updated voltage level or new current limit, we can support this quickly and cheaply. In many cases, this is even possible with hardware that is already delivered to you and already integrated into your systems. This saves precious time and allows for a shorter time-to-market of your innovative product.

Latching Current Limiters (LCLs) can be set as latching to switch off the power until commanded or retriggerable to automatically restart after an over-current event. Undervoltage protection is present to ensure that the converters do not start operating when there is insufficient voltage available at the input.

## Baseline Architecture



## Optional Add-ons

- Galvanic Isolation
- Redundant Controller
- HDRM Driver
- Valve Driver
- Motor Driver
- High Voltage DC/DC Converter
- Power Processing Unit

## Technical Details (other configurations possible)

<b>Input Voltage</b>	6 - 40V	
<b>Maximum Power</b>	>100W	
<b># DC/DC Converters</b>	3 (per module)	
<b># LCL and Switches</b>	10 (per module)	
<b>LCL Voltage</b>	1.8 - 28 V	
<b>LCL Current</b>	0.5 - 20 A	
<b>LCL Classes</b>	LCL 1-10	RLCL 0.5 - 2B
<b>Radiation (TID)</b>	100 krad	
<b>Radiation (SEE)</b>	62.5 MeV-cm <sup>2</sup> mg (Si)	
<b>Temperature</b>	-40°C - +85°C	
<b>Digital Interface</b>	RS422	CAN
<b>Dimensions</b>	96x96x20 mm	
<b>Mass</b>	~500gr	
<b>Quality Standards</b>	ECSS	NASA GEVS

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