

PWR3100 Series

Dedicated Power Distribution Unit (PDU)

Designed strictly as a centralized DC power distribution and load segmentation unit for automated rack systems. It is the ideal fit for integrated shelter electronics and localized vehicle rack feeds—such as expansion modules or distributed sensor racks—where electronic protection mechanisms and high-efficiency daisy-chain connectivity are required to ensure continuous operational availability without individual line maintenance overhead.

Key Features

Primary Power Role
Power Distribution
Overload Protection
DC Conditioning
Scalability
Chassis Form Factor

Dedicated Subsystem Power Distribution Layer (PDU)
Up to 4 dedicated DC outputs
Fast electronic fault isolation
Filters incoming DC power for downstream devices
Daisy-Chain support for rack expansion
Lightweight 1U rackmount design

Capabilities

The PWR3100 Series is a dedicated, rack-mount power distribution unit (PDU) designed to segment and protect DC power inside tactical shelters and command racks. Acting as a specialized distribution layer, it takes an external DC input and splits it across four heavily protected channels, eliminating messy custom cabling.

The platform utilizes advanced electronic circuit breakers that reset or trip much faster than traditional thermal fuses. Its architecture emphasizes continuous, low-impedance power flow and physical space-saving deployment.

The capabilities of the PWR3100 series include:

- **Ultrafast Overcurrent Tripping:** Employs millisecond-level electronic protection to isolate faulty downstream gear instantly.
- **Subsystem Cascading:** Simplifies rack architectures by allowing multiple PDUs to share a main bus via back-plane daisy-chaining.
- **Transient Signal Conditioning:** Smooths out high-frequency noise and ripples present on the incoming primary DC supply line.
- **High-Continuity Distribution:** Maintains stable operation across remaining ports if a single output channel experiences an overload.
- **Zero-Maintenance Design:** Uses entirely solid-state internal components, eliminating consumables or mechanical relays that wear out.

Form factors

The PWR3100 series offers different form factors depending on best fit for a particular use case.

Standard 19"/2 form factor	Customized form factor
	
▪ Form, fit and function over multiple generations ▪ Long-term roadmaps	▪ Project driven form factor

MilDef 19"/2 modular design

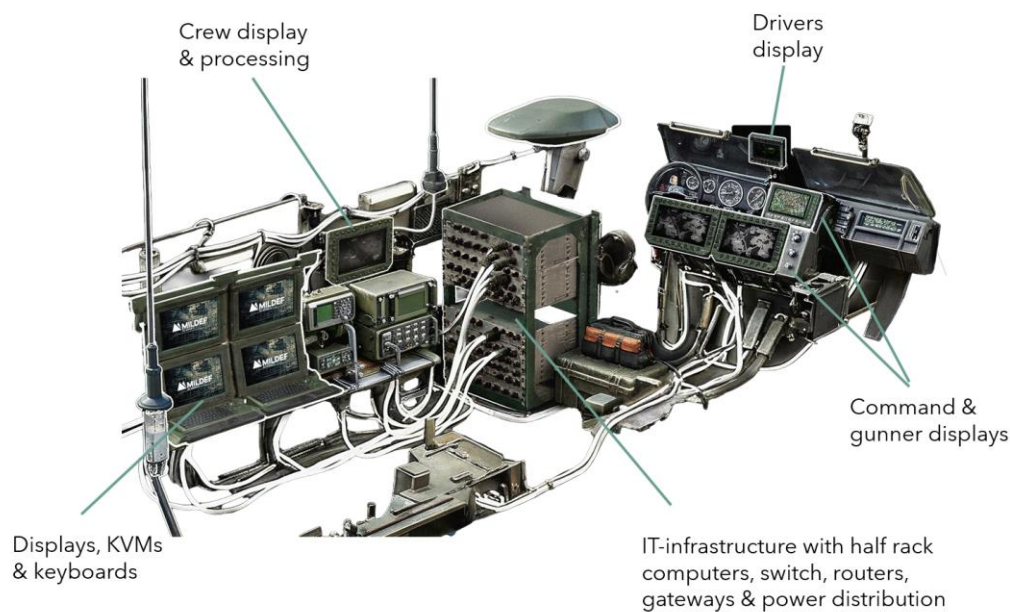
The MilDef 19"/2® addresses the requirements for small, high performance IT hardware. The modular design and broad product offering (computer, network, power and peripherals) enables the use of 19"/2® units as building blocks for creating built to purpose solution. Same form factor over multiple generations enable reuse of cable, mounting solution etc for midlife upgrades along the system life cycle.

Solution provider

MilDef offers solution and integration delivering seamless, end-to-end solutions by integrating hardware and software into complete systems that meet customer requirements. Managing integration projects/programs to ensure alignment with mission objectives/business strategy and technological capabilities.

Hardware ECO-system

Our hardware offering including all the building blocks for complete IT infrastructure for the tactical edge, such as displays, network products, power products, docking stations, mounting solutions etc.



Use case

The PWR3100 series is a core component of many tactical platform designs. Some use case examples are:

- **Tactical Electronic Warfare Racks:** Splits a centralized DC feed into isolated channels for jamming pods, receivers, and antenna processors.
- **Shelter Expansion Subsystems:** Functions as a local PDU, enabling secondary device groups to draw clean DC power from the shelter's main power system.
- **Mobile Radar Subsystems:** Distributes and monitors power for signal aggregators, transceivers, and radar cooling controllers.
- **Co-located Computing Enclosures:** Provides clean, electronically fused power to tactical network switches and storage units within a compact server rack.



Specifications

System & Interfaces			
Platform Positioning & Architecture Type	Dedicated Power Distribution Unit (PDU) Platform	Primary Input Type	AC Utility / Generator / Shore Power
Distribution Capacity	Medium-Density Power Distribution	Input Voltage Range	Wide-Range AC Input
Power Class & Performance	Medium-Capacity Regulated Output	Power Function	AC/DC Conversion & Distribution
Chassis Form Factor	Fixed 1U	Power Outputs	Up to 4 x DC Outputs
Core Capabilities			
Power Conversion Capability	DC Power Distribution and Conditioning	Peak Power Handling	Supports short-duration overload events through electronic protection mechanisms
UPS Topology	Not Applicable	Power Transition Performance	Dependent on external power source
Energy Storage (UPS)	Not Supported	Zeroization	Yes
Hold-Up Capability	Transient Filtering and Protection Functions	Expansion Capability	Daisy-Chain Power Distribution Support
Tactical & Mission Services			
Power Protection	Circuit Protection and Power Conditioning	Typical Load Types	Distributed Rack Power Feeds and Subsystem Distribution
Power Resilience Features	Distributed Power Resilience through External Power Architecture		
Deployment & Architecture			
Primary Mission Use Case	Distributed Power Distribution within Shelters and Platforms	Cooling Concept	Passive Conduction and Convection Cooling
Typical Deployment	Power Distribution Racks, Vehicle Systems, Shelter Expansion Modules	Network Position	Power Distribution Layer
Environmental			
MIL-STD-810			
Shock operating	Functional Shock. 40G/11ms	Noise level	Max noise level of 40 dB SPL 1 m (3.3 ft)
Temp. operating	-40 to 65°C (-40 to 149 °F)*	Salt fog	5 ± 1%
Temp. storage	-40 to 71°C (-40 to 160 °F)*	Temp. shock	55 °C (131 °F) / -40 °C (-40 °F)*
Humidity	Aggravated, 95 ± 4% RH	Vibration	Rotary wing aircraft - helicopter
IP Class	IP65*		Truck/trailer - loose cargo
Low air pressure	Rapid Decompression 8000 ft / 40000 ft Operation/Air Carriage 15,000 ft		Ground vehicles - ground mobile tracked
			Ground vehicles - ground mobile wheeled
Optional standards			
RTCA/D0160, VG, DEFSTAN, MIL-STD, etc can be included on request.			
EMC			
MIL-STD-461			
EMI/EMS	Ground Army	ESD	CS118
Optional standards			
RTCA/D0160, VG, DEFSTAN, MIL-STD, etc can be included on request.			
Power			
Vehicle Power	MIL-STD-1275		
Optional standards			
VG, DEFSTAN, MIL-STD, etc can be included on request.			

*Higher available on request