

PWR4100 Series

The Intelligent Power Panel & Tactical Control Hub

Designed strictly as a centralized DC power distribution, monitoring, and tactical control hub for entire rack subsystems. It is the ideal fit for advanced tactical shelters, vehicular rack installations, and field command nodes—where operators require software-defined circuit protection, remote bus control, and physical mission-override capabilities (such as Blanking and Zeroization) within a highly adaptable chassis footprint.

Key Features

Primary Power Role

Rack Management, Power Bus & Tactical Control Layer

Power Capacity

Up to 2400 W of raw power passthrough

Centralized Control

Integrated remote monitoring and device management bus

Programmable Fuses

Software-defined fuses with manual override

Chassis Form Factor

Adaptable 1U to 2U rackmount design

Capabilities

The PWR4100 is an intelligent, high-capacity DC distribution and tactical command node designed to orchestrate power and signals across a 19"/2® equipment stack. Operating with an efficient 10 W internal draw, it routes up to 2400 W of conditioned DC power across a wide 12-36 VDC input spectrum.

The platform blends complete physical isolation (power-to-chassis and ground) with extensive software-defined protection. It serves as the master safety and stealth control interface, providing a multi-layered emergency shutdown architecture alongside status-monitoring LEDs for real-time field diagnostics.

The capabilities of the PWR4100 series include:

- **System-Level Bus Control:** Remotely commands graceful shutdowns, reads unit states, and coordinates connected tactical hardware.
- **High-Capacity Power Delivery:** Manages power-intensive rack environments by supporting continuous peak wattage scaling up to 2400 W across all outputs.
- **Rapid System Sanitization:** Triggers total power-rail grounding via a physical 12-second system button hold or an encrypted remote bus command.
- **Tactical Stealth (Blanking):** Instantly cuts panel illumination and connected device displays via a rapid double-press button macro.
- **RF Emissions Silencing:** Activates a system-wide Wireless TX Disable to enforce complete radio silence during covert operations.
- **Fully Isolated Electronics:** Total galvanic separation between power, internal electronics ground, and the rugged aluminium chassis.

Form factors

The PWR4100 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

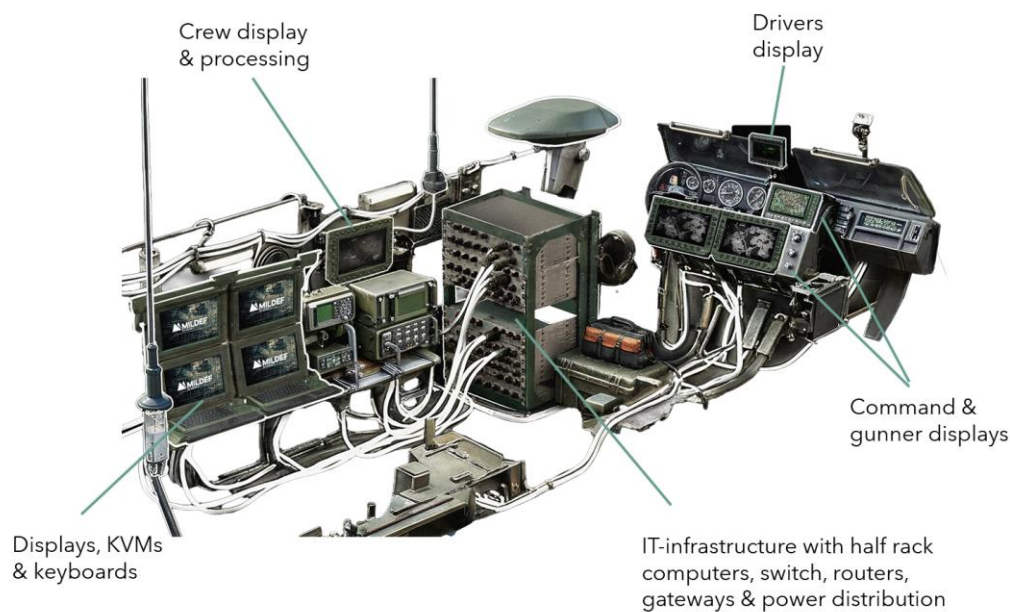
The MilDef 19"/2® addresses the requirements for small, high performance IT hardware. The modular design and broad product offering (computer, network, power and peripherals) enables the use of 19"/2® units as building blocks for creating built to purpose solution. Same form factor over multiple generations 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 PWR4100 series is a core component of many tactical platform designs. Some use case examples are:

- **Special Forces Vehicle Racks:** Gives operators instant dashboard control to switch tactical equipment, activate radio silence (TX Disable), or enter blackout mode (Blanking).
- **High-Risk Intelligence Nodes:** Acts as a master emergency control, enabling personnel to sanitize or shut down an entire computing stack during a breach.
- **Remote Weapon Stations:** Connects EO/IR cameras, laser range finders, and actuators while providing software-defined circuit protection.
- **Integrated Reconnaissance & Surveillance Platforms:** Manages power and telemetry for thermal sensors, perimeter radars, and processing units through a centralized data bus.



Specifications

System & Interfaces			
Platform Positioning & Architecture Type	Rack Power Distribution & Remote Management Unit	Primary Input Type	DC Vehicle / Battery Power
Distribution Capacity	High-Density Power Distribution	Input Voltage Range	Wide-Range DC Input
Power Class & Performance	Ultra-High Capacity DC Passthrough	Power Function	DC Distribution & Switching
Chassis Form Factor	Typically 1U to 2U	Power Outputs	1 DC Output
Core Capabilities			
Power Conversion Capability	DC Power Distribution and Bus Management	Peak Power Handling	Withstands harsh operational inrush currents up to 2400 W
UPS Topology	Not Applicable	Power Transition Performance	Continuous distribution with hardware-isolated electronic ground
Energy Storage (UPS)	Not Supported	Zeroization	Yes - Can send zeroization command to other connected units supporting MilDef Remote Management Bus
Hold-Up Capability	Transient Filtering and Protection Functions	Expansion Capability	System-Level Bus Control and Multi-Unit Integration
Tactical & Mission Services			
Power Protection	Software Fuse, Polarity Protection	Typical Load Types	Multiple Co-Located 19"/2 Tactical Units within a Rack
Power Resilience Features	Built-in-Test (BIT) via status LED, Individual 2-sec button output toggle		
Deployment & Architecture			
Primary Mission Use Case	Centralized Power Delivery, Remote Management & Advanced Tactical Control	Cooling Concept	Passive Conduction and Convection Cooling
Typical Deployment	Standard 19"/2 Racks or Direct Surface Mounts	Network Position	Rack Management & Tactical Control 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		Ground vehicles - ground mobile tracked
	Operation/Air Carriage 15,000 ft		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