



INTELLIGENT POWER MANAGEMENT SYSTEM FOR VEHICLES AND SHELTERS



Transit Case
Variant

DESCRIPTION

The price of fuel and the logistics burden of delivery has significantly increased the need for power management and fuel and energy resource management on the battlefield. CME has led in the development of tactical intelligent power management products specifically for military platforms. The Intelligent Power Management System (IPMS) for shelters or vehicles provides a smart “power panel” system in these military platforms.

Developed under a Phase I, II, and III Army SBIR project, IPMS is a complete architecture that embodies small, adaptive AC/DC plug and play modules that can be integrated into standard military Power & Signal panels. These advanced and proven power modules monitor the power distribution loads on board vehicles, shelters, or even tents. Each module monitors voltage, frequency, current, and temperature for each circuit and measures over/under conditions. This allows the system to perform

automatic load shedding to protect the network from brownouts, and provide energy consumption management to prevent waste and excess fuel consumption. IPMS uses pre-set load priority settings to automatically provide load management. An IPMS prioritized power distribution network will significantly minimize electrical failure potential in transportable field and tactical platforms, conserve fuel resources, and protect power generation equipment from wetstacking.

IPMS equipment has been fully tested at Aberdeen Proving Grounds and NAVAIR Pax River facilities for product qualification tests and approvals.

IPMS products have been integrated into transit cases for tent-based operation centers, the HMMWV with rigid wall shelter, a 5-ton truck with expandable shelter, and a soft-top HMMWV. IPMS technology and related power management products are ready for integration into current and emerging vehicle and shelter platform integration programs.

APPLICATIONS

CME’s IPMS improves the power panels of C4ISR platforms against power failures and equipment shutdown at critical times. The IPMS is ready for integration into the following

- Tactical operations centers
- Command posts
- Battery Management/Command Control, Communications shelters
- Base camps

KEY FEATURES & BENEFITS

- Advanced power management and load shedding
- Automated monitoring and control
- Critical mission equipment protection
- Fail-safe technology prevents unplanned outages
- Monitors multiple power sources in real-time
- Linked circuits provide constant feedback
- Protects against power disturbances
- Reports Power Source: Voltage, Current, Frequency, Power Availability, Temperature
- Circuits prioritized for power management and load shedding for AC and DC circuits
- AC/DC plug-n-play, hot swappable module

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SPECIFICATIONS

| | |
|-----------------------------|--|
| INPUT | 120 VAC single phase (85 to 132 VAC) |
| OUTPUT | AC or DC using single, adaptive modules |
| INPUT/OUTPUT VOLTAGE | Input/Output Frequency: 47 to 63 Hz |
| MAX INPUT CURRENT | 20A per module; greater than 20A via external control |
| POWER INPUT RATING | 2.4 kW maximum for each module |
| OVERLOAD PROTECTION | Current automatically sensed to initiate auto-breaker limit Electro mechanical relays provided for fail-safe protection Smart load shedding prevents brownouts and manages peak loads |
| DIMENSIONS | Six module chassis is 16.5 in (41.91 cm) W x 9.5 in (24.13 cm) D x 3.75 in (9.525 cm) H 20A modules are 2.25 in (5.715 cm) W x 5.5 in (13.97 cm) D x 2.1 in (5.334 cm) H Custom width panels can be specified Number of modules dependent on custom width specified |
| WEIGHT | 15 pounds (6.8 kg) per panel |
| RECEPTACLES | Standard AC outlets become smart |
| AMBIENT TEMPERATURE | AC outlets |
| RELATIVE HUMIDITY | -50°F (-45.55°C) to +145°F (62.8°C) operating, -60°F (-51.11°C) to +160°F (71.11°C) non-operating |
| POWER | 10 to 95 percent non-condensing |
| USER INTERFACE | Operates at nominal 120 VAC, 50/60 Hz or 28 VDC |
| INDICATORS | Hand-held control and monitor device (CMD) with keypad and LCD screen |
| COMPLIANCE | LEDs, Audible alarms, CMD LCD screen Environmental (MIL-STD-810F) EMI (MIL-STD-461E) Munson Road and Rail Impact NLS/EDS/HEMP |



HMMWV Soft Top Variant



Power Strip

