

**MicroTCA 600 Watt Power Module**  
AC-DC Double Width Full Size (6 HP)  
**PS-1138**



The **Digital Power PS-1138** is a high-power module designed for use in MicroTCA systems. It supports shelves, cubes, MicroTCA enclosures, and other implementations and complies with the PICMG MicroTCA Revision 1.0 specification.

The **PS-1138** provides functionality for powering, managing, and protecting a MicroTCA system that includes up to 12 AdvancedMCs, 2 MicroTCA carrier hubs, and 2 cooling units.

### Key Features

- 600 W output power
- 16 channels of 12 V @ 7.6 A; 16 channels of 3.3 V @ 150 mA
- Hot swappable N+1 output redundancy
- Monitors and reports power system status
- Manages and isolates faults affecting the power system
- Provides protection against overload, short circuit, over voltage, and over temperature
- Provides power necessary for MCH and CU system elements on system bring-up
- Supports redundant IPMI (IPMB-0) communication with the MCH/carrier-manager
- Enables and provides power to AMCs, CUs, and additional MCHs
- Includes an Enhanced Module Management Controller using two IPMBs (IPMB-A and IPMB-B)
- Meets Class B conducted emission standards
- Compliant with MicroTCA chassis standard

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## Product Specifications

## Input

- Input voltage: 90 – 264 VAC, 50/60 Hz
- Power factor: 0.99 typical
- Efficiency: > 90%
- Hold-up Time: 10 ms minimum at 600W
- Inrush current:  $\leq 35A$

Output Voltages and Currents				
Output	Output Voltage	Minimum Load	Total Maximum Load	Maximum per Channel
V1	16 x 12 VDC	0	588 W @ 49 A	80 W/7.6 A
V2	16 x 3.3 VDC	0	12.5 W @ 3.8 A	0.5 W/150 mA

### 12 V Output (Payload Power)

- Total regulation range: 12.25 to 12.95 VDC when configured as primary PM  
11.60 to 12.00 VDC when configured as redundant PM
- Setpoint: 12.6 VDC typical when configured as primary PM  
11.8 VDC typical when configured as redundant PM
- Ripple and noise: 100 mV maximum V p-p at 0 to 20 Mhz oscilloscope bandwidth, measured with 0.1 uF ceramic and 10 uF tantalum capacitor on any output
- Short circuit protection: 9.7 A maximum within 10 ms auto recovery, over 10 ms latch shut down
- Charge capacity per channel: 25 ms maximum with 1600 uF on output under test

### 3.3 V Output (Management Power)

- Total regulation range: 3.16 to 3.63 VDC
- Setpoint: 3.3 VDC typical
- Ripple and noise: 50 mV maximum V p-p at 0 to 20 Mhz oscilloscope bandwidth, measured with 0.1 uF ceramic and 10 uF tantalum capacitor on any output
- Short circuit protection: 225 mA maximum within 12 ms auto recovery, over 12 ms latch shut down
- Charge capacity per channel: 25 ms maximum with 150 uF on output under test

### Environmental Conditions

- Operating temperature:  $-10^{\circ}\text{C}$  to  $55^{\circ}\text{C}$  full load with 300 LFM forced air cooling
- Storage temperature:  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$
- Vibration: Random vibration, 10 Hz to 500 Hz, 3 axis 1.9 GRMS maximum
- Shock: Peak acceleration 1 GPK maximum

## Safety Standards

- UL, cUL 60950-1
- CSA 60950-1
- VDE 60950-1

## Outline Drawing

