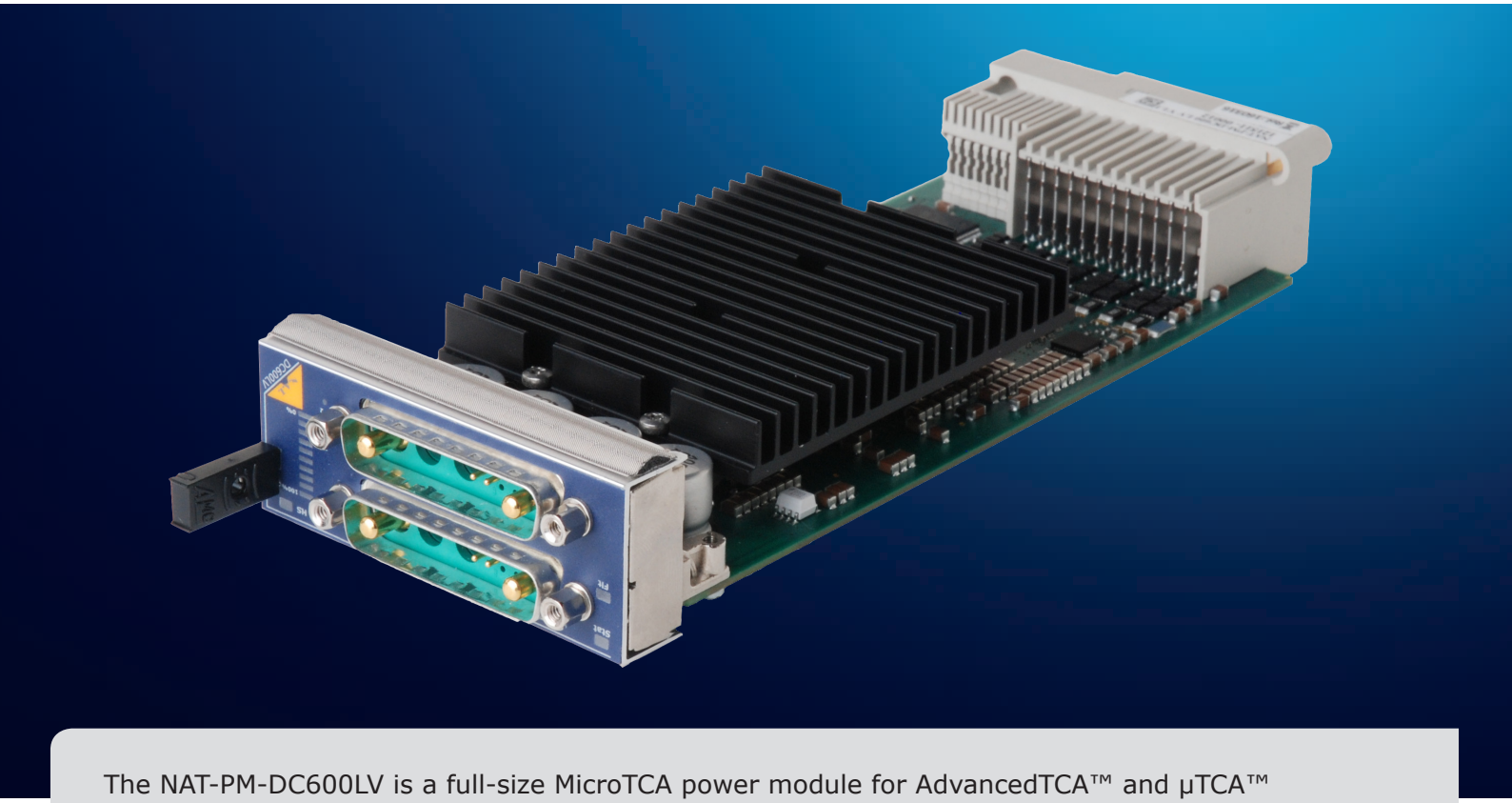
NAT-PM-600LV

300W/600W MicroTCA DC/DC Power Module



The NAT-PM-DC600LV is a full-size MicroTCA power module for AdvancedTCA™ and µTCA™ applications available in 300W and 600W versions, each with a single- or double-width front panel. It is a hot swappable, fully redundant and high efficiency power module ideally suited for all air-cooled systems.

This DC/DC power module provides payload and management power for up to 12 advanced mezzanine cards (AMCs), two cooling units and two MicroTCA carrier hub (MCH) modules. The NAT-PM-DC600LV provides power conversion from two 24 Vdc input sources to 16 independent 12 V channels for payload power and 3.3 V for management power. The power module provides backup power for other power modules (shared management power or SMP) in the system.

Key features

- Optical load indicator
- Input power conditioning
- Protection circuitry
- DC/DC conversion
- Power management
- Support for 16 power channels
- Support for N+1 redundancy

Applications

- Commercial and military communications
- Industrial machine control and other clustered computing applications
- Automated test equipment
- Video-on-demand
- Security
- Medical

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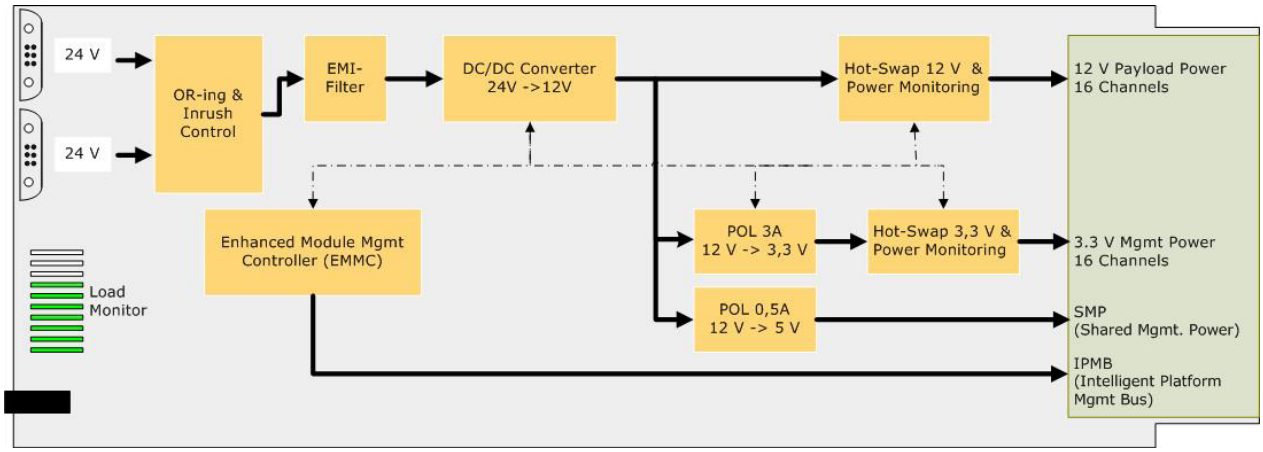
Technical Data

NAT-PM-600LV



Overview

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EMMC

The NAT-PM-DC600LV power module includes an enhanced MMC (EMMC) supporting an intelligent platform management bus (IPMB) to enable communication with the carrier manager or MCH.

Redundancy and Load Sharing

The NAT-PM-DC600LV supports redundancy as well as load sharing modes in accordance with the MicroTCA specifications. In case of an input power supply failure the onboard EMMC can be provided by SMP power from other PMs, so that the MCH is able to analyze root cause failure.

LED Indicators

Besides the standard indicator LEDs for hot-swap, failure and heartbeat the NAT-PMC-DC600LV has an optical load indicator that continuously displays the level of power utilization of the whole system.

Other Features

The two power inputs offer features such as input protection, input isolation, inrush control, input ORing, EMI filtering, and holdup circuit.

Specifications

- MTCA V1.0 compliant DC/DC power Module
- Full Size (6HP), single width form factor
- 16 channels of payload and management power
- Total power distribution: 300W/600W (ordering options)
- Dual 24V Input
- TBD% conversion efficiency (min)
- Hot swappable
- Fully redundant operation
- Output over voltage protection
- Input under voltage shutdown
- Over temperature protection
- Output short circuit protection
- Build according to IEC/EN/UL60950 safety standard

3.3 V Power Supply Sub-system

- Max channel current: 150mA
- Fast trip current limit: 300mA
- Accuracy 3.3V: TBD
- Max ripple at 150mA: TBD

12 V Power Supply Sub-system

- Max power / channel: 80W / 6.6A at 12V
- Fast trip current limit: 8.3A
- Max inrush current: 19.4 A
- Accuracy 12V: TBD
- Max ripple at 6.6A: TBD

Environmental

- Normal operating conditions: -5 to 50°C
- Storage temperature: -40 to 85°C
- Extended operating conditions: -40 to 85°C (on demand)
- Input Voltage: 18V-36V (NAT-PM-DC600LV)
- Input Voltage: 16V-50V (NAT-PM-DC600LVA)
- Isolation Voltage: 1500V
- RoHS compliant

Face Plate

- Optical load indicator
- Power Input A and B
- Hot Swap Indicator