

AMC-LOAD AMC Load Board

Data Sheet

Preliminary

Description

ATCA and μ TCA systems must be tested in terms of cooling management and the voltage supply must be tested extensively. This is the only way to guaranty reliability and availability.

In order for system manufacturers and users to be able to test their μ TCA systems to the limits of the specification, GateWare has developed a load board in the AMC format. This load board behaves in principle like a standard AMC module, i.e. it is hotplug-capable and is managed by the carrier manager (MCH) according to the IPMI specification. Alternatively, it is possible to use the front RS232 interface for configuration and monitoring.

The power input and thereby also the heat output can be set closely stepped in two separate heat sink segments. With 6 temperature sensors per module, a temperature profile is set over a carrier system. The heat sink segments are located in the front and back half of the load board in order to simulate the heat distribution of AMC cards which are conventional on the market.

Furthermore, the voltage supply (PU) of the μ TCA system can be tested statically and dynamically. In addition to a constantly set base load, very slow as well as very fast load jumps can be simulated in a wide range.

Areas of Applications

AMC load board for testing cooling management and the voltage supply unit of ATCA and μ TCA systems.

- Testing the μ TCA power module (PU) between minimum and maximal load.
- Checking response behaviour of the μ TCA powermodule.
- Testing the cooling capacity and air flow in the carrier.
- Optimisation of the ventilation system.
- Long-term analyses at the limit of the systems.

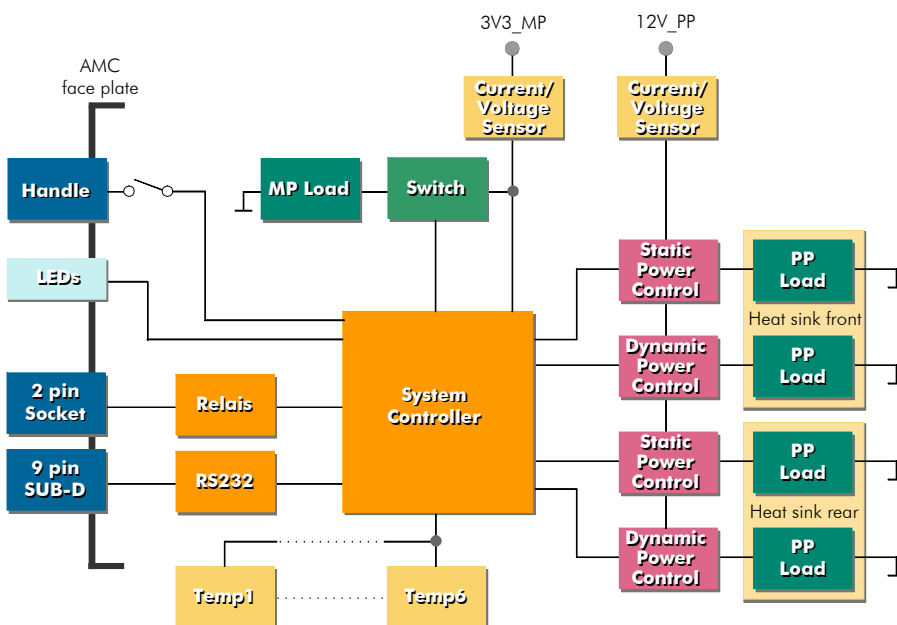
Features

- AMC form factor single full-size (SW/ FH) standard.
- Compact, mid-size and other sizes upon request.
- In relation to the carrier manager, the load board acts like a AMC module and is



administered by the MCH and the PU in terms of hotplug and management.

- Control of the load board via the IPMI bus on the backplane by the carrier manager or its serial interface on the front with a terminal program.
- The heat output is divided into two segments and can be set separately.
- Up to four air resistance versions are possible due to different heat sink models.
- The power input can be set from 0W to 90W closely stepped.
- Distribution of the payload load into a static base load and additional dynamic load (PWM controlled).
- Power input and backplane voltages are continuously measured and monitored.
- Capacitive load according to μ TCA specification to management and payload power.
- 6 fixed temperature sensors distributed on both sides of the load board in order to create a temperature profile of the system.
- Optional one freely moveable temperature sensor.
- Safety switch in the event of excess temperature.
- Relay output on the front plate to switch consumers up to 60V / 0,5A.
- LEDs for status display.



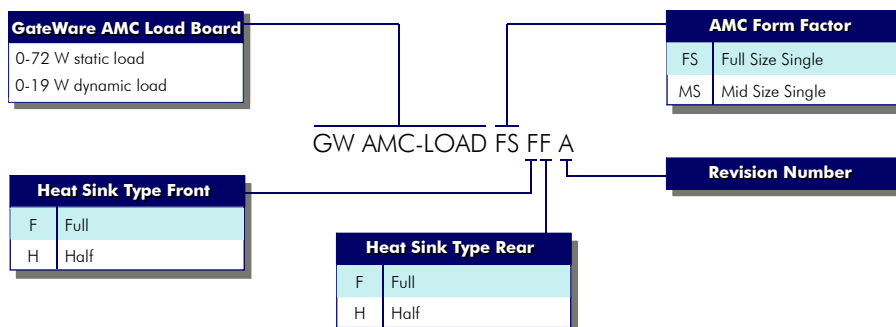
Specifications

- Technical Specifications
 - Payload power voltage 10V to 14V.
 - Static payload power load per segment 0W to 36W in 2W increments.
 - Dynamic payload power load per segment 9.5W, pulse with 50ns to 20s, period duration 50ns to 20s.
 - Management power voltage 3.3V ± 10%.
 - Management power constant load approx. 30mA with additional load connection to 150mA.
 - Temperature measurement from 0°C to 150°C (from 100°C automatic shut-off of the load).
 - Current and voltage measurement of the payload and management power.
 - Relay output to switch on/off consumers up to 60 V / 0.5 A with settable temperature threshold.
 - Factory pre-set safety shut-off at a temperature of 100°C.
 - LEDs for the status display of settable temperature thresholds.
- Management
 - In the system with MCH with OEM IPMI extensions.

- RS232 command line with terminal program.
- RS232 with management program (Windows®).
- Standards
 - PICMG MTCA.0: MicroTCA Specification R1.0.
 - PICMG AMC.0: Advanced Mezzanine Card Specification R1.0.
 - IPMI Intelligent Platform Management Interface Specification V1.5.
- Documentation
 - Installation and configuration manual
- Environment and mechanics
 - AMC full size (single width, full height).
 - Operating temperature 5°C to 85°C.
 - Storage temperature -40°C to 105°C.
 - Humidity 10% to 90% non-condensing.
- Options
 - AMC form factors single full size (default), mid-size and compact.
 - Different heat sinks with differing heat and flow resistance.
 - Maximum payload power for half height heat sinks is 45W.
 - Customised variations possible with a minimum order quantity.

Order Information

- Individual components
 - GW-AMC-LOAD-FS-FF, AMC Full Size, Full Height Heat Sink Front/Rear.
 - GW-AMC-LOAD-FS-HH, AMC Full Size, Half Height Heat Sink Front/Rear.
 - 16-Port RS232 to USB expander for management of up to 16 GW-LOAD Boards without MCH.
 - Additional temperature sensor.
- Complete Sets
 - 12 GW-AMC-LOAD-xx-yy boards with 16-Port RS232 to USB expander and management software.
 - 12 GW-AMC-LOAD-xx-yy boards with GW-MCH-Base-FS and management software.



AMC Load Board Order Information

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