

Centellis 500

MicroTCA Platform

■ Embedded Computing for
Business-Critical Continuity™

PRELIMINARY DATA SHEET

MicroTCA technology will be used in a wide range of applications

- Low profile, lightweight, solidly constructed injection molded plastic table-top or shelf placement chassis is easily transportable
- Three (3) available AMC mid-size expansion payload slots for application customization
- Best-in-class MicroTCA Carrier Hub (MCH) and Intel Core 2 Duo processor AMC (PrAMC-7211)
- Dynamic cooling for low noise enterprise deployment
- Managed system supporting hot-swap of AMC modules
- SpiderWareM3 Platform Management software
- Fully FCC part 15 Class A certified for enterprise deployment
- PICMG® MicroTCA.0 R1.0, AMC.0 R2, AMC.1, AMC.2, AMC.3 compliant
- Highly robust AMC connectors stringently tested to prevent AMC insertion failure
- Extensively tested system passing vigorous 48 hour stress, power cycle and boot tests
- Backplane supports signaling rates up to 3.125 Gbaud/s
- 48V MicroTCA power module for full MicroTCA compatibility
- OEM branded deployment options

Engineered for dependable embedded applications, the Centellis™ 500 is an innovative MicroTCA™ solution that is suitable for use in enterprise applications. It has been designed from the ground up to be an economically viable solution by utilizing an injection molded plastic enclosure with the smallest number of internal components possible for low-cost high volume manufacture. The MicroTCA backplane, fans, power module, MicroTCA Carrier Hub (MCH) and a card cage are included and the system is supplied fully tested including SpiderWare®M3 Platform Management software and an Emerson designed Intel® Core™2 Duo based processor Advanced Mezzanine Card (AdvancedMC™ or AMC) module to speed your time to market.

Centellis 500 is a solidly constructed and meticulously engineered table-top or shelf placement MicroTCA system. As a complete system, the Centellis 500 ships ready to go out of the box with SpiderWareM3 Platform Management software designed for quick system configuration through a set of graphical tools. It is supplied complete with the MCH-1010, a PrAMC-7211 Intel Core 2 Duo based processor AMC, and a DC input power module. The MCH-1010 is a high performance and dependable solution that supports Gigabit Ethernet (GbE) fabric to all the AMC payload slots. The MCH also provides individual status and power control to each AMC which allows hot swap. In addition to the standard AMC hot-swap, in-service and out-of-service LEDs, GbE link status LEDs are provided on the front panel for ease of operation.

An application development target is provided by a PrAMC-7211 AMC with 2GB of DRAM, 1GB of on-board flash storage and USB 2.0 connector on the front panel. The power module supports a standard -48V DC power source with cabling to the front panel.

MicroTCA technology will be used in a wide range of applications such as VoIP gateways, packet processing, IP-PBX, network point of sales (POS), industrial automation, telemedicine, healthcare office management, remote radiology, patient monitoring and access gateways where reducing the capital cost of installing or extending next-generation network elements are very important. With its stylish design, table-placement, and innovative low-noise cooling, the Centellis 500 is uniquely suitable for a variety of enterprise deployment scenarios.



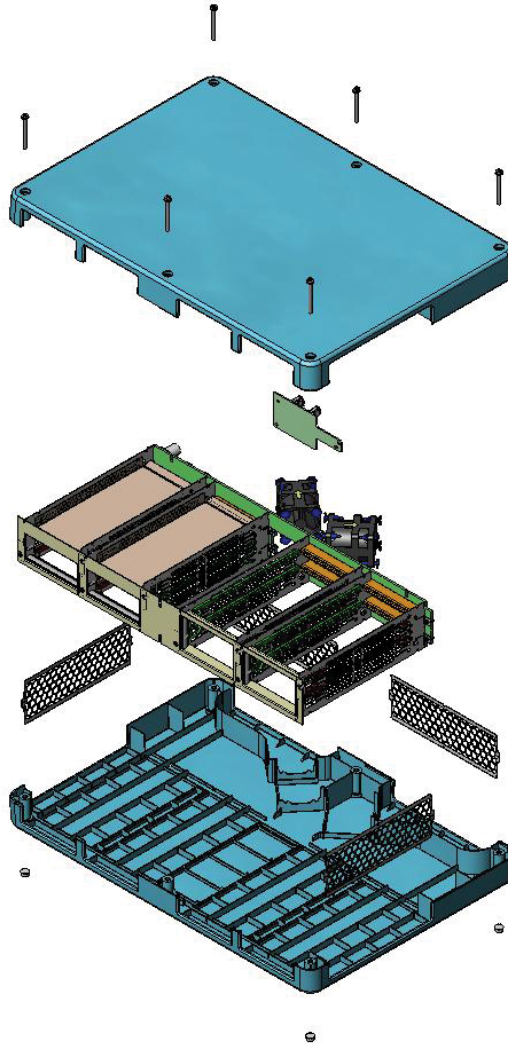
SpiderWare® M3



μTCA™


EMERSON™
Network Power

Centellis 500 Exploded View



Hardware

CHASSIS

- Low profile injection molded plastic
- Lightweight (about 8½ pounds populated)
- Solidly constructed
- Easily transportable
- Table-top or shelf placement

AMC EXPANSION SLOT

- Three (3) mid-size AMC slots available for application customization
- Includes industry-leading processor AMC, the PrAMC7211 with high performance, low power Intel Core™ 2 Duo processor
- PrAMC7211 also used in the Centellis 1000 platform which provides scalability and reuse in your MicroTCA development efforts
- Validated rotating and solid-state drive storage AMCs available (Contact your Emerson sales representative or authorized distributor)

POWER MODULE

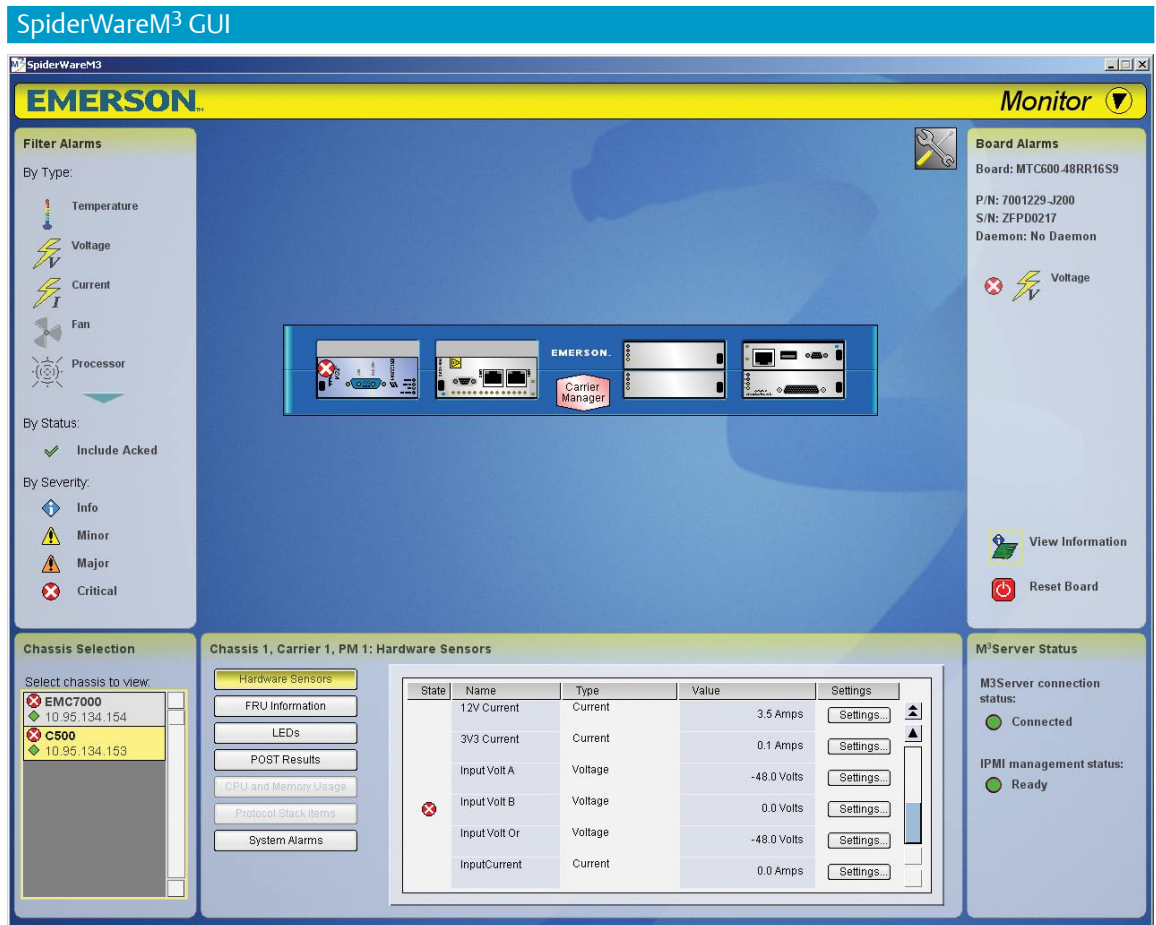
- 48V MicroTCA power module for full MicroTCA compatibility
- Validated AC to 48V power supplies available (Contact your Emerson sales representative or authorized distributor)

MICROTCA CARRIER HUB

- Integrated Shelf Manager
- Layer 2 unmanaged Gigabit Ethernet switching to each of the payload slots with Gigabit Ethernet front panel uplinks for external connections
- IPMI management functions
- Integrated MicroTCA clock distribution
- Same MCH used for the Centellis 1000 which provides scalability and reuse in your MicroTCA development efforts

DYNAMIC COOLING

- Ideal for low noise enterprise deployment
- Dynamic cooling efficiently controls the fan speed for low noise
- Innovative side inlet, rear outlet cooling reduces AMC preheating
- Fully thermally modeled and tested in Emerson's advanced thermal and airflow laboratory
- Quietly cools a variety of full-size and mid-size AMC configurations including AMCs up to 45W
- Minimum total aggregated airflow of 32 CFM for superior cooling




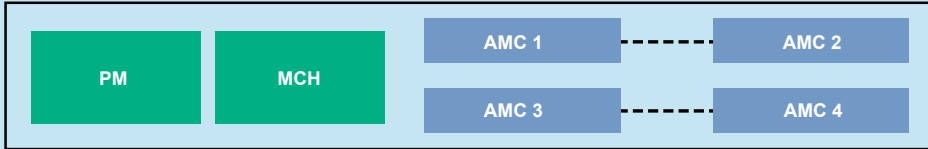
PLATFORM MANAGEMENT SOFTWARE

- Easy-to-use SpiderWareM3 Platform Management software for management, monitoring and maintenance
- Graphical interface for quick and easy platform setup
- Manage function
 - ▲ User-friendly GUI makes it easy to get up and running within minutes of installation
 - ▲ Single screen presentation of hardware management
- Monitor function
 - ▲ Monitor hardware and event sensors
 - ▲ Monitor CPU and memory usage
 - ▲ Uses each blade's I2C
- Maintain function
 - ▲ FRU discovery, inventory and rev-level reporting
 - ▲ IP addressing maintenance
 - ▲ Firmware upgrade and fallback

OEM Deployment Options

- Customizable front bezel for personalized look and feel
- Options for logo placement
- Chassis color can be changed
- AMC module overlay can be customized

Note: For more information regarding OEM customization please see the white paper at: www.EmersonNetworkPower.com/EmbeddedComputing

Backplane	
Ports	Mapping
Port 0	Radial to Fabric A: MCH 1 (ports 0-5)
Port 1	Radial to Fabric A: MCH 1 (ports 6-9)
Ports 2, 3	Point-to-point SATA 
Ports 4-7	Radial to Fabric D/E/F/G:MCH 1
Ports 8-11	Point-to-point XAUI 
IPMB -L	Radial to MCH
IPMB-0 (A:B)	Bussed to PM
TCLKA/CLK1	Radial from Each AMC to MCH
TCLKB/CLK2	Radial from Each AMC to MCH
TCLKC/CLK3	Radial from Each AMC to MCH

Specifications

CHASSIS

- Injection molded plastic chassis
- Four (4) mid-size or two (2) full-size AMC slots (also supports 1 full-size and 2 mid-size AMCs)
- One (1) power module and one (1) MCH full-size slot

SHELF MANAGEMENT

- One (1) MicroTCA carrier hub
 - ▲ Carrier manager provides control/status of AMC and power
 - ▲ LEDs for IS, OOS, HS and GbE link status

COOLING

- Two (2) controlled fans
- Operating temperature: 5° – 40°C (41° – 104°F)
- Total airflow: 32 CFM
- Cooling architecture: Side ingress, rear egress (center plenum with rear output)

ACOUSTICS

ETSI ETS 300 753 Class T3.1 Office floor-standing equipment at or below 5.5 bels when operating in ambient temperature of 25°C or below

POWER DISTRIBUTION

- One (1) 355W -48V power module
- 12V payload and 3.3V management power

BACKPLANE

- Signal rates of up to 3.125Gb/s
- Radial IPMB-L from MCH slot for payload slots; bussed IPMB-0 (A:B) to power module
- Three (3) radial clocks from MCH to payload slots
- Radial port 0 and 1 from payload slots to MCH
- Radial ports 4-7 from payload slots to MCH (extended fabric)
- Point-to-point ports 8-11 to payload slots (AMC slot 2 to slot 1; AMC slot 4 to slot 3)
- Point-to-point [daisy-chain] Ports 2 and 3 between payload slots

ENVIRONMENTAL

- ETSI 300 019-2-3 Class T3.1 operating temperature of +5° to +40°C
- Storage temperature range of -40°C to 70°C
- ETSI 300 019-2-3 Class T3.1 relative humidity of 5% to 85%
- MicroTCA.0 REQ 2.193 IEC 61587-1 Shock and Vibration
- Transportation temperature and humidity exposure requirements of GR-CORE sections 4.1.1.1, 4.1.1.2 and 4.1.1.3
- Transportation vibration criteria requirement of GR-63-CORE section 4.4.5
- Package equipment shock criteria requirement of GR-63-CORE section 4.3.1

REGULATORY COMPLIANCE

- FCC part 15 Class A and EN55022 Class A
- Safety - 60950-1 (North America), EN 60950-1 (Europe), CSA 6095-1 (Canada)
- UL 60950
- CE Certification Mark
- UL94-V0 Flammability Compliance
- RoHS (6 of 6) Compliant
- ICES-003 (Interference Causing Equipment Standard)
- EN55022:1998, EN55024:1998

NETWORK INFRASTRUCTURE

- Gigabit Ethernet base fabric
 - ▲ Two (2) GbE link from the MCH to the AMC slots
 - ▲ Two (2) GbE link ports on the MCH front panel for inter-shelf connections
 - ▲ Layer 2 switch architecture (unmanaged)
- PCI Express extended fabric (requires upgraded MCH)
 - ▲ x1, x2 or x4 PCI Express from MCH to AMC slots
- SATA/SAS storage fabric
 - ▲ Point-to-point daisy-chain (Ports 2 and 3)

SOFTWARE

- SpiderWareM³ Platform Management software
 - ▲ IPMI compliant platform and blade management solutions
 - ▲ Remotely Manage, Monitor and Maintenance (M³)
 - ▲ An intuitive graphical user interface (GUI) provides a good “out of box” experience
- Linux
 - ▲ Wind River PNE
- Basic Blade Services
 - ▲ Operating system initialization scripts
 - ▲ IPMI (MMC interface for local blade management)
 - ▲ Firmware upgrade facility
 - ▲ FRU information utility
 - ▲ Switch configuration utility

SOLUTION SERVICES

Emerson Network Power provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh. Plus solution extras include enhanced warranty and repairs.

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