C3498RAL Conduction Cooled Rugged Server

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- ▶ **Extremely Rugged Server**
- ▶ **Front MIL Spec I/O Connections**
- ▶ **IP65 Sealed and Conduction Cooled**
- ▶ **18-34V DC Powered**
- ▶ **Shock and Vibration Tolerant**
- ▶ **Dual E5-2600 Series Xeon Processor**
- ▶ **Wide Operating Temperature Range**
- ▶ **MIL Spec EMC and EMI Performance**

Westek's C3498RAL rugged, sealed conduction cooled high performance computer server is designed for use in extreme environments subject to high and low temperatures, shock, vibration, dust and sand with this particular model providing extreme resistance to dust and water ingress to IP65 rating. Westek's innovative advances in conduction cooling techniques provide leading server class, multi-core dual processor performance in a fully sealed case able to operate reliably in the most demanding of environments.

The server is designed to comply with MIL-STD 810G, DEF STAN 00-35, MIL-STD 461F and DEF STAN 59-411 for use in aircraft, mobile or fixed land based systems, transportation and naval environments below decks as well as general use where a ruggedized system is required. The rugged sealed heavy duty aluminium chassis enables extremely low EMC and EMI. The unit is further protected by a corrosion resistant heavy duty paint finish.

The C3498RAL provides rugged MIL front I/O access for all signals including power input so is ideal for locations where access to the rear is restricted or unavailable. The system can be base or side mounted using lugs provided on the unit with options for

Typical build specification:

- Processor: Dual Intel® E5-2618LV4 10 Core Xeon 2.2/3.2GHz

- Memory: 128GB DDR4 RAM

- Storage: 4 x removable rugged SSDs

- Dual Gbit Ethernet on MIL-DTL 38999 connectors

- Power: Wide range DC power supply with EMI filtering (18-34V)

- IPMI remote management

- RAID 0/1/5/10 protection

- Corrosion resistant paint finish

- HD graphics

standard 19" equipment rack mounting also available. Westek's pioneering conduction cooling means that the C3498RAL supports a wide range of high performance processor options including the latest Intel® server class embedded multi-core processors.

The server uses superior solid state disk drives providing excellent performance with the added protection of user configurable

Compliance Certification

Formal compliance testing, certification and report services for specific builds are available to the typical standards listed below. The standard build of the C3498RAL has been certified to or is designed to meet the following typical requirements, and specific configurations may be formally tested and certified as an optional service.

MIL-STD 810 Environmental Test Criteria

Operating Tests		
Low Temperature	Method 502.4 Procedure 2	-20°C (Cold Boot) -40°C (Continue Operating)
High Temperature	Method 501.4 Procedure 2	+55°C
Humidity	Method 507.4	5 x 48 hour cycles
Vibration	Method 514.5 Category 4	10—500Hz 1.04Grms
Shock	Method 516.5	40G 11mSec TPS 3 axis
Altitude	Method 500.5 Procedure 2	-1,000m to +12,000m
Non-Operating Tests		
Shock	Method 516.5	40G 11ms TPS 3 axis
Low Temperature Storage	Method 501.4	-40°C
High Temperature Storage	Method 502.4 Procedure 1	+75°C
Vibration	Method 514.5 Category 24 fig 514.5C-17	20 to 1000Hz @ 0.02g²/Hz falling @ -6dB to 2000Hz
Altitude	Method 500.5 Procedure 2	-1,000m to +12,000m

MIL-STD-461E EMC and EMI Test Criteria

CE101	Conducted Emissions	60Hz - 10KHz
CE102	Conducted Emissions	10KHz - 10MHz
CS101	Conducted Susceptibility Power Leads	30Hz - 150KHz
CS114	Conducted Susceptibility Bulk Cable Injection	10KHz - 200MHz
CS116	Conducted Susceptibility	Surface Ship Limits
RE101	Radiated Emissions Electric Field	30Hz - 100KHz
RE102	Radiated Emissions Electric Field	10KHz - 18GHz
RS101	Radiated Susceptibility Magnetic Field	100Hz - 100KHz
RS103	Radiated Susceptibility Electric Field	2MHz - 18GHz

Additional test, certification and report services also available including DEF-STAN 59-411 and DEF-STAN 00-35.

Westek offers a full range of military specification test and verification services to other standards for environmental, EMC and EMI.

Please contact Westek to discuss your specific requirements.

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Server Options

▶ Processor Options:
  Single or Dual Intel® E5-2600 V3 or V4 Series Embedded Long Life Processor
  6, 8, 10, 12 or 14 Cores

▶ High Performance DDR4 Memory up to 256GB

▶ RAID 0/1/5/10 Support

▶ Dual Gb Ethernet Ports with Options for Multiple 1Gb/10G and Fibre

▶ Optional HD Graphics

▶ Serial / USB / and Custom I/O Options

Storage

Two, four or six hot-swappable 2.5" form factor SATA III vibration tolerant SSD with high read/write speeds >1GB/second sustained read, >700MB/second sustained write (with 4 x SSDs configured in RAID 0). Optional AES 256 data encryption and secure erase functions.

Physical

Dimensions: 426(W) x 132.5(H) x 490(D) mm (excluding front panel connectors and rack mount ears)

Weight: Approximately 24kg

Power: 18 to 34V DC. Typically ~200 Watts on load, operating.

Heat: Less than 680BTU/hour

CE compliance: EEC EMC and Safety

RoHS and REACH compliant

MIL-STD 461F EMI and MIL-STD 810G Environmental

Environment

Operating
Temperature: -40°C to +55°C (+60°C on selected)

Humidity: 10 to 95%+

Vibration: up to ~3G 10Hz to 500Hz

Shock: 40G / 11mSec

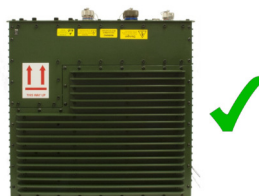Dust and Water: IP65 Rated

Non-Operating
Storage: -40°C to +75°C

Vibration: up to ~5G 10Hz to 500Hz

Shock: 40G / 11mSec

Altitude: -1,000m to 12,000m

Mounting Orientations

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