

# P2796RLW 2U Rugged Server

- ▶ Rugged Compact 2U Server
- ▶ IP55 Dust and Water Resistant
- ▶ Dual Multi-Core Xeon Processors
- ▶ AC or DC Power Supplies
- ▶ Shock and Vibration Tolerant
- ▶ Wide Operating Temperature Range
- ▶ Front Access I/O on MIL DTL Connectors
- ▶ Low Depth Only 450mm Deep

Westek's P2796RLW is a low depth, rugged 2U server designed for use in high and low temperature environments that are subject to shock and vibration. At only 450mm deep, all the connectors are located on the front on the server, making it an ideal solution when space and rear access are limited. The unit is manufactured from tough Alocrom plated corrosion resistant aluminium with optional additional corrosion resistant paint finish (pictured) available for marine environments.

The server is designed to comply with MIL-STD-810, DEF STAN 00-35, MIL-STD 461 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 P2796RLW provides a rugged single or dual multi-core Xeon server capability, with up to 3 hot swap disks with RAID protection, AC and DC power supply options, all in a rugged IP55 compact rugged 2U rack mountable chassis.

The server uses specialised wide operating temperature solid state disk (SSD) drives with a high operating shock and vibration tolerance, and with the added protection of RAID data protection in typical configurations.

The electronics are conformal coated for protection in high humidity environments, and a proven anti-shock and vibration build process secures all parts and connections. Westek's range of Rugged Servers are ideal for use in hostile environments including military COTS use where the performance of Dual Xeon processors are required.



## A typical specification provides:

- High performance dual Intel® Xeon 10 core processors
- 128GB DDR4 memory
- Dual gigabit Ethernet
- IPMI remote hardware management and alerting
- Auto-ranging 100 to 265V AC power supply (DC options available)
- Three hot swappable SATA III SSDs with RAID protection
- Conformal coating for extra protection in humid environments
- High performance graphics
- VGA, USB and serial ports
- Life time cleanable dust filters
- Front rugged MIL DTL I/O connectors
- Internal EMC and EMI filtering

## Compliance Certification

Formal compliance testing and report services for specific builds are available. P2796RLW is designed to meet the following tests based on formal testing of similar units in our range

### ► [MIL-STD 810F Environmental Test Criteria](#)

<b>Operating Tests</b>		
Low Temperature	Method 502.4 Procedure 2	-20 °C
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	20G 11mSec TPS 3 axis
<b>Non-Operating Tests</b>		
Shock	Method 516.5	40G 11ms TPS 3 axis
Low Temperature Storage	Method 501.4	-45 °C
High Temperature Storage	Method 502.4 Procedure 1	+75 °C
Vibration	Method 514.6 Category 4 fig 514.6C-VI	5Hz to 500Hz @ 2.24Grms

### ► [MIL-STD-461 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 10V/M	10KHz - 18GHz

Additional test, certification and report services also available including DEF-STAN 59-411. Actual environmental specification depends on build options and disk types specified.

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.



## Server Engine

- ▶ Single i3/i5/i7 or dual embedded E5-2600v3/v4 series Xeon processors
- ▶ Up to 14 cores per processor
- ▶ Up to 256GB DDR4 memory
- ▶ RAID 0, 1, and 5 support
- ▶ Dual or quad Gb Ethernet ports, optional 10Gb + Fibre
- ▶ Multiple rugged USB ports
- ▶ Integrated high performance graphics options



## Storage

Options for up to 3 removable 2.5" vibration tolerant wide temperature high write life SSD from 120GB to 3TB+ capacity. An internal DOM may also be specified for the operating system.

## Expansion and I/O

Optional performance graphics or other special interfaces and additional network ports may also be specified. The unit provides front I/O presented on IP67 MIL circular connectors.

## Environment

### Operating:

Temperature: -20°C to +55°C  
Humidity: 10 to 95% non-condensing  
Vibration: 2G 5Hz to 500Hz  
Shock: 20G / 11mSec  
Altitude: Up to +5000 metres  
IP55 ingress protected against water/dust

### Non-Operating:

Storage: -45°C to +75°C  
Humidity: 10 to 95% non-condensing  
Vibration: 4G 10Hz to 500Hz  
Shock: 40G / 11mSec

Actual specification depends on specific configuration; the standard build meets the specifications above. An additional anti-corrosion paint finish is available for marine environments and options for wider operating temperature and higher shock tolerance are also available for selected configurations.

## Power

Auto-ranging AC power supply 96~265V AC with EMI filtering to MIL-STD 461 CE 101, CE102  
Options for 12V, 24V and 48VDC available with EMI filtering to MIL-STD 461, CE101, CE102 and MIL-STD 1275  
Typical power consumption <250W operating

## Physical

Dimensions: 431(W) x 88(H) x 450(D) mm, excluding front connectors  
Weight (Net): approximately 9kg (depending on build options)  
CE compliance: EEC EMC and safety  
Designed to meet MIL-STD 461F and MIL-STD 810G based on similar, formally tested Westek 2U MIL servers  
RoHS compliant

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Specifications subject to change without notice

