



Field tested, failsafe and long life performance in extreme conditions. Feature rich Crystal Group Embedded Computer Systems are powerful, compact, and rugged. Completely and easily configurable, the Embedded product line boasts advanced thermal management and a carbon fiber chassis, are field-tested to withstand shock and vibration, extended temperature ranges, harsh elements and harsh environments. Crystal Group Embedded Computer Systems follow the Intel® Roadmap to ensure access to the latest, powerful Intel chipsets and processors.

Innovative solutions. Crystal Group's portfolio of rugged and industrial computing products are engineered and tested to withstand challenging environments, meet and exceed military standards, and provide the latest COTS technologies and benefits, such as cost, availability, upgradability, and flexibility.

Dependable services. When a computing application requires a custom solution, Crystal Group delivers — on time and on budget — with professional services, including product design and development, testing, systems engineering and integration, mechanical and electrical engineering, configuration management, and product lifecycle planning.

Dedicated support. Crystal Group's expert staff and global network provide fast and effective product support when and where it is needed. Count on Crystal Group for fast response times, quick turnarounds, 5+ year warranties, and quality service around the clock and around the globe.

FEATURES

- Light weight composite construction 4.5"H x 12"W x 9"D footprint (6-8lb)
- Compact composite construction provides low SWaP
- Intel Xeon® D CPU technology
- Core i7 CPU options; up to 16 cores Xeon D
- 18-36 VDC power
- Up to 64GB unbuffered, non ECC DDR4 1.2V SO-DIMM or 128GB ECC DDR4 with Xeon D offering
- Two 15mm SSD or three 7mm SSD storage options, removable drives
- MIL-STD-461 CE102, RE102 compliant
- Bulk head or tray mounted options

A clear advantage.

Specifications

Mechanical

Height: 4.5" (11.43 cm) max
 Width: 12" (30.48 cm)
 Depth: 9" (22.86 cm) excluding connectors
 Weight: 6.3-8.5 lbs. (2.9-3.86kg)
 Power: 55-80W with select configurations, CPU dependent

Expansion

One PCIe 3.0x16 low profile expansion bay

Internal Bay

Up to three SATA 2.5" SSD (externally removable)

Cooling

Three high reliability 60mm fans

Power Supply

Option 1: 18-36 VDC
 Other options under development

System Board

Option 1: X11SSV-Q, LGA 1151, Mini-ITX, H4 i7/i5/i3, DP, HDMI, DVI-I, 2X 1G LAN, 5X SATA3, 2X Serial, HD audio, 1X PCI-E 3.0 X 16, 6x USB 3.0
 Option 2: X10SDV-6C-TLN4F, FCBGA 1667, Mini-ITX, Xeon-D 1528, 6 Cores, 2x 1GB LAN, 2x 10G LAN, 1x PCI-E 3.0 x 16

Environmental Standards

MIL-STD-810, Operational temperature: -40°C to +60°C¹
 MIL-STD-810, Storage, Method 501, Procedure I/II: -40°C to +85°C¹
 MIL-STD-810, Humidity, Method 507, Procedure II: 240 hours with humidity kit²
 MIL-STD-810, Altitude, Method 500: 12,500ft operation, 40,000ft transport²
 MIL-STD-810, Vibration, Method 514, Procedure I: 5.5G, 5-2,000Hz, 60 min/axis, 3 axis with vibration kit¹

Electromagnetic Compatibility Standards

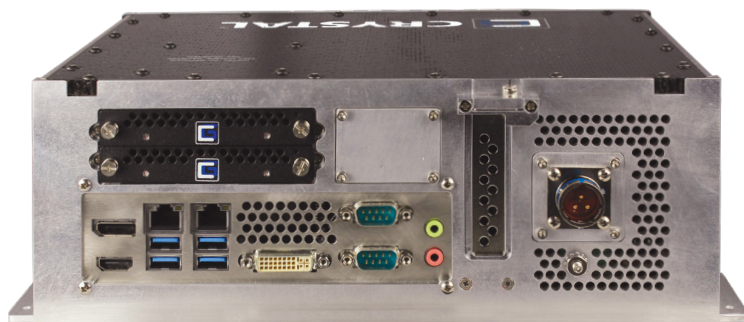
Some standards may require an internal kit
 MIL-STD-461, CE102, RE102²

Mounting

Tray or bulkhead mounted using ears supplied

Software Compatibility

Windows® 10, RHEL® 6.6/6.7/7/7.1, SUSE SLES® 11, Ubuntu® 16, or Centos® 7.1
 VMware®



- 1 - Test report available
- 2 - Designed to meet standard

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