**Field-tested, fail-safe and long-life performance in extreme conditions.** Feature-rich Crystal Group embedded computer systems are powerful, compact, and rugged. Easily configurable to meet specific customer needs, the embedded product line boasts advanced thermal management and a carbon fiber chassis field-tested to withstand shock and vibration, extended temperature ranges, harsh elements, and harsh environments. Our embedded computer systems follow the Intel® roadmap to ensure access to the latest, most 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 with vertically-integrated services, including product design and development, testing, systems engineering and integration, mechanical and electrical engineering, configuration management, and product life-cycle planning.

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

## FEATURES

- Compact construction - 4.5 lbs. maximum weight with expansion
- Versatility with two 2.5" SSDs, non-removable
- DC power solution with optional AC supply brick available
- Up to 16 TB of internal storage
- Expandable with one PCIe x16 low profile slot
- Wide range input power ideal for UAV/UGV applications
- Power efficient Intel® Xeon®D and i3/i7 CPU options

*A clear advantage.*

## Specifications

### Mechanical

| |
|---|
| Height:  3.13" (7.95 cm) |
| Width:  10.76" (27.33 cm) |
| Depth:  8.63" (21.9 cm) |
| Weight: Less than 4.5 lbs. (2.04 kg) with graphics card |

### CPU

| |
|---|
| Xeon® D-1528, Core i3/i7 |

### Expansion

| |
|---|
| One PCIe X16 low profile |

### Drives & I/O

| |
|---|
| Up to two 2.5" SSD and one M.2 NVMe SSD |

### Memory

| |
|---|
| i3/i7 up to 32GB DDR4, Xeon D-1528 up to 128GB ECC DDR4 |

### Cooling

| |
|---|
| Two high speed fans, thermostatically controlled |

### Environmental Standards

| |
|---|
| MIL-STD-810, Operational Temperature:  -20°C to +55 with rotational HDD, -40°C to +55°C w/ solid state HDD[1] |
| MIL-STD-810, Storage, Method 501, Procedure I/II:  -55°C to +85°C[1] |
| MIL-STD-810, Vibration, Method 514, Procedure I:  5.5G, 10-2,000Hz, 60 min/axis, 3 axes[1] |
| MIL-STD-810, Shock, Method 516, Procedure I/V:  20 G[1] |
| MIL-S-901, Grade A: With solid state drives + shock kits[2] |

### Electromagnetic Compatibility Standards

| |
|---|
| Some standards may require an internal kit |
| Testing with solid state drives |
| AC, MIL-STD-461, RE102, CE102 compliant[2] |
| DC, MIL-STD-461, RE102, CE102 compliant[1] |
| Emissions: Radiated FCC Part 15. 109, Class A; conducted FCC Part 15. 107, Class A |

### Connections

| |
|---|
| Power: Mini-con-x 3pin shell size 3 |

### Power Supply

| |
|---|
| Option 1:  150W, 18-36VDC |
| Option 2:  120/240 VAC with external power brick (rugged available) |

1 - Test report available
2 - Designed to meet standard