



The FORCE to fight and win. Next-generation Crystal Group Rugged Servers are the new FORCE — Fully Optimized Rugged Computer Equipment — to tackle the toughest workloads in the most challenging environments. Crystal Group FORCE™ servers provide a whole new level of bandwidth, scalability, flexibility, and security to the field. These rugged rack-mount servers accelerate compute intensive workloads in today's most demanding applications, including artificial intelligence, machine learning, sensor fusion, unmanned systems, signals intelligence, electronic warfare, and intelligence, surveillance, and reconnaissance (ISR). With vital cybersecurity features, like rugged FIPS 140-2 SAS SSDs, optional key management, intrusion detection and instant data destruction, Crystal Group FORCE ensures your critical, confidential data is protected from potential threats.

Crystal Group FORCE servers are offered with single or dual 2nd Gen Intel® Xeon® Scalable processors, each supporting up to 24 cores and 48 PCIe lanes for significant compute capability. AVX-512 ultra-wide vector processing accelerates repetitive tasks, while the PCH offers high-speed communication, expanded storage capacity, and enhanced security and compression.

Designed for easy customization with module options for securing data, networking, audio and various drive carriers, Crystal Group's FORCE is engineered with more rugged features and advanced thermal management to deliver the most computer power and brawn to the edge.

Reliability matters. Crystal Group delivers with **FORCE**.

FEATURES

- Rugged, light-weight chassis
- Rack mounted, 19" depth
- 2nd Gen Intel® Xeon® Scalable processor
- Easily mounted on Delrin glides, fixed mount, or Jonathan® rails
- Removable drive canister holds up to eight SATA/SAS SSDs for easy removal of large amounts of data
- 16GB–1.5TB DDR4 ECC RDIMM/LRDIMM memory
- Up to six module options for fast, flexible customization
- Chassis intrusion switch
- EMI compliance

A clear advantage.

For details on available FORCE modules, visit www.crystalrugged.com/FORCE.

Specifications

Mechanical 1U

Height: 3.5" (8.89 cm)
Width: 17.5" (44.45 cm)
Depth: 19" (48.26 cm)
Weight: 32-38 lbs. (14.51 - 17.23 kg)

CPU

Intel® CPU architecture options from Intel embedded long-life roadmap

2nd Gen Intel® Xeon® Scalable processor
Up to 22 core options per socket (dependent on motherboard)

Expansion

Six low profile PCIe slots

External Bay

Removable drive canister for up to eight SATA or SAS SSDs, plus up to six bays that can be populated with FORCE accessory modules

Memory

16GB -1.5TB DDR4 ECC RDIMM/LRDIMM

Mounting

Option 1: Mounted on Delrin glides
Option 2: Fixed mount, front and rear
Option 3: Jonathan rails

Power Supply

Option 1: 600WAC
Option 2: 1005W, 18-36VDC
Option 3: 1200W AC 1+1

System Board

Option 1: X11SPi-TF, ATX, 2nd Gen Intel® Xeon® Scalable processor

Environmental Standards

MIL-STD-810, Operational temperature: -40°C to +55°C ¹
MIL-STD-810, Storage, Method 501, Procedure I/II: -40°C to +85°C ¹
MIL-STD-810, Humidity, Method 507, Procedure II: 240 hours with conformal coating ¹
MIL-STD-810, Altitude, Method 500: 12,500ft operation, 40,000ft transport ¹
MIL-STD-810, Vibration, Method 514, Procedure I: 4.7G, 5-2,000Hz, 60 min/axis, 3 axis ¹
MIL-STD-810, Shock, Method 516, Procedures I/V: 20g, 11msec--functional shock; 40g, 11msec crash hazard shock ¹
MIL-STD-167-1A, Vibration, Type 1 ¹
MIL-S-901, Grade A, Class II ¹
MIL-S-901, Grade B ¹

Electromagnetic Compatibility Standards

AC, FCC Compliant ¹
AC, MIL-STD-461, RE102, CE102 compliant ¹
DC, MIL-STD-461, RE102, CE102 compliant ¹
RTCA DO-160 Section 21, Category M ¹

Software Compatibility

Supports Windows® 10, Windows® Server, VMware®, or Linux®

Export Compliance

ECCN: 5A992
Classification is dependent on configuration and is subject to change. Please contact your program manager to receive the classification for your product.



Metromatics

For further information or pricing, please contact us:

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Standard Features

- EMI compliance
- Chassis intrusion switch
- Humidity protection
- MIL-STD-810 shock and vibe
- 7, 9.5, 15mm drive capability
- Backlit power/reset/UID switch
- High-speed, high-volume fans
- Light-weight billet aluminum chassis
- Up to 1.5TB DDR4 ECC memory
- Up to 22 core, 2nd Gen Intel Xeon Scalable processor

1 - Designed to meet standard

Optional Features

- 2x eSATA
- 2x USB 3.0
- 2x USB 2.0
- 8-16 port Layer 2+ switch
- Audio modules
- Card reader

Certification reports for select products are available on Crystalrugged.com. Crystal Group designs all products to meet or exceed the specifications listed herein. Due to the sheer number of models and combinations of components some configurations are still being tested. Please contact your Crystal Group program manager for test data on desired requirements.

