DEDICATED COMPUTING

POWERING THE WORLD'S MOST IMPORTANT DEVICES

Excalibur™ Series
E10431

Built for mission-critical data, image and control processing workloads that require dual-processor performance, flexible expansion and short depth platform stability.



Features:

- Dual Intel® Xeon® 6th Gen Scalable Processor platform for demanding rackmount workloads
- Expandable short-depth 3U architecture with multiple PCIe slots, storage and I/O options
- Designed for mission-critical data, image and control processing applications
- Ruggedized variant for harsh environment deployments (ER10432)

CPU	Dual 6th Gen Intel® Xeon® Scalable processors
Graphics	NVIDIA® ProVis series
Memory	16x DDR5
External Bay(s)	3x 3.5"
Onboard I/O	1x TPM 2.0 (optional)
Rear I/O	2x RJ45 (10 GbE) 1x RJ45 (2.5 GbE) 1x dedicated IPMI RJ45 (1 GbE) 1x COM RS232 4x USB 3.x (Type A)
Front I/O	2x USB 3.x (Type A)
Expansion	7x PCIe Gen5 x16 Slots 1x M.2 M-Key NVMe (Gen 3 PCIe x4 + SATA III)
OS & Software Support	Operating Systems: Windows and Linux DC Assure™: System health monitoring service

ER10432 Rugged Variant Environmental Specification Highlights

See next page for details

–5°C to +55°C[1]	**30 G**	**5 Grms**
Operating ambient temperature	Operating shock, 11 ms sawtooth	Operating random vibration, 5–2000 Hz

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Excalibur™ Series
ER10432 Rugged

The Dedicated Computing 3U Rugged Platform is a dual-processor compute system built to keep running in harsh, high vibration, and high-temperature environments. This is a summary of the environmental conditions the platform has been tested to operate in.

How the ER10432 differs from the standard E10431

- **Storage and security:** Up to six 2.5" drives, housed in three half-height 5.25" bays that each hold two 15mm 2.5" SSDs. FIPS 140-3 compliant SSD options and lockable drive bays are available. The E10431 offers three 3.5" bays. Optional TPM 2.0 is available, and all memory is ECC RDIMM.
- **I/O:** The rear I/O is configured for deployed use: 2x 10GbE, one IPMI port, PS/2 for keyboard and mouse, one COM port, and a VGA output that can be placed front or rear. USB is 2x USB 3.2 and 2x USB 2.0 at the rear, plus 2x USB 3.2 at the front.
- **Environmental:** The ruggedization requirements were developed by referencing and comparing military and DoD specifications, including MIL-STD-810. The design includes mil-spec temperature, vibration and humidity hardening, shock isolation, a reinforced chassis built from thicker-gauge metal, EMI/EMC validation, conformal coating, upgraded connectors, and transit-case integration with shock-mounted rails. The system is designed for deployments such as virtualized C4ISR, to ATA 300 Category 1 (100-trip) and MIL-STD-810F requirements.
- **Supply Chain:** All components in the ruggedized system have been vetted against TAA and government requirements, with the exception of the NVIDIA Provis GPUs.

Environmental Specifications

Parameter	Specification
Operating temperature	–5°C to +35°C: full performance, all configurations Up to +55°C: fully operational[1]
Non-operating temperature	–25°C to +65°C
Operating shock	30 G, 11 ms sawtooth; 2 pulses in each direction (±) per axis, 12 pulses total
Operating vibration	5 Grms random, 5–2000 Hz, 1 hour per axis
Operating humidity	*To be confirmed*
Military standards	*To be confirmed*

Thermal Performance by Processor Configuration

Processor TDP	Performance vs. ambient temperature
Up to 255 W per CPU	Full performance up to +50°C ambient; no thermal throttling observed
Up to 350 W per CPU	Full performance up to +35°C ambient +35°C to +55°C: system remains fully functional; CPUs may reduce clock speed[1]

Power & Mounting

Input power	*To be confirmed*
Mounting	*To be confirmed*

[1] Above +35°C ambient with 350 W processors, CPUs may throttle (reduce clock speed) to manage temperature. The system remains fully functional, and all other components continue to operate at full performance. With processors of 255 W TDP or lower, full performance is maintained up to +50°C. *Results are based on Dedicated Computing internal testing of a representative system configuration. Performance can vary with configuration and installation. Contact Dedicated Computing for configuration-specific details.*

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