



Multi-Mission System Computer (MMS 8000)

Product Brief

MMS 8000 is a fully rugged, single line replaceable unit (LRU) multi-mission small form factor (SFF) embedded computer purpose-built for deployment in austere environments for demanding defense and commercial applications.



MMS-8000 offers robust IO and system expansion for a true single LRU solution with centralized and converged sensor ingest, processing, networking, storage, controls, and distribution - supporting the mission with reliable tactical processing and communications enabling capabilities.

MMS-8000 is ideal for x86-based high performance computing applications with optional GPU for intensive algorithms that benefit from significant parallel processing with low latency.

Key Features

- COM Express Type 6 Architecture
- Latest Intel embedded CPU
- Latest NVIDIA mobile GPU
- Memory: up to 64GB DDR4

- Storage: (2) removable 2.5" SSDs up to 4TB each; internal mSATA storage
- Dense IO including multiple GbE, USB, serial, audio, GPIO, DVI
- Significant PCIe-based system expansion capabilities; highly configurable
- Security: supports data at rest (DAR) and data in transit (DIT); onboard TPM 2.0; supports FIPS 140-2 and AES 256 encryption; Intel TXT and SGX
- MIL-SPEC rugged
- -40C to +60C operating temperature
- Engineered with standards-based approach utilizing open architectures and COTS technologies
MOSA-aligned



MMS 8000 Specifications

3-Year Product Warranty
EOL and Configuration Management Included



System Specs

Chassis

Material: machined aluminum. Finish: black anodized exterior, clear alodine interior.

SWAP

- Chassis Dimensions: 8.50"W x 13.25"D x 5.10"H
- Weight: ~16lbs
- Power: 28VDC, 200W max

Processing

- CPU: (1) COM Express Type 6 Intel Xeon or Core i7; standard is Xeon E-2276ML 9th gen, 6 cores, 2.00/4.20 GHz
- GPU: option for (1) embedded MXM; standard is NVIDIA GeForce 1050Ti (Pascal, 768 CUDA cores, 4GB) or Quadro RTX3000 (Turing, 1920 CUDA cores, 6GB)
- Memory: up to 64GB DDR4 dual-channel; ECC with Xeon CPU OS:
- supports Windows or Linux 64-bit

Power Supply

- Integrated non-isolated 18-36VDC input power, 28VDC nominal with Aero-designed EMI input conditioning and filtering
- Max system power 200W

Base System IO

- Ethernet: (2) GbE
- USB: (2) USB 3.0, (2) USB 2.0
- Serial: (2) RS422 (485 is built-time option), (3) RS232 RX/TX only
- Video Output: (1) HDMI/DVI
- Audio: stereo headphone and mic

Connectors

MIL-DTL-38999 for power and main IO, 2M801 for USB 3.0. Expansion IO may use alternate rugged, HD-BNC for RF.

System Expansion

Numerous options including GbE switch, CAN, video capture and encode (multiple formats and types), LTE, GPS, GPIO, ARINC 429, 1553.

- (2) mPCIe
- (2) PCIe/104 type 2
- Other interfaces available (ex: USB)

Storage

- (2) removable 2.5" SSD drive bays, SATA III up to 4TB each. FIPS 140-2 options
- Internal (nonremovable) mSATA options via mPCIe expansion up to 1TB

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Environmental Specs

Operating Temp	-40C to +50C, +55C, +60C* passively cooled <i>*configuration-dependent</i> MIL-STD-810H, Method 501.7, Proc. II; Method 502.7, Proc. II; DO-160G, Section 4, Category A1 and D1; Section 4.5.5, Category V/Table 4-1
Non-Operating Temp	-40C to +85C MIL-STD-810H, Method 501.7, Proc. I; Method 502.7, Proc. II; DO-160G, Section 4, Category A2
Vibration	MIL-STD-810H, Method 514.8, Proc. I, Cat. 4, C-V, Composite Two-Wheeled Trailer; DO- 160G, Section 8, Category S, Curve B3, Fixed-Wing
Shock, Functional	MIL-STD-810H, Method 516.8, Proc. I, 40g at 11ms, Ground; DO-160G, Section 7, Class A
Shock, Crash Hazard	MIL-STD-810H, Method 516.8, Proc. V 75g at 6ms, Ground; DO-160G, Section 7, Class A
Altitude	MIL-STD-810H, Method 500.6, Proc. II, 50k feet*, Operating; DO-160G, Section 4, Category D2 <i>*thermal derating may occur</i>
Humidity	MIL-STD-810H, Method 507.6-7, Proc. II, RH 95%, 60C, Aggravated
Sand and Dust	MIL-STD-810H, Method 510.7, Proc. I and II; DO-160G, Section 12, Category S; IP6X
Rain and Fluids	MIL-STD-810H, Method 506.6, Proc. II; IPX6
Explosive Atmosphere	MIL-STD-810H, Method 511.7, Proc. 1
EMI/EMC	MIL-STD-461G, CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103
Power	MIL-STD-1275E; MIL-STD-704F <i>*no power hold-up and no galvanic isolation</i>

Specifications are configuration-dependent and subject to change. Please contact a Aerocomputers sales representative to discuss your configuration.

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