



LAND



SEA



AIR

# THOR400-027

MILITARY XEON® D-2796TE, 100GB NIC  
GPU SERVER, 2U HALF-RACK



- 2U Half-Rack Military GPU Server,
- Intel® Xeon® D-2796TE (2.0GHz, 20 Cores, 40 threads)
- NVIDIA MXM A4500 (5,888 CUDA)
- 1x 100GbE Single (Fiber)
- Up to 512GB DDR4 RDIMM
- 2x NVMe U.2 (up to 64TB) ,2x NVMe M.2 Expansions
- MIL-STD-810 Temperature, Shock, Vibration
- MIL-STD 461 EMI/EMC; MIL-STD 1275

# Specifications

## SYSTEM

Processor	Intel® Xeon® Processor D-2796TE, Frequency 2.0GHz, Max Turbo Frequency 3.1GHz, 20 Core, 40 Thread, 30MB Cache, TDP 118W
Memory type	4 x Channel DDR4-2933 RDIMM/LRDIMM up to 512GB (Both ECC & Non-ECC)
Chipset	SoC, integrated with CPU

## GPU

NVIDIA	NVIDIA RTX™ MXM A4500, 16GB GDDR6, 256-bit, 512GB/s, 5,888 CUDA cores, 17.66 TFLOPS, 46 RT cores, Type B, PCIe x16, 80/115W TDP NVIDIA RTX™ MXM A2000, 8GB GDDR6, 128-bit, 192GB/s, 2,560 CUDA cores, 8.25 TFLOPS, 20 RT cores, Type A, PCIe x8, 35/60W TDP
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## DISPLAY

Display Port	1x mDP (by MXM GPU)
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## STORAGE

HDD/SSD	2x 2.5" U.2 (up to 6x) NVMe SSD 2x M.2 M Key PCIe Gen.4 x4
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## 100GbE

Intel	Integrated Intel® Ethernet 100G
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## FRONT AND SIDE I/O

X1	1x DC-IN, with D38999 connector
X2	1x MiniDP, with D38999 connector
X3	1x 100GbE MPO SFP28, with D38999 connector
X4	1x USB3.0, with D38999 connector
Button	1x Power Switch with Dedicated LED
Dedicated LED	1x Red LED (SSD)

## POWER REQUIREMENT

Power Input	DC-DC 18V~ 36V (300W max) MIL-STD 461
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## APPLICATIONS, OPERATING SYSTEM

Applications	C4ISR, Commercial and Military Platforms Requiring Compliance to MIL-STD-810 Process Control, where Harsh Temperature, Shock, Vibration, Altitude, Dust and EMI Conditions
Operating System	Windows 10 64Bit, Windows Server 2019 64bit, Windows 2016 64bit, Hyper-V Server 2016 R2, Ubuntu16.04.3 LTS/17.10/18.04.1LTS, Fedora 25/26, RedHat Linux EL 6.8/6.9/7.3/7.4/7.6, VMware ESXi 6.5u1 ,Vmware ESXi 6.7U2

## PHYSICAL

Dimension	220x450x88mm (WxDxH)
Weight	7.5Kg
Chassis	Aluminum Alloy, Corrosion Resistant
Finish	Anodic aluminum oxide
Cooling	Natural Passive Convection/Conduction Cooling. No Moving Parts Ingress Protection
Ingress Protection	IP65

## ENVIRONMENTAL

### Operating Test MIL-STD-810

Low air pressure	Method 500.5 Procedure 2	Operation/Air Carriage 4572m (15.000 ft)
Low Temperature	Method 502.5 Procedure 2	-20°C, 4 hours, ±3°C
High Temperature	Method 501.5 Procedure 2	+55°C, 4 hours, ±3°C
Humidity	Method 507.5	85%-95% RH without condensation, 24 hours/ cycle, conduct 10 cycle
Vibration	Method514.6 Category 24	5-500Hz, Vertical 7.7Grms, 40mins x 3axis
Shock	Method 516.6	20 Grms, 11ms, 3 axes

### Non-Operating Test MIL-STD-810

Low Temperature	Method 502.5	-33°C, 4 hours, change rate: ≤ 20°C/ Hour -15°C, 72hours (By request)
High Temperature	Method 501.5	+71°C, 4 hours, change rate: ≤ 20°C/ Hour
	Procedure 1	+68°C, 240 hours (By request)
Vibration	Method514.6	5-500Hz, Vertical 7.7Grms, 40mins x 3axis

Shock	Method 516.6	20 Grms, 11ms, 3 axes
Salt Fog	Method 509.7	Salt Spray (50±5)g/L

### MIL-STD 461

Conducted Emissions Power Leads	CE102 curve	basic	10kHz – 30MHz
Conducted Emissions Electric Field	RE102-4		1.5MHz - 30MHz – 5GHz
Radiated Susceptibility  Electric Field	RS103		1.5 MHz – 3GHz, 50 V/m equal for all frequencies
			2MHz – 80MHz, 50 V/m equal for all frequencies
			80MHz – 3GHz, 50 V/m equal for all frequencies
			3GHz – 5GHz, 50 V/m equal for all frequencies
Electrostatic Discharge	EN 61000-4-2		Air DISCHARGE: 8 Kv, Contact discharge : 6kV
Electromagnetic compatibility	EN61000-4-4		Signal and DC Net: 1 kV
Electromagnetic compatibility	EN61000-4-5		Lead vs. ground potential 1Kv, ignal und DC Net: 1 kV
Radio disturbance	EN55022		Class A
Electromagnetic compatibility	EN61000-4-3		10V/m
Electromagnetic compatibility	EN 61000-4-5		Lead vs. ground potential 1Kv, ignal und DC Net: 0.5 kV

### MIL-STD-1275 SPECIFICATIONS

Steady State	20V~33V
Surge Low	20V~33V
Surge High	18V/500ms

## Ordering Information

### THOR400-D27A45

Military MXM-GPU System GPGPU AI Inference Computer with Intel® Xeon D-2796NT Processor, NVIDIA A2000, DDR4-2933 MHz 128GB RDIMM ECC, 2x NVMe U.2 (up to 64TB) for Fast & Mass Storage, 1 x 100GbE integrated Intel® Ethernet IP65 rating, MIL-STD-D38999 Connectors, 18~36V DC-IN, Extreme Rugged operating temperature -20~+60°C

### THOR400-D27A20

Military MXM-GPU System GPGPU AI Inference Computer with Intel® Xeon D-2796NT Processor, NVIDIA A4500, DDR4-2933 MHz 128GB RDIMM ECC, 2x NVMe U.2 (up to 64TB) for Fast & Mass Storage, 1 x 100GbE integrated Intel® Ethernet IP65 rating, MIL-STD-D38999 Connectors, 18~36V DC-IN, Extreme Rugged operating temperature -20~+60°C

## I/O Placement

