



HORUS440-M

INTEL 4/5TH XEON SP RUGGED



FEATURES

- Intel® 4/5th XEON® SP Processor Sliver, Gold, Platinum CPUs
- Intel® Data Center GPU Flex 170(32 Xe-cores, 16GB GDDR6)
- Nvidia RTX 6000 ADA, 48GB GDDR6, 18176 CUDA® cores
- Up to 2TB DDR5- 5600MT/s RDIMM ECC
- 8 pins programmable GPIO
- 8x U.2 NVMe PCIe Gen 4 (Up to 128TB)
- 2x M.2 NVMe (OS)
- I/O: 1xIPMI , 2x10G , 4x1G
- 3 x HHHL Slot Available
- DC 16V-72V (1000W)
- MIL-STD: 810, 461

OPTIONAL

- 6x GMSL 2.0 inputs
- RAID PCIe Gen 4.0 Tri-Mode Support RAID 0, 00, 1, 5, 6, 10, 50 and 60

Product Highlight



Up to Intel Xeon Scalable processor with 48 cores
Up to 2TB DDR4 ECC memory
Up to 128TB of storage and 3 PCIe 5.0 cards
MIL-STD 461, 810

Technical Specification

1x Intel® Xeon® Scalable Silver, Gold, Platinum CPUs
Up to 48 Cores per Processor
Up to 2TB memory with 8 DIMM slots
Nvidia RTX 6000 ADA, 18176 CUDA cores, 48GB GDDR6 or
Intel® Data Center GPU Flex 170, 32 Xe-cores, 16GB GDDR6

Management and Operating System

Windows®, Linux, VMWARE, SLES
AMI UEFI BIOS type
IPMI v2.0 Redfish option available
TPM 2.0 support

Expansion and Modular Maintainability

PCIe 5.0 Card Options:
Up to 3 vertical HH card (2x PCIe 5.0 x16 +1x PCIe5.0 x8)
Up to 4 Horizontal FH card (4x PCIe 5.0 x8 MCIO connector)
3 removable fans
2x M.2 NVMe slot
8x 2.5" Swappable SSD, support U.2, NVMe, up to 128TB

Input/Output Versatility

1x Power Button
1x IPMI 2.0
4x 1GBase T Ethernet ports
2x 10GBase T Ethernet ports
4x USB3.2
1x VGA display port
1x DC-IN jack

Power Supply Options

Single or Redundant 16~72V DC
Single or Redundant 100/240V VAC
MIL-STD 461

Environmental

Operating

Temperature: 0°C to 50°C
Extended Temperature: -20°C to 60°C
Humidity: 5%to 95%, non-condensing
Shock: 3 axis, 25g
Vibration: 5Grms

Non-Operating

Temperature: -40°C to 85°C
Humidity: 5%to 95%, non-condensing

Mechanical

Height: 2U or 88.9mm
Width: 17.3 inches (440.0mm)
Depth: 15.75 inches (400.0mm)
Weight: 25 pounds (11.3kg)
19" rackmountable

Specifications

SYSTEM

Processor	Intel® 4 th Xeon SP Platinum 8468, 2.1GHz, 105MB, 350W, 48 cores/96 Threads Intel® 4 th Xeon SP Gold 6421N, 1.8GHz, 60MB, 185W, 32 cores/64 Threads Intel® 4 th Xeon SP Silver 4410T, 2.7GHz, 26.25MB, 150W, 10 cores/20 Threads
Memory type	128GB DDR5-5600MT/s RDIMM ECC , Up to 2TB in 8 DIMM slot
Graphic	Nvidia RTX 6000 ADA Generation 18176 CUDA cores 48GB GDDR6 Intel® Data Center GPU Flex 170(32 Xe-cores, 16GB GDDR6)
TPM	Chipset: Infineon, Type: TPM 2.0
IPMI	ASPEED AST2500 IPMI 2.0
BIOS	AMI UEFI BIOS
USB	6 USB3.2 Gen1 ports: 4 rear Type-A, 2 via 19-pin header
Ethernet	2x 10G Ethernet Ports 4x 1G Ethernet Ports 1x RJ45 Dedicated IPMI
Power Type	16V ~ 72V DC IN 1000W MIL-STD 461 (option)
Storage	8x 2.5" Swappable SSD, support U.2 NVMe PCIe Gen4 x 4, up to 128TB (Data) 2x M.2 NVMe (OS)
COM Port	1x RS232
Operating Temp.	-20°C to +60°C
Dimension	440mm(W) x 400mm(D)x88mm(H)

FRONT I/O

Power Button	1
SSD LED indicator	1
Swappable SSD Tray	8

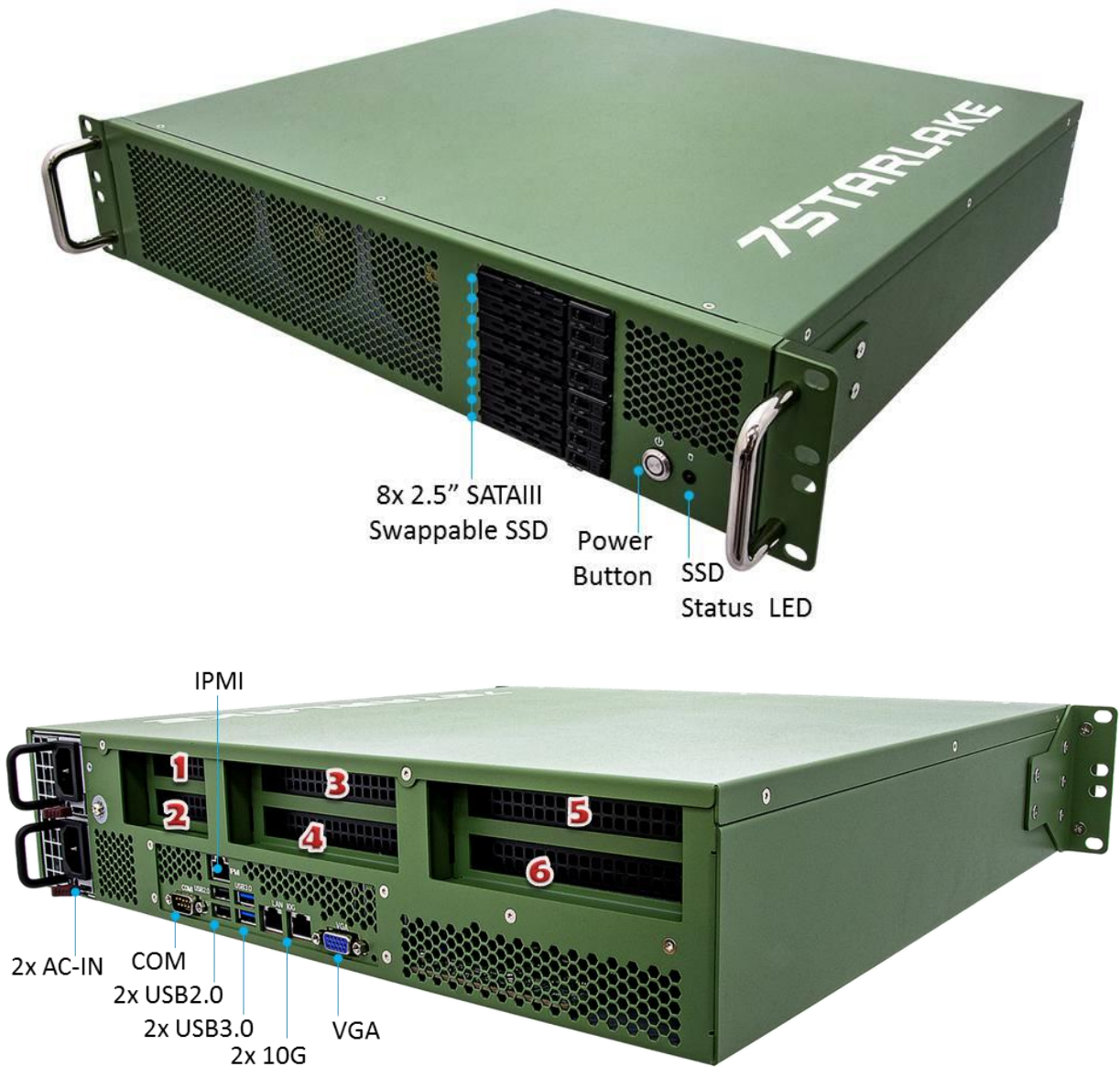
REAR I/O

IPMI LAN	1
1G LAN	4
10G LAN	2
VGA	1
USB 3.0	4
DC-IN	1

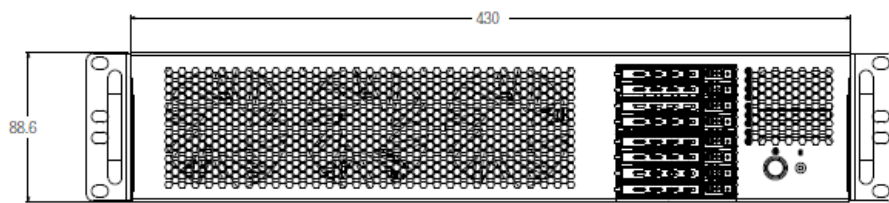
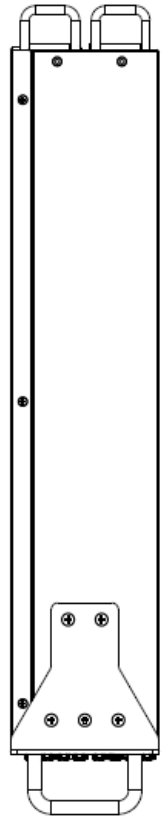
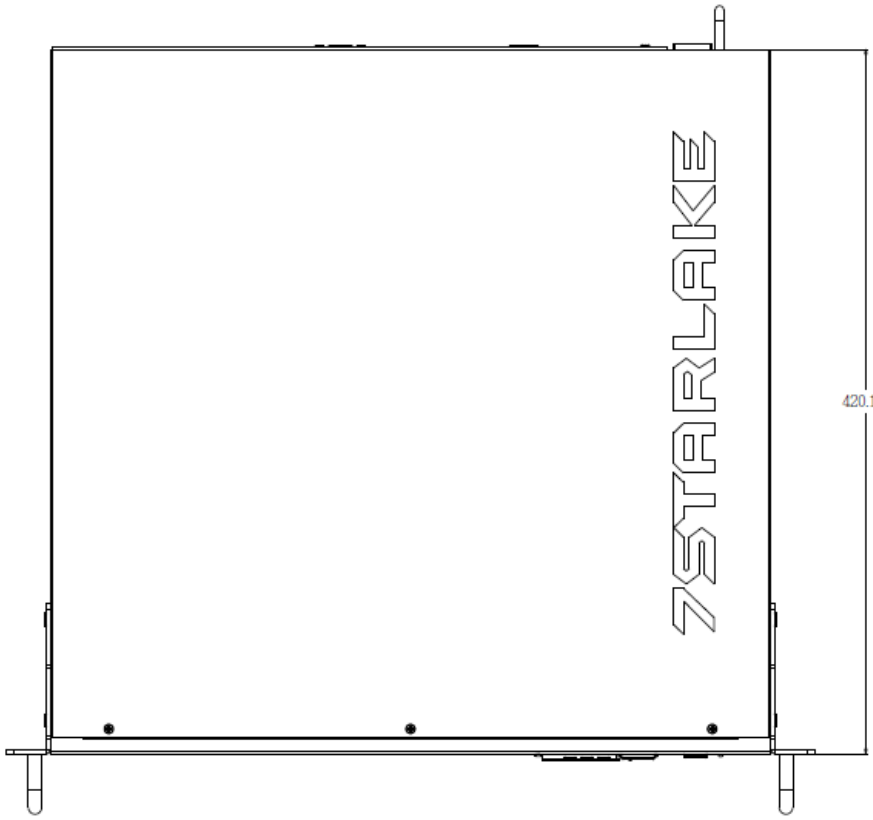
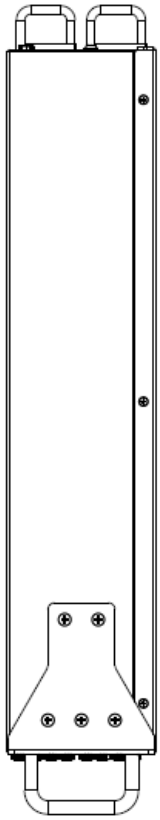
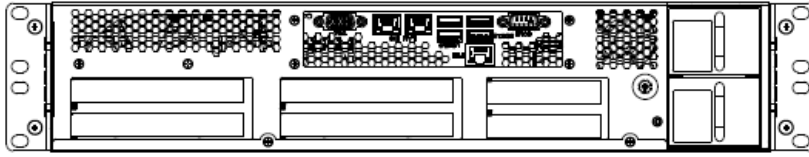
ENVIRONMENTAL

MIL-STD-810 Test	<p>Method 500.5, Procedures I and II (Altitude, Operation): 12,192M, (40,000 ft) for the initial cabin altitude (18.8Kpa or 2.73 Psia)</p> <p>Method 500.5, Procedures III and IV (Altitude, Non-Operation): 15,240, (50,000 ft) for the initial cabin altitude (14.9Kpa or 2.16 Psia)</p> <p>Method 501.5, Procedure I (Storage/High Temperature)</p> <p>Method 501.5, Procedure II (Operation/High Temperature)</p> <p>Method 502.5, Procedure I (Storage/Low Temperature)</p> <p>Method 502.5, Procedure II (Operation/Low Temperature)</p> <p>Method 503.5, Procedure I (Temperature shock)</p> <p>Method 507.5, Procedure II (Temperature & Humidity)</p> <p>Method 509.7 Salt Spray (50±5)g/L</p> <p>Method 514.6, Vibration Category 24/Non-Operating (Category 20 & 24,Vibration)</p> <p>Method 514.6, Vibration Category 20/Operating (Category 20 & 24,Vibration)</p> <p>Method 516.6, Shock-Procedure V Non-Operating (Mechanical Shock)</p> <p>Method 516.6, Shock-Procedure I Operating (Mechanical Shock)</p>
Reliability	<p>No Moving Parts; Passive Cooling.</p> <p>Designed & Manufactured using ISO 9001 Certified Quality Program.</p>
MIL-STD-461	<p>CE102 basic curve, 10kHz - 30 MHz</p> <p>RE102-4, (1.5 MHz) -30 MHz - 5 GHz</p> <p>RS103, 200 MHz - 3.2 GHz, 50 V/m equal for all frequencies</p> <p>CE and FCC (option)</p>
MIL-STD-1275 (Option)	<p>Steady State –20V~33V, Surge Low – 18V/500ms, Surge High – 100V/500ms</p> <p>Emitted spikes</p> <p>Injected Voltage surges</p> <p>Emitted voltage surges</p> <p>Voltage ripple (2V)</p> <p>Voltage spikes</p> <p>Starting Operation</p> <p>Reverse polarity</p>
Operating Temp	-20°C to +60°C
Storage Temp.	-40°C to +85°C
Relative Humidity	5% to 95%, non-condensing.

Appearance



#	Expansion Slot Location
1	Default: PCIe5.0 x16(HHHL) Option1: PCIe5.0 x16(HHHL) Option2: PCIe5.0 x8(HHHL)
2	Default: PCIe5.0 x16(HHHL) Option1: Disable Option2: PCIe5.0 x8(HHHL)
3	Default: Disable Option1: PCIe5.0 x16(FHHL) Option2: PCIe5.0 x16(FHHL)
4	Default: Disable Option1: PCIe5.0 x8(FHHL) Option2: PCIe5.0 x8(FHHL)
5	PCIe5.0 x16(FHHL)
6	PCIe5.0 x16(FHHL)



Revision history 轉 Pdf 格式時不要包含此頁

Date	Description	Remark
2023/12/28	初版	HORUS440-M/R
2023/12/29-	正名為 HORUS440-M，更新圖面資料	
2024/1/02	更新插圖和 Dimension 圖	
2024/03/21	更新拉線圖、外觀圖	
2024/04/01	更新拉線圖 PCIe slot 的 option	