

IoT SuperServer SYS-221HE-FTNR

X13 DP 2U Short-depth front I/O System with 6 NVMe/SATA bays and redundant AC PSU



Key Applications

Telecom Micro Data Center, AI Inference and Machine Learning, Cloud Computing, Network Function Virtualization (NFV), 5G Networking,

Key Features

- Dual Socket E (LGA-4677) 5th/4th Gen Intel® Xeon® Scalable processors;
- 32 DIMM slots supporting up to 8TB of memory; RDIMMs up to DDR5-5600;
- Configurable PCIe slot options up to 8 PCIe 5.0 x8 (6 FHFL+ 2 FHHL) or 4 PCIe 5.0 x16 (3 FHFL + 1 FHHL);
- Flexible networking options with 2 AIOM networking slots (OCP NIC 3.0 compatible);
- Up to 6x 2.5" hot-swap drive bays with options to support NVMe/SATA drives;
- 6 heavy duty hot-swap fans with optimal fan speed control;
- Redundant 2000W Titanium level AC power supplies;



Form Factor	2U Rackmount Enclosure: 436.88 x 88.9 x 574mm (17.2" x 3.5" x 22.6") Package: 598 x 247 x 938mm (23.5" x 9.7" x 36.9")
Processor	Dual Socket E (LGA-4677) 5th Gen Intel® Xeon®/4th Gen Intel® Xeon® Scalable processors Supports Intel Xeon CPU Max Series with high bandwidth memory (HBM) Up to 60C/120T; Up to 112.5MB Cache per CPU
GPU	Max GPU Count: Up to 3 double-width or 3 single-width GPUs Supported GPU: NVIDIA PCIe: H100, A10, A2, A40, L40, L40S Intel PCIe: Intel Data Center GPU Flex 170 CPU-GPU Interconnect: PCIe 5.0 x16 CPU-to-GPU Interconnect GPU-GPU Interconnect: PCIe
System Memory	Slot Count: 32 DIMM slots/16 Channels Max Memory (2DPC): Up to 8TB 5600MT/s ECC DDR5 RDIMM
Drive Bays Configuration	Default: Total 6 bays • 6 front hot-swap 2.5" NVMe/SAS*/SATA drive bays (*SAS support may require additional storage controller and/or cables, please see the optional parts list for details) M.2: 2 M.2 NVMe/SATA slots (M-key 2280/22110)
Expansion Slots	Default • 3 PCIe 5.0 x16 FHFL slots • 2 PCIe 5.0 x8 FHHL slots • 2 PCIe 5.0 x16 AIOM slots (OCP 3.0 compatible) Option A* • 6 PCIe 5.0 x8 FHFL slots • 2 PCIe 5.0 x8 FHHL slots • 2 PCIe 5.0 x16 AIOM slots (OCP 3.0 compatible) Option B* • 3 PCIe 5.0 x16 FHFL slots • 1 PCIe 5.0 x16 FHHL slot • 2 PCIe 5.0 x16 AIOM slots (OCP 3.0 compatible)
On-Board Devices	SATA: SATA (6Gbps) ; RAID 0/1/5/10 support NVMe: NVMe; RAID 0/1/5/10 support(Intel® VROC RAID key required)

Network Connectivity: 2 SFP28 25GbE with Broadcom® BCM57414 (optional)
2 QSFP28 100GbE with Broadcom® BCM57508 (optional)
2 QSFP28 100GbE with Intel® E810-CAM2 (optional)
2 QSFP28 100GbE (optional)
4 SFP+ 10GbE with Intel® X710-BM2 (optional)
2 QSFP56 200GbE (optional)
2 QSFP56 100GbE (optional)
2 RJ45 1GbE with Intel® I350-AM2 (optional)
4 SFP+ 10GbE with Intel® X710-TM4 (optional)
1 OSFP 400GbE with NVIDIA® ConnectX®-7 NDR (optional)
4 RJ45 10GbE with Intel® X550 (optional)

Input / Output

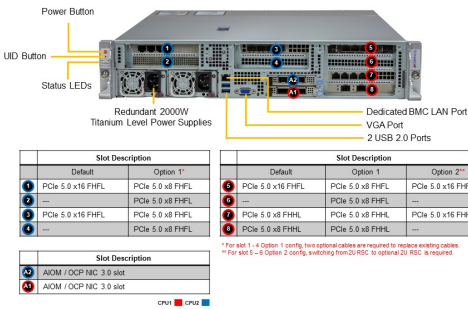
LAN: 1 RJ45 1 GbE Dedicated BMC LAN port
USB: 2 USB 2.0 ports (front)
Video: 1 VGA port

(Rear View – System)



Drive Bay	Description
1, 2	4 Hot-swap 2.5"INWMe/SATA3 Drive Bays (NVMe from CPU1)
3, 4	2 Hot-swap 2.5"INWMe/SATA3 Drive Bays (NVMe from CPU2)

(Front View – System)



Slot Description		Slot Description		
Default	Option 1*	Default	Option 1*	Option 2**
1 PCIe 5.0 x16 FHFL	PCIe 5.0 x8 FHFL	1 PCIe 5.0 x16 FHFL	PCIe 5.0 x8 FHFL	PCIe 5.0 x16 FHFL
2 ---	PCIe 5.0 x8 FHFL	2 ---	PCIe 5.0 x8 FHFL	---
3 PCIe 5.0 x16 FHFL	PCIe 5.0 x8 FHFL	3 PCIe 5.0 x16 FHFL	PCIe 5.0 x8 FHFL	PCIe 5.0 x16 FHFL
4 ---	PCIe 5.0 x8 FHFL	4 PCIe 5.0 x8 FHFL	PCIe 5.0 x8 FHFL	---

Slot Description	
5 AOM / OCP-MC 3.0 slot	
6 AOM / OCP-MC 3.0 slot	

*For slot 1 - 4 Option 1 config, two optional cables are required to replace existing cables.
**For slot 5 - 6 Option 2 config, switching from 2) RSC to optional 2) RSC is required.

CPU1 CPU2

System Cooling

Fans: Up to 6 Counter-rotating, Hot-swappable 6cm Fan(s)
Air Shroud: 4 Air Shrouds

Power Supply

2x 2000W Redundant Titanium (certification pending) Level (96%) power supplies

System BIOS

BIOS Type: AMI 256MB SPI Flash

Management

SuperCloud Composer® (SCC); Supermicro Server Manager (SSM); Supermicro Update Manager (SUM); Supermicro SuperDoctor® 5 (SD5); Super Diagnostics Offline (SDO); Supermicro Thin-Agent Service (TAS); SuperServer Automation Assistant (SAA) New!

PC Health Monitoring

CPU: Monitors for CPU Cores, Chipset Voltages, Memory
Fan: Fans with tachometer monitoring
Pulse Width Modulated (PWM) fan connectors
Status monitor for speed control
Temperature: Monitoring for CPU and chassis environment
Thermal Control for fan connectors

Dimensions and Weight

Weight: Gross Weight: 47.4 lbs (21.5 kg)
Net Weight: 34.4 lbs (15.6 kg)
Available Color: Silver

Operating Environment

Operating Temperature: 0°C to 35°C (32°F to 95°F)
Non-operating Temperature: -40°C to 70°C (-40°F to 158°F)
Operating Relative Humidity: 8% to 90% (non-condensing)
Non-operating Relative Humidity: 5% to 95% (non-condensing)

Motherboard

[Super X13DEM](#)

Chassis

CSE-HE211-R000NFP