Intel Xeon (X13) | 2U Rackmount | Server

Supermicro SYS-221H-TNR

Intel Xeon (X13) · 2U Rackmount · Liquid Cooling Server

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Form Factor	CPU
2U Rackmount	**5th Gen Intel® Xeon® / 4th Gen Intel® Xeon® Scalable processors**
GPU	**Memory**
Up to 4 double-width or 8 single-width GPUs	**Max Memory (1DPC): Up to 4TB 5600MT/s ECC DDR5 RDIMM**

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
- Optional PCIe slot configurations up to 8 PCIe 5.0 x8 or 4 PCIe 5.0 x16 slots with support for up to 4 double-width or 8 x8 single-width GPU/Accelerator cards
- Flexible networking options with up to 2 AIOM networking slots (OCP NIC 3.0 compatible)
- 8x 2.5" hot-swap NVMe/SATA/SAS drive bays; Optional 8x 2.5" hot-swap NVMe/SAS/SATA drive bays; 2x internal M.2 NVMe/SATA drive slots; Optional RAID support via storage add-on card
- 4 heavy duty hot-swap fans with optimal fan speed control

Form Factor	2U Rackmount
Platform	Intel Xeon (X13)
CPU	Dual Socket E (LGA-4677) 5th Gen Intel® Xeon® / 4th Gen Intel® Xeon® Scalable processors
Max GPU Count	Up to 4 double-width or 8 single-width GPUs
Supported GPU	NVIDIA PCIe: H100, H100 NVL, A100, A16, A40, L4, L40, L40S, RTX A4000, RTX A6000
Memory	Slot Count: 32 DIMM slots Max Memory (1DPC): Up to 4TB 5600MT/s ECC DDR5 RDIMM
Drive Bays	Default: Total 8 bays8 front hot-swap 2.5" NVMe*/SAS*/SATA* drive bays
Fans	Up to 4x 8cm heavy duty fans with optimal fan speed control
Power Supply	2x 1200W Redundant Titanium Level (96%) Hot-plug power supplies

Full Specifications — SYS-221H-TNR

Product SKUs

Part numbers	SYS-221H-TNR

Motherboard

Motherboard	Super X13DEM

Processor

CPU	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)
Core Count	Up to 64C/128T; Up to 320MB Cache per CPU
Note	Supports up to 350W TDP CPUs (Air Cooled) Supports up to 350W TDP CPUs (Liquid Cooled)

GPU

Max GPU Count	Up to 4 double-width or 8 single-width GPUs
Supported GPU	NVIDIA PCIe: H100, H100 NVL, A100, A16, A40, L4, L40, L40S, RTX A4000, RTX A6000 View GPU Options

System Memory

Memory	Slot Count: 32 DIMM slots Max Memory (1DPC): Up to 4TB 5600MT/s ECC DDR5 RDIMM Max Memory (2DPC): Up to 8TB 4400MT/s ECC DDR5 RDIMM View Memory Options
Memory Voltage	1.1V

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) View NVMe Options
Network Connectivity	Via AIOM View AIOM Options View AOC Options

Input / Output

LAN	1 RJ45 1 GbE Dedicated BMC LAN port
USB	2 USB 2.0 ports (rear) 2 USB 3.0 ports (Header)

Video	1 VGA port

System BIOS

BIOS Type	AMI 64MB SPI Flash

Management

Software	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!
Power configurations	Power-on mode for AC power recovery ACPI Power Management

Security

Hardware	Trusted Platform Module (TPM) 2.0 Silicon Root of Trust (RoT) – NIST 800-193 Compliant
Features	Cryptographically Signed Firmware Secure Boot Secure Firmware Updates Automatic Firmware Recovery Supply Chain Security: Remote Attestation Runtime BMC Protections System Lockdown

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

Certifications

Operating Systems	ESXi 7.0 U3, ESXi 8.0, Hypervisor 8.2.1, Oracle Linux 9.0, RHEL 8.7, RHEL 9.0, SAP HANA 2.0, SLES 15 SP4, SLES 15 SP5, Windows Server 2022, Windows Server 2025 View all OS Compatibility and Certification Matrix
Enterprise Solutions	VMWare vSAN SAP HANA SAP HCI Solution

Chassis

Form Factor	2U Rackmount
Model	CSE-HS219-R1K24P

Dimensions and Weight

Height	3.5" (88.9 mm)
Width	17.2" (437 mm)
Depth	29.9" (760 mm)
Package	10.4" (H) x 23.8" (W) x 43.6" (D)
Weight	Gross Weight: 66 lbs (30 kg) Net Weight: 40 lbs (18.2 kg)
Available Color	N/A

Front Panel

Buttons	Power On/Off Power On/Off UID button
LED	HDD activity LAN1 activity LAN2 activity Power Power Fail System information

Expansion Slots

PCI-Express (PCIe) Configuration	Option A*4 PCIe 5.0 x16 FH/10.5"L double-width slots 2 PCIe 5.0 x16 AIOM slots (OCP 3.0 compatible) 4 PCIe 5.0 x16 FH/10.5"L double-width slots 2 PCIe 5.0 x16 AIOM slots (OCP 3.0 compatible) Option B*8 PCIe 5.0 x8 (in x16) FH/10.5"L slots 2 PCIe 5.0 x16 AIOM slots (OCP 3.0 compatible) 8 PCIe 5.0 x8 (in x16) FH/10.5"L slots 2 PCIe 5.0 x16 AIOM slots (OCP 3.0 compatible) (*Requires additional parts, please see the optional parts list for details. For more details on PCIe slot configuration options, please refer to the system callout images above.) View AOC Options
CXL Support	Up to 4 CXL 1.1 x16/x8 devices
M.2	2 M.2 NVMe/SATA slots (B+M-key 2280/22110)

Drive Bays / Storage

Drive Bays Configuration	Default: Total 8 bays8 front hot-swap 2.5" NVMe*/SAS*/SATA* drive bays 8 front hot-swap 2.5" NVMe*/SAS*/SATA* drive bays Option A: Total 16 bays16 front hot-swap 2.5" NVMe*/SAS*/SATA* drive bays 16 front hot-swap 2.5" NVMe*/SAS*/SATA* drive bays (*NVMe/SAS/SATA support may require additional storage controller and/or cables, please see the optional parts list for details) View NVMe Options View Drive Options
M.2	2 M.2 NVMe/SATA slots (M-key 2280/22110) View M.2 Options

System Cooling

Fans	Up to 4x 8cm heavy duty fans with optimal fan speed control
Air Shroud	2 Air Shrouds
Liquid Cooling	Direct to Chip (D2C) Cold Plate (optional)

Power Supply

2x 1200W Redundant Titanium Level (96%) Hot-plug power supplies

Dimension (WxHxL)	73.5 x 40 x 265 mm
Input	800W: 100-127Vac / 50-60Hz 1200W: 200-240Vac / 50-60Hz 1200W: 230-240Vdc / 50-60Hz (for CCC only)
+12V	Max: 66.7A / Min: 0A (100Vac-127Vac) Max: 100A / Min: 0A (200Vac-240Vac) Max: 100A / Min: 0A (230Vdc-240Vdc) (for CCC only)
12V SB	Max: 2.1A / Min: 0A
Output Type	Backplanes (gold finger)

Operating Environment

Environmental Spec.	Name: A2 Operating Temperature: 10°C to 35°C (50°F to 95°F) Non-operating Temperature: -30°C to 60°C (-40°F to 140°F) Operating Relative Humidity: 8% to 80% (max 21° DP; non-condensing) Non-operating Relative Humidity: 8% to 90% (max 38° DP; non-condensing)