

TECHNICAL DATASHEET

SUPERMICRO • MULTI-NODE & TWIN

Supermicro BigTwin SuperServer SYS-221BT-HNR

2U 4-Node BigTwin with 6 hot-swap 2.5" NVMe drives per node

SKU SYS-221BT-HNR

2U

LGA4677

Supermicro



FORM FACTOR

2U

MAX POWER (BASE)

474 W

HEAT OUTPUT

1,617 BTU/h

PRICE

from €24,430

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/sys-221bt-hnr

01 Product overview

The Supermicro SYS-221BT-HNR is a 2U BigTwin Server built on dual Intel Xeon Scalable 4th/5th Gen processors with up to 4 TB of memory in 16 DIMM slots.

2U 4-Node BigTwin with 6 hot-swap 2.5" NVMe drives per node.

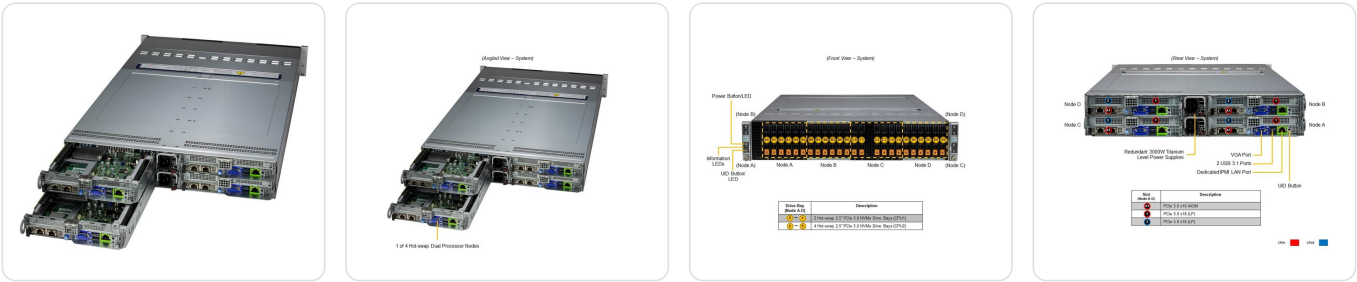
ServerInvest configures every SYS-221BT-HNR to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Dual Intel Xeon Scalable 4th/5th Gen
- Up to 4 TB memory · 16 DIMM slots
- Total 6 bays 6 front hot-swap 2.5" PCIe 5.0 NVMe drive bays
- Power: 2x 3000W
- Networking: Via AIOM

KEY SPECIFICATIONS

Form factor	2U
Processor	2× Intel Xeon Scalable 4th/5th Gen
Socket	LGA4677
Memory	16 DIMM slots, up to 4 TB
Memory type	DDR5-5600 ECC RDIMM
Drive bays	6 (6 NVMe)
Power supply	2× 3000 W
Typical power draw	830 W
Networking	Via AIOM
Dimensions (W×H×D)	437 × 89 mm



02 Base configuration

Components included in the listed base price — every part can be changed in the online configurator

COMPONENT	DESCRIPTION	QTY
Base system	Supermicro BigTwin SuperServer SYS-221BT-HNR	1
Processor	Intel Xeon Silver 4410Y Processor 12 Cores (30M Cache, 2.00/3.90 Ghz) 150W	2
Memory	16GB 5600MT/s DDR5 ECC Registered DIMM Module	4
Warranty & support	3-year return-to-base warranty (included)	1

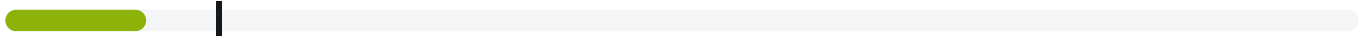
Base configuration from

€24,430
excl. VAT

03 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
115 W	312 W	474 W	1,617 BTU/h	0.5 kW	16%



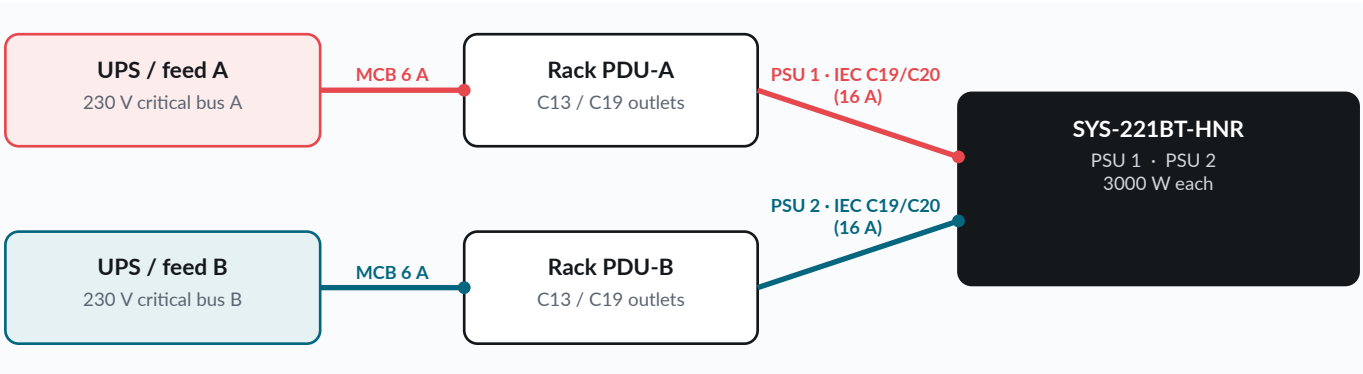
Annual IT energy (24/7)	2,215 kWh
Annual facility energy (PUE 1.5)	3,323 kWh
Annual energy cost	€443 IT · €665 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.86 t (grid factor 0.26 kg/kWh)
Power supplies	2× 3000 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	50 W	77 W	110 W
2× CPU — Intel Xeon Silver 4410Y Processor 12 Cores	46 W	196 W	300 W
4× Memory 16 GB DIMM	12 W	20 W	36 W

DC loads converted to wall power at 94% PSU efficiency; typical load assumed 70% of the time. Engineering estimates — confirm with the manufacturer's power calculator for critical designs.

04 Power connection diagram

Dual-feed (A/B) connection for redundant power supplies



- Connect PSU 1 to PDU-A and PSU 2 to PDU-B (independent feeds) using IEC C19/C20 (16 A) power cords.
- Maximum current per feed: 2.2 A at 230 V — each feed must be able to carry the full load if the other fails.
- Recommended protection per PDU circuit: MCB 6 A, curve C; RCD according to local regulations.
- Heat to remove at full load: 474 W = 1,617 BTU/h (0.5 kW).

05 Full specifications

MOTHERBOARD	
	Super X13DET-B
PROCESSOR (PER NODE)	
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 300W TDP CPUs (Air Cooled)* Supports up to 350W TDP CPUs (Liquid Cooled) *Air Cooled CPUs with TDP over 205W only supported under specific conditions. Contact a Supermicro representative for details.

SYSTEM MEMORY (PER NODE)

Memory	Slot Count: 16 DIMM slots Max Memory (1DPC): Up to 4TB 5600MT/s ECC DDR5 RDIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES (PER NODE)

Network Connectivity	Via AIOM View AIOM Options View AOC Options
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INPUT / OUTPUT (PER NODE)

LAN	1 RJ45 1 GbE Dedicated BMC LAN port
USB	2 USB 3.0 Gen2 Type-A ports (Rear)
Video	1 VGA port

SYSTEM BIOS

BIOS Type	AMI 32MB Flash ROM
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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	ACPI/APM 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	8+4 Phase-switching voltage regulator Monitors for CPU Cores, Chipset Voltages, Memory.
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Fan	Fans with tachometer monitoring Pulse Width Modulated (PWM) fan connectors Status monitor for speed control
Temperature	Monitoring for CPU and chassis environment

CERTIFICATIONS

Operating Systems	ESXi 7.0 U3, ESXi 8.0, Oracle Linux 9.0, RHEL 9.0, SLES 15 SP5, Windows Server 2022, Windows Server 2025 View all OS Compatibility and Certification Matrix
Enterprise Solutions	VMWare vSAN

CHASSIS

Form Factor	2U Rackmount
Model	CSE-217BQ2-R3K04P

DIMENSIONS AND WEIGHT

Height	3.47" (88 mm)
Width	17.68" (449 mm)
Depth	28.75" (730 mm)
Package	9.76" (H) x 24.65" (W) x 45.28" (D)
Weight	Gross Weight: 96.6 lbs (43.8 kg) Net Weight: 66.1 lbs (30 kg)
Available Color	Black front & silver body

FRONT PANEL

Buttons	Power On/Off button UID button
LED	HDD activity LED Network activity LEDs Power status LED Universal Information (UID) LED

EXPANSION SLOTS (PER NODE)

PCI-Express (PCIe) Configuration	Default 2 PCIe 5.0 x16 LP slots 1 PCIe 5.0 x16 AIOM slot (OCP 3.0 compatible) View AOC Options
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DRIVE BAYS / STORAGE (PER NODE)

Drive Bays Configuration	Default: Total 6 bays 6 front hot-swap 2.5" PCIe 5.0 NVMe drive bays View NVMe Options
M.2	2 M.2 PCIe 4.0 x4 NVMe slots (M-key 22110(default); VROC required for RAID) View M.2 Options

SYSTEM COOLING

Fans	Up to 4x 16K RPM Counter Rotating 8cm Fan(s)
Air Shroud	4 Air Shrouds

Liquid Cooling

Direct to Chip (D2C) Cold Plate (optional)

POWER SUPPLY

2x 3000W
2x 3000W Redundant (1 + 1) Titanium Level (96%) power supplies
Dimension (WxHxL)
45 x 40 x 480 mm

OPERATING ENVIRONMENT

RoHS

RoHS Compliant

Environmental Spec.

Operating Temperature: 10°C to 35°C (50°F to 95°F)
Non-operating Temperature: -30°C to 60°C (-22°F to 140°F)
Operating Relative Humidity: 8% to 80% (non-condensing)
Non-operating Relative Humidity: 8% to 90% (non-condensing)

ENVIRONMENTAL / RECYCLING

Recycle

Return Server-End of Life Product

06 Built, tested & supported by ServerInvest

Engineered configuration

Every option validated for socket, memory channels, PCIe lanes, power and cooling.

48-hour burn-in

Assembled, firmware-updated and stress-tested before it leaves our workshop.

3-year warranty

Standard on every system, with on-site next-business-day upgrades available.

Rack-ready delivery

Rails, cable management and labelling included — delivered across Europe.



Ready to order or need changes?

Configure this system online or talk to a solutions engineer — we reply within one business day.

office@serverinvest.com

Official manufacturer datasheet: serverinvest.com/product/sys-221bt-hnr/datasheet/manufacturerr

