

TECHNICAL DATASHEET

SUPERMICRO • MULTI-NODE & TWIN

Supermicro BigTwin SuperServer SYS-221BT-DNC8R

2U 2-Node BigTwin with 12 hot-swap 2.5" NVMe/SAS/SATA drives per node

SKU SYS-221BT-DNC8R

2U

LGA4677

Supermicro



FORM FACTOR

2U

MAX POWER (BASE)

474 W

HEAT OUTPUT

1,617 BTU/h

PRICE

from €16,660**CONFIGURE & QUOTE ONLINE**serverinvest.com/product/sys-221bt-dnc8r

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	22%

Typical 312 W · max 474 W · single PSU rating 2200 W

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× 2200 W redundant (N+1)

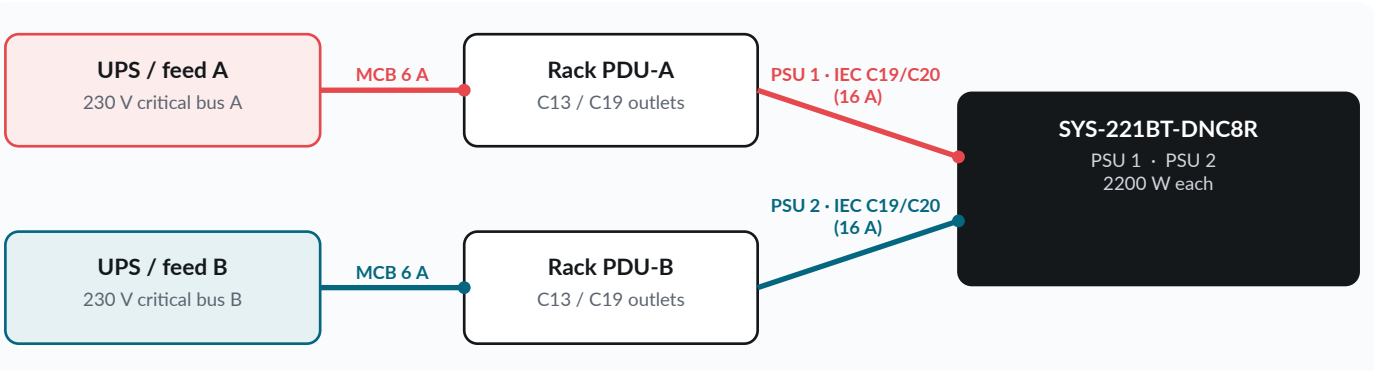
POWER BY COMPONENT

	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 350W TDP CPUs (Air Cooled)* Supports up to 350W TDP CPUs (Liquid Cooled) *Air Cooled CPUs with TDP over 250W 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)

SAS	SAS (12Gbps) via Broadcom 3816; (IT mode)
Network Connectivity	Via AIOM View AIOM Options View AOC Options

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, Hypervisor 8.2.1, Oracle Linux 9.0, RHEL 9.0, SLES 15 SP4, 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-217BD2-R2K22P

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: 80.7 lbs (36.6 kg) Net Weight: 55.1 lbs (25 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 1 PCIe 5.0 x8 LP slot 1 PCIe 5.0 x16 LP slot 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 12 bays 2 front hot-swap 2.5" PCIe 5.0 NVMe/SAS drive bays 10 front hot-swap 2.5" PCIe 4.0 NVMe/SAS drive bays View NVMe Options View Drive 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 16.5K RPM Heavy Duty 8cm Fan(s)
Air Shroud	2 Air Shrouds
Liquid Cooling	Direct to Chip (D2C) Cold Plate (optional)

POWER SUPPLY

2x 2200W
2x 2200W 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
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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-dnc8r/datasheet/manufacture

