

TECHNICAL DATASHEET

SUPERMICRO · MULTI-NODE & TWIN

Supermicro 2U BigTwin Server SYS-220BT-DNC8R

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

SKU SYS-220BT-DNC8R

2U

LGA4189

Supermicro



FORM FACTOR

2U

MAX POWER (BASE)

549 W

HEAT OUTPUT

1,873 BTU/h

PRICE

On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/sys-220bt-dnc8r

01 Product overview

The Supermicro SYS-220BT-DNC8R is a 2U BigTwin Server built on dual Intel Xeon Scalable 3rd Gen processors with up to 4 TB of memory in 16 DIMM slots.

2U 2-node BigTwin with 12 2.5" NVMe/SAS/SATA drives per node.

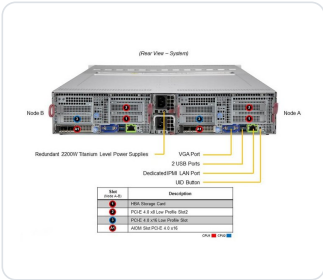
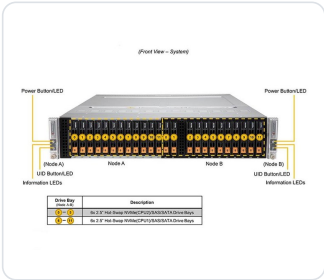
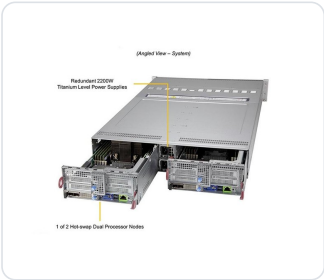
ServerInvest configures every SYS-220BT-DNC8R to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Dual Intel Xeon Scalable 3rd Gen
- Up to 4 TB memory · 16 DIMM slots
- Total 12 bays 12 front hot-swap 2.5" PCIe 4.0 NVMe/SAS/SATA drive bays
- Power: 2x 2200W
- Networking: Via AIOM

KEY SPECIFICATIONS

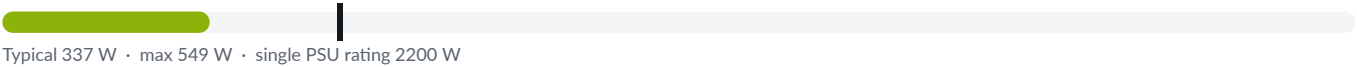
Form factor	2U
Processor	2× Intel Xeon Scalable 3rd Gen
Socket	LGA4189
Memory	16 DIMM slots, up to 4 TB
Drive bays	12 (12 NVMe)
Power supply	2× 2200 W
Typical power draw	750 W
Networking	Via AIOM
Dimensions (W×H×D)	437 × 89 mm



02 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
119 W	337 W	549 W	1,873 BTU/h	0.5 kW	25%



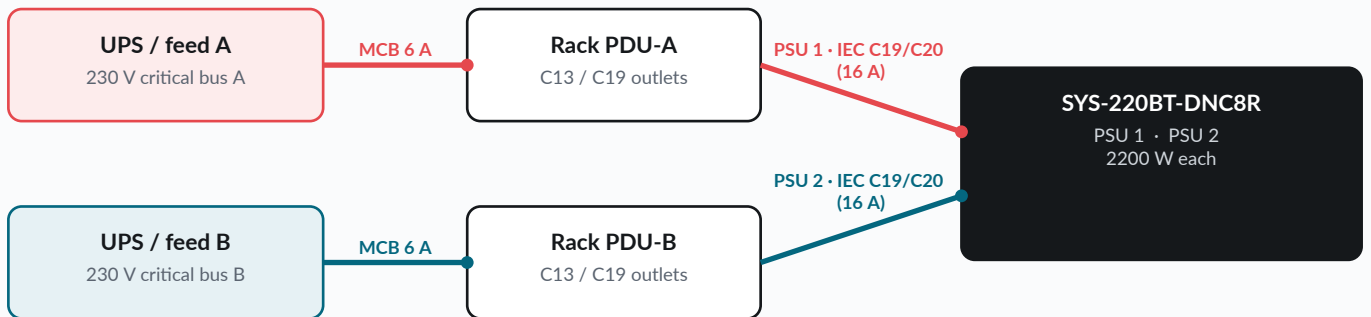
Annual IT energy (24/7)	2,379 kWh
Annual facility energy (PUE 1.5)	3,569 kWh
Annual energy cost	€476 IT · €714 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.93 t (grid factor 0.26 kg/kWh)
Power supplies	2× 2200 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	50 W	77 W	110 W
2× CPU (base configuration)	50 W	220 W	370 W
4× Memory (base configuration)	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.

03 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: 2.5 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: 549 W = 1,873 BTU/h (0.5 kW).

04 Full specifications

MOTHERBOARD

Super X12DPT-B6

PROCESSOR (PER NODE)

CPU	Dual Socket P+ (LGA-4189) 3rd Gen Intel Xeon Scalable processors
Core Count	Up to 40C/80T; Up to 60MB Cache per CPU
Note	Supports up to 270W TDP CPUs (Air Cooled)

SYSTEM MEMORY (PER NODE)

Memory	Slot Count: 16 DIMM slots Max Memory (2DPC): Up to 4TB 3200MT/s ECC DDR4 RDIMM Supports Intel Optane persistent memory 200 series View Memory Options
Memory Voltage	1.2V

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 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!
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Power configurations	ACPI/APM Power Management
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SECURITY

Hardware	Trusted Platform Module (TPM) 2.0 Silicon Root of Trust (RoT) – NIST 800-193 Compliant
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Features	Cryptographically Signed Firmware Secure Boot Secure Firmware Updates Automatic Firmware Recovery System Lockdown
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PC HEALTH MONITORING

CPU	7+1 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
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Temperature	Monitoring for CPU and chassis environment
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CERTIFICATIONS

Operating Systems	Oracle Linux 8.3, RHEL 8.2, RHEL 9.0, Windows Server 2019, Windows Server 2022 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	2U Rackmount
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Model	CSE-217BD-000NP
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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 4.0 x8 LP slot 1 PCIe 4.0 x16 LP slot View AOC Options
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DRIVE BAYS / STORAGE (PER NODE)

Drive Bays Configuration	Default: Total 12 bays 12 front hot-swap 2.5" PCIe 4.0 NVMe/SAS/SATA drive bays View NVMe Options View Drive Options
M.2	2 M.2 PCIe 3.0 x4 NVMe/SATA slots (M-key 2280(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

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: -40°C to 60°C (-40°F to 140°F) Operating Relative Humidity: 8% to 90% (Non-Condensing) Non-operating Relative Humidity: 5% to 95% (Non-Condensing)

05 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.



Interested in this solution?

Request a quotation online or talk to a solutions engineer — we reply within one business day.
office@serverinvest.com

Official manufacturer datasheet: serverinvest.com/product/sys-220bt-dnc8r/datasheet/manufacture

