

TECHNICAL DATASHEET

SUPERMICRO · MULTI-NODE & TWIN

Supermicro 2U BigTwin Server SYS-620BT-DNC8R

2U 2-node BigTwin with 6 3.5" NVMe/SAS/SATA bays per node

SKU SYS-620BT-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-620bt-dnc8r

01 Product overview

The Supermicro SYS-620BT-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 6 3.5" NVMe/SAS/SATA bays per node.

The chassis accepts up to 1 GPU accelerators for AI, rendering and HPC workloads.

ServerInvest configures every SYS-620BT-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 6 bays 6 front hot-swap 3.5" PCIe 4.0 NVMe/SAS/SATA drive bays
- Up to 1 GPUs
- Power: 2x 2200W
- Networking: Via AIOM

KEY SPECIFICATIONS

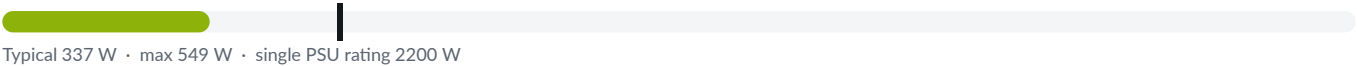
Form factor	2U
Processor	2× Intel Xeon Scalable 3rd Gen
Socket	LGA4189
Memory	16 DIMM slots, up to 4 TB
Drive bays	6 (6 NVMe)
GPU	Up to 1 GPUs
Power supply	2× 2200 W
Typical power draw	1200 W
Networking	Via AIOM
Dimensions (W×H×D)	437 × 89 mm



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%



Typical 337 W · max 549 W · single PSU rating 2200 W

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)

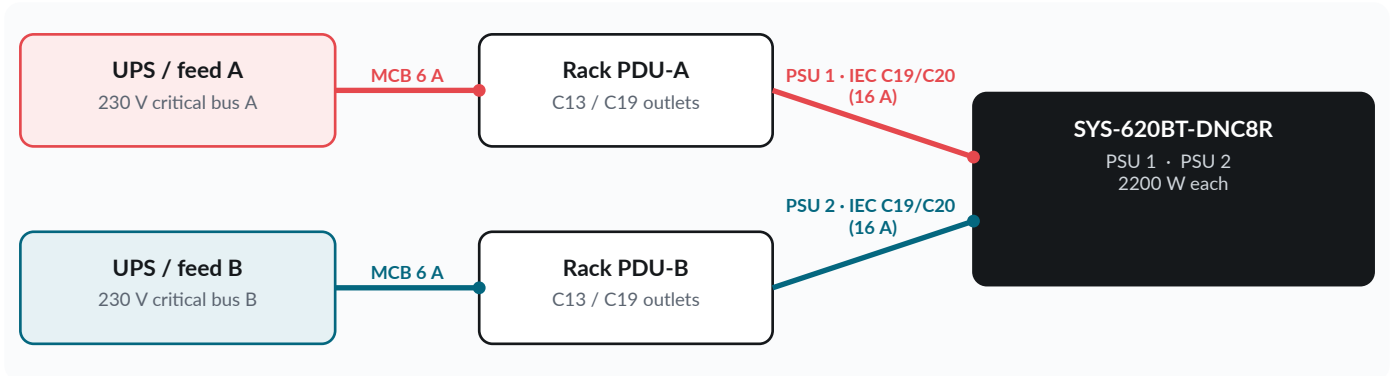
POWER BY COMPONENT

	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 36C/72T; Up to 54MB Cache per CPU
Note	Supports up to 250W TDP CPUs (Air Cooled)

GPU (PER NODE)

Max GPU Count	Up to 1 double-width GPU
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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 3808; (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!
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 System Lockdown

PC HEALTH MONITORING

CPU	7+1 Phase-switching voltage regulator 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

CERTIFICATIONS

Operating Systems	ESXi 6.7 U3, ESXi 7.0 U2, ESXi 8.0, Oracle Linux 8.3, RHEL 8.2, RHEL 9.0, SLES 12 SP5, SLES 15 SP2, 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-827BD-000NP
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DIMENSIONS AND WEIGHT

Height	3.47" (88 mm)
Width	17.68" (449 mm)
Depth	30.5" (774 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 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 4.0 x8 LP slots 1 PCIe 4.0 x16 LP slot View AOC Options
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DRIVE BAYS / STORAGE (PER NODE)

Drive Bays Configuration	Default: Total 6 bays 6 front hot-swap 3.5" 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 14.9K 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
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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-620bt-dnc8r/datasheet/manufacture

