

TECHNICAL DATASHEET

SUPERMICRO • GPU & AI SERVERS

Supermicro 8U GPU Server SYS-822GS-NB3RT

DP Intel air cooled GPU server with NVIDIA HGX B300 8-GPU (onsite service required)

SKU SYS-822GS-NB3RT

8U

LGA4710

Supermicro



FORM FACTOR

8U

MAX POWER (BASE)

751 W

HEAT OUTPUT

2,562 BTU/h

PRICE

On request

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/sys-822gs-nb3rt

01 **Product overview**

The Supermicro SYS-822GS-NB3RT is a 8U GPU Server built on dual Intel Xeon 6 processors with up to 8 TB of memory in 32 DIMM slots.

DP Intel air cooled GPU server with NVIDIA HGX B300 8-GPU (onsite service required).

ServerInvest configures every Gold Series SYS-822GS-NB3RT 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 6
- Up to 8 TB memory · 32 DIMM slots
- Total 8 bays 8 front hot-swap E1.S NVMe drive bays
- Power: 6x 6600W
- Networking: View AOC Options

KEY SPECIFICATIONS

Form factor	8U
Processor	2× Intel Xeon 6
Socket	LGA4710
Memory	32 DIMM slots, up to 8 TB
Memory type	DDR5-6400 ECC RDIMM
Drive bays	8 (8 NVMe)
Power supply	6× 6600 W
Typical power draw	750 W
Networking	View AOC Options
Dimensions (W×H×D)	437 × 356 mm



02 **Base configuration**

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

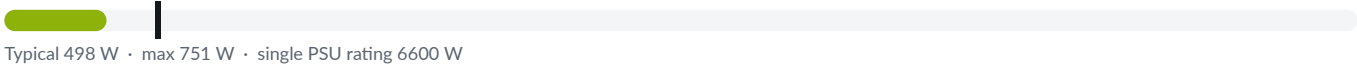
COMPONENT	DESCRIPTION	QTY
Base system	Supermicro 8U GPU Server SYS-822GS-NB3RT	1
Processor	Intel Xeon 6710E Processor 64 Cores (96M Cache, 2.40Ghz) 205W	2
Memory	16GB 6400MT/s DDR5 ECC Registered DIMM Module	4
Warranty & support	3-year return-to-base warranty (included)	1

Price on request — contact us for a tailored quotation

03 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
203 W	498 W	751 W	2,562 BTU/h	0.8 kW	11%



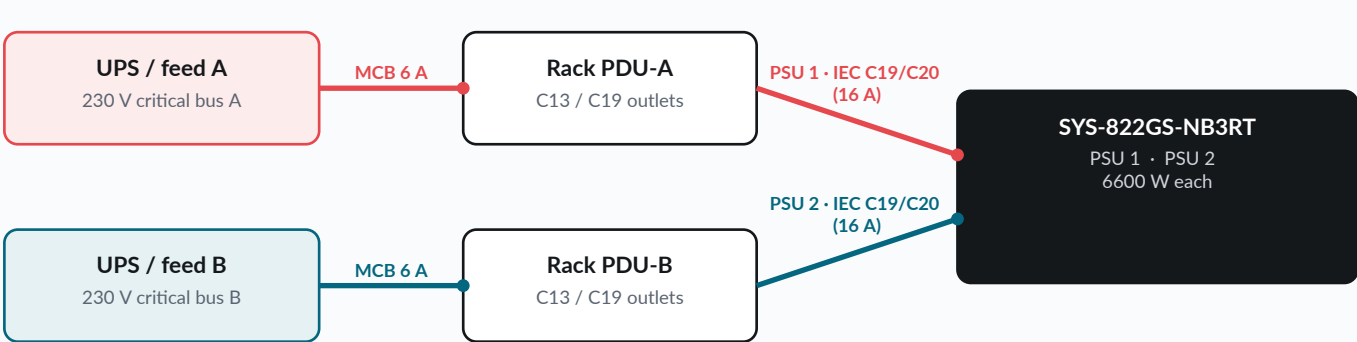
Annual IT energy (24/7)	3,587 kWh
Annual facility energy (PUE 1.5)	5,381 kWh
Annual energy cost	€717 IT · €1,076 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	1.40 t (grid factor 0.26 kg/kWh)
Power supplies	6× 6600 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	117 W	182 W	260 W
2× CPU — Intel Xeon 6710E Processor 64 Cores	62 W	266 W	410 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: 3.4 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: 751 W = 2,562 BTU/h (0.8 kW).

05 Full specifications

MOTHERBOARD	
	Super X14DBG-LC
PROCESSOR	
CPU	Dual Socket E2 (LGA-4710) Intel Xeon 6700 series processors with P-cores
Core Count	Up to 86C/172T; Up to 336MB Cache per CPU

Note Supports up to 350W TDP CPUs (Air Cooled)

GPU

Max GPU Count	8 onboard GPUs
Supported GPU	NVIDIA SXM: HGX B300 8-GPU (288GB) View GPU Options
GPU-GPU Interconnect	NVIDIA NVLink with NVSwitch

SYSTEM MEMORY

Memory	Slot Count: 32 DIMM slots Max Memory (1DPC): Up to 4TB 6400MT/s ECC DDR5 RDIMM Max Memory (2DPC): Up to 8TB 6000MT/s ECC DDR5 RDIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES

Network Connectivity	View AOC Options
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INPUT / OUTPUT

LAN	2 RJ45 10 GbE LAN ports (Intel X710) 8 OSFP 800 GbE LAN ports (NVIDIA ConnectX-8 SuperNIC)
USB	1 USB 3.0 Type-A port (Front) 1 USB 2.0 Type-A port (Front)
Video	1 VGA port 1 mini-DP port

SYSTEM BIOS

BIOS Type	AMI 64MB UEFI
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MANAGEMENT

Software	SuperCloud Composer (SCC) Supermicro Server Manager (SSM) 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	8+4 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 Thermal Control for fan connectors

CERTIFICATIONS

Operating Systems	ESXi 8.0U3, ESXi 9.0, ESXi 9.1, Oracle Linux 9.6, RHEL 9.6, RHEL 10.0, RHEL AI 3.3 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	8U Rackmount
Model	CSE-GP807TS-R000NP

DIMENSIONS AND WEIGHT

Height	13.8" (356 mm)
Width	17.6" (449 mm)
Depth	37.4" (950 mm)
Package	26.38" (H) x 28.74" (W) x 50.39" (D)
Weight	Gross Weight: 302 lbs (137 kg) Net Weight: 263 lbs (119 kg)
Available Color	Silver

FRONT PANEL

Buttons	Power On/Off UID
LED	HDD activity LAN1 activity LAN2 activity Power Fail Power status System information (overheat/UID)

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 2 PCIe 5.0 x16 FHHL slots View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 8 bays 8 front hot-swap E1.S NVMe drive bays View NVMe Options
M.2	2 M.2 NVMe slots (M-key; RAID support via S3808N controller) View M.2 Options

SYSTEM COOLING

Fans Up to 12 heavy duty fans with optimal fan speed control

POWER SUPPLY

6x 6600W
6x 6600W Redundant (3 + 3) Titanium Level (96%) power supplies
Dimension (WxHxL)
106.5 x 82.1 x 245.3 mm

OPERATING ENVIRONMENT

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 80% (non-condensing)
Non-operating Relative Humidity: 5% to 95% (non-condensing)

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-822gs-nb3rt/datasheet/manufacture

