

TECHNICAL DATASHEET

SUPERMICRO · GPU & AI SERVERS

Supermicro 5U GPU Server SYS-522GA-NRT

DP Intel 5U Dual-Root PCIe GPU System with up to 10 GPUs and extended thermal capacity

SKU SYS-522GA-NRT

5U

LGA7529

Supermicro



FORM FACTOR

5U

MAX POWER (BASE)

751 W

HEAT OUTPUT

2,562 BTU/h

PRICE

from €54,980

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/sys-522ga-nrt

01 Product overview

The Supermicro SYS-522GA-NRT is a 5U GPU Server built on dual Intel Xeon 6 processors with up to 6 TB of memory in 24 DIMM slots.

DP Intel 5U Dual-Root PCIe GPU System with up to 10 GPUs and extended thermal capacity.

The chassis accepts up to 8 GPU accelerators for AI, rendering and HPC workloads.

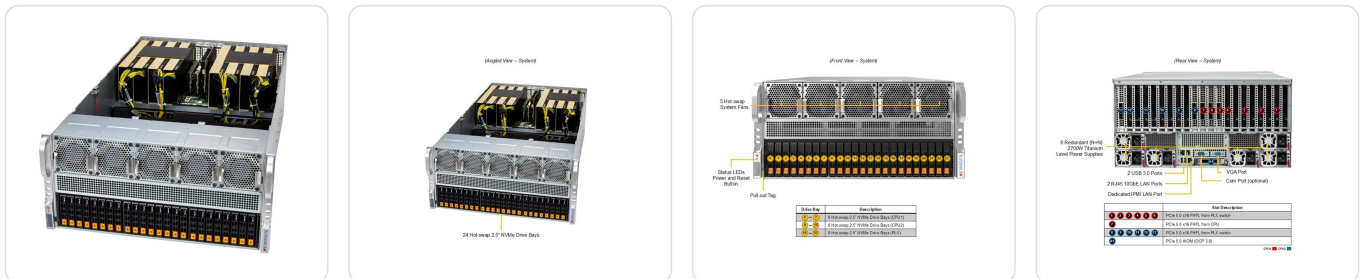
ServerInvest configures every SYS-522GA-NRT to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Dual Intel Xeon 6
- Up to 6 TB memory · 24 DIMM slots
- Total 24 bays 24 front hot-swap 2.5" PCIe 5.0 NVMe drive bays
- Up to 8 GPUs
- Power: 6x 2700W
- Networking: 2 RJ45 10GbE with Intel X710-AT2

KEY SPECIFICATIONS

Form factor	5U
Processor	2× Intel Xeon 6
Socket	LGA7529
Memory	24 DIMM slots, up to 6 TB
Memory type	DDR5-6400 ECC RDIMM
Drive bays	24 (24 NVMe)
GPU	Up to 8 GPUs
Power supply	6× 2700 W
Typical power draw	4350 W
Networking	2 RJ45 10GbE with Intel X710-AT2
Dimensions (W×H×D)	437 × 222 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 5U GPU Server SYS-522GA-NRT	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

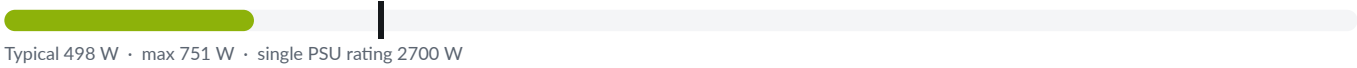
Base configuration from

€54,980
excl. VAT

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	28%



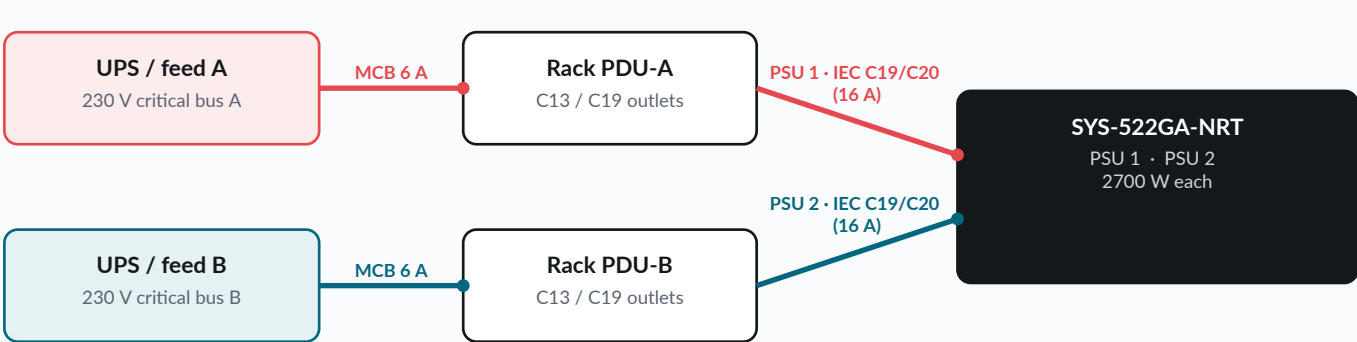
Annual IT energy (24/7)	3,587 kWh
Annual facility energy (PUE 1.5)	5,381 kWh
Annual energy cost	€717 IT · €1,076 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	1.40 t (grid factor 0.26 kg/kWh)
Power supplies	6× 2700 W redundant (N+1)

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-AP
PROCESSOR	
CPU	Dual Socket BR (LGA-7529) Intel Xeon 6900 series processors with P-cores
Core Count	Up to 128C/256T; Up to 504MB Cache per CPU

Note Supports up to 500W TDP CPUs (Air Cooled)

GPU

Max GPU Count	Up to 8 double-width or 10 single-width GPUs
Supported GPU	NVIDIA PCIe: NVIDIA RTX PRO 4500 Blackwell Server Edition, NVIDIA RTX PRO 6000 Blackwell Server Edition View GPU Options
CPU-GPU Interconnect	PCIe 5.0 x16 Switch Dual-Root
GPU-GPU Interconnect	NVIDIA NVLink Bridge (optional)

SYSTEM MEMORY

Memory	Slot Count: 24 DIMM slots Max Memory (1DPC): Up to 6TB 6400MT/s ECC DDR5 RDIMM Max Memory (1DPC): Up to 6TB 8800MT/s ECC DDR5 MRDIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES

Network Connectivity	2 RJ45 10GbE with Intel X710-AT2 View AIOM Options View AOC Options
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INPUT / OUTPUT

LAN	2 RJ45 10 GbE LAN ports (Intel I350)
USB	2 USB 3.0 Type-A ports (Rear)
Video	1 VGA port

SYSTEM BIOS

BIOS Type	AMI 32MB SPI Flash EEPROM
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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	Oracle Linux 9.6, RHEL 9.6, RHEL 10.0, RHEL AI 3.3, Windows Server 2025 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	5U Rackmount
Model	CSE-528G2TS-R9K60P

DIMENSIONS AND WEIGHT

Height	8.75" (222.5 mm)
Width	17.2" (438 mm)
Depth	31" (786.1 mm)
Package	17.32" (H) x 28.34" (W) x 42.51" (D)
Weight	Gross Weight: 100 lbs (45.3 kg) Net Weight: 65.5 lbs (29.7 kg)
Available Color	Black Front & Silver Body

FRONT PANEL

Buttons	Power On/Off button System Reset button
LED	Hard drive activity LED Network activity LEDs Power status LED System Overheat & Power Fail LED

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 13 PCIe 5.0 x16 FHFL slots View AOC Options
M.2	2 M.2 PCIe 5.0 x4 NVMe slots (B+M-key)

DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 24 bays 24 front hot-swap 2.5" PCIe 5.0 NVMe drive bays View NVMe Options
M.2	2 M.2 NVMe slots (M-key) View M.2 Options

SYSTEM COOLING

Fans	Up to 10 heavy duty fans with optimal fan speed control
Air Shroud	1 Air Shroud

POWER SUPPLY

6x 2700W
6x 2700W Redundant (4 + 2) Titanium Level (96%) power supplies
Dimension (WxHxL)
73.5 x 40 x 203 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 90% (non-condensing) Non-operating Relative Humidity: 5% to 95% (non-condensing)
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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-522ga-nrt/datasheet/manufacturerr

