

TECHNICAL DATASHEET

SUPERMICRO • GPU & AI SERVERS

Supermicro GPU A+ Server AS-8125GS-TNHR

DP AMD 8U System with NVIDIA HGX H200 8-GPU

SKU AS-8125GS-TNHR

8U

SP5

Supermicro



FORM FACTOR

8U

MAX POWER (BASE)

740 W

HEAT OUTPUT

2,525 BTU/h

PRICE

from €364,600

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/as-8125gs-tnhr

01 Product overview

The Supermicro AS-8125GS-TNHR is a 8U GPU Server built on dual AMD EPYC 9004 processors with up to 6 TB of memory in 24 DIMM slots.

DP AMD 8U System with NVIDIA HGX H200 8-GPU.

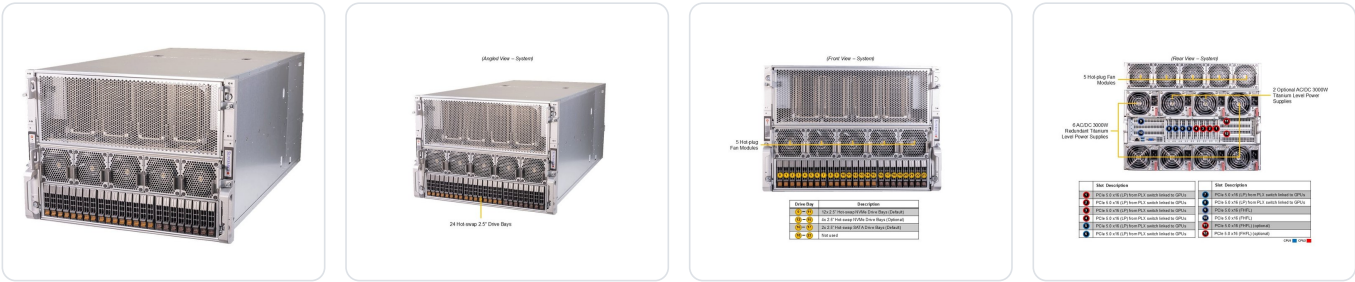
ServerInvest configures every AS -8125GS-TNHR to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Dual AMD EPYC 9004
- Up to 6 TB memory · 24 DIMM slots
- Total 18 bays 2 front hot-swap 2.5" SATA drive bays
- Power: 6x 3000W
- Networking: View AOC Options

KEY SPECIFICATIONS

Form factor	8U
Processor	2× AMD EPYC 9004
Socket	SP5
Memory	24 DIMM slots, up to 6 TB
Memory type	DDR5-5600 ECC RDIMM
Drive bays	24 (34 NVMe)
Power supply	6× 3000 W
Typical power draw	4670 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

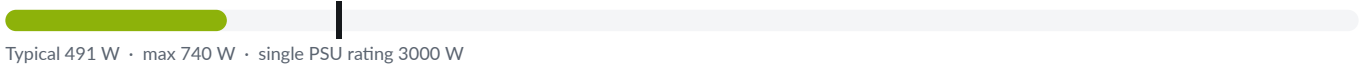
COMPONENT	DESCRIPTION	QTY
Base system	Supermicro GPU A+ Server AS-8125GS-TNHR	1
Processor	AMD EPYC 9124 - 16 Cores, 3.00/3.70GHz, 64MB Cache (200 Watt)	2
Memory	16GB 5600MT/s DDR5 ECC Registered DIMM Module	4
Warranty & support	3-year return-to-base warranty (included)	1

Base configuration from **€364,600**
excl. VAT

03 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
201 W	491 W	740 W	2,525 BTU/h	0.7 kW	25%



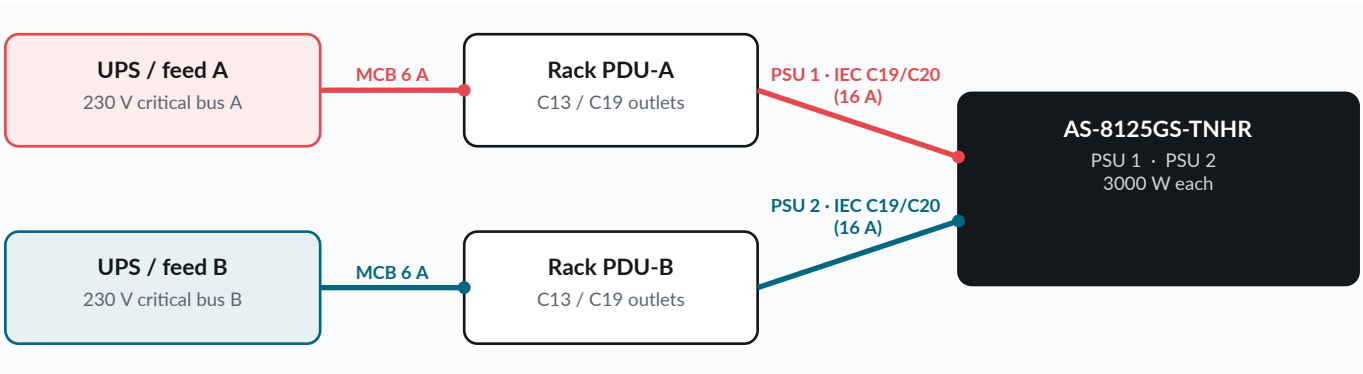
Annual IT energy (24/7)	3,539 kWh
Annual facility energy (PUE 1.5)	5,309 kWh
Annual energy cost	€708 IT · €1,062 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	1.38 t (grid factor 0.26 kg/kWh)
Power supplies	6× 3000 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	117 W	182 W	260 W
2× CPU — AMD EPYC 9124 - 16 Cores	60 W	260 W	400 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: 740 W = 2,525 BTU/h (0.7 kW).

05 Full specifications

MOTHERBOARD	
	Super H13DSG-O-CPU-D
PROCESSOR	
CPU	Dual Socket SP5 AMD EPYC 9004 Series Processors
Core Count	Up to 128C/256T

Note Supports up to 400W TDP CPUs (Air Cooled)

GPU

Max GPU Count	8 onboard GPUs
Supported GPU	NVIDIA SXM: HGX H200 8-GPU (141GB) View GPU Options
CPU-GPU Interconnect	PCIe 5.0 x16 CPU-to-GPU Interconnect
GPU-GPU Interconnect	NVIDIA NVLink with NVSwitch

SYSTEM MEMORY

Memory	Slot Count: 24 DIMM slots Max Memory (1DPC): Up to 6TB 4800MT/s ECC DDR5 RDIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES

Chipset	AMD SP5
Network Connectivity	View AOC Options

INPUT / OUTPUT

Video	1 VGA port
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SYSTEM BIOS

BIOS Type	AMI 32MB SPI Flash EEPROM
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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	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	7 +1 Phase-switching voltage regulator Monitors for CPU Cores, Chipset Voltages, Memory
Fan	Fans with tachometer monitoring Status monitor for speed control
Temperature	Monitoring for CPU and chassis environment Thermal Control for fan connectors

CERTIFICATIONS

Operating Systems	Genoa: RHEL 9.0 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	8U Rackmount
Model	CSE-GP801TS

DIMENSIONS AND WEIGHT

Height	14" (355.6 mm)
Width	17.2" (437 mm)
Depth	33.2" (843.28 mm)
Package	29.5" (H) x 27.5" (W) x 51.2" (D)
Weight	Gross Weight: 225 lbs (102.1 kg) Net Weight: 166 lbs (75.3 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 8 PCIe 5.0 x16 LP slots 2 PCIe 5.0 x16 FHFL slots Option A 8 PCIe 5.0 x16 LP slots 4 PCIe 5.0 x16 FHFL slots View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration

Default: Total 18 bays 2 front hot-swap 2.5" SATA drive bays
 4 front hot-swap 2.5" NVMe* drive bays
 12 front hot-swap 2.5" NVMe drive bays
 (*NVMe support may require additional storage controller and/or cables, please see the optional parts list for details)
[View NVMe Options](#)
[View Drive Options](#)

M.2

1 M.2 NVMe slot (M-key)
[View M.2 Options](#)

SYSTEM COOLING

Fans

Up to 10 heavy duty fans with optimal fan speed control

POWER SUPPLY

6x 3000W
 6x 3000W Redundant (3 + 3) Titanium Level (96%) power supplies
 Dimension (WxHxL)
 106.5 x 82.1 x 245.5 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)

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/as-8125gs-tnhr/datasheet/manufacture

