

TECHNICAL DATASHEET

SUPERMICRO • GPU & AI SERVERS

Supermicro 4U GPU Server AS-4124GQ-TNMI

DP AMD Universal GPU System with AMD Instinct MI250 OAM

SKU AS-4124GQ-TNMI

4U

Supermicro



FORM FACTOR

4U

MAX POWER (BASE)

602 W

HEAT OUTPUT

2,054 BTU/h

PRICE

On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/as-4124gq-tnmi

01 Product overview

The Supermicro AS-4124GQ-TNMI is a 4U GPU Server built on dual Dual Socket SP3 AMD EPYC 7003 Series processors with up to 8 TB of memory in 32 DIMM slots.

DP AMD Universal GPU System with AMD Instinct MI250 OAM.

ServerInvest configures every AS -4124GQ-TNMI 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 Dual Socket SP3 AMD EPYC 7003 Series
- Up to 8 TB memory · 32 DIMM slots
- Total 10 bays 10 front hot-swap 2.5" NVMe/SAS/SATA drive bays
- Power: 4x 3000W
- Networking: Via AIOM

KEY SPECIFICATIONS

Form factor	4U
Processor	2× Dual Socket SP3 AMD EPYC 7003 Series
Memory	32 DIMM slots, up to 8 TB
Drive bays	10 (10 NVMe)
Power supply	4× 3000 W
Typical power draw	750 W
Networking	Via AIOM
Dimensions (W×H×D)	437 × 178 mm



02 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
143 W	374 W	602 W	2,054 BTU/h	0.6 kW	20%

Typical 374 W · max 602 W · single PSU rating 3000 W

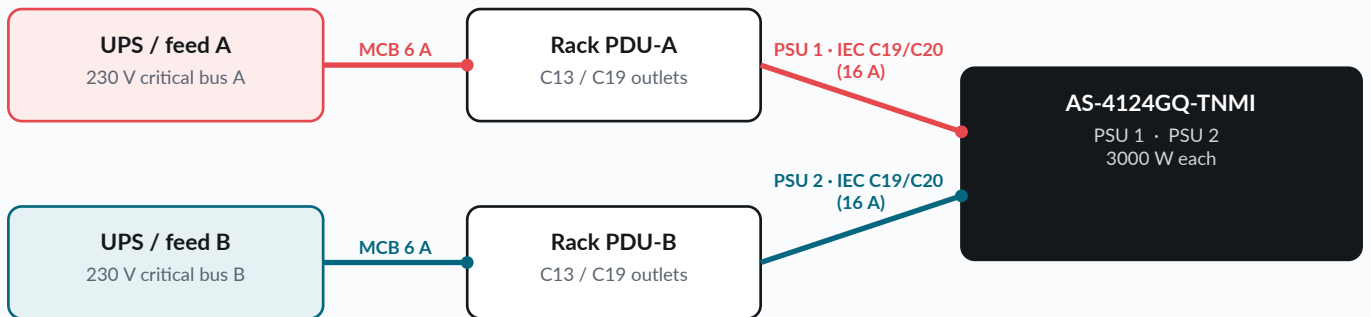
Annual IT energy (24/7)	2,669 kWh
Annual facility energy (PUE 1.5)	4,004 kWh
Annual energy cost	€534 IT · €801 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	1.04 t (grid factor 0.26 kg/kWh)
Power supplies	4× 3000 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	72 W	112 W	160 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: 2.8 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: 602 W = 2,054 BTU/h (0.6 kW).

04 Full specifications

MOTHERBOARD

Super H12DGQ-NT6

PROCESSOR

CPU	Dual Socket SP3 AMD EPYC 7003 Series
Core Count	Up to 128C/256T
Note	Supports up to 280W TDP CPUs (Air Cooled)

GPU

Max GPU Count	4 onboard GPUs
CPU-GPU Interconnect	PCIe 4.0 x16 CPU-to-GPU Interconnect
GPU-GPU Interconnect	AMD Infinity Fabric Link

SYSTEM MEMORY

Memory	Slot Count: 32 DIMM slots/8 Channels Max Memory (2DPC): Up to 8TB 3200MT/s ECC DDR4 RDIMM/LRDIMM View Memory Options
Memory Voltage	1.2V

ON-BOARD DEVICES

Network Connectivity	Via AIOM View AIOM Options View AOC Options
IPMI	Support for Intelligent Platform Management Interface v.2.0 IPMI 2.0 with virtual media over LAN and KVM-over-LAN support

INPUT / OUTPUT

LAN	1 RJ45 1 GbE Dedicated BMC LAN port
USB	2 USB 3.0 ports (front)
Video	1 VGA port (Front)
Serial	1 COM port

SYSTEM BIOS

BIOS Type	AMI 256MB SPI Flash ROM
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MANAGEMENT

Software	Supermicro Server Manager (SSM) Supermicro Power Manager (SPM) Supermicro Update Manager (SUM) Supermicro SuperDoctor 5 (SD5) KVM with dedicated LAN IPMI 2.0 Watch Dog
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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	4+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

CERTIFICATIONS

Operating Systems	Milan: Oracle Linux 8.3, RHEL 8.3 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	4U Rackmount
Model	CSE-458GTS-R3K06P

DIMENSIONS AND WEIGHT

Height	7" (175.6 mm)
Width	17.67" (449 mm)
Depth	32.79" (833 mm)
Package	14.57" (H) x 27.55" (W) x 49.6" (D)

Weight	Gross Weight: 140 lbs (64 kg) Net Weight: 105 lbs (48 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 4.0 x16 via PLX slots Option A* 8 PCIe 4.0 x16 via PLX slots 2 PCIe 4.0 x16 LP slots (*Requires additional parts, please see the optional parts list for details. For more details on PCIe slot configuration options, please refer to the system callout images above.) View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 10 bays 10 front hot-swap 2.5" NVMe/SAS/SATA drive bays View NVMe Options View Drive Options
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SYSTEM COOLING

Fans	Up to 5 x hot-swap 11.5K RPM heavy duty Fan(s)
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POWER SUPPLY

4x 3000W
4x 3000W Redundant (2 + 2) Titanium Level (96%) power supplies
Dimension (WxHxL)
106.5 x 82.1 x 245.5 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/as-4124gq-tnmi/datasheet/manufacturer

