

TECHNICAL DATASHEET

SUPERMICRO · GPU & AI SERVERS

Supermicro 4U GPU Server SYS-420GP-TNAR+-US

DP Intel system with NVIDIA HGX A100 8-GPU and 3000W Power Supplies, Made in USA

SKU SYS-420GP-TNAR+-US

4U

LGA4189

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/sys-420gp-tnar-us

01 Product overview

The Supermicro SYS-420GP-TNAR+-US is a 4U GPU Server built on dual Intel Xeon Scalable 3rd Gen processors with up to 8 TB of memory in 32 DIMM slots.

DP Intel system with NVIDIA HGX A100 8-GPU and 3000W Power Supplies, Made in USA.

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

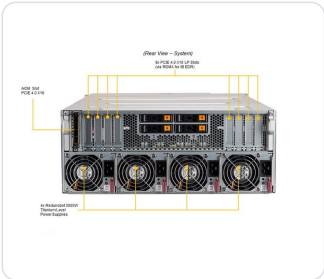
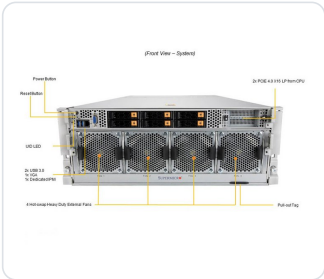
ServerInvest configures every SYS-420GP-TNAR+-US to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Dual Intel Xeon Scalable 3rd Gen
- Up to 8 TB memory · 32 DIMM slots
- Total 6 bays 6 front hot-swap 2.5" NVMe/SAS/SATA drive bays
- Up to 8 GPUs
- Power: 1x 3000W
- Networking: View AOC Options

KEY SPECIFICATIONS

Form factor	4U
Processor	2× Intel Xeon Scalable 3rd Gen
Socket	LGA4189
Memory	32 DIMM slots, up to 8 TB
Drive bays	6 (6 NVMe)
GPU	Up to 8 GPUs
Power supply	1× 3000 W
Typical power draw	4350 W
Networking	View AOC Options
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	1× 3000 W

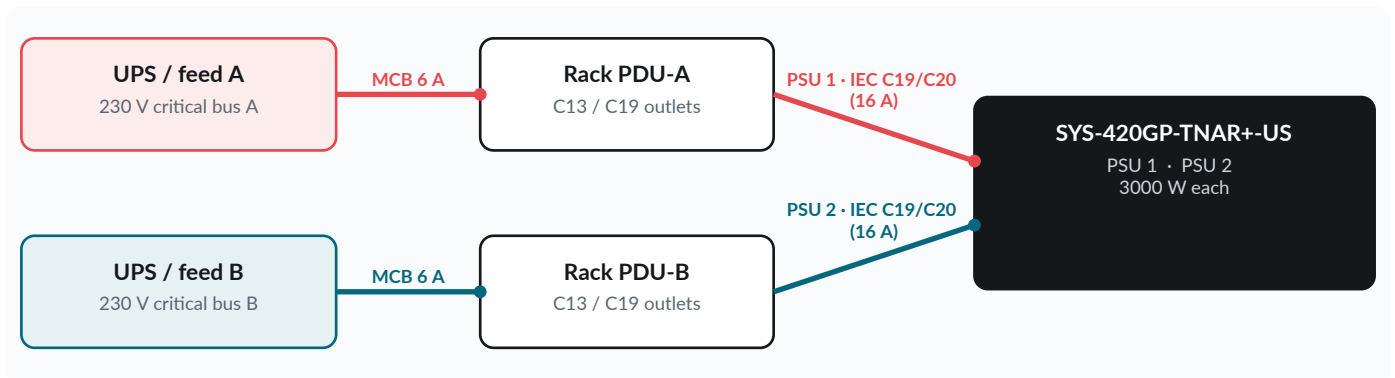
POWER BY COMPONENT

	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 X12DGO-6

PROCESSOR

CPU	Dual Socket P+ (LGA-4189) 3rd Gen Intel Xeon Scalable processors
Core Count	Up to 40C/80T; Up to 60MB Cache per CPU
Note	Supports up to 270W TDP CPUs (Air Cooled)

GPU

Max GPU Count	Up to 8 onboard GPUs
Supported GPU	NVIDIA SXM: HGX A100 8-GPU (80GB)
CPU-GPU Interconnect	PCIe 4.0 x16 CPU-to-GPU Interconnect
GPU-GPU Interconnect	NVIDIA NVLink with NVSwitch

SYSTEM MEMORY

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

ON-BOARD DEVICES

BMC	ASPEED AST2600 BMC
Network Connectivity	View AOC Options

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 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 Thermal Control for fan connectors

CHASSIS

Form Factor	4U Rackmount
Model	CSE-438G

DIMENSIONS AND WEIGHT

Height	6.9" (174 mm)
Width	17.6" (446 mm)
Depth	35.4" (900 mm)
Package	29.5" (H) x 27.4" (W) x 44.9" (D)
Weight	Gross Weight: 225 lbs (102.1 kg) Net Weight: 166 lbs (75.3 kg)
Available Color	Black Front & Silver Body

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 10 PCIe 4.0 x16 LP slots View AOC Options
----------------------------------	---

DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 6 bays 6 front hot-swap 2.5" NVMe/SAS/SATA drive bays View Drive Options
M.2	2 M.2 NVMe/SATA slots (M-key) View M.2 Options

SYSTEM COOLING

Fans	Up to 4 heavy duty fans with optimal fan speed control
------	--

POWER SUPPLY

1x 3000W
1x 3000W Redundant Titanium Level (96%) power supply
Dimension (WxHxL)
106.5 x 82.4 x 203.5 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)
---------------------	---

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-420gp-tnar-us/datasheet/manufacture

