

TECHNICAL DATASHEET

SUPERMICRO • GPU & AI SERVERS

Supermicro 10U GPU Server SYS-A21GE-NBRT

DP Intel 10U System with NVIDIA HGX B200 8-GPU (onsite service required)

SKU SYS-A21GE-NBRT

10U

LGA4677

Supermicro



FORM FACTOR

10U

MAX POWER (BASE)

634 W

HEAT OUTPUT

2,163 BTU/h

PRICE

On request

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/sys-a21ge-nbrt

01 **Product overview**

The Supermicro SYS-A21GE-NBRT is a 10U GPU Server built on dual Intel Xeon Scalable 4th/5th Gen processors with up to 8 TB of memory in 32 DIMM slots.

DP Intel 10U System with NVIDIA HGX B200 8-GPU (onsite service required).

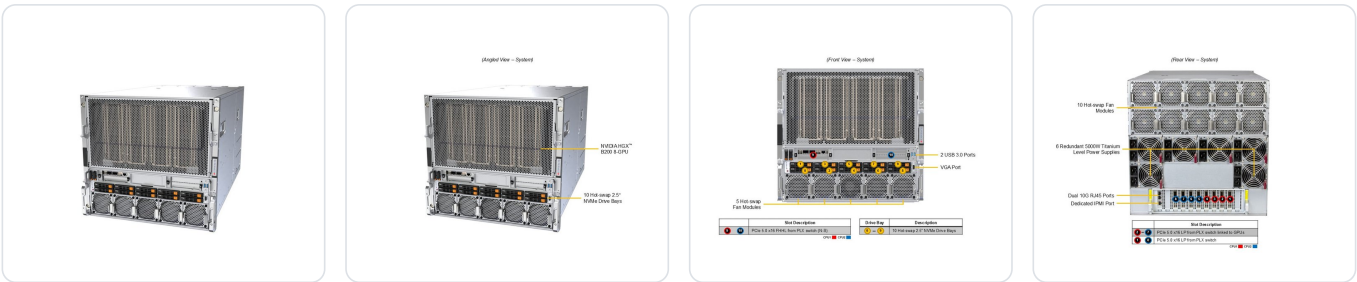
ServerInvest configures every SYS-A21GE-NBRT to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Dual Intel Xeon Scalable 4th/5th Gen
- Up to 8 TB memory · 32 DIMM slots
- Total 10 bays 10 front hot-swap 2.5" PCIe 5.0 x4 NVMe* drive bays
- Power: 6x 5250W
- Networking: 2 RJ45 10GbE

KEY SPECIFICATIONS

Form factor	10U
Processor	2× Intel Xeon Scalable 4th/5th Gen
Socket	LGA4677
Memory	32 DIMM slots, up to 8 TB
Memory type	DDR5-5600 ECC RDIMM
Drive bays	10 (10 NVMe)
Power supply	6× 5250 W
Typical power draw	750 W
Networking	2 RJ45 10GbE
Dimensions (W×H×D)	437 × 445 mm



02 **Base configuration**

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

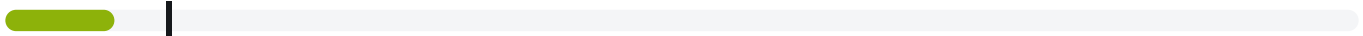
COMPONENT	DESCRIPTION	QTY
Base system	Supermicro 10U GPU Server SYS-A21GE-NBRT	1
Processor	Intel Xeon Silver 4410Y Processor 12 Cores (30M Cache, 2.00/3.90 Ghz) 150W	2
Memory	16GB 5600MT/s DDR5 ECC Registered DIMM Module	4
Warranty & support	3-year return-to-base warranty (included)	1

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
186 W	423 W	634 W	2,163 BTU/h	0.6 kW	12%



Typical 423 W · max 634 W · single PSU rating 5250 W

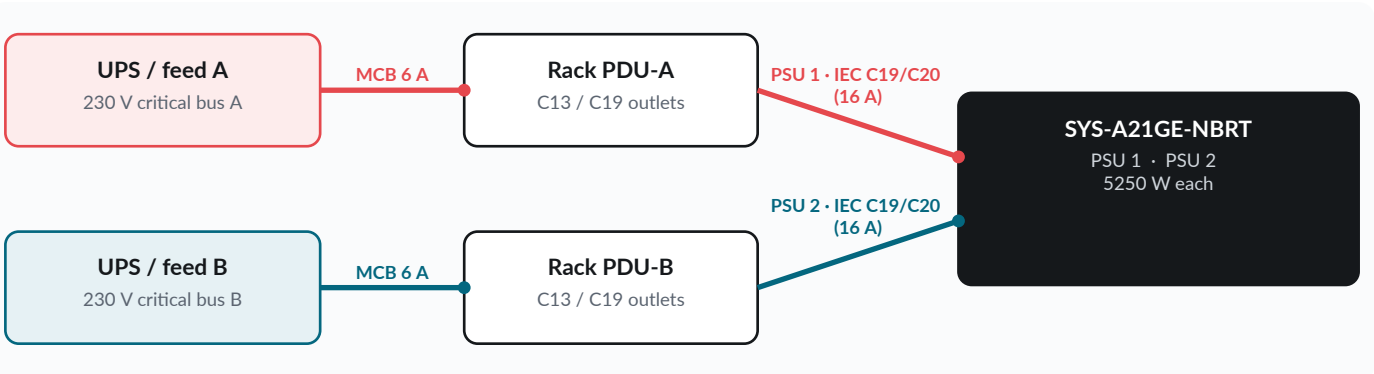
Annual IT energy (24/7)	3,083 kWh
Annual facility energy (PUE 1.5)	4,625 kWh
Annual energy cost	€617 IT · €925 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	1.20 t (grid factor 0.26 kg/kWh)
Power supplies	6× 5250 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	117 W	182 W	260 W
2× CPU — Intel Xeon Silver 4410Y Processor 12 Cores	46 W	196 W	300 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: 2.9 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: 634 W = 2,163 BTU/h (0.6 kW).

05 Full specifications

MOTHERBOARD	
	Super X13DEG-D
PROCESSOR	
CPU	Dual Socket E (LGA-4677) 5th Gen Intel Xeon / 4th Gen Intel Xeon Scalable processors
Core Count	Up to 64C/128T; Up to 320MB Cache per CPU

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

GPU

Max GPU Count	8 onboard GPUs
Supported GPU	NVIDIA SXM: HGX B200 8-GPU (180GB) 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: 32 DIMM slots Max Memory (1DPC): Up to 4TB 5600MT/s ECC DDR5 RDIMM Max Memory (2DPC): Up to 8TB 4400MT/s ECC DDR5 RDIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES

Network Connectivity	2 RJ45 10GbE View AOC Options
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INPUT / OUTPUT

USB	2 USB 3.0 Type-A ports (Front)
Video	1 VGA port
TPM	1 TPM header

SYSTEM BIOS

BIOS Type	AMI 32MB UEFI
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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
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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
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CERTIFICATIONS

Operating Systems	RHEL 9.4, RHEL 10.0 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	10U Rackmount
Model	CSE-GP1001TS-R000NPF

DIMENSIONS AND WEIGHT

Height	17.2" (438.8 mm)
Width	17.6" (449 mm)
Depth	33.2" (843.28 mm)
Package	27.95" (H) x 28.74" (W) x 50.39" (D)
Weight	Gross Weight: 341 lbs (155 kg) Net Weight: 293 lbs (133 kg)
Available Color	Silver

FRONT PANEL

Buttons	Power On/Off UID/ Reset button
LED	HDD activity Network activity LEDs System information (overheat/UID) UID

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 8 PCIe 5.0 x16 LP slots 2 PCIe 5.0 x16 FHHL slots View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 10 bays 10 front hot-swap 2.5" PCIe 5.0 x4 NVMe* drive bays (*NVMe support may require additional storage controller and/or cables, please see the optional parts list for details) View NVMe Options
M.2	2 M.2 PCIe 3.0 x4 NVMe slots (M-key 2280/22110; VROC required for RAID) View M.2 Options

SYSTEM COOLING

Fans	Up to 15 heavy duty hot-swappable 80mm Fan(s) Up to 4 heavy duty internal 60mm Fan(s)
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POWER SUPPLY

6x 5250W
6x 5250W Redundant (3 + 3) Titanium Level (96%) Hot-plug 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: -5°C to 60°C (23°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-a21ge-nbirt/datasheet/manufacture

