

TECHNICAL DATASHEET

SUPERMICRO • GPU & AI SERVERS

Supermicro IoT SuperServer SYS-322GA-NR

3U Intel DP Edge Data Center System with Up to 10 PCIe 5.0 x16 slots + Up to 14 E1.S NVMe Drives

SKU SYS-322GA-NR

3U

LGA7529

Supermicro



FORM FACTOR

3U

MAX POWER (BASE)

645 W

HEAT OUTPUT

2,201 BTU/h

PRICE

from €21,400

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/sys-322ga-nr

01 Product overview

The Supermicro SYS-322GA-NR is a 3U IoT Server built on dual Intel Xeon 6 processors.

3U Intel DP Edge Data Center System with Up to 10 PCIe 5.0 x16 slots + Up to 14 E1.S NVMe Drives.

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

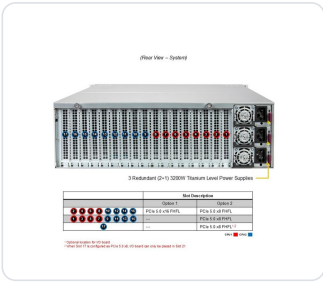
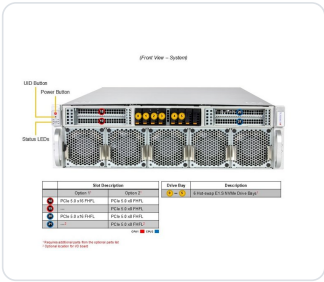
ServerInvest configures every SYS-322GA-NR to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Dual Intel Xeon 6
- Total 6 bays 6 front hot-swap E1.S PCIe 5.0 x4 NVMe* drive bays
- Up to 8 GPUs
- Power: 3x 3200W
- Networking: View AOC Options

KEY SPECIFICATIONS

Form factor	3U
Processor	2× Intel Xeon 6
Socket	LGA7529
Memory	24 DIMM slots
Memory type	DDR5-6400 ECC RDIMM
GPU	Up to 8 GPUs
Power supply	3× 3200 W
Typical power draw	1770 W
Networking	View AOC Options
Dimensions (W×H×D)	437 × 133 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 IoT SuperServer SYS-322GA-NR	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

€21,400
excl. VAT

03 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
155 W	423 W	645 W	2,201 BTU/h	0.6 kW	20%

Typical 423 W · max 645 W · single PSU rating 3200 W

Annual IT energy (24/7)	3,001 kWh
Annual facility energy (PUE 1.5)	4,502 kWh
Annual energy cost	€600 IT · €900 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	1.17 t (grid factor 0.26 kg/kWh)
Power supplies	3× 3200 W redundant (N+1)

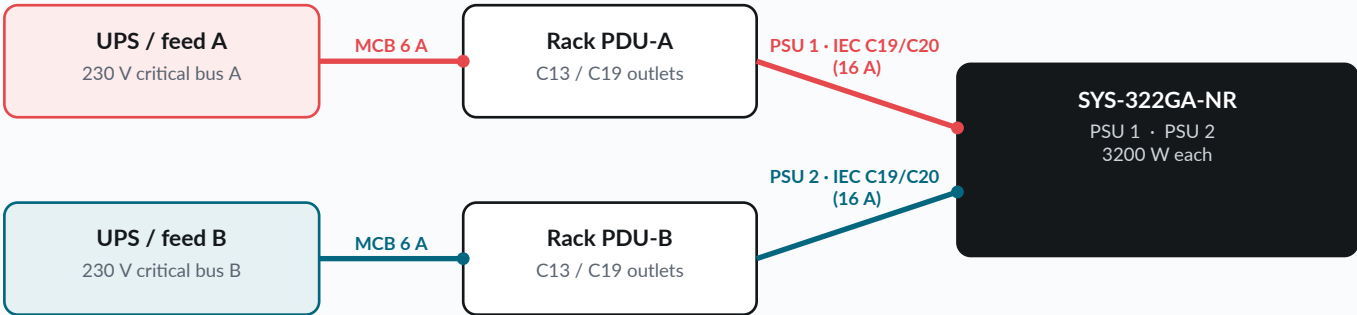
POWER BY COMPONENT

	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	72 W	112 W	160 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 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: 645 W = 2,201 BTU/h (0.6 kW).

05 Full specifications

MOTHERBOARD	
	Super X14DBG-XAP
PROCESSOR	
CPU	Dual Socket BR (LGA-7529) Intel Xeon 6900 series processors with P-cores
Core Count	128C/256T; 504MB Cache per CPU

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

GPU

Max GPU Count	Up to 8 double-width or 16 single-width GPUs
Supported GPU	NVIDIA PCIe: H100, A10, H200 NVL (141GB), L40S, NVIDIA RTX PRO 4000 Blackwell, NVIDIA RTX PRO 5000 Blackwell, NVIDIA RTX PRO 6000 Blackwell Max-Q Workstation Edition, NVIDIA RTX PRO 6000 Blackwell Server Edition, RTX 5000 Ada Intel: Arc Pro B60 Graphics (DW), Arc Pro B70 Graphics View GPU Options
CPU-GPU Interconnect	PCIe 5.0 x16 CPU-to-GPU Interconnect
GPU-GPU Interconnect	PCIe, NVIDIA NVLink

SYSTEM MEMORY

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

ON-BOARD DEVICES

Network Connectivity	View AOC Options
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INPUT / OUTPUT

LAN	1 RJ45 1 GbE Dedicated BMC LAN port
USB	2 USB 3.2 Gen1 Type-A ports
Video	1 VGA port
TPM	1 TPM header

SYSTEM BIOS

BIOS Type	AMI 64MB 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
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Features	Cryptographically Signed Firmware Secure Boot Secure Firmware Updates Automatic Firmware Recovery Supply Chain Security: Remote Attestation Runtime BMC Protections System Lockdown
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PC HEALTH MONITORING

CPU	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 9.4, RHEL 9.4, RHEL 10.0, Windows Server 2025 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	3U Rackmount
Model	CSE-MX301TS-R0NDFP

DIMENSIONS AND WEIGHT

Height	5.2" (132.1 mm)
Width	17.26" (438.4 mm)
Depth	31.5" (800 mm)
Package	13" (H) x 29" (W) x 47" (D)
Weight	Gross Weight: 135 lbs (61.24 kg) Net Weight: 70 lbs (32 kg)
Available Color	Silver

FRONT PANEL

LED	Universal Information (UID) LED
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EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 8 PCIe 5.0 x16 (in x16) FHFL double-width slots Option A* 8 PCIe 5.0 x16 (in x16) FHFL double-width slots 2 PCIe 5.0 x16 (in x16) FHFL slots Option B* 20 PCIe 5.0 x8 (in x16) FHFL 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
CXL Support	Up to 17 CXL 2.0 x16/x8 devices
M.2	2 M.2 PCIe 5.0 x2 NVMe slots (M-key 22110(default)/2280)

DRIVE BAYS / STORAGE

Drive Bays Configuration

Option A: Total 6 bays 6 front hot-swap E1.S PCIe 5.0 x4 NVMe* drive bays
Option B: Total 14 bays 14 front hot-swap E1.S PCIe 5.0 x4 NVMe* drive bays
Option C: Total 2 bays 2 front hot-swap 2.5" PCIe 5.0 x4 NVMe* drive bays
Option D: Total 4 bays 4 front hot-swap 2.5" PCIe 5.0 x4 NVMe* drive bays
Option E: Total 6 bays 6 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 5.0 x2 NVMe slots (M-key)
[View M.2 Options](#)

SYSTEM COOLING

Fans

Up to 5 Front 8cm Fan(s)
Up to 6 Internal 6cm Fan(s)

Air Shroud

1 Air Shroud

POWER SUPPLY

3x 3200W
3x 2700W
3x 3200W
3x 3200W Redundant (2 + 1) Titanium Level (96%) Hot-plug power supplies
Dimension (WxHxL)
73.5 x 40 x 185 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/sys-322ga-nr/datasheet/manufacture

