

TECHNICAL DATASHEET

SUPERMICRO · STORAGE SERVERS

Supermicro 1U Storage Server SSG-121E-NE316R

1U front-loading all-flash storage server with 16 E3.S NVMe drives and PCIe 5.0

SKU SSG-121E-NE316R

1U

LGA4677

Supermicro



FORM FACTOR

1U

MAX POWER (BASE)

448 W

HEAT OUTPUT

1,529 BTU/h

PRICE

On request

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/ssg-121e-ne316r

01 **Product overview**

The Supermicro SSG-121E-NE316R is a 1U Storage Server built on dual Intel Xeon Scalable 4th/5th Gen processors with up to 8 TB of memory in 32 DIMM slots.

1U front-loading all-flash storage server with 16 E3.S NVMe drives and PCIe 5.0.

ServerInvest configures every SSG-121E-NE316R 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 16 bays 16 front hot-swap E3.S 1T NVMe drive bays
- Power: 2x 1600W
- Networking: Via AIOM

KEY SPECIFICATIONS

Form factor	1U
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	16 (16 NVMe)
Power supply	2× 1600 W
Typical power draw	750 W
Networking	Via AIOM
Dimensions (W×H×D)	437 × 44 mm



02 **Base configuration**

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

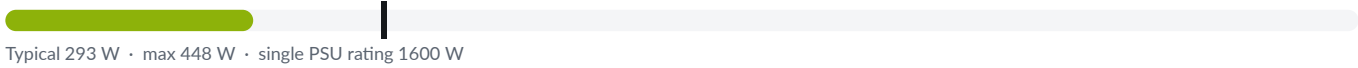
COMPONENT	DESCRIPTION	QTY
Base system	Supermicro 1U Storage Server SSG-121E-NE316R	1
Processor	Intel Xeon Silver 4410Y Processor 12 Cores (30M Cache, 2.00/3.90 Ghz) 150W	2
Memory	16GB 5600MT/s DDR5 ECC Registered DIMM Module	4
Warranty & support	3-year return-to-base warranty (included)	1

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
102 W	293 W	448 W	1,529 BTU/h	0.4 kW	28%



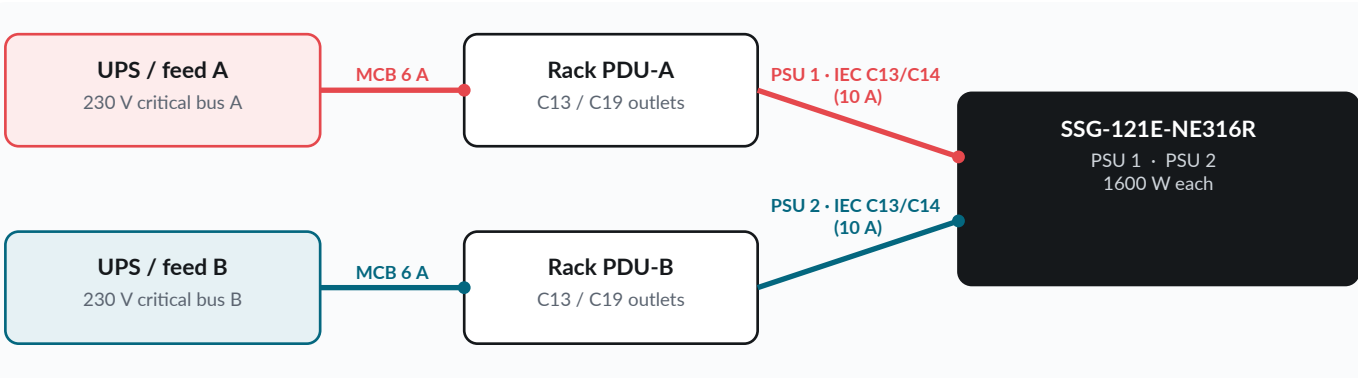
Annual IT energy (24/7)	2,065 kWh
Annual facility energy (PUE 1.5)	3,098 kWh
Annual energy cost	€413 IT · €620 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.81 t (grid factor 0.26 kg/kWh)
Power supplies	2× 1600 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	38 W	59 W	85 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 C13/C14 (10 A) power cords.
- Maximum current per feed: 2.1 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: 448 W = 1,529 BTU/h (0.4 kW).

05 Full specifications

MOTHERBOARD	
	Super X13DSF-A
PROCESSOR	
CPU	Dual Socket E (LGA-4677) 5th Gen Intel Xeon / 4th Gen Intel Xeon Scalable processors
Core Count	Up to 36C/72T; Up to 180MB Cache per CPU

Note Supports 145W - 270W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory	Slot Count: 32 DIMM slots Max Memory (2DPC): Up to 8TB 5600MT/s ECC DDR5 RDIMM/LRDIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES

Chipset	Intel C741
Network Connectivity	Via AIOM View AIOM Options View AOC Options

INPUT / OUTPUT

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

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 Phase-switching voltage regulator Monitors for CPU Cores, Chipset Voltages, Memory
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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	RHEL 9.5, Windows Server 2022 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	1U Rackmount
Model	CSE-126E32-R1K62P

DIMENSIONS AND WEIGHT

Height	1.7" (43.6 mm)
Width	17.2" (438.4 mm)
Depth	30.4" (773.25 mm)
Package	7.87" (H) x 23.81" (W) x 40.55" (D)
Weight	Gross Weight: 68.74 lbs (31.2 kg) Net Weight: 48 lbs (21.8 kg)
Available Color	Silver

FRONT PANEL

Buttons	Power On/Off
LED	Network activity Power status SSD activity System information (overheat/UID)

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 2 PCIe 5.0 x16 FHHL slots 2 PCIe 5.0 x16 AIOM slots (OCP 3.0 compatible) View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 16 bays 16 front hot-swap E3.S 1T NVMe drive bays View NVMe Options
M.2	2 M.2 NVMe/SATA slots (M-key 2280/22110) View M.2 Options

SYSTEM COOLING

Fans	Up to 8 Heavy Duty 4cm Fan(s)
Air Shroud	2 Air Shrouds

POWER SUPPLY

2x 1600W
 2x 1600W Redundant Titanium Level (96%) Hot-plug power supplies
 Dimension (WxHxL)
 73.5 x 40 x 203 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-operating Relative Humidity: 8% to 95% ()

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/ssg-121e-ne316r/datasheet/manufacture

