

TECHNICAL DATASHEET

SUPERMICRO · STORAGE SERVERS

Supermicro 1U Storage Server SSG-121E-NE3X12R

1U front-loading all-flash storage server with 8 E3.S NVMe drives and 4 E3.S 2T CXL bays

SKU SSG-121E-NE3X12R

1U

Supermicro



FORM FACTOR

1U

MAX POWER (BASE)

306 W

HEAT OUTPUT

1,044 BTU/h

PRICE

On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/ssg-121e-ne3x12r

01 Product overview

The Supermicro SSG-121E-NE3X12R is a 1U Storage Server built on Intel Core.

1U front-loading all-flash storage server with 8 E3.S NVMe drives and 4 E3.S 2T CXL bays.

ServerInvest configures every SSG-121E-NE3X12R 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

- Intel Core
- Total 12 bays 8 front hot-swap E3.S 1T NVMe drive bays
- Power: 2x 1600W
- Networking: Via AIOM

KEY SPECIFICATIONS

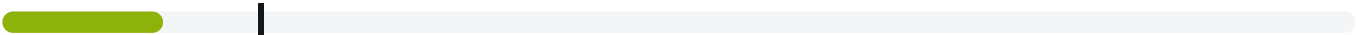
Form factor	1U
Processor	Intel Core
Memory	32 DIMM slots
Drive bays	16 (16 NVMe)
Power supply	2× 1600 W
Typical power draw	450 W
Networking	Via AIOM
Dimensions (W×H×D)	437 × 44 mm



02 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
73 W	190 W	306 W	1,044 BTU/h	0.3 kW	19%



Typical 190 W · max 306 W · single PSU rating 1600 W

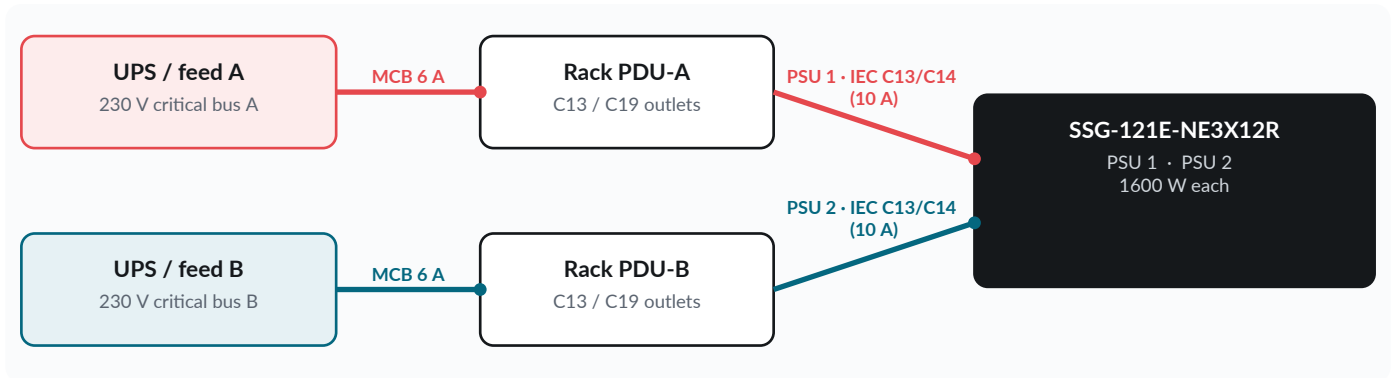
Annual IT energy (24/7)	1,357 kWh
Annual facility energy (PUE 1.5)	2,036 kWh
Annual energy cost	€271 IT · €407 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.53 t (grid factor 0.26 kg/kWh)
Power supplies	2× 1600 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	38 W	59 W	85 W
CPU (base configuration)	25 W	110 W	185 W
2× Memory (base configuration)	6 W	10 W	18 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 C13/C14 (10 A) power cords.
- Maximum current per feed: 1.4 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: 306 W = 1,044 BTU/h (0.3 kW).

04 Full specifications

MOTHERBOARD

Super X13DSF-A

SYSTEM MEMORY

Memory

Slot Count: 32 DIMM slots
[View Memory Options](#)

ON-BOARD DEVICES

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

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
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 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
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LED	Network activity Power status SSD activity System information (overheat/UID)
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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
CXL Support	Up to 4 CXL 2.0 x8 Type 3 devices

DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 12 bays 8 front hot-swap E3.S 1T NVMe drive bays 4 front fixed E3.S 2T CXL Type 3 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 (1 + 1) Titanium Level (96%) 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% ()

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/ssg-121e-ne3x12r/datasheet/manufactur

