

TECHNICAL DATASHEET

SUPERMICRO · STORAGE SERVERS

Supermicro 4U Storage Server SSG-540P-E1CTR60L

4U top-loading storage server with 60 hot-swap SAS/SATA bays and PCIe 4.0

SKU SSG-540P-E1CTR60L

4U

LGA4189

Supermicro



FORM FACTOR

4U

MAX POWER (BASE)

386 W

HEAT OUTPUT

1,317 BTU/h

PRICE

On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/ssg-540p-e1ctr60l

01 Product overview

The Supermicro SSG-540P-E1CTR60L is a 4U Storage Server built on Intel Xeon Scalable 3rd Gen with up to 2 TB of memory in 8 DIMM slots.

4U top-loading storage server with 60 hot-swap SAS/SATA bays and PCIe 4.0.

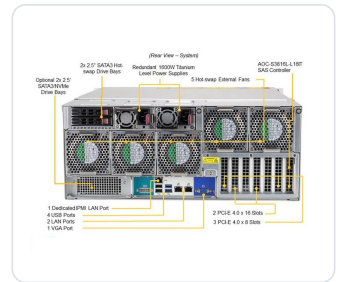
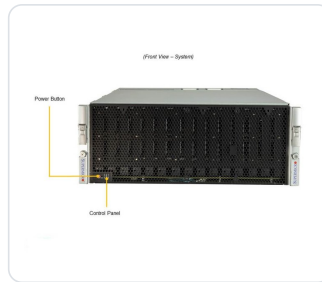
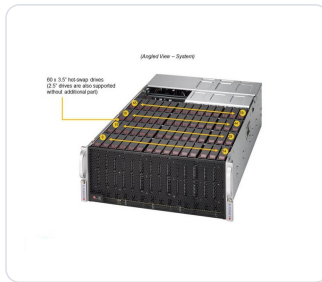
ServerInvest configures every SSG-540P-E1CTR60L to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon Scalable 3rd Gen
- Up to 2 TB memory · 8 DIMM slots
- Total 60 bays 60 top-loading hot-swap 3.5" SAS/SATA drive bays
- Power: 2x 1600W
- Networking: 2 RJ45 10GBASE-T with Intel X550

KEY SPECIFICATIONS

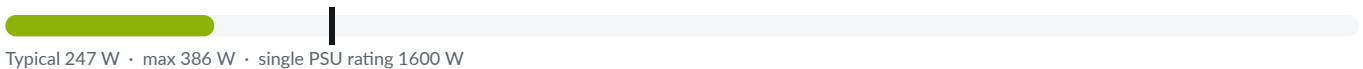
Form factor	4U
Processor	Intel Xeon Scalable 3rd Gen
Socket	LGA4189
Memory	8 DIMM slots, up to 2 TB
Drive bays	60
Power supply	2× 1600 W
Typical power draw	450 W
Networking	2 RJ45 10GBASE-T with Intel X550
Dimensions (W×H×D)	437 × 178 mm



02 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
110 W	247 W	386 W	1,317 BTU/h	0.4 kW	24%



Typical 247 W · max 386 W · single PSU rating 1600 W

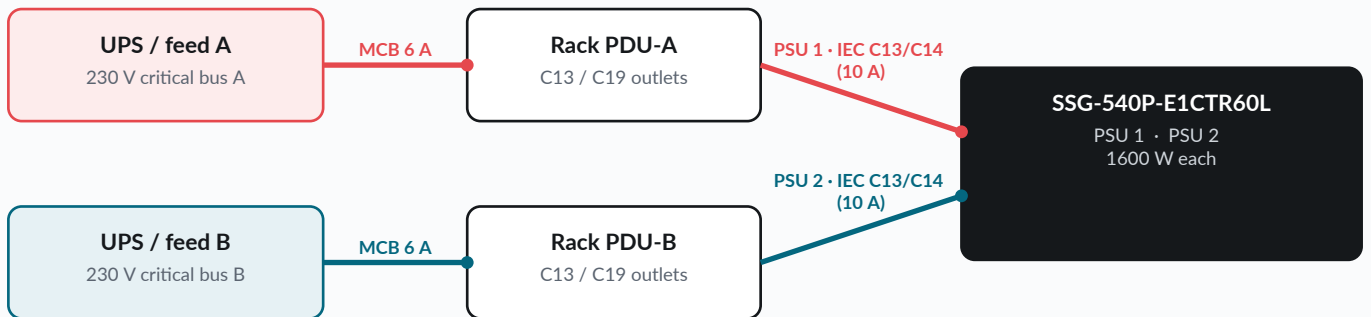
Annual IT energy (24/7)	1,804 kWh
Annual facility energy (PUE 1.5)	2,706 kWh
Annual energy cost	€361 IT · €541 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.70 t (grid factor 0.26 kg/kWh)
Power supplies	2× 1600 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	72 W	112 W	160 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: 1.8 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: 386 W = 1,317 BTU/h (0.4 kW).

04 Full specifications

MOTHERBOARD

Super X12SPi-TF

PROCESSOR

CPU	Single Socket P+ (LGA-4189) 3rd Gen Intel Xeon Scalable processors
Core Count	Up to 38C/76T; Up to 57MB Cache
Note	Supports up to 270W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory	Slot Count: 8 DIMM slots Max Memory (2DPC): Up to 2TB 3200MT/s ECC DDR4 RDIMM/LRDIMM Supports Intel Optane persistent memory 200 series View Memory Options
Memory Voltage	1.2V

ON-BOARD DEVICES

SATA	SATA (6Gbps)
SAS	SAS (12Gbps) ; (IT mode)
Network Connectivity	2 RJ45 10GBASE-T with Intel X550 View AOC Options
BMC	ASPEED AST2600 BMC

INPUT / OUTPUT

LAN	1 RJ45 1 GbE Dedicated BMC LAN port 2 RJ45 10 GBASE-T LAN ports
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USB	4 USB 3.0 ports (rear)
Video	1 VGA port
DOM	2 Super DOM (Disk on Module) ports

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!
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Power configurations	Power-on mode for AC power recovery ACPI Power Management
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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 System Lockdown
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PC HEALTH MONITORING

CPU	4+1 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
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Temperature	Monitoring for CPU and chassis environment Thermal Control for fan connectors
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CERTIFICATIONS

Operating Systems	Hypervisor 8.2.1, Oracle Linux 8.3, RHEL 8.2, Windows Server 2019, Windows Server 2022 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	4U Rackmount
Model	CSV-946STS-R1K6LPP

DIMENSIONS AND WEIGHT

Height	7"
Width	17.2"
Depth	30.2" (767 mm)

Package	33.25" (H) x 28" (W) x 42.5" (D)
Weight	Gross Weight: 169.5 lbs (76.9 kg) Net Weight: 117 lbs (53 kg)
Available Color	Black

FRONT PANEL

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

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 3 PCIe 4.0 x8 LP slots 2 PCIe 4.0 x16 LP slots View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 60 bays 60 top-loading hot-swap 3.5" SAS/SATA drive bays View Drive Options
M.2	1 M.2 PCIe 3.0 x4 SATA slot (M-key) View M.2 Options

SYSTEM COOLING

Fans	Up to 5 Heavy Duty 8cm Fan(s)
Air Shroud	1 Air Shroud

POWER SUPPLY

	2x 1600W 2x 1600W Redundant Titanium Level (96%) Hot-plug power supplies Dimension (WxHxL) 73.5 x 40 x 265 mm
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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: 5% 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-540p-e1ctr60l/datasheet/manufactur

