

TECHNICAL DATASHEET

SUPERMICRO · STORAGE SERVERS

Supermicro 4U Storage Server SSG-540P-E1CTR60H

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

SKU SSG-540P-E1CTR60H

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-e1ctr60h

01 Product overview

The Supermicro SSG-540P-E1CTR60H 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 (SAS hardware RAID) and PCIe 4.0.

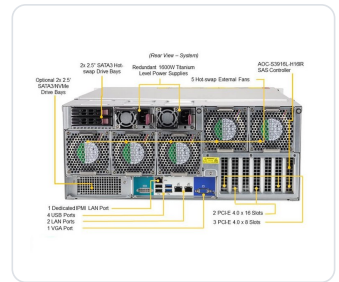
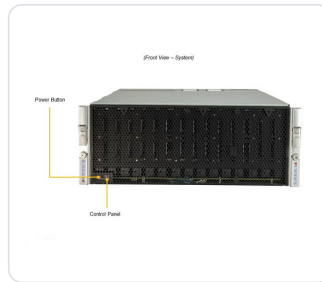
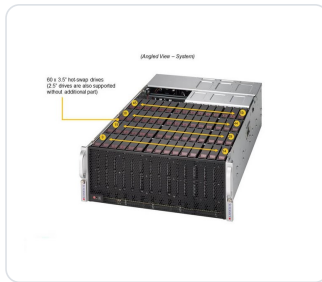
ServerInvest configures every SSG-540P-E1CTR60H to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

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

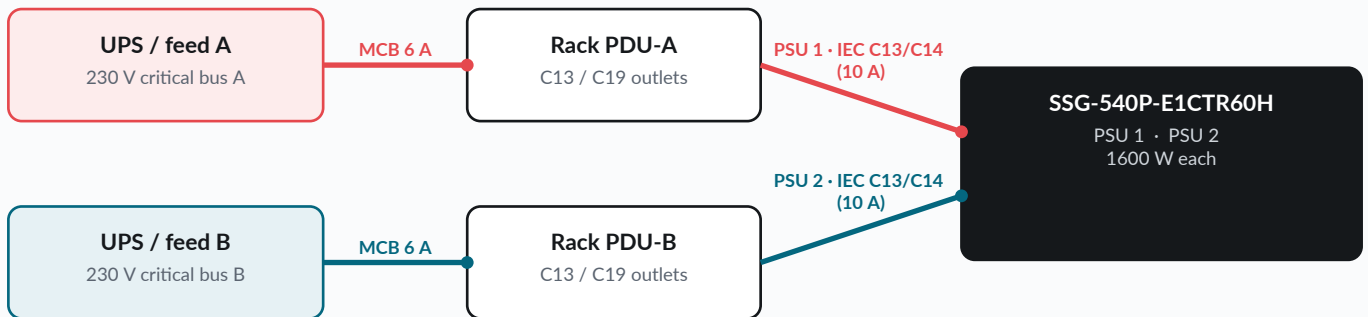
Annual IT energy (24/7)	1,804 kWh
Annual facility energy (PUE 1.5)	2,706 kWh
Annual energy cost	€361 IT · €541 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.70 t (grid factor 0.26 kg/kWh)
Power supplies	2× 1600 W redundant (N+1)

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)
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
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!
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 System Lockdown

PC HEALTH MONITORING

CPU	4+1 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	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-e1ctr60h/datasheet/manufacturer

