

TECHNICAL DATASHEET

SUPERMICRO · STORAGE SERVERS

Supermicro 4U Storage Server SSG-542B-E1CR90

4U top-loading storage server with 90 hot-swap 3.5" SAS/SATA bays and PCIe 5.0

SKU SSG-542B-E1CR90

4U

LGA4710

Supermicro



FORM FACTOR

4U

MAX POWER (BASE)

349 W

HEAT OUTPUT

1,191 BTU/h

PRICE

On request

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/ssg-542b-e1cr90

01 Product overview

The Supermicro SSG-542B-E1CR90 is a 4U Storage Server built on Intel Xeon 6 with up to 2 TB of memory in 16 DIMM slots.

4U top-loading storage server with 90 hot-swap 3.5" SAS/SATA bays and PCIe 5.0.

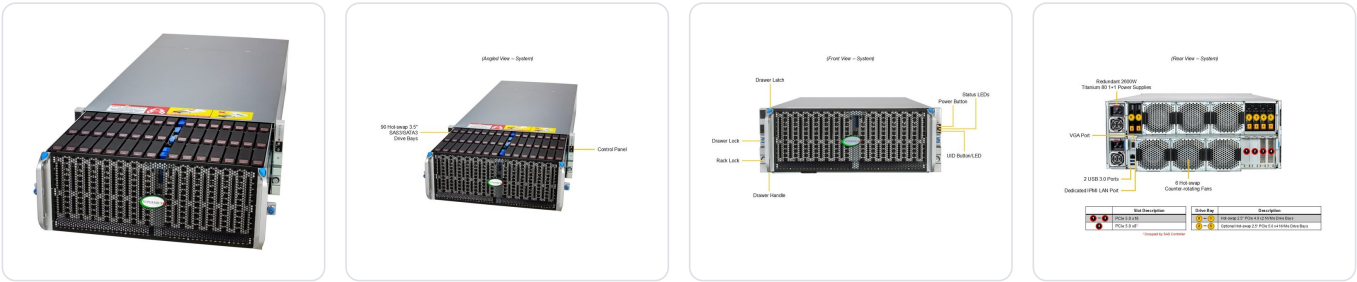
ServerInvest configures every SSG-542B-E1CR90 to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon 6
- Up to 2 TB memory · 16 DIMM slots
- Total 90 bays 90 top-loading hot-swap 3.5"/2.5" SAS/SATA drive bays
- Power: 2x 2600W
- Networking: No NIC option supported

KEY SPECIFICATIONS

Form factor	4U
Processor	Intel Xeon 6
Socket	LGA4710
Memory	16 DIMM slots, up to 2 TB
Memory type	DDR5-6400 ECC RDIMM
Drive bays	96 (96 NVMe)
Power supply	2× 2600 W
Typical power draw	450 W
Networking	No NIC option supported
Dimensions (W×H×D)	437 × 178 mm



02 Base configuration

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

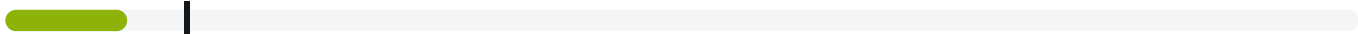
COMPONENT	DESCRIPTION	QTY
Base system	Supermicro 4U Storage Server SSG-542B-E1CR90	1
Processor	Intel Xeon 6505P Processor 12 Cores (48M Cache, 2.20Ghz) 150W	1
Memory	16GB 6400MT/s DDR5 ECC Registered DIMM Module	2
Warranty & support	3-year return-to-base warranty (included)	1

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
107 W	234 W	349 W	1,191 BTU/h	0.3 kW	13%



Typical 234 W · max 349 W · single PSU rating 2600 W

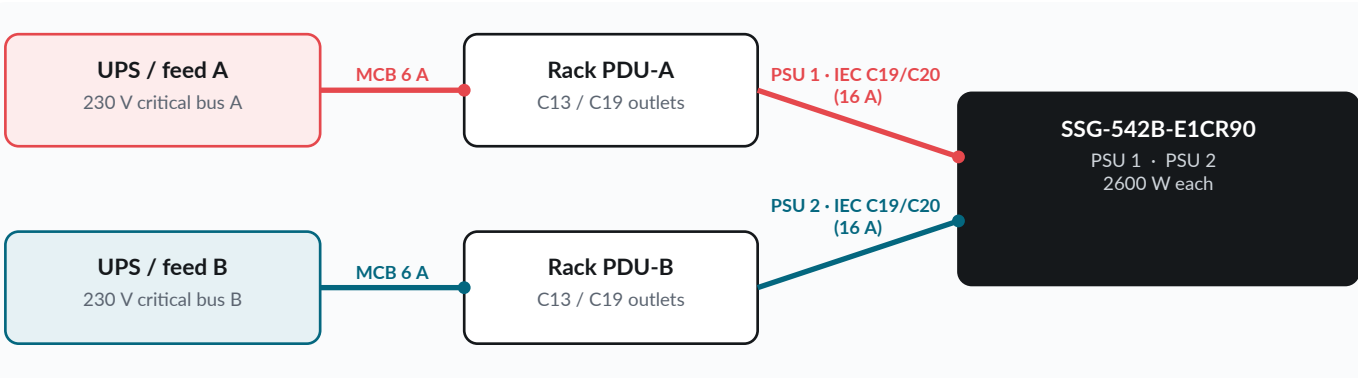
Annual IT energy (24/7)	1,716 kWh
Annual facility energy (PUE 1.5)	2,574 kWh
Annual energy cost	€343 IT · €515 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.67 t (grid factor 0.26 kg/kWh)
Power supplies	2× 2600 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	72 W	112 W	160 W
CPU — Intel Xeon 6505P Processor 12 Cores	23 W	98 W	150 W
2× Memory 16 GB DIMM	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.

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: 1.6 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: 349 W = 1,191 BTU/h (0.3 kW).

05 Full specifications

MOTHERBOARD

Super X14SBSC

PROCESSOR

CPU Single Socket E2 (LGA-4710)
Intel Xeon 6700/6500 series processors with P-cores or 6700 series processors with E-cores

Core Count	P-cores: Up to 144C/144T; Up to 108MB Cache E-cores: Up to 144C/144T; Up to 108MB Cache
Note	Supports up to 350W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory	Slot Count: 16 DIMM slots Max Memory (1DPC): Up to 2TB 6400MT/s ECC DDR5 RDIMM Max Memory (2DPC): Up to 2TB 5200MT/s ECC DDR5 RDIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES

NVMe	NVMe; RAID 0/1 support View NVMe Options
Network Connectivity	No NIC option supported View AOC Options

INPUT / OUTPUT

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

SYSTEM BIOS

BIOS Type	AMI 64MB SPI Flash
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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
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	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	Oracle Linux 9.6, RHEL 10.0, Windows Server 2025 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	4U Rackmount
Model	CSE-947HTS-R2K63P

DIMENSIONS AND WEIGHT

Height	6.96" (177 mm)
Width	17.6" (447 mm)
Depth	43.3" (1099 mm)
Package	N/A
Weight	Gross Weight: 225 lbs (102.06 kg) Net Weight: 130 lbs (58.97 kg)
Palletized Packing (W x H x L)	35.82" (910 mm) x 29.92" (755 mm) x 53.15" (1345 mm)
Available Color	N/A

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 1 PCIe 5.0 x8 (in x8) HHHL slot 3 PCIe 5.0 x16 (in x16) HHHL slots View AOC Options
M.2	2 M.2 PCIe 4.0 x2 NVMe slots (M-key 2280/22110)

DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 90 bays 90 top-loading hot-swap 3.5"/2.5" SAS/SATA drive bays Option A: Total 4 bays 4 rear hot-swap 2.5" PCIe 5.0 x4 NVMe* drive bays Option B: Total 2 bays 2 internal fixed 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 View Drive Options
M.2	2 M.2 PCIe 4.0 x2 NVMe slots (M-key 2280/22110) View M.2 Options

SYSTEM COOLING

Fans	Up to 1 Counter Rotating 6cm Fan(s) Up to 6 Heavy Duty 8cm Fan(s)
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POWER SUPPLY

2x 2600W
 2x 2600W Redundant (1 + 1) Titanium Level (96%) power supplies
 Dimension (WxHxL)
 73.5 x 40 x 265 mm

OPERATING ENVIRONMENT

Environmental Spec.

Operating Temperature: 10°C to 35°C (50°F to 95°F)
 Non-operating Temperature: -40°C to 70°C (-40°F to 158°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/ssg-542b-e1cr90/datasheet/manufacture

