

TECHNICAL DATASHEET

SUPERMICRO · TOWER SERVERS & WORKSTATIONS

Supermicro 4U SuperWorkstation Server SYS-542AW-TR

4U UP rackmount workstation with 8 hot-swap NVMe/SAS/SATA drive bays and PCIe 5.0

SKU SYS-542AW-TR

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/sys-542aw-tr

01 **Product overview**

The Supermicro SYS-542AW-TR is a 4U SuperWorkstation Server built on Intel Xeon 6 with up to 2 TB of memory in 8 DIMM slots.

4U UP rackmount workstation with 8 hot-swap NVMe/SAS/SATA drive bays and PCIe 5.0.

The chassis accepts up to 2 GPU accelerators for AI, rendering and HPC workloads.

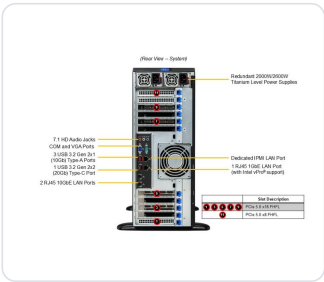
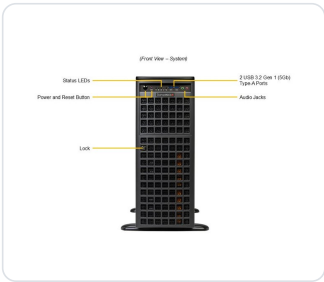
ServerInvest configures every SYS-542AW-TR to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon 6
- Up to 2 TB memory · 8 DIMM slots
- Total 8 bays 8 front hot-swap 3.5" NVMe/SAS*/SATA drive bays
- Up to 2 GPUs
- Power: 2x 2000W
- Networking: 2 RJ45 10GbE with Intel E610

KEY SPECIFICATIONS

Form factor	4U
Processor	Intel Xeon 6
Socket	LGA4710
Memory	8 DIMM slots, up to 2 TB
Memory type	DDR5-6400 ECC RDIMM
Drive bays	16 (16 NVMe)
GPU	Up to 2 GPUs
Power supply	2× 2000 W
Typical power draw	1350 W
Networking	2 RJ45 10GbE with Intel E610
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

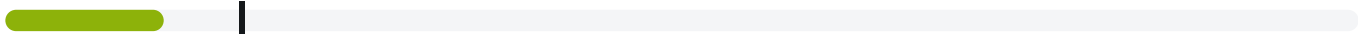
COMPONENT	DESCRIPTION	QTY
Base system	Supermicro 4U SuperWorkstation Server SYS-542AW-TR	1
Processor	Intel Xeon 6505P Processor 12 Cores (48M Cache, 2.20Ghz) 150W	1
Memory	16GB 6400MT/s DDR5 ECC Registered DIMM Module	2
Warranty & support	3-year return-to-base warranty (included)	1

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	17%



Typical 234 W · max 349 W · single PSU rating 2000 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× 2000 W redundant (N+1)

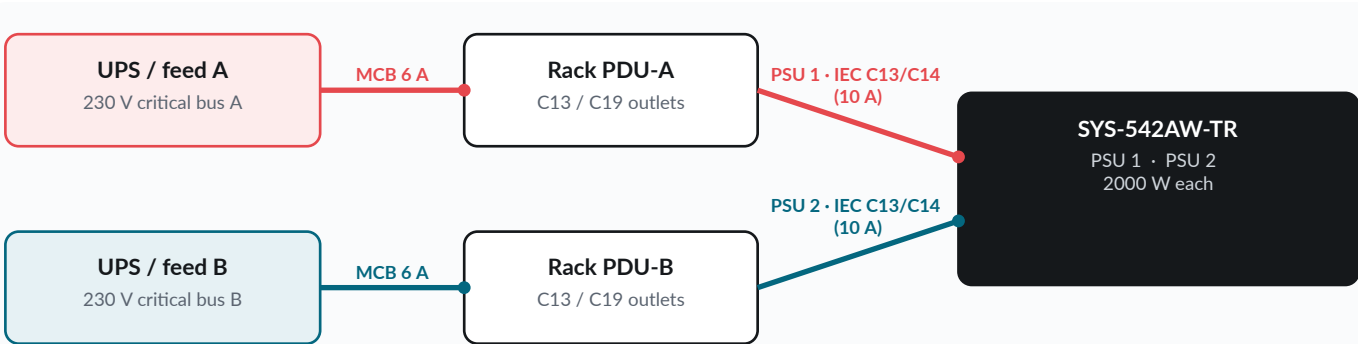
POWER BY COMPONENT

	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 C13/C14 (10 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 X14SRG-TF
PROCESSOR	
CPU	Single E2 (LGA 4710-2) Intel Xeon 600 Processor for Workstation
Core Count	Up to 86C/172T; Up to 336MB Cache

Note Supports up to 350W TDP CPUs (Air Cooled)

GPU

Max GPU Count	Up to 2 triple-width or 4 double-width GPUs
Supported GPU	NVIDIA PCIe: NVIDIA RTX PRO 4000 Blackwell, NVIDIA RTX PRO 4500 Blackwell, NVIDIA RTX PRO 5000 Blackwell, NVIDIA RTX PRO 6000 Blackwell Max-Q Workstation Edition, NVIDIA RTX PRO 6000 Blackwell Workstation Edition View GPU Options
CPU-GPU Interconnect	PCIe 5.0 x16 CPU-to-GPU Interconnect

SYSTEM MEMORY

Memory	Slot Count: 8 DIMM slots Max Memory (1DPC): Up to 2TB 6400MT/s ECC DDR5 RDIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES

SATA	SATA (6Gbps) via Intel W890; RAID 0/1/5/10 support
Chipset	intel W890
Network Connectivity	2 RJ45 10GbE with Intel E610 1 RJ45 1GbE with Intel I219-LM 1 RJ45 1GbE with ASPEED AST2600 View AOC Options

INPUT / OUTPUT

LAN	1 RJ45 1 GbE Dedicated BMC LAN port (ASPEED AST2600) 1 RJ45 1 GbE LAN port (Intel I219-LM) 2 RJ45 10 GbE LAN ports (Intel E610)
USB	2 USB 3.2 Gen1 Type-A ports (front) 3 USB 3.2 Gen2 Type-A ports (Rear) 1 USB 3.2 Gen2x2 Type-C port (Rear)
Video	1 VGA port (Rear)
Serial	1 COM port (rear)
Audio	7.1 HD Audio
TPM	1 TPM Onboard TPM & TPM Header

SYSTEM BIOS

BIOS Type	AMI 64MB SPI Flash EEPROM
-----------	---------------------------

MANAGEMENT

Software	Supermicro Server Manager (SSM) Supermicro Update Manager (SUM) Super Diagnostics Offline (SDO) Supermicro Thin-Agent Service (TAS) SuperServer Automation Assistant (SAA) New!
Power configurations	Power button override mechanism Power-on mode control for AC power loss recovery ACPI 6.5 Power Management

SECURITY

Hardware	Trusted Platform Module (TPM) 2.0
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

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
Voltage	System temperature, Memory temperature, CPU temperature, 3.3V standby, +5V standby, +5V, +3.3V, +12V, CPU thermal trip support

CERTIFICATIONS

Operating Systems	RHEL 10.2, Windows 11 View all OS Compatibility and Certification Matrix
-------------------	---

CHASSIS

Form Factor	4U Rackmount
Model	CSE-749TS-R000NBP

DIMENSIONS AND WEIGHT

Height	18.32" (465.4 mm)
Width	6.96" (177 mm)
Depth	26.71" (678.5 mm)
Package	12.59" (H) x 26.85" (W) x 37.95" (D)
Weight	Gross Weight: 62 lbs (28.1 kg) Net Weight: 46 lbs (20.9 kg)
Available Color	Black

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 5 PCIe 5.0 x16 FHFL slots 1 PCIe 5.0 x8 FHFL slot View AOC Options
M.2	2 M.2 PCIe 5.0 x4 NVMe slots (M-key 22110(default)/2280) 2 M.2 PCIe 4.0 x4 NVMe slots (M-key 22110(default)/2280)

DRIVE BAYS / STORAGE

Drive Bays Configuration

Default: Total 8 bays 8 front hot-swap 3.5" NVMe/SAS*/SATA drive bays
Option A: Total 8 bays 8 front hot-swap 2.5" NVMe/SAS*/SATA drive bays
(*SAS support may require additional storage controller and/or cables, please see the optional parts list for details)
[View Drive Options](#)

M.2

2 M.2 PCIe 4.0 x4 NVMe slots (M-key 22110(default)/2280)
2 M.2 PCIe 5.0 x4 NVMe slots (M-key 22110(default)/2280)
[View M.2 Options](#)

Peripheral Bays

3 5.25" peripheral bays

SYSTEM COOLING

Fans

Up to 5 heavy duty fans with optimal fan speed control

Air Shroud

1 Air Shroud

POWER SUPPLY

2x 2000W
2x 2600W
2x 2000W
2x 2000W Redundant (1 + 1) Titanium Level (96%) power supplies
Dimension (WxHxL)
73.5 x 40 x 265 mm

OPERATING ENVIRONMENT

RoHS

RoHS Compliant

Environmental Spec.

Operating Temperature: 10°C to 35°C (50°F to 95°F)
Non-operating Temperature: -30°C to 60°C (-22°F to 140°F)
Operating Relative Humidity: 8% to 80% (non-condensing)
Non-operating Relative Humidity: 8% to 90% (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/sys-542aw-tr/datasheet/manufacture

