

TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

Supermicro 1U WIO Server SYS-512B-WR

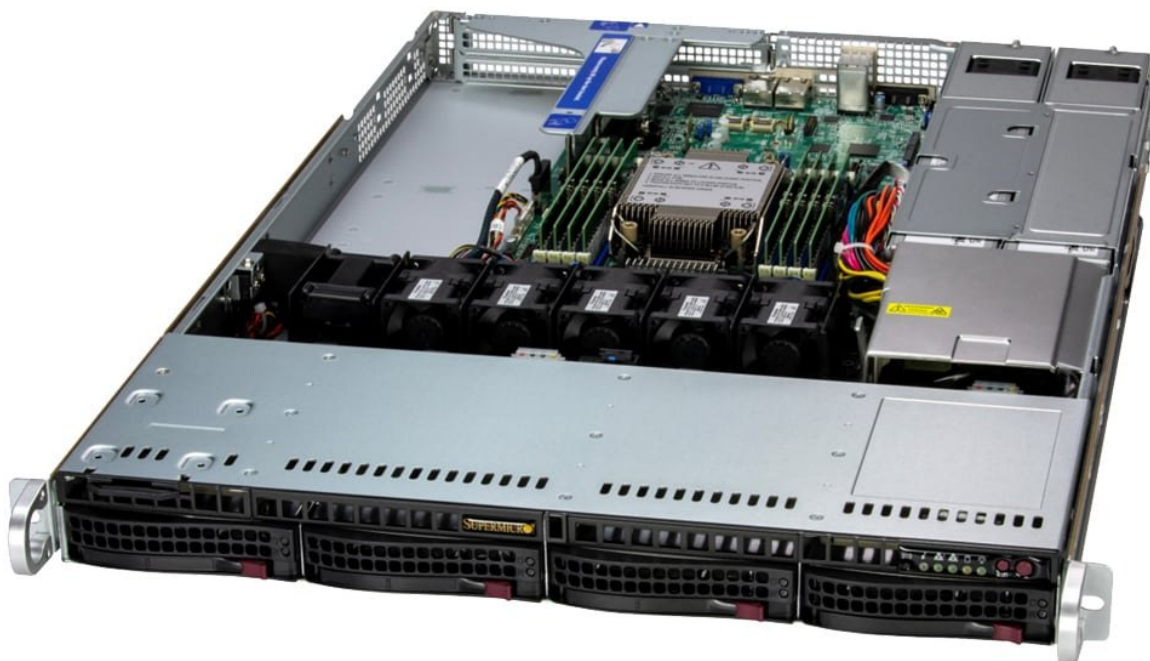
1U UP WIO with 4 hot-swap 3.5" NVMe/SAS/SATA bays and 3 PCIe 5.0 slots

SKU SYS-512B-WR

1U

LGA4710

Supermicro



FORM FACTOR

1U

MAX POWER (BASE)

269 W

HEAT OUTPUT

918 BTU/h

PRICE

from €4,470

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/sys-512b-wr

01 **Product overview**

The Supermicro SYS-512B-WR is a 1U WIO Server built on Intel Xeon 6 with up to 2 TB of memory in 8 DIMM slots.

1U UP WIO with 4 hot-swap 3.5" NVMe/SAS/SATA bays and 3 PCIe 5.0 slots.

The chassis accepts up to 1 GPU accelerators for AI, rendering and HPC workloads.

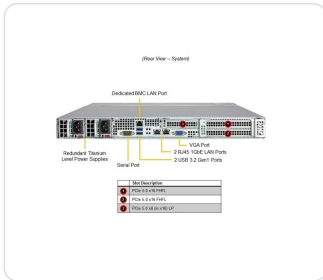
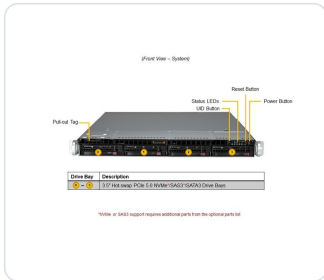
ServerInvest configures every SYS-512B-WR to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon 6
- Up to 2 TB memory · 8 DIMM slots
- Total 4 bays 4 front hot-swap 3.5" SAS*/SATA drive bays
- Up to 1 GPUs
- Power: 2x 860W
- Networking: 2 RJ45 1GbE with Intel I210

KEY SPECIFICATIONS

Form factor	1U
Processor	Intel Xeon 6
Socket	LGA4710
Memory	8 DIMM slots, up to 2 TB
Memory type	DDR5-6400 ECC RDIMM
Drive bays	8 (8 NVMe)
GPU	Up to 1 GPUs
Power supply	2× 860 W
Typical power draw	900 W
Networking	2 RJ45 1GbE with Intel I210
Dimensions (W×H×D)	437 × 44 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 1U WIO Server SYS-512B-WR	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

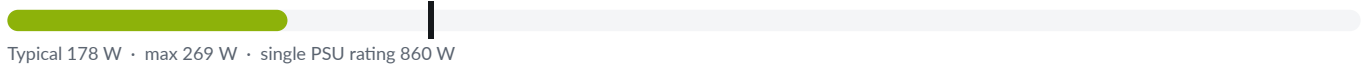
Base configuration from

€4,470
excl. VAT

03 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
71 W	178 W	269 W	918 BTU/h	0.3 kW	31%



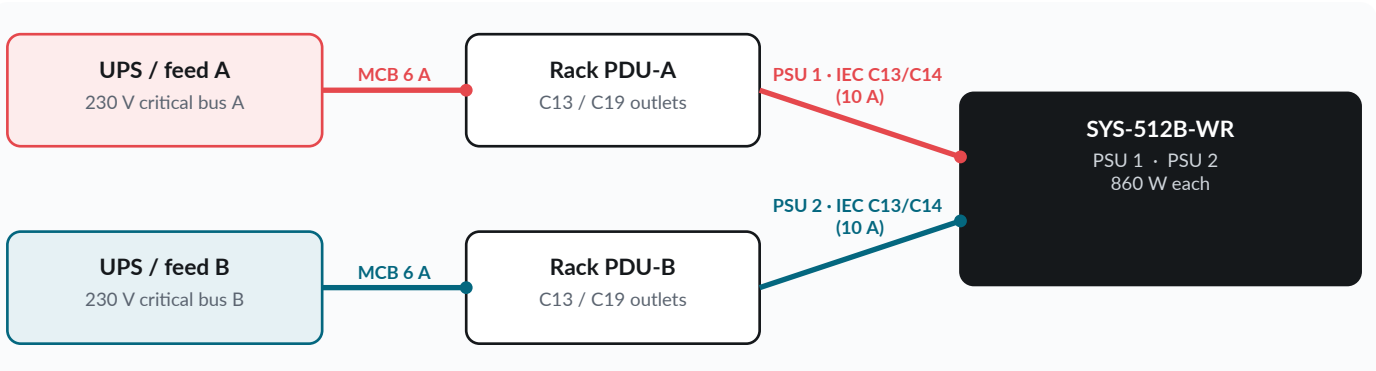
Annual IT energy (24/7)	1,278 kWh
Annual facility energy (PUE 1.5)	1,917 kWh
Annual energy cost	€256 IT · €383 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.50 t (grid factor 0.26 kg/kWh)
Power supplies	2× 860 W redundant (N+1)

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	38 W	59 W	85 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: 1.2 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: 269 W = 918 BTU/h (0.3 kW).

05 Full specifications

MOTHERBOARD

Super X14SBW-F

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 86C/172T; Up to 336MB Cache E-cores: Up to 144C/144T; Up to 108MB Cache
Note	Supports up to 350W TDP CPUs (Air Cooled)

GPU

Max GPU Count	Up to 1 double-width or 2 single-width GPUs
Supported GPU	NVIDIA PCIe: L4, NVIDIA RTX PRO 2000 Blackwell, NVIDIA RTX PRO 4000 Blackwell SFF Edition, NVIDIA RTX PRO 4500 Blackwell Server Edition, NVIDIA RTX PRO 5000 Blackwell, NVIDIA RTX PRO 6000 Blackwell Max-Q Workstation Edition, RTX 2000 Ada, RTX 4000 Ada Generation NVIDIA: RTX A400 View GPU Options
CPU-GPU Interconnect	PCIe 5.0 x16 CPU-to-GPU Interconnect

SYSTEM MEMORY

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

ON-BOARD DEVICES

SATA	SATA (6Gbps)
NVMe	NVMe; RAID 0/1/5/10 support(Intel VROC RAID key required) View NVMe Options
Network Connectivity	2 RJ45 1GbE with Intel I210 View AOC Options

INPUT / OUTPUT

LAN	2 RJ45 1 GbE LAN ports 1 RJ45 1 GbE Dedicated BMC LAN port (IPMI shared on LAN port 1)
USB	2 USB 3.2 Gen1 Type-A ports (rear) 2 USB 3.2 Gen1 ports (Header)
Video	1 VGA port
Serial	1 COM port (header) 1 COM port (rear)
TPM	1 TPM header

SYSTEM BIOS

BIOS Type	AMI 64MB SPI Flash EEPROM
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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	ACPI/APM 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	8 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	ESXi 8.0U3, ESXi 9.0, Oracle Linux 9.4, RHEL 9.4, RHEL 10.0, Windows Server 2022, Windows Server 2025 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	1U
Model	CSE-815BTS-R000WNP

DIMENSIONS AND WEIGHT

Height	1.7" (43 mm)
Width	17.2" (437 mm)
Depth	25.6" (650 mm)
Package	8.5" (H) x 23.5" (W) x 33.7" (D)
Weight	Gross Weight: 34.5 lbs (15.46 kg) Net Weight: 21.5 lbs (9.75 kg)
Available Color	Black

FRONT PANEL

Buttons	Power On/Off button System Reset button Unit Identification (UID) button
LED	Fan Fail/System Over Heat LED HDD activity LED Network Activity LEDs Power status LED Unit Identification (UID) LED

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 2 PCIe 5.0 x16 FHFL slots 1 PCIe 5.0 x8 (in x16) LP slot View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 4 bays 4 front hot-swap 3.5" SAS*/SATA drive bays Option A: Total 4 bays 4 front hot-swap 3.5"/2.5" PCIe 5.0 x4 NVMe*/SAS*/SATA drive bays (*NVMe/SAS support may require additional storage controller and/or cables, please see the optional parts list for details) View NVMe Options
M.2	2 M.2 PCIe 5.0 x2 NVMe slots (M-key 2280/22110; VROC required for RAID) View M.2 Options
Peripheral Bays	2 slim peripheral bays

SYSTEM COOLING

Fans	Up to 1 AOC cooling Fan(s) (optional) Up to 5 middle cooling PWM 40x40x56mm Fan(s)
Air Shroud	1 CPU Air Shroud

POWER SUPPLY

2x 860W
2x 860W Redundant (1 + 1) Titanium Level (96%) power supplies
Dimension (WxHxL)
54.5 x 40.25 x 322 mm

OPERATING ENVIRONMENT

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)
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ENVIRONMENTAL / RECYCLING

Recycle	Return Server-End of Life Product
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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-512b-wr/datasheet/manufacturerr

