

TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

Supermicro Mini-1U UP Server SYS-511R-ML

1U short-depth server with up to 3 internal 2.5" SATA bays and 1 PCIe 5.0 x16 slot

SKU SYS-511R-ML

1U

LGA4710

Supermicro



FORM FACTOR

1U

MAX POWER (BASE)

269 W

HEAT OUTPUT

918 BTU/h

PRICE

from €2,180

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/sys-511r-ml

01 Product overview

The Supermicro SYS-511R-ML is a Mini-1U UP Server built on Intel Xeon 6 with up to 128 GB of memory in 4 DIMM slots.

1U short-depth server with up to 3 internal 2.5" SATA bays and 1 PCIe 5.0 x16 slot.

ServerInvest configures every SYS-511R-ML 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 128 GB memory · 4 DIMM slots
- Total 1 bay 1 internal fixed 3.5" SATA drive bay
- Power: 1x 350W
- Networking: 2 RJ45 1GbE with Intel I210

KEY SPECIFICATIONS

Form factor	1U
Processor	Intel Xeon 6
Socket	LGA4710
Memory	4 DIMM slots, up to 128 GB
Memory type	DDR5-6400 ECC RDIMM
Drive bays	6
Power supply	1× 350 W
Typical power draw	450 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 Mini-1U UP Server SYS-511R-ML	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

€2,180
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	77%

Typical 178 W · max 269 W · single PSU rating 350 W

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	1× 350 W

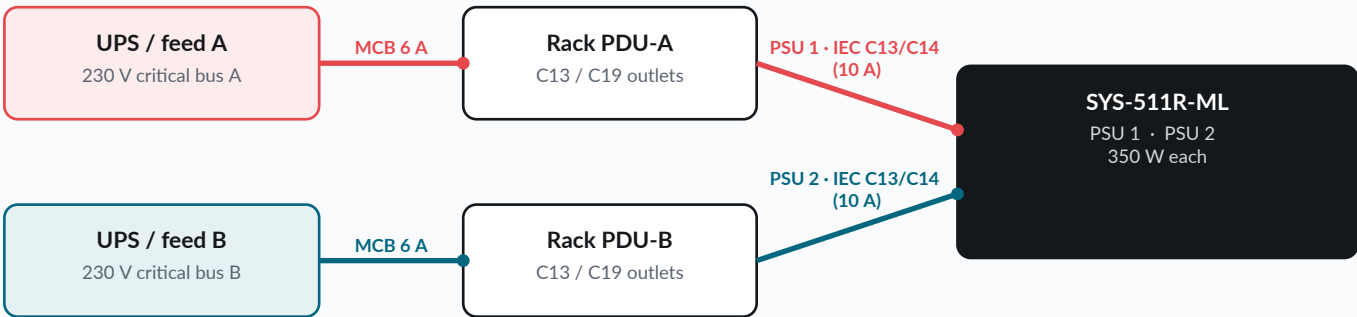
POWER BY COMPONENT

	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 X13SCH-SYS
PROCESSOR	
CPU	Single V0 (LGA-1700) Intel Xeon 6300-series/E-2400/Pentium G7400/G7400T processors
Core Count	Up to 12C/24T; Up to 36MB Cache

Note Supports up to 95W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory Slot Count: 4 DIMM slots/2 Channels
Max Memory (1DPC): Up to 64GB 4400MT/s ECC DDR5 UDIMM
Max Memory (2DPC): Up to 128GB 4000MT/s ECC DDR5 UDIMM
[View Memory Options](#)

Memory Voltage 1.1V

ON-BOARD DEVICES

SATA SATA (6Gbps) ; RAID 0/1/5/10 support

Chipset Intel C266

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 2.0 ports (header)
2 USB 3.2 Gen1 Type-A ports (rear)
2 USB 2.0 Type-A ports (rear)
2 USB 3.2 Gen1 ports (Header)
1 USB 3.2 Gen1 Type-A port (Header)

Video 1 VGA port

Serial 1 COM port (header)
1 COM port (rear)

TPM 1 TPM header

SYSTEM BIOS

BIOS Type AMI 32MB SPI Flash EEPROM

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 ACPI/APM 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

CPU	6 + 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	Oracle Linux 9.2, RHEL 9.2, Windows Server 2022, Windows Server 2025 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	Mini-1U
Model	CSE-512F-350B1

DIMENSIONS AND WEIGHT

Height	1.7" (43 mm)
Width	17.2" (437 mm)
Depth	14.5" (368 mm)
Package	6.3" (H) x 22" (W) x 20" (D)
Weight	Gross Weight: 14 lbs (6.35 kg) Net Weight: 11 lbs (4.99 kg)
Available Color	Black

FRONT PANEL

Buttons	Power On/Off button System Reset button
LED	Fan Fail/System Over Heat LED HDD activity LED Network Activity LEDs Power status LED

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 1 PCIe 5.0 x16 FHHL slot View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 1 bay 1 internal fixed 3.5" SATA drive bay Option A: Total 2 bays 2 internal fixed 3.5" SATA* drive bays Option B: Total 3 bays 3 internal fixed 2.5" SATA* drive bays (*SATA support may require additional storage controller and/or cables, please see the optional parts list for details)
M.2	2 M.2 PCIe 4.0 x4 NVMe slots (M-key 2280/22110) View M.2 Options

SYSTEM COOLING

Fans	Up to 2 counter-rotation PWM 40x40x56mm Fan(s)
Air Shroud	1 Air Shroud

POWER SUPPLY

1x 350W
1x 350W Platinum Level (93%) power supply
Dimension (WxHxL)
100 x 40 x 180 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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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-511r-ml/datasheet/manufacture

