

TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

Supermicro Mini-1U UP Server SYS-510T-ML

1U UP short-depth mainstream server

SKU SYS-510T-ML

1U

LGA1700

Supermicro



FORM FACTOR

1U

MAX POWER (BASE)

306 W

HEAT OUTPUT

1,044 BTU/h

PRICE

On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/sys-510t-ml

01 Product overview

The Supermicro SYS-510T-ML is a Mini-1U UP Server built on Intel Xeon E with up to 128 GB of memory in 4 DIMM slots.

1U UP short-depth mainstream server.

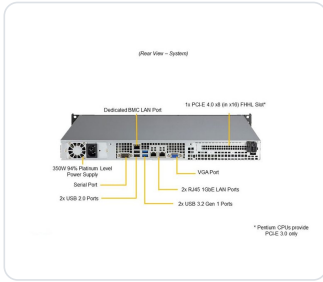
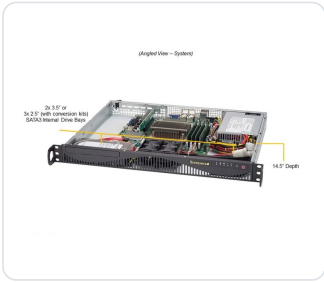
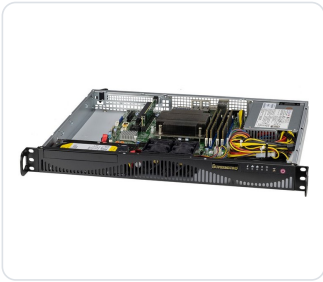
ServerInvest configures every SYS-510T-ML to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon E
- 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 E
Socket	LGA1700
Memory	4 DIMM slots, up to 128 GB
Drive bays	6
Power supply	1x 350 W
Typical power draw	450 W
Networking	2 RJ45 1GbE with Intel I210
Dimensions (W×H×D)	437 × 44 mm



02 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
73 W	190 W	306 W	1,044 BTU/h	0.3 kW	87%

Typical 190 W · max 306 W · single PSU rating 350 W

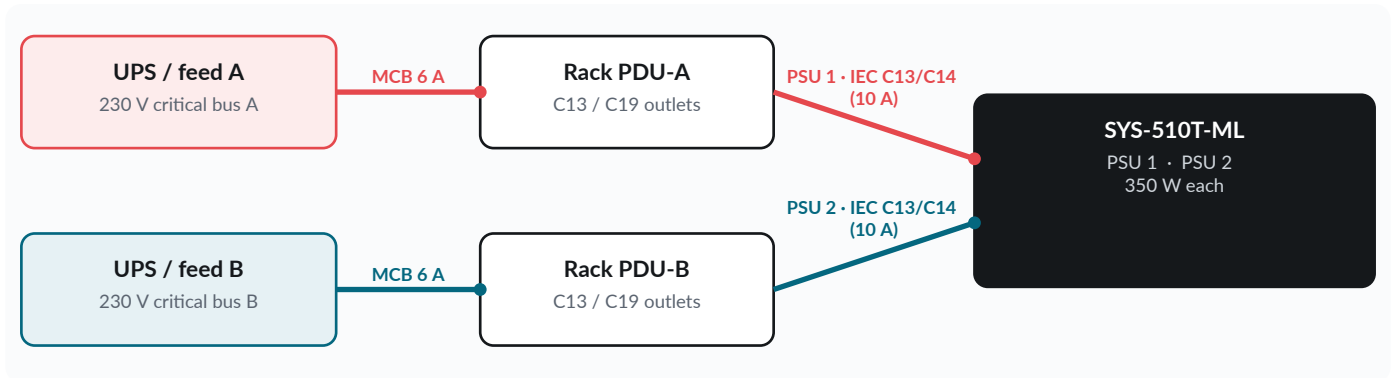
Annual IT energy (24/7)	1,357 kWh
Annual facility energy (PUE 1.5)	2,036 kWh
Annual energy cost	€271 IT · €407 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.53 t (grid factor 0.26 kg/kWh)
Power supplies	1x 350 W

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	38 W	59 W	85 W
CPU (base configuration)	25 W	110 W	185 W
2x 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: 1.4 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: 306 W = 1,044 BTU/h (0.3 kW).

04 Full specifications

MOTHERBOARD

Super X12STL-F

PROCESSOR

CPU	Single Socket H5 (LGA-1200) Intel Xeon E-2300 series Processors and 10th Gen. Pentium Processors
Core Count	Up to 8C/16T; Up to 16MB Cache
Note	Supports up to 95W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory	Slot Count: 4 DIMM slots Max Memory (2DPC): Up to 128GB 3200MT/s ECC DDR4 UDIMM View Memory Options
Memory Voltage	1.2V

ON-BOARD DEVICES

SATA	SATA (6Gbps) ; RAID 0/1/5/10 support
Network Connectivity	2 RJ45 1GbE with Intel I210 View AOC Options
BMC	ASPEED AST2600 BMC

INPUT / OUTPUT

LAN	2 RJ45 1 GbE LAN ports 1 RJ45 1 GbE Dedicated BMC LAN port (IPMI shared on LAN port 1)
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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 (Rear) 1 COM port (Header)
DOM	2 Super DOM (Disk on Module) portswith built-in power
TPM	1 TPM header

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!
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Power configurations	ACPI/APM Power Management
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SECURITY

Hardware	Trusted Platform Module (TPM) 2.0 Silicon Root of Trust (RoT) – NIST 800-193 Compliant
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Features	Cryptographically Signed Firmware Secure Boot Secure Firmware Updates Automatic Firmware Recovery System Lockdown
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PC HEALTH MONITORING

CPU	6 + 1 Phase-switching voltage regulator 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
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Temperature	Monitoring for CPU and chassis environment Thermal Control for fan connectors
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CERTIFICATIONS

Operating Systems	ESXi 7.0 U3, RHEL 8.4, Windows Server 2019, Windows Server 2022 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 4.0 x8 (in 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) View Drive Options
M.2	1 M.2 PCIe 3.0 x4 NVMe slot (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: -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)
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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/sys-510t-ml/datasheet/manufacture

