

TECHNICAL DATASHEET

SUPERMICRO · EDGE & EMBEDDED

Supermicro Mini-1U IoT Server SYS-510D-8C-FN6P

Intel Xeon D-1736NT processor, 8-Core, 200W Low Noise AC-DC PWS, 1U edge platform

SKU SYS-510D-8C-FN6P

1U

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-510d-8c-fn6p

01 Product overview

The Supermicro SYS-510D-8C-FN6P is a Mini-1U IoT Server built on Intel Xeon D with up to 256 GB of memory in 4 DIMM slots.

Intel Xeon D-1736NT processor, 8-Core, 200W Low Noise AC-DC PWS, 1U edge platform.

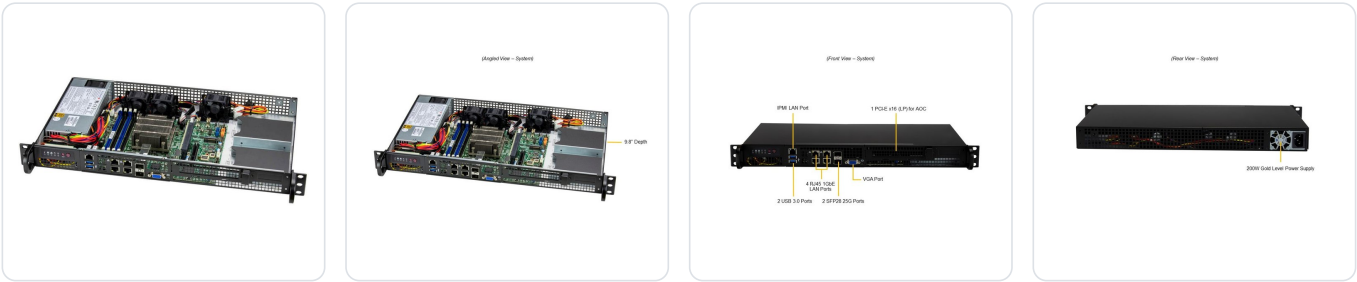
ServerInvest configures every SYS-510D-8C-FN6P to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon D
- Up to 256 GB memory · 4 DIMM slots
- Total 4 bays 4 internal fixed 2.5" SATA drive bays
- Power: 1x 200W
- Networking: 2 RJ45 1GBASE-T with Intel I210

KEY SPECIFICATIONS

Form factor	1U
Processor	Intel Xeon D
Memory	4 DIMM slots, up to 256 GB
Drive bays	4
Power supply	1× 200 W
Typical power draw	450 W
Networking	2 RJ45 1GBASE-T 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	153%

Typical 190 W · max 306 W · single PSU rating 200 W

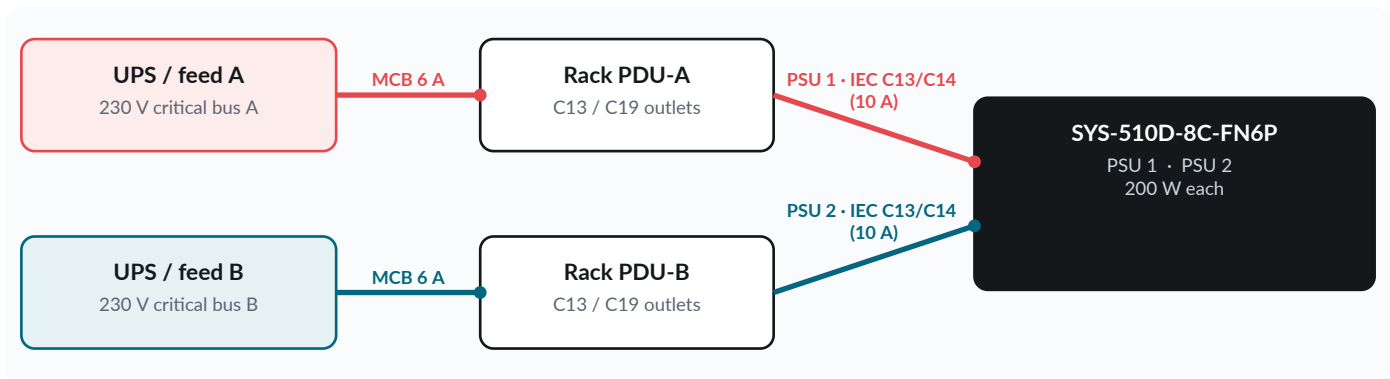
Annual IT energy (24/7)	1,357 kWh
Annual facility energy (PUE 1.5)	2,036 kWh
Annual energy cost	€271 IT · €407 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.53 t (grid factor 0.26 kg/kWh)
Power supplies	1× 200 W

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
2× 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 X12SDV-8C-SP6F

PROCESSOR

CPU Single FCBGA-2227
Intel Xeon Processor D-1700 Series

Note Supports up to 67W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory Slot Count: 4 DIMM slots
Max Memory (2DPC): Up to 256GB 2933MT/s ECC DDR4 RDIMM
View Memory Options

Memory Voltage 1.2V

ON-BOARD DEVICES

Network Connectivity 2 RJ45 1GBASE-T with Intel I210
2 SFP28 25GbE with Intel SoC
2 RJ45 1GBASE-T with Intel I350-AM2
View AOC Options

INPUT / OUTPUT

LAN 1 RJ45 1 GbE Dedicated BMC LAN port
2 SFP28 25 GbE LAN ports (Intel SOC)
2 RJ45 1 GbE LAN ports (Intel I350-AM2)
2 RJ45 1 GbE LAN ports (Intel I210-IT)

USB 2 ports

Video 1 VGA port

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	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 System Lockdown

PC HEALTH MONITORING

CPU	Monitors for CPU Cores, Chipset Voltages, Memory
Fan	Fans with tachometer monitoring Pulse Width Modulated (PWM) fan connectors Status monitor for speed control
Temperature	CPU thermal trip support, PEPI Monitoring for CPU and chassis environment

CERTIFICATIONS

Operating Systems	Oracle Linux 8.3, RHEL 8.3, Windows Server 2019, Windows Server 2022, Windows Server 2025 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	Mini-1U
Model	CSE-505-203B

DIMENSIONS AND WEIGHT

Height	1.7" (43 mm)
Width	17.2" (437 mm)
Depth	9.8" (249 mm)
Package	6.1" (H) x 25.8" (W) x 18.3" (D)
Weight	Gross Weight: 10 lbs (4.54 kg)
Available Color	Black

FRONT PANEL

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

PCI-Express (PCIe) Configuration	Default 1 PCIe 4.0 x16 FHHL slot View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 4 bays 4 internal fixed 2.5" SATA drive bays
M.2	1 M.2 PCIe 3.0 x2 SATA slot (B-key 2280/3042/3052) 1 M.2 PCIe 3.0 x4 SATA slot (M-key 2280) 1 M.2 PCIe 3.0 x1 SATA slot (E-key 2230; USB 3.0) View M.2 Options

SYSTEM COOLING

Fans	Up to 4x 4-PIN PWM 40x28mm Fan(s) (optional)
Air Shroud	1 Air Shroud

POWER SUPPLY

1x 200W
1x 200W Gold Level (91%) power supply
Dimension (WxHxL)
76 x 40.3 x 192 mm

OPERATING ENVIRONMENT

Environmental Spec.	Operating Temperature: 0°C to 40°C (32°F to 104°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-510d-8c-fn6p/datasheet/manufacturer

