

TECHNICAL DATASHEET

SUPERMICRO · EDGE & EMBEDDED

Supermicro 1U IoT Server SYS-110P-FRDN2T

Intel Xeon Socket P+ (LGA-4189) support 3rd Gen, 600W -48 Vdc redundant PWS,
1U edge platform

SKU SYS-110P-FRDN2T

1U

LGA4189

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-110p-frdn2t

01 Product overview

The Supermicro SYS-110P-FRDN2T is a 1U IoT Server built on Intel Xeon Scalable 3rd Gen with up to 2 TB of memory in 8 DIMM slots.

Intel Xeon Socket P+ (LGA-4189) support 3rd Gen, 600W -48 Vdc redundant PWS, 1U edge platform.

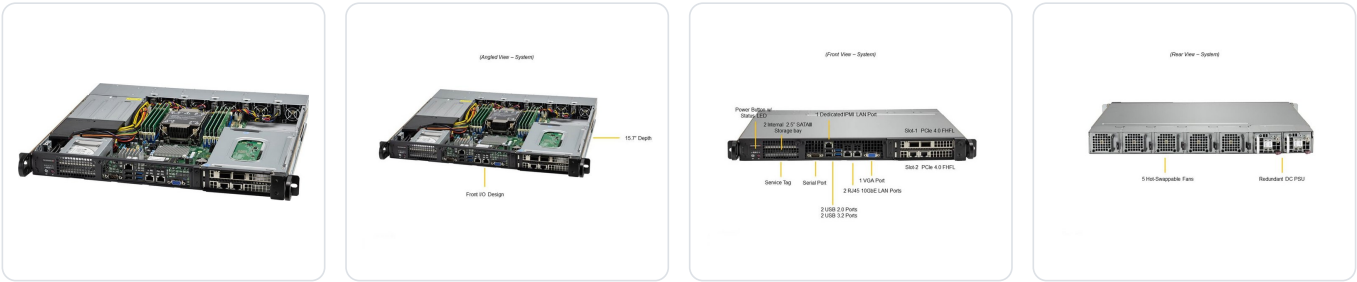
ServerInvest configures every SYS-110P-FRDN2T to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon Scalable 3rd Gen
- Up to 2 TB memory · 8 DIMM slots
- Total 2 bays 2 internal fixed 2.5" SATA drive bays
- Power: 1x 600W
- Networking: 2 RJ45 10GBASE-T with Intel X550

KEY SPECIFICATIONS

Form factor	1U
Processor	Intel Xeon Scalable 3rd Gen
Socket	LGA4189
Memory	8 DIMM slots, up to 2 TB
Drive bays	2
Power supply	1× 600 W
Typical power draw	450 W
Networking	2 RJ45 10GBASE-T with Intel X550
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	51%

Typical 190 W · max 306 W · single PSU rating 600 W

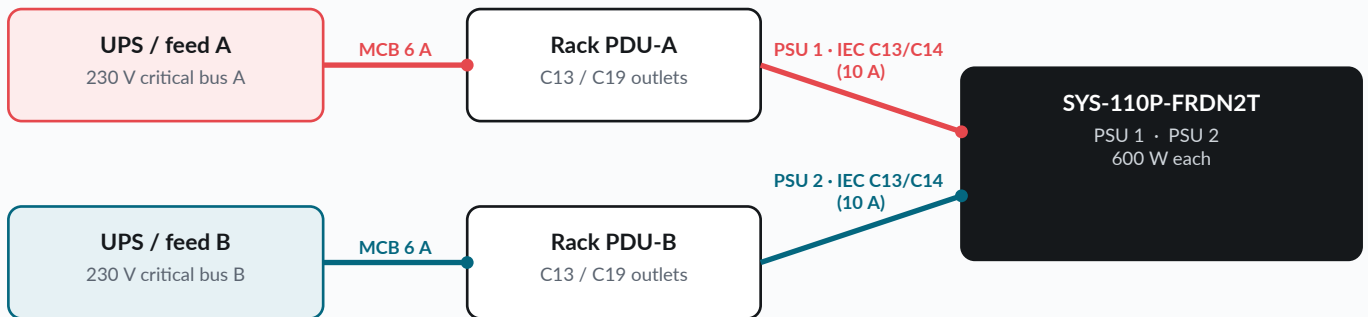
Annual IT energy (24/7)	1,357 kWh
Annual facility energy (PUE 1.5)	2,036 kWh
Annual energy cost	€271 IT · €407 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.53 t (grid factor 0.26 kg/kWh)
Power supplies	1× 600 W

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 X12SPW-TF

PROCESSOR

CPU	Single Socket P+ (LGA-4189) 3rd Gen Intel Xeon Scalable processors
Core Count	Up to 32C/64T; Up to 48MB Cache
Note	Supports 85W - 205W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory	Slot Count: 8 DIMM slots Max Memory (2DPC): Up to 2TB 3200MT/s ECC DDR4 RDIMM/LRDIMM View Memory Options
Memory Voltage	1.2V

ON-BOARD DEVICES

SATA	SATA (6Gbps) ; RAID 0/1 support
Network Connectivity	2 RJ45 10GBASE-T with Intel X550 View AOC Options

INPUT / OUTPUT

LAN	2 RJ45 10 GbE LAN ports
USB	2 USB 3.0 Type-A ports 2 USB 2.0 Type-A 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	ACPI Power Management Power-on mode for DC power recovery

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	RHEL 8.2, RHEL 9.0, Windows Server 2019, Windows Server 2022 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	1U
Model	CSE-515M-R601

DIMENSIONS AND WEIGHT

Height	1.7" (43 mm)
Width	17.2" (437 mm)
Depth	15.7" (399 mm)
Package	8" (H) x 27" (W) x 24" (D)
Weight	Gross Weight: 18 lbs (8.16 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 2 PCIe 4.0 x16 FHFL slots View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 2 bays 2 internal fixed 2.5" SATA drive bays View Drive Options
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M.2	1 M.2 PCIe 3.0 x4 NVMe/SATA slot (M-key 2280/22110) View M.2 Options
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SYSTEM COOLING

Fans	Up to 5 heavy duty fans with optimal fan speed control
Air Shroud	1 Air Shroud

POWER SUPPLY

1x 600W
 1x 600W Redundant Typical 90%+ Level (92%) power supply
 Dimension (WxHxL)
 54.5 x 40 x 220 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-110p-frdn2t/datasheet/manufacture

