

TECHNICAL DATASHEET

SUPERMICRO · EDGE & EMBEDDED

Supermicro 1U IoT Server SYS-110D-20C-FRDN8TP

Intel Xeon Processor, 20-Core, 600W -48 Vdc redundant PWS, 1U edge platform

SKU SYS-110D-20C-FRDN8TP

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-110d-20c-frdn8tp

01 Product overview

The Supermicro SYS-110D-20C-FRDN8TP is a 1U IoT Server built on Intel Xeon D with up to 512 GB of memory in 4 DIMM slots.

Intel Xeon Processor, 20-Core, 600W -48 Vdc redundant PWS, 1U edge platform.

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

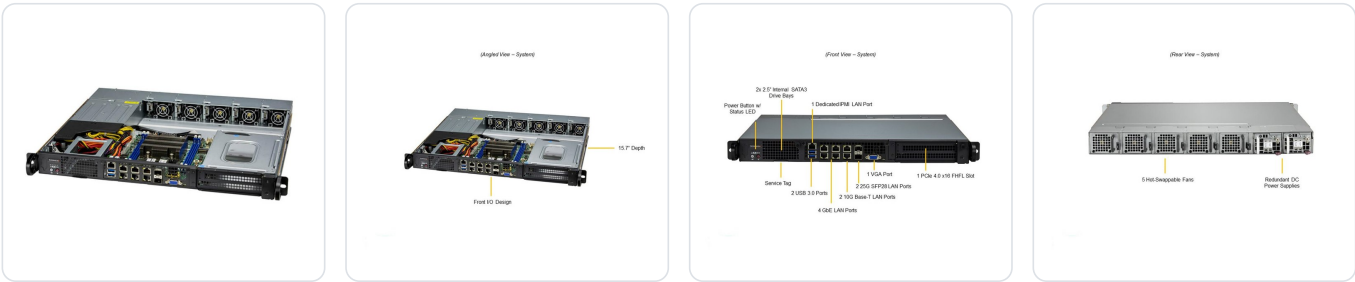
ServerInvest configures every SYS-110D-20C-FRDN8TP to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon D
- Up to 512 GB memory · 4 DIMM slots
- Total 2 bays 2 internal fixed 2.5" SATA drive bays
- Up to 1 GPUs
- Power: 2x 600W
- Networking: 4 RJ45 1GBASE-T with Intel I350

KEY SPECIFICATIONS

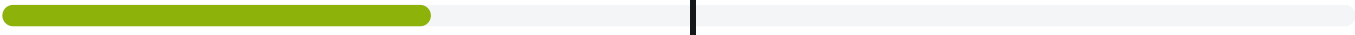
Form factor	1U
Processor	Intel Xeon D
Memory	4 DIMM slots, up to 512 GB
Drive bays	2
GPU	Up to 1 GPUs
Power supply	2× 600 W
Typical power draw	900 W
Networking	4 RJ45 1GBASE-T with Intel I350
Dimensions (W×H×D)	437 × 44 mm



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

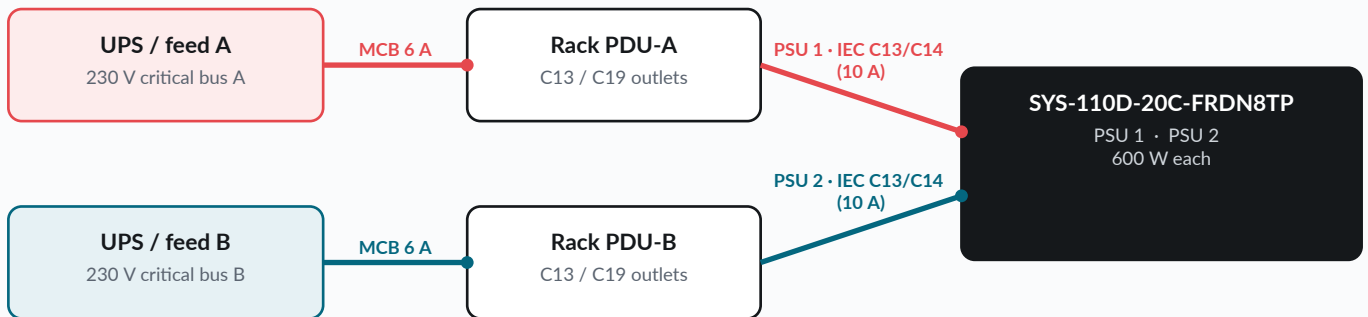
Annual IT energy (24/7)	1,357 kWh
Annual facility energy (PUE 1.5)	2,036 kWh
Annual energy cost	€271 IT · €407 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.53 t (grid factor 0.26 kg/kWh)
Power supplies	2× 600 W redundant (N+1)

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-20C-SPT8F

PROCESSOR

CPU	Single FCBGA-2579 Intel Xeon Processor D-2700 Series
Note	Supports up to 120W TDP CPUs (Air Cooled)

GPU

Max GPU Count	Up to 1 double-width or 1 single-width GPU
Supported GPU	NVIDIA PCIe: L4
CPU-GPU Interconnect	PCIe 4.0 x16 CPU-to-GPU Interconnect

SYSTEM MEMORY

Memory	Slot Count: 4 DIMM slots Max Memory (1DPC): Up to 256GB 2933MT/s ECC/non-ECC DDR4 RDIMM Max Memory (1DPC): Up to 512GB 2933MT/s ECC/non-ECC DDR4 LRDIMM View Memory Options
Memory Voltage	1.2V

ON-BOARD DEVICES

Network Connectivity	4 RJ45 1GBASE-T with Intel I350 2 SFP28 25GbE with Intel SoC 2 RJ45 10GBASE-T with Intel X550 View AOC Options
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INPUT / OUTPUT

LAN	1 RJ45 1 GbE Dedicated BMC LAN port 4 RJ45 1 GbE LAN ports (Intel I350) 2 RJ45 10 GbE LAN ports (Intel X550) 2 SFP28 25 GbE LAN ports (Intel SOC)
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	1U Rackmount
Model	CSE-515M-R000NP2

DIMENSIONS AND WEIGHT

Height	1.7" (43 mm)
Width	17.2" (437 mm)
Depth	15.7" (399 mm)
Package	7.9" (H) x 26.7" (W) x 23.8" (D)

Weight	Gross Weight: 29 lbs (13.15 kg) Net Weight: 18 lbs (8.16 kg)
Available Color	Silver

FRONT PANEL

Buttons	Power On/Off UID button
LED	HDD activity LAN1 activity LAN2 activity Power status System information

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 1 PCIe 4.0 x16 FHFL slot 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
M.2	1 M.2 NVMe/SATA slot (M-key 2242/2280) View M.2 Options

SYSTEM COOLING

Fans	Up to 5 Counter-rotating, Hot-swappable 40x40x56mm Fan(s)
Air Shroud	1 Air Shroud

POWER SUPPLY

	2x 600W 2x 600W Redundant (1 + 1) Typical 90%+ Level (92%) power supplies Dimension (WxHxL) 54.5 x 40 x 220 mm
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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-110d-20c-frdn8tp/datasheet/manufacturer

