

TECHNICAL DATASHEET

SUPERMICRO · MULTI-NODE & TWIN

Supermicro FatTwin SuperServer SYS-F521E3-RTB

4U 4-Node FatTwin with 8 hot-swap 3.5" NVMe/SAS/SATA drives per node

SKU SYS-F521E3-RTB

4U

LGA4677

Supermicro



FORM FACTOR

4U

MAX POWER (BASE)

322 W

HEAT OUTPUT

1,099 BTU/h

PRICE

from €20,510**CONFIGURE & QUOTE ONLINE**serverinvest.com/product/sys-f521e3-rtb

01 Product overview

The Supermicro SYS-F521E3-RTB is a 4U FatTwin Server built on Intel Xeon Scalable 4th/5th Gen with up to 4 TB of memory in 16 DIMM slots.

4U 4-Node FatTwin with 8 hot-swap 3.5" NVMe/SAS/SATA drives per node.

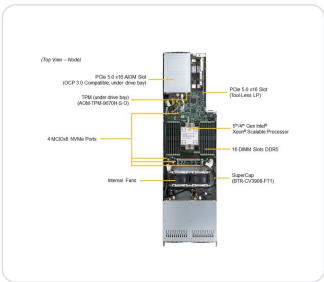
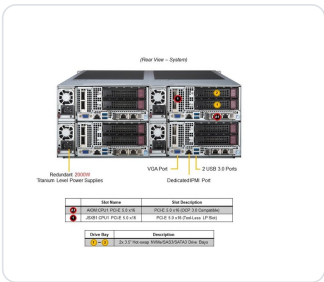
ServerInvest configures every SYS-F521E3-RTB to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon Scalable 4th/5th Gen
- Up to 4 TB memory · 16 DIMM slots
- Total 8 bays 2 rear hot-swap 3.5" NVMe/SAS/SATA drive bays
- Power: 1x 2000W
- Networking: 1 RJ45 1GbE

KEY SPECIFICATIONS

Form factor	4U
Processor	Intel Xeon Scalable 4th/5th Gen
Socket	LGA4677
Memory	16 DIMM slots, up to 4 TB
Memory type	DDR5-5600 ECC RDIMM
Drive bays	8 (14 NVMe)
Power supply	1x 2000 W
Typical power draw	610 W
Networking	1 RJ45 1GbE
Dimensions (W×H×D)	437 × 178 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 FatTwin SuperServer SYS-F521E3-RTB	1
Processor	Intel Xeon Bronze 3408U Processor 8 Cores (22.5M Cache, 1.80/1.90 GHz) 125W	1
Memory	16GB 5600MT/s DDR5 ECC Registered DIMM Module	2
Warranty & support	3-year return-to-base warranty (included)	1

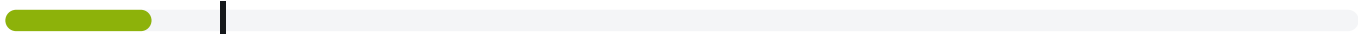
Base configuration from

€20,510
excl. VAT

03 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
103 W	216 W	322 W	1,099 BTU/h	0.3 kW	16%



Typical 216 W · max 322 W · single PSU rating 2000 W

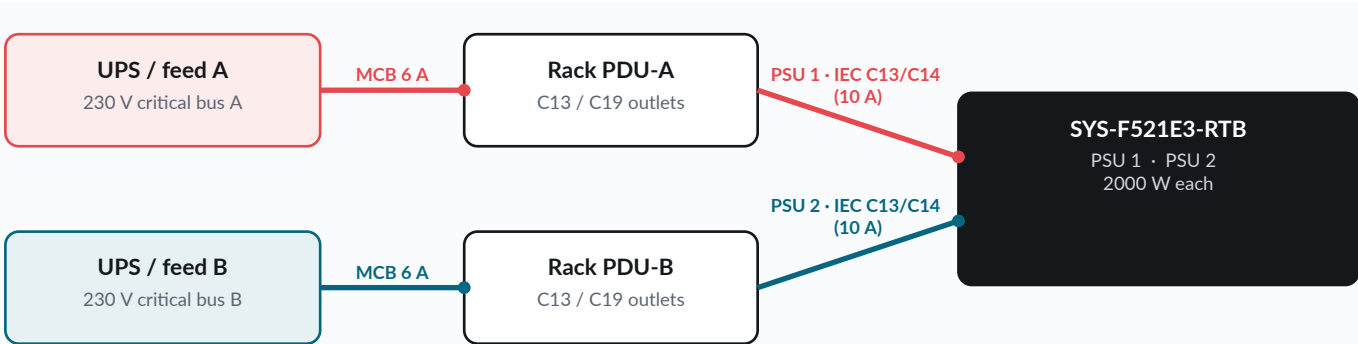
Annual IT energy (24/7)	1,595 kWh
Annual facility energy (PUE 1.5)	2,393 kWh
Annual energy cost	€319 IT · €479 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.62 t (grid factor 0.26 kg/kWh)
Power supplies	1× 2000 W

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	72 W	112 W	160 W
CPU — Intel Xeon Bronze 3408U Processor 8 Cores	19 W	81 W	125 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: 1.5 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: 322 W = 1,099 BTU/h (0.3 kW).

05 Full specifications

MOTHERBOARD	
	Super X13SEFR-A
PROCESSOR (PER NODE)	
CPU	Single Socket E (LGA-4677) 5th Gen Intel Xeon / 4th Gen Intel Xeon Scalable processors
Core Count	Up to 60C/120T; Up to 112.5MB Cache

Note Supports up to 350W TDP CPUs (Air Cooled)

SYSTEM MEMORY (PER NODE)

Memory	Slot Count: 16 DIMM slots Max Memory (2DPC): Up to 4TB 5600MT/s ECC DDR5 View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES (PER NODE)

Network Connectivity	1 RJ45 1GbE View AIOM Options View AOC Options
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INPUT / OUTPUT (PER NODE)

LAN	1 RJ45 1 GbE Dedicated BMC LAN port
USB	2 USB 3.0 ports (rear)
Video	1 VGA port

SYSTEM BIOS

BIOS Type	AMI 32MB SPI FLASH ROM
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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!
Power configurations	ACPI/APM 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 Supply Chain Security: Remote Attestation Runtime BMC Protections System Lockdown

PC HEALTH MONITORING

CPU	8+1 Phase-switching voltage regulator Monitors for CPU Cores, Chipset Voltages, Memory.
Fan	2 80 mm Heavy Duty Fans per Node Fans with tachometer monitoring Pulse Width Modulated (PWM) fan connectors Status monitor for speed control
Temperature	Monitoring for CPU and chassis environment

CERTIFICATIONS

Operating Systems	Hypervisor 8.2.1, Oracle Linux 9.0, RHEL 9.0, Windows Server 2022 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	4U Rackmount
Model	CSE-F424AS4-R2K08BP

DIMENSIONS AND WEIGHT

Height	6.96" (177 mm)
Width	17.63" (448 mm)
Depth	29" (737 mm)
Package	15" (H) x 28.3" (W) x 42" (D)
Weight	Gross Weight: 200 lbs (90.71 kg) Net Weight: 150 lbs (68.04 kg)
Available Color	Silver

FRONT PANEL

Buttons	Power On/Off button UID button
LED	HDD activity LED Network activity LEDs Power status LED Universal Information (UID) LED

EXPANSION SLOTS (PER NODE)

PCI-Express (PCIe) Configuration	Default 1 PCIe 5.0 x16 LP slot 1 PCIe 5.0 x16 AIOM slot (OCP 3.0 compatible) View AOC Options
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DRIVE BAYS / STORAGE (PER NODE)

Drive Bays Configuration	Default: Total 8 bays 2 rear hot-swap 3.5" NVMe/SAS/SATA drive bays 6 front hot-swap 3.5" NVMe*/SAS*/SATA drive bays (*NVMe/SAS support may require additional storage controller and/or cables, please see the optional parts list for details) View NVMe Options View Drive Options
M.2	2 M.2 PCIe 3.0 x2 NVMe/SATA slots (M-key 2280/22110) View M.2 Options

SYSTEM COOLING

Fans	Up to 2x 8cm Fan(s)
Air Shroud	1 Air Shroud

POWER SUPPLY

1x 2000W
1x 2000W Redundant Titanium Level (96%) power supply
Dimension (WxHxL)
73.5 x 40 x 203 mm

OPERATING ENVIRONMENT

Environmental Spec.

Operating Temperature: 10°C to 35°C (50°F to 95°F)
Non-operating Temperature: -40°C to 60°C (-40°F to 140°F)
Operating Relative Humidity: 8% to 90% ()
Non-operating Relative Humidity: 5% to 95% ()

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-f521e3-rtb/datasheet/manufacture

