

TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

Supermicro 2U Mainstream Server SYS-220P-C9RT

2U Mainstream with 8 hot-swap SAS + 8 SATA bays and 5 PCIe 4.0 slots

SKU SYS-220P-C9RT

2U

LGA4189

Supermicro



FORM FACTOR

2U

MAX POWER (BASE)

549 W

HEAT OUTPUT

1,873 BTU/h

PRICE

On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/sys-220p-c9rt

01 Product overview

The Supermicro SYS-220P-C9RT is a 2U Mainstream Server built on dual Intel Xeon Scalable 3rd Gen processors with up to 4 TB of memory in 16 DIMM slots.

2U Mainstream with 8 hot-swap SAS + 8 SATA bays and 5 PCIe 4.0 slots.

ServerInvest configures every SYS-220P-C9RT 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

- Dual Intel Xeon Scalable 3rd Gen
- Up to 4 TB memory · 16 DIMM slots
- Total 16 bays 8 front hot-swap 2.5" SAS drive bays
- Power: 1x 1200W
- Networking: 2 RJ45 10GbE

KEY SPECIFICATIONS

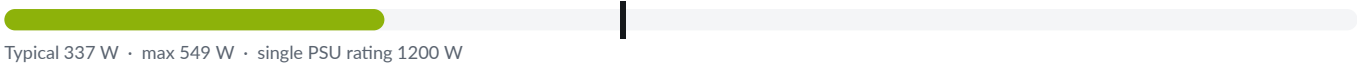
Form factor	2U
Processor	2× Intel Xeon Scalable 3rd Gen
Socket	LGA4189
Memory	16 DIMM slots, up to 4 TB
Drive bays	24 (24 NVMe)
Power supply	1× 1200 W
Typical power draw	750 W
Networking	2 RJ45 10GbE
Dimensions (W×H×D)	437 × 89 mm



02 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
119 W	337 W	549 W	1,873 BTU/h	0.5 kW	46%



Typical 337 W · max 549 W · single PSU rating 1200 W

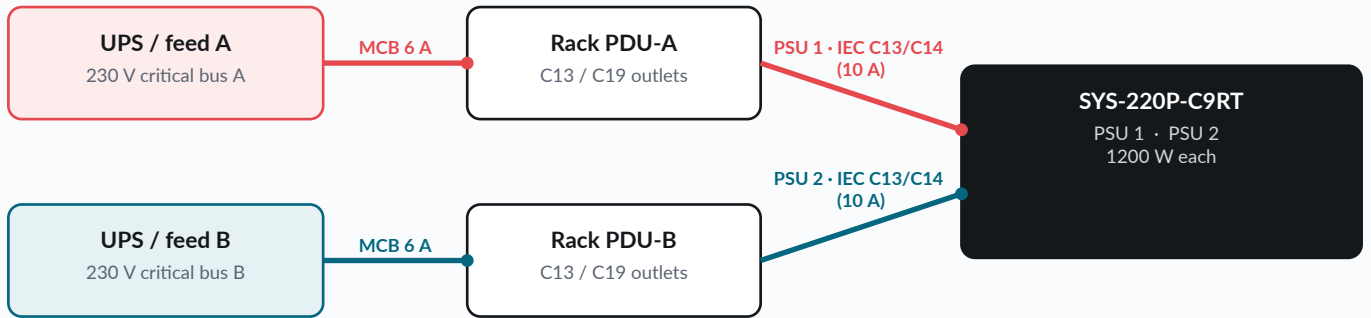
Annual IT energy (24/7)	2,379 kWh
Annual facility energy (PUE 1.5)	3,569 kWh
Annual energy cost	€476 IT · €714 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.93 t (grid factor 0.26 kg/kWh)
Power supplies	1× 1200 W

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	50 W	77 W	110 W
2× CPU (base configuration)	50 W	220 W	370 W
4× Memory (base configuration)	12 W	20 W	36 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: 2.5 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: 549 W = 1,873 BTU/h (0.5 kW).

04 Full specifications

MOTHERBOARD

Super X12DPi-NT6

PROCESSOR

CPU	Dual Socket P+ (LGA-4189) 3rd Gen Intel Xeon Scalable processors
Core Count	Up to 36C/72T; Up to 60MB Cache per CPU
Note	Supports up to 270W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory	Slot Count: 16 DIMM slots Max Memory (2DPC): Up to 4TB 3200MT/s ECC DDR4 RDIMM/LRDIMM Supports Intel Optane persistent memory 200 series View Memory Options
Memory Voltage	1.2V

ON-BOARD DEVICES

Network Connectivity	2 RJ45 10GbE View AOC Options
BMC	ASPEED AST2600 BMC

INPUT / OUTPUT

LAN	1 RJ45 1 GbE Dedicated BMC LAN port
USB	2 USB 2.0 ports (front) 4 USB 3.0 ports (rear)
Video	1 VGA port

DOM	2 Super DOM (Disk on Module) ports
SYSTEM BIOS	
BIOS Type	AMI 32MB SPI Flash EEPROM
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 System Lockdown
PC HEALTH MONITORING	
CPU	4+1 Phase-switching voltage regulator Monitors for CPU Cores, Chipset Voltages, Memory
Fan	Fans with tachometer monitoring Pulse Width Modulated (PWM) fan connectors Status monitor for speed control
Temperature	Monitoring for CPU and chassis environment Thermal Control for fan connectors
CERTIFICATIONS	
Operating Systems	ESXi 6.7 U3, ESXi 7.0 U2, Oracle Linux 8.3, RHEL 8.2, RHEL 9.0, Windows Server 2019, Windows Server 2022 View all OS Compatibility and Certification Matrix
CHASSIS	
Form Factor	2U Rackmount
Model	CSE-213BTS-R1K23LPBP3-1
DIMENSIONS AND WEIGHT	
Height	3.5" (89 mm)
Width	17.2" (437 mm)
Depth	24.8" (630 mm)
Package	11" (H) x 29" (W) x 38.7" (D)
Weight	Gross Weight: 63 lbs (28.8 kg) Net Weight: 38 lbs (17.4 kg)

Available Color	Black
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FRONT PANEL

Buttons	Power On/Off System Reset
LED	HDD activity Network activity Power status System information (overheat/UID)

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 4 PCIe 4.0 x16 LP slots 1 PCIe 4.0 x8 LP slot View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 16 bays 8 front hot-swap 2.5" SAS drive bays 4 front hot-swap 2.5" SATA drive bays 4 front hot-swap 2.5" NVMe*/SATA drive bays (*NVMe 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 NVMe slot (M-key) View M.2 Options
Peripheral Bays	1 5.25" DVD bay (optional)

SYSTEM COOLING

Fans	Up to 3 heavy duty fans with optimal fan speed control
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POWER SUPPLY

1x 1200W
1x 1200W Redundant Titanium Level (96%) power supply
Dimension (WxHxL)
76 x 40 x 336 mm

OPERATING ENVIRONMENT

RoHS	RoHS Compliant
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-Condensing) Non-operating Relative Humidity: 5% to 95% (Non-Condensing)

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-220p-c9rt/datasheet/manufacturerr

