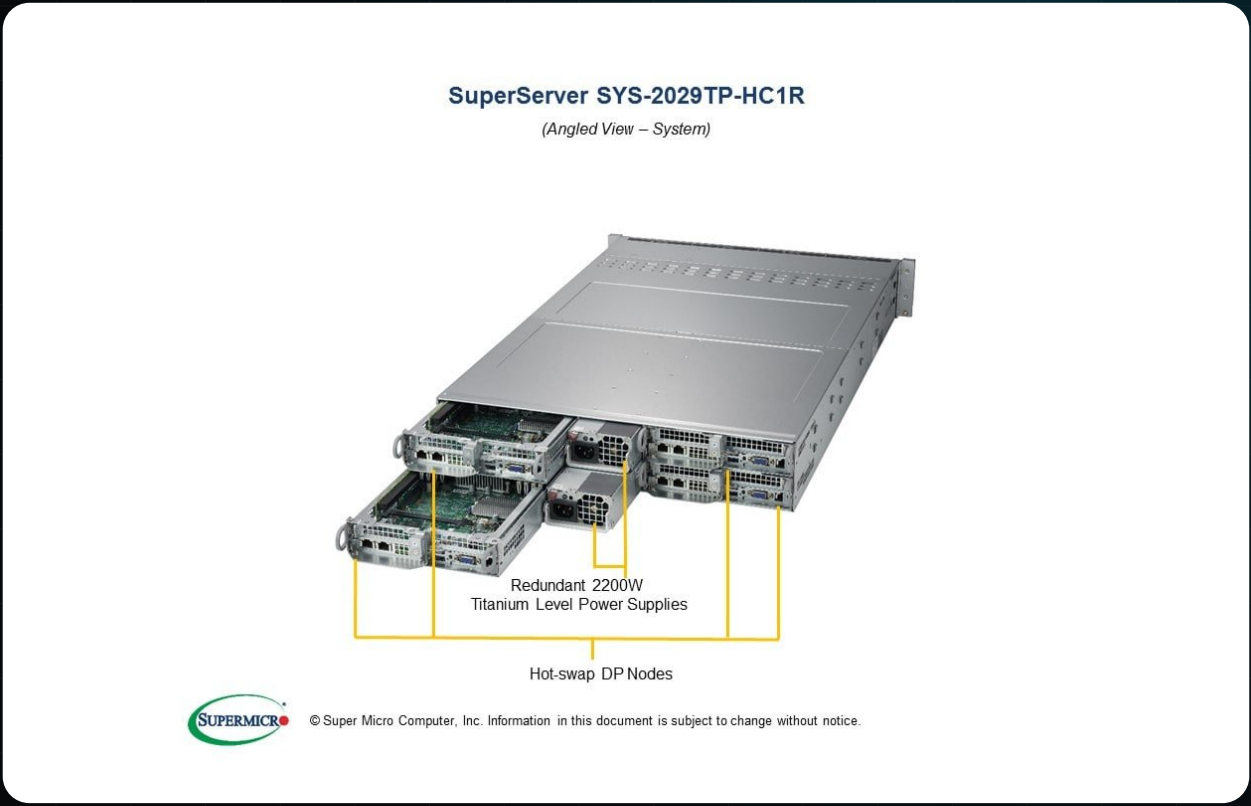
TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

Supermicro Server SYS-2029TP-HC1R

SKU SYS-2029TP-HC1R | 2U | Supermicro



FORM FACTOR	MAX POWER (BASE)	HEAT OUTPUT	PRICE
2U	549 W	1,873 BTU/h	On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/sys-2029tp-hc1r

01 Product overview

The Supermicro SYS-2029TP-HC1R is a server built on dual Dual Socket P (LGA 3647) 2nd Gen Intel Xeon Scalable Process processors with up to 4 TB of memory in 16 DIMM slots.

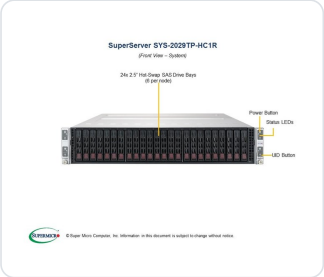
ServerInvest configures every SYS-2029TP-HC1R to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

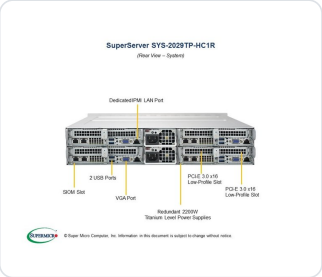
HIGHLIGHTS

- Dual Dual Socket P (LGA 3647) 2nd Gen Intel Xeon Scalable Process
- Up to 4 TB memory · 16 DIMM slots
- 6 Hot-swap 2.5" SAS/SATA HDD trays
- Power: 1200W with Input 100-127Vac
- Networking: Barebones and Complete System must have at least one

KEY SPECIFICATIONS

Form factor	**2U**
Processor	**2× Dual Socket P (LGA 3647) 2nd Gen Intel Xeon Scalable Process**
Memory	**16 DIMM slots, up to 4 TB**
Power supply	**1× 1200 W**
Typical power draw	**750 W**
Networking	**Barebones and Complete System must have at least one**
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

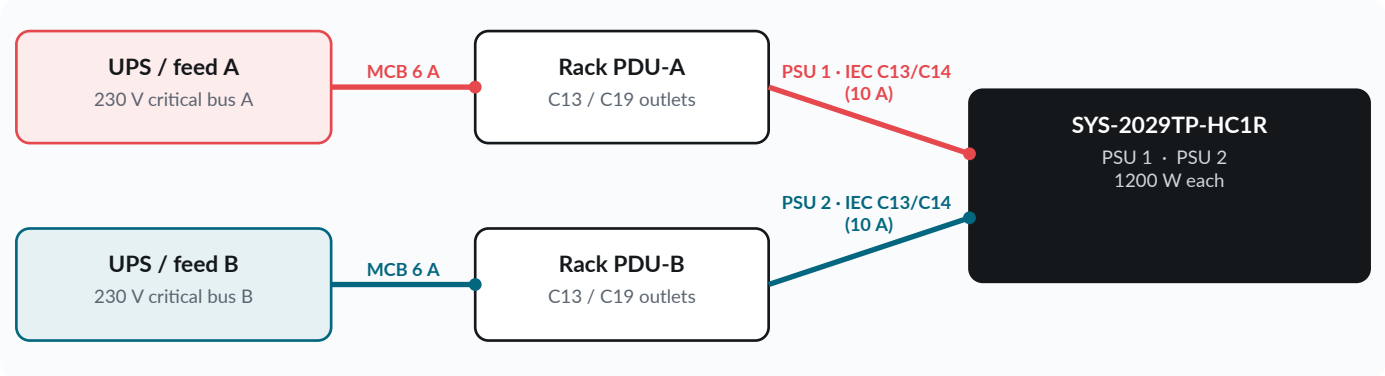
Annual IT energy (24/7)	2,379 kWh
Annual facility energy (PUE 1.5)	3,569 kWh
Annual energy cost	€476 IT · €714 incl. cooling (at 0.20 €/kWh)
CO_2 emissions / year	0.93 t (grid factor 0.26 kg/kWh)
Power supplies	1× 1200 W

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

PROCESSOR (PER NODE)	
CPU	Dual Socket P (LGA 3647) 2nd Gen Intel Xeon Scalable Processors and Intel Xeon Scalable Processors ‡ , Dual UPI up to 10.4GT/s Support CPU TDP 70-165W *
Cores	Up to 28 Cores
Note	* Please contact Supermicro Technical Support for supporting conditions of high power (TDP 150W and above) or high base frequency (3.0 GHz and above) processors.
Note	* Processors ending N or S are optimized for networking and storage applications. Customer need POC their application and observe any thermal throttling before large deployment.
Note	‡ BIOS version 3.2 or above is required to support 2nd Gen Intel Xeon Scalable processors (codenamed Cascade Lake-R)

SYSTEM MEMORY (PER NODE)	
Memory Capacity	16 DIMM slots Up to 4TB 3DS ECC DDR4-2933MHz † RDIMM/LRDIMM Supports Intel Optane DCPMM ††
Memory Type	2933 † /2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM
Note	† 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro †† Cascade Lake only. Contact your Supermicro sales rep for more info.

ON-BOARD DEVICES (PER NODE)	
Chipset	Intel C621 chipset
SAS	Broadcom 3108 SAS3 (12Gbps) controller, 2GB cache; RAID 0, 1, 5, 6, 10, 50, 60 support Optional SuperCap

Network Controllers	Barebones and Complete System must have at least one SIOM or network card installed per node
IPMI	Support for Intelligent Platform Management Interface v.2.0 IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
Graphics	ASPEED AST2500 BMC

INPUT / OUTPUT (PER NODE)

SAS	6 SAS3 (12Gbps) ports
LAN	1 RJ45 Dedicated IPMI LAN port
USB	2 USB 3.0 ports (rear)
VGA	1 VGA port
Serial Port / Header	1 Fast UART 16550 port / 1 Header (internal)
Others	2 SuperDOM support on the motherboard. SuperDOM is for OS boot.

SYSTEM BIOS

BIOS Type	AMI 32MB SPI Flash ROM

MANAGEMENT

Software	Intel Node Manager IPMI 2.0 KVM with dedicated LAN NMI SSM , SPM , SUM SuperDoctor 5 Watchdog
Power Configurations	ACPI Power Management

PC HEALTH MONITORING

CPU	Monitors for CPU Cores, Chipset Voltages, Memory. 5+1 Phase-switching voltage regulator
FAN	Fans with tachometer monitoring Status monitor for speed control Pulse Width Modulated (PWM) fan connectors
Temperature	Monitoring for CPU and chassis environment Thermal Control for fan connectors
Omni-Path Fabric CPUs	Do not support

CHASSIS

Form Factor	2U Rackmount
Model	CSE-217HQ+-R2K20BP3

DIMENSIONS AND WEIGHT

Width	17.25" (438mm)
Height	3.47" (88mm)
Depth	28.5" (724mm)

Weight	Gross Weight: 90 lbs (40.9kg) Net Weight: 72 lbs (32.7 kg)
Available Colors	Black

FRONT PANEL

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

EXPANSION SLOTS (PER NODE)

PCI-Express	2 PCI-E 3.0 x16 Low-profile slots 1 SIOM card support Note: Barebones and Complete System must bundle with Network Card Note: With only one CPU installed, SXB2 M.2 and SXB4 riser card slots not function. This SKU does not support AOC-SMG3-2H8M2 M.2 carrier.

DRIVE BAYS (PER NODE)

Hot-swap	6 Hot-swap 2.5" SAS/SATA HDD trays

SYSTEM COOLING

Fans	4 Heavy duty 8cm PWM fans with optimal fan speed control

POWER SUPPLY

Total Output Power and Input	1200W with Input 100-127Vac 1800W with Input 200-220Vac 1980W with Input 220-230Vac 2090W with Input 230-240Vac 2200W with Input 220-240Vac (for UL/cUL use only) 2090W with Input 230-240Vdc (for CCC only)
AC Input Frequency	50-60Hz
Dimension (W x H x L)	76 x 40 x 336 mm
+12V	Max: 100A / Min: 0A (100-127Vac) Max: 150A / Min: 0A (200-220Vac) Max: 165A / Min: 0A (220-230Vac) Max: 174.17A / Min: 0A (230-240Vac) Max: 183.3A / Min: 0A (220-240Vac)
5VSB	Max: 1A / Min: 0A
Output Type	Backplanes (gold finger)
Certification	Titanium Level [Test Report]

OPERATING ENVIRONMENT

RoHS	RoHS Compliant

Environmental Spec.	Operating Temperature: 10°C ~ 35°C (50°F ~ 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.

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Interested in this solution?

Request a quotation online or talk to a solutions engineer — we reply within one business day.
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