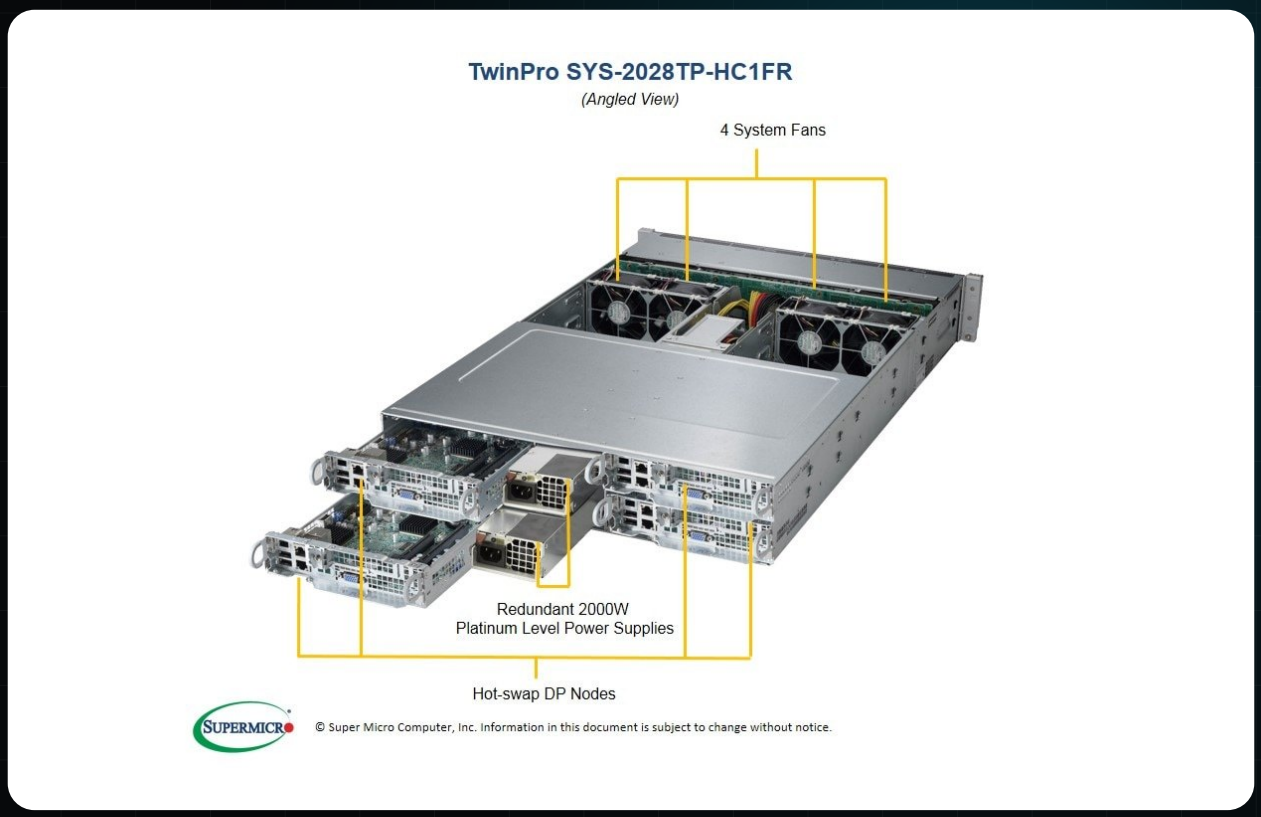
TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

Supermicro Server SYS-2028TP-HC1FR

SKU SYS-2028TP-HC1FR | 2U | Supermicro



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

ISO 9001 · ISO 14001 · ISO 27001 · cisco · tp-link · Omada by tp-link

REQUEST A QUOTATION ONLINE

serverinvest.com/product/sys-2028tp-hc1fr

01 Product overview

The Supermicro SYS-2028TP-HC1FR is a server built on dual Intel Xeon processor E5-2600 v4 † / v3 family (up to 145W TD processors with up to 2 TB of memory in 4 DIMM slots.

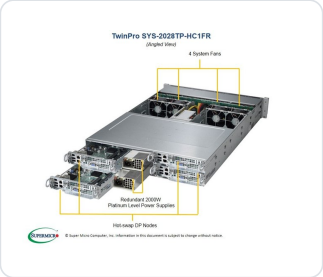
ServerInvest configures every SYS-2028TP-HC1FR to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

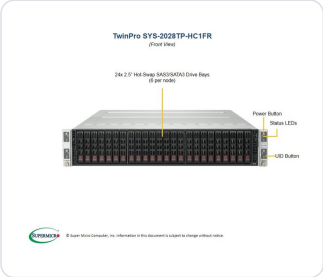
HIGHLIGHTS

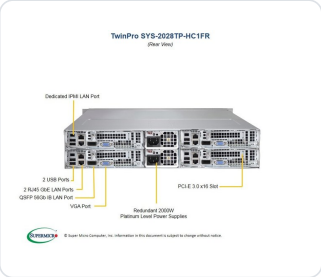
- Dual Intel Xeon processor E5-2600 v4 † / v3 family (up to 145W TD
- Up to 2 TB memory · 4 DIMM slots
- 6x 2.5" Hot-swap SAS/SATA HDD trays
- Power: 1000W: 100 – 127Vac
- Networking: Intel i350-AM2 Dual Port Gigabit Ethernet

KEY SPECIFICATIONS

Form factor	**2U**
Processor	**2× Intel Xeon processor E5-2600 v4 † / v3 family (up to 145W TD**
Memory	**4 DIMM slots, up to 2 TB**
Power supply	**1× 1000 W**
Typical power draw	**750 W**
Networking	**Intel i350-AM2 Dual Port Gigabit Ethernet**
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**	**55%**

Typical 337 W · max 549 W · single PSU rating 1000 W

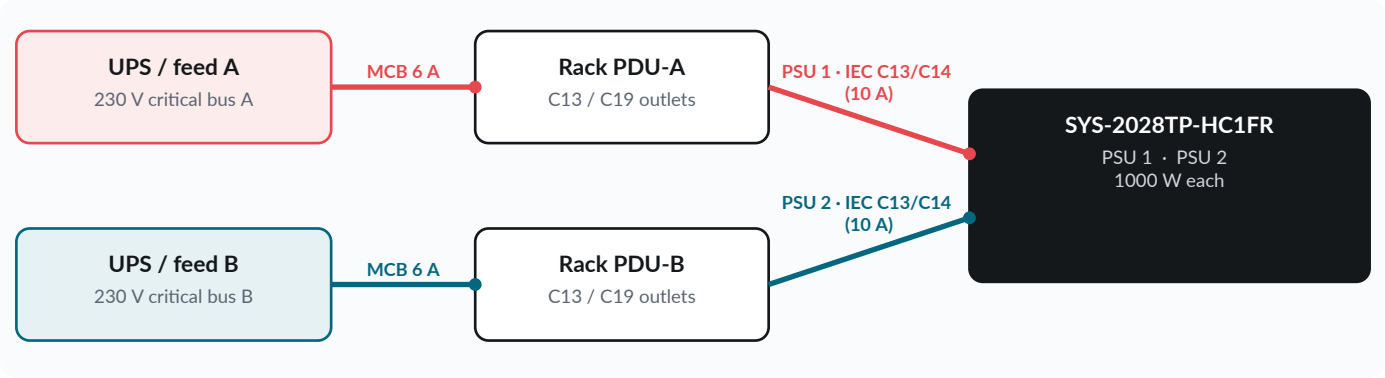
Annual IT energy (24/7)	2,379 kWh
Annual facility energy (PUE 1.5)	3,569 kWh
Annual energy cost	€476 IT · €714 incl. cooling (at 0.20 €/kWh)
CO_2 emissions / year	0.93 t (grid factor 0.26 kg/kWh)
Power supplies	1× 1000 W

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/CACHE (PER NODE)	
CPU	Intel Xeon processor E5-2600 v4 † / v3 family (up to 145W TDP) * Dual Socket R3 (LGA 2011)
Cores / Cache	Up to 22 Cores † / Up to 55MB † Cache
System Bus	QPI up to 9.6 GT/s
Note	† BIOS version 2.0 or above is required
Note	* Please contact Supermicro Technical Support for additional information about frequency optimized CPUs and specialized system optimization.

SYSTEM MEMORY (PER NODE)	
Memory Capacity	16x 288-pin DDR4 DIMM slots Up to 2TB † ECC 3DS LRDIMM, 512GB ECC RDIMM
Memory Type	2400 † /2133/1866/1600MHz ECC DDR4 SDRAM 72-bit
DIMM Sizes	RDIMM: 32GB, 16GB, 8GB, 4GB LRDIMM: 64GB, 32GB 3DS LRDIMM: 128GB
Memory Voltage	1.2 V
Error Detection	Corrects single-bit errors

ON-BOARD DEVICES (PER NODE)	
Chipset	Intel C612 chipset
Infiniband	Mellanox ConnectX-3 FDR Infiniband 56Gbps Controller

SAS	Broadcom 3108 SAS3 (12Gbps) controller; RAID 0, 1, 5, 6, 10, 50, 60 support Optional SuperCap
IPMI	Support for Intelligent Platform Management Interface v.2.0 IPMI 2.0 with virtual media over LAN and KVM-over-LAN support ASPEED AST2400 BMC
Network Controllers	Intel i350-AM2 Dual Port Gigabit Ethernet Virtual Machine Device Queues reduce I/O overhead Supports 10BASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output 1x Realtek RTL8201N PHY (dedicated IPMI)
Graphics	ASPEED AST2400 BMC

INPUT / OUTPUT (PER NODE)

SAS	6x SAS3 (12Gbps) ports
LAN	2x RJ45 Gigabit Ethernet LAN ports 1x RJ45 Dedicated IPMI LAN port
Infiniband	1x external QSFP Infiniband connector
USB	2x USB 3.0 ports total (2x rear)
VGA	1x VGA port
Serial Port / Header	1x Fast UART 16550 port / 1 Header (internal)
Others	1x SATADOM support on the motherboard

CHASSIS

Form Factor	2U Rackmount
Model	CSE-217HQ+-R2K04B

DIMENSIONS AND WEIGHT

Width	17.25" (438mm)
Height	3.47" (88mm)
Depth	28.75" (730mm)
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 2x Network activity LEDs Universal Information (UID) LED

EXPANSION SLOTS (PER NODE)

PCI-Express	1x PCI-E 3.0 x16 Low-profile slot (Both CPUs need to be installed for full access to PCI-E slots)

DRIVE BAYS (PER NODE)

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

SYSTEM COOLING

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

POWER SUPPLY (76MM WIDTH)

Total Output Power	1000W: 100 – 127Vac 1800W: 200 – 220Vac 1980W: 220 – 230Vac 2000W: 230 – 240Vac 2000W: 200 – 240Vdc (UL/cUL only)
Dimension (W x H x L)	76 x 40 x 336 mm
Input	1000W: 100-127 Vac / 12-9.5 A / 50-60 Hz 1800W: 200-220 Vac / 10-9.5 A / 50-60 Hz 1980W: 220-230 Vac / 10-9.8 A / 50-60 Hz 2000W: 230-240 Vac / 10-9.8 A / 50-60 Hz 2000W: 200-240 Vac / 11.8-9.8 A / 50-60 Hz (UL/cUL only)
+12V	Max: 83.3A / Min: 0A (100-127 Vac) Max: 150A / Min: 0A (200-220 Vac) Max: 165A / Min: 0A (220-230 Vac) Max: 166.7A / Min: 0A (230-240 Vac) Max: 166.7A / Min: 0A (200-240 Vac) (UL/cUL only)
+5Vsb	Max: 1A / Min: 0A
Output Type	27 Pairs Gold Finger Connector
Certification	Titanium Level [Test Report]

SYSTEM BIOS

BIOS Type	128Mb SPI Flash EEPROM with AMI BIOS
BIOS Features	Plug and Play (PnP) APM 1.2 PCI 2.2 ACPI 1.0 / 2.0 USB Keyboard support SMBIOS 2.3 UEFI

OPERATING ENVIRONMENT / COMPLIANCE

RoHS	RoHS Compliant
Environmental Spec.	Operating Temperature: 10°C to 35°C (50°F to 95°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)

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.

NATCERT ISO 9001 · NATCERT ISO 14001 · NATCERT ISO 27001 · cisco · tp-link · Omada by tp-link

Interested in this solution?
Request a quotation online or talk to a solutions engineer — we reply within one business day.
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