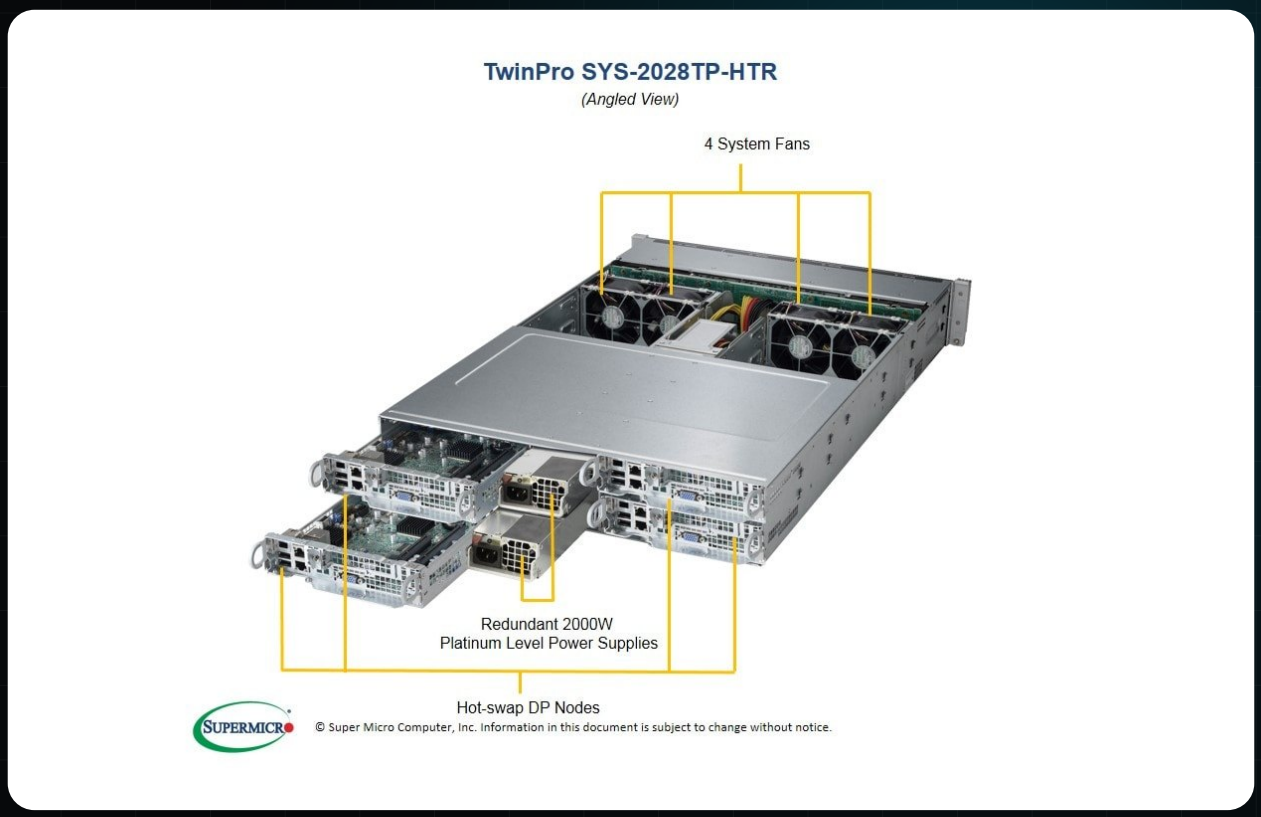
TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

# Supermicro Server SYS-2028TP-HTR

SKU SYS-2028TP-HTR | 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-2028tp-htr

## 01 Product overview

The Supermicro SYS-2028TP-HTR 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.

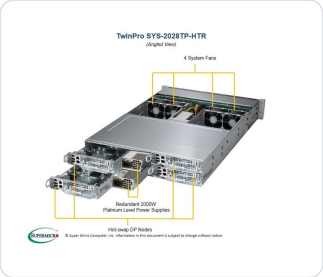
ServerInvest configures every SYS-2028TP-HTR to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

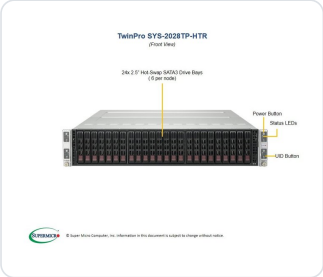
### HIGHLIGHTS

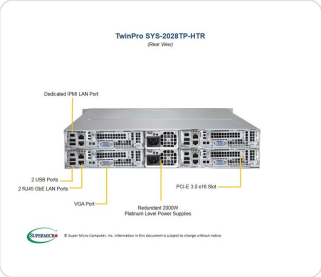
- Dual Intel Xeon processor E5-2600 v4 † / v3 family (up to 145W TD
- Up to 2 TB memory · 4 DIMM slots
- 6x 2.5" Hot-swap SAS/SATA HDD trays
- Power: 1000W: 100 – 127Vac
- Networking: Intel i350-AM2 Dual Port Gigabit Ethernet

### 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

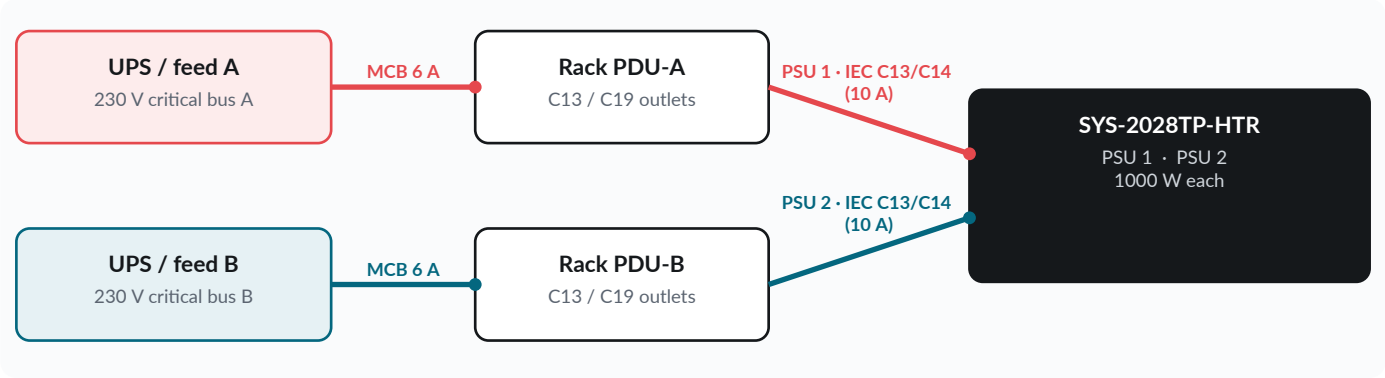
| | |
|---|---|
| Annual IT energy (24/7) | 2,379 kWh |
| Annual facility energy (PUE 1.5) | 3,569 kWh |
| Annual energy cost | €476 IT · €714 incl. cooling (at 0.20 €/kWh) |
| $CO_2$ emissions / year | 0.93 t (grid factor 0.26 kg/kWh) |
| Power supplies | 1× 1000 W |

| 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<br>v4 † /<br>v3 family<br>(up to 145W TDP)<br>*<br>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<br>Up to 2TB † ECC 3DS LRDIMM, 512GB ECC RDIMM |
| Memory Type | 2400 † /2133/1866/1600MHz ECC DDR4 SDRAM 72-bit |
| DIMM Sizes | RDIMM:<br>32GB, 16GB, 8GB, 4GB<br>LRDIMM: 64GB, 32GB<br>3DS LRDIMM: 128GB |
| Memory Voltage | 1.2 V |
| Error Detection | Corrects single-bit errors |

| ON-BOARD DEVICES (PER NODE) | |
|---|---|
| Chipset | Intel C612 chipset |
| SATA | SATA3 (6Gbps); RAID 0, 1, 5, 10 |

| | |
|---|---|
| IPMI | Support for Intelligent Platform Management Interface v.2.0<br>IPMI 2.0 with virtual media over LAN and KVM-over-LAN support<br>ASPEED AST2400 BMC |
| Network Controllers | Intel i350-AM2 Dual Port Gigabit Ethernet<br>Virtual Machine Device Queues reduce I/O overhead<br>Supports 10BASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output<br>1x Realtek RTL8201N PHY (dedicated IPMI) |
| Graphics | ASPEED AST2400 BMC |

## INPUT / OUTPUT (PER NODE)

| | |
|---|---|
| SATA | 6x SATA3 (6Gbps) ports |
| LAN | 2x RJ45 Gigabit Ethernet LAN ports<br>1x RJ45 Dedicated IPMI LAN port |
| 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)<br>Net Weight: 72 lbs (32.7 kg) |
| Available Colors | Black |

## FRONT PANEL

| | |
|---|---|
| Buttons | Power On/Off button<br>UID button |
| LEDs | Power status LED<br>HDD activity LED<br>2x Network activity LEDs<br>Universal Information (UID) LED |

## EXPANSION SLOTS (PER NODE)

| | |
|---|---|
| PCI-Express | 1x PCI-E 3.0 x16 Low-profile slot |
| 0 Slot | 1x "0 slot" (x16)<br>Compatible Listing<br>(Both CPUs need to be installed for full access to PCI-E slots and 0 slot.) |

## 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<br>1800W: 200 – 220Vac<br>1980W: 220 – 230Vac<br>2000W: 230 – 240Vac<br>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<br>1800W: 200-220 Vac / 10-9.5 A / 50-60 Hz<br>1980W: 220-230 Vac / 10-9.8 A / 50-60 Hz<br>2000W: 230-240 Vac / 10-9.8 A / 50-60 Hz<br>2000W: 200-240 Vac / 11.8-9.8 A / 50-60 Hz (UL/cUL only) |
| +12V | Max: 83.3A / Min: 0A (100-127 Vac)<br>Max: 150A / Min: 0A (200-220 Vac)<br>Max: 165A / Min: 0A (220-230 Vac)<br>Max: 166.7A / Min: 0A (230-240 Vac)<br>Max: 166.7A / Min: 0A (200-240 Vac)<br>(UL/cUL only) |
| +5Vsb | Max: 1A / Min: 0A |
| Output Type | 27 Pairs Gold Finger Connector |
| Certification | Titanium Level<br>[ Test Report ] |

## SYSTEM BIOS

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

## OPERATING ENVIRONMENT / COMPLIANCE

| | |
|---|---|
| RoHS | RoHS Compliant |
| Environmental Spec. | Operating Temperature:<br>10°C to 35°C (50°F to 95°F)<br>Non-operating Temperature:<br>-40°C to 70°C (-40°F to 158°F)<br>Operating Relative Humidity:<br>8% to 90% (non-condensing)<br>Non-operating Relative Humidity:<br>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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