

## TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

# Supermicro 2U MP Server SYS-240P-TNRT

2U 4-socket system with 48 DIMMs and 24 NVMe/SAS/SATA drive bays

SKU SYS-240P-TNRT

2U

LGA4189

Supermicro



FORM FACTOR

**2U**

MAX POWER (BASE)

**981 W**

HEAT OUTPUT

**3,347 BTU/h**

PRICE

**On request**

REQUEST A QUOTATION ONLINE

[serverinvest.com/product/sys-240p-tnrt](https://serverinvest.com/product/sys-240p-tnrt)

01 Product overview

The Supermicro SYS-240P-TNRT is a 2U MP Server built on dual Intel Xeon Scalable 3rd Gen processors with up to 12 TB of memory in 48 DIMM slots.

2U 4-socket system with 48 DIMMs and 24 NVMe/SAS/SATA drive bays.

The chassis accepts up to 2 GPU accelerators for AI, rendering and HPC workloads.

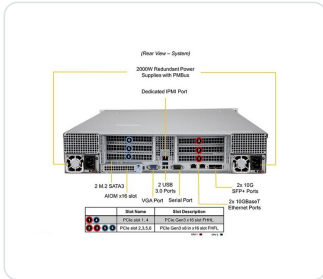
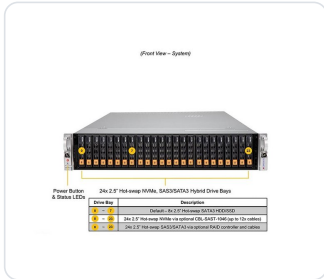
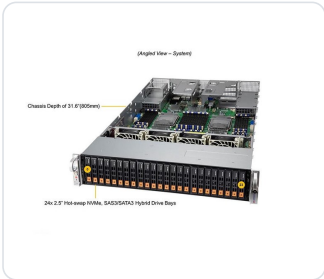
ServerInvest configures every SYS-240P-TNRT to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Dual Intel Xeon Scalable 3rd Gen
- Up to 12 TB memory · 48 DIMM slots
- Total 8 bays 8 front hot-swap 2.5" SATA drive bays
- Up to 2 GPUs
- Power: 2x 2000W
- Networking: 2 RJ45 10GBASE-T with Intel X710-TM4

KEY SPECIFICATIONS

|                    |                                      |
|--------------------|--------------------------------------|
| Form factor        | 2U                                   |
| Processor          | 4× Intel Xeon Scalable 3rd Gen       |
| Socket             | LGA4189                              |
| Memory             | 48 DIMM slots, up to 12 TB           |
| Drive bays         | 32 (32 NVMe)                         |
| GPU                | Up to 2 GPUs                         |
| Power supply       | 2× 2000 W                            |
| Typical power draw | 2250 W                               |
| Networking         | 2 RJ45 10GBASE-T with Intel X710-TM4 |
| Dimensions (W×H×D) | 437 × 89 mm                          |



02 Power & thermal

Calculated for the base configuration

|       |         |         |             |         |          |
|-------|---------|---------|-------------|---------|----------|
| IDLE  | TYPICAL | MAXIMUM | HEAT (MAX)  | COOLING | PSU LOAD |
| 185 W | 593 W   | 981 W   | 3,347 BTU/h | 1 kW    | 49%      |

Typical 593 W · max 981 W · single PSU rating 2000 W

|                                  |                                                |
|----------------------------------|------------------------------------------------|
| Annual IT energy (24/7)          | 4,122 kWh                                      |
| Annual facility energy (PUE 1.5) | 6,183 kWh                                      |
| Annual energy cost               | €824 IT · €1,237 incl. cooling (at 0.20 €/kWh) |
| CO <sub>2</sub> emissions / year | 1.61 t (grid factor 0.26 kg/kWh)               |
| Power supplies                   | 2× 2000 W redundant (N+1)                      |

#### POWER BY COMPONENT

Chassis, motherboard, fans, BMC

4× CPU (base configuration)

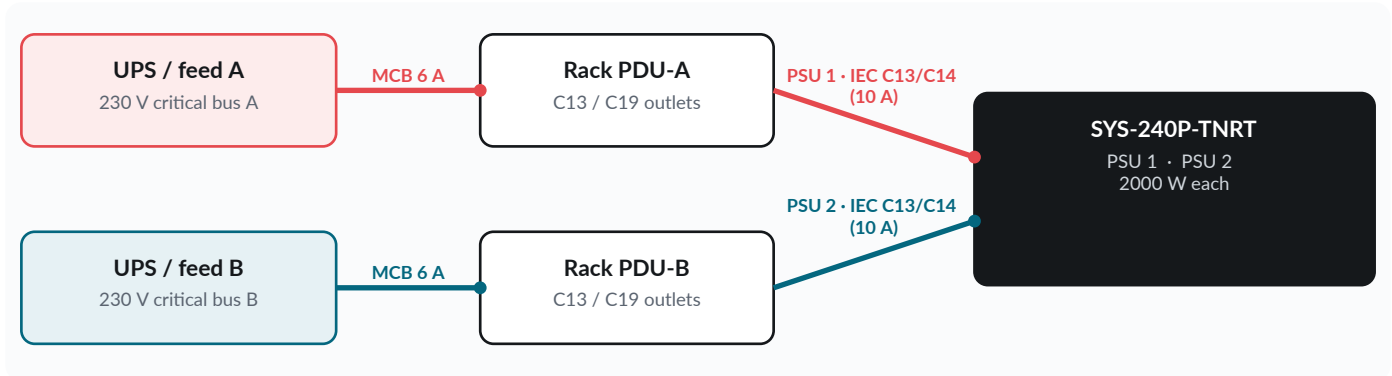
8× Memory (base configuration)

| IDLE  | TYPICAL | MAX   |
|-------|---------|-------|
| 50 W  | 77 W    | 110 W |
| 100 W | 440 W   | 740 W |
| 24 W  | 40 W    | 72 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: 4.5 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: 981 W = 3,347 BTU/h (1 kW).

### 04 Full specifications

#### MOTHERBOARD

Super X12QCH+

#### PROCESSOR

|            |                                                                     |
|------------|---------------------------------------------------------------------|
| CPU        | Quad Socket P+ (LGA-4189)<br>3rd Gen Intel Xeon Scalable processors |
| Core Count | Up to 28C/56T; Up to 38.5MB Cache per CPU                           |
| Note       | Supports 120W - 250W TDP CPUs (Air Cooled)                          |

#### GPU

|               |                                             |
|---------------|---------------------------------------------|
| Max GPU Count | Up to 2 double-width or 2 single-width GPUs |
| Supported GPU | NVIDIA PCIe: A16, RTX 4000, RTX A6000       |

#### SYSTEM MEMORY

|                |                                                                                                                                                                        |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Memory         | Slot Count: 48 DIMM slots<br>Max Memory (2DPC): Up to 12TB 3200MT/s ECC DDR4 RDIMM/LRDIMM<br>Supports Intel Optane persistent memory 200 series<br>View Memory Options |
| Memory Voltage | 1.2V                                                                                                                                                                   |

## ON-BOARD DEVICES

|                      |                                                                                                                              |
|----------------------|------------------------------------------------------------------------------------------------------------------------------|
| Network Connectivity | 2 RJ45 10GBASE-T with Intel X710-TM4<br>2 SFP+ 10GbE with Intel X710-TM4<br>View AOC Options                                 |
| IPMI                 | Support for Intelligent Platform Management Interface v.2.0<br>IPMI 2.0 with virtual media over LAN and KVM-over-LAN support |

## INPUT / OUTPUT

|        |                                                                                           |
|--------|-------------------------------------------------------------------------------------------|
| LAN    | 1 RJ45 1 GbE Dedicated BMC LAN port<br>2 RJ45 10 GbE LAN ports<br>2 SFP+ 10 GbE LAN ports |
| USB    | 2 USB 3.0 ports (rear)                                                                    |
| Serial | 1 COM port (Rear)                                                                         |

## SYSTEM BIOS

|           |                           |
|-----------|---------------------------|
| BIOS Type | AMI 32MB SPI Flash EEPROM |
|-----------|---------------------------|

## MANAGEMENT

|                      |                                                                                                                                                                                                                                                                                                  |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Software             | SuperCloud Composer (SCC)<br>Supermicro Server Manager (SSM)<br>Supermicro Update Manager (SUM)<br>Supermicro SuperDoctor 5 (SD5)<br>Super Diagnostics Offline (SDO)<br>Supermicro Thin-Agent Service (TAS)<br>SuperServer Automation Assistant (SAA) New!<br>IPMICFG<br>SMCIPMITool<br>IPMIView |
| Power configurations | Power-on mode for AC power recovery<br>ACPI Power Management                                                                                                                                                                                                                                     |

## SECURITY

|          |                                                                                                                               |
|----------|-------------------------------------------------------------------------------------------------------------------------------|
| Hardware | Trusted Platform Module (TPM) 2.0<br>Silicon Root of Trust (RoT) – NIST 800-193 Compliant                                     |
| Features | Cryptographically Signed Firmware<br>Secure Boot<br>Secure Firmware Updates<br>Automatic Firmware Recovery<br>System Lockdown |

## PC HEALTH MONITORING

|             |                                                                                                                   |
|-------------|-------------------------------------------------------------------------------------------------------------------|
| CPU         | 4+1 Phase-switching voltage regulator<br>Monitors for CPU Cores, Chipset Voltages, Memory                         |
| Fan         | Fans with tachometer monitoring<br>Pulse Width Modulated (PWM) fan connectors<br>Status monitor for speed control |
| Temperature | Monitoring for CPU and chassis environment<br>Thermal Control for fan connectors                                  |

## CERTIFICATIONS

|                   |                                                                                                                                                                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Systems | ESXi 7.0 U2, ESXi 8.0, Hypervisor 8.2, Oracle Linux 8.2, Oracle Linux 9.0, RHEL 8.2, SAP HANA 2.0, SLES 15 SP2, Ubuntu 20.04 LTS, Windows Server 2019, Windows Server 2022<br><a href="#">View all OS Compatibility and Certification Matrix</a> |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## CHASSIS

|             |                   |
|-------------|-------------------|
| Form Factor | 2U Rackmount      |
| Model       | CSE-218HTS-R2K08P |

## DIMENSIONS AND WEIGHT

|                 |                                                                      |
|-----------------|----------------------------------------------------------------------|
| Height          | 3.5" (89 mm)                                                         |
| Width           | 17.3" (439.5 mm)                                                     |
| Depth           | 31.6" (803 mm)                                                       |
| Package         | 9.75" (H) x 26.5" (W) x 43.5" (D)                                    |
| Weight          | Gross Weight: 71.5 lbs (32.43 kg)<br>Net Weight: 45.5 lbs (20.64 kg) |
| Available Color | Black                                                                |

## FRONT PANEL

|         |                                                                                       |
|---------|---------------------------------------------------------------------------------------|
| Buttons | Power On/Off<br>UID/ BMC Reset (Default)                                              |
| LED     | HDD activity<br>Network activity<br>Power status<br>System information (overheat/UID) |

## EXPANSION SLOTS

|                                  |                                                                                                                                                                         |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PCI-Express (PCIe) Configuration | Default<br>2 PCIe 3.0 x16 FHHL slots<br>4 PCIe 3.0 x8 (in x16) FHFL slots<br>1 PCIe 3.0 x16 (in x16) AIOM slot (OCP 3.0 compatible)<br><a href="#">View AOC Options</a> |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## DRIVE BAYS / STORAGE

|                          |                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drive Bays Configuration | Default: Total 8 bays 8 front hot-swap 2.5" SATA drive bays<br>Option A: Total 24 bays 24 front hot-swap 2.5" NVMe*/SAS*/SATA* drive bays<br>(*NVMe/SAS/SATA support may require additional storage controller and/or cables, please see the optional parts list for details)<br><a href="#">View NVMe Options</a><br><a href="#">View Drive Options</a> |
| M.2                      | 2 M.2 NVMe/SATA slots (M-key 2280/22110)<br><a href="#">View M.2 Options</a>                                                                                                                                                                                                                                                                             |

## SYSTEM COOLING

|            |                                                             |
|------------|-------------------------------------------------------------|
| Fans       | Up to 4x 8cm heavy duty fans with optimal fan speed control |
| Air Shroud | 8 Air Shrouds                                               |

## POWER SUPPLY

2x 2000W  
2x 2000W Redundant (1 + 1) Titanium Level (96%) Hot-plug power supplies  
Dimension (WxHxL)  
73.5 x 40 x 203 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](mailto:office@serverinvest.com)

Official manufacturer datasheet: [serverinvest.com/product/sys-240p-tnrt/datasheet/manufactur](https://serverinvest.com/product/sys-240p-tnrt/datasheet/manufactur)

