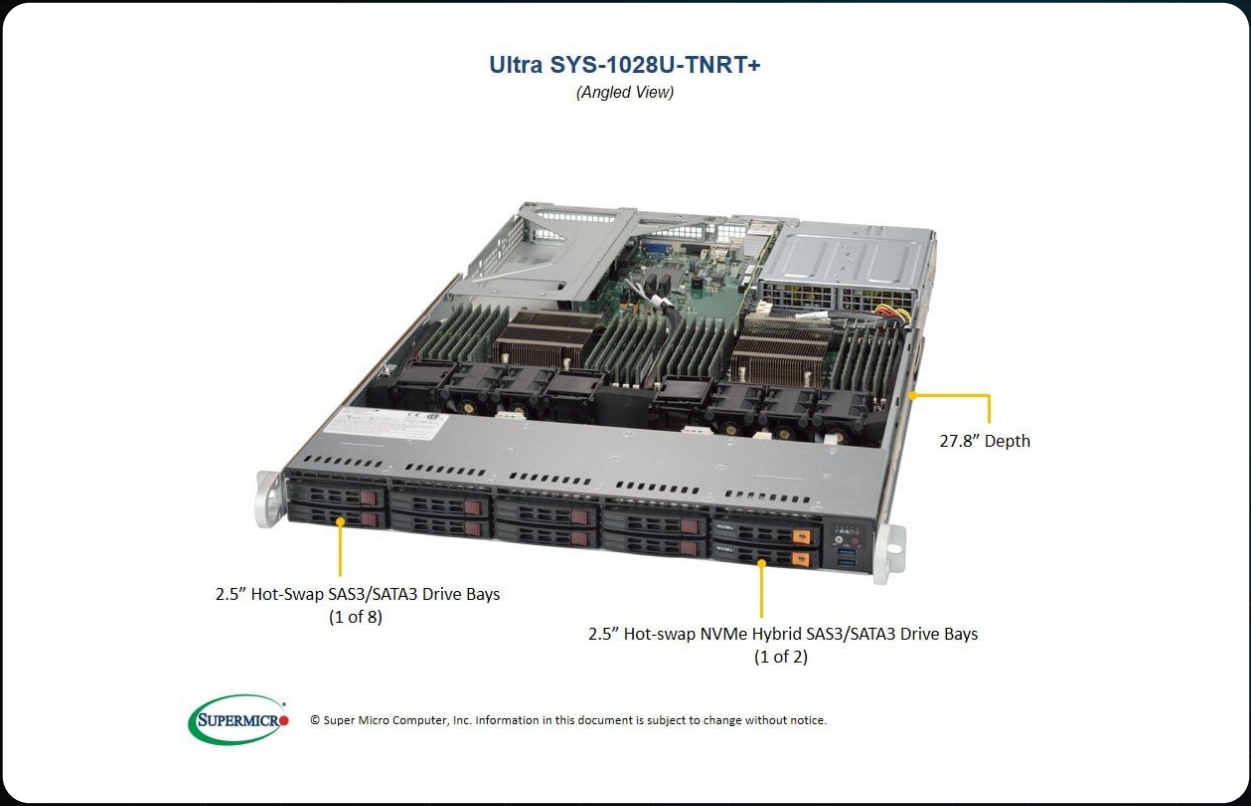
TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

# Supermicro Server SYS-1028U-TNRT

SKU SYS-1028U-TNRT | 1U | Supermicro




| FORM FACTOR | MAX POWER (BASE) | HEAT OUTPUT | PRICE |
|---|---|---|---|
| 1U | 522 W | 1,781 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-1028u-tnrt

## 01 Product overview

The Supermicro SYS-1028U-TNRT is a server built on dual Intel Xeon processor E5-2600 v4 † / v3 family (up to 160W TD processors with up to 3 TB of memory in 4 DIMM slots.

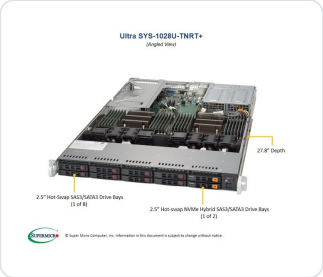
ServerInvest configures every SYS-1028U-TNRT to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

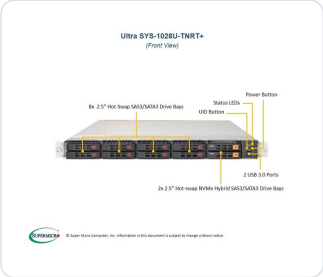
### HIGHLIGHTS

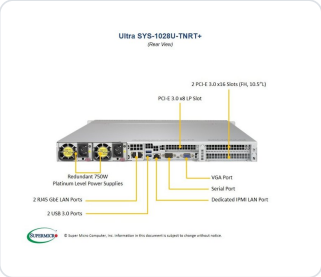
- Dual Intel Xeon processor E5-2600 v4 † / v3 family (up to 160W TD
- Up to 3 TB memory · 4 DIMM slots
- 10x 2.5" Hot-swap drive bays
- Power: 100-127Vac, 50-60Hz
- Networking: 2x 10GBase-T ports via AOC-URN2-i2XT

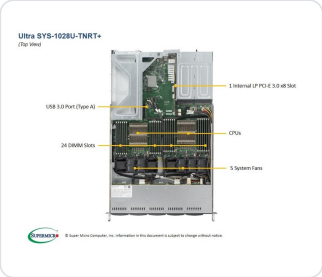
### KEY SPECIFICATIONS

| | |
|---|---|
| Form factor | **1U** |
| Processor | **2× Intel Xeon processor E5-2600 v4 † / v3 family (up to 160W TD** |
| Memory | **4 DIMM slots, up to 3 TB** |
| Drive bays | **10 (10 NVMe)** |
| Typical power draw | **750 W** |
| Networking | **2x 10GBase-T ports via AOC-URN2-i2XT** |
| Dimensions (W×H×D) | **437 × 44 mm** |




## 02 Power & thermal

Calculated for the base configuration

| IDLE | TYPICAL | MAXIMUM | HEAT (MAX) | COOLING | PSU LOAD |
|---|---|---|---|---|---|
| **106 W** | **318 W** | **522 W** | **1,781 BTU/h** | **0.5 kW** | **—** |

Typical 318 W · max 522 W

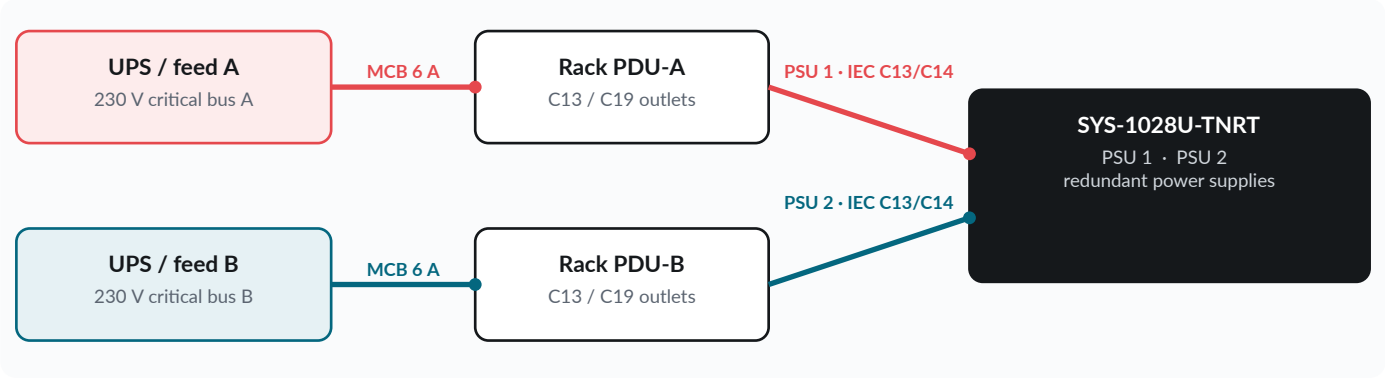
| | |
|---|---|
| Annual IT energy (24/7) | 2,229 kWh |
| Annual facility energy (PUE 1.5) | 3,344 kWh |
| Annual energy cost | €446 IT · €669 incl. cooling (at 0.20 €/kWh) |
| $CO_2$ emissions / year | 0.87 t (grid factor 0.26 kg/kWh) |
| Power supplies | Redundant hot-swap PSUs — rating depends on the final configuration |

| POWER BY COMPONENT | IDLE | TYPICAL | MAX |
|---|---|---|---|
| Chassis, motherboard, fans, BMC | 38 W | 59 W | **85 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 power cords.
- Maximum current per feed: 2.4 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: 522 W = 1,781 BTU/h (0.5 kW).

## 04 Full specifications

| PROCESSOR/CACHE | |
|---|---|
| CPU | Intel Xeon processor E5-2600<br>v4 † /<br>v3 family<br>(up to 160W 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 | |
|---|---|
| Memory Capacity | 24x 288-pin DDR4 DIMM slots<br>Up to 3TB † ECC 3DS LRDIMM, 1.5TB ECC RDIMM/LRDIMM |
| Memory Type | 2400 † /2133/1866/1600MHz ECC DDR4 SDRAM 72-bit<br>2666/2400 ECC DDR4 NVDIMM |
| DIMM Sizes | RDIMM:<br>64GB, 32GB, 16GB, 8GB, 4GB<br>LRDIMM: 64GB, 32GB<br>3DS LRDIMM: 128GB<br>NVDIMM: 16GB |
| Memory Voltage | 1.2 V |
| Error Detection | Corrects single-bit errors |

| ON-BOARD DEVICES | |
|---|---|
| Chipset | Intel C612 chipset |

| | |
|---|---|
| SATA | SATA3 (6Gbps) with 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 Connectivity | 2x 10GBase-T ports via AOC-URN2-i2XT<br>Intel X540 10GBase-T<br>1x Realtek RTL8211E PHY (dedicated IPMI) |
| Graphics | ASPEED AST2400 BMC |

## INPUT / OUTPUT

| | |
|---|---|
| SATA | 10x SATA3 (6Gbps) ports |
| SAS | 8x SAS3 ports support via optional Add-on Card |
| NVMe | 2x NVMe ports |
| LAN | 2x RJ45 10GBase-T ports<br>1x RJ45 Dedicated IPMI LAN port |
| USB | 5x USB 3.0 ports<br>(2 rear, 2 onboard header, 1 Type A) |
| Video | 1x VGA Connector |
| Serial Port | 1x Serial header |

## SYSTEM BIOS

| | |
|---|---|
| BIOS Type | 128Mb SPI Flash EEPROM with AMI BIOS |
| BIOS Features | Plug and Play (PnP)<br>APM 1.2<br>PCI 2.3<br>ACPI 1.0 / 2.0 / 3.0 / 4.0<br>USB Keyboard support<br>SMBIOS 2.7.1<br>UEFI 2.3.1 |

## MANAGEMENT

| | |
|---|---|
| Software | SuperDoctor 5<br>Intel Node Manager 3.0<br>Watch Dog<br>NMI<br>SUM and SSM<br>Optional IPMI 1.5 / 2.0 |
| Power Configurations | ACPI Power Management<br>Power-on mode for AC power recovery |

## CHASSIS

| | |
|---|---|
| Form Factor | 1U Rackmount |
| Model | CSE-119UAC2-R751-T |

## DIMENSIONS AND WEIGHT

| | |
|---|---|
| Height | 1.7" (43mm) |
| Width | 17.2" (437mm) |
| Depth | 28.5" (724mm) |

| | |
|---|---|
| Weight | Net Weight: 26 lbs (11.8 kg)<br>Gross Weight: 41 lbs (18.6 kg) |
| Available Color | Black |

## FRONT PANEL

| | |
|---|---|
| Buttons | Power On/Off button<br>System Reset button |
| LEDs | Power LED<br>Hard drive activity LED<br>2x Network activity LEDs<br>System Overheat LED / Fan fail LED /<br>UID LED |

## EXPANSION SLOTS

| | |
|---|---|
| PCI-Express | 2x PCI-E 3.0 x16 slots (Full-height, 10.5" L)<br>2x PCI-E 3.0 x8 slots (Low-profile, 1 internal)<br>(Both CPUs need to be installed for full access to PCI-E slots and onboard controllers. See manual block diagram and AOC Support for details.) |

## DRIVE BAYS

| | |
|---|---|
| Hot-swap | 10x 2.5" Hot-swap drive bays<br>Default 8x SATA3 ports and 2x NVMe/SATA3 hybrid ports<br>Optional 8x SAS3 ports via AOC |

## SYSTEM COOLING

| | |
|---|---|
| Fans | 5x heavy duty fans with optimal fan speed control<br>3x additional fans optional |
| Air Shroud | 1x Air Shroud |

## POWER SUPPLY

| | |
|---|---|
| AC Input | 100-127Vac, 50-60Hz<br>200-240Vac, 50-60Hz |
| +12V | Max: 62.5A & Min: 0A (100Vac-127Vac)<br>Max: 62.5A & Min: 0A (200Vac-240Vac) |
| 12V SB | Max: 2.1A<br>Min: 0A |
| Certification | Platinum Level<br>[ Test Report ] |

## PC HEALTH MONITORING

| | |
|---|---|
| Voltage | Monitors for CPU Cores, +1.8V, +3.3V, +5V, +12V, +3.3V Standby, +5V Standby, VBAT, Memory Voltages.<br>5+1 Phase-switching voltage regulator |
| FAN | 8x 4-pin fan headers<br>Status monitor for speed control<br>Pulse Width Modulated (PWM) fan connectors |

| | |
|---|---|
| Temperature | Support to monitor Supermicro AOC temperatures from IPMI or SD 5<br>Monitoring for CPU and chassis environment<br>CPU thermal trip support<br>Thermal Control for 8x Fan Connectors<br>Thermal Monitor 2 (TM2) support<br>PECI |
| LED | Memory DIMM ECC error LEDs<br>CPU / System Overheat LED<br>Suspend static indicator LED<br>UID/Remote UID |
| Other Features | 4x 8-pin GPU power connectors<br>Chassis intrusion detection<br>Chassis intrusion header<br>SDDC Support<br>RoHS |

## 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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