TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

# Supermicro 1U CloudDC Server SYS-120C-TN10R

1U CloudDC with 10 NVMe bays

SKU SYS-120C-TN10R | 1U | LGA4189 | 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-120c-tn10r

## 01 Product overview

The Supermicro SYS-120C-TN10R is a 1U CloudDC Server built on dual Intel Xeon Scalable 3rd Gen processors with up to 4 TB of memory in 16 DIMM slots.

1U CloudDC with 10 NVMe bays.

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

ServerInvest configures every SYS-120C-TN10R 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 4 TB memory · 16 DIMM slots
- Total 10 bays 10 front hot-swap 2.5" NVMe*/SAS*/SATA drive bays
- Up to 2 GPUs
- Power: 2x 860W
- Networking: Via AIOM

### KEY SPECIFICATIONS

| | |
|---|---|
| Form factor | **1U** |
| Processor | **2× Intel Xeon Scalable 3rd Gen** |
| Socket | **LGA4189** |
| Memory | **16 DIMM slots, up to 4 TB** |
| Drive bays | **10 (10 NVMe)** |
| GPU | **Up to 2 GPUs** |
| Power supply | **2× 860 W** |
| Typical power draw | **1650 W** |
| Networking | **Via AIOM** |
| 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** | **61%** |

Typical 318 W · max 522 W · single PSU rating 860 W

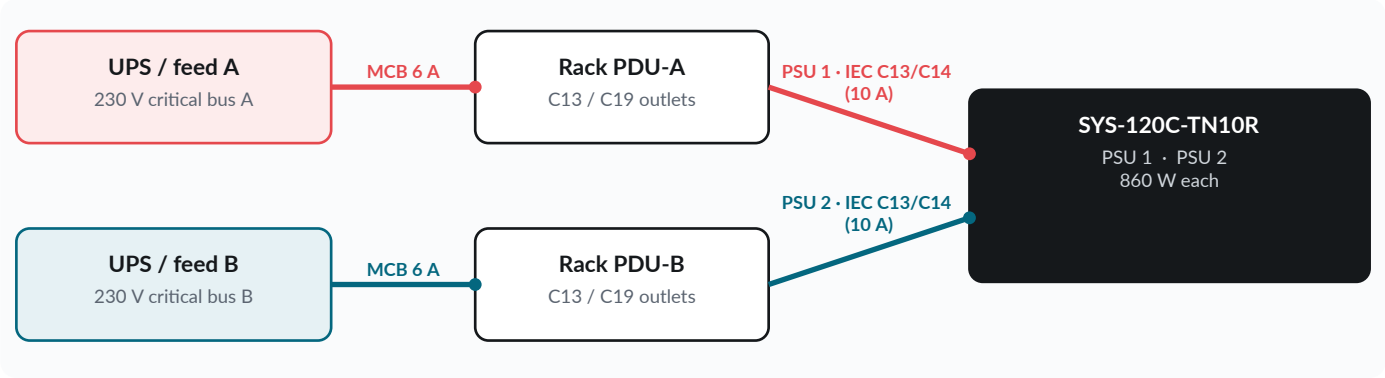
| | |
|---|---|
| Annual IT energy (24/7) | 2,229 kWh |
| Annual facility energy (PUE 1.5) | 3,344 kWh |
| Annual energy cost | €446 IT · €669 incl. cooling (at 0.20 €/kWh) |
| $CO_2$ emissions / year | 0.87 t (grid factor 0.26 kg/kWh) |
| Power supplies | 2× 860 W redundant (N+1) |

| 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 (10 A) 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

| MOTHERBOARD | |
|---|---|
| | Super X12DDW-A6 |

| PROCESSOR | |
|---|---|
| CPU | Dual Socket P4 (LGA-4189)<br>3rd Gen Intel Xeon Scalable processors |
| Core Count | Up to 40C/80T; Up to 60MB Cache per CPU |
| Note | Supports up to 270W TDP CPUs (Air Cooled)*<br>*Air Cooled CPUs with TDP over 205W only supported under specific conditions. Contact a Supermicro representative for details. |

| GPU | |
|---|---|
| Max GPU Count | Up to 2 single-width GPUs |
| Supported GPU | NVIDIA PCIe: A2 |

| SYSTEM MEMORY | |
|---|---|
| Memory | Slot Count: 16 DIMM slots<br>Max Memory (1DPC): Up to 4TB 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 | |
|---|---|
| SATA | SATA (6Gbps) ; RAID 0/1/5/10 support |
| NVMe | NVMe; RAID 0/1/5/10 support(VROC HW key required)<br>View NVMe Options |

| | |
|---|---|
| Network Connectivity | Via AIOM<br>View AIOM Options<br>View AOC Options |

## INPUT / OUTPUT

| | |
|---|---|
| LAN | 1 RJ45 1 GbE Dedicated BMC LAN port |
| USB | 2 USB 3.2 Gen1 Type-A ports (rear)<br>2 USB 2.0 Type-A ports (front) |
| Video | 1 VGA port |
| Serial | 1 COM port (rear) |
| DOM | 1 Super DOM (Disk on Module) port |
| TPM | 1 TPM header |

## SYSTEM BIOS

| | |
|---|---|
| BIOS Type | AMI 32MB SPI FLASH ROM |

## 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! |
| Power configurations | ACPI/APM 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 | 8 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 6.7 U3, ESXi 7.0 U2, ESXi 8.0, Hypervisor 8.2, Oracle Linux 8.3, RHEL 8.2, RHEL 9.0, SLES 15 SP2, Windows Server 2019, Windows Server 2022<br>View all OS Compatibility and Certification Matrix |

## CHASSIS

| | |
|---|---|
| Form Factor | 1U Rackmount |
| Model | CSE-LB16TS-R860AWP |

## DIMENSIONS AND WEIGHT

| | |
|---|---|
| Height | 1.7" (43 mm) |
| Width | 17.2" (437 mm) |
| Depth | 23.5" (597 mm) |
| Package | 7.7" (H) x 23.7" (W) x 31.8" (D) |
| Weight | Gross Weight: 40 lbs (18.14 kg)<br>Net Weight: 25 lbs (11.34 kg) |
| Available Color | Black |

## FRONT PANEL

| | |
|---|---|
| Buttons | Power On/Off<br>UID button |
| LED | Device Activity<br>LAN 1 Activity<br>LAN 2 Activity<br>Power status<br>System information |

## EXPANSION SLOTS

| | |
|---|---|
| PCI-Express (PCIe) Configuration | Default<br>2 PCIe 4.0 x16 FHHL slots<br>2 PCIe 4.0 x16 AIOM slots (OCP 3.0 compatible)<br>View AOC Options |

## DRIVE BAYS / STORAGE

| | |
|---|---|
| Drive Bays Configuration | Default: Total 10 bays 10 front hot-swap 2.5" NVMe*/SAS*/SATA drive bays<br>(*NVMe/SAS support may require additional storage controller and/or cables, please see the optional parts list for details)<br>View NVMe Options<br>View Drive Options |
| M.2 | 2 M.2 PCIe 3.0 x2 NVMe slots (M-key 2280(default); VROC required for RAID)<br>View M.2 Options |

## SYSTEM COOLING

| | |
|---|---|
| Fans | Up to 6x 4cm heavy duty fans with optimal fan speed control |
| Air Shroud | 2 Air Shrouds |

## POWER SUPPLY

| | |
|---|---|
| | 2x 860W<br>2x 860W Redundant (1 + 1) Platinum Level (94%) Hot-plug power supplies<br>Dimension (WxHxL)<br>54.5 x 40.25 x 322 mm |

## OPERATING ENVIRONMENT

| | |
|---|---|
| RoHS | RoHS Compliant |
| Environmental Spec. | Operating Temperature: 10°C to 35°C (50°F to 95°F)<br>Non-operating Temperature: -40°C to 60°C (-40°F to 140°F)<br>Operating Relative Humidity: 8% to 90% (Non-Condensing)<br>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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Official manufacturer datasheet: serverinvest.com/product/sys-120c-tn10r/datasheet/manufacturer