

TECHNICAL DATASHEET

SUPERMICRO • GPU & AI SERVERS

Supermicro Full-Tower GPU Server SYS-740GP-TNRT

DP Intel, Tower Workstation with 4 GPUs

SKU SYS-740GP-TNRT

4U

LGA4189

Supermicro



FORM FACTOR

4U

MAX POWER (BASE)

602 W

HEAT OUTPUT

2,054 BTU/h

PRICE

On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/sys-740gp-tnrt

01 Product overview

The Supermicro SYS-740GP-TNRT is a Full-Tower GPU Server built on dual Intel Xeon Scalable 3rd Gen processors with up to 4 TB of memory in 16 DIMM slots.

DP Intel, Tower Workstation with 4 GPUs.

The chassis accepts up to 4 GPU accelerators for AI, rendering and HPC workloads.

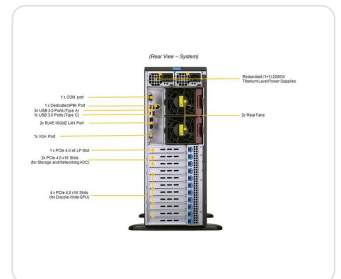
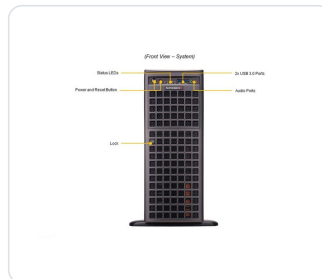
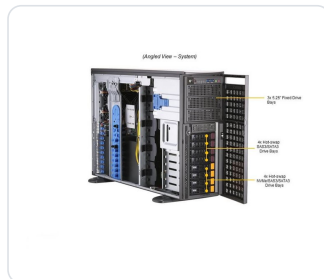
ServerInvest configures every SYS-740GP-TNRT to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Dual Intel Xeon Scalable 3rd Gen
- Up to 4 TB memory · 16 DIMM slots
- Total 8 bays 4 front hot-swap 3.5" SAS/SATA drive bays
- Up to 4 GPUs
- Power: 1x 2200W
- Networking: 2 RJ45 10GbE with Intel X550-AT2

KEY SPECIFICATIONS

Form factor	4U
Processor	2× Intel Xeon Scalable 3rd Gen
Socket	LGA4189
Memory	16 DIMM slots, up to 4 TB
Drive bays	12 (12 NVMe)
GPU	Up to 4 GPUs
Power supply	1× 2200 W
Typical power draw	2550 W
Networking	2 RJ45 10GbE with Intel X550-AT2
Dimensions (W×H×D)	437 × 178 mm



02 Power & thermal

Calculated for the base configuration

IDLE
143 W

TYPICAL
374 W

MAXIMUM
602 W

HEAT (MAX)
2,054 BTU/h

COOLING
0.6 kW

PSU LOAD
27%

Typical 374 W · max 602 W · single PSU rating 2200 W

Annual IT energy (24/7)	2,669 kWh
Annual facility energy (PUE 1.5)	4,004 kWh
Annual energy cost	€534 IT · €801 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	1.04 t (grid factor 0.26 kg/kWh)
Power supplies	1× 2200 W

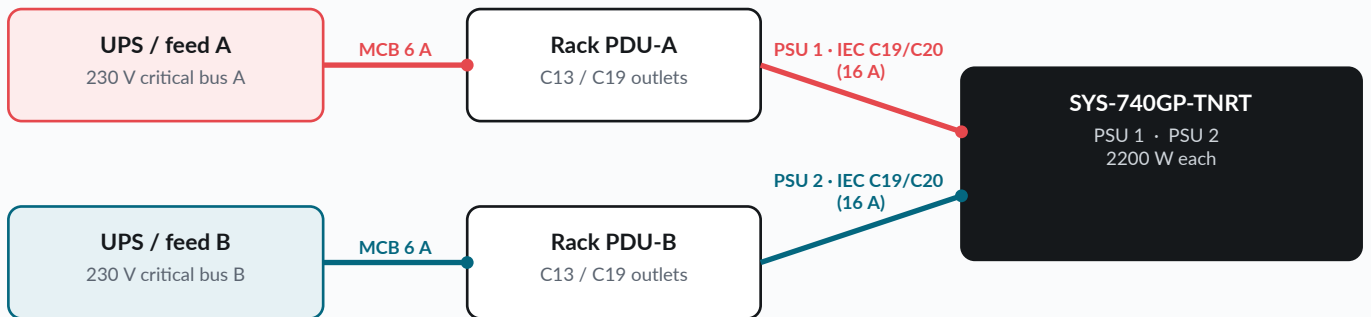
POWER BY COMPONENT

	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	72 W	112 W	160 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 C19/C20 (16 A) power cords.
- Maximum current per feed: 2.8 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: 602 W = 2,054 BTU/h (0.6 kW).

04 Full specifications

MOTHERBOARD

Super X12DPG-QT6

PROCESSOR

CPU	Dual Socket P+ (LGA-4189) 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)

GPU

Max GPU Count	Up to 4 double-width or 6 single-width GPUs
Supported GPU	NVIDIA PCIe: A10, A100, A16, A30, A40, RTX A4000, RTX A4500, RTX A5000, RTX A6000 View GPU Options
CPU-GPU Interconnect	PCIe 4.0 x16 CPU-to-GPU Interconnect
GPU-GPU Interconnect	PCIe

SYSTEM MEMORY

Memory	Slot Count: 16 DIMM slots Max Memory (2DPC): Up to 4TB 3200MT/s ECC DDR4 RDIMM/LRDIMM Supports Intel Optane persistent memory 200 series View Memory Options
Memory Voltage	1.2V

ON-BOARD DEVICES

SATA	SATA (6Gbps) ; RAID 0/1/5/10 support
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Network Connectivity	2 RJ45 10GbE with Intel X550-AT2 View AOC Options
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BMC	ASPEED AST2600 BMC
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INPUT / OUTPUT

Video	1 VGA port
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SYSTEM BIOS

BIOS Type	AMI 32MB SPI Flash EEPROM
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MANAGEMENT

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

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

CPU	7 +1 Phase-switching voltage regulator Monitors for CPU Cores, Chipset Voltages, Memory
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Fan	Fans with tachometer monitoring Pulse Width Modulated (PWM) fan connectors Status monitor for speed control
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Temperature	Monitoring for CPU and chassis environment Thermal Control for fan connectors
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CERTIFICATIONS

Operating Systems	ESXi 6.7 U3, ESXi 7.0 U3, Hypervisor 8.2, RHEL 8.2, RHEL 9.0, SLES 15 SP2, Windows Server 2019, Windows Server 2022 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	Full-Tower Rackmount
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Model	CSE-747BTS-R2K20BP
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DIMENSIONS AND WEIGHT

Height	18.32" (465.4 mm)
Width	6.96" (177 mm)
Depth	26.71" (678.5 mm)
Package	12.95" (H) x 27.12" (W) x 38.22" (D)
Weight	Gross Weight: 57 lbs (25.85 kg) Net Weight: 52.9 lbs (24 kg)
Available Color	black

FRONT PANEL

Buttons	Power On/Off System Reset
LED	HDD activity Network activity Power On System Overheat / Fan Fail LED

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 4 PCIe 4.0 x16 FHFL slots 2 PCIe 4.0 x16 LP slots 1 PCIe 4.0 x8 LP slot View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 8 bays 4 front hot-swap 3.5" SAS/SATA drive bays 4 front hot-swap 3.5" NVMe/SAS/SATA drive bays View NVMe Options View Drive Options
M.2	2 M.2 NVMe/SATA slots (M-key) View M.2 Options
Peripheral Bays	3 5.25" peripheral bays

SYSTEM COOLING

Fans	Up to 4 heavy duty fans with optimal fan speed control
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POWER SUPPLY

1x 2200W
1x 2200W Redundant Titanium Level (96%) power supply
Dimension (WxHxL)
76 x 40 x 336 mm

OPERATING ENVIRONMENT

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)
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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

Official manufacturer datasheet: serverinvest.com/product/sys-740gp-tnrt/datasheet/manufacturer

