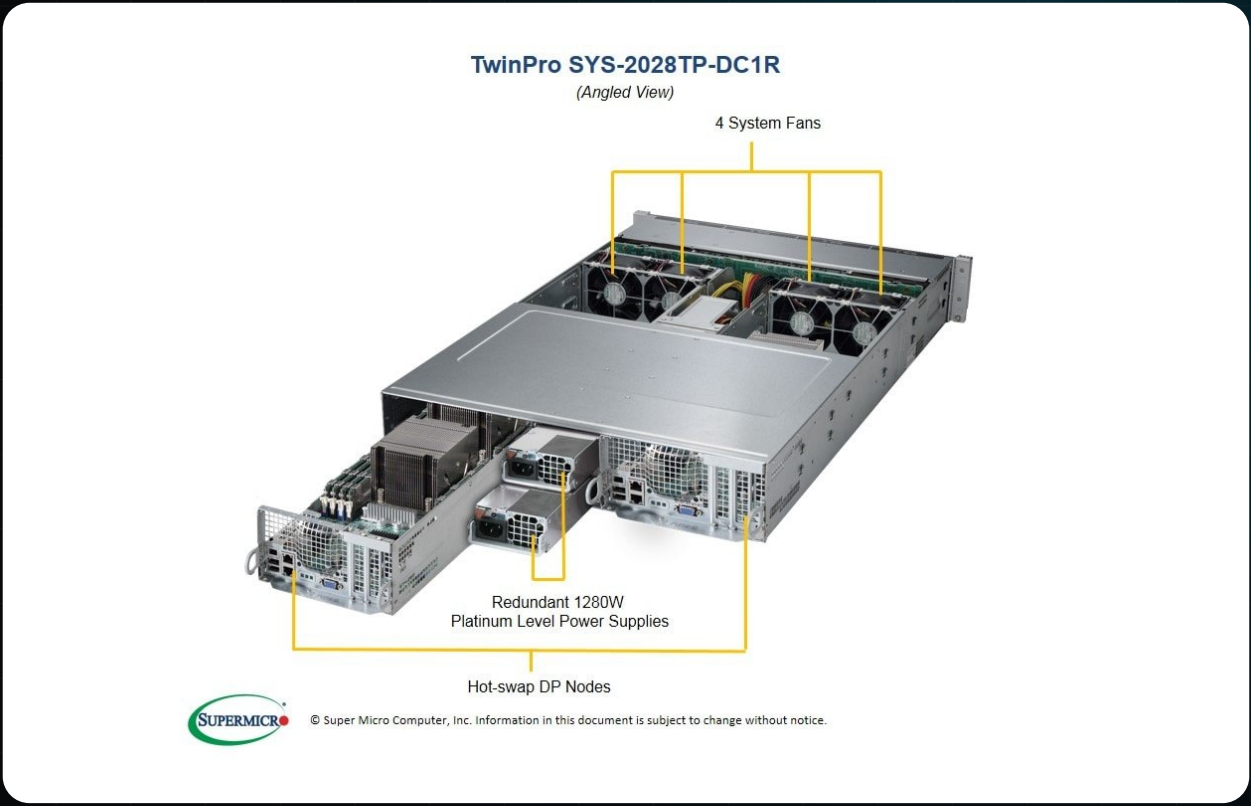
TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

Supermicro Server SYS-2028TP-DC1R

SKU SYS-2028TP-DC1R | 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-dc1r

01 Product overview

The Supermicro SYS-2028TP-DC1R 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.

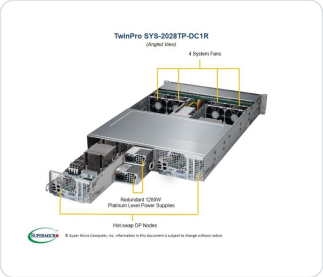
ServerInvest configures every SYS-2028TP-DC1R to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

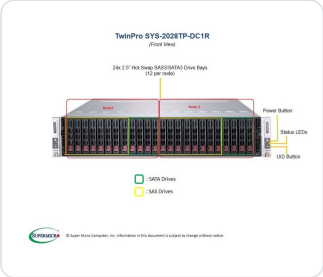
HIGHLIGHTS

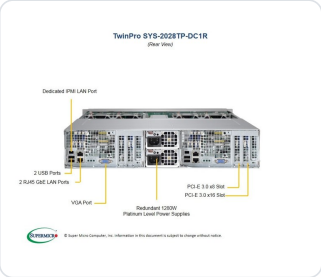
- Dual Intel Xeon processor E5-2600 v4 † / v3 family (up to 145W TD
- Up to 2 TB memory · 4 DIMM slots
- 12 Hot-swap 2.5" SAS (8) / SATA (4) HDD Bays
- Power: 1000W Output @ 100-140V, 8-12A, 50-60Hz
- Networking: Intel i350-AM2 Dual Port Gigabit Ethernet

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**
Drive bays	**12**
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

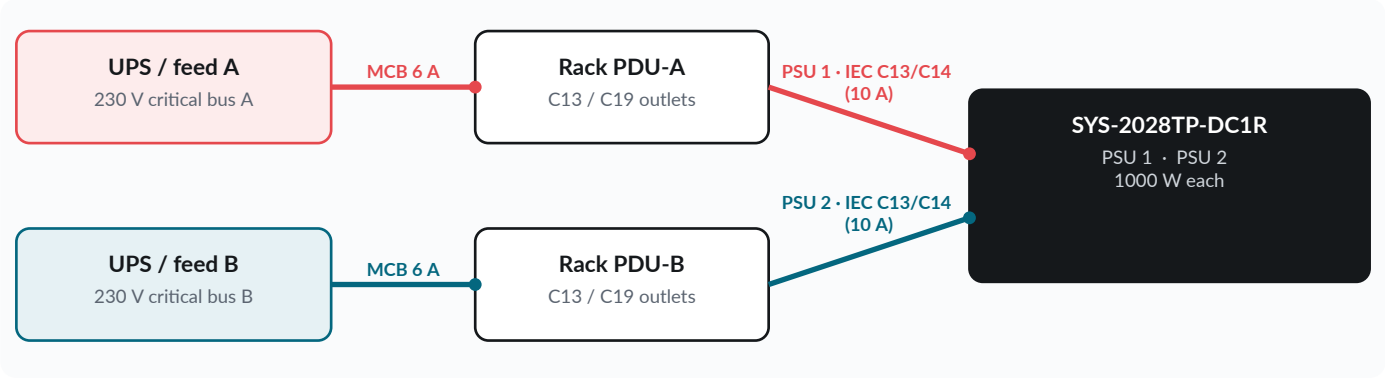
Annual IT energy (24/7)	2,379 kWh
Annual facility energy (PUE 1.5)	3,569 kWh
Annual energy cost	€476 IT · €714 incl. cooling (at 0.20 €/kWh)
CO_2 emissions / year	0.93 t (grid factor 0.26 kg/kWh)
Power supplies	1× 1000 W

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

ON-BOARD DEVICES (PER NODE)	
Chipset	Intel C612 chipset

SAS	Broadcom 3108 SAS3 (12Gbps) controller; RAID 0, 1, 5, 6, 10, 50, 60 support Optional SuperCap
IPMI	Support for Intelligent Platform Management Interface v.2.0 IPMI 2.0 with virtual media over LAN and KVM-over-LAN support ASPEED AST2400 BMC
Network Controllers	Intel i350-AM2 Dual Port Gigabit Ethernet Virtual Machine Device Queues reduce I/O overhead Supports 10BASE-T, 100BASE-TX, and 1000BASE-T, RJ45 output 1 Realtek RTL8201N PHY (dedicated IPMI)
Graphics	ASPEED AST2400 BMC

INPUT / OUTPUT (PER NODE)

SAS	8 SAS3 (12Gbps) ports
LAN	2 RJ45 Gigabit Ethernet LAN ports 1 RJ45 Dedicated IPMI LAN port
USB	2 USB 3.0 ports (rear)
VGA	1 VGA port
Serial Port / Header	1 Fast UART 16550 port / 1 Header (internal)
Others	1 mSATA (full size) and CacheVault support on the daughter card 1 SATADOM support on the motherboard

CHASSIS

Form Factor	2U Rackmount
Model	CSE-217HD+-R1K28B

DIMENSIONS AND WEIGHT

Width	17.25" (438mm)
Height	3.47" (88mm)
Depth	28.75" (730mm)
Weight	Gross Weight: 85 lbs (38.6kg) Net Weight: 66 lbs (29.9 kg)
Available Colors	Black

FRONT PANEL

Buttons	Power On/Off button UID button
LEDs	Power status LED HDD activity LED 2 Network activity LEDs Universal Information (UID) LED

EXPANSION SLOTS (PER NODE)

PCI-Express	1 PCI-E 3.0 x16 Low-profile slot 1 PCI-E 3.0 x8 slot 1 PCI-E 3.0 x16 for GPU/Xeon Phi support (w/ GPU kit) (Both CPUs need to be installed for full access to PCI-E slots)

DRIVE BAYS (PER NODE)

Hot-swap	12 Hot-swap 2.5" SAS (8) / SATA (4) HDD Bays

SYSTEM COOLING

Fans	4 heavy duty 8cm PWM fans with optimal fan speed control

POWER SUPPLY

AC Input	1000W Output @ 100-140V, 8-12A, 50-60Hz 1280W Output @ 180-240V, 6-8A, 50-60Hz
DC Output	1000W: +12V/83A; +5Vsb/4A 1280W: +12V/106.7A, +5Vsb/4A
Certification	Platinum Certified [Test Report]

SYSTEM BIOS

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

OPERATING ENVIRONMENT / COMPLIANCE

RoHS	RoHS Compliant
Environmental Spec.	Operating Temperature: 10°C to 35°C (50°F to 95°F) Non-operating Temperature: -40°C to 70°C (-40°F to 158°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.

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Interested in this solution?

Request a quotation online or talk to a solutions engineer — we reply within one business day.
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