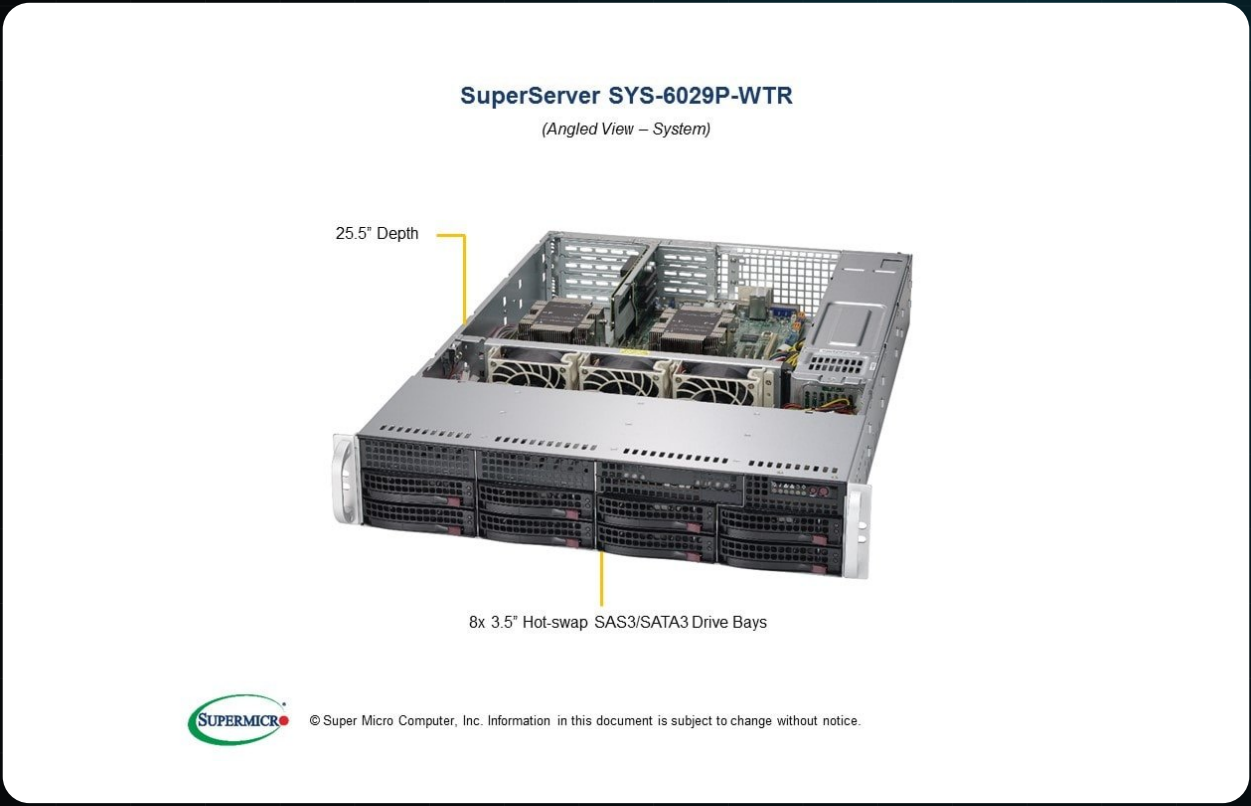
TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

Supermicro Server SYS-6029P-WTR

SKU SYS-6029P-WTR | 2U | Supermicro



FORM FACTOR	MAX POWER (BASE)	HEAT OUTPUT	PRICE
2U	549 W	1,873 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-6029p-wtr

01 Product overview

The Supermicro SYS-6029P-WTR is a server built on dual Dual Socket P (LGA 3647) 2nd Gen Intel Xeon Scalable Process processors with up to 3 TB of memory in 12 DIMM slots.

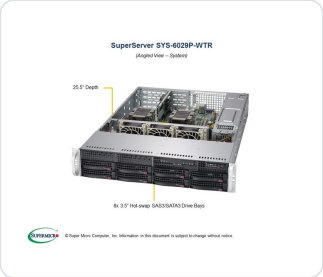
ServerInvest configures every SYS-6029P-WTR to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

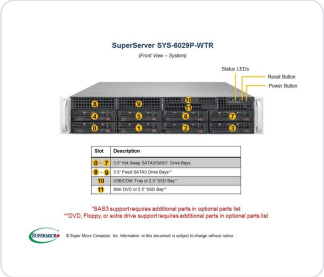
HIGHLIGHTS

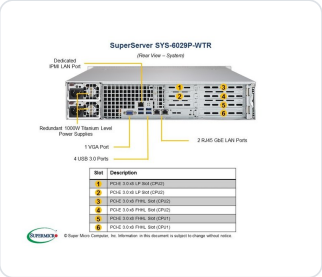
- Dual Dual Socket P (LGA 3647) 2nd Gen Intel Xeon Scalable Process
- Up to 3 TB memory · 12 DIMM slots
- 8 Hot-swap 3.5" SAS/SATA drive bays with SGPIO
- Power: 800W/1000W
- Networking: Dual 1GbE LAN ports from Intel C621

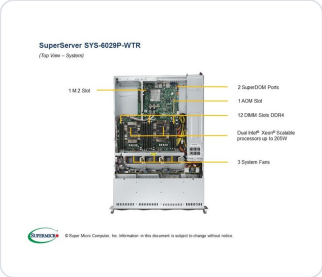
KEY SPECIFICATIONS

Form factor	**2U**
Processor	**2× Dual Socket P (LGA 3647) 2nd Gen Intel Xeon Scalable Process**
Memory	**12 DIMM slots, up to 3 TB**
Drive bays	**8**
Power supply	**1× 800 W**
Typical power draw	**750 W**
Networking	**Dual 1GbE LAN ports from Intel C621**
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**	**69%**

Typical 337 W · max 549 W · single PSU rating 800 W

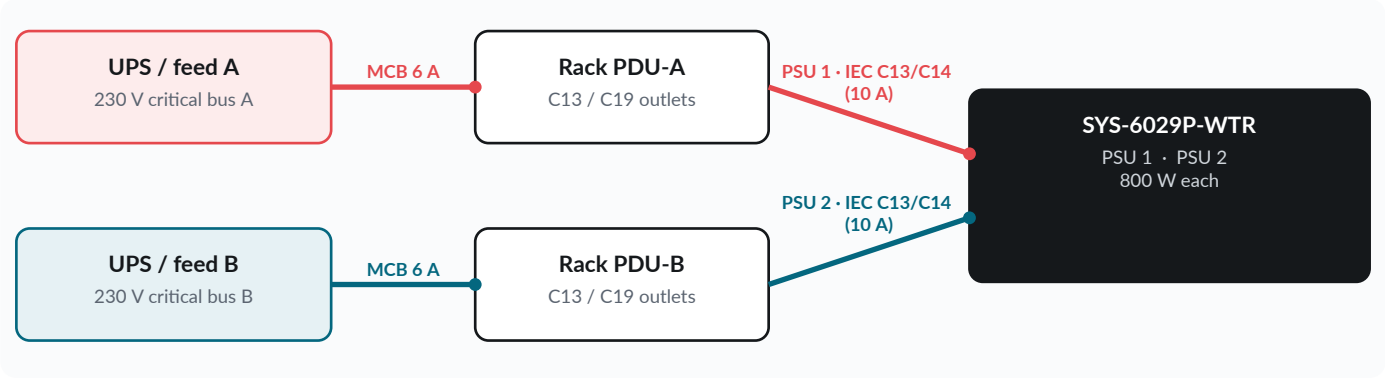
Annual IT energy (24/7)	2,379 kWh
Annual facility energy (PUE 1.5)	3,569 kWh
Annual energy cost	€476 IT · €714 incl. cooling (at 0.20 €/kWh)
CO_2 emissions / year	0.93 t (grid factor 0.26 kg/kWh)
Power supplies	1× 800 W

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	
CPU	Dual Socket P (LGA 3647) 2nd Gen Intel Xeon Scalable Processors and Intel Xeon Scalable Processors ‡ , Dual UPI up to 10.4GT/s Support CPU TDP 70-205W
Cores	Up to 28 Cores
Note	‡ BIOS version 3.2 or above is required to support 2nd Gen Intel Xeon Scalable processors (codenamed Cascade Lake-R)

SYSTEM MEMORY	
Memory Capacity	12 DIMM slots Up to 3TB 3DS ECC DDR4-2933MHz † RDIMM/LRDIMM Supports Intel Optane DCPMM ††
Memory Type	2933 † /2666/2400/2133MHz ECC DDR4 RDIMM/LRDIMM
Note	† 2933MHz in two DIMMs per channel can be achieved by using memory purchased from Supermicro †† Cascade Lake only. Contact your Supermicro sales rep for more info.

ON-BOARD DEVICES	
Chipset	Intel C621 chipset
SATA	SATA3 (6Gbps); RAID 0, 1, 5, 10
Network Controllers	Dual 1GbE LAN ports from Intel C621
IPMI	Support for Intelligent Platform Management Interface v.2.0 IPMI 2.0 with virtual media over LAN and KVM-over-LAN support
Video	ASPEED AST2500 BMC

INPUT / OUTPUT

SATA	12 SATA3 (6 Gbps) ports
LAN	2 RJ45 Gigabit Ethernet ports 1 RJ45 Dedicated IPMI LAN port
USB	4 USB 3.0 ports (rear)
Video	1 VGA port
DOM	2 Super DOM (Disk on Module) ports

SYSTEM BIOS

BIOS Type	AMI 32Mb SPI Flash ROM

MANAGEMENT

Software	Intel Node Manager IPMI 2.0 KVM with dedicated LAN SSM , SPM , SUM SuperDoctor 5 Watch Dog
Power Configurations	ACPI / APM Power Management

PC HEALTH MONITORING

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

CHASSIS

Form Factor	2U Rackmount
Model	CSE-825TQC-R1K03WB

DIMENSIONS AND WEIGHT

Width	17.2" (437mm)
Height	3.5" (89mm)
Depth	25.5" (648mm)
Gross Weight	62 lbs (28.1 kg)
Available Colors	Black

FRONT PANEL

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

EXPANSION SLOTS

PCI-Express	4 PCI-E 3.0 x8 (FHHL) slots 2 PCI-E 3.0 x8 (LP) slots 1 PCI-E 3.0 x16 for Add-on-Module (AOM) 1 PCI-E 3.0 x4 NVMe M.2 slot (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	8 Hot-swap 3.5" SAS/SATA drive bays with SGPIO
Internal	2 Fixed 3.5" drive bays

PERIPHERAL DRIVES

DVD-ROM	1 Slim DVD-ROM drive (optional)

SYSTEM COOLING

Fans	3 Heavy duty 8cm fans with PWM fan speed control

POWER SUPPLY (76MM WIDTH)

Total Output Power	800W/1000W
Dimension (W x H x L)	76 x 40 x 336 mm
Input	100-127Vac / 12-9A / 50-60Hz 200-240Vac / 7.2-6A / 50-60Hz 200-240Vdc / 7.2-6A (for CCC only)
+12V	Max: 66.7A / Min. 0A (100-127Vac) Max: 83A / Min. 0A (200-240Vac) Max: 83A / Min. 0A (200-240Vdc)
5Vsb	Max: 4A / Min: 0A
Output Type	19 Pairs Gold Finger Connector
Certification	Titanium Level [Test Report]

OPERATING ENVIRONMENT

RoHS	RoHS Compliant
Environmental Spec.	Operating Temperature: 10°C ~ 35°C (50°F ~ 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.

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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