

TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

Supermicro 1U MegaDC Server SSG-610P-ACR12N4L

1U internal-mounted storage server with 12 3.5" SAS/SATA + 4 EDSFF short + 2 2.5" 7mm bays and PCIe 4.0

SKU SSG-610P-ACR12N4L

1U

LGA4189

Supermicro



FORM FACTOR

1U

MAX POWER (BASE)

522 W

HEAT OUTPUT

1,781 BTU/h

PRICE

On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/ssg-610p-acr12n4l

01 Product overview

The Supermicro SSG-610P-ACR12N4L is a 1U MegaDC Server built on dual Intel Xeon Scalable 3rd Gen processors with up to 4 TB of memory in 16 DIMM slots.

1U internal-mounted storage server with 12 3.5" SAS/SATA + 4 EDSFF short + 2 2.5" 7mm bays and PCIe 4.0.

ServerInvest configures every SSG-610P-ACR12N4L 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 16 bays 12 internal hot-swap 3.5" SAS/SATA drive bays
- Power: 2x 800W
- Networking: 2 SFP28 25GbE with Mellanox

KEY SPECIFICATIONS

Form factor	1U
Processor	2× Intel Xeon Scalable 3rd Gen
Socket	LGA4189
Memory	16 DIMM slots, up to 4 TB
Drive bays	20 (20 NVMe)
Power supply	2× 800 W
Typical power draw	750 W
Networking	2 SFP28 25GbE with Mellanox
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	65%

Typical 318 W · max 522 W · single PSU rating 800 W

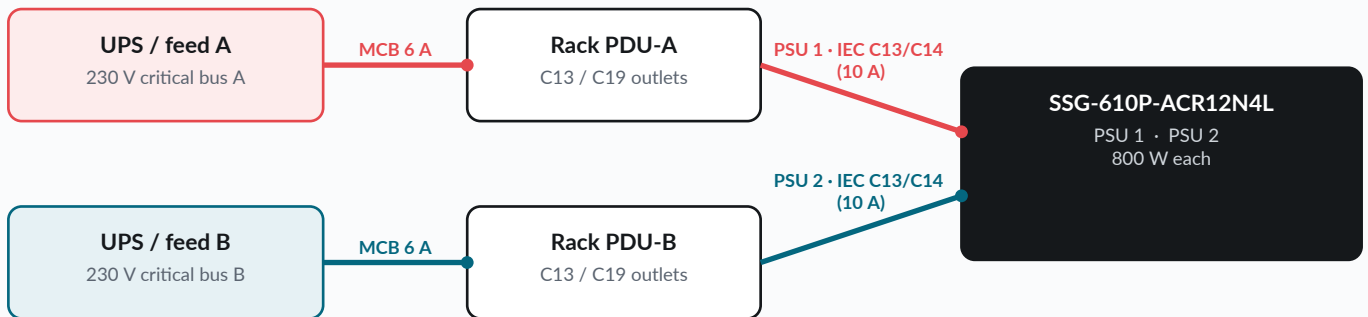
Annual IT energy (24/7)	2,229 kWh
Annual facility energy (PUE 1.5)	3,344 kWh
Annual energy cost	€446 IT · €669 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.87 t (grid factor 0.26 kg/kWh)
Power supplies	2× 800 W redundant (N+1)

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 X12DPD-A6M25

PROCESSOR

CPU	Dual Socket P+ (LGA-4189) 3rd Gen Intel Xeon Scalable processors
Core Count	Up to 38C/76T; Up to 57MB Cache per CPU
Note	Supports 120W - 205W TDP CPUs (Air Cooled)

SYSTEM MEMORY

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

ON-BOARD DEVICES

Network Connectivity	2 SFP28 25GbE with Mellanox View AIOM Options View AOC Options
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INPUT / OUTPUT

LAN	2 SFP28 25 GbE LAN ports 1 RJ45 1 GBASE-T Dedicated BMC LAN port
USB	2 USB 3.0 ports (rear) 2 USB 2.0 ports (front)
Video	1 VGA port
Serial	1 port

SYSTEM BIOS

BIOS Type	AMI 128MB 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	4+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	Oracle Linux 8.3, RHEL 8.2, Windows Server 2019 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	1U Rackmount
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Model	CSE-802ETS-R804AMP
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DIMENSIONS AND WEIGHT

Height	1.7" (43.18 mm)
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Width	17.6" (447.04 mm)
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Depth	37" (939.8 mm)
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Package	12" (H) x 27" (W) x 53.15" (D)
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Weight	Gross Weight: 58 lbs (26.3 kg) Net Weight: 39.5 lbs (17.9 kg)
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Available Color	Black
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FRONT PANEL

Buttons	Power On/Off Power On/Off UID button
LED	HDD activity Network activity Power status System information (overheat/UID) System information (overheat/UID)

EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 2 PCIe 4.0 x16 LP slots 1 PCIe 4.0 x8 LP slot 1 PCIe 4.0 x16 AIOM slot (OCP 3.0 compatible) View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 16 bays 12 internal hot-swap 3.5" SAS/SATA drive bays 4 front hot-swap E1.S NVMe drive bays View Drive Options
M.2	2 M.2 NVMe/SATA slots (M-key) View M.2 Options

SYSTEM COOLING

Fans	Up to 6 Heavy Duty 4cm Fan(s)
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POWER SUPPLY

2x 800W
2x 800W Redundant (1 + 1) Platinum Level (94%) power supplies
Dimension (WxHxL)
54.5 x 40.25 x 220 mm

OPERATING ENVIRONMENT

RoHS	RoHS Compliant
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)

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.
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Official manufacturer datasheet: serverinvest.com/product/ssg-610p-acr12n4l/datasheet/manufacturer

