

## TECHNICAL DATASHEET

SUPERMICRO · RACKMOUNT SERVERS

# Supermicro 1U MegaDC Server SSG-610P-ACR12N4H

1U internal-mounted storage server with 12 3.5" SAS/SATA bays (SAS hardware RAID), 4 EDSFF short and 2x 2.5" 7mm bays

SKU SSG-610P-ACR12N4H

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-acr12n4h](https://serverinvest.com/product/ssg-610p-acr12n4h)


## 01 Product overview

The Supermicro SSG-610P-ACR12N4H 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 bays (SAS hardware RAID), 4 EDSFF short and 2x 2.5" 7mm bays.

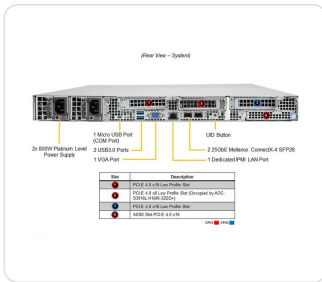
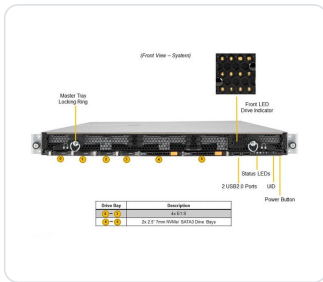
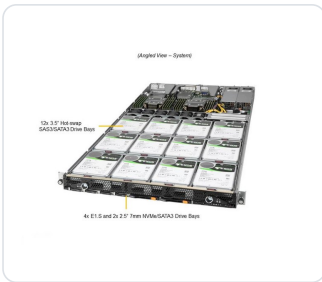
ServerInvest configures every SSG-610P-ACR12N4H to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

### HIGHLIGHTS

- Dual Intel Xeon Scalable 3rd Gen
- Up to 4 TB memory · 16 DIMM slots
- Total 18 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         | 22 (22 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

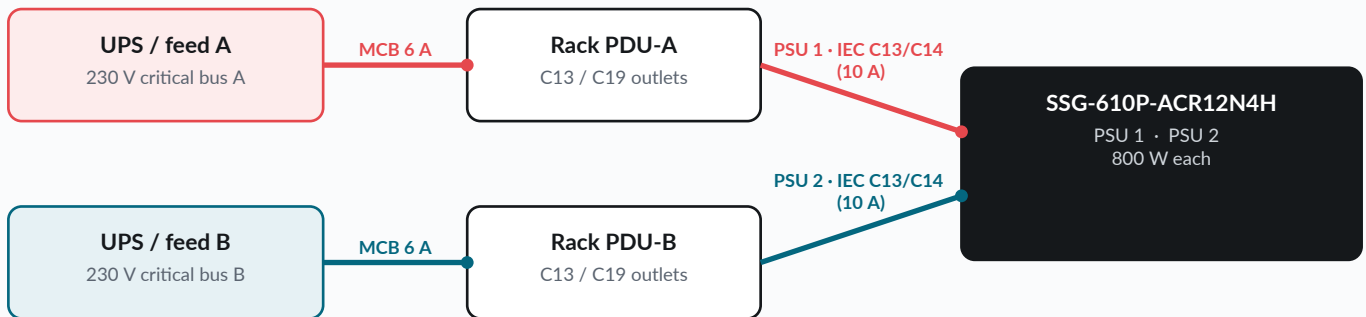
|                                  |                                              |
|----------------------------------|----------------------------------------------|
| Annual IT energy (24/7)          | 2,229 kWh                                    |
| Annual facility energy (PUE 1.5) | 3,344 kWh                                    |
| Annual energy cost               | €446 IT · €669 incl. cooling (at 0.20 €/kWh) |
| CO <sub>2</sub> 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)<br>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<br>Max Memory (2DPC): Up to 4TB 3200MT/s ECC DDR4 RDIMM/LRDIMM<br>View Memory Options |
| Memory Voltage | 1.2V                                                                                                            |

#### ON-BOARD DEVICES

|                      |                                                                      |
|----------------------|----------------------------------------------------------------------|
| Network Connectivity | 2 SFP28 25GbE with Mellanox<br>View AIOM Options<br>View AOC Options |
|----------------------|----------------------------------------------------------------------|

#### INPUT / OUTPUT

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

## SYSTEM BIOS

|           |                            |
|-----------|----------------------------|
| BIOS Type | AMI 128MB SPI Flash EEPROM |
|-----------|----------------------------|

## 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 | Power-on mode for AC power recovery<br>ACPI 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 | 4+1 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 | Oracle Linux 8.3, RHEL 8.2, Windows Server 2019<br><a href="#">View all OS Compatibility and Certification Matrix</a> |
|-------------------|-----------------------------------------------------------------------------------------------------------------------|

## CHASSIS

|             |              |
|-------------|--------------|
| Form Factor | 1U Rackmount |
|-------------|--------------|

|       |                    |
|-------|--------------------|
| Model | CSE-802ETS-R804AMP |
|-------|--------------------|

## DIMENSIONS AND WEIGHT

|        |                 |
|--------|-----------------|
| Height | 1.7" (43.18 mm) |
|--------|-----------------|

|       |                   |
|-------|-------------------|
| Width | 17.6" (447.04 mm) |
|-------|-------------------|

|       |                |
|-------|----------------|
| Depth | 37" (939.8 mm) |
|-------|----------------|

|         |                                |
|---------|--------------------------------|
| Package | 12" (H) x 27" (W) x 53.15" (D) |
|---------|--------------------------------|

|        |                                                                  |
|--------|------------------------------------------------------------------|
| Weight | Gross Weight: 58 lbs (26.3 kg)<br>Net Weight: 39.5 lbs (17.9 kg) |
|--------|------------------------------------------------------------------|

|                 |       |
|-----------------|-------|
| Available Color | Black |
|-----------------|-------|

## FRONT PANEL

|         |                                                                                                                            |
|---------|----------------------------------------------------------------------------------------------------------------------------|
| Buttons | Power On/Off<br>Power On/Off<br>UID button                                                                                 |
| LED     | HDD activity<br>Network activity<br>Power status<br>System information (overheat/UID)<br>System information (overheat/UID) |

## EXPANSION SLOTS

|                                  |                                                                                                                                  |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| PCI-Express (PCIe) Configuration | Default<br>2 PCIe 4.0 x16 LP slots<br>1 PCIe 4.0 x8 LP slot<br>1 PCIe 4.0 x16 AIOM slot (OCP 3.0 compatible)<br>View AOC Options |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------|

## DRIVE BAYS / STORAGE

|                          |                                                                                                                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drive Bays Configuration | Default: Total 18 bays 12 internal hot-swap 3.5" SAS/SATA drive bays<br>4 front hot-swap E1.S NVMe drive bays<br>2 front hot-swap 7mm NVMe drive bays<br>View Drive Options |
| M.2                      | 2 M.2 NVMe/SATA slots (M-key)<br>View M.2 Options                                                                                                                           |

## SYSTEM COOLING

|      |                               |
|------|-------------------------------|
| Fans | Up to 6 Heavy Duty 4cm Fan(s) |
|------|-------------------------------|

## 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)<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.



### Interested in this solution?

Request a quotation online or talk to a solutions engineer — we reply within one business day.  
[office@serverinvest.com](mailto:office@serverinvest.com)

Official manufacturer datasheet: [serverinvest.com/product/ssg-610p-acr12n4h/datasheet/manufacture](https://serverinvest.com/product/ssg-610p-acr12n4h/datasheet/manufacture)

