

TECHNICAL DATASHEET

SUPERMICRO · EDGE & EMBEDDED

Supermicro Fanless Embedded IoT Server SYS-E302-13AD

Embedded Mini-ITX Fanless Box with 12th Gen Intel Core processor

SKU SYS-E302-13AD

Compact

Supermicro



FORM FACTOR

Compact

MAX POWER (BASE)

306 W

HEAT OUTPUT

1,044 BTU/h

PRICE

On request

REQUEST A QUOTATION ONLINE
serverinvest.com/product/sys-e302-13ad



01 Product overview

The Supermicro SYS-E302-13AD is a Fanless Embedded IoT Server built on Intel Core with up to 32 GB of memory in 1 DIMM slots.

Embedded Mini-ITX Fanless Box with 12th Gen Intel Core processor.

ServerInvest configures every SYS-E302-13AD 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

- Intel Core
- Up to 32 GB memory · 1 DIMM slots
- Total 1 bay 1 internal fixed 2.5" SATA drive bay
- Power: 1x 150W
- Networking: 2 RJ45 2.5GbE with Intel I225-LM

KEY SPECIFICATIONS

Form factor	Compact
Processor	Intel Core
Memory	1 DIMM slots, up to 32 GB
Drive bays	1
Power supply	1× 150 W
Typical power draw	450 W
Networking	2 RJ45 2.5GbE with Intel I225-LM



02 Power & thermal

Calculated for the base configuration

IDLE	TYPICAL	MAXIMUM	HEAT (MAX)	COOLING	PSU LOAD
73 W	190 W	306 W	1,044 BTU/h	0.3 kW	204%

Typical 190 W · max 306 W · single PSU rating 150 W

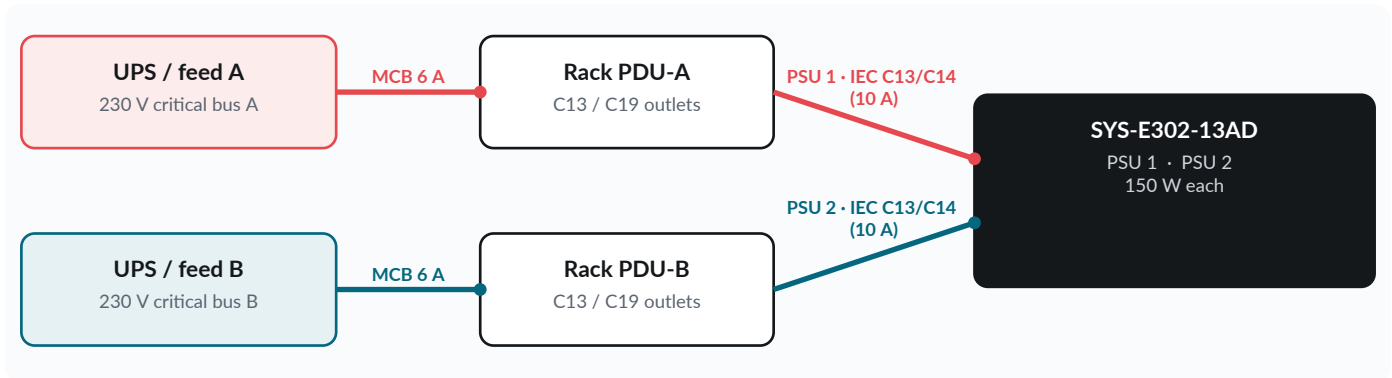
Annual IT energy (24/7)	1,357 kWh
Annual facility energy (PUE 1.5)	2,036 kWh
Annual energy cost	€271 IT · €407 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.53 t (grid factor 0.26 kg/kWh)
Power supplies	1× 150 W

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	38 W	59 W	85 W
CPU (base configuration)	25 W	110 W	185 W
2× Memory (base configuration)	6 W	10 W	18 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: 1.4 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: 306 W = 1,044 BTU/h (0.3 kW).

04 Full specifications

MOTHERBOARD

Super X13SAV-PS

PROCESSOR

CPU	Single LGA-1700 12th Gen Intel Core i3/Core i5/Core i7 UL/HL or Celeron L processor
Core Count	Up to 14C/28T; Up to 64MB Cache
Note	Supports up to 65W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory	Slot Count: 1 DIMM slots Max Memory (1DPC): Up to 32GB 4800MT/s non-ECC DDR5 SO-DIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES

Chipset	Intel SoC
Network Connectivity	2 RJ45 2.5GbE with Intel I225-LM View AOC Options

INPUT / OUTPUT

LAN	2 RJ45 2.5 GbE LAN ports (Intel I225-LM)
USB	1 USB 2.0 port 2 Type-C ports 2 ports 1 port

Video	1 HDMI 2.0b port(s) 1 DisplayPort 1.4 port
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SYSTEM BIOS

BIOS Type	AMiUEFI
BIOS Features	SMBIOS 3.0 or later UEFI 2.7 PCI FW 3.0 ACPI 6.1

MANAGEMENT

Software	Watch Dog
Power configurations	CPU thermal trip support for processor protection Control of power-on for recovery from AC power loss Wake-on-LAN ACPI 6.1 Power Management

SECURITY

Hardware	Trusted Platform Module (TPM) 2.0
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CERTIFICATIONS

Operating Systems	RHEL 9.2, Windows 10 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	Fanless Embedded
Model	CSE-E302iL3

DIMENSIONS AND WEIGHT

Height	3" (76 mm)
Width	11.6" (295 mm)
Depth	8.1" (206 mm)
Package	12" (H) x 16.45" (W) x 7.6" (D)
Weight	Gross Weight: 12 lbs (5.44 kg) Net Weight: 8 lbs (3.63 kg)
Palletized Packing (W x H x L)	50.79" (1290 mm) x 87.8" (2230 mm) x 34.25" (870 mm)
Available Color	Black

FRONT PANEL

Buttons	Power On/Off
LED	Power status

EXPANSION SLOTS

M.2	1 M.2 PCIe 3.0 x1 slot (E-key 2230(default)) 1 M.2 PCIe 3.0 x2 SATA slot (B-key 3052(default)/3042)
PCI-Express (PCIe) Configuration	View AOC Options

DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 1 bay 1 internal fixed 2.5" SATA drive bay
M.2	1 M.2 PCIe 3.0 x4 NVMe slot (M-key 2280) View M.2 Options

SYSTEM COOLING

Fans	N/A
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POWER SUPPLY

1x 150W
1x 150W power supply
Dimension (WxHxL)
151.3 x 25.4 x 75.6 mm

OPERATING ENVIRONMENT

Environmental Spec.	Operating Temperature: 0°C to 40°C (32°F to 104°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)
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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-e302-13ad/datasheet/manufacture

