TECHNICAL DATASHEET

SUPERMICRO · EDGE & EMBEDDED

Supermicro IoT SuperServer SYS-E302-12D-8C

Embedded Mini-ITX Fanless Box with Intel Xeon D processor

SKU SYS-E302-12D-8C | 1U | Supermicro

FORM FACTOR	MAX POWER (BASE)	HEAT OUTPUT	PRICE
1U	306 W	1,044 BTU/h	from €3,120

ISO 9001 · ISO 14001 · ISO 27001 · cisco · tp-link · Omada by tp-link

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/sys-e302-12d-8c

01 Product overview

The Supermicro SYS-E302-12D-8C is a Fanless Embedded IoT Server built on Intel Xeon D with up to 256 GB of memory in 4 DIMM slots.

Embedded Mini-ITX Fanless Box with Intel Xeon D processor.

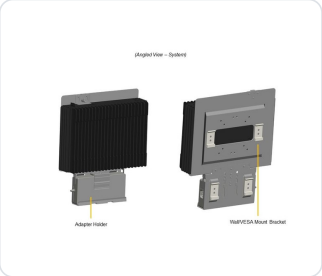
ServerInvest configures every SYS-E302-12D-8C to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

HIGHLIGHTS

- Intel Xeon D
- Up to 256 GB memory · 4 DIMM slots
- Total 1 bay 1 internal fixed 2.5" NVMe/SATA drive bay
- Power: 1x 180W
- Networking: 4 RJ45 1GBASE-T

KEY SPECIFICATIONS

Form factor	**1U**
Processor	**Intel Xeon D / Atom (embedded)**
Memory	**4 DIMM slots, up to 256 GB**
Power supply	**1× 180 W**
Typical power draw	**490 W**
Networking	**4 RJ45 1GBASE-T**
Dimensions (W×H×D)	**437 × 44 mm**



02 Base configuration

Components included in the listed base price — every part can be changed in the online configurator

COMPONENT	DESCRIPTION	QTY
Base system	**Supermicro IoT SuperServer SYS-E302-12D-8C**	1
Memory	16GB 5600MT/s DDR5 ECC Registered DIMM Module	2
Warranty & support	3-year return-to-base warranty (included)	1

Base configuration from **€3,120** excl. VAT

03 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	170%

Typical 190 W · max 306 W · single PSU rating 180 W

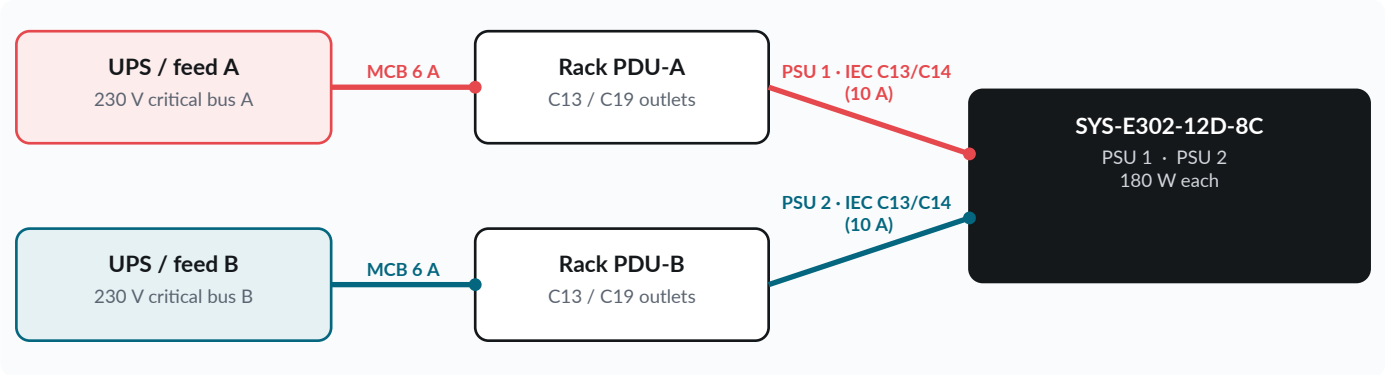
Annual IT energy (24/7)	1,357 kWh
Annual facility energy (PUE 1.5)	2,036 kWh
Annual energy cost	€271 IT · €407 incl. cooling (at 0.20 €/kWh)
CO_2 emissions / year	0.53 t (grid factor 0.26 kg/kWh)
Power supplies	1× 180 W

POWER BY COMPONENT	IDLE	TYPICAL	MAX
Chassis, motherboard, fans, BMC	38 W	59 W	**85 W**
2× Memory 16 GB DIMM	6 W	10 W	**18 W**
CPU (base configuration)	25 W	110 W	**185 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.

04 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).

05 Full specifications

MOTHERBOARD	
	Super X12SDV-8C-SP6F-01

PROCESSOR	
CPU	Single FCBGA-2227 Intel Xeon Processor D-1736NT
Core Count	Up to 8C/16T; Up to 15MB Cache

Note	Supports up to 67W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory	Slot Count: 4 DIMM slots Max Memory (2DPC): Up to 256GB 2933MT/s ECC DDR4 RDIMM View Memory Options
Memory Voltage	1.2V

ON-BOARD DEVICES

Network Connectivity	4 RJ45 1GBASE-T 2 SFP28 25GbE View AOC Options

INPUT / OUTPUT

LAN	1 RJ45 1 GbE Dedicated BMC LAN port 2 SFP28 25 GbE LAN ports 4 RJ45 1 GbE LAN ports
USB	2 USB 3.0 ports
Video	1 VGA port

SYSTEM BIOS

BIOS Type	AMI 32MB UEFI
BIOS Features	ACPI 6.3 UEFI 2.7 SMBIOS 3.3 PCI FW 3.0

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!
Power configurations	Watch Dog Function Power Button Function Restore on AC Power Loss Front USB Port(s) Rear USB Port(s)

SECURITY

Hardware	Trusted Platform Module (TPM) 2.0

CERTIFICATIONS

Operating Systems	Oracle Linux 8.3, RHEL 8.4, Windows Server 2019, Windows Server 2022 View all OS Compatibility and Certification Matrix

CHASSIS

Form Factor	Fanless Embedded
Model	CSE-E302iL

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 System information

EXPANSION SLOTS

M.2	1 M.2 PCIe 3.0 x1 NVMe slot (E-key 2230) 1 M.2 PCIe 3.0 x2 NVMe/SATA slot (B-key 2280/3042/3052)
PCI-Express (PCIe) Configuration	View AOC Options

DRIVE BAYS / STORAGE

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

SYSTEM COOLING

Fans	N/A

POWER SUPPLY

1x 180W
1x 180W power supply
Dimension (WxHxL)
151.3 x 25.4 x 75.6 mm

OPERATING ENVIRONMENT

Environmental Spec.	Operating Temperature: 0°C to 35°C (32°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)

06 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

Ready to order or need changes?

Configure this system online or talk to a solutions engineer — we reply within one business day.

office@serverinvest.com

Official manufacturer datasheet: serverinvest.com/product/sys-e302-12d-8c/datasheet/manufacturer