TECHNICAL DATASHEET

SUPERMICRO · EDGE & EMBEDDED

Supermicro IoT SuperServer SYS-E102-13R-H

Compact embedded Box PC on 3.5" Intel Raptor Lake MB

SKU SYS-E102-13R-H | 1U | Supermicro

FORM FACTOR	MAX POWER (BASE)	HEAT OUTPUT	PRICE
1U	306 W	1,044 BTU/h	from €1,400

CONFIGURE & QUOTE ONLINE

serverinvest.com/product/sys-e102-13r-h

01 Product overview

The Supermicro SYS-E102-13R-H is a Fan-based Embedded IoT Server built on Intel Core.

Compact embedded Box PC on 3.5" Intel Raptor Lake MB.

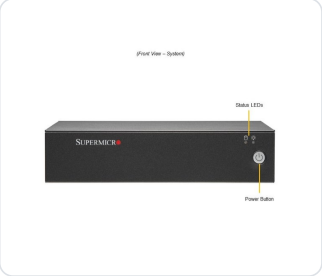
ServerInvest configures every SYS-E102-13R-H to order, updates BIOS and BMC firmware, installs your operating system on request and runs a 48-hour burn-in test before delivery. Every system includes a 3-year warranty.

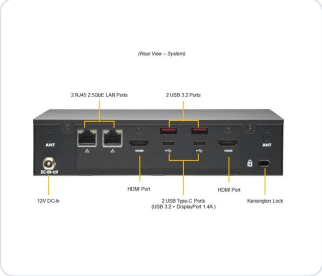
HIGHLIGHTS

- Intel Core
- Total 1 bay 1 internal fixed 2.5" SATA drive bay
- Power: 1x 84W
- Networking: 2 RJ45 2.5GbE with Intel I226-IT

KEY SPECIFICATIONS

Form factor	**1U**
Processor	**Intel Xeon D / Atom (embedded)**
Memory	**2 DIMM slots, up to 64 GB**
Typical power draw	**490 W**
Networking	**2 RJ45 2.5GbE with Intel I226-IT**
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-E102-13R-H**	**1**
Memory	16GB 5600MT/s DDR5 ECC Registered DIMM Module	**2**
Warranty & support	3-year return-to-base warranty (included)	**1**

Base configuration from **€1,400** 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	—

Typical 190 W · max 306 W

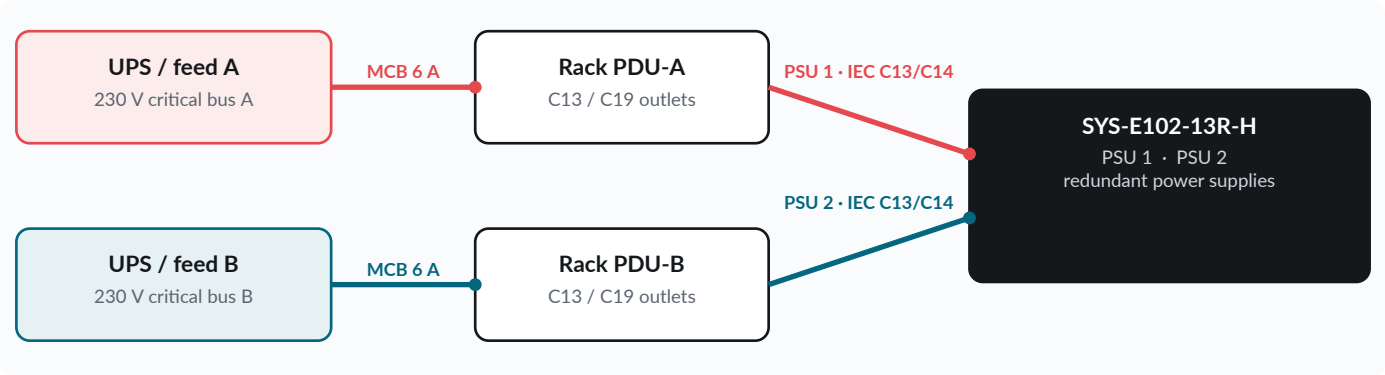
Annual IT energy (24/7)	1,357 kWh
Annual facility energy (PUE 1.5)	2,036 kWh
Annual energy cost	€271 IT · €407 incl. cooling (at 0.20 €/kWh)
CO_2 emissions / year	0.53 t (grid factor 0.26 kg/kWh)
Power supplies	Redundant hot-swap PSUs — rating depends on the final configuration

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 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 X13SRN-H-WOHS

PROCESSOR	
CPU	Single processor(s) 13th Generation Intel Core i7-1370PE Processor
Core Count	14C/20T; 24MB Cache

Note	Supports up to 28W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory	Slot Count: 2 DIMM slots Max Memory (2DPC): 64GB 4800MT/s non-ECC DDR5 SO-DIMM View Memory Options
Memory Voltage	1.1V

ON-BOARD DEVICES

SATA	SATA (6Gbps)
Network Connectivity	2 RJ45 2.5GbE with Intel I226-IT View AOC Options

INPUT / OUTPUT

LAN	2 RJ45 2.5 GbE LAN ports
USB	2 USB 3.2 Gen2 Type-A ports (Rear) 2 USB 3.2 Gen2 Type-C ports (Rear)
Video	1 HDMI 2.0b port(s) (Rear) 1 HDMI 1.4b port(s) (Rear) 2 DisplayPort over USB Type-C 1.4 ports (Rear)

SYSTEM BIOS

BIOS Type	AMIUEFI
BIOS Features	ACPI 6.4 SMBIOS 3.5 or later UEFI 2.8B PCI F/W 3.3

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	ACPI Power Management +12-24V DC Power Input Control of power-on for recovery from AC power loss Wake-on-LAN Force power-on by jumper

SECURITY

Hardware	Trusted Platform Module (TPM) 2.0

CERTIFICATIONS

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

CHASSIS

Form Factor	Fan-based Embedded
Model	CSE-E102TF2

DIMENSIONS AND WEIGHT

Height	1.72" (44 mm)
Width	7.48" (190 mm)
Depth	4.72" (120 mm)
Package	5.12" (H) x 11.81" (W) x 11.02" (D)
Weight	Gross Weight: 4.5 lbs (2 kg) Net Weight: 2.65 lbs (1.2 kg)
Palletized Packing (W x H x L)	46.5" (1180 mm) x 39.4" (1000 mm) x 37.4" (950 mm)
Available Color	Black

FRONT PANEL

Buttons	Power On/Off
LED	HDD Status Power status

EXPANSION SLOTS

M.2	1 M.2 NVMe slot (E-key 2230) 1 M.2 NVMe slot (B-key 2242/2280/3042)
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 NVMe slot (M-key 2280) View M.2 Options

SYSTEM COOLING

Fans	Up to 1x 4-PIN PWM 40x40x15mm Fan(s)

POWER SUPPLY

1x 84W
1x 84W power supply
Dimension (WxHxL)
160 x 32.2 x 58 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)

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.

ISO 9001 · ISO 14001 · ISO 27001

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-e102-13r-h/datasheet/manufacturer