

TECHNICAL DATASHEET

SUPERMICRO · EDGE & EMBEDDED

Supermicro 1U IoT Server SYS-110A-16C-RN10SP

Intel Atom Snow Ridge P5000 16-Core with embedded QAT, 300W redundant PWS, 1U edge platform

SKU SYS-110A-16C-RN10SP

1U

Supermicro



FORM FACTOR

1U

MAX POWER (BASE)

306 W

HEAT OUTPUT

1,044 BTU/h

PRICE

On request

REQUEST A QUOTATION ONLINE

serverinvest.com/product/sys-110a-16c-rn10sp

01 Product overview

The Supermicro SYS-110A-16C-RN10SP is a 1U IoT Server built on Intel Atom with up to 256 GB of memory in 4 DIMM slots.

Intel Atom Snow Ridge P5000 16-Core with embedded QAT, 300W redundant PWS, 1U edge platform.

ServerInvest configures every SYS-110A-16C-RN10SP 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 Atom
- Up to 256 GB memory · 4 DIMM slots
- Total 2 bays 2 front hot-swap 2.5" SAS/SATA drive bays
- Power: 1x 300W
- Networking: 4 RJ45 1GBASE-T with Intel I350-AM4

KEY SPECIFICATIONS

Form factor	1U
Processor	Intel Atom
Memory	4 DIMM slots, up to 256 GB
Drive bays	2
Power supply	1× 300 W
Typical power draw	450 W
Networking	4 RJ45 1GBASE-T with Intel I350-AM4
Dimensions (W×H×D)	437 × 44 mm



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	102%

Typical 190 W · max 306 W · single PSU rating 300 W

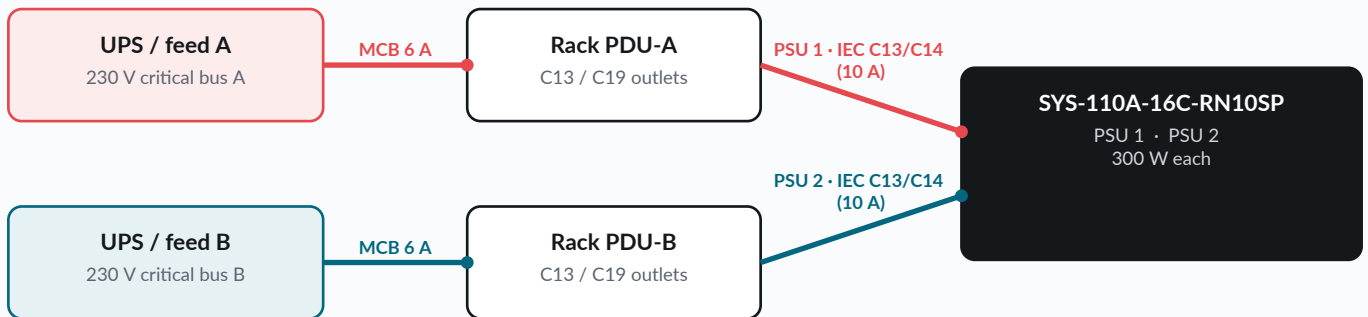
Annual IT energy (24/7)	1,357 kWh
Annual facility energy (PUE 1.5)	2,036 kWh
Annual energy cost	€271 IT · €407 incl. cooling (at 0.20 €/kWh)
CO ₂ emissions / year	0.53 t (grid factor 0.26 kg/kWh)
Power supplies	1× 300 W

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 A3SSV-16C-SPLN10F

PROCESSOR

CPU Single FCBGA-2106
Intel Atom Snow Ridge P5342

Note Supports up to 71W TDP CPUs (Air Cooled)

SYSTEM MEMORY

Memory Slot Count: 4 DIMM slots
Max Memory (2DPC): Up to 256GB 2667MT/s ECC DDR4 RDIMM
View Memory Options

Memory Voltage 1.2V

ON-BOARD DEVICES

SATA SATA (6Gbps)

Network Connectivity 4 RJ45 1GBASE-T with Intel I350-AM4
4 RJ45 1GBASE-T with Marvell 88E1543
2 SFP28 25GbE with Intel P5000 SoC
View AOC Options

INPUT / OUTPUT

LAN 1 RJ45 1 GbE Dedicated BMC LAN port
2 SFP28 25 GbE LAN ports
8 RJ45 1 GbE LAN ports

USB 2 Type-A ports

Video 1 VGA port

SYSTEM BIOS

BIOS Type	AMI 32MB UEFI
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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 ATX Power connector +12V DC Power Input CPU thermal trip support for processor protection
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SECURITY

Hardware	Trusted Platform Module (TPM) 2.0
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PC HEALTH MONITORING

Fan	3 fans with tachometer status monitoring, Status monitoring for speed control Pulse Width Modulated (PWM) fan connectors Support 3-pin fans (w/o speed control)
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Temperature	CPU thermal trip support Thermal Control for 3 Fan Connectors
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CERTIFICATIONS

Operating Systems	RHEL 9.0 View all OS Compatibility and Certification Matrix
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CHASSIS

Form Factor	1U Rackmount
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Model	CSE-506TS-R000NP
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DIMENSIONS AND WEIGHT

Height	1.7" (43 mm)
Width	17.2" (437 mm)
Depth	9.8" (249 mm)
Package	6.1" (H) x 25.8" (W) x 18.3" (D)
Weight	Gross Weight: 12 lbs (5.44 kg) Net Weight: 8 lbs (3.63 kg)
Available Color	Black

FRONT PANEL

Buttons	Power On/Off Reset On/Off
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LED	HDD Status LAN1 activity LAN2 activity Power status System information
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EXPANSION SLOTS

PCI-Express (PCIe) Configuration	Default 1 PCIe 3.0 x8 HHHHL slot View AOC Options
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DRIVE BAYS / STORAGE

Drive Bays Configuration	Default: Total 2 bays 2 front hot-swap 2.5" SAS/SATA drive bays
M.2	1 M.2 SATA slot (M-key 2242/2280/22110; USB 2.0) 1 M.2 SATA slot (B-key 2242/2280/3042; USB 2.0) 1 M.2 SATA slot (E-key 2230; USB 2.0) View M.2 Options

SYSTEM COOLING

Fans	Up to 3x 4-PIN PWM 40x28mm Fan(s)
Air Shroud	1 Air Shroud

POWER SUPPLY

1x 300W
1x 300W Redundant Gold Level (90%) power supply
Dimension (WxHxL)
106 x 40.5 x 220 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-110a-16c-rn10sp/datasheet/manufactur

