CSB1-N10 Power Server

- RK3588S, RK3588, RK3576
- BM1688
- Jetson Orin Nano, Jetson Orin NX

V1.0 2025-10-9

T-CHIP INTELLIGENCE TECHNOLOGY

Product features

10 computing nodes, providing strong computing power

The server has 10 built-in distributed computing nodes, and you can choose from Rockchip, Computing, NVIDIA and other platforms. Each node can provide 6TOPS-157TOPS computing power, and 10 computing nodes can be optional.

Up to 10 channels of 8K video decoding

It supports up to 10 channels of 8K@30fps and 20 channels of 4K@60fps video decoding, and 10 channels of 4K@60fps video encoding, with strong video processing capabilities to meet the needs of various AI application scenarios.

Supports the private deployment of large language models

It supports the privatization deployment of large models such as mainstream language models (Gemma, Llama, Qwen), large visual models (EfficientVIT, SAM, TAM), and image generation models (Flux, Stable Diffusion).

Supports a variety of deep learning frameworks

Support traditional network architectures such as CNN, RNN, LSTM, etc. Supports multiple deep learning frameworks such as TensorFlow, PyTorch, PaddlePaddle, ONNX, Caffe, etc., and supports custom operator development.

Product features

Supports 3.5-inch SATA3.0 HDD/SSD

Configure a 3.5-inch (or 2.5-inch) hard drive bay and support SATA3.0 HDD/SSD hard drive expansion, allowing the device to easily expand to terabytes of ultra-large capacity, and support hot-swappable quick replacement to meet one-stop deployment needs such as file management, data backup, and video surveillance.

Secure and high-speed network communication

It has 2×10GE ports (SFP+) , 2×Gigabit Ethernet ports, and 1×BMC management network interface, so that network communication has a higher speed.

Equipped with BMC management system

Equipped with BMC intelligent management system, it can easily complete real-time monitoring, software configuration, hardware management, troubleshooting, system upgrade, and can provide secondary development.

Standard 1U rack server

Highly dense and tightly deployed; The standard 1U rack server chassis design perfectly matches most types of cabinets in the data center.

Specifications

		BM1688	RK3576	RK3588	RK3588S	Jetson Orin Nano(8GB)	Jetson Orin NX(16GB)
Technical Specifications	Product model	CSB1-N10S1688	CSB1-N10R3576	CSB1-N10R3588	CSB1-N10R3588S	CSB1-N10NOrinNano	CSB1-N10NOrinNX
	Server form	1U rack-mounted computing power server					
	Architecture	ARM architecture					
	Number of nodes	10 distributed computing nodes + 1 control node					
	Compute nodes	Octa-core 64-bit processor BM1688, up to 1.6GHz	Octa-core 64-bit processor RK3576, up to 2.2GHz	Octa-core 64-bit processor RK3588, up to 2.4GHz	Octa-core 64-bit processor RK3588S2, up to 2.4GHz	Hexa-core 64-bit processor NVIDIA Jetson Orin Nano, up to 1.7GHz	Octa-core 64-bit processor NVIDIA Jetson Orin NX, up to 2.0GHz
	Control nodes	Octa-core 64-bit processor RK3588, main frequency up to 2.4GHz, the highest computing power is 6TOPS					
	AI computing power	160TOPS (16T × 10, INT8)	60TOPS (6T × 10, INT8)	60TOPS (6T × 10, INT8)	60TOPS (6T × 10, INT8)	670TOPS (67T × 10, INT8)	1570TOPS (157T × 10, INT8)
	RAM	8GB LPDDR4 × 10 (4/8/16GB)	8GB LPDDR4/LPDDR5 × 10 (4/8/16GB)	16GB LPDDR4 × 10 (4/8/16/32GB)	16GB LPDDR5 × 10 (4/8/16/32GB)	8GB LPDDR5 × 10	16GB LPDDR5 × 10
	Storage	32GB eMMC × 10 (16/32/64/128/256GB)	64GB eMMC × 10 (16/32/64/128/256GB)	256GB eMMC × 10 (16/32/64/128/256GB)	256GB eMMC × 10 (16/32/64/128/256GB)	256GB (2242 PCIe NVMe SSD, the server is internally assembled)	
	Storage Expansion	3.5-inch/2.5-inch SATA3.0/SSD hard drive slot × 1 (BMC can directly operate the hard drive, and computing child nodes can indirectly access the hard drive through the network sharing method provided by BMC)					
	Power	550W AC power supply (Input: 90V AC~264V AC, 47 Hz~63 Hz, 8A) (Hot swappable not supported)					
	Fan module	6 high-speed cooling fans					
Physical Specifications	Size	494.0mm(L) × 440.5mm(W) × 44.4mm(H)					
	Installation requirements	IEC 297 Universal Cabinet Installation: 19 inches wide and 800 mm deep and above Retractable slideway installation: The distance between the front and rear holes of the cabinet is 543.5mm~848.5mm					
	Full weight	Server net weight: 8.1kg, total weight with packaging: 10.3kg					
	Environment	Operating Temperature: 0°C ~ 45°C, Storage Temperature: -40°C ~ 60°C, Operating Humidity: 5% ~ 80%RH(non-condensing)					
Software Specifications	BMC	The BMC management system is integrated with the web-based management interface, supporting Redfish, VNC, NTP, monitoring advanced and virtual media, and the BMC management system can be redeveloped					
	Large language models	All models support the privatization of ultra-large-scale parametric models under the Transformer architecture, such as Deepseek-R1 series, Gemma series, Llama series, ChatGLM series, Qwen series, Phi series and other large language models					
	Visual large model	Jetson Orin Nano/Jetson Orin NX: Supports the privatization deployment of large vision models such as EfficientVIT, NanoOWL, NanoSAM, SAM, TAM, etc.					
	AI Painting	Jetson Orin Nano/Jetson Orin NX: Support the private deployment of Flux, Stable Diffusion, and Stable Diffusion XL image generation models					
	Deep learning	All models: Support traditional network architectures such as CNN, RNN, LSTM, and support various deep learning frameworks such as TensorFlow, PyTorch, PaddlePaddle, ONNX, and Caffe. Support custom operator development and Docker containerization management technology Jetson Orin Nano/Jetson Orin NX: Supports Ollama local large model deployment framework and ComfyUI graphical deployment framework					
Interface Specifications	Internet	2 × 10G Ethernet (SFP+), 2 × Gigabit Ethernet (RJ45), 1 × Gigabit Ethernet (RJ45, MGNT is used as BMC management network)					
	Console	1 × Console (RJ45, BMC debug serial port, baud rate 115200)					
	Display	1 × VGA (maximum resolution 1080P, BMC management display)					
	USB	2 × USB3.0 (The lower USB is USB3.0 OTG, and the BMC can be upgraded OTG by using a USB flash drive)					
	Button	1 × Reset, 1 × UID, 1 × Power					
	Other interfaces	1 × RS232 (DB9, baud rate 115200),1 × RS485 (DB9, baud rate 115200)					

Interface description

Front view

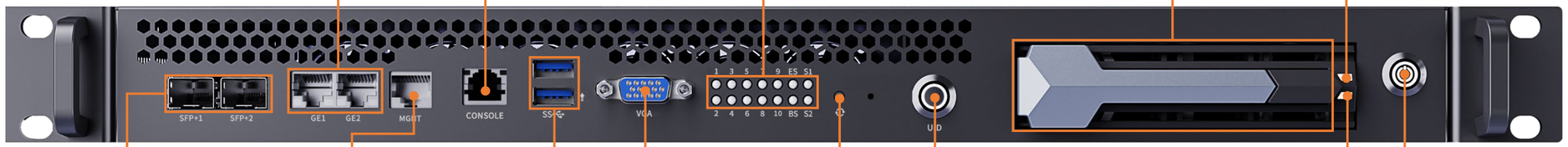
Work indicator
1-10: working status indicator of the computing node, and each node corresponds to one status indicator
ES: switch system status indicator
BS: BMC health status indicator
S1: SFP+1 10GE status indicator
S2: SFP+2 10GE status indicator

2×GE
1000Mbps/RJ45

Console
BMC debugging serial port

3.5-inch/2.5-inch SATA3.0/SSD Hard Drive Slot

Hard disk fault indicator



2×10GE
SFP+

MGNT
RJ45/Used as BMC management network

2×USB3.0
Lower USB is OTG

VGA
1080P

Reset
Restart BMC: Short press
Reset password: Press and hold for 5 seconds until the BS light flashes slowly
Factory reset: Press and hold for 10 seconds until the BS light flashes quickly
Accidental press recovery: Press and hold without releasing until the BS light returns to solid on

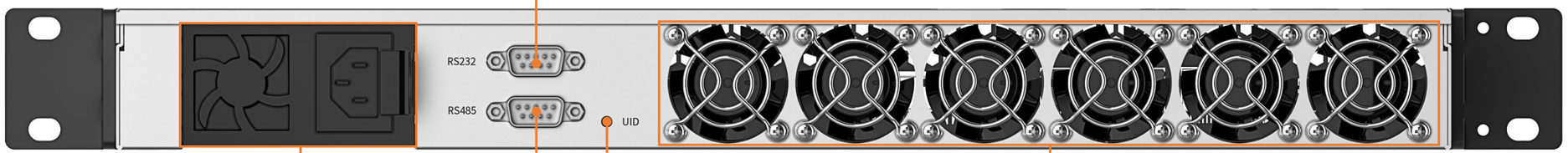
Hard disk Active indicator

Power button
Blue (solid): The server is in standby
Blue (flashing): BMC management system is starting
Green (solid): The server is powered on
Off: The server is not powered on

UID button
UID Indicator (Bezel)
Off: The server is not located
Blue blinking (blinking for 255 seconds): The server is focused

Rear view

RS232
DB9, baud rate 115200



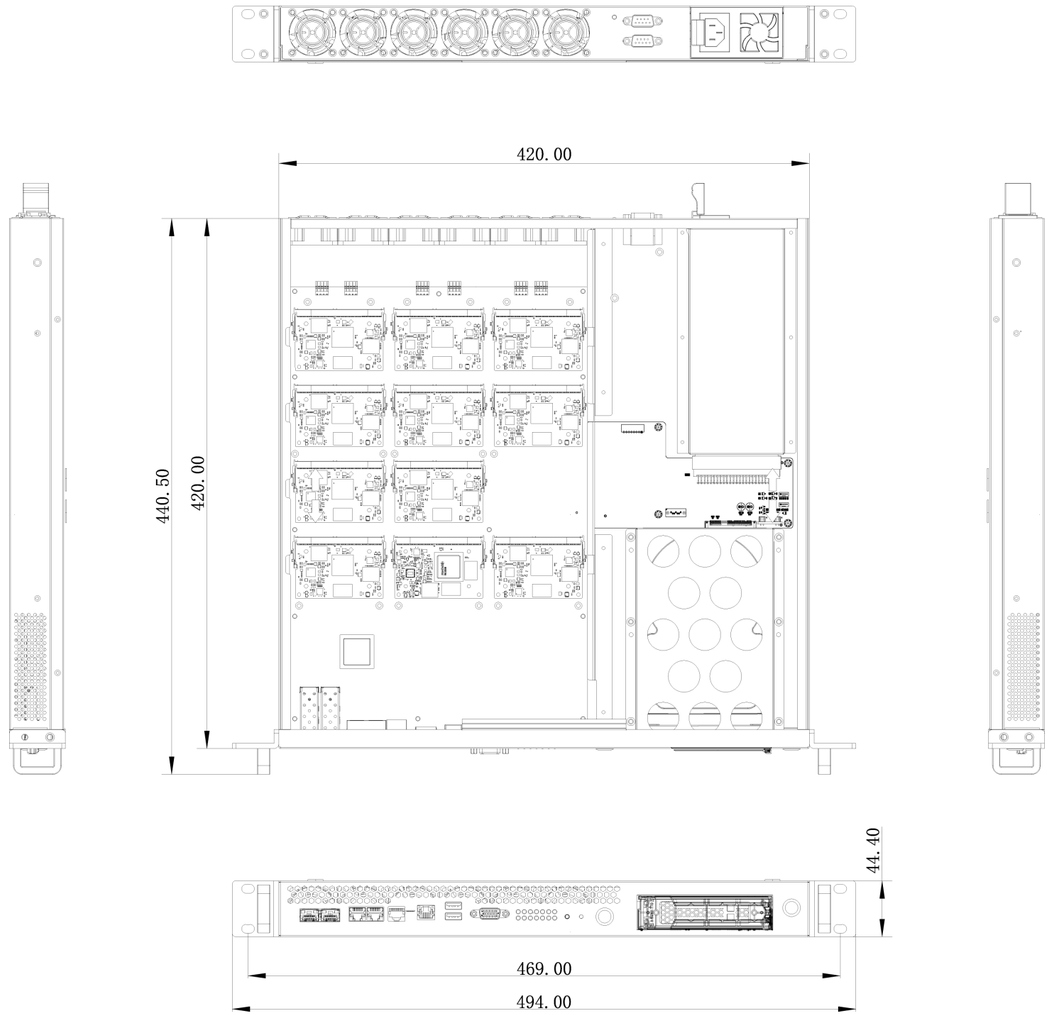
Power module
550W AC power supply
(90V AC ~ 264V AC, 47 Hz ~ 63 Hz, 8A)

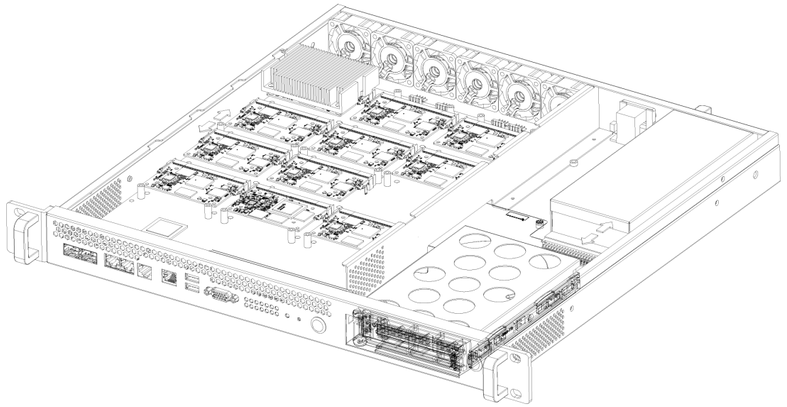
RS485
DB9, baud rate 115200

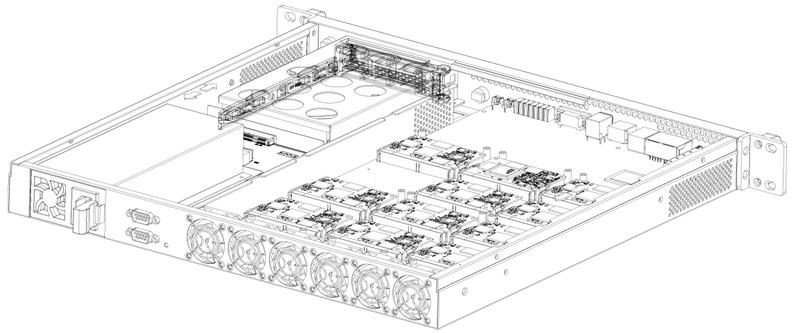
UID indicator
Off: The server is not located
Blue blinking (blinking for 255 seconds): The server is focused

Fan module
6 high-speed cooling fans

Dimension







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