CSB2-N10 Power Server

RK3588S, RK3576

BM1684X, BM1688

Jetson Orin Nano, Jetson Orin NX

V1.0   2025-12-29

FIREFLY 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.

196 channels of video AI processing capabilities

It supports AI processing of 196 video streams (the specific processing performance varies depending on the specifications of the core board and the type of AI model running), and has powerful multi-task concurrent processing capabilities, which can be widely used in AI application scenarios such as intelligent security and edge computing.

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 six 3.5-inch SATA3.0 HDD/SSD

Boasting six 3.5-inch (or 2.5-inch) drive bays, the device supports SATA3.0 HDD/SSD expansion for effortless TB-level large capacity storage. With hot-swappable functionality for quick drive replacement, it perfectly meets one-stop deployment needs for file management, data backup, and video surveillance scenarios.

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 2U rack server

Highly dense and tightly deployed; The standard 2U rack server chassis design perfectly matches most types of cabinets in the data center.

Widely applicable scenarios

Widely applicable to: edge computing, large model localization, smart cities, smart healthcare, smart industry, intelligent security, and other related products and fields.
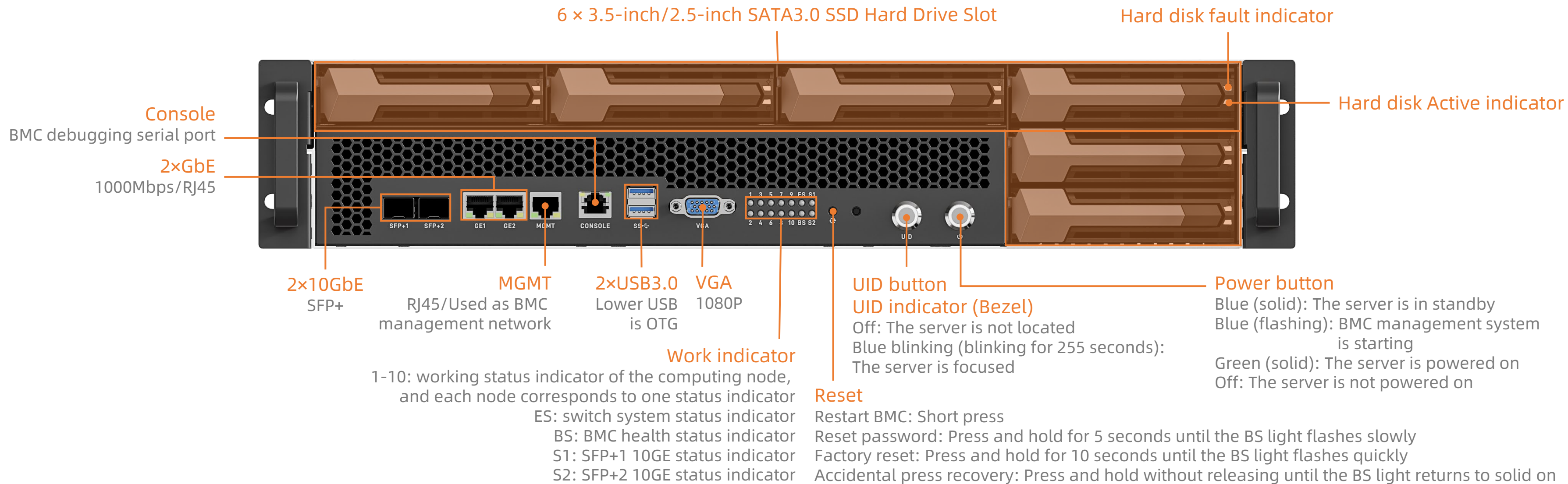
Specifications

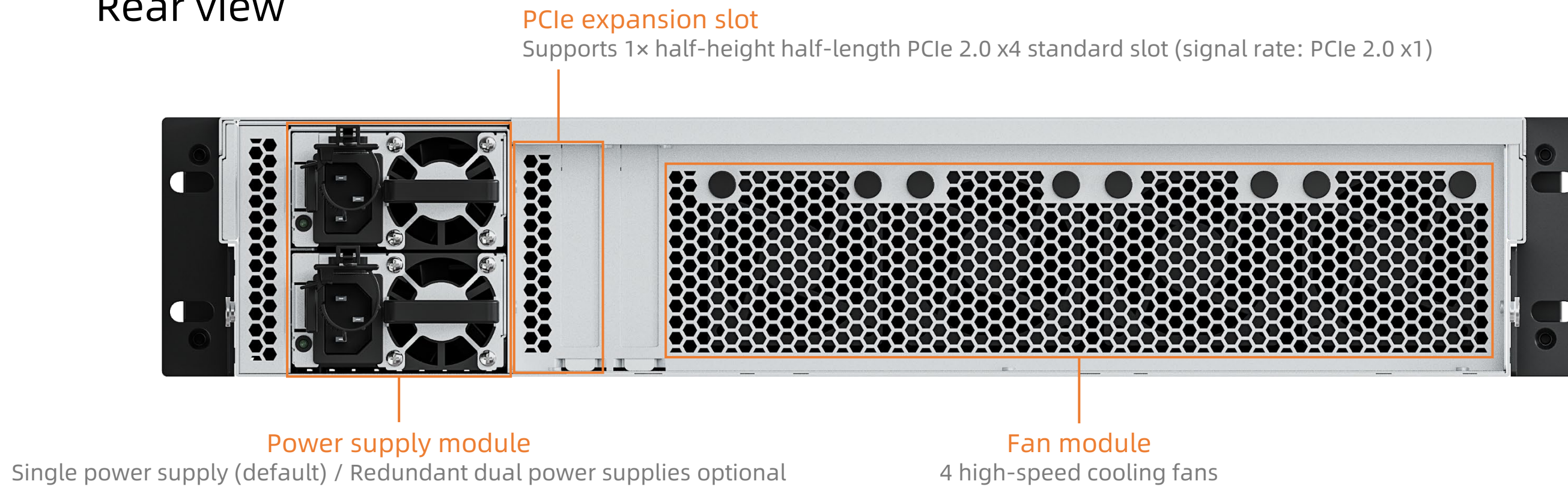|		BM1684X	BM1688	RK3576	RK3588S	Jetson Orin Nano(8GB)	Jetson Orin NX(16GB)
	Product model	CSB2-N10S1684X	CSB2-N10S1688	CSB2-N10R3576	CSB2-N10R3588S	CSB2-N10NOrinNano	CSB2-N10NOrinNX
	Launch Status	Launched	Launching in Q2 2026	Launching in Q2 2026	Launching in Q2 2026	Launching in Q2 2026	Launching in Q2 2026
	Server form	2U 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 BM1684X, up to 2.3GHz	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 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
Technical Specifications	Video encoding	H.265&H.264: 3×4K@25fps, 12×1080P@25fps	H.265&H.264: 10×1080P@30fps	H.265&H.264: 1×4K@60fps	H.265&H.264: 1×8K@30fps, 16×1080P@30fps	1080P@30fps, supported by 1-2 CPU cores	H.265: 1×4K@60fps, 3×4K@30fps 6×1080P@60fps, 12×1080P@30fps
	Video decoding	H.265&H.264: 8×4K@25fps, 32×1080P@25fps H.265: 1×8K@25fps	H.265&H.264: 10×1080P@30fps	1×4K@120fps (H.265/HEVC,VP9,AVS2,AV1) 1×4K@60fps (H.264/AVC)	8K@60fps/4K@120fps (H.265/VP9/AVS2) 8K@30fps (H.264/AVC/MVC) 30×1080P@30fps (H.265&H.264)	H.265: 1×4K@60fps, 2×4K@30fps, 5×1080P@60fps, 11×1080P@30fps	H.265: 1×8K@30fps, 2×4K@60fps, 4×4K@30fps, 9×1080P@60fps, 18×1080P@30fps
	Control nodes	Octa-core 64-bit processor RK3588, main frequency up to 2.4GHz, the highest computing power is 6TOPS					
	AI computing power	320TOPS (32T × 10, INT8)	160TOPS (16T × 10, INT8)	60TOPS (6T × 10, INT8)	60TOPS (6T × 10, INT8)	670TOPS (67T × 10, INT8)	1570TOPS (157T × 10, INT8)
	RAM	8GB LPDDR4 × 10 (8/12/16GB)	8GB LPDDR4 × 10 (4/8/16GB)	8GB LPDDR4/LPDDR5 × 10 (4/8/16GB)	16GB LPDDR5 × 10 (4/8/16/32GB)	8GB LPDDR5 × 10	16GB LPDDR5 × 10
	Storage	32GB eMMC × 10 (32/64/128GB)	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 (2242 PCIe NVMe SSD, the server is internally assembled)	
	Storage expansion	3.5-inch/2.5-inch SATA3.0 SSD hard drive slot × 6 (Supports hot swapping; 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)					
	PCIe expansion slot	Supports 1 × half-height half-length PCIe 2.0 x4 standard slot (signal rate: PCIe 2.0 x1)					
	Power	Single power supply (default) / Redundant dual power supplies optional					
	Fan module	4 high-speed cooling fans					
Physical Specifications	Size	487.9mm(L) × 530.59mm(W) × 88.8mm(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: 11.5kg, total weight with packaging: 13.7kg					
	Environment	Operating Temperature: 0ºC ~ 42ºC, Storage Temperature: -40ºC ~ 60ºC, 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	BM1684X: Support the privatization deployment of large visual models such as ViT, Grounding DINO, SAM, etc. Jetson Orin Nano/Jetson Orin NX: Supports the privatization deployment of large vision models such as EfficientVIT, NanoOWL, NanoSAM, SAM, TAM, etc.					
	AI Painting	BM1684X/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, MGMT 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 (Lower USB port is USB3.0 OTG, supporting BMC upgrade via USB flash drive) 1 × USB2.0 (Internal USB2.0 port, maintains appearance integrity and enables expansion of internal dongles, Bluetooth, Wi-Fi modules, etc.)					
	Button	1 × Reset, 1 × UID, 1 × Power					

Interface description

Front view

6 × 3.5-inch/2.5-inch SATA3.0 SSD Hard Drive Slot

Hard disk fault indicator

Hard disk Active indicator

Console
BMC debugging serial port

2×GbE
1000Mbps/RJ45

2×10GbE
SFP+

MGMT
RJ45/Used as BMC management network

2×USB3.0
Lower USB is OTG

VGA
1080P

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

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

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

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

Interface description

Rear view

PCIe expansion slot
Supports 1× half-height half-length PCIe 2.0 x4 standard slot (signal rate: PCIe 2.0 x1)

Power supply module
Single power supply (default) / Redundant dual power supplies optional

Fan module
4 high-speed cooling fans

Dimension

507.40

448.50

530.59

88.80

487.90

31.20

476.20
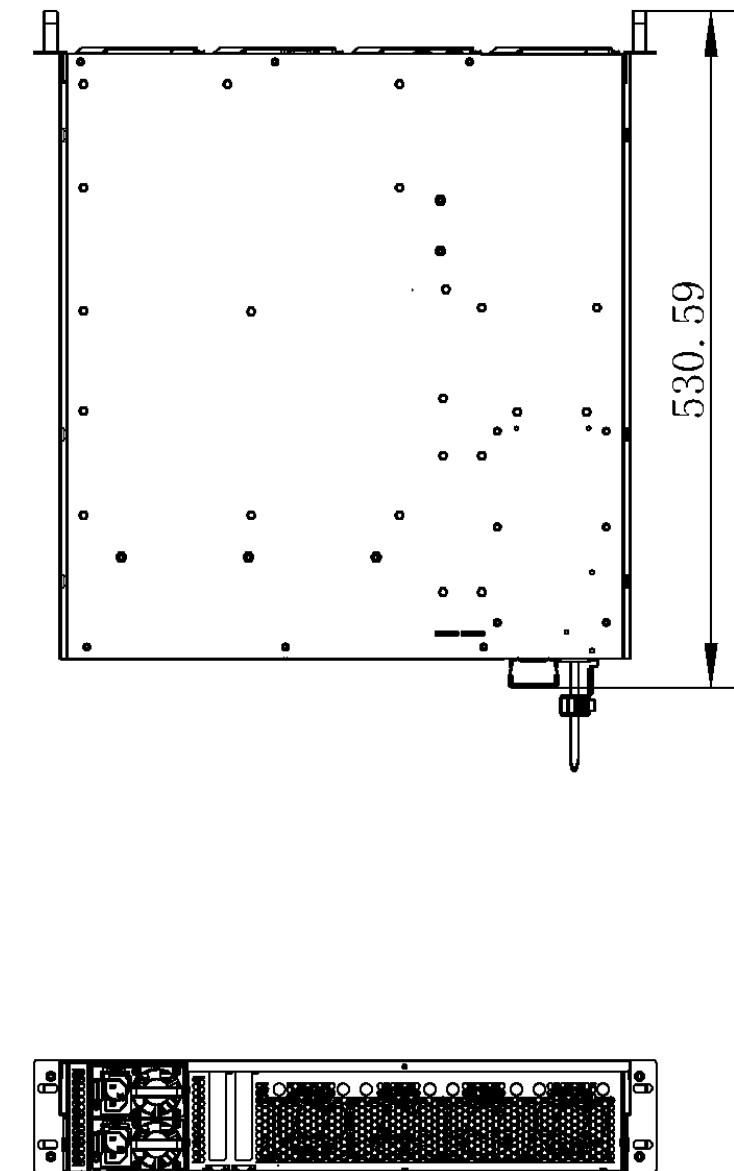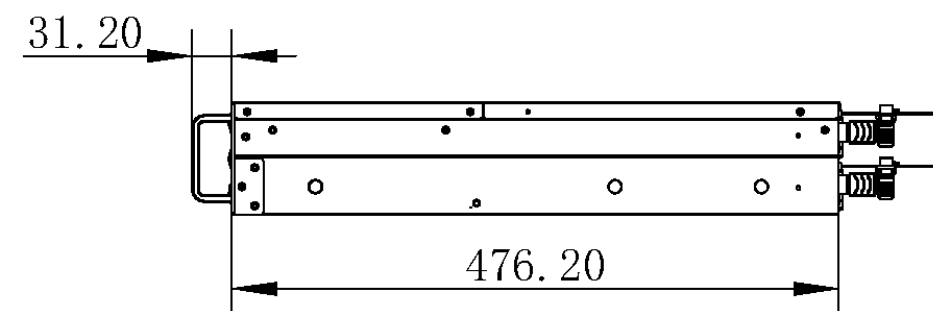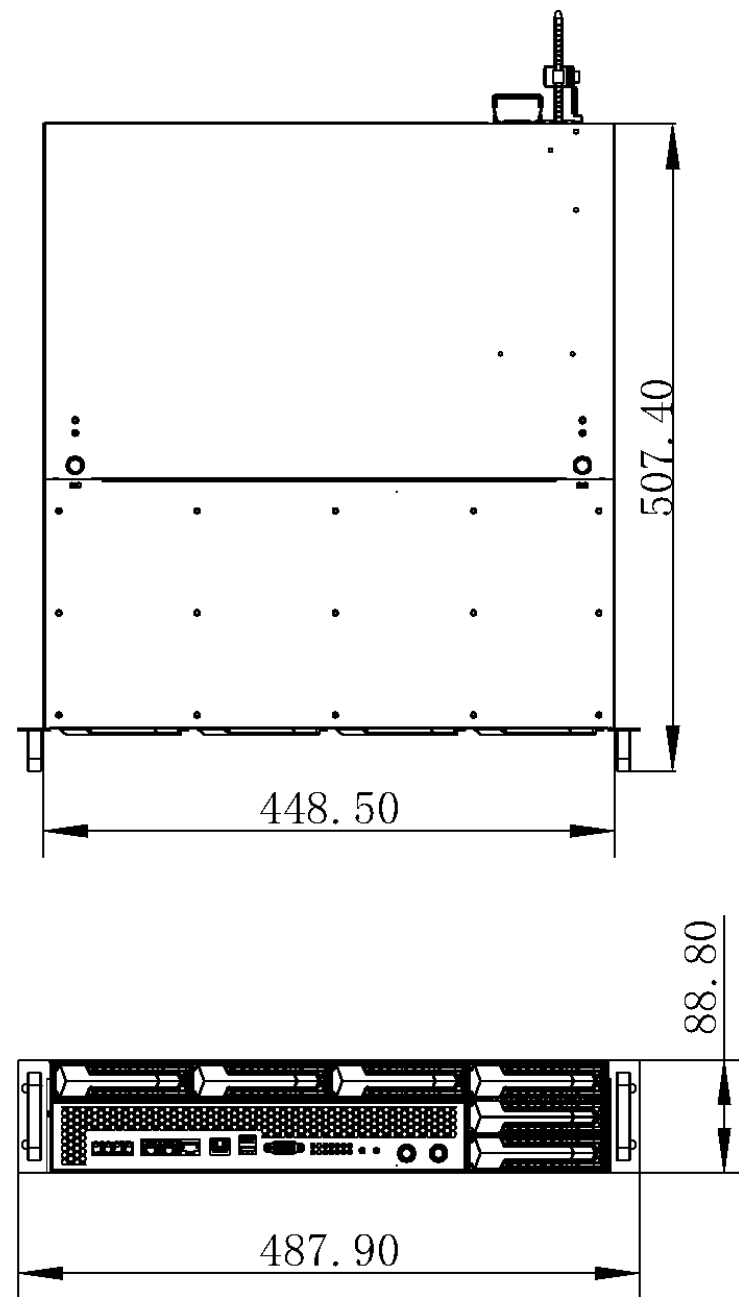
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