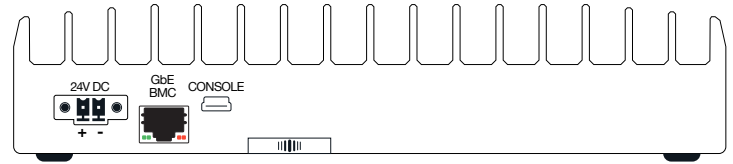


extremeEDGE Server™ 2000 Series



Product Overview

The 2000 series brings powerful processing to the extreme edge, enabling remote system monitoring and management via the built-in NANO-BMC (Baseboard Management Controller).

The fanless enclosure offers scalability with memory and storage configurations.

These products can be powered through a standard DC input or, on select models, via optional PoE+ (30 W).

Common IO features include USB-A 3.2 as well as Dual 2.5GbE, and Dedicated BMC GbE Ports.

Control at the extremeEDGE...

The first of its kind, offering NANO-BMC out-of-band management in a small form factor enables remote management of edge devices at the extremeEDGE.

Functionality Overview: Monitor, control, and manage hardware health and performance.

NANO-BMC Features:

Features	Function	Notes
Remote Console Access:	Accessing the system console for diagnostics and troubleshooting	Serial over IP
Remote Power Management:	Power-on/off control, power cycling reset	Hard & soft
Virtual Drive:	Make a local file or directory appear as a Drive on the Remote System	This allows updating the BIOS, installing an OS, or loading files remotely onto the system
Firmware Updates	Updating firmware remotely	N/A

BMC Benefits:

- Remote access to hardware even when the main system is powered off (useful for troubleshooting).
- Increased system uptime and faster problem resolution.
- Improved power management and resource utilization.
- Remote Management reduces support cost.

Remote Access Methods:

- Dedicated BMC management interface.
- Integration with system management software.
- In-Band management through OS applications (SSH, Telnet, etc) *excluding windows

Architecture

The 2000 series leverages a range of powerful AMD processors, including the V3C18I and the 8840U.

Features	EE-2000	EE-2200
Processor	AMD Ryzen V3C18I (Zen 3)	AMD Ryzen 7 8840U (Zen 4)
BMC	NANO-BMC	NANO-BMC
Console Port	USB Chip (FTDI RS232 Controller)	USB Chip (FTDI RS232 Controller)
TPM (Discrete)	TPM 2.0	TPM 2.0
Max Memory	96 GB	96 GB
Max Storage	8 TB	8 TB
Max Drives	2x 2280 PCIe Gen 4	2x 2280 PCIe Gen 4
USB	2x USB-A 3.2	2x USB-A 3.2
Network	2x 2.5GbE 2x 10GbE SFP+ 1x 1GbE BMC (Optional POE+ Input)	2x 2.5GbE 1x 1GbE BMC (Optional POE+ Input)
Cooling	Passive	Passive
Wifi-AC + Bluetooth	N/A	N/A
4G / 5G Modem	N/A	N/A
POE+ PD	Optional	Optional
Display Out	Headless	2x Mini-DP
Video Chipset	N/A	Radeon 780M 12 Compute Units 2x 3840x2160@120Hz 1x 7680x4320@60Hz * Hardware Accelerators
AI Accelerator	Optional Module	38 TOPS + Optional Module
Operating Temperature	-40°C to 60°C	
Mounting (Optional)	DIN-Rail, 1U Rack Mount	

* Untested feature

Product Differentiating Features

Built for the Edge: Power and Efficiency in a Compact Design

The 2000 series thrives in edge computing applications where space is limited and on-site processing is crucial. Its compact size brings powerful computing to the edge of your network, while remote monitoring and management capabilities enhance security and simplify control.

Quiet Operation, Lower Costs

This fanless system operates silently and consumes minimal power – up to 28 watts under load, significantly less than a traditional server with a single CPU. This translates to lower energy costs and a reduced environmental footprint.

Flexible Mounting, Scalable Performance

The 2000 series adapts to diverse environments with its DIN rail compatibility, making installation a breeze. Additionally, it supports memory and storage configurations, allowing you to tailor the system to your specific data storage and management requirements.

NANO-BMC (Baseboard Management Controller)

The 2000 series redefines remote management with its built-in NANO-BMC module. This module enables secure out-of-band access for monitoring, control, and power management, including remote power cycling, reboots, virtual drive and critical BIOS updates.

Display Support

The EE-2200 systems is equipped with an integrated GPU, and supports up to 4 x 4k displays via 2 x Mini DisplayPort (mDP)

SFP+ Key Features

- **High-Speed Connectivity:** Supports data transfer rates up to 25* Gigabits per second (Gbps) per port, enabling significant performance improvements over traditional Gigabit Ethernet connections.
- **SFP+ Interface:** Compatible with SFP+ transceivers (sold separately), providing flexibility for various network cable types (Fiber Optic or Copper) based on your specific needs.
- **Dual-Port Design:** This enables you to connect two separate 10 Gb/s devices, expanding your network bandwidth and facilitating communication between high-performance systems.

* Speed will vary by model

SFP+ Benefits

- **Ideal for Demanding Applications:** Perfect for applications requiring high-bandwidth data transfer, such as data centers, cloud computing environments, video editing workstations, and more.
- **Future-Proofs Your Network:** Prepares your network for future data transfer needs and supports demanding workloads.
- **Increased Scalability:** Allows you to easily connect multiple high-performance devices to your network. Note: SFP+ transceivers are required for operation (not included) and should be chosen based on your desired network cable type (fiber optic or copper) and transmission distance.

Expandable Memory

The 2000 Series allows for a wide range of memory configurations as noted below.

Memory

Feature	Maximum Configurations	Supported Types
Non-ECC	16 GB, 32 GB, 64 GB, 96 GB	DDR5-5600 2x SODIMM / Dual Channel
ECC	32 GB, 64 GB, or 96 GB	DDR5-5600 2x ECC SODIMM / Dual Channel

AI Support

The 2000 Series supports an optional AI Acceleration module via one of the two available M.2 slots. This enables AI Compute Acceleration at a higher performance and lower power. Inferencing and Neural-Network processing can be performed using widely available AI Accelerators. User coding is required for your application.

The 2200 have native AI acceleration within the processor as shown in the table below:

AI Engine Capabilities	AMD Ryzen 7 7840U (Zen 4)	AMD Ryzen 7 8840U (Zen 4)
NPU	Available	Available
Platform Performance	Up to 32 TOPS	Up to 38 TOPS
NPU Performance	Up to 10 TOPS	Up to 16 TOPS

Additional Product Protection

The 2000 series of products can be treated with a “Conformal Coating” at the PCBA level allowing for a higher level of protection against dust, moisture, and harsh chemical intrusion.

System Power Consumption (Runtime)

Model	Watts
EE-2000	Up to 25 Watts
EE-2200	Up to 28 Watts

System Dimensions & Weight

Dimensions	Weight
177.8 mm (W) x 88.9 mm (L) x 38.1 mm (H) 7" (W) x 3.5" (L) x 1.5" (H)	~2.125 Lbs / 0.96Kg

Note: Weight depends on configuration

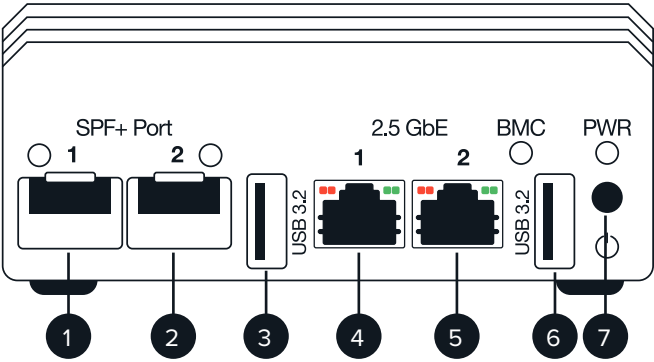
Certifications - Shock and Vibe future Certs WIP

Certifications	Notes
FCC	Federal Communication Commission
CE	Consumer Electronics
ROHS	Restriction Of Hazardous Substances
REACH	Registration / Evaluation / Authorization / Restriction Of Chemicals

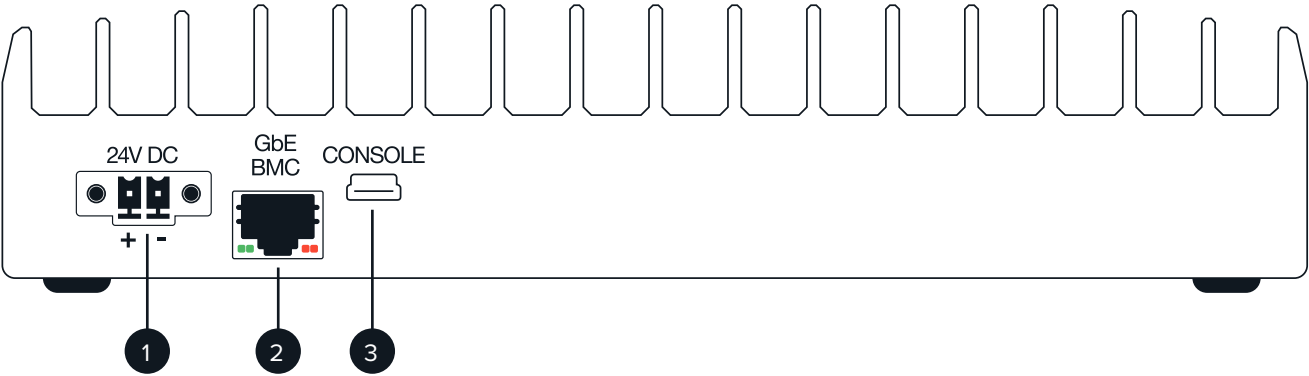
Service & Support

Global Support	
Integration Services	Custom Configuration Service - BIOS Settings, Imaging, System Configuration & Labeling
Deployment Services	Field Deployment Management
Support	In-region Technical Support

Illustrated I/O Port Overview EE-2000

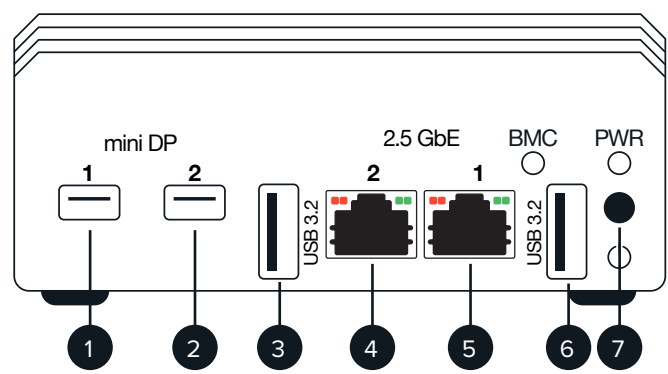


FRONT			
1	SFP+ Port	5	2.5 GbE
2	SFP+ Port	6	USB-A 3.2
3	USB-A 3.2	7	POWER BUTTON
4	2.5 GbE		

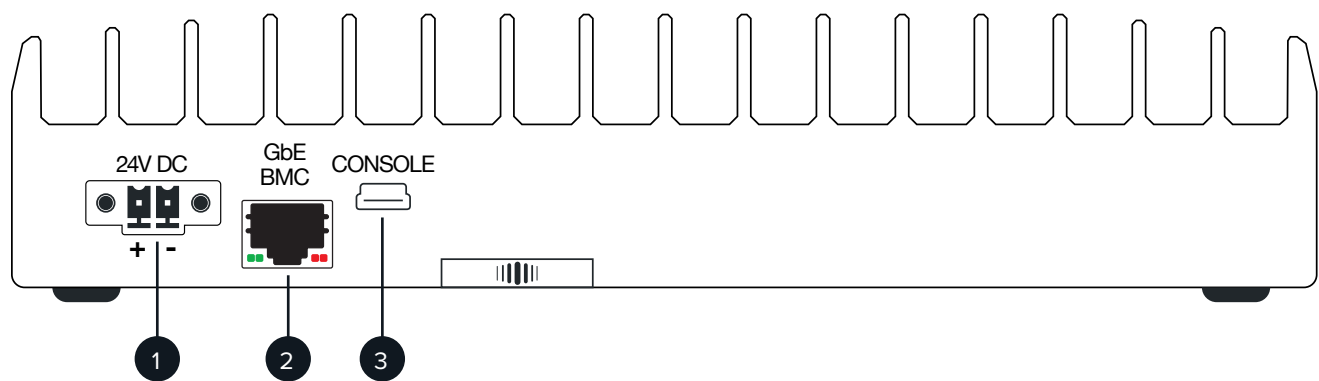


RIGHT	
1	24V DC
2	GbE BMC
3	BMC CONSOLE

Illustrated I/O Port Overview EE-2200



FRONT			
1	MINI-DP	5	2.5 GbE
2	MINI-DP	6	USB-A 3.2
3	USB-A 3.2	7	POWER BUTTON
4	2.5 GbE		



RIGHT	
1	24V DC
2	GbE BMC
3	BMC CONSOLE



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