

RGS-9805GC

Rugged AMD® EPYC™ 9005 Turin series HPC server supporting 2x 400W GPUs, 5x additional PCIe slots, and 2x 10GbE ports



Key Features

- Supports dual 400W NVIDIA® FHFL GPUs via PCIe Gen5 x16
- 5x additional PCIe Gen5 x16 slots (x16/x8 signal) for add-on cards
- Up to 160 cores/ 320 threads AMD® EPYC™ 9005 400W processor
- Up to 384GB DDR5 6000 ECC RDIMM (6x RDIMM)
- 1x system monitoring port by automotive MCU
- 9V to 32V wide DC input with ignition control
- -25°C to 60°C rugged operation
- Compact 3U 19" rack-mount enclosure with only 388mm depth
- MIL-STD-810H compliant, wall/rack-mount ready

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Introduction

Driven by AMD® EPYC™ 9005 Series Turin processors and two NVIDIA® RTX PRO™ 6000 GPUs, the RGS-9805GC is a rugged HPC server engineered for the absolute extremes. It thrives where standard servers fail, delivering massive CPU/GPU performance while withstanding harsh temperatures, violent shock, and heavy vibration.

To fuel performance-hungry, real-time physical AI applications, the RGS-9805GC can host a 400W AMD EPYC™ 9005 processor (up to 160 cores/ 320 threads), striking a perfect CPU-and-GPU balance with two NVIDIA RTX PRO™ 6000 MAX-Q GPUs. A partitioned enclosure creates a sealed tunnel for efficient CPU/GPU heat dissipation, ensuring reliable operation from -25°C to 60°C. Additionally, specialized GPU brackets and damping brackets provide MIL-STD-810H compliance for shock and vibration for in-vehicle or on-robot deployments.

The RGS-9805GC provides high-density expansion flexibility within a compact 19" 3U chassis featuring a 388 mm depth. The system includes two PCIe Gen5 x16 slots supporting dual-slot, FHFL (full-height, full-length) NVIDIA GPUs, alongside five additional PCIe Gen5 x16/x8 slots designed for high-bandwidth CoaXPress, GMSL2, 10GbE, and USB3 frame grabber cards. Two mPCIe slots allow further expansion for mobile connectivity or supplementary CAN/COM ports. For high-speed data logging, storage options include two M.2 NVMe slots and one front-accessible U.2 tray. Additionally, an onboard ASIL-B MCU provides continuous system health monitoring, paving the way for a functionally safe autonomous vehicle system architecture.

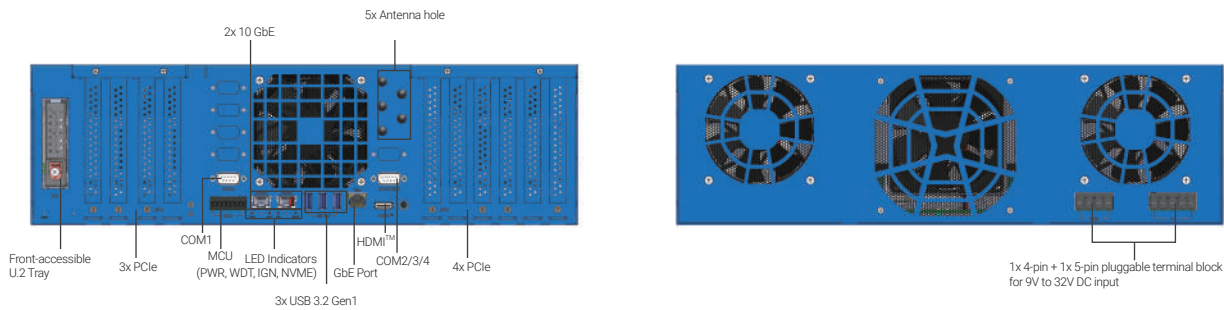
The RGS-9805GC redefines the physical AI computer, designed to meet extreme CPU/ GPU performance, expansion flexibility, and field deployment requirements while integrating sense-think-act capabilities into a single rugged HPC server. Whether it's powering high-speed autonomous trucking, capturing massive data streams for in-vehicle HD mapping, or driving real-time robotics for autonomous logistics, the RGS-9805GC is built to dominate harsh environments.

Specifications

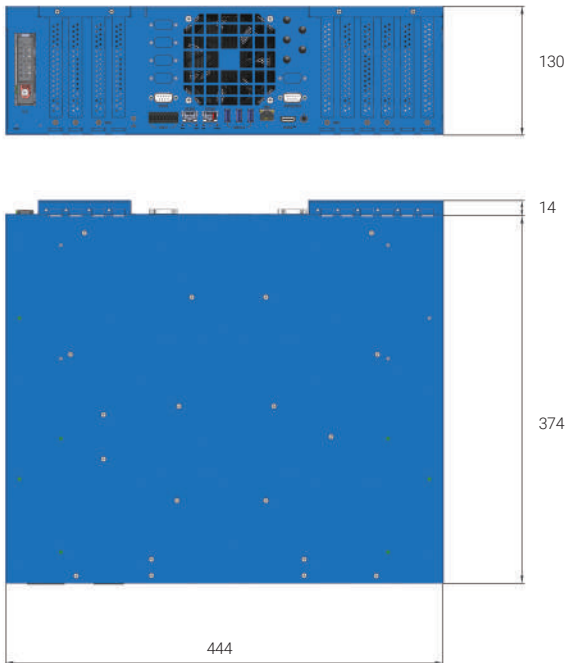
System Core		Expansion Bus	
Processor	AMD® EPYC™ 9005 Turin series server 400W CPU, up to 160 cores/ 320 threads	PCI Express	2x PCIe x16 slot@Gen5, 16-lane interface for 400W, dual-slot width, NVIDIA® FHFL GPU card 4x PCIe x16 slot@Gen5, 16-lane interface 1x PCIe x16 slot@Gen5, 8-lane interface
Graphics	Silicon Motion SM768	Mini PCI Express	2x full-size Mini PCIe sockets (PCIe + USB 2.0; one with micro-SIM slot)
Memory	Up to 384GB ECC DDR5 6000 RDIMM (six RDIMM slots)	Power Supply	
TPM	dTPM 2.0	DC Input	1x 4-pin + 1x 5-pin pluggable terminal block for 9V to 32V DC input ⁽¹⁾
I/O Interface		Mechanical	
10G Ethernet	2x 10GBASE-T ports with screw-lock by Broadcom 57416, supporting 10G/1G link speed and RDMA (RoCEv2)	Dimension	444 mm (W) x 388 mm (D) x 130 mm (H)
Gigabit Ethernet	1x GbE port with screw-lock by Intel i210 supporting Wake-on-LAN (WOL)	Weight	12.9 kg (excluding mounting kits)
USB	3x USB 3.2 Gen1 (5 Gbps) ports	Mounting	Wall-mount (standard)
Video Port	1x HDMI port via SM768, supporting 1920 x 1080 resolution		Rack-mount (standard)
Serial Port	1x software-programmable RS-232/422/485 ports (COM1) 3x 3-wire RS-232 ports (COM2/ 3/ 4) or 1x RS-422/ 485 port (COM2)		Damping bracket (standard)
2x8 Pin Terminal Block	1x Ignition power control	Environmental	
	1x Power LED	Operating Temperature	-25°C to 60°C Under continuous 100% CPU and GPU utilization, non-throttling operation is maintained as follows: 55°C to 60°C: Up to 300W CPU and 200W GPU 45°C to 50°C: Up to 400W CPU and 300W GPU
Storage Interface	1x System monitoring MCU RS-232 port	Storage Temperature	-40°C to 85°C
	1x System monitoring MCU isolated DO	Humidity	10% to 90%, non-condensing
	1x System monitoring MCU isolated CAN 2.0 port	Vibration	MIL-STD-810H, Method 514.8, Category 4 (Operating)
M.2 M	2x M.2 2280 M key socket (PCIe Gen4x4) for NVMe SSD	Shock	MIL-STD-810H, Method 516.8, Procedure I (Operating): 20G, ±X/ ±Y/ ±Z-axes, 3 shocks per direction (18 total shocks) IEC 60068-2-27:2008 (Operating): 50G, ±Z-axis only, 3 shocks per direction (6 total shocks)
U.2 NVMe	1x front-accessible 2.5" U.2 tray (up to 15mm height, PCIe Gen3x4)		
SlimSAS	1x internal SlimSAS (PCIe Gen3x4) port	EMC	CE/ FCC Class A, according to EN 55032 & EN 55035

⁽¹⁾ The allowable DC input current for each pin is 40A. With a 9V DC input, the maximum system load is 1440W.

Appearance



Dimensions



Ordering Information

Model No.	Product Description
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Optional Accessories

PA-1000W-MW-2	AC/DC power supply providing 1000W output power for 90V - 264V AC input voltage and offers rated voltage 24V
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