

Nuvo-10109GC Series

Industrial Edge AI Computer Supporting Single 600W GPU,
Intel® 14th/ 13th/ 12th-Gen Core™ Processor with Three Additional
PCIe Slots



Key Features

- Supports single 600W GPU with Gen4 x16 signal and dedicated GPU-locking bracket
- Intel® 14th/ 13th/ 12th-Gen Core™ 35W/ 65W LGA1700 CPU
- Up to 128GB ECC/ non-ECC DDR5 4800 with Intel R680E chipset (2x SODIMM)
- Three x8 PCIe slots with Gen3 x4 signal for add-on cards
- 6x USB 3.2, 2x 2.5GbE, 1x GbE, and 1x optional 10GbE
- Two front-accessible storage options: 1x 2.5" SATA tray and 1x optional NVMe tray
- 9V to 32V wide-range DC input with ignition power control
- Rugged, -25°C to 60°C operation

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Introduction

Nuvo-10109GC is Neousys' big enhancement of edge AI platform designed for NVIDIA's latest 600W Blackwell GPU, delivering up to 4000 AI TOPS for FP4 LLM inference and generative AI, or 125 TFLOPS for autonomous driving and AI-based computer vision applications.

To support a 600W GPU in diverse installation environments, Nuvo-10109GC incorporates a brand-new power design that delivers ample power capacity and enhanced transient response, meeting the demanding power requirements of both the system and GPU. More importantly, it maintains full-rated power output across a wide 9V to 32V DC input range, enabling direct compatibility with 12V and 24V automotive power sources and ensuring stable operation under voltage fluctuations.

Nuvo-10109GC also offers versatile I/O connectivity, including 10G and 1G Ethernet ports for data communication, and a front-accessible 2.5" SATA SSD tray, an optional M.2 2280 Gen4x4 NVMe slot for high-speed storage—ideal for sensor data logging or VIL/HIL testing applications. Additionally, it provides three Gen3x4 PCIe slots beyond the GPU installation slot, benefiting system integrators in building all-in-one systems by incorporating other functional modules such as GMSL2 frame grabbers, automotive Ethernet adapters, or high-end camera frame grabbers.

Mechanically, Nuvo-10109GC features a reinforced chassis with an improved GPU retention bracket and damping bracket to ensure structural reliability and long-term durability under vibration and shock. Combined with its electrical robustness for 600W GPU and multiple expansion slots, Nuvo-10109GC marks a new milestone in edge AI platforms, delivering exceptional AI performance for ever-evolving AI applications in both stationary and mobile environments.

Specifications

System Core			Expansion Bus	
Processor	Supporting Intel® 14th-Gen Core™ CPU (LGA1700 socket, 65W/ 35W TDP) - Intel® Core™ i9-14900/ i9-14900T - Intel® Core™ i7-14700/ i7-14700T - Intel® Core™ i5-14500/ i5-14400/ i5-14500T - Intel® Core™ i3-14100/ i3-14100T		PCI Express	1x PCIe x16 slot @Gen4, 16-lanes (70 mm slot width) GPU locking bracket for RTX Pro 6000, and selected GPU Cards 3x PCIe x8 slots @Gen3, 4-lanes
	Supporting Intel® 13th-Gen Core™ CPU (LGA1700 socket, 65W/ 35W TDP) - Intel® Core™ i9-13900E/ i9-13900TE - Intel® Core™ i7-13700E/ i7-13700TE - Intel® Core™ i5-13500E/ i5-13400E/ i5-13500TE - Intel® Core™ i3-13100E/ i3-13100TE	Support Intel® 12th-Gen Core™ CPU (LGA1700 socket, 35W/ 65W TDP) - Intel® Core™ i9-12900E/ i9-12900TE - Intel® Core™ i7-12700E/ i7-12700TE - Intel® Core™ i5-12500E/ i5-12500TE - Intel® Core™ i3-12100E/ i3-12100TE - Intel® Pentium® G7400E/ G7400TE - Intel® Celeron® G6900E/ G6900TE	Mini PCI Express	2x full-size mini PCI Express sockets with internal SIM sockets
			M.2	1x M.2 2242/3052 B key socket with internal SIM
Chipset	Intel® R680E Platform Controller Hub		Power Supply	
Graphics	Integrated Intel® UHD Graphics 770 (32EU)/ 730 (24EU)		DC Input	3-pin + 4-pin pluggable terminal block for 9V to 32V DC input with ignition control
Memory	Up to 128GB ECC/ non-ECC DDR5 4800 SDRAM (up to 2x 64GB SODIMM modules)		Mechanical	
AMT	Supports Intel vPro/ AMT 16.0		Dimension	224 mm (W) x 400 mm (D) x 196 mm (H) (without damping bracket)
TPM	Supports dTPM 2.0		Weight	7.1kg
I/O Interface			Mounting	Wall-mount with damping brackets
Ethernet	2x 2.5G Ethernet by I226-IT and 1x Gigabit Ethernet by I219-LM		Environmental	
10G Ethernet (optional)	1x 10GBASE-T port by Marvell AQC113CS, supporting NBASE-T (5G/2.5G) and 1000BASE-T (Optional)		Operating Temperature	With 35W CPU and NVIDIA 600W GPU: -25°C to 60°C ^[1]
USB 3.2	6x USB 3.2 Gen2x1 (10 Gbps) ports			With 65W CPU and NVIDIA 600W GPU: -25°C to 60°C ^{[1][2]} (with optional fan kit) -25°C to 50°C ^{[1][2]} (without optional fan kit)
USB 2.0	1x USB 2.0 ports (internal for dongle use)		Storage Temperature	-40°C to 85°C
Video Port (Integrated Graphics)	1x VGA connector, supporting 1920 x 1200 resolution, 1x DisplayPort connector, supporting 4096 x 2304 resolution		Humidity	10% to 90% , non-condensing
Serial Port	2x software-programmable RS-232/ 422/ 485 ports (COM1/COM2)		Vibration	MIL-STD-810H, Method 514.8, Category 4 (with damping bracket)
Audio	1x 3.5 mm jack for mic-in and speaker-out		Shock	MIL-STD-810H, Method 516.8, Procedure I
Storage Interface			EMC	CE/FCC Class A, according to EN 55032 & EN 55035
SATA HDD	1x front-accessible, hot-swappable HDD tray for 2.5" HDD/SSD installation			
M.2	1x M.2 2280 M key socket (PCIe Gen4 x4) for NVMe SSD 1x front-accessible M.2 2280 M key tray (PCIe Gen4 x4) for NVMe SSD (Optional)			

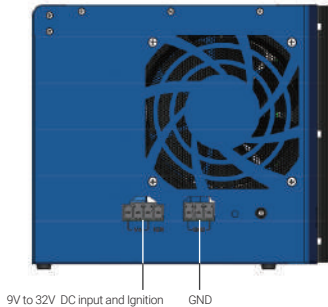
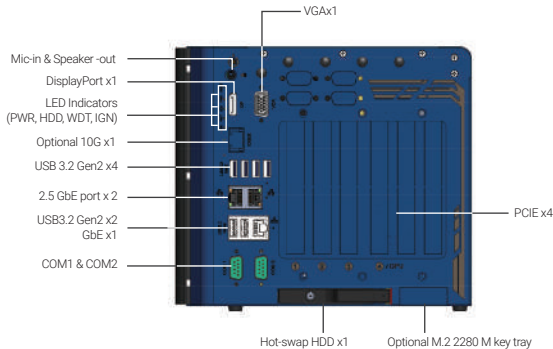
^[1] For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.

^[2] For 65W CPUs, the optional fan kit is recommended for operating at ambient temperatures higher than 50°C.

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Appearance



VGAx1

Mic-in & Speaker-out

DisplayPort x1

LED Indicators (PWR, HDD, WDT, IGN)

Optional 10G x1

USB 3.2 Gen2 x4

2.5 GbE port x2

USB3.2 Gen2 x2 GbE x1

COM1 & COM2

Hot-swap HDD x1

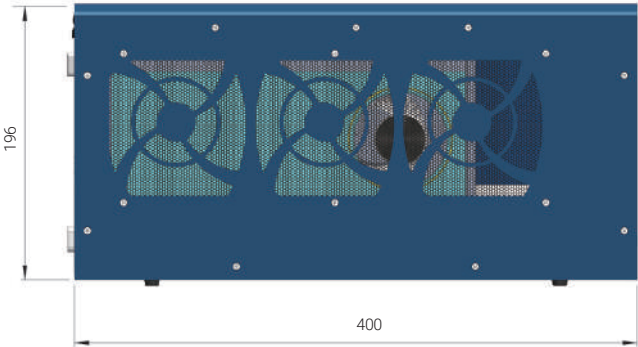
Optional M.2 2280 M key tray

PCIe x4

9V to 32V DC input and Ignition

GND

Dimensions



Unit : mm

224

196

400

Ordering Information

Model No.	Product Description
Nuvo-10109GC	Industrial Edge AI Computer Supporting Single 600W GPU, Intel® 14th/ 13th/ 12th-Gen Core™ Processor with Three Additional PCIe Slots
Optional 10GbE and M.2 2280 M key tray (PCIe Gen4 x4)	

Optional Accessories

AccsyBx-Cardholder-10109GC-xx	Nuvo-10109GC GPU bracket kits for selected GPU cards, Please contact Neousys for more information.
AccsyBx-FAN-Nuvo10109GC	Fan assembly for Nuvo-10109GC series, 92x92x25 mm
TY-NVMe-Nuvo10108GC	M.2 NVMe 2230/42/60/80 SSD Tray for Nuvo-10108GC