

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.

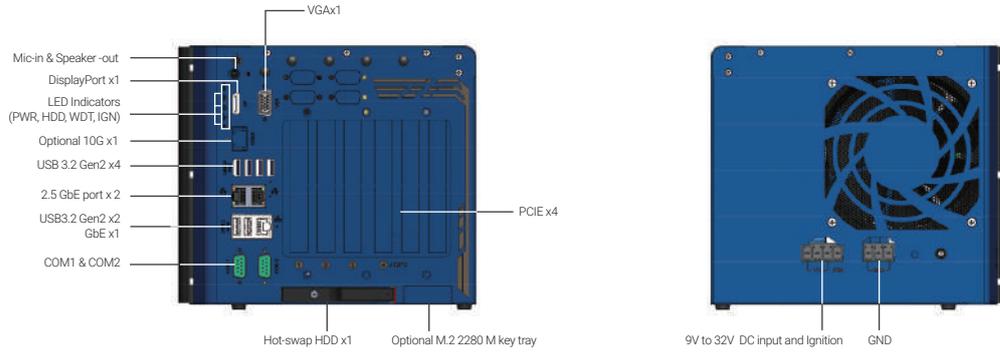
Specifications

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	Supporting Intel® 13th-Gen Core™ CPU (LGA1700 socket, 65W/ 35W TDP) - Intel® Core™ i9-13900/ i9-13900T - Intel® Core™ i7-13700/ i7-13700T - Intel® Core™ i5-13500/ i5-13400/ i5-13500T - Intel® Core™ i3-13100/ i3-13100T	Supporting Intel® 12th-Gen Core™ CPU (LGA1700 socket, 35W/ 65W TDP) - Intel® Core™ i9-12900/ i9-12900T - Intel® Core™ i7-12700/ i7-12700T - Intel® Core™ i5-12500/ i5-12500T - Intel® Core™ i3-12100/ i3-12100T - Intel® Pentium® G7400/ G7400T - Intel® Celeron® G6900E/ G6900T
	Chipset	Intel® R680E Platform Controller Hub	PCI Express
Graphics	Integrated Intel® UHD Graphics 770 (32EU)/ 730 (24EU)	Mini PCI Express	2x full-size mini PCI Express sockets with internal SIM sockets
Memory	Up to 128GB ECC/ non-ECC DDR5 4800 SDRAM (up to 2x 64GB SODIMM modules)	M.2	1x M.2 2242/3052 B key socket with internal SIM
AMT	Supports Intel vPro/ AMT 16.0	Power Supply	
TPM	Supports dTPM 2.0	DC Input	3-pin + 4-pin pluggable terminal block for 9V to 32V DC input with ignition control
I/O Interface		Mechanical	
Ethernet	2x 2.5G Ethernet by I226-IT and 1x Gigabit Ethernet by I219-LM	Dimension	224 mm (W) x 400 mm (D) x 196 mm (H) (without damping bracket)
10G Ethernet (optional)	1x 10GBASE-T port by Marvell AQC113CS, supporting NBASE-T (5G/2.5G) and 1000BASE-T (Optional)	Weight	7.1kg
USB 3.2	6x USB 3.2 Gen2x1 (10 Gbps) ports	Mounting	Wall-mount with damping brackets
USB 2.0	1x USB 2.0 ports (internal for dongle use)	Environmental	
Video Port (Integrated Graphics)	1x VGA connector, supporting 1920 x 1200 resolution, 1x DisplayPort connector, supporting 4096 x 2304 resolution	Operating Temperature	With 35W CPU and NVIDIA 600W GPU: -25°C to 60°C ^[1] 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)
Serial Port	2x software-programmable RS-232/ 422/ 485 ports (COM1/COM2)	Storage Temperature	-40°C to 85°C
Audio	1x 3.5 mm jack for mic-in and speaker-out	Humidity	10% to 90% , non-condensing
Storage Interface		Vibration	MIL-STD-810H, Method 514.8, Category 4 (with damping bracket)
SATA HDD	1x front-accessible, hot-swappable HDD tray for 2.5" HDD/SSD installation	Shock	MIL-STD-810H, Method 516.8, Procedure I
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)	EMC	CE/FCC Class A, according to EN 55032 & EN 55035

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

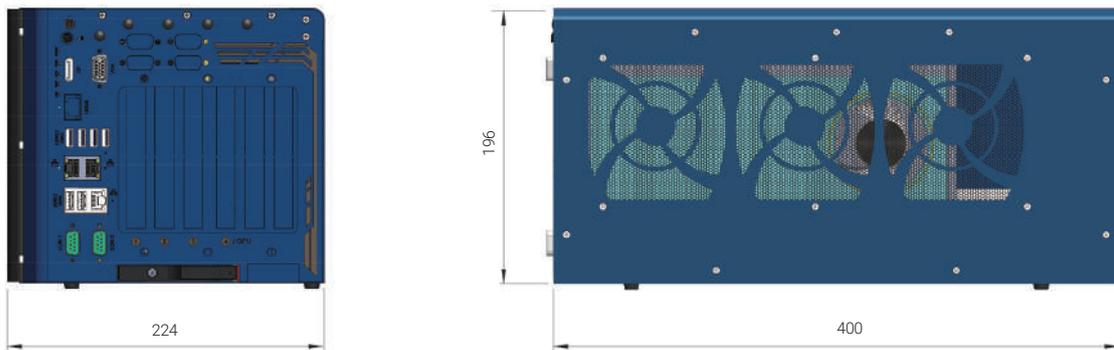
^[2] For 65W CPUs, the optional fan kit is recommended for operating at ambient temperatures higher than 50°C.

Appearance



Dimensions

Unit : mm



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
	<i>Optional 10GbE and M.2 2280 M key tray (PCIe Gen4 x4)</i>

Optional Accessories

AccsyBx-Cardholder-10109GC-xx	Nuvo-10109GC GPU bracket kits for selected GPU cards, Please contact Neosys 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