

Nuvo-10108GC Series

Industrial Edge AI Computer Supporting a 350W NVIDIA® RTX™ GPU and Intel® 13th/ 12th-Gen Core™ Processor with Three Additional PCIe Slots

Preliminary



CE FC

Key Features

- Supports an NVIDIA® 350W GPU (Gen4 x16 PCIe)
- Dedicated GPU-locking bracket
- Intel® 13th/ 12th-Gen Core™ 35W/ 65W LGA1700 CPU
- Up to 64GB ECC/ non-ECC DDR5 4800 with Intel R680E chipset (2x SODIMM)
- Three x8 PCIe slots (Gen3 x4) for add-on cards
- 6x USB 3.2, 2x 2.5GbE, 1x GbE, and 1x optional 10GbE
- Two front-accessible tray storage options: 1x 2.5" SATA and 1x optional NVMe
- 8V to 48V wide-range DC input with ignition power control
- -25°C to 60°C wide temperature operation

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Introduction

Nuvo-10108GC is Neosys' response to ruggedized Edge AI computer with extreme CPU and GPU performance for autonomous driving and AI-powered factory automation. It leverages an Intel® 13th/ 12th-Gen CPU and an NVIDIA® RTX™ 40 series or the latest RTX™ 6000 Ada GPU that offers single-precision GPU performances up to 48 TFLOPS or 91 TFLOPS, respectively.

Powered by Intel® 13th/ 12th-Gen CPU with up to 24 cores and 32 threads, Nuvo-10108GC offers up to twice the performance compared to previous Intel® 10th or 11th-Gen platform. Plus, Nuvo-10108GC supports ECC memory to deliver mission-critical computation, e.g., automated driving in urban traffic. It inherits a proven thermal dissipation design for the CPU and GPU to guarantee -25°C to 60°C wide-temperature operation. Featuring an innovative GPU locking bracket to fasten the GPU to the chassis and Neosys' patented damping bracket to absorb high-frequency vibration allowing Nuvo-10108GC to thrive in continuous shaking and juddering conditions in on/ off highway applications.

Nuvo-10108GC incorporates an abundance of onboard I/Os, such as 6x USB3.2 Gen2, 3x 2.5GbE/GbE, and 1x optional 10GbE. Expansion-wise, Nuvo-10108GC offers 3x additional PCIe slots for GMSL2/ industrial camera frame grabbers and various add-on cards. Also, it provides 2x full-size mini PCI Express sockets for CAN bus/ COM expansion and 1x M.2 B key sockets for mobile connectivity with 4G LTE, 5G NR, or WiFi modules. In terms of data storage, Nuvo-10108GC offers an M.2 2280 M socket for Gen4x4 NVMe, and dual front-accessible storage options, including a 2.5" SATA HDD/SSD and an optional M.2 2280 Gen4x4 NVMe tray.

By utilizing Intel's 13th/ 12th-Gen platform, state-of-the-art NVIDIA® RTX™ GPU, and Neosys' industrial-grade power, thermal and mechanical designs with rich I/O and expansion, Nuvo-10108GC is a rugged edge AI platform that offers unprecedented GPU and CPU computing power for modern AI applications.

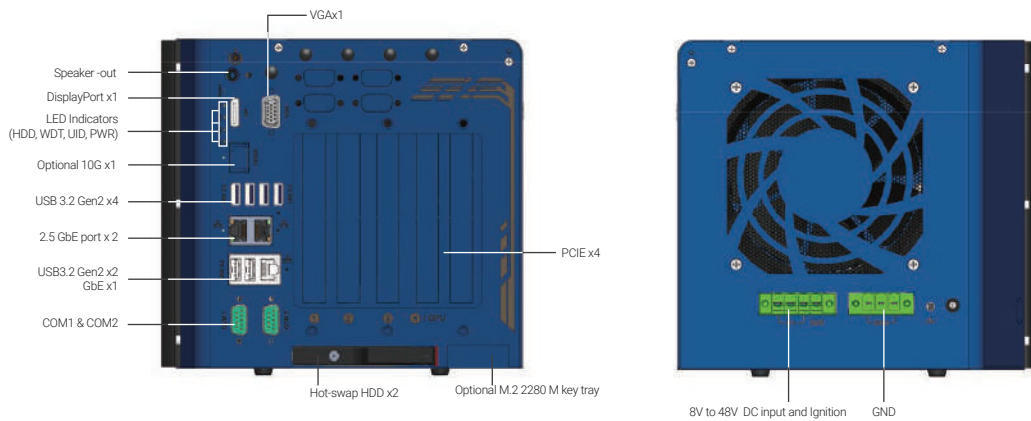
Specifications

System Core		Expansion Bus		
Processor	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	PCI Express	1x PCIe x16 slot @Gen4, 16-lanes with 6.5 mm slot width. The standard GPU locking bracket is designed for NVIDIA® RTX™ A4000, A5000, A6000, 6000 Ada, and selected RTX 40 Series GPU cards. 3x PCIe x8 slots @Gen3, 4-lanes
Chipset	Intel® R680E Platform Controller Hub	Mini PCI Express	2x full-size mini PCI Express sockets with internal SIM sockets	
Graphics	Integrated Intel® UHD Graphics 770 (32EU)/ 730 (24EU)	M.2	1x M.2 2242/3052 B key socket with internal SIM sockets	
Memory	Up to 64 GB DDR5 4800 SDRAM (two SODIMM slots)	Power Supply		
AMT	Supports Intel vPro/ AMT 16.0	DC Input	3-pin + 4-pin pluggable terminal block for 8V to 48V DC input with ignition control	
TPM	Supports dTPM 2.0	Mechanical		
I/O Interface		Dimension	214 mm (W) x 400 mm (D) x 196 mm (H) (without damping bracket)	
Ethernet	2x 2.5G Ethernet by I226-IT and 1x Gigabit Ethernet by I219-LM	Weight	TBD	
10G Ethernet (optional)	Optional 10GBASE-T port by Marvell AQC113CS, supporting NBASE-T (5G/ 2.5G) and 1000BASE-T	Mounting	Wall-mount with damping brackets	
USB 3.2	6x USB 3.2 Gen2x1 (10 Gbps) ports	Environmental		
USB 2.0	1x USB 2.0 ports (internal for dongle use)	Operating Temperature	With 35W CPU and NVIDIA® 350W GPU -25°C to 60°C ^[1] With 65W CPU and NVIDIA® 350W GPU -25°C to 60°C ^{[1][2]} (with optional fan kit) -25°C to 50°C ^{[1][2]} (without optional fan kit)	
Video Port (Integrated Graphics)	1x VGA connector, supporting 1920 x 1200 resolution 1x DisplayPort connector, supporting 4096 x 2304 resolution	Storage Temperature	-40°C to 85°C	
Serial Port	2x software-programmable RS-232/ 422/ 485 ports (COM1/COM2)	Humidity	10% to 90% , non-condensing	
Audio	1x 3.5 mm jack for mic-in and speaker-out	Vibration	MIL-STD-810H, Method 514.8, Category 4 (with damping bracket)	
Storage Interface		Shock	MIL-STD-810H, Method 516.8, Procedure I (with damping bracket)	
SATA HDD	1x front-accessible, hot-swappable HDD trays for 2.5" HDD/ SSD installation	EMC	CE/FCC Class A, according to EN 55032 & EN 55035	
M.2	1x M.2 2280 M key socket (PCIe Gen4 x4) for NVMe SSD 1x Optional front-accessible M.2 2280 M key tray (PCIe Gen4 x4) for NVMe SSD			

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

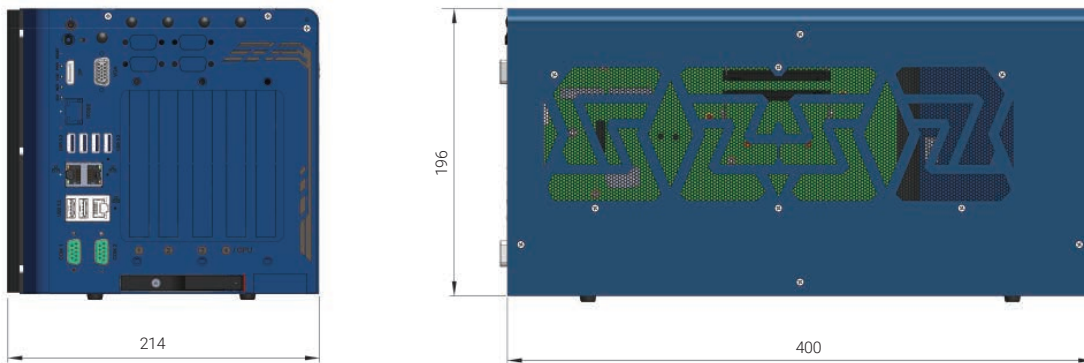
^[2] For 65W CPUs, the optional fan kit is recommended for operating at ambient temperatures higher than 50°C.

Appearance



Dimensions

Unit : mm



Ordering Information

Model No.	Product Description
Nuvo-10108GC	Industrial-grade Edge AI Platform supporting an NVIDIA® RTX series 350W GPU Card, Intel® 13th/12th-Gen Core™ processor with 3x additional PCIe slots
	<i>Optional 10GbE and M.2 2280 M key tray (PCIe Gen4 x4)</i>

Optional Accessories

AccsyBx-FAN-Nuvo10208GC	Fan assembly for Nuvo-10108GC and Nuvo-10208GC series, 92x92x25 mm
TY-NVMe-Nuvo10208GC	M.2 NVMe 2230/42/60/80 SSD Tray
PA-600W-ENC	600W AC/DC power adapter 24V/25A; cord end terminals for terminal block, operating temperature : -20°C to 70°C.
PA-1000W-MW-2	AC/DC power supply providing 1000W output power for 90V - 264V AC input voltage and offers rated voltage 24V.