

# Nuvo-8108GC

Industrial-grade Edge AI Platform Supporting 250W NVIDIA® Graphics Card, Intel® Xeon® E or 8th/ 9th-Gen Core™ Processor



CE FC

## Key Features

- Supports 250W NVIDIA® graphics card up to 14 TFLOPS in FP32
- Supports Intel® Xeon® E or 8th/ 9th-Gen Core™ i7/ i5 LGA1151 CPU
- Up to 128GB ECC/ non-ECC DDR4 2133 (4x SODIMM)
- One x16 (8-lanes), two x8 (4-lanes), Gen3 PCIe slots for add-on cards
- 1x M.2 M key, 1x M.2 B key and 2x full-size mini-PCIe sockets
- 8~48V wide-range DC input with built-in ignition power control
- Patented thermal design for -25°C to 60°C rugged operation\*
- Patented damping brackets\* to withstand 1 Grms vibration

\*R.O.C Patent No. M534371 / M49175

## Introduction

Nuvo-8108GC is a rugged edge AI platform with industrial-grade design and in-vehicle features. Designed specifically to support a high-end 250W NVIDIA® graphics card, it offers tremendous GPU power up to 14 TFLOPS in FP32 for emerging GPU-accelerated edge computing, such as autonomous driving, vision inspection and surveillance/ security.

Nuvo-8108GC is powered by Intel® Xeon® E or 8th/ 9th-Gen Core™ (up to 8-core/ 16-thread) CPUs coupled with workstation-grade Intel® C246 chipset to support up to 128 GB ECC or non-ECC DDR4 memory. The system incorporates an internal 2.5" HDD/ SSD tray and one hot-swappable 2.5" HDD/ SSD tray for easy replacement. There is also an M.2 2280 NVMe socket for the fast read/ write performance. Its front-accessible GbE and USB 3.1 Gen1/ Gen2 ports feature screw-lock mechanisms for securing cable connections. In addition to the x16 PCIe slot (8-lanes) for GPU installation, Nuvo-8108GC has other two x8 PCIe slots (4-lanes) and one x16 PCIe slot (8-lanes) for expansion cards to extend function sets like data collection, analytics and communication.

Nuvo-8108GC has a brand new power delivery design to accept 8~48V wide-range DC input and to handle heavy power requirements from 250W GPU. Along with built-in ignition control, it's feasible to deploy it on a vehicle and directly power it via the car's power system. Mechanical wise, Nuvo-8108GC incorporates Neousys' patented heat dissipation design\*, damping brackets\* and patent-pending GPU press bar, making it steady and rock-solid in various conditions. The Nuvo-8108GC is Neousys' response to the never-ending demand of TFLOPS in industrial GPU platforms. With industrial-grade power, thermal and mechanical design, it pushes versatile AI inference applications from laboratories to field applications, where reliability matters.

## Specifications

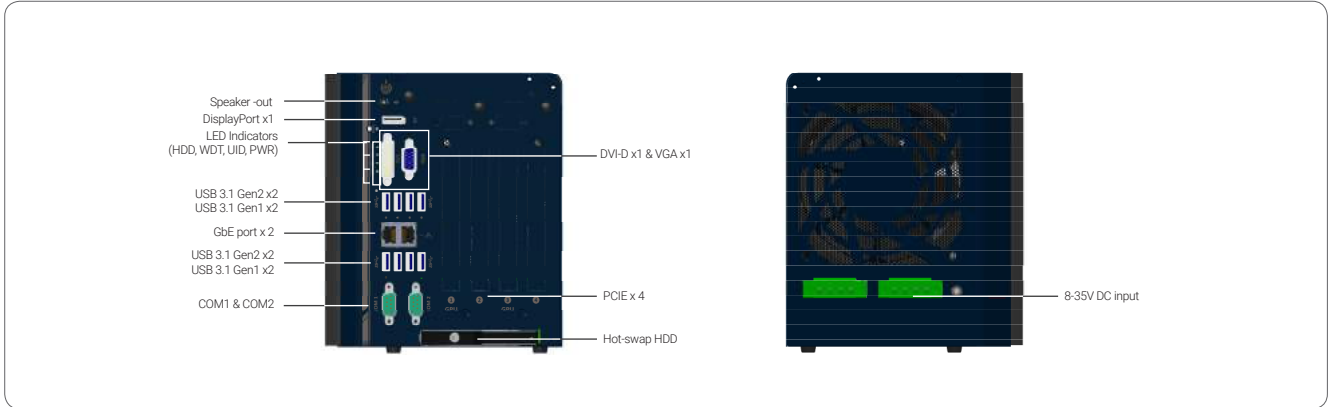
System Core		Expansion Bus	
Processor	Supporting Intel® Xeon® E and 8th/ 9th-Gen CPU (LGA1151 socket) - Xeon E 2176G/ 2278GE (8C/16T) / 2278GEL (8C/16T) - i7-8700, i7-8700T, i7-9700E, i7-9700TE - i5-8500, i5-8500T, i5-9500E, i5-9500TE - i3-8100, i3-8100T, i3-9100E, i3-9100TE	PCI Express	2x PCIe x16 slot@Gen3, 8-lanes 2x PCIe x8 slots@Gen3, 4-lanes
Chipset	Intel® C246 Platform Controller Hub	M.2	1x M.2 2242 B key socket supporting dual SIM mode with selected M.2 LTE module
Graphics	Independent GPU via x16 PEG port, or integrated Intel® UHD Graphics 630	Mini-PCIe	2x full-size mini PCI Express socket
Memory	Up to 128 GB ECC/ non-ECC DDR4 2133 SDRAM (four SODIMM slots)	Power Supply	DC Input
AMT	Supports AMT 12.0		2x 4-pin pluggable terminal block for 8~48V DC input with ignition control
TPM	Supports TPM 2.0	Mechanical	Dimension
I/O Interface			170 mm (W) x 360 mm (D) x 186 mm (H)
Ethernet	1x Gigabit Ethernet port by Intel® I219-LM 1x Gigabit Ethernet port by Intel® I210-IT		Weight
Native Video Port	1x VGA connector, supporting 1920 x 1200 resolution 1x DVI-D connector, supporting 1920 x 1200 resolution 1x DisplayPort connector, supporting 4096 x 2304 resolution		5 kg
Serial Port	2x software-programmable RS-232/ 422/ 485 ports (COM1/ COM2)		Mounting
USB	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports 1x USB 2.0 ports (internal for dongle use)		Neousys' patented damping brackets (standard)
Audio	1x Speaker-out	Environmental	Operating Temperature
Storage Interface			with 35W CPU and one NVIDIA® 250W GPU -25°C ~ 60°C *** with >= 65W CPU and one NVIDIA® 250W GPU -25°C ~ 60°C **/ *** (configured as 35W TDP mode) -25°C ~ 50°C **/ *** (configured as 65W TDP mode)
SATA	1x hot-swappable HDD tray for 2.5" HDD/ SSD installation 1x Internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1		Storage Temperature
M.2	1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation		-40°C ~ 85°C
mSATA	2x full-size mSATA port (mux with mini-PCIe)		Humidity
			10%~90%, non-condensing
			Vibration
			Operating, MIL-STD-810G, Method 514.6, Category 4; and 3 Grms, 5-500 Hz, 3 Axes
			Shock
			Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
			EMC
			CE/ FCC Class A, according to EN 55024 & EN 55032

\*\* For i7-8700 and i7-9700E running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.

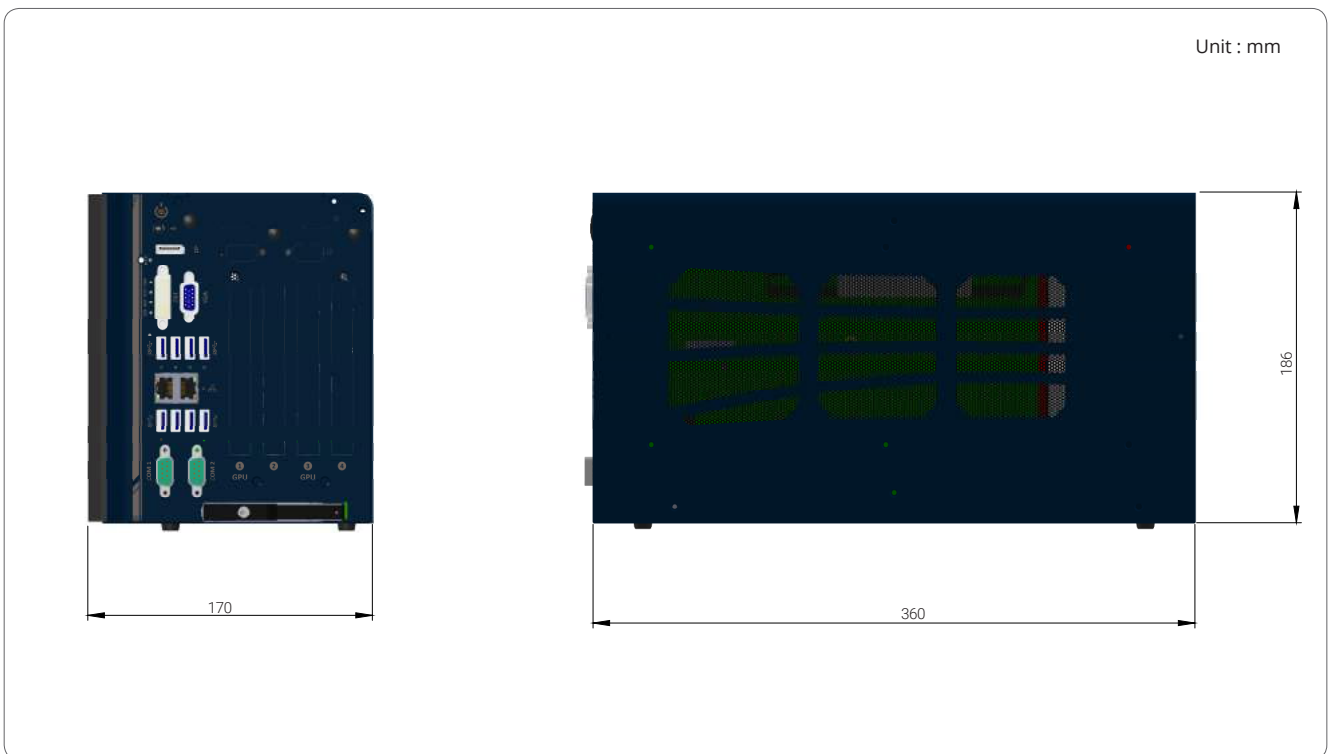
\*\*\* For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.

Nuvo-8108GC

## Appearance



## Dimensions



## Ordering Information

Model No.	Product Description
Nuvo-8108GC	Industrial-grade edge AI platform supporting 250W NVIDIA® GPU Card, Intel® Xeon® E and 8th/ 9th-Gen Core™ processor with 8~35V wide-range DC input and built-in ignition control