

Nuvo-8108GC-XL

Industrial-grade Edge AI Platform Supporting NVIDIA® RTX 30 series GPU Card, Intel® Xeon® E and 9th/ 8th-Gen Core™ Processor, 8~48V wide-range DC Input and Built-in Ignition Control



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Key Features

- Supports an NVIDIA® RTX 30 series graphics card up to RTX 3080
- Supports Intel® Xeon® E or 9th/ 8th-Gen Core™ i7/ i5 LGA1151 CPU
- Up to 128GB ECC/ non-ECC DDR4 2133 (4x SODIMM)
- 2x PCIe x16 slot@Gen3, 8-lanes, 2x PCIe x8 slots@Gen3, 4-lanes
- 2x 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 3 Grms vibration

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*R.O.C Patent No. M534371 / M491752

Introduction

Nuvo-8108GC-XL is one of the first rugged edge AI platforms to support an NVIDIA® RTX 30 series graphics card up to RTX 3080. Together, the system offers tremendous GPU power up to 29.8 TFLOPS in FP32 to take GPU-accelerated edge computing such as autonomous driving, vision inspection and intelligent video analytics to the next level.

Powered by an Intel® Xeon® E or 9th/ 8th-Gen Core™ (up to 8-core/ 16-thread) CPU with workstation-grade Intel® C246 chipset to support up to 128 GB ECC or non-ECC DDR4 memory, the system is a strong foundation to build a powerful AI edge computing platform on. Featuring a brand new mechanical design that is optimized to bring out the best in the latest RTX 30 series GPU cards and its parallel operation of heterogeneous computing architecture. In addition to the x16 PCIe slot (8-lanes) for RTX 30 series GPU installation, Nuvo-8108GC-XL has other one x8 PCIe slots (4-lanes) and one x16 PCIe slot (8-lanes) for users to add on high performance or bandwidth-hungry expansion cards to extend function sets, such as data collection, analytics and communication.

Nuvo-8108GC-XL incorporates Neosys' patented heat dissipation design*, damping brackets* and enhanced GPU stabilizing bar, steadying it for reliable and rock-solid operation in shock or vibration conditions. Continuing the heritage of Neosys' proven power and thermal design, the Nuvo-8108GC-XL accepts 8~48V wide-range DC input to handle heavy power requirements from RTX 30 series GPU under wide temperature operation. Incorporating the built-in ignition control, it can be deployed on a vehicle and directly power it via the car's power system.

Nuvo-8108GC-XL is Neosys' response to the never-ending demand for TFLOPS performance in industrial GPU platforms. With proven industrial-grade power, guaranteed thermal performance, and new mechanical design, it takes edge AI computing to the next level.

Specifications

System Core		Expansion Bus	
Processor	Supporting Intel® Xeon® E and 9th/ 8th-Gen CPU (LGA1151 socket) - Xeon E 2176G/ 2278GE (8C/16T) / 2278GEL (8C/16T) - i7-9700E, i7-9700TE, i7-8700, i7-8700T - i5-9500E, i5-9500TE, i5-8500, i5-8500T - i3-9100E, i3-9100TE, i3-8100, i3-8100T	PCI Express ^[1]	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	
AMT	Supports AMT 12.0	DC Input	2x 4-pin pluggable terminal block for 8 to 48V DC input with ignition control ^[2]
TPM	Supports TPM 2.0	Mechanical	
I/O Interface		Dimension	193 mm (W) x 388 mm (D) x 198 mm (H)
Ethernet	1x Gigabit Ethernet port by Intel® I219-LM 1x Gigabit Ethernet port by Intel® I210-IT	Weight	5.2 kg
Video Port	1x VGA , supporting 1920 x 1200 resolution 1x DVI-D, supporting 1920 x 1200 resolution 1x DisplayPort, supporting 4096 x 2304 resolution	Mounting	Wall-mount with damping brackets
Serial Port	2x software-programmable RS-232/ 422/ 485 ports (COM1/ COM2)	Environmental	
USB 3.1	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports	Operating Temperature	with 35W CPU and one NVIDIA® RTX 30 Series GPU -25°C ~ 60°C ^[4] with >= 65W CPU and one NVIDIA® RTX 30 Series GPU -25°C ~ 60°C ^{[3]/[4]} (configured as 35W TDP mode) -25°C ~ 50°C ^{[3]/[4]} (configured as 65W TDP mode)
USB 2.0	1x USB 2.0 ports (internal for dongle use)	Storage Temperature	-40°C ~ 85°C
Audio	1x 3.5 mm jack for mic-in and speaker-out	Humidity	10%~90% , non-condensing
Storage Interface		Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4; and 3 Grms, 5-500 Hz, 3 Axes
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	Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
M.2	1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation	EMC	CE/ FCC Class A, according to EN 55024 & EN 55032
mSATA	2x full-size mSATA port (mux with mini-PCIe)		

[1] System load under 100W, the required DC input range is 8V to 48V

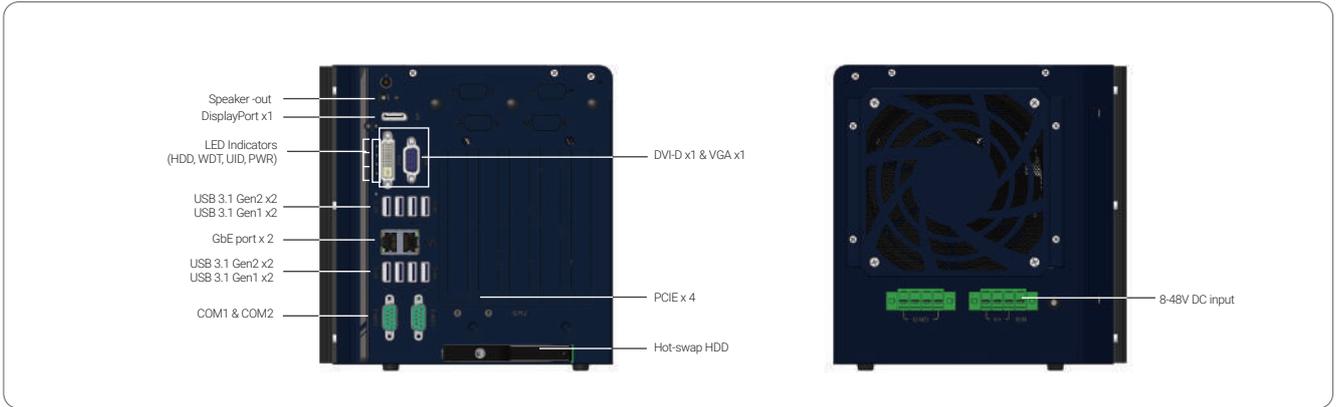
System load between 100W to 480W (single GPU), the required DC input range is 18V to 48V

[2] Note: With an RTX graphics card installed, a PCIe x8 slot may be blocked and rendered unusable.

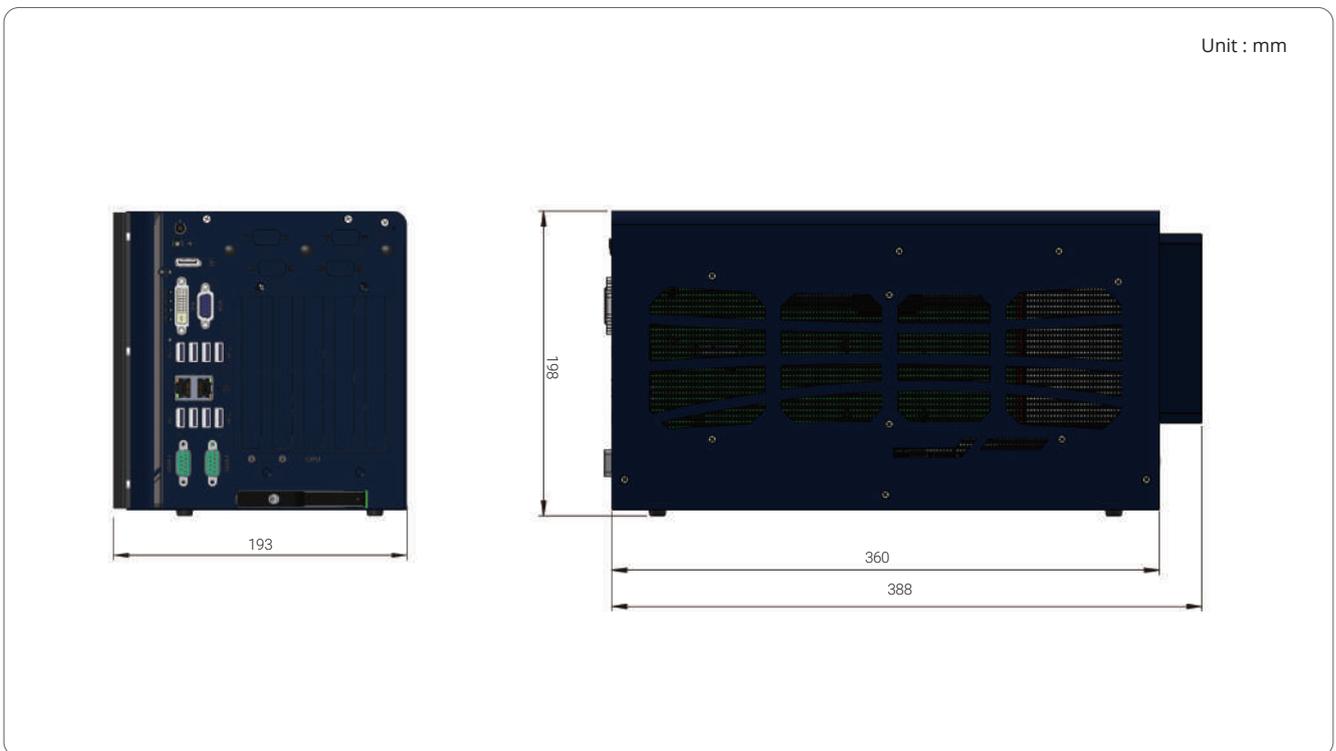
[3] For i7-8700 running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.

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

Appearance



Dimensions



Ordering Information

Model No.	Product Description
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Optional Accessories

PA-480W-DIN	480W AC-DC power Adapter(SDR-480-24) DIN-rail mount, 24V 20A, 90~264VAC/127~370VDC, Terminal Block, -20~+70°C, Meanwell SDR-480-24
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