

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 to 48V wide-range DC Input and Built-in Ignition Control



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 to 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 built 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.

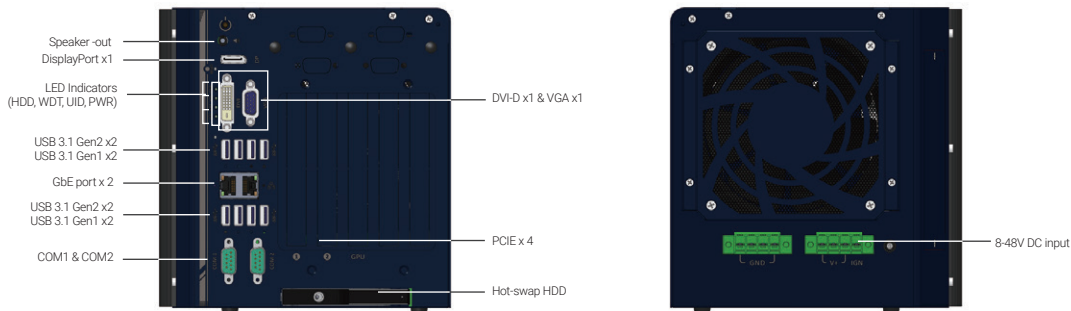
Nuvo-8108GC-XL incorporates Neosys' patented heat dissipation design*, damping brackets* and enhanced GPU stabilizing bar, steadying it for reliable and rock-solid operation in shock or vibration conditions. Continuing the heritage of Neosys' proven power and thermal design, the Nuvo-8108GC-XL accepts 8 to 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

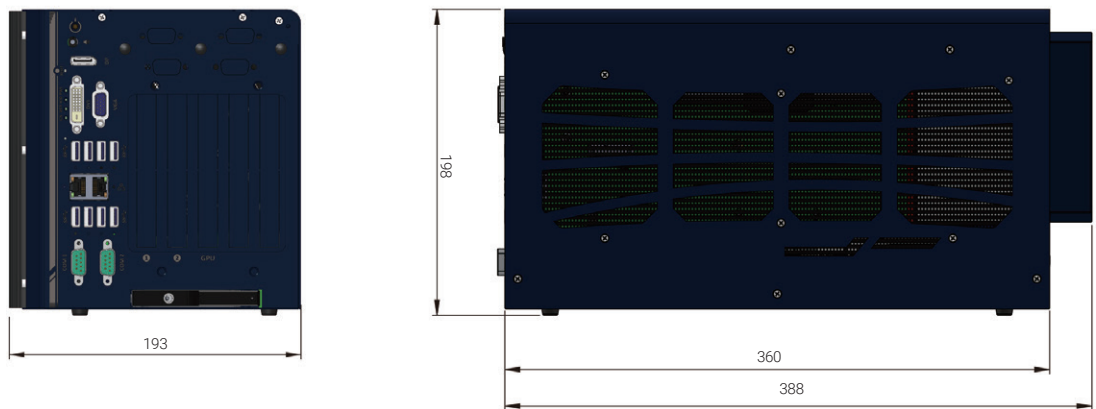
System Core		Expansion Bus	
Processor	Supporting Intel® Xeon® E and 9th/ 8th-Gen CPU (LGA1151 socket)	PCI Express ^[1]	2x PCIe x16 slot@Gen3, 8-lanes 2x PCIe x8 slots@Gen3, 4-lanes
	- Xeon E 2176G/ 2278GE (8C/16T) / 2278GEL (8C/16T)	M.2	1x M.2 2242 B key socket supporting dual SIM mode with selected M.2 LTE module
	- i7-9700E, i7-9700TE, i7-8700, i7-8700T	Mini-PCIe	2x full-size mini PCI Express socket
	- i5-9500E, i5-9500TE, i5-8500, i5-8500T	Power Supply	
	- i3-9100E, i3-9100TE, i3-8100, i3-8100T	DC Input	2x 4-pin pluggable terminal block for 8 to 48V DC input with ignition control ^[2]
Chipset	Intel® C246 Platform Controller Hub	Mechanical	
Graphics	Independent GPU via x16 PEG port, or integrated Intel® UHD Graphics 630	Dimension	193 mm (W) x 388 mm (D) x 198 mm (H)
Memory	Up to 128 GB ECC/ non-ECC DDR4 2133 SDRAM (four SODIMM slots)	Weight	5.2 kg
AMT	Supports AMT 12.0	Mounting	Wall-mount with damping brackets
TPM	Supports TPM 2.0	Environmental	
I/O Interface		Operating Temperature	with 35W CPU and one NVIDIA® RTX™ 30 Series GPU -25°C to 60°C ^[4]
Ethernet	1x Gigabit Ethernet port by Intel® I219-LM 1x Gigabit Ethernet port by Intel® I210-IT		with >= 65W CPU and one NVIDIA® RTX™ 30 Series GPU -25°C to 60°C ^{[3]/[4]} (configured as 35W TDP mode) -25°C to 50°C ^{[3]/[4]} (configured as 65W TDP mode)
Video Port	1x VGA , supporting 1920 x 1200 resolution 1x DVI-D, supporting 1920 x 1200 resolution 1x DisplayPort, supporting 4096 x 2304 resolution		
Serial Port	2x software-programmable RS-232/ 422/ 485 ports (COM1/ COM2)	Storage Temperature	-40°C to 85°C
USB 3.1	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports	Humidity	10% to 90% , non-condensing
USB 2.0	1x USB 2.0 ports (internal for dongle use)	Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4; and 3 Grms, 5-500 Hz, 3 Axes
Audio	1x 3.5 mm jack for mic-in and speaker-out	Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
Storage Interface		EMC	CE/ FCC Class A, according to EN 55024 & EN 55032
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	^[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.	
M.2	1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation		
mSATA	2x full-size mSATA port (mux with mini-PCIe)		

Appearance



Dimensions

Unit : mm



Ordering Information

Model No.	Product Description
Nuvo-8108GC-XL	Industrial-grade edge AI platform supporting NVIDIA® RTX™ 30 series GPU Card, Intel® Xeon® E and 9th/ 8th-Gen Core™ processor with 8 to 48V wide-range DC input and built-in ignition control

Optional Accessories

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