

# Nuvo-8108GC-XL

Edge AI Platform with Intel® Xeon®/ Core™ 9th/8th Gen. CPUs and NVIDIA® RTX 30 Series Support

**BRESSNER**  
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## Features

- Intel® Xeon®/ Core™ 9th/8th Gen. CPU
- DDR4 2,133 SDRAM, up to 128GB
- Intel® C246 chipset
- Supports an NVIDIA® RTX 30 series graphics card up to RTX 3080
- 2x PCIe x16 and 2x PCIe x8 slots for expansion cards



## Nuvo-8108GC-XL – Strong computing power and robust design

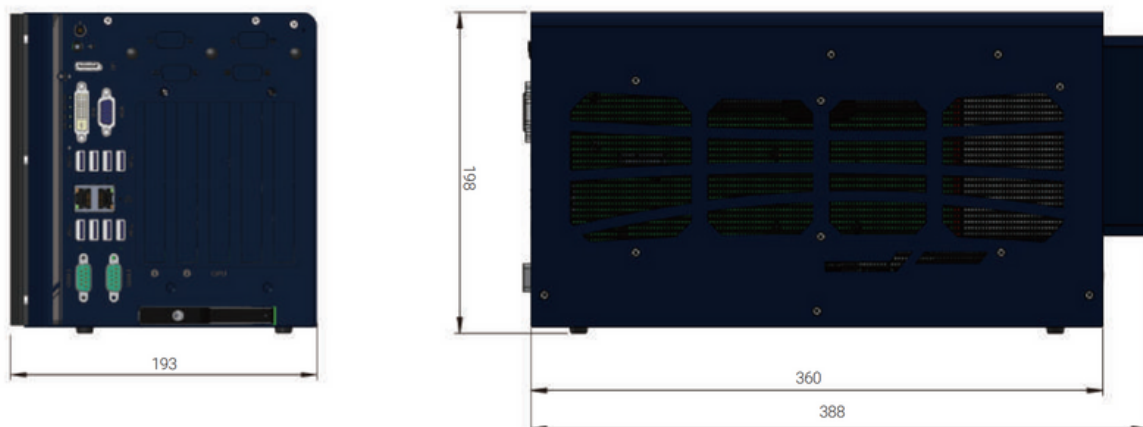
The Nuvo-8108GC-XL is one of the first rugged edge AI platforms to support an NVIDIA® RTX 30-series graphics card up to the RTX 3080. The system offers massive GPU performance of up to 29.8 TFLOPS in FP32 to take GPU-accelerated edge computing such as autonomous driving, vision inspection and intelligent 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 128GB of ECC or non-ECC DDR4 memory, the system is a strong foundation for building a powerful AI edge computing platform. The system features a brand new mechanical design optimised to make the most of the latest NVIDIA® RTX 30 series graphics cards and their parallel operation of the heterogeneous computing architecture. In addition to the x16 PCIe slot (8 lanes) for installing RTX 30-series GPUs, the Nuvo-8108GC-XL has additional x8 PCIe slots (4 lanes) and an x16 PCIe slot (8 lanes) to allow users to add high-performance or bandwidth-intensive expansion cards to extend feature sets such as data acquisition, analytics and communications. The Nuvo-8108GC-XL features a patented heat dissipation design\*, damping mounts\* and an enhanced GPU stabilisation bar to ensure reliable and rock-solid operation under shock or vibration conditions.

Continuing the tradition of proven power and thermal design, the Nuvo-8108GC-XL features an 8~48V wide range DC input to meet the high power requirements of RTX 30 GPUs when operating at high temperatures. With built-in ignition control, it can be used in a vehicle and powered directly from the vehicle's mains.

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

## Drawing (mm)



# Nuvo-8108GC-XL

Edge AI Platform with Intel® Xeon®/ Core™ 9th/8th Gen. CPUs and NVIDIA® RTX 30 Series Support

Specifications	Nuvo-8108GC-XL
<b>SYSTEM</b>	
CPU	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
Chipset	Intel® C246 Platform Controller Hub
Graphics	Independent NVIDIA® RTX A6000/ A4500 GPU via x16 PEG port, or integrated Intel® UHD graphics 630
RAM	Up to 128GB ECC/ non-ECC DDR4 2.133 SDRAM (four SODIMM slots)
Storage	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 1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation 2x full-size mSATA port (mux with mini-PCIe)
AMT	Supports AMT 12.0
TPM	Supports TPM 2.0
Expansion	2x PCIe x16 slot@Gen3, 8-lanes 2x PCIe x8 slots@Gen3, 4-lanes** 1x M.2 2242 B key socket supporting dual SIM mode with selected M.2 LTE module 2x full-size mini PCI Express socket
<b>INTERFACE</b>	
Ethernet	1x Gigabit Ethernet port by Intel® I219-LM 1x Gigabit Ethernet port by Intel® I210-IT
USB	4x USB 3.2 Gen2 (10 Gbps) ports 4x USB 3.2 Gen1 (5 Gbps) ports 1x USB 2.0 ports (internal for dangle use)
COM	COM 1/2: 2x software-programmable RS-232/ 422/ 485 ports
Video	1x VGA connector, supporting 1,920 x 1,200 resolution 1x DVI-D connector, supporting 1,920 x 1,200 resolution 1x DisplayPort connector, supporting 4,096 x 2,304 resolution
Audio	1x 3.5 mm jack for mic-in and speaker-out
<b>ENVIRONMENTAL</b>	
Power Supply	2x 4-pin pluggable terminal block for 8 ~ 48V DC input with ignition control *
Operating Temperature	<b>With 35W CPU and one NVIDIA® 250W GPU:</b> -25° ~ 60°C**** <b>With ≥ 65W CPU and one NVIDIA® 250W GPU:</b> -25° ~ 60°C ****/***** (configured as 35W TDP mode) -25° ~ 50°C ****/***** (configured as 65W TDP mode)
Storage Temperature	-40° ~ 85°C
Vibration/Shock Resistance	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
Humidity	10 ~ 90% , non-condensing
Dimensions	193 (W) x 388 (D) x 198 (H) mm
Weight	5.2kg
Mounting	Wallmount with damping brackets
Certifications	CE/ FCC Class A, according to EN 55024 & EN 55032

\* 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

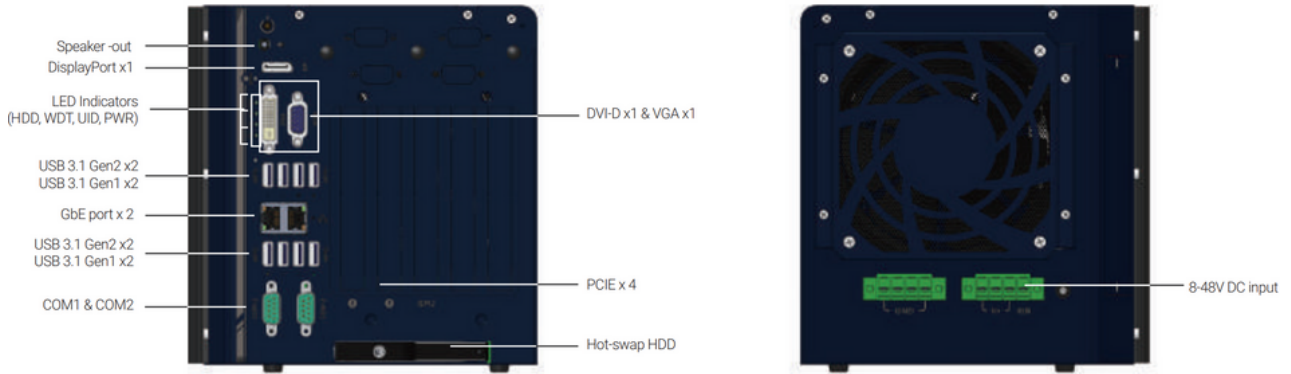
\*\* Note: With an RTX graphics card installed, a PCIe x8 slot may be blocked and rendered unusable

\*\*\* 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 is applied. Users can configure CPU power in the BIOS to obtain higher operating temperatures.

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

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Ordering Information	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 8-48V wide-range DC input and built-in ignition control

Optional Accessories	
PA-480W-DIN	480W AC-DC power adapter DIN-rail mount, 24V 20A, 90~264VAC/127~370VDC, terminal block, -20 to 70°C, Meanwell SDR-480-24