

# Nuvo-7160GC Series

Ruggedized GPU-Computing Platform Supporting 120W NVIDIA® GPU and Intel® 8th-Gen Core™ Processor



CE FC

## Key Features

- Supports NVIDIA® GPU up to 120W TDP
- Patented thermal design\* to allow -25°C to 60°C wide-temperature operation
- Intel® 8th-Gen Core™ hexa-core 35W/ 65W LGA1151 CPU
- 6x GigE ports, supporting 9.5 KB jumbo frame
- M.2 2280 M key NVMe (Gen3 x4) socket for fast storage access
- 4x USB 3.1 Gen2 ports and 4x USB 3.1 Gen1 ports
- Accommodates two 2.5" SATA HDD/SSD with RAID 0/ 1 support
- Compatible with MeziO™ interface for function expansion
- Patented ventilation design\* for graphics card

\*R.O.C Patent No. M534371/ M456527

## Introduction

Nuvo-7160GC is a ruggedized GPU-aided edge computer designed for modern machine learning applications, such as autonomous driving, facial recognition and vision inspection. It supports up to a 120W GPU, delivering 4~6 TFLOPS computing power for inference, as well as Intel® 8th-Gen Core™ 6-core/12-thread CPU, offering 50% CPU performance enhancement over previous generations.

Thanks to Neosys' patented Cassette design and ingenious ventilation mechanism, Nuvo-7160GC is capable of effectively dissipating the heat generated by the GPU. By introducing the guided air flow from intake to exhaust with powerful fans featuring smart fan control, it allows a 120W GPU (e.g. NVIDIA® GTX 1060) to operate at 60°C ambient temperature under 100% GPU loading.

Nuvo-7160GC incorporates rich I/O functions such as USB 3.1 Gen2/Gen1, GbE, COM and MeziO™ interface in its restricted footprint. It also leverages cutting-edge M.2 NVMe technology to support over 2000 MB/s disk read/write speed. Neosys Nuvo-7160GC is the ideal solution for emerging edge computing by combining exceptional CPU and GPU performances.

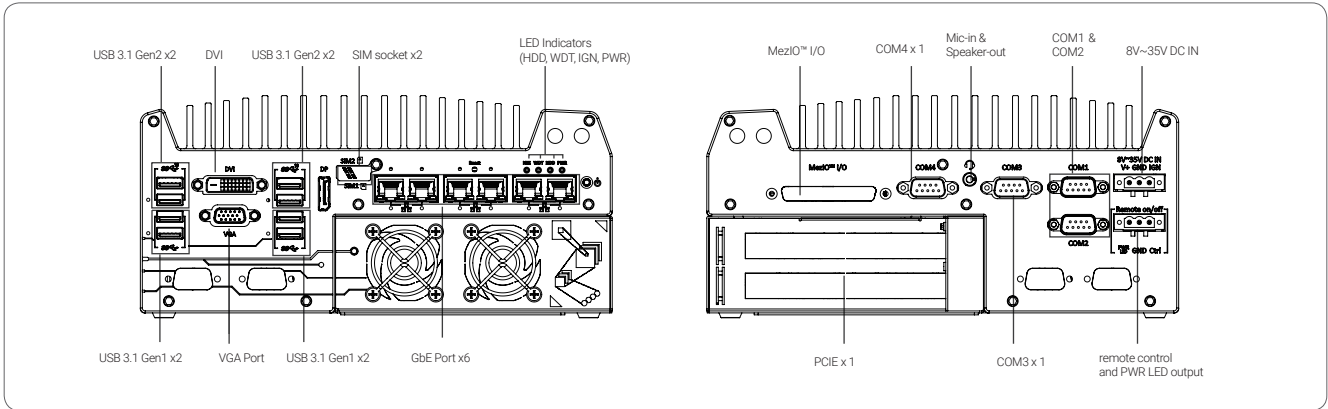
## Specifications

System Core		Internal Expansion Bus	
<b>Processor</b>	Supporting Intel® 8th-Gen Coffee Lake 6-core CPU (LGA1151 socket, 35W/ 65W TDP) - Intel® Core™ i7-8700/ i7-8700T - Intel® Core™ i5-8500/ i5-8500T - Intel® Core™ i3-8100/ i3-8100T - Intel® Pentium® G5400/ G5400T - Intel® Celeron® G4900/ G4900T	<b>PCI/PCI Express</b>	1x PCIe x16 slot@Gen3, 16-lanes PCIe signals in Cassette for installing NVIDIA® 120W GPU (Max GPU card dimension is 188 mm(L) x 121 mm(W), dual slots allocation)
<b>Chipset</b>	Intel® Q370 Platform Controller Hub	<b>Mini PCI-E</b>	1x full-size mini PCI Express socket with internal SIM socket (mux with mSATA)
<b>Graphics</b>	Integrated Intel® UHD Graphics 630	<b>M.2</b>	1x M.2 2242 B key socket with dual front-accessible SIM sockets, supporting dual SIM mode with selected M.2 LTE module
<b>Memory</b>	Up to 32 GB DDR4 2666/ 2400 SDRAM (two SODIMM slots)	<b>Expandable I/O</b>	1x MeziO™ expansion port for Neosys MeziO™ modules
<b>AMT</b>	Supports AMT 12.0	<b>Power Supply</b>	
<b>TPM</b>	Supports TPM 2.0	<b>DC Input</b>	1x 3-pin pluggable terminal block for 8~35VDC DC input
<b>I/O Interface</b>		<b>Remote Ctrl. &amp; LED Output</b>	1x 3-pin pluggable terminal block for remote control and PWR LED output
<b>Ethernet</b>	6x Gigabit Ethernet ports by I219 and 5x I210	<b>Mechanical</b>	
<b>PoE+</b>	Optional IEEE 802.3at PoE+ PSE for Port 3 ~ Port 6 100 W total power budget	<b>Dimension</b>	240 mm (W) x 225 mm (D) x 111 mm (H)
<b>USB</b>	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports	<b>Weight</b>	4.5 Kg (including CPU, GPU, memory and HDD)
<b>Video Port (Integrated Graphics)</b>	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	<b>Mounting</b>	Wall-mounting (standard) or DIN-Rail mounting (optional)
<b>Serial Port</b>	2x software-programmable RS-232/422/485 ports (COM1/ COM2) 2x RS-232 ports (COM3/ COM4)	<b>Environmental</b>	
<b>Audio</b>	1x 3.5 mm jack for mic-in and speaker-out	<b>Operating Temperature</b>	<b>With 35W CPU and 120W GPU</b> -25°C ~ 60°C ** <b>With 65W CPU and 120W GPU</b> -25°C ~ 60°C ***/** (configured as 35W TDP) -25°C ~ 50°C ***/** (configured as 65W TDP)
<b>Storage Interface</b>		<b>Storage Temperature</b>	-40°C ~ 85°C
<b>SATA HDD</b>	2x internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1	<b>Humidity</b>	10%~90%, non-condensing
<b>M.2 NVMe</b>	1x M.2 2280 M key NVMe socket (PCIe Gen3 x4) for NVMe SSD installation	<b>Vibration</b>	Operating, MIL-STD-810G, Method 514.6, Category 4
<b>mSATA</b>	1x full-size mSATA port (mux with mini-PCIe)	<b>Shock</b>	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
		<b>EMC</b>	CE/FCC Class A, according to EN 55032 & EN 55024

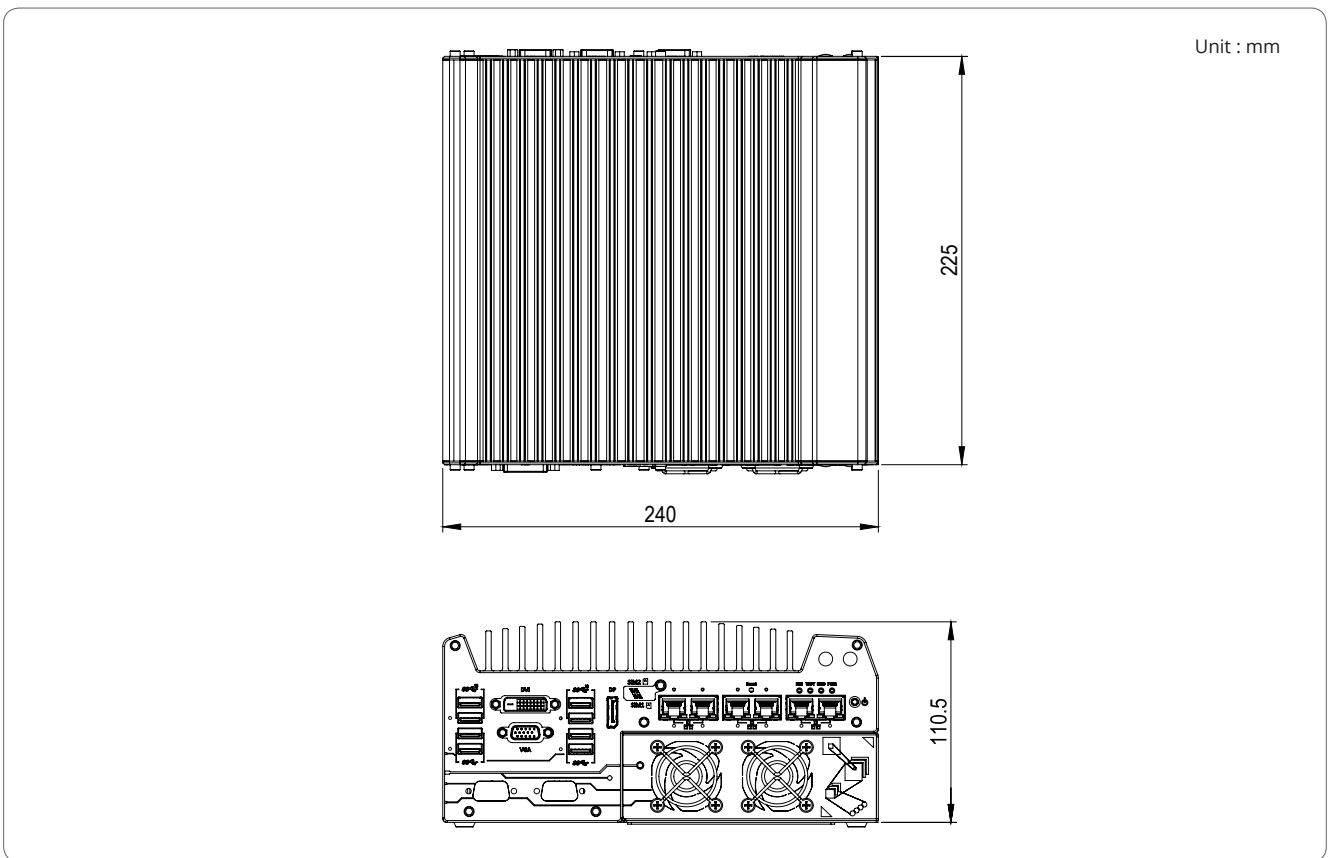
\*\* For i7-8700 running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.

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

## Appearance



## Dimensions



## Ordering Information

Model No.	Product Description
Nuvo-7160GC	Intel® 8th-Gen Core™ GPU-computing platform with 6x GbE and MeziO™, supporting selected NVIDIA® 120W GPU
Option of 802.3at PoE+ for GbE ports 3 ~ 6	

## Optional Accessories

PA-280W-OW	280W AC/DC power adapter 24V/11.67A; 16AWG/100cm; Cord end terminals for terminal block, operating temperature : -30 to 60 °C.
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