

Nuvo-7160GC Series

GPU Computing Platform with Intel® Core™ i7/i5/i3 9th/8th Gen. CPUs and NVIDIA® GPU support

Features

- Intel® Core™ i7/i5/i3 9th/8th Gen. / Intel® Pentium® or Intel® Celeron® CPUs
- 2x DDR4 2,666/2,400 SDRAM, up to 64GB
- Intel® Q370 chipset
- Supports NVIDIA® GPU (TDP up to 120W)
- 6 GigE ports, supports jumbo frames up to 9.5KB



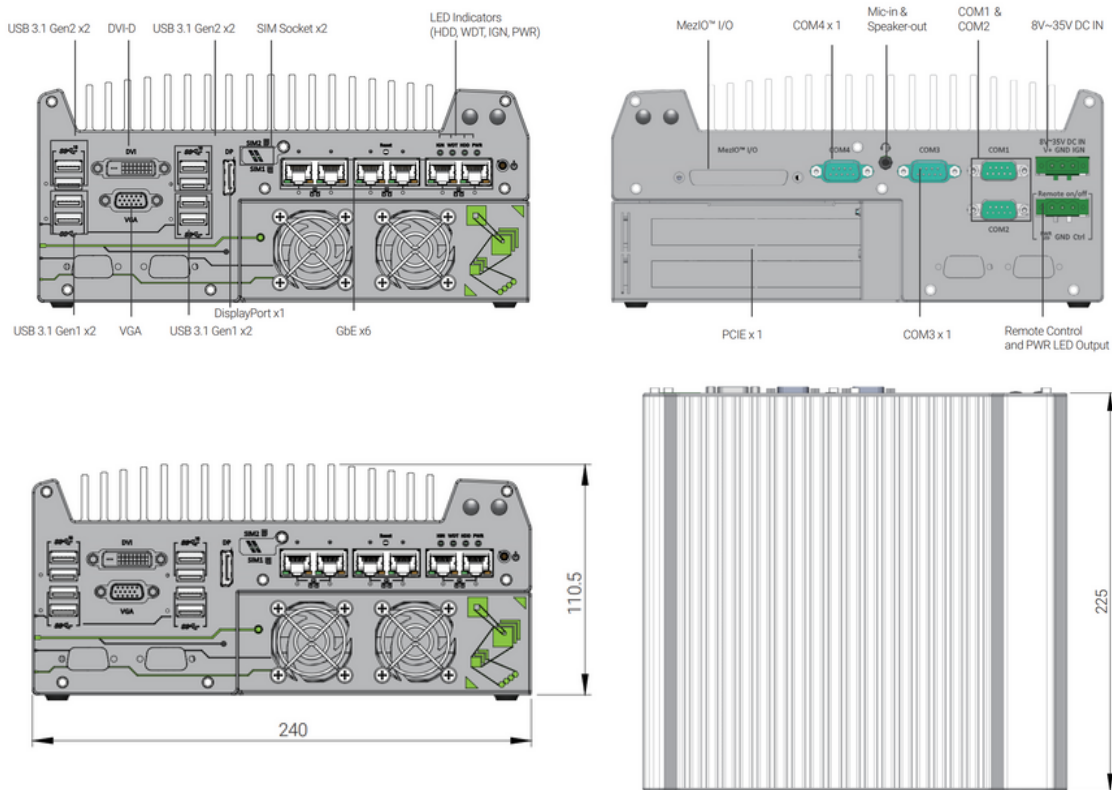
Nuvo-7160GC Serie – Strong computing power and robust design

The Nuvo-7160GC series consists of rugged GPU-based edge computing platforms designed specifically for machine learning/machine learning applications such as autonomous driving, face recognition and machine vision. The platform supports GPU up to 120W, providing 4-6 TFLOPS of computing power for inferencing. It also supports Intel® 9th Gen/8th Gen Coffee Lake Core™ CPUs (6 cores/12 threads), with up to 50% more CPU power compared to previous generation devices.

Thanks to the patented cartridge and intelligent ventilation mechanism, the Nuvo- 7160GC can effectively dissipate the heat generated at the GPU. With its new airflow specifically guided from air inlet to air outlet and powerful fans with intelligent control, the platform enables the operation of a 120W GPU – even at 60°C ambient temperature and 100% GPU utilization.

Despite its small size, the Nuvo-7160GC series is equipped with a wide range of I/O, including USB 3.1 (Gen2/Gen1), GbE, COM and MeziO™ interfaces. The series also incorporates the latest M.2 NVMe SSD technology, which allows drives to achieve read/write speeds of over 2000MB/s, and optionally supports Intel® Optane™ memory for the ultimate in system acceleration. With its combination of exceptional CPU and GPU performance, the Neusys Nuvo-7160GC is the ideal solution for new edge computing challenges.

Drawing (mm)



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Specifications	Nuvo-7160GC Series
SYSTEM	
CPU	Supporting Intel® 9th/ 8th-Gen CPU (LGA1151 socket, 65W/ 35W TDP) – Intel® Core™ i7-8700/ i7-8700T/ i7-9700E/ i7-9700TE – Intel® Core™ i5-8500/ i5-8500T/ i5-9500E/ i5-9500TE – Intel® Core™ i3-8100/ i3-8100T/ i3-9100E/ i3-9100TE – Intel® Pentium® G5400/ G5400T – Intel® Celeron® G4900/ G4900T
Chipset	Intel® Q370 Platform Controller Hub
Graphics	Integrated Intel® UHD Graphics 630
RAM	Up to 64 GB DDR4 2,666/ 2,400 SDRAM (two SODIMM slots)
Storage	2x 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 1x full-size mSATA port (mux with mini-PCIe)
AMT	Supports AMT 12.0
TPM	Supports TPM 2.0
Expansion	1x PCIe x16 slot@Gen3, 16-lanes PCIe signals in Cassette for installing an NVIDIA® graphics card up to 120W TDP (Max. graphics card dimension is 188 mm(L) x 121 mm(W), dual slot allocation) 1x full-size mini PCI Express socket with internal SIM socket (mux with mSATA) 1x M.2 2242 B key socket with dual front-accessible SIM sockets, supporting dual SIM mode with selected M.2 LTE module 1x MezzIO™ expansion port for Neousys MezzIO™ modules
INTERFACE	
Ethernet	6x Gigabit Ethernet ports by 1x I219 and 5x I210 Optional IEEE 802.3at PoE+ PSE for Port 3 ~ Port 6100 W total power budget
USB	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports
COM	COM 1/2: 2x software-programmable RS-232/422/485 ports COM 3/4: 2x RS-232 ports
Video	1x VGA (supports 1,920 x 1,200 resolution) 1x DVI-D (supports 1,920 x 1,200 resolution) 1x Display Port (supports 4,096 x 2,304 resolution)
Audio	1x 3.5 mm mic-in and speaker-out
ENVIRONMENTAL	
Power Supply	1x 3-pin pluggable terminal block for 8 ~ 35V DC input
Remote Control & LED	1x 3-pin pluggable terminal block for remote control and PWR LED output
Operating Temperature	With 35W CPU and 120W GPU: -25° ~ 60°C ** With 65W CPU and 120W GPU: -25° ~ 60°C */** (configured as 35W TDP) -25° ~ 50°C */** (configured as 65W TDP)
Storage Temperature	-40° ~ 85°C
Vibration/Shock Resistance	Vibration: Operating, MIL-STD-810G, Method 514.6, Category 4 Shock: Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
Humidity	10 ~ 90% , non-condensing
Dimensions	240 (W) x 225 (D) x 111 (H)mm
Weight	4.5kg (including CPU, GPU, memory and HDD)
Mounting	Wallmount
Certifications	EMC: CE/FCC Class A, according to EN 55032 & EN 55024 Safety: EN62368-1

* 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 range HDD or Solid State Disk (SSD) is required.

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Ordering Information	Nuvo-7160GC
Model No.	Intel® 8th/9th-Gen Core™ GPU-computing platform with 6x GbE and MeziO™ interface, supporting selected NVIDIA® I20W GPU
Optional IEEE 802.3at PoE+ for GbE ports 3 ~ 6	

Optional Accessories			
PA-280W-ET2	280W AC/DC power adapter 24V/ 11.67A ; 16AWG/ 100cm; cord end terminals for terminal block, operating temperature : -30°C to 60°C. (recommended for 65W CPU or 35W CPU with PoE+ option)		
Damping bracket	Neosys' patented damping bracket assembly for Nuvo-7160GC/ Nuvo-7164GC		
MeziO® Modules			
MeziO®-C180	MeziO® module with 4x RS-232/ 422/ 485 ports and 4x RS-232 ports	MeziO®-V20-EP	MeziO® module with ignition power control function for in-vehicle application
MeziO®-C181	MeziO® module with 4x RS-232/ 422/ 485 ports and 4x RS-422/ 485 ports	MeziO®-U4	MeziO® module with 4x USB 3.1 ports
MeziO®-D220	MeziO® module with 8-CH isolated digital input and 8-CH isolated digital output	MeziO®-G4	MeziO® module with 4x GigE ports
MeziO®-D230	MeziO® module with 16-CH isolated digital input and 16-CH isolated digital output	MeziO®-G4P	MeziO® module with 4x IEEE 802.3at PoE+ ports