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Nuvo-7162GC Series

Ruggedized AI Inference Platform Supporting NVIDIA® Quadro P2200 and Intel® 9th/ 8th-Gen Core™ Processor

Key Features

- **Supports NVIDIA® Quadro P2200 GPU**
- **-25°C to 60°C wide-temperature operation, no GPU throttling at 54°C**
- **Intel® 9th/ 8th-Gen Core™ hexa-core 35W/ 65W LGA1151 CPU**
- **6x GigE ports, 802.3at PoE+ option available (ports 3~6)**
- **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**
- **MezIO™ interface for easy function expansion**

Introduction

Nuvo-7162GC series systems are ruggedized AI inference platforms supporting an NVIDIA® Quadro P2200 that offers a longer product life cycle for industrial AI inference applications such as, machine vision, automation and video analytics. Operating with NVIDIA® Quadro P2200, Nuvo-7162GC delivers 3.8 TFLOPS GPU computing power for real-time inference. In addition, it offers a 50% CPU performance enhancement compared to the previous generation.

Thanks to Neousys' patented Cassette and inventive ventilation mechanism design, the system fan directs ambient cool air directly onto the fan of the GPU card to significantly increase the heat-dissipating efficiency for Quadro P2200. This cooling design guarantees non-throttling GPU performance at up to 54°C and operating temperature up to 60°C for the whole system.

Nuvo-7162GC series systems are equipped with an abundance of cutting-edge I/O functions. It has an M.2 NVMe interface for fast storage access supporting over 2000 MB/s read/ write speeds. There are also 6x GbE ports and 8x USB3.1 ports for image data acquisition. Moreover, it supports MezIO interface for I/O expansion.

By supporting Quadro P2200, Nuvo-7162GC series systems offer superior system longevity so users need not worry about the frequent change of GPU generation. Nuvo-7162GC is the ideal ruggedized inference platform for industrial edge AI applications.

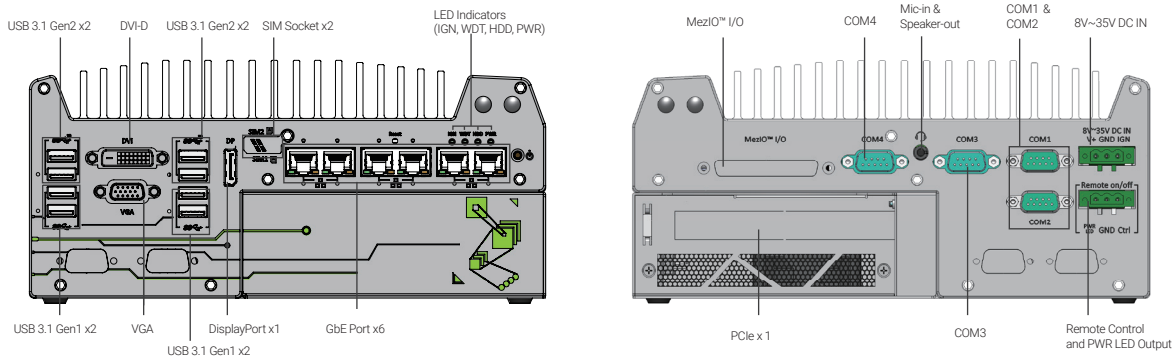
Specifications

System Core	
Processor	Supporting Intel® 9th/ 8th Gen Core™ CPU (LGA1151 socket, 65W/35W TDP) - Intel® Core™ i7-9700E/ i7-9700TE/ i7-8700/ i7-8700T - Intel® Core™ i5-9500E/ i5-9500TE/ i5-8500/ i5-8500T - Intel® Core™ i3-9100E/ i3-9100TE/ i3-8100/ i3-8100T
Chipset	Intel® Q370 platform controller hub
Graphics	Integrated Intel® UHD graphics 630
Memory	Up to 64 GB DDR4 2666/ 2400 SDRAM (two SODIMM slots)
AMT	Supports AMT 12.0
TPM	Supports TPM 2.0
I/O Interface	
Ethernet	6x Gigabit Ethernet ports by I219 and 5x I210
PoE+	Optional IEEE 802.3at PoE+ PSE for port 3 ~ port 6 100 W total power budget
USB 3.1	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports
Video Port (Integrated Graphics)	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) 2x RS-232 ports (COM3/ COM4)
Audio	1x 3.5 mm jack for mic-in and speaker-out
Storage Interface	
SATA HDD	2x internal SATA ports for 2.5" HDD/ SSD installation, supporting RAID 0/ 1
M.2 NVMe	1x M.2 2280 M key NVMe socket (PCIe Gen3 x4) for NVMe SSD installation
mSATA	1x full-size mSATA port (mux with mini-PCIe)

Internal Expansion Bus	
PCI/PCI Express	1x PCIe x16 slot@Gen3, 16-lanes PCIe signal in Cassette for installing Quadro P2200 GPU
Mini PCI Express	1x full-size mini PCI Express socket with internal SIM socket (mux with mSATA)
M.2	1x M.2 2242 B key socket with dual front-accessible SIM sockets, supporting dual SIM mode with selected M.2 LTE module
Expandable I/O	1x MezIO™ expansion port for Neousys MezIO™ modules
Power Supply	
DC Input	1x 3-pin pluggable terminal block for 8 - 35VDC DC input
Remote Ctrl. & LED Output	1x 3-pin pluggable terminal block for remote control and PWR LED output
Mechanical	
Dimension	240 mm (W) x 225 mm (D) x 111 mm (H)
Weight	4.5 Kg
Mounting	Wall-mount mounting bracket
Environmental	
Operating Temperature	with 35W CPU and Quadro P2200 -25°C ~ 60°C ** with 65W CPU and Quadro P2200 -25°C ~ 60°C */ ** (configured as 35W TDP mode) -25°C ~ 50°C */ ** (configured as 65W TDP mode)
Storage Temperature	-40°C ~ 85°C
Humidity	10%~90% , non-condensing
Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4
Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
EMC	CE/FCC Class A, according to EN 55032 & EN 55024

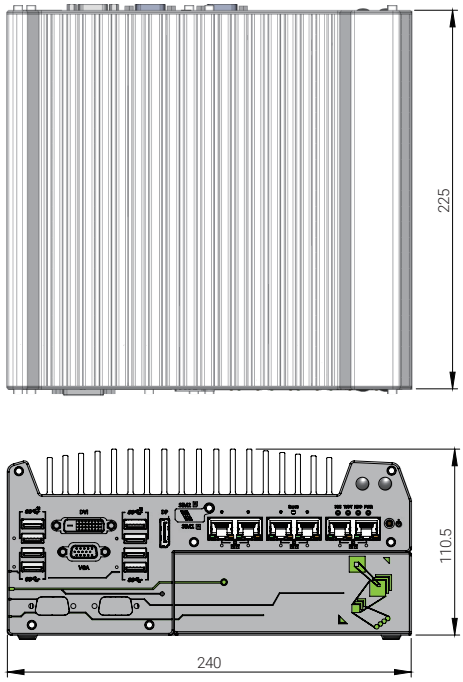
** For i7-9700E and i7-8700 running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.*
*** For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.*

Appearance



Dimensions

Unit : mm



Ordering Information

Model No.	Product Description
Nuvo-7162GC	Intel® 9th/ 8th-Gen Core™ AI Inference Platform with 6x GbE and MezIO™, supporting NVIDIA® Quadro P2200
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.
Damping bracket	Neousys' patented damping brackets assembly for Nuvo-7160GC/ Nuvo-7162GC/ Nuvo-7164GC/ Nuvo-7166GC

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