Nuvo-9160GC Series

Ruggedized AI Inference Platform supporting 130W NVIDIA® RTX™ GPU and Intel® 14th/ 13th/ 12th-Gen Core™ Processor

Key Features

- **Supports Intel® 14th/13th/12th-Gen Core™ 24C/ 32T 35W/ 65W LGA1700 CPU**
- **Support NVIDIA® RTX™ series GPU card up to 130W TDP**
- **-25°C to 60°C wide temperature rugged operation**
- **5x 2.5GbE and 1xGbE with optional PoE+ (ports 3 to 6)**
- **1x USB 3.2 Gen2x2 type-C and 6x USB 3.2 type-A ports**
- **M.2 2280 M key socket (Gen4x4) supporting NVMe SSD**
- **Accommodates two 2.5" SATA HDD/ SSD with RAID 0/ 1 support**
- **MezIO® interface for add-on expansion**

CONTACT US GET QUOTE

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

Introduction

Nuvo-9160GC is a rugged edge AI computer that delivers superior CPU and GPU performance by leveraging Intel's 14th/13th/12th Gen platform and an NVIDIA® RTX™ GPU card up to 130W. The system's standard and optional GPU brackets can accommodate selected GPU cards including RTX™ 3050, RTX™ 4060, NVIDIA® RTX™ A2000, and RTX™ 4000 SFF Ada. The GPU bracket is designed to secure the GPU card to provide excellent shock and vibration resistance in volatile conditions.

Benefiting from the cutting-edge Intel® 7 photolithography, Intel®'s 14th/13th/12th Gen processors offer up to 24 cores/ 32 threads to provide up to double the performance when compared to previous Intel® 11th/ 10th Gen CPUs. The latest NVIDIA® 130W RTX™ GPU contributes up to 15 TFLOPS of FP32 performance to fuel real-time AI inference applications involving multiple cameras such as production line vision inspection, intelligent video analytics for surveillance or ITS, or autonomous mobile robot (AMR).

Nuvo-9160GC has a proven thermal design to guarantee reliable system operation from -25°C to 60°C. It features a passive-cooling design for the motherboard and segregated patented ventilation design* for the 130W GPU card within Neousys' patented expansion Cassette*. The support of six GigE cameras (or IP cameras) and six USB3 cameras makes Nuvo-9160GC ideal for various vision-based AI application deployments. It also provides flexible data storage options, including one M.2 2280 Gen4x4 NVMe providing up to 7000 MB/s extreme read/write speeds and two 2.5" SATA HDD/SSD to expand storage capacity.

With performance enhancements and comprehensive I/Os, Nuvo-9160GC is the perfect edge AI inference platform for industrial environments from factory automation, smart agriculture, and autonomous machines.

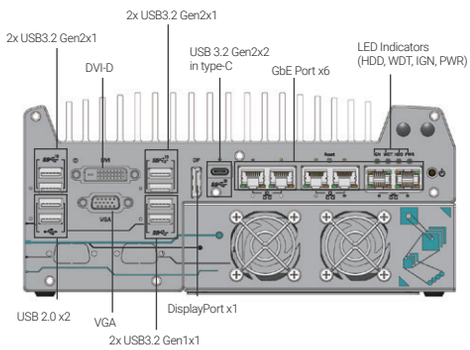
Specifications

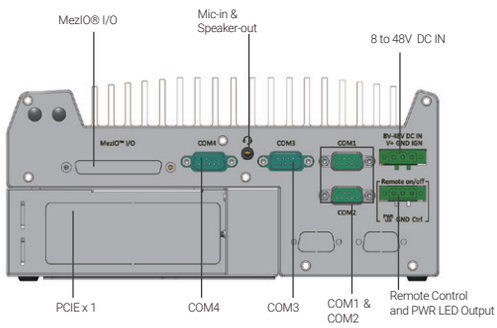
System Core		
Processor	Supporting Intel® 14th-Gen Core™ CPU (LGA1700 socket, 65W/ 35W TDP)[1][2] - Intel® Core™ i9-14900/ i9-14900T - Intel® Core™ i7-14700/ i7-14700T - Intel® Core™ i5-14500/ i5-14400/ i5-14500T - Intel® Core™ i3-14100/ i3-14100T	
	Supporting Intel® 13th-Gen Core™ CPU[1][2] (LGA1700 socket, 65W/ 35W TDP) - Intel® Core™ i9-13900E/ i9-13900TE - Intel® Core™ i7-13700E/ i7-13700TE - Intel® Core™ i5-13500E/ i5-13400E/ i5-13500TE - Intel® Core™ i3-13100E/ i3-13100TE	Supporting Intel® 12th-Gen Core™ CPU (LGA1700 socket, 65W/ 35W TDP) - Intel® Core™ i9-12900E/ i9-12900TE - Intel® Core™ i7-12700E/ i7-12700TE - Intel® Core™ i5-12500E/ i5-12500TE - Intel® Core™ i3-12100E/ i3-12100TE
Graphics	Integrated Intel® UHD Graphics 770 (32EU) / 730 (24EU)	
Memory	Up to 64 GB DDR5 4800 SDRAM (two SODIMM slots)	
AMT	Supports Intel vPro/ AMT 16.0	
TPM	Supports dTPM 2.0	
I/O Interface		
Ethernet	5x 2.5G Ethernet by I226-IT/ I225-IT and 1x Gigabit Ethernet by I219-LM with screw-lock	
PoE+	Optional IEEE 802.3at PoE+ PSE for Port 3 to Port 6. 100W total power budget	
USB 3.2	1x USB 3.2 Gen2x2 (20 Gbps) port in type-C connector with screw-lock 4x USB 3.2 Gen2x1 (10 Gbps) ports in type-A connectors 2x USB 3.2 Gen1x1 (5 Gbps) ports in type-A connectors	
USB 2.0	2x USB 2.0 ports	
Video Port (Integrated Graphics)	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	
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 port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1	
M.2	1x M.2 2280 M key socket (PCIe Gen4 x4) for NVMe SSD	

Expansion Bus	
PCI Express	1x PCIe x16 slot@Gen3, 16-lanes PCIe signals in Cassette for installing an NVIDIA® graphics card up to 130W TDP (Max. graphics card dimension is 188 mm(L) x 131 mm(W), dual slot allocation)
Mini PCI Express	1x full-size mini PCI Express socket
M.2	1x M.2 3042/3052 B key socket with SIM slot for M.2 4G/ 5G module
Expandable I/O	1x MezIO® expansion port for Neousys MezIO® modules
Power Supply	
DC Input	1x 3-pin pluggable terminal block for 8 to 48V 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 110.5 mm (H)
Weight	3.89 kg
Mounting	Wall-mount (standard) or damping bracket (optional)
Environmental	
Operating Temperature	**With 35W CPU and 130W GPU** -25°C to 60°C[3][4] **With 65W CPU and 130W GPU** -25°C to 60°C[3][4] (configured as 35W TDP) -25°C to 50°C[3][4] (configured as 65W TDP)
Storage Temperature	-40°C to 85°C
Humidity	10% to 90% , non-condensing
Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4 (with optional damping bracket)
Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II (with optional damping bracket)
EMC	CE/FCC Class A, according to EN 55032 & EN 55035

[1] A BIOS update may be required for the system to recognize 14th/13th-Gen processors. Please contact Neousys Technology for more information.
[2] Due to I225-IT specification limitation, for systems running 2.5G Ethernet link speeds, please limit the operating temperature to 60°C.
[3] For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.
[4] For CPU operating 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 allow higher

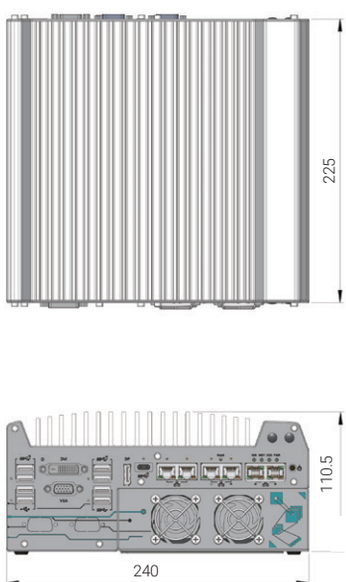
Appearance





Dimensions

Unit : mm



Ordering Information

Model No.	Product Description
Nuvo-9160GC	Ruggedized AI Inference Platform supporting 130W NVIDIA® RTX™ GPU and Intel® 14th/ 13th/ 12th-Gen Core™ Processor
PoE+ Option	Option of 802.3at PoE + PSE for 2.5GbE port 3 to port 6

Optional Accessories

Dmpbr-Nuvo9160	Neousys' patented damping brackets assembly for Nuvo-9160GC
Gpubr-Nuvo9160-01	Nuvo-9160GC GPU bracket kit for RTX™ 4000 SFF Ada and RTX™ A2000
Gpubr-Nuvo9160-02	Nuvo-9160GC GPU bracket kit for selected single fan RTX™ 4060
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.
PA-600W-ENC	600W AC/DC power adapter 24V/25A; cord end terminals for terminal block, operating temperature : -20°C to 70°C.
MezIO® Modules	
MezIO®-C180-50	MezIO® module with 4x RS-232/ 422/ 485 ports and 4x RS-232 ports
MezIO®-C181-50	MezIO® module with 4x RS-232/ 422/ 485 ports and 4x RS-422/ 485 ports
MezIO®-D220-50	MezIO® module with 8-CH isolated digital input and 8-CH isolated digital output
MezIO®-D230-50	MezIO® module with 16-CH isolated digital input and 16-CH isolated digital output
MezIO®-V20-EP	MezIO® module with ignition power control function for in-vehicle application
MezIO®-U4-50	MezIO® module with 4x USB 3.1 ports
MezIO®-G4	MezIO® module with 4x GigE ports
MezIO®-G4P	MezIO® module with 4x IEEE 802.3at PoE+ ports *Only Nuvo-9160GC-PoE support MezIO-G4P*