Nuvo-11160GC Series

Ruggedized Edge AI Platform Supporting 150W GPU and Intel® Core™ Ultra 200S Series Processor

Key Features

- **Supports Intel® Core™ Ultra 200 Series 24C/24T 35W/65W LGA1851 CPU**
- **Supports NVIDIA® RTX series GPU card up to 150W**
- **Rugged, -25°C to 60°C wide temperature operation**
- **5x 2.5GbE and 1x GbE ports with optional PoE+ (ports 3~6)**
- **1x optional 10GBASE-T Ethernet**
- **8x USB 3.2 Gen2 Type-A ports**
- **4-CH isolated DI and 4-CH isolated DO**
- **MezIO® interface for easy function expansion**

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

Introduction

The Nuvo-11160GC is Neousys's latest rugged, wide-temperature edge AI platform built on the Intel® Core™ Ultra 200S series processor with support for NVIDIA® RTX™ GPU cards up to 150W. With high-performance density and comprehensive I/O connectivity, it is ideal for demanding edge AI applications across both fixed and mobile deployments in indoor and outdoor environments, such as AI-driven vision inspection, video analysis and autonomous mobile robots.

Designed for demanding real-world applications, the Nuvo-11160GC simplifies the connection of required sensors and control devices with extensive I/O connectivity, while its compact form factor enables deployment in space-constrained environments. For stationary use cases such as vision-based robotic guidance, AI-driven vision inspection, and video analysis, it offers 8x USB 3.2 Gen 2 ports and 6x GbE ports for multi-camera setups, 4-CH isolated DI and 4-CH isolated DO for factory automation integration, and an optional 10GbE port for high-bandwidth communication. For greater I/O and functionality, the MezIO® interface enables flexible expansion: the MezIO®-U4 adds 4 additional USB 3.1 ports, the MezIO®-G4 adds 4 additional GbE ports, and the MezIO®-D330 adds 16-CH DIO.

For more demanding mobile robots applications such as AMRs and outdoor delivery robots, the optional built-in PoE+ capability simplifies GigE camera deployment, while mini PCIe slots support 4G/5G module expansion for remote operation. A proven thermal design, featuring the expansion Cassette design with an upgraded GPU cooling fan, ensures reliable performance across a wide temperature range of -25°C to 60°C, making it well-suited for outdoor environments. On the power efficiency side, the Intel® Core™ Ultra 200S delivers 1.2x higher CPU performance while consuming only 80% of the power compared to the previous generation, enabling longer battery endurance for mobile robotics.

By integrating the latest Intel® Core™ Ultra 200S platform with up to 150W Blackwell GPU support, a rugged wide-temperature design, and flexible I/O expansion within a compact footprint, the Nuvo-11160GC is an ideal edge AI platform for both stationary and mobile applications.

Specifications

System Core	
Processor	Supports Intel® Core™ Ultra 200 series CPU (LGA 1851 socket), 35W and 65W TDP - Intel® Core™ Ultra 9 285/285T - Intel® Core™ Ultra 7 265/265T - Intel® Core™ Ultra 5 245/245T
Chipset	Intel® Q870E Platform Controller Hub
Graphics	Integrated Intel Xe LPG Graphics
AI Engine	Integrated Neural Processing Unit
Memory	Up to 128 GB DDR5 6400 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 and 1x 1G Ethernet by I219-LM with screw-lock 1x optional 10GBASE-T Ethernet
PoE+	Optional IEEE 802.3at PoE+ PSE for Port 3 ~ Port 6. 100W total power budget
USB 3.2	8 x USB 3.2 Gen2 ports
Isolated DIO	4-CH isolated DI and 4-CH isolated DO
Video Port (Integrated Graphics)	1x HDMI™, supporting 3840 x 2160 resolution 2x DisplayPort, supporting 4096 x 2304 resolution
Serial Port	2x software-programmable RS-232/ 422/ 485 ports (COM1/COM2) 2x 3-wire 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 NVMe socket (PCIe Gen5x4) for NVMe SSD
Expansion Bus	
PCI Express	1x PCIe x16 slot@Gen4, 16-lanes PCIe signal in Cassette for installing NVIDIA® GPU up to 150W (Max. graphics card dimension is 178 mm(L) x 128 mm(W), dual slot allocation)
Mini-PCI Express	2x full-size mini PCI Express socket

Expansion Bus	
Expandable I/O	1x MezIO® expansion port for Neousys MezIO® modules
USB2.0	1x USB 2.0 port with Type-A connector (internal)
Power Supply	
DC Input	1x 3-pin pluggable terminal block for 8 to 48V DC input, rated current 20A.
Remote Ctrl. & LED Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
Mechanical	
Dimension	240 mm (W) x 225 mm (D) x 111 mm (H)
Weight	3.89kg
Mounting	Wall-mount (standard) or damping bracket (optional)
Environmental	
Operating Temperature	**With 35W CPU and 150W GPU** -25°C to 60°C[1] **With 65W CPU and 150W GPU** -25°C to 60°C[1] (configured as 35W TDP) -25°C to 50°C[1] (configured as 65W TDP)
Storage Temperature	-40°C to 85°C
Humidity	10% to 90% , non-condensing
Vibration	Operating, MIL-STD-810H, Method 514.8, Category 4 (with optional damping bracket)
Shock	Operating, MIL-STD-810H, Method 516.8, Procedure I (with optional damping bracket)
EMC	CE/FCC Class A, according to EN 55032 & EN 55035

[1] For sub-zero operating temperature, a wide temperature HDD/ SSD/ NVMe is required.

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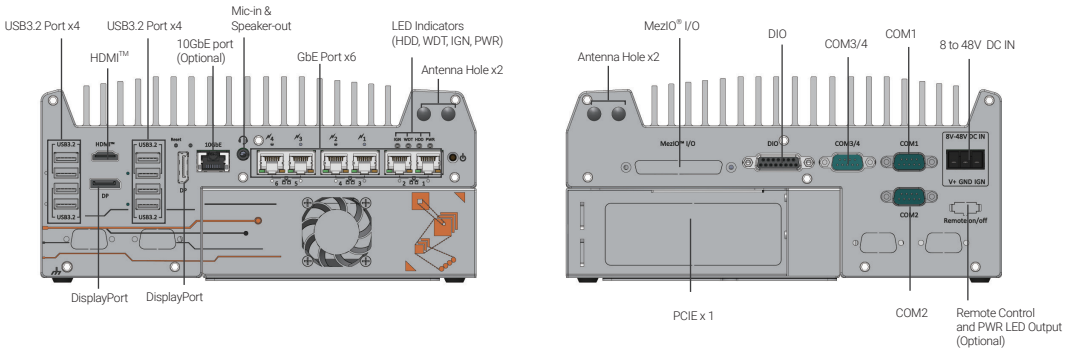
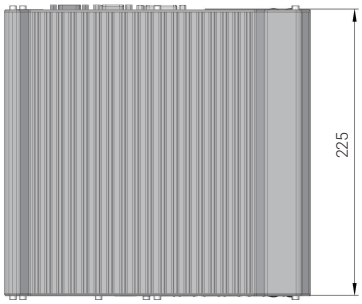
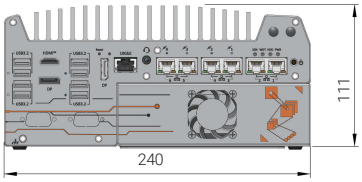
Appearance



Dimensions

Unit : mm





Ordering Information

Model No.	Product Description
Nuvo-11160GC	Ruggedized Edge AI Platform Supporting 150W GPU and Intel® Core™ Ultra 200S Series Processor
Nuvo-11160GC-PoE	Ruggedized Edge AI Platform Supporting 150W GPU and Intel® Core™ Ultra 200S Series Processor with option of 802.3at PoE+ PSE for 2.5GbE port 3 to port 6
Nuvo-11160GC-PoE-10G	Ruggedized Edge AI Platform with 10GbE Supporting 150W GPU and Intel® Core™ Ultra 200S Series Processor with option of 802.3at PoE+ PSE for 2.5GbE port 3 to port 6

Optional Accessories

Dmpbr-Nuvo9160	Identical with Neousys' patented damping brackets assembly for Nuvo-9160GC, and compatible with Nuvo-11160GC
AccsyBx-Cardholder-9160GC-xx	Nuvo-9160GC GPU bracket kit for selected GPU, and compatible with Nuvo-11160GC. Please contact Neousys for more information
Cbl-W212F-W210F-23CM	Cable Wafer 2.0 Female 12P to 10P, Length: 23cm
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	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 *Only Nuvo-11160GC-PoE/PoE-10G support MezIO-G4P*
MezIO®-D330	MezIO® module with 16-CH isolated DI and 16-CH isolated DO MezIO® module		