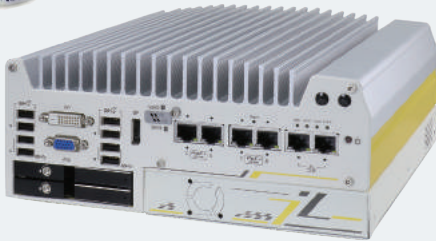NEOUSYS TECHNOLOGY

# Nuvo-7200VTC Series

Intel® 8th/ 9th-Gen Core™ In-vehicle Controller with 4x or 8x PoE+ Ports, single-slot PCIe Cassette

## Key Features

- Supports Intel® 8th/ 9th Core™ i7/ i5/ i3 LGA1151 socket-type CPU
- Patented Cassette for PCIe add-on card accommodation*
- 4x or 8x 802.3at Gigabit PoE+ ports via M12 or RJ45 connectors
- Onboard isolated CAN bus for in-vehicle communication
- 4-CH isolated DI and 4-CH isolated DO
- 2x hot-swappable SATA HDD trays, supporting RAID 0/1
- 2x M.2 B key and 3x full-size mini-PCIe sockets
- 8~35V wide-range DC input with built-in ignition power control
- E-Mark and EN 50155 certificate

Contact Neousys    Get Quote

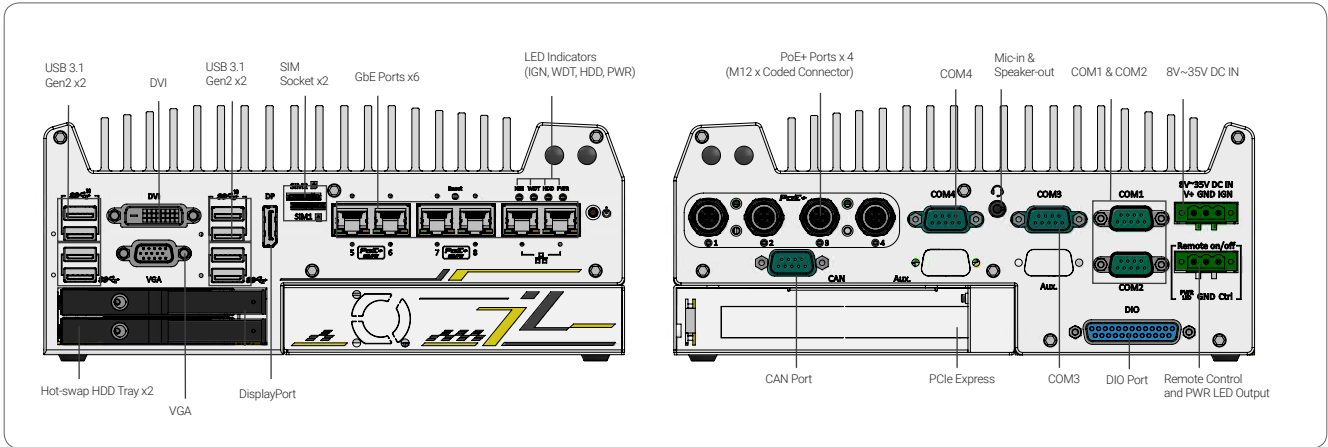*R.O.C Patent No. M456527

## Introduction

Nuvo-7200VTC is the latest rugged in-vehicle controller featuring purpose-built set and effortless connectivity, powered by Intel® 8th/ 9th-Gen Core™ processors with up to 6-core/ 8-core architecture and 64GB DDR4 memory that gets a significant performance increase over previous generations. Nuvo-7200VTC provides flexibility to support a range of peripherals and connections. It has four or eight 802.3at PoE+ ports to supply 25W power to connected devices via M12 or RJ-45 connectors. Screw-lock mechanisms on GbE and USB 3.1 ports guarantee extreme rugged connectivity in shock/ vibration environments. Wireless connectivity is essential for modern in-vehicle applications and you can simultaneously utilize two M.2 and three mini-PCIe sockets with corresponding 3G/ 4G, WIFI, GPS, and CAN module for this purpose. Additionally, Neousys provides an option of 4G cellular module certified to work with renowned US telecom company to minimize implementation time and cost.

Thanks to Neousys' patented Cassette design, it has one additional PCIe slot in the Cassette module for an add-on card installation, making it that much more flexible. Nuvo-7200VTC also features two hot-swappable HDD trays, isolated CAN bus, isolated DIO, 8~35V wide-range DC input with ignition power control and is in compliance with E-Mark and EN 50155. The Nuvo-7200VTC is the perfect solution with extraordinary reliability for various in-vehicle application needs.
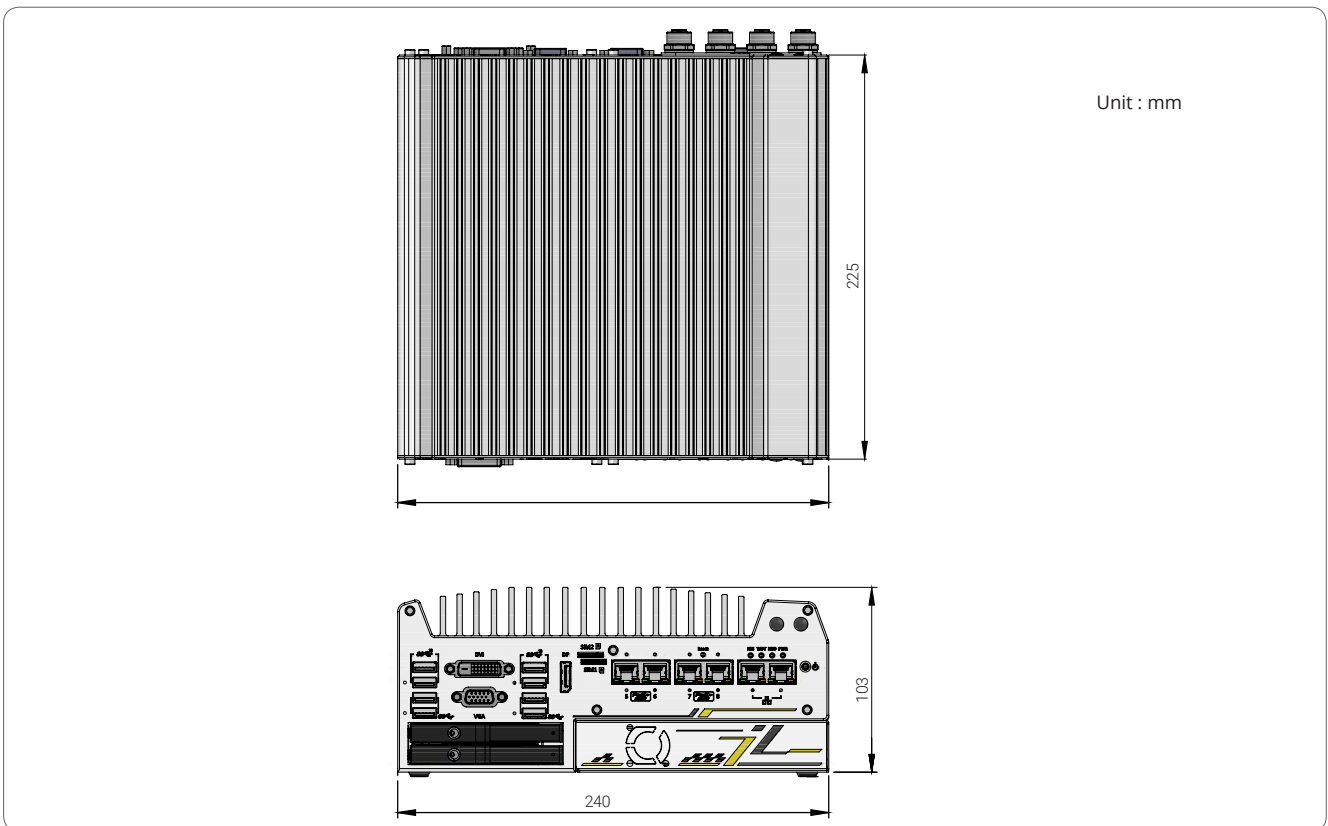
## Specifications

### System Core

| | |
|---|---|
| Processor | Supporting Intel® 8th/ 9th-Gen Core™ CPU (LGA1151 socket)<br>- Intel® Core™ i7-8700T/ i7-9700TE<br>- Intel® Core™ i5-8500T/ i5-9500TE<br>- Intel® Core™ i3-8100T/ i3-9100TE |
| Chipset | Intel® Q370 platform controller hub |
| Graphics | Integrated Intel® HD 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 | 2x Gigabit Ethernet ports by Intel® I219 and I210 |
| PoE+ | 4x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I210<br>- M12 x-coded connector (Nuvo-7200VTC);<br>- RJ45 connector (Nuvo-7204VTC)<br>8x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I210<br>- RJ45 connector (Nuvo-7208VTC) |
| CAN | 1x isolated CAN 2.0 port |
| Isolated DIO | 4x isolated DI and 4x isolated DO |
| USB | 4x USB 3.1 Gen2 (10 Gbps) ports<br>4x USB 3.1 Gen1 (5 Gbps) ports |
| Video Port | 1x VGA connector, supporting 1920 x 1200 resolution<br>1x DVI-D connector, supporting 1920 x 1200 resolution<br>1x DisplayPort connector, supporting 4096 x 2304 resolution |
| Serial Port | 2x software-programmable RS-232/422/485 ports (COM1/ COM2)<br>2x RS-232 ports (COM3/ COM4) |
| Audio | 1x Mic-in and 1x speaker-out |

### Storage Interface

| | |
|---|---|
| SATA HDD | 2x hot-swappable HDD tray for 2.5" HDD/ SSD installation |
| mSATA | 1x full-size mSATA port (mux with mini-PCIe) |
| M.2 | 1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD<br>or Intel® Optane™ memory installation |

### Expansion Bus

| | |
|---|---|
| PCI Express | 1x PCIe x16 slot@Gen3, 16-lanes PCIe signals in Cassette |
| Mini PCI-E | 1x full-size mini PCI Express socket with internal SIM socket<br>  (mux with mSATA)<br>2x full-size mini-PCIe sockets (USB signals only)<br>  with internal SIM sockets |
| M.2 | 2x M.2 2242 B key socket, one with dual front-accessible SIM sockets, supporting dual SIM mode with selected M.2 LTE module |

### Power Supply

| | |
|---|---|
| DC Input | 1x 3-pin pluggable terminal block for 8~35V DC input<br>(IGN/ GND/ V+) |
| Remote Ctrl. & Status Output | 1x 3-pin pluggable terminal block for<br>  remote control and PWR LED output |

### Mechanical

| | |
|---|---|
| Dimension | 240 mm (W) x 225 mm (D) x 103mm (H) |
| Weight | 3.7 kg |
| Mounting | Neousys' patented damping bracket (standard) or optional DIN-rail mounting |

### Environmental

| | |
|---|---|
| Operating Temperature | -40°C ~ 70°C ** |
| 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 | EN 50155 (Nuvo-7200VTC),<br>E-Mark (Nuvo-7208VTC)<br>CE/FCC Class A, according to EN 55022 & 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



USB 3.1 Gen2 x2 | DVI | USB 3.1 Gen2 x2 | SIM Socket x2 | GbE Ports x6 | LED Indicators (IGN, WDT, HDD, PWR) | PoE+ Ports x 4 (M12 x Coded Connector) | COM4 | Mic-in & Speaker-out | COM1 & COM2 | 8V~35V DC IN

Hot-swap HDD Tray x2 | VGA | DisplayPort | CAN Port | PCIe Express | COM3 | DIO Port | Remote Control and PWR LED Output

# Dimensions



Unit : mm

225

103

240

# Ordering Information

| Model No. | Product Description |
|---|---|
| Nuvo-7200VTC | Intel® 8th/9th-Gen Core™ in-vehicle controller with 4x M12 PoE+ ports, DIO, CAN bus and RAID, single-slot PCI Express Cassette |
| Nuvo-7204VTC | Intel® 8th/9th-Gen Core™ in-vehicle controller with 4x RJ45 PoE+ ports, DIO, CAN bus and RAID, single-slot PCI Express Cassette |
| Nuvo-7208VTC | Intel® 8th/9th-Gen Core™ in-vehicle controller with 8x RJ45 PoE+ ports, DIO, CAN bus and RAID, single-slot PCI Express Cassette |

# Optional Accessories

| | |
|---|---|
| Cbl-M12X8M-RJ45-500CM | M12 (8-pole-X-coded) to RJ45, CAT6, length : 500CM |
| Cbl-M12X8M-RJ45-1000CM | M12 (8-pole-X-coded) to RJ45, CAT6, length : 1000CM |
| PA-120W-OW | 120W AC/DC power adapter 20V/6A; 18AWG/120cm; cord end terminals for terminal block, operating temperature : -30 to 70 °C. |

# Optional Cellular Module

| | |
|---|---|
| NSIO-LTE-7455 | Cat. 6 LTE embedded socket modem |