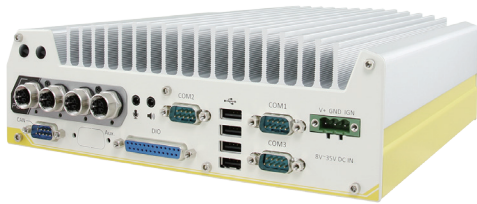# Nuvo-5100VTC Series

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### Intel® 6th-Gen Skylake Core™ i7/i5/i3 In-Vehicle Controller with 4x or 8x PoE+ Ports, DIO, CAN Bus and RAID

## Features

· Supports Intel® 6th-Gen Core™ i7/i5/i3 LGA1151 socket-type CPU
· 4x or 8x 802.3at Gigabit PoE+ ports via M12 or RJ45 connectors
· On-board CAN bus for in-vehicle communication
· 4-CH isolated DI and 4-CH isolated DO
· 2x SATA ports with one hot-swappable HDD tray, supporting RAID 0/1
· 4x full-size mini-PCIe sockets with SIM support
· 8~35V wide-range DC input with built-in ignition power control
· E-Mark and EN 50155 certificate

## Introduction

Nuvo-5100VTC is a state-of-the-art in-vehicle controller in compliant with E-Mark and EN 50155 certificate. Featuring Intel® 6th-Gen Core™ CPU, it exhibits superb CPU and GPU performance for various in-vehicle applications.

Nuvo-5100VTC offers four or eight 802.3at PoE+ ports to supply 25W power to the connected device. They are implemented using RJ45 or M12 (x-coded connectors), which guarantee extremely rugged connectivities in shocking/vibrating environments. Two more Gigabit Ethernet ports by RJ-45 are available for data communication. You can also utilize four internal mini-PCIe sockets with corresponding modules for 3G/4G/WIFI/GPS communication.

In addition, Nuvo-5100VTC integrates CAN bus for in-vehicle communication, and isolated DIO for sensor/actuator control. Combing ignition power control and dual-drive RAID storage, Nuvo-5100VTC is simply the one to satisfy all your application demands.

## Specifications

### System Core

| | |
|---|---|
| Processor | Supports 6th-Gen Intel® Core™ i7/i5/i3 LGA1151 CPU<br>· Intel® Core™ i7-6700TE (8M Cache, 2.4/3.4 GHz, 35W TDP)<br>· Intel® Core™ i5-6500TE (6M Cache, 2.3/3.3 GHz, 35W TDP)<br>· Intel® Core™ i3-6100TE (4M Cache, 2.7 GHz, 35W TDP) |
| Chipset | Intel® Q170 Platform Controller Hub |
| Graphics | Integrated Intel® HD Graphics 530 |
| Memory | Up to 32 GB DDR4-2133 SDRAM by two SODIMM sockets |
| AMT | Supports AMT 11.0 |
| 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-5100VTC);<br> - RJ45 connector (Nuvo-5104VTC)<br>8x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I210<br> - RJ45 connector (Nuvo-5108VTC) |
| CAN | 1x CAN 2.0 port |
| Isolated DIO | 4x isolated DI and 4x isolated DO |
| USB | 4x USB 3.0 ports via native XHCI controller<br>4x USB 2.0 ports |
| Video Port | 1x stacked VGA + DVI-D connector<br>2x DisplayPort connectors, supporting 4K2K resolution |
| Serial Port | 2x software-programmable RS-232/422/485 port (COM1 & COM2)<br>1x RS-232 port (COM3) |
| Audio | 1x mic-in and 1x speaker-out |

### Storage Interface

| | |
|---|---|
| SATA HDD | 1x hot-swappable HDD tray for 2.5" HDD/SSD installation<br>1x Internal SATA port for 2.5" HDD/SSD installation, supporting RAID 0/1 |
| mSATA | 1x full-size mSATA port (mux with mini-PCIe) |

### Expansion Bus

| | |
|---|---|
| Mini PCI-E | 1x full-size mini-PCIe socket with panel-accessible SIM socket<br>1x full-size mini-PCIe socket with internal SIM socket (mux. with mSATA)<br>2x full-size mini-PCIe sockets (USB signals only) with internal SIM sockets |

### Power Supply

| | |
|---|---|
| DC Input | 1x 3-pin pluggable terminal block for 8~35VDC DC input |
| Remote Ctrl. & Status Output | 1x 10-pin (2x5) wafer connector for<br> remote on/off control and status LED output |

### Mechanical

| | |
|---|---|
| Dimension | 240 mm (W) x 225 mm (D) x 79 mm (H) |
| Weight | 3.3 kg |
| Mounting | Neousys' patented damping bracket (standard) or<br>optional DIN-Rail mounting |

### Environmental

| | |
|---|---|
| Operating Temperature | -25°C ~ 70°C */** |
| Storage Temperature | -40°C ~ 85°C |
| Humidity | 10%~90% , non-condensing |
| Vibration | Operating, 5 Grms, 5-500 Hz, 3 Axes<br>(w/ SSD, according to IEC60068-2-64) |
| Shock | Operating, 50 Grms, Half-sine 11 ms Duration<br>(w/ SSD, according to IEC60068-2-27) |
| EMC | CE/FCC Class A, according to EN 55022 & EN 55024 |

* The CPU loading is applied using Passmark® BurnInTest 8.0. For detail testing criteria, please contact Neousys Technology
** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

## Order Information

**Nuvo-5100VTC**
Intel® 6th-Gen Skylake Core™ i7/i5/i3 In-Vehicle Controller with 4x M12 PoE+ Ports, DIO, CAN Bus and RAID

**Nuvo-5104VTC**
Intel® 6th-Gen Skylake Core™ i7/i5/i3 In-Vehicle Controller with 4x RJ45 PoE+ Ports, DIO, CAN Bus and RAID

**Nuvo-5108VTC**
Intel® 6th-Gen Skylake Core™ i7/i5/i3 In-Vehicle Controller with 8x RJ45 PoE+ Ports, DIO, CAN Bus and RAID

**Accessories**   - M12, x-coded to RJ-45 Ethernet cable, 5 m length
   - M12, x-coded to RJ-45 Ethernet cable, 10 m length
   - Option of DIN-Rail mounting kit
   - 120W AC/DC power adapter

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