Nuvo-7100VTC Series

Intel® 9th/ 8th-Gen Core™ i7/i5/i3 In-vehicle Controller with 4x or 8x PoE+ Ports, DIO, CAN bus and RAID

Key Features

- **Supports Intel® 9th/8th-Gen Core™ i7/i5/i3 LGA1151 socket-type CPU**
- **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 SATA ports with one hot-swappable HDD tray, supporting RAID 0/ 1**
- **2x M.2 B key and 3x full-size mini-PCIe sockets**
- **8 to 35V wide-range DC input with built-in ignition power control**
- **E-Mark certified and EN 50155 EMC compliant**

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Introduction

Nuvo-7100VTC is a rugged in-vehicle controller featuring purpose-built set and effortless connectivity. Powered by Intel® 9th/ 8th-Gen Core™ processors with up to 6-core/ 8-core and 64GB DDR4 memory, it provides significant performance increases over previous generations.

Nuvo-7100VTC 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 day 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.

On top of all that, Nuvo-7100VTC also features isolated CAN bus, isolated DIO, 8 to 35V wide-range DC input with ignition power control and is E-Mark certified and EN 50155 EMC compliant. The Nuvo-7100VTC is the perfect solution with extraordinary reliability for various in-vehicle applications.

Specifications

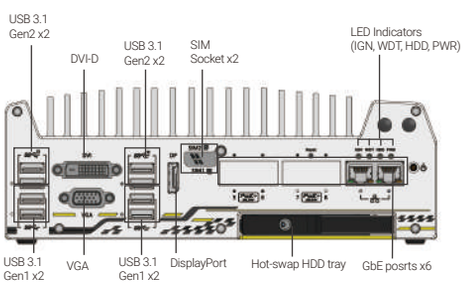
System Core	
Processor	Supporting Intel® 9th/ 8th-Gen Core™ CPU (LGA1151 socket, 35WTDP) - Intel® Core™ i7-9700TE/ i7-8700T - Intel® Core™ i5-9500TE/ i5-8500T - Intel® Core™ i3-9100TE/ i3-8100T
Chipset	Intel® Q370 platform controller hub
Graphics	Integrated Intel® HD Graphics 630
Memory	Up to 64 GB DDR4 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 - M12 x-coded connector (Nuvo-7100VTC); - RJ45 connector (Nuvo-7104VTC) 8x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I210 - RJ45 connector (Nuvo-7108VTC)
CAN	1x isolated CAN 2.0 port
Isolated DIO	4x isolated DI and 4x isolated DO
USB 3.1	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports
Video Port	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 mic-in and 1x speaker-out
Storage Interface	
SATA HDD	1x hot-swappable HDD tray for 2.5" HDD/ SSD installation 1x Internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1
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 or Intel® Optane™ memory installation

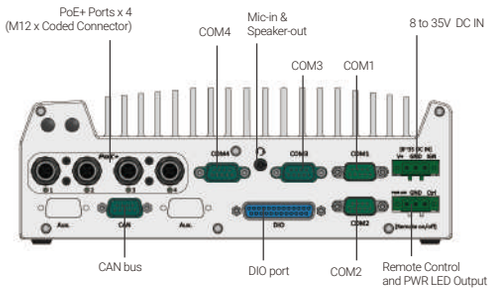
Expansion Bus	
Mini PCI-E	1x full-size mini PCI Express socket with internal SIM socket (mux with mSATA) 2x full-size mini-PCIe sockets (USB signals only) with internal SIM sockets
M.2	2x M.2 2242 B key socket, one with dual front-accessible SIM sockets, supporting dual SIM mode with selected M.2 LTE module
Power Supply	
DC Input	1x 3-pin pluggable terminal block for 8 to 35V DC input (IGN/ GND/ V+)
Remote Ctrl. & Status Output	1x 3-pin pluggable terminal block for remote control and PWR LED output
Mechanical	
Dimension	240 mm (W) x 225 mm (D) x 84 mm (H)
Weight	3.5 kg
Mounting	Wall-mount with damping brackets (Standard) or DIN-rail mount (optional)
Environmental	
Operating Temperature	-40°C ~ 70°C */**
Storage Temperature	-40°C ~ 85°C
Humidity	10%~90% , non-condensing
Vibration	IEC61373:2010, Category 1, Class B Body mounted (part of EN50155)
Shock	IEC61373:2010, Category 1, Class B Body mounted (part of EN50155)
EMC	E-Mark, EN 50121 (EN 50155 EMC) CE/FCC Class A, according to EN 55032 & EN 55035

** 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.*

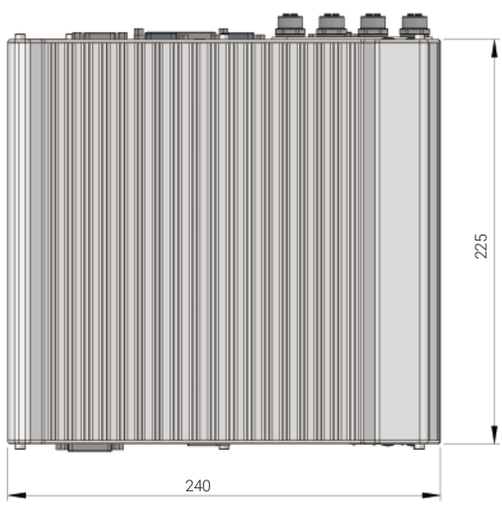
Appearance

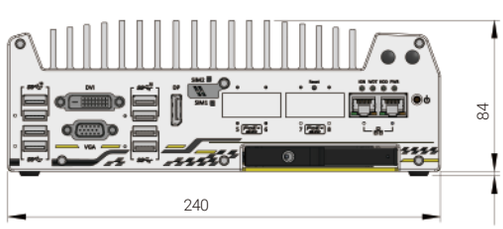




Dimensions

Unit : mm





Ordering Information

Model No.	Product Description
Nuvo-7100VTC	Intel® 9th/ 8th-Gen Core™ in-vehicle controller with 4x M12 PoE+ Ports, DIO, CAN bus and RAID
Nuvo-7104VTC	Intel® 9th/ 8th-Gen Core™ in-vehicle controller with 4x RJ45 PoE+ Ports, DIO, CAN bus and RAID
Nuvo-7108VTC	Intel® 9th/ 8th-Gen Core™ in-vehicle controller with 8x RJ45 PoE+ Ports, DIO, CAN bus and RAID

Optional Accessories

Cbl-M12X8M-RJ45-CAT5e-500CM	M12(8-pole-X-coded) to RJ45, CAT5e. Length : 500CM
Cbl-M12X8M-RJ45-CAT5e-1000CM	M12(8-pole-X-coded) to RJ45, CAT5e. 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