

In-vehicle Computing



Nuvo-7100VTC Series

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



Key Features

- Supports Intel® 8th-Gen Core™ i7/i5/i3 LGA1151 socket-type CPU
- 4x or 8x 802.3at Gigabit PoE+ ports via M12 or RJ45 connectors
- On-board 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
- 8~35V wide-range DC input with built-in ignition power control
- E-Mark and EN 50155 certificate

Introduction

Nuvo-7100VTC is the latest rugged in-vehicle controller featuring purpose-built set and effortless connectivity, powered by Intel® 8th-Gen Core™ processors with up to 6-core/ 12-thread architecture and 64GB DDR4 memory that gets a significant performance increase over previous generations for versatile in-vehicle applications.

Nuvo-7100VTC provides flexibility to support a range of peripherals and connections. It offers four or eight 802.3at PoE+ ports to supply 25W power to connected devices such as IP cameras with M12 (x-coded connectors) and connector screw-lock mechanisms on computer I/Os like Gigabit Ethernet, USB3.0 and USB3.1 to guarantee extreme rugged connectivity in shock/ vibration environments. Wireless connectivity are essential for modern day in-vehicle applications and you can simultaneously utilize two M.2 and three mini-PCIe sockets with corresponding wireless modules for 3G/ 4G, WIFI, GPS, and CAN module for communication. Additionally, there is a 4G cellular module option that is certified to work with renowned US telecommunications company which can save you implementation time and cost.

On top of all that, Nuvo-7100VTC also features isolated CAN bus for in-vehicle communication, isolated DIO for sensor/ actuator control, 8~35V wide-range DC input with ignition power control and is in compliance with E-Mark and EN 50155. The Nuvo-7100VTC is the perfect solution with extraordinary reliability for various in-vehicle application needs.

Specifications

System Core		Expansion Bus	
Processor	Supports Intel® 8th-Gen Coffee Lake CPU (LGA1151 socket, 35W TDP) - Intel® Core™ i7-8700T - Intel® Core™ i5-8500T - Intel® Core™ i3-8100T	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
Chipset	Intel® Q370 platform controller hub	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
Graphics	Integrated Intel® HD Graphics 630	Power Supply	
Memory	Up to 64 GB DDR4 2666/ 2400 SDRAM (two SODIMM slots)	DC Input	1x 3-pin pluggable terminal block for 8~35V DC input (IGN/ GND/ V+)
AMT	Supports AMT 12.0	Remote Ctrl. & Status Output	1x 3-pin pluggable terminal block for remote control and PWR LED output
TPM	Supports TPM 2.0	Mechanical	
I/O Interface		Dimension	240 mm (W) x 225 mm (D) x 84 mm (H)
Ethernet	2x Gigabit Ethernet ports by Intel® I219 and I210	Weight	3.5 kg
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)	Mounting	Neosys' patented damping bracket (standard) or optional DIN-rail mounting
CAN	1x isolated CAN 2.0 port	Environmental	
Isolated DIO	4x isolated DI and 4x isolated DO	Operating Temperature	-40°C ~ 70°C **
USB	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports	Storage Temperature	-40°C ~ 85°C
Video Port	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	Humidity	10%~90% , non-condensing
Serial Port	2x software-programmable RS-232/422/485 ports (COM1/ COM2) 2x RS-232 ports (COM3/ COM4)	Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4
Audio	1x Mic-in and 1x speaker-out	Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
Storage Interface		EMC	EN 50155 (Nuvo-7100VTC), E-Mark (Nuvo-7108VTC) CE/FCC Class A, according to EN 55022 & EN 55024
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	<small>* 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.</small>	
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		

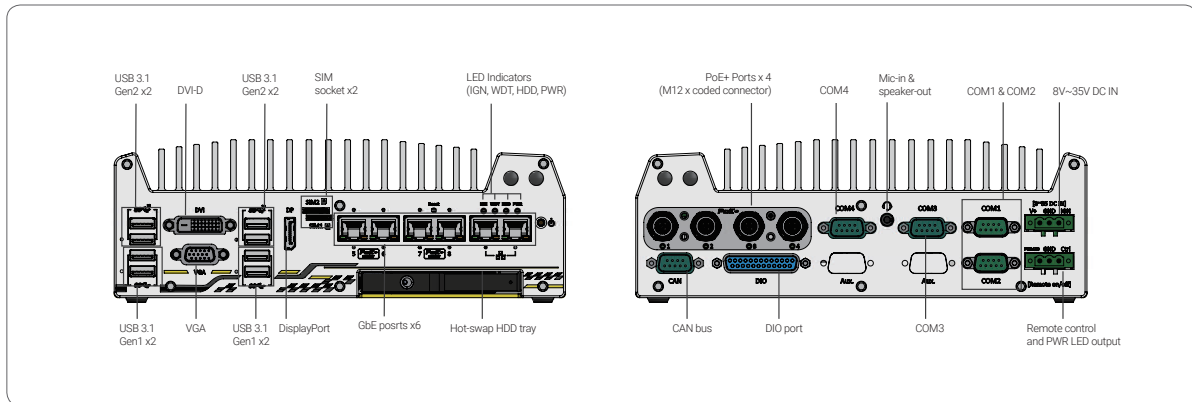
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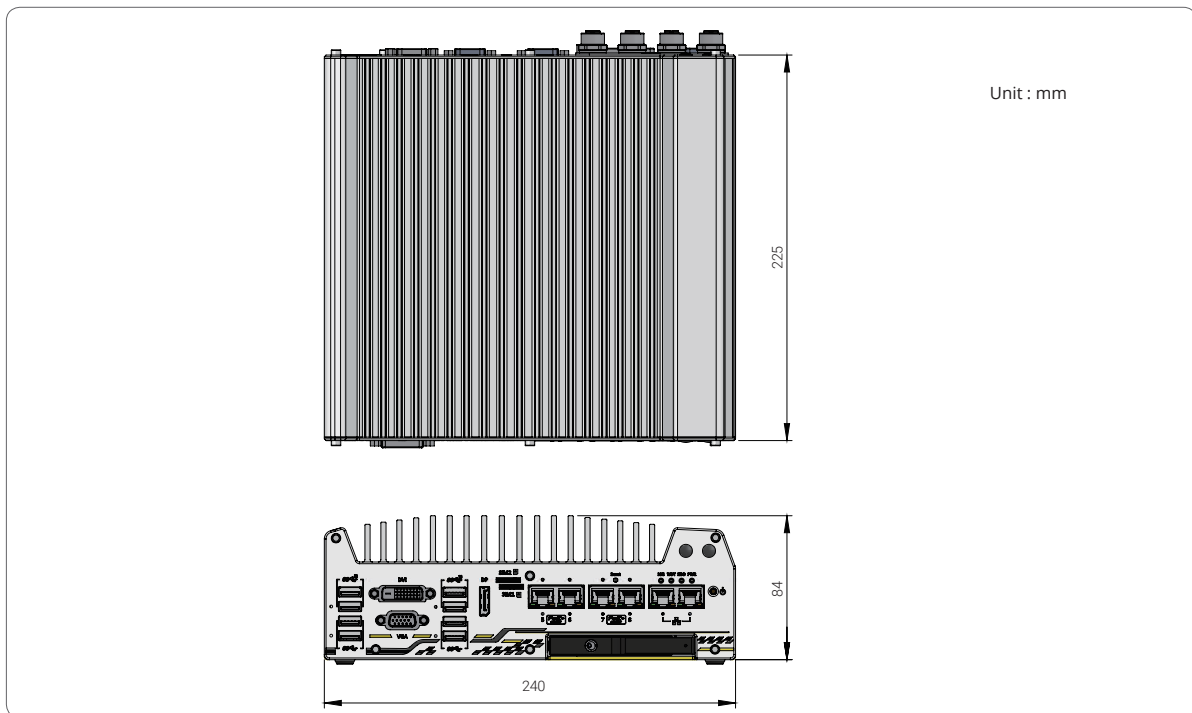
Nuvo-7100VTC Series



Appearance



Dimensions



Ordering Information

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

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
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Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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