

Nuvo-7100VTC Series

Vehicle-ready fanless embedded PC with Intel® Core™ 9th/8th Gen. CPUs

BRESSNER
A ONE STOP SYSTEMS COMPANY

Features

- Intel® Core™ i7/i5/i3 9th/8th Gen. CPU
- DDR4 2,666/2,400 SDRAM, up to 64GB
- Intel® Q370 chipset
- 4x or 8x 802.3at Gigabit PoE+ ports via M12 or RJ45 connectors
- On-board isolated CAN bus for in-vehicle communication



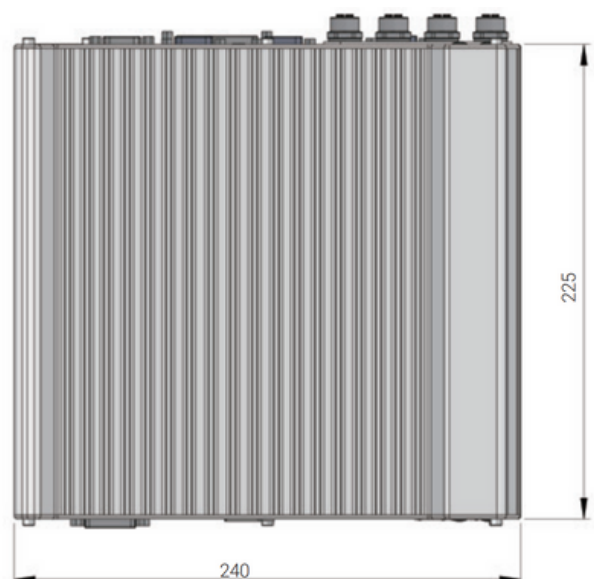
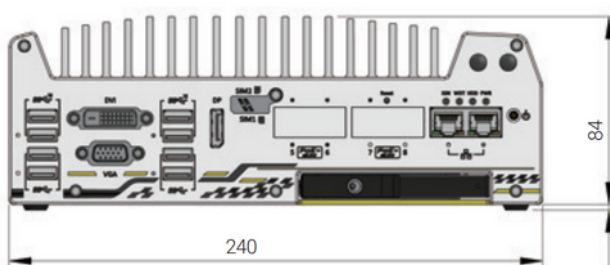
Nuvo-7100VTC: Strong computing power and robust design

The Nuvo-7100VTC series consists of rugged automotive onboard controllers. With a 9th Gen/8th Gen Core™ CPU up to 8 cores/16 threads and 64 GB DDR4 memory, it offers a significant performance leap compared to the last generation of all-in-one vehicle applications.

The Nuvo-7100VTC provides flexibility with support for a range of peripherals and connectivity options. It has four or eight 802.3at PoE+ ports, depending on the model, which can deliver up to 25W of power to connected devices such as IP cameras, M12 (x-encoded) connectors and screw lock mechanisms for all PC-compliant I/O ports such as Gigabit Ethernet, USB 3.0 and USB 3.1 to ensure extremely robust connectivity even in environments with shock and vibration. Wireless networking is essential in modern automotive applications: you can use two M.2 and three Mini PCIe sockets simultaneously to use wireless modules for 3G/4G, Wi-Fi, GPS or even a CAN module for on-board communication. In addition, an optional 4G wireless module is available that is certified to operate with the most popular U.S. wireless carriers, reducing implementation time and cost.

In addition, the Nuvo-7100VTC also features an isolated CAN bus for on-board communication, an isolated DIO for sensor/actuator control, multiple power supply options through an 8 – 35 V DC input and integrated ignition control – in addition, the device is E-Mark and EN 50155 compliant. The Nuvo-7100VTC's reliability makes it the perfect solution for the diverse requirements of vehicle applications.

Drawing (mm)



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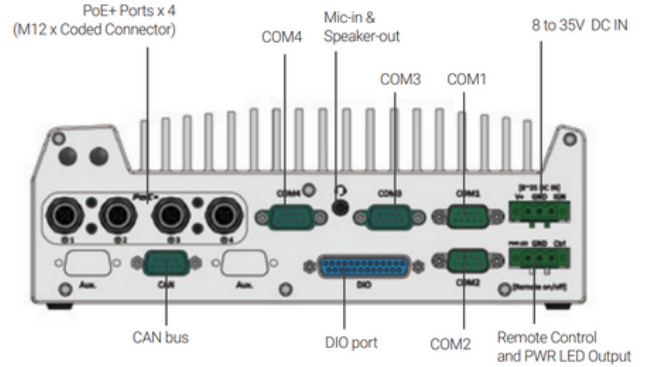
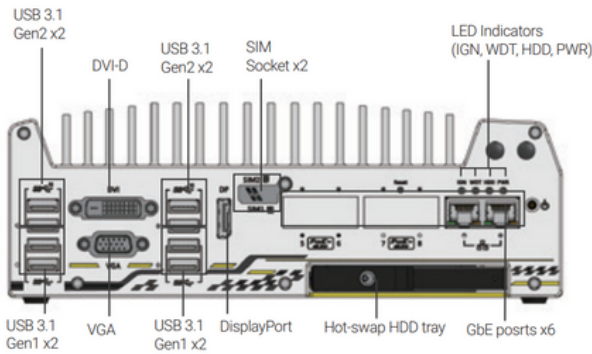
Specifications	Nuvo-7100VTC Series
SYSTEM	
CPU	Supporting Intel® 9th/ 8th-Gen CPU (LGA1151 socket, 65W/ 35W TDP) – Intel® Core™ i7-8700/ i7-8700T/ i7-9700E/ i7-9700TE – Intel® Core™ i5-8500/ i5-8500T/ i5-9500E/ i5-9500TE – Intel® Core™ i3-8100/ i3-8100T/ i3-9100E/ i3-9100TE
Chipset	Intel® Q370 platform controller hub
Graphics	Integrated Intel® HD Graphics 630
RAM	Up to 64 GB DDR4 2,666/ 2,400 SDRAM (two SODIMM slots)
Storage	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 1x full-size mSATA port (mux with mini-PCIe) 1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation
AMT	Supports AMT 12.0
TPM	Supports TPM 2.0
Expansion	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 2x M.2 2242 B key socket, one with dual front-accessible SIM sockets, supporting dual SIM mode with selected M.2 LTE module
INTERFACE	
Ethernet	2x Gigabit Ethernet ports by Intel® I219 and I210 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)
USB	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports
COM	COM 1/2: 2x software-programmable RS-232/422/485 ports COM 3/4: 2x RS-232 ports
Digital I/O	4x isolated DI and 4x isolated DO
Video	1x VGA connector, supporting 1,920 x 1,200 resolution 1x DVI-D connector, supporting 1,920 x 1,200 resolution 1x DisplayPort connector, supporting 4,096 x 2,304 resolution
Audio	1x Mic-in and 1x speaker-out
Other	1x isolated CAN 2.0 port
ENVIRONMENTAL	
Cooling	Fanless
Power Supply	1x 3-pin pluggable terminal block for 8V to 35V DC input (IGN/ GND/ V+)
Remote Control & LED	1x 3-pin pluggable terminal block for remote control and PWR LED output
Operating Temperature	-40° ~ 70°C **
Storage Temperature	-40° ~ 85°C
Vibration / Shock Resistance	Vibration: IEC61373:2010, Category 1, Class B Body mounted (part of EN50155) Shock: IEC61373:2010, Category 1, Class B Body mounted (part of EN50155)
Humidity	10 ~ 90% , non-condensing
Dimensions	240 (W) x 225 (D) x 84 (H) mm
Weight	3.3kg
Mounting	Wall-mount with damping brackets (Standard) or DIN-rail mount (optional)
Certifications	EN 50155, E-Mark, CE/FCC Class A, according to EN 55022 & EN 55024

* 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.

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Ordering Information	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-RJ45-500CM	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