

# Nuvo-2610VTC Series

Intel® Elkhart Lake Atom® x6425E In-Vehicle Computer with 4x M12 PoE+ ports and 15mm 2.5" HDD/SSD support



## Key Features

- Intel® Elkhart Lake Atom® x6425E quad-core 2.0GHz/ 3.0GHz 12W processor
- Rugged -40°C to 70°C fanless operation, compliant with EN 50155 Class OT4
- 4x PoE+ GbE ports via M12 x-coded connectors
- 1x front-accessible 2.5" 15mm HDD tray and 1x M.2 2280 SATA SSD
- 1x M.2 3042/3052 B Key for 4G/5G mobile broadband
- 2x full-size mini-PCIe sockets for WIFI/CAN/GNSS modules
- 8-35V wide-range DC input with built-in ignition power control
- E-Mark certified and EN 50155 EMC compliant

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## Introduction

The Nuvo-2610VTC series is a rugged Intel® Atom®-based in-vehicle computer that incorporates four M12 Gigabit PoE+ connectors and one front-accessible 2.5" HDD tray, supporting up to 15mm height HDD/SSD. It is designed to fulfill multi-purpose applications such as on-road, off-highway, or railway applications from mobile gateways, data loggers, to network video recorders (NVR).

Powered by Intel® Elkhart Lake Atom® x6425E quad-core CPU, the Nuvo-2610VTC series delivers 1.8x the CPU performance when compared with the previous generation, Nuvo-2510VTC. To provide robust Ethernet connectivity, the Nuvo-2610VTC series offers four Gigabit PoE+ ports via M12 x-coded connectors and one USB 3.1 with the screw-lock mechanism. In addition to the internal M.2 2280 SATA SSD for system storage, Nuvo-2610VTC also has one front-accessible 2.5" HDD tray accommodating a 2.5" SATA HDD/SSD with up to 15mm height and 5TB capacity. For internal expansion, it provides two mini-PCIe sockets for WiFi, GNSS, and CAN modules plus one M.2 3042/3052 B Key socket for 4G/5G mobile broadband module.

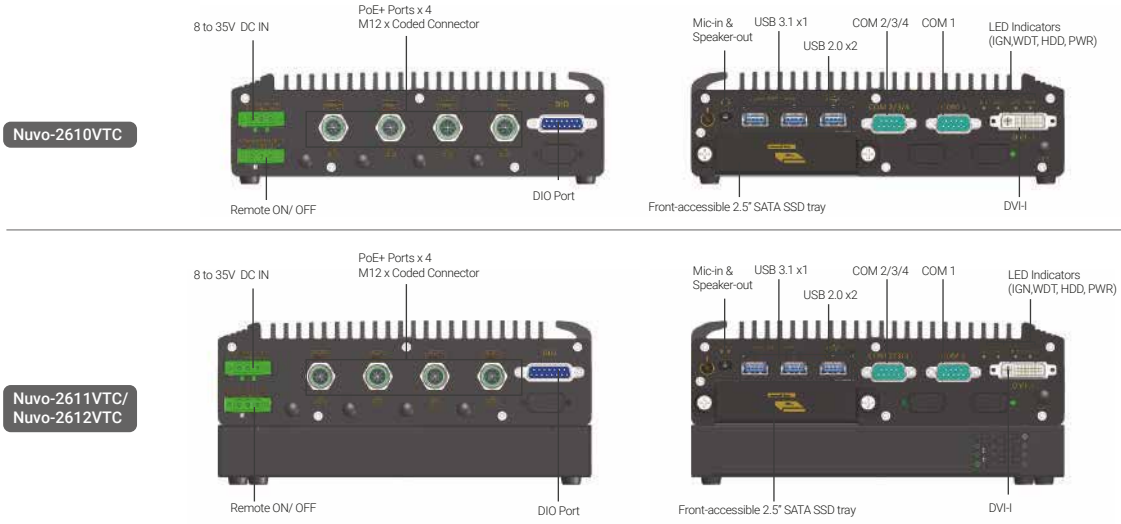
To meet versatile in-vehicle deployment conditions, the Nuvo-2610VTC series comes in three variants. In addition to Nuvo-2610VTC, the Nuvo-2611VTC is equipped with an embedded SuperCAP UPS to withstand power interruptions or voltage fluctuations on the train and can sustain the system for a proper shutdown when the power is cut-off. The Nuvo-2612VTC has a Cassette module for an additional Gen3 x2 PCIe slot that can accommodate an AI accelerator module with a tailor-made thermal solution. With the AI accelerator, it becomes a fanless GPU computer for intelligent video analytics or a data logger with perception capability.

By integrating an Intel Atom® quad-core x6425E, -40°C to 70°C fanless operations, wide-range DC input with ignition control, and 4G LTE / 5G NR mobile broadband connectivity, the Nuvo-2610VTC series is an ideal rugged, multi-purpose, in-vehicle computer for aftermarket on-road in-vehicle applications. With rugged M12 PoE+ connectivity and built-in SuperCAP UPS, the Nuvo-2610VTC series can withstand harsh and unstable electrical environments for off-highway applications such as trucks, cargo vehicles, and rolling stock.

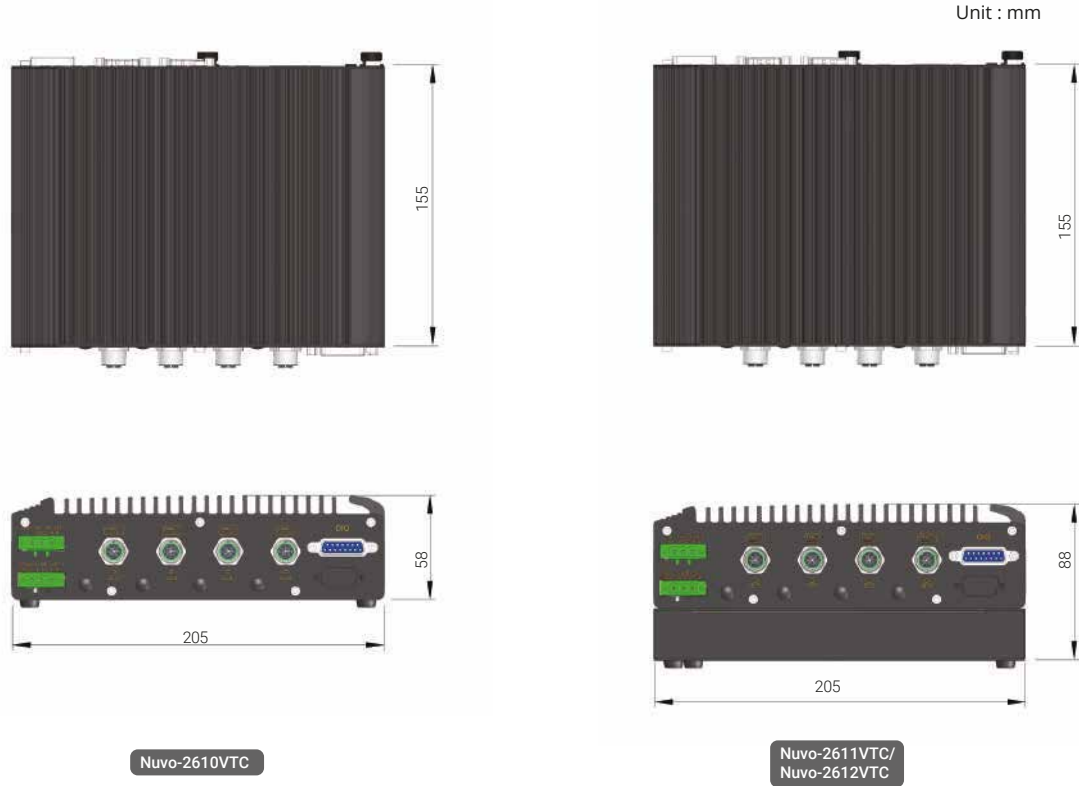
## Specifications

System Core		Power Supply	
Processor	Intel® Atom® x6425E quad-core 2.0GHz/3.0GHz 12W processor	DC Input	1x 3-pin pluggable terminal block for 8V to 35V DC input with built-in ignition power control (IGN/GND/V+)
Graphics	Integrated Intel® UHD Graphics	Remote Ctrl. & LED Output	1x 3-pin pluggable terminal block for remote control and PWR LED output
Memory	Up to 32 GB DDR4-3200 SDRAM by one SODIMM socket	<b>Power Backup</b>	
TPM	Supports fTPM 2.0	Capacity	2500 watt-second (Nuvo-2611VTC only)
Panel I/O Interface		Mechanical	
Ethernet Port	4x Gigabit Ethernet ports via M12 x-coded connectors by Intel® I210	Dimension	205 mm (W) x 155 mm (D) x 58 mm (H) (Nuvo-2610VTC) 205 mm (W) x 155 mm (D) x 86 mm (H) (Nuvo-2611VTC, Nuvo-2612VTC)
PoE Capability	In compliant with IEEE 802.3at PoE+ PSE, maximum 25.5W output on single PoE+ port. Total PoE+ power budget: 100W	Weight	1.9 kg (Nuvo-2610VTC) 2.5 kg (Nuvo-2611VTC) / 2.3 kg (Nuvo-2612VTC)
Video Port	VGA and DVI dual display outputs via DVI-I connector	Mounting	Damping bracket (default) Wall-mount (optional)
USB 3.1	1x USB 3.1 gen1 ports with screw-lock	<b>Environmental</b>	
USB 2.0	2x USB 2.0 port with screw-lock	Operating Temperature	-40°C ~ 70°C*
Serial Port	1x isolated RS-485 port with 15 kV ESD protection (COM1) 3x 3-wire RS-232 ports (COM2/3/4) or 1x RS-422/485 (COM2)	Storage Temperature	-40°C ~85°C
Audio	1x 3.5 mm jack for mic-in and speaker-out	Humidity	10%~90% , non-condensing
Isolated DIO	4-CH isolated DI and 4-CH isolated DO	Vibration	Operating, MIL-STD-810G, Method 514.7, Category 4 IEC61373:2010, Category 1, Class B Body Mounted (part of EN50155)
Expansion Bus		Shock	Operating, MIL-STD-810G, Method 516.7, Procedure I IEC61373:2010, Category 1, Class B Body Mounted (part of EN50155)
PCI Express	1x PCIe x4 slot @Gen3, 2-lane PCIe signal in Cassette (Nuvo-2612VTC only)	EMC	E-Mark**, EN 50121 (EN 50155 EMC) CE/FCC ClassA, according to EN 55032 & EN 55035
Mini-PCIe	1x full-size mini PCI Express socket with PCIe and USB 2.0 signal 1x full-size mini PCI Express socket with USB 2.0 signal	*For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required. ** Nuvo-2610VTC and Nuvo-2612VTC are the only models in the Nuvo-2600VTC series that have been certified to comply with E-Mark.	
M.2 B key	1x M.2 3042/3052 B key (USB 3.1 + USB 2.0) for 4G/5G module with dual internal micro SIM socket		
Storage Interface			
M.2 SATA	1x M.2 2280 M key (SATA interface only) socket for SATA SSD installation		
SATA HDD	1x front-accessible HDD tray for 2.5" HDD/ SSD installation (up to 15mm height)		

## Appearance



## Dimensions



## Ordering Information

Model No.	Product Description
<b>Nuvo-2610VTC</b>	Intel® Elkhart Lake Atom® x6425E in-vehicle fanless computer with M12 PoE+ and 15mm 2.5" HDD/SSD support
<b>Nuvo-2611VTC</b>	Intel® Elkhart Lake Atom® x6425E in-vehicle fanless computer with M12 PoE+, 15mm 2.5" HDD and built-in SuperCAP UPS
<b>Nuvo-2612VTC</b>	Intel® Elkhart Lake Atom® x6425E in-vehicle fanless computer with M12 PoE+, 15mm 2.5" HDD and single-slot PCIe Cassette

## Optional Accessories

<b>PA-120W-OW</b>	120W AC/DC power adapter 20V/6A; 18AWG/120cm; cord end terminals for terminal block, operating temperature: -30 to 70°C.
<b>PA-160W-OW</b>	160W AC-DC power adapter 20V/8A; 18AWG/120cm; cord end terminals for terminal block, operating temperature: -30 to 70°C.
<b>Wmkit-Nuvo-2600</b>	Wall mounting kit for Nuvo-2600 and Nuvo-2610VTC series, including wall mounting brackets and screws