

Nuvo-3000E/P Series

Intel® 3rd-Gen Core™ i7/ i5/ i3 Fanless Controller with 5x GbE, 4x USB3.0 and Expansion Cassette



CE FC

Key Features

- Intel® 3rd-Gen Core™ i7 quad-core processor
- Patented Cassette* design for PCIe/ PCI add-on card expansion
- Up to 5x GigE ports, supporting 9.5 KB jumbo frame
- Rugged, -25°C to 70°C fanless operation
- Optional intelligent ignition power control for in-vehicle application
- VGA/ DVI dual display outputs
- 4x USB3.0 ports + 4x USB2.0 ports
- Optional isolated DIO with Change-of-State interrupt support

*R.O.C Patent No. M456527

Introduction

Nuvo-3000E/ 3000P series is a reliable and versatile embedded controller that features Intel® 3rd-Gen Core™ i7 processor technology and Neosys' innovative Cassette architecture. The 3rd-Gen Core™ i7 processor delivers tremendous computing power and graphics performance. This platform also natively supports USB3.0, DDR3-1600 and SATA3.

Inheriting the heritage of proven Nuvo series, Nuvo-3000E/ 3000P is extremely reliable mechanically and allows -25°C to 70°C operating temperature. Moreover, it comes with Neosys' patented Cassette design. This unique expansion Cassette offers PCI/ PCIe slot with minimal thermal interference between system and add-on card.

I/O functions on Nuvo-3000E/ 3000P are versatile. Gigabit Ethernet, USB3.0 and dual display outputs are natively supported on Nuvo-3000E/3000P. Its optional isolated digital I/O now supports Change-of-State interrupt for more usability. There is also an option to add-on intelligent ignition control for in-vehicle applications.

With Intel 3rd-Gen Core™ i7's computing performance, innovative Cassette for expandability and ignition control bringing in-vehicle mobility, Nuvo-3000E/3000P is ready for various application requirements.

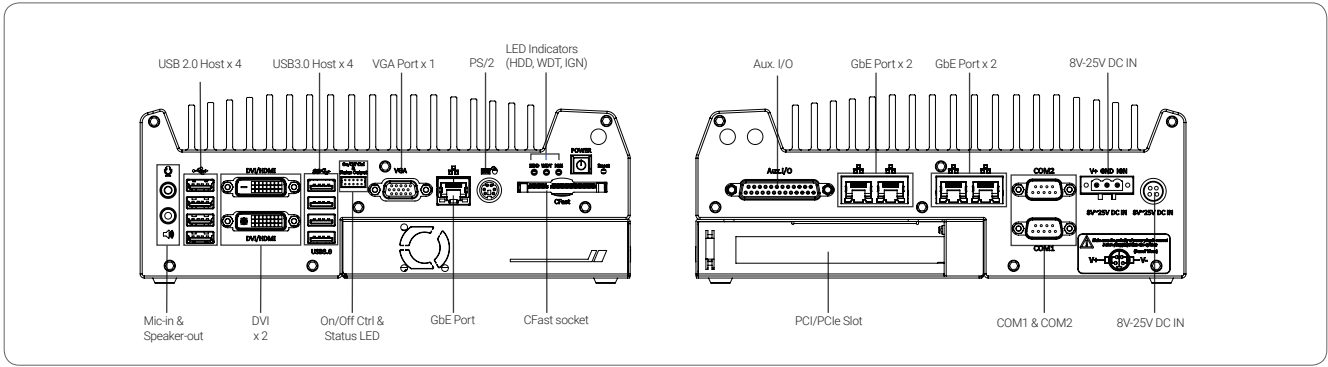
Specifications

System Core		Expansion Bus	
Processor	Intel® Core™ i7-3610QE (2.3/ 3.3 GHz, 6 MB cache) Intel® Core™ i5-3610ME (2.7/ 3.3 GHz, 3 MB cache) Intel® Celeron® 1020E (2.2 GHz, 2 MB cache)	PCI/PCI Express	1x PCI slot in Cassette (Nuvo-3003P/ 3005P) 1x PCIe x16 slot @ 8-lanes PCIe signals in Cassette (Nuvo-3003E/ 3005E)
Chipset	Intel® HM76 platform controller hub	Mini PCI-E	1x internal mini PCI Express socket with USIM socket 1x internal mini PCI Express socket
Graphics	Integrated Intel® HD graphics 4000 controller (i7/ i5) Integrated Intel® HD graphics controller (Celeron)	Power Supply & Ignition Control	
Memory	Up to 16GB DDR3 1333/ 1600 MHz SDRAM (two SO-DIMM slots)	DC Input	1x 4-pin power connector for 8-25V DC input (for AC adapter) 1x 3-pin pluggable terminal block for 8-25V DC input (for direct DC wiring)
I/O Interface		Ignition Control	Optional ignition power control with configurable on/ off delay
Ethernet	5x Gigabit Ethernet ports by Intel® I210 (Nuvo-3005E/ P) 3x Gigabit Ethernet ports by Intel® I210 (Nuvo-3003E/ P)	Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/ off control and status LED output
PoE	Option of PoE capability for 4xGbE	Power Consumption	With i7-3610QE : 72.96W (3.84A@19V) With i5-3610ME : 48.83W (2.57A@19V)
Video Port	1x DB-15 connector for analog RGB, supporting 2048x1536 resolution 2x DVI-D connectors for DVI outputs, supporting 1920x1200 resolution (dual-independent display support)	Mechanical	
USB	4x USB3.0 ports and 4x USB2.0 ports	Dimension	240mm (W) x 225mm (D) x 90mm (H)
Serial Port	2x software-programmable RS-232/ 422/ 485 (COM1 & COM2)	Weight	4.4kg (including CPU, memory and HDD)
Isolated DIO (Optional)	8x isolated DI with COS interrupt and 8x isolated DO	Mounting	Wall-mounting (standard) or DIN-rail mounting (optional)
KB/MS	1x 6-pin mini-DIN connector for PS/ 2 keyboard/mouse	Environmental	
Audio	1x Mic-in and 1x speaker-out	Operating Temperature	-25°C ~ 70°C **/*** (with i5-3610ME & Celeron 1020E) -25°C ~ 60°C **/*** (with i7-3610QE)
Storage Interface		Storage Temperature	-40°C ~ 85°C
SATA HDD	1x Internal SATA port for 2.5" HDD/ SSD installation	Humidity	10%~90% , non-condensing
CFast	1x CFast socket	Vibration	Operating, 5Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
		Shock	Operating, 50Grms, Half-sine 11ms Duration (w/ SSD, according to IEC60068-2-27)
		EMC	CE/ FCC Class A, according to EN 55022 & EN 55024

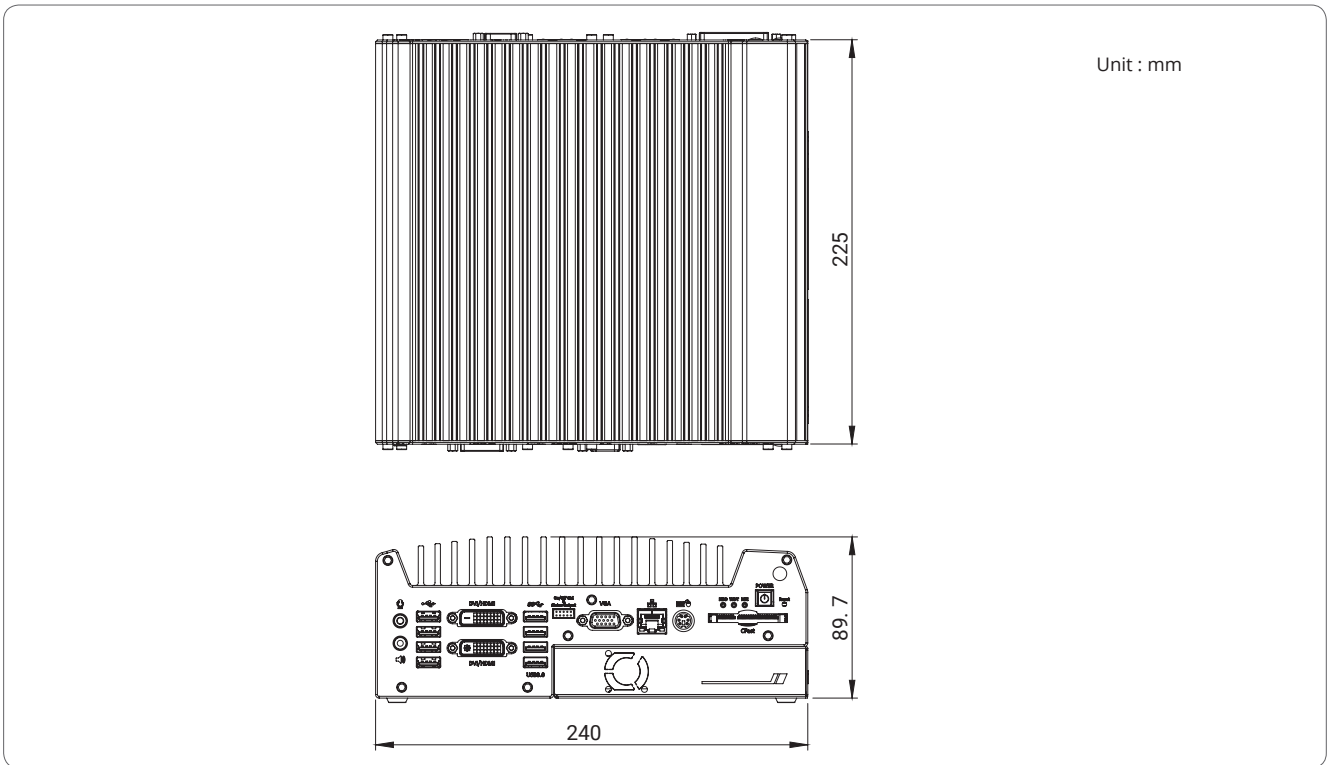
*100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neosys Technology.

**For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Appearance



Dimensions



Ordering Information

Model No.	Product Description
Nuvo-3003E	Intel® 3rd-Gen Core™ i fanless controller with 3x GbE, 4x USB3.0 and 16x PCI Express Cassette (@ x8 signals)
Nuvo-3003P	Intel® 3rd-Gen Core™ i fanless controller with 3x GbE, 4x USB3.0 and PCI Cassette
Nuvo-3005E	Intel® 3rd-Gen Core™ i fanless controller with 5x GbE, 4x USB3.0 and 16x PCI Express Cassette (@ x8 signals)
Nuvo-3005P	Intel® 3rd-Gen Core™ i fanless controller with 5x GbE, 4x USB3.0 and PCI Cassette
<i>Option of isolated DIO (8DI + 8DO) (Nuvo-3005E/ P only)</i>	
<i>Option of ignition power control (Nuvo-3005E/ P only)</i>	
<i>Option of 802.3af PoE for 4x GbE (Nuvo-3005E/ P only)</i>	

Optional Accessories

DINRAIL-O	DIN-rail mounting assembly for Nuvo-3000 series
PA-120W-OW	120W AC/DC power adapter 20V/6A; 18AWG/120cm; cord end terminals for terminal block, operating temperature : -30 to 70 °C.
Fan-25	Fan assembly for 1-slot Cassette, 25x25x10 mm

Cassette Modules

CSM-PoE354	Cassette module with PCIe-PoE354at and pre-installed passive heat-spreader
CSM-USB380	Cassette module with PCIe-USB380 and pre-installed passive heat-spreader
CSM-NV730	Cassette module with NVIDIA® GTX 730 graphics card, pre-installed heat-spreader and fan