

Nuvo-4000 Series

Intel® 3rd-Gen Core™ i7/i5 Fanless Box-PC with 4x PCIe/PCI Expansion Slots



CE FC

Key Features

- Intel® 3rd-Gen i7 quad-core superb performance
- Four slots expansion capacity
 - x16 and x4 PCI Express slot
 - Up to four PCI slots
- 164 mm x 225 mm x 180 mm small foot-print
- Rugged, -25°C to 60°C fanless operation
- DVI+DVI+VGA triple independent display outputs
- One CFast socket and two SATA ports
- Smart-fan option and on-board isolated DIO option available

Introduction

Nuvo-4000 is a high-performance box-pc with fanless design and small footprint. It incorporates Intel® 3rd-Gen i7/i5 processor to offer extraordinary computing power, and fanless architecture to offer reliable operation in various environments.

The 4-slot expandability makes Nuvo-4000 very versatile. Its two Gen2 PCI Express slots delivers a total of 6 GB/s bandwidth for applications demanding high-speed data transmission. A notable 48W power budget is dedicatedly supplied to the x16 PCIe slot for powering a high-watt PCIe card (e.g. a graphics card). Nuvo-4000 also has PCI slots to accommodate up to 4 PCI cards for general industrial automation and test & measurement applications.

Nuvo-4000 features the smallest foot-print for a fanless box-pc with four expansion slots. It supports ample I/O interfaces for communication/control purpose, and implements DVI+DVI+VGA triple independent display outputs for video/image related applications. An option of smart fan is available for better operating reliability when high-watt cards installed.

The combination of high performance, small foot-print and versatility makes Nuvo-4000 not only an ideal application platform, but also a great replacement of traditional rack-mount or wall-mount IPC.

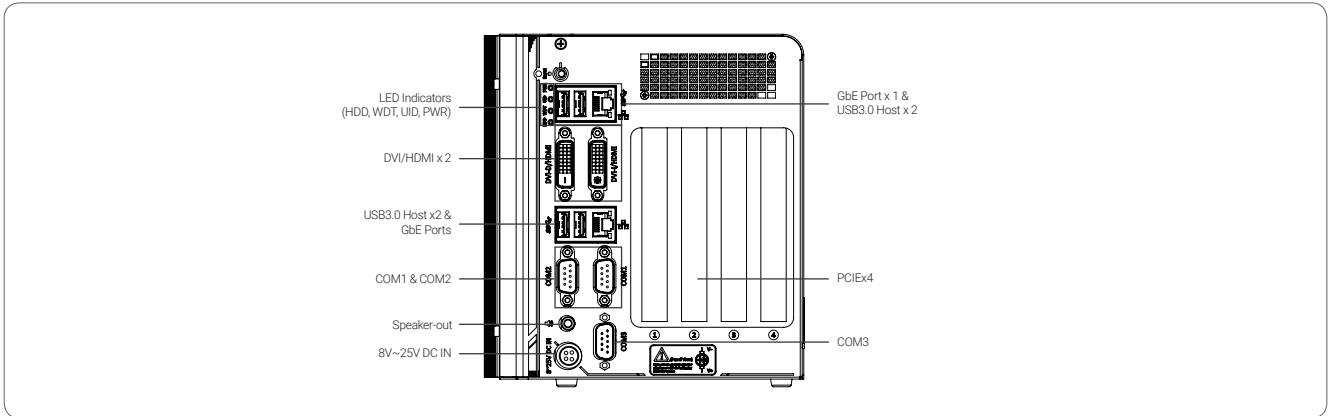
Specifications

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	2x 33MHz/32-bit 5V PCI slots (Nuvo-4022) 4x 33MHz/32-bit 5V PCI slots (Nuvo-4040)
Chipset	Intel® HM76 Platform Controller Hub	PCI Express (Nuvo-4022 only)	1x PCIe x16 slot @ 8-lanes PCIe signal with dedicated 48W power budget 1x PCIe x4 slot
Graphics	Integrated Intel® HD Graphics 4000 Controller (i7/i5) Integrated Intel® HD Graphics Controller (Celeron)	Power Supply	
Memory	2x 204-pin SO-DIMM sockets, up to 16 GB DDR3 1333/1600 MHz SDRAM	DC Input	1x 3-pin pluggable terminal block for 8–25 VDC input
Front Panel I/O Interface		Power Consumption	Intel® Core™ i7-3610QE : 66.12W (3.48A@19V) Intel® Core™ i5-3610ME : 43.13W (2.27A@19V)
Ethernet	2x Gigabit Ethernet ports by Intel® I210	Mechanical	
Video Port	1x DVI-I connector for VGA and DVI/HDMI outputs, supporting 1920x1080 resolution	Dimension	164 mm (W) x 225 mm (D) x 180 mm (H)
	1x DVI-D connectors for DVI/HDMI output, supporting 1920x1080 resolution (Supporting triple independent display outputs)	Weight	4.0 kg (incl. CPU, memory and HDD)
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2) 1x RS-232 (COM3)	Mounting	Wall-mounting (Standard) or DIN-Rail mounting (optional)
USB	4x USB 3.0 ports	Environmental	
Audio	1x Speaker-out	Operating Temperature	-25°C ~ 60°C, 100% CPU loading */**
Internal I/O Interface		Storage Temperature	-40°C ~ 85°C
USB	2x USB 2.0 ports via 10-pin box-header	Humidity	10%~90% , non-condensing
Isolated DIO	Optional 8-CH isolated DI + 8-CH isolated DO	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, w/o add-on card, according to IEC60068-2-64)
Storage Interface		Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, w/o add-on card, according to IEC60068-2-27)
SATA HDD	2x Internal SATA ports for 2.5" HDD/SSD installation	EMC	CE/FCC Class A, according to EN 55022 & EN 55024
CFast	1x CFast socket		

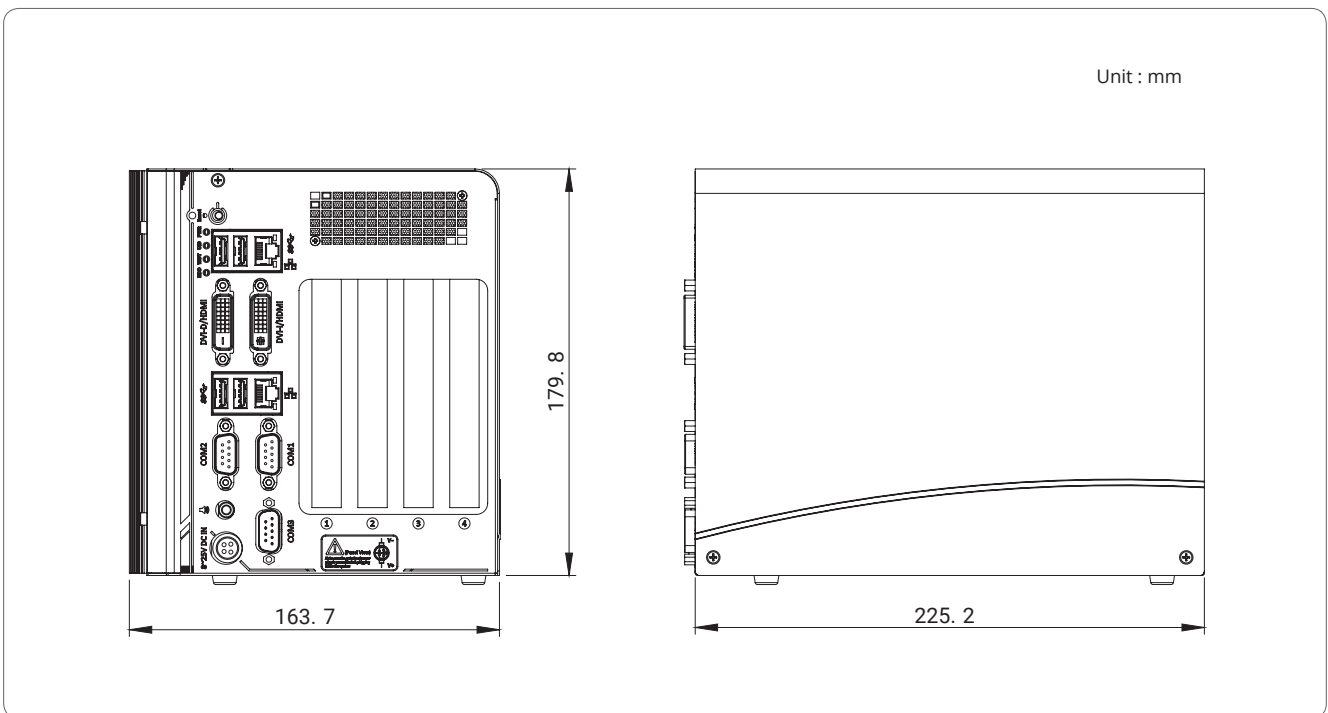
*The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology

** 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-4022-I7QC	Intel® Core™ i7-3610QE fanless box-pc with 2x PCIe and 2x PCI slots
Nuvo-4022-I5DC	Intel® Core™ i5-3610ME fanless box-pc with 2x PCIe and 2x PCI slots
Nuvo-4040-I7QC	Intel® Core™ i7-3610QE fanless box-pc with 4x PCI slots
Nuvo-4040-I5DC	Intel® Core™ i5-3610ME fanless box-pc with 4x PCI slots
<i>Option of isolated DIO (8 DI + 8 DO) with panel/cable kit</i>	
<i>Option of an 80mm x 80mm fan for dissipating heat of add-on cards</i>	

Optional Accessories

- DIN-Rail mounting clip for Nuvo-4000
- 120W AC/DC power adapter
- 160W AC/DC power adapter