

# Nuvo-7000E/P

Intel® 8th-Gen Coffee Lake Core™ i7/i5/i3 Fanless Controller with 6x GbE Ports, Patented Cassette and MeziO™ Interface



CE FC

## Key Features

- Intel® 8th-Gen Core™ i hexa-core 35W/ 65W LGA1151 CPU
- Patented Cassette for PCI/PCIe add-on card accommodation
- MeziO™ interface for easy function expansion
- Rugged, -25°C to 70°C fanless operation
- Up to 6x GigE ports, supporting 9.5 KB jumbo frame
- Up to 32 GB, DDR4-2666 SODIMM
- 4x USB 3.1 Gen2 ports and 4x USB 3.1 Gen1 ports
- VGA/DVI/DP triple independent display, supporting 4K2K resolution

\*R.O.C Patent No. M456527

## Introduction

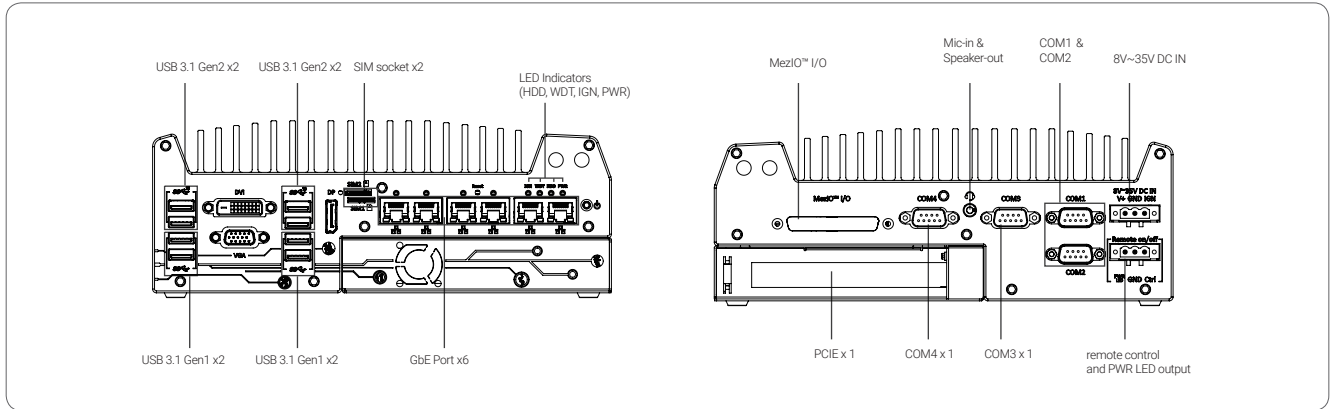
Introducing Neosys Technology's 2018 flagship rugged fanless controllers, the new Nuvo-7000 series, powered by Intel® 8th-Gen Core™ i processors with up to 6-core/ 12-thread architecture that offer significant performance improvement over previous 6th-Gen or 7th-Gen platform. Nuvo-7000 series incorporates Neosys' track-proven technologies for ultimate ruggedness and versatility. It features technologies such as effective fanless design, patented expansion Cassette and proprietary MeziO™ interface. The plethora of on-board I/O functions such as GbE, USB 3.1 and COM ports feature sophisticated protection circuits to endure stress from ESD and power surge. This makes Nuvo-7000 series by far the most rock-solid embedded controller we've ever created.

Flexible and versatile for a variety of applications, Nuvo-7000 variants are available with different Cassette expansion options. With Neosys Nuvo-7000 series, you get a true rugged platform that can accommodate a single PCIe card (Nuvo-7000E), dual PCIe cards (Nuvo-7000DE) or a single PCI card (Nuvo-7000P) according your application needs.

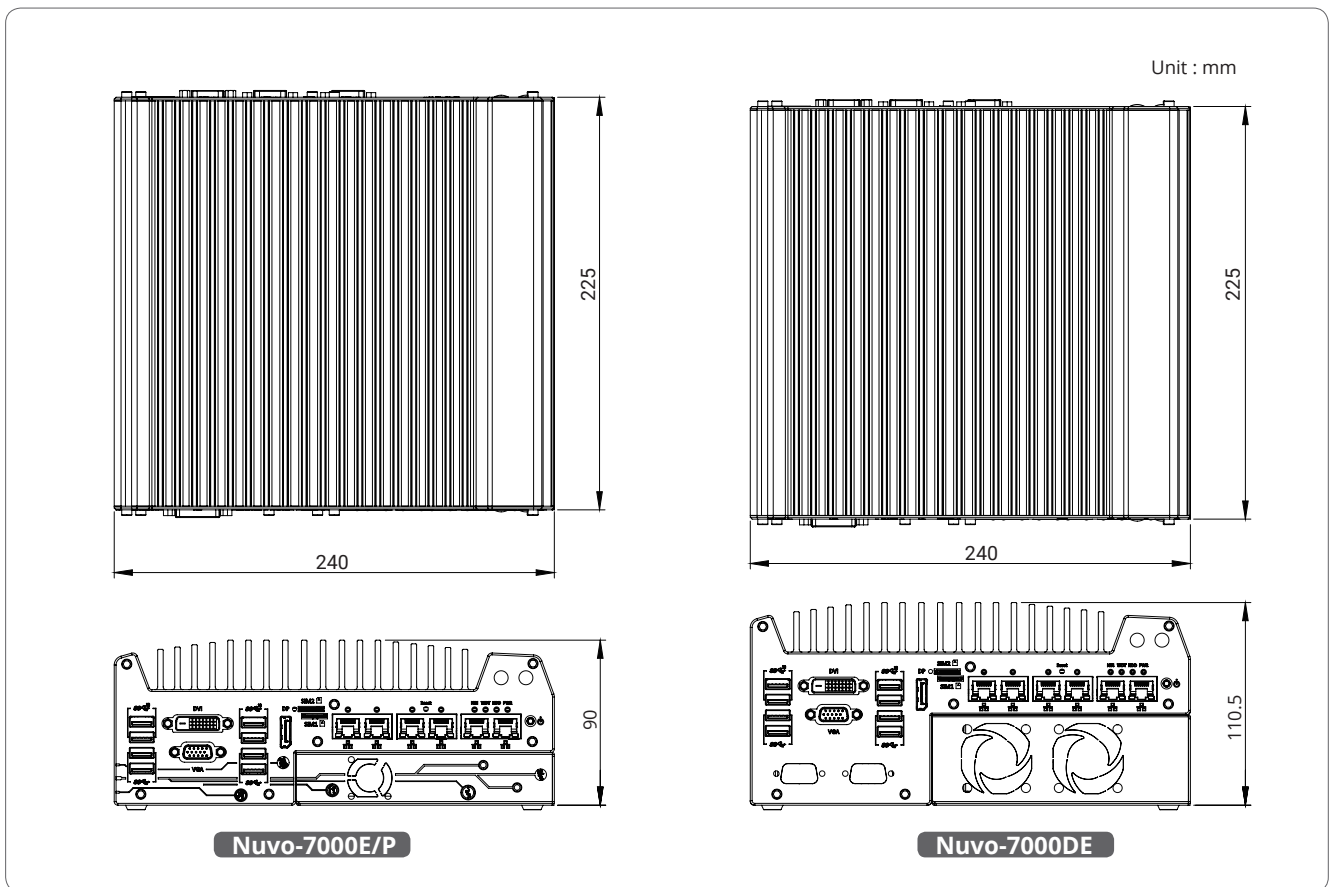
## Specifications

System Core		Expansion Bus	
Processor	Intel® 8th-Gen Coffee Lake 6-core CPU (LGA1151 socket, 35W/ 65W TDP)	Mini PCI-E	2x internal mini PCI Express socket with internal SIM socket (mux with mSATA)
Chipset	Intel® Q370 Platform Controller Hub	M.2	1x M.2 2242 B key socket with front-accessible SIM socket
Graphics	Integrated Intel® UHD Graphics 630	Expandable I/O	1x MeziO™ expansion port for Neosys MeziOTM modules
Memory	Up to 32 GB DDR4 2666/2400 SDRAM (two SODIMM slots)	<b>Power Supply</b>	
AMT	Supports AMT 12.0	DC Input	1x 3-pin pluggable terminal block for 8-35VDC DC input
TPM	Supports TPM 2.0	Remote Ctrl. & Status Output	1x 3-pin pluggable terminal block for remote control and PWR LED output
<b>I/O Interface</b>		<b>Mechanical</b>	
Ethernet	2x Gigabit Ethernet ports by I219 and I210 (Nuvo-7002E/ P/ DE) 6x Gigabit Ethernet ports by I219 and 5x I210 (Nuvo-7006E/ P/ DE)	Dimension	240 mm (W) x 225 mm (D) x 90 mm (H) (Nuvo-7000E/P Series) 240 mm (W) x 225 mm (D) x 110.5 mm (H) (Nuvo-7000DE Series)
PoE+	Optional IEEE 802.3at PoE+ PSE for Port 3 – Port 6 80 W total power budget	Weight	4.4 kg (incl. CPU, memory and HDD)
USB	4x USB 3.1 Gen2 ports 4x USB 3.1 Gen1 ports via Intel native xHCI controller	Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)
Video Port (Integrated Graphics)	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	<b>Environmental</b>	
Serial Port	2x software-programmable RS-232/422/485 ports (COM1/ COM2) 2x RS-232 ports (COM3/ COM4)	Operating Temperature	with 35W CPU -25°C ~ 70°C ** with 65W CPU -25°C ~ 70°C */** (configured as 35W TDP) -25°C ~ 50°C */** (configured as 65W TDP)
Audio	1x 3.5 mm jack for mic-in and speaker-out	Storage Temperature	-40°C ~ 85°C
<b>Storage Interface</b>		Humidity	10%~90% , non-condensing
SATA HDD	2x internal SATA port for 2.5" HDD/SSD installation, supporting RAID 0/ 1	Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4
mSATA	2x full-size mSATA port (mux with mini-PCIe)	Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
<b>Expansion Bus</b>		EMC	CE/FCC Class A, according to EN 55032 & EN 55024
PCIe/PCI Express	1x PCIe x16 slot@Gen3, 8-lanes PCIe signals in Cassette (Nuvo-7002E/ 7006E) 2x PCIe x8 slots@Gen3, 4-lanes PCIe signals in Cassette (Nuvo-7002DE/ 7006DE) 1x PCI slot in Cassette (Nuvo-7002P/ 7006P)	<p>* 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.</p> <p>** For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.</p>	

## Appearance



## Dimensions



## Ordering Information

Model No.	Product Description
Nuvo-7002E	Intel® 8th-Gen Core™ fanless controller with 2x GbE, single-slot PCI Express Cassette and MeziO™
Nuvo-7002DE	Intel® 8th-Gen Core™ fanless controller with 2x GbE, dual-slot PCI Express Cassette and MeziO™
Nuvo-7002P	Intel® 8th-Gen Core™ fanless controller with 2x GbE, single-slot PCI Cassette and MeziO™
Nuvo-7006E	Intel® 8th-Gen Core™ fanless controller with 6x GbE, single-slot PCI Express Cassette and MeziO™
Nuvo-7006DE	Intel® 8th-Gen Core™ fanless controller with 6x GbE, dual-slot PCI Express Cassette and MeziO™
Nuvo-7006P	Intel® 8th-Gen Core™ fanless controller with 6x GbE, single-slot PCI Cassette and MeziO™

Option of 802.3at PoE+ for GbE ports 3 ~ 6

## Optional Accessories

PA-160W-OW	160W AC/DC power adapter 20V/8A;18AWGx4C/120cm, cord end terminals for terminal block, operating temperature : -30 to 70 °C.
Fan-25	Fan assembly for 1-slot Cassette, 25x25x10 mm
DINRAIL-O	DIN-rail mounting assembly for Nuvo-7000 series