



Key Features

- Intel® 8th/ 9th-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
- M.2 2280 M key socket (Gen3 x4) supporting NVMe SSD or Intel® Optane™ memory
- 4x USB 3.1 Gen2 ports and 4x USB 3.1 Gen1 ports
- VGA/ DVI/ DP triple independent display, supporting 4K2K resolution

Introduction

The Neosys Nuvo-7000C series is powered by Intel® 8th/ 9th-Gen Core™ i processors with up to 6-core/ 8-core architecture that offer significant performance improvement over previous 6th and 7th-Gen platforms.

Nuvo-7000 series includes Neosys' track-proven technologies for superior ruggedness and versatility, such as effective fanless design, patented expansion Cassette and proprietary MezIO™ interface. It also incorporates cutting-edge computer I/O like USB 3.1 Gen2 with up to 10 Gbps throughput and M.2 2280 M key socket for NVMe SSD or Intel® Optane™ memory for ultimate system performance. The plethora of on-board I/O ports (GbE, USB and COM) feature sophisticated protection circuits to endure stress from ESD and power surge. This makes Nuvo-7000 series one of the most solid embedded controller on the market.

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-7000CE), dual PCIe cards (Nuvo-7000CDE) or a single PCI card (Nuvo-7000CP) according your application needs.

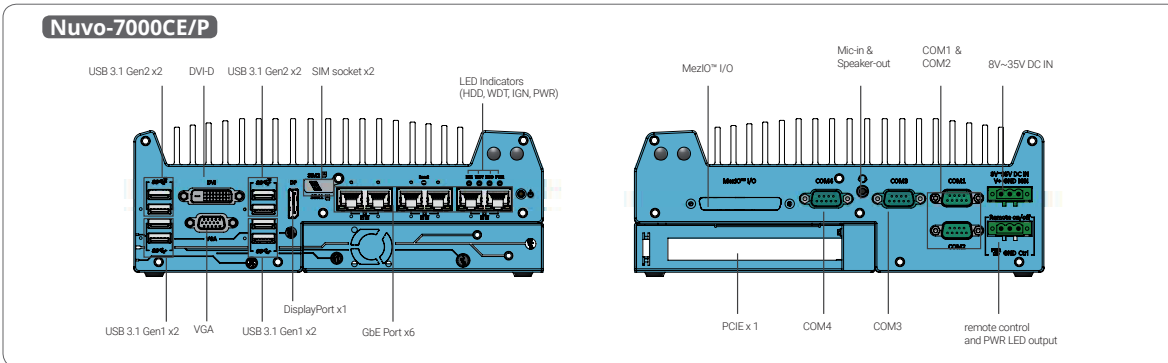
Specifications

| System Core | | Expansion Bus | |
|---|--|--------------------------------------|---|
| Processor | Supporting Intel® 8th/ 9th-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 - Intel® Pentium™ G5400/ G5400T - Intel® Celeron™ G4900/ G4900T | PCI/PCI Express | 1x PCIe x16 slot@Gen3, 8-lanes PCIe signals in Cassette (Nuvo-7002CE/ 7006CE) 2x PCIe x8 slots@Gen3, 4-lanes PCIe signals in Cassette (Nuvo-7002CDE/ 7006CDE) 1x PCI slot in Cassette (Nuvo-7002CP/ 7006CP) |
| Chipset | Intel® Q370 platform controller hub | Mini PCI Express | 1x full-size mini PCI Express socket with internal SIM socket (mux with mSATA) |
| Graphics | Integrated Intel® UHD graphics 630 | M.2 | 1x M.2 2242 B key socket with dual front-accessible SIM sockets, supporting dual SIM mode with selected M.2 LTE module |
| Memory | Up to 64 GB DDR4 2666/ 2400 SDRAM (two SODIMM slots) | Expandable I/O | 1x MezIO™ expansion port for Neosys MezIO™ modules |
| AMT | Supports AMT 12.0 | Power Supply | |
| TPM | Supports TPM 2.0 | DC Input | 1x 3-pin pluggable terminal block for 8~35VDC input |
| I/O Interface | | Remote Ctrl. & LED Output | 1x 3-pin pluggable terminal block for remote control and PWR LED output |
| Ethernet | 2x Gigabit Ethernet ports by I219 and I210 (Nuvo-7002CE/ CP/ CDE) 6x Gigabit Ethernet ports by I219 and 5x I210 (Nuvo-7006CE/ CP/ CDE) | Mechanical | |
| PoE+ | Optional IEEE 802.3at PoE+ PSE for Port 3 ~ Port 6 100 W total power budget | Dimension | 240 mm (W) x 225 mm (D) x 90 mm (H) (Nuvo-7000CE/ CP series) 240 mm (W) x 225 mm (D) x 110.5 mm (H) (Nuvo-7000CDE series) |
| USB | 4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports | Weight | 3.58 kg (Nuvo-7000CE/ CP series) 3.7 kg (Nuvo-7000CDE series) |
| 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 | Mounting | Wall-mount (standard) or DIN-Rail (optional) |
| Serial Port | 2x software-programmable RS-232/ 422/ 485 ports (COM1/ COM2) 2x RS-232 ports (COM3/ COM4) | Environmental | |
| Audio | 1x 3.5 mm jack for mic-in and speaker-out | 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) |
| Storage Interface | | Storage Temperature | -40°C ~ 85°C |
| SATA HDD | 2x internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1 | Humidity | 10%~90% , non-condensing |
| M.2 | 1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation | Vibration | Operating, MIL-STD-810G, Method 514.6, Category 4 |
| mSATA | 1x full-size mSATA port (mux with mini-PCIe) | Shock | Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II |
| | | EMC | CE/FCC Class A, according to EN 55032 & EN 55024 |

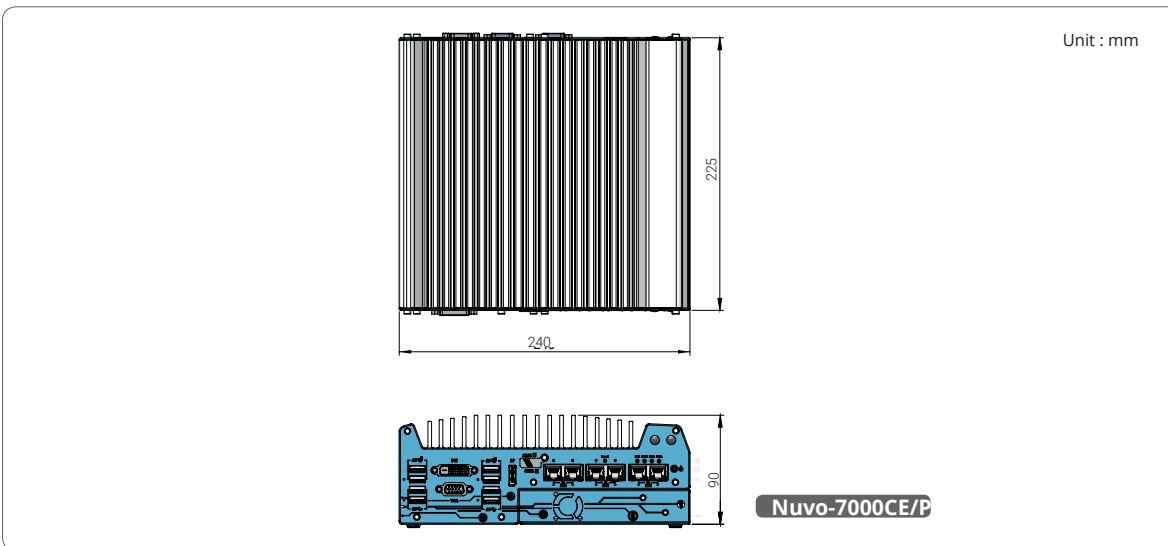
* For i7-8700 and i7-9700E running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.

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

Appearance



Dimensions



Ordering Information

| Model No. | Product Description |
|--------------------|---|
| Nuvo-7002CE | Intel® 8th/ 9th-Gen Core™ fanless controller with 2x GbE, single-slot PCI Express Cassette and MeziO™ interface |
| Nuvo-7002CP | Intel® 8th/ 9th-Gen Core™ fanless controller with 2x GbE, single-slot PCI Cassette and MeziO™ interface |
| Nuvo-7006CE | Intel® 8th/ 9th-Gen Core™ fanless controller with 6x GbE, single-slot PCI Express Cassette and MeziO™ interface |
| Nuvo-7006CP | Intel® 8th/ 9th-Gen Core™ fanless controller with 6x GbE, single-slot PCI Cassette and MeziO™ interface |

Optional IEEE 802.3at PoE+ for GbE ports 3 ~ 6

Optional Accessories

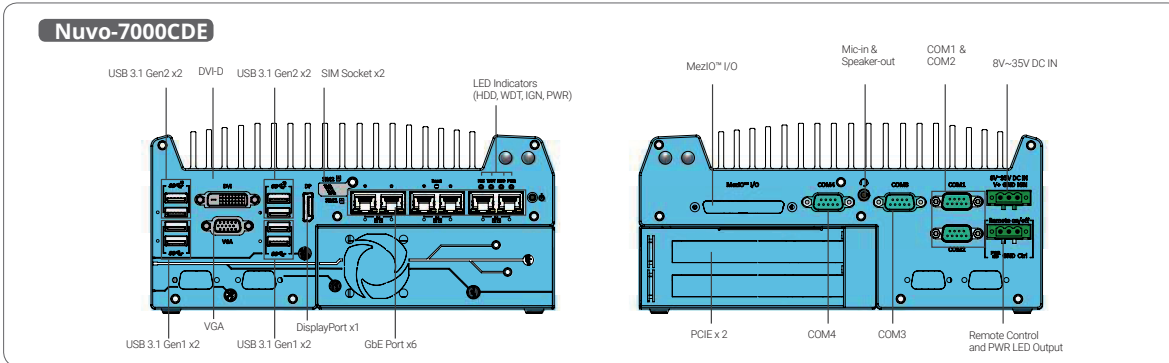
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| DINRAIL-O | DIN-rail mounting assembly for Nuvo-7000 series |
| Dmpbr-Nuvo5000_7000 | Neosys' patented damping bracket assembly for Nuvo-7000E/DE/P |
| Fankit-25 | Fan assembly for 1-slot Cassette, 25x25x10 mm |
| PA-160W-OV | 160W AC/DC power adapter 20V/8A; 18AWGx4C/120cm, cord end terminals for terminal block, operating temperature : -30°C to 70°C. |
| ETHY-100-2008S | Ethernet I/O expansion module with 8 isolated digital inputs and outputs |
| ETHY-100-2604S | Ethernet I/O expansion module with 8 isolated digital inputs and 4 relays outputs (coming soon) |
| 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-NV750 | Cassette module with NVIDIA® GTX 750 Ti graphics card, pre-installed heat-spreader and fan |
| CSM-R800 | Cassette module accommodating four 2.5" HDD/ SSD (support RAID 0/ 1/ 10) |

MeziO™ Modules

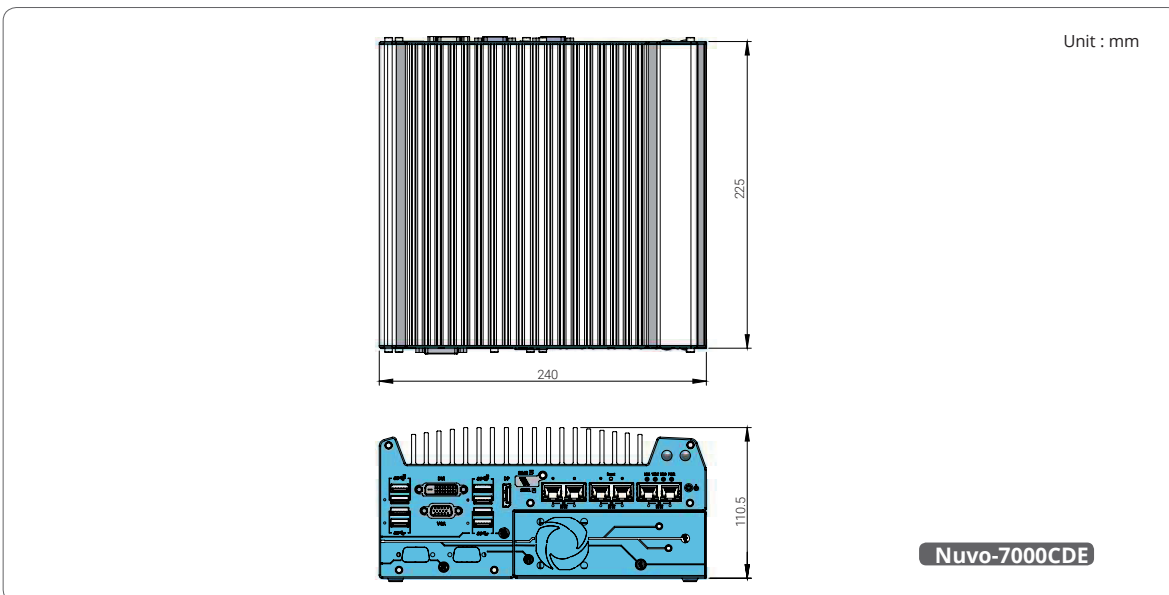
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|----------------------|---|
| MeziO™-C180 | MeziO™ module with 4x RS-232/ 422/ 485 ports and 4x RS-232 ports |
| MeziO™-C181 | MeziO™ module with 4x RS-232/ 422/ 485 ports and 4x RS-422/ 485 ports |
| MeziO™-D220 | MeziO™ module with 8-CH isolated digital input and 8-CH isolated digital output |
| MeziO™-D230 | MeziO™ module with 16-CH isolated digital input and 16-CH isolated digital output |
| MeziO™-V20-EP | MeziO™ module with ignition power control function for in-vehicle application |
| MeziO™-U4 | MeziO™ module with 4x USB3.0 ports |
| MeziO™-G4 | MeziO™ module with 4x GigE ports |
| MeziO™-G4P | MeziO™ module with 4x IEEE 802.3at PoE+ ports |

Only Nuvo-7006E-PoE and Nuvo-7006P-PoE support MeziO-G4P

Appearance



Dimensions



Ordering Information

| Model No. | Product Description |
|--|---|
| Nuvo-7002CDE | Intel® 8th/ 9th-Gen Core™ fanless controller with 2x GbE, dual-slot PCI Express Cassette and MeziO™ interface |
| Nuvo-7006CDE | Intel® 8th/ 9th-Gen Core™ fanless controller with 6x GbE, dual-slot PCI Express Cassette and MeziO™ interface |
| Optional IEEE 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. |
| Fankit-40 | Fan assembly for 1-slot Cassette, 40x40x10 mm |
| Dmpbr-Nuvo5000_7000 | Neosys' patented damping bracket assembly for Nuvo-7000E/DE/P |
| DINRAIL-O | DIN-rail mounting assembly for Nuvo-7000 series |
| ETHY-100-2008S | Ethernet I/O expansion module with 8 isolated digital inputs and outputs |
| ETHY-100-2604S | Ethernet I/O expansion module with 8 isolated digital inputs and 4 relays outputs (coming soon) |
| MeziO™ Modules | |
| MeziO™-C180 | MeziO™ module with 4x RS-232/ 422/ 485 ports and 4x RS-232 ports |
| MeziO™-C181 | MeziO™ module with 4x RS-232/ 422/ 485 ports and 4x RS-422/ 485 ports |
| MeziO™-D220 | MeziO™ module with 8-CH isolated digital input and 8-CH isolated digital output |
| MeziO™-D230 | MeziO™ module with 16-CH isolated digital input and 16-CH isolated digital output |
| MeziO™-V20-EP | MeziO™ module with ignition power control function for in-vehicle application |
| MeziO™-U4 | MeziO™ module with 4x USB3.0 ports |
| MeziO™-G4 | MeziO™ module with 4x GigE ports |
| MeziO™-G4P | MeziO™ module with 4x IEEE 802.3at PoE+ ports |

Only Nuvo-7006DE-PoE supports MeziO-G4P