

Nuvo-7000LP Series

Intel® 9th/ 8th-Gen Core™ i7/ i5/ i3 Fanless Controller with 6x GbE Ports, MeziO™ Interface and Low-profile Chassis



Key Features

- Intel® 9th/ 8th-Gen Core™ i hexa-core 35W/ 65W LGA1151 CPU
- Low-profile chassis with hot-swappable 2.5" HDD/ SSD tray
- 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-7000LP series is powered by Intel® 9th/ 8th-Gen Core™ i processors with up to 6-core/ 8-core architecture that offer a significant performance improvement over previous 6th or 7th-Gen platforms.

Nuvo-7000LP series is a derivative of Nuvo-7000 series that features the same level of ruggedness and versatility in a 79 mm low-profile chassis. In addition to effective fanless design, proprietary MeziO™ interface and plethora of on-board I/O interfaces, Nuvo-7000LP series features one front-accessible, hot-swappable HDD/ SSD tray which can be configured as RAID 0/1 when combined with the internal SATA port. It also leverages cutting-edge M.2 NVMe SSD technology for over 2000MB/s disk read/ write speed, or install an Intel® Optane™ memory for the ultimate system acceleration.

Neosys Nuvo-7000LP series consolidates the latest Intel® hexa/octa-core CPU, high-speed I/O interfaces, super-fast disk access and flexible storage configuration to form a high-performance ruggedized embedded controller. In addition, you can also take advantage of the built-in MeziO™ interface to add on modules for application-specific I/Os.

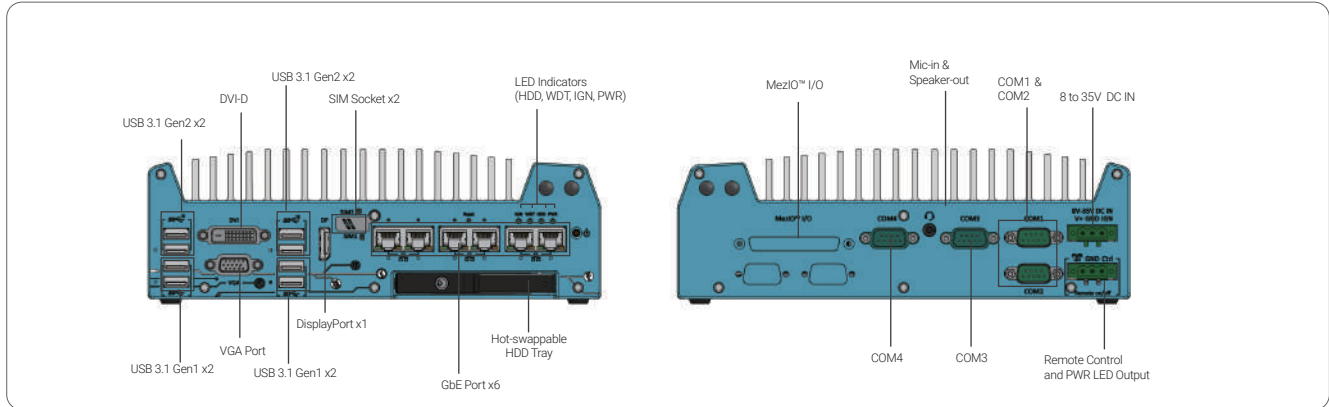
Specifications

| System Core | | Expansion Bus | |
|---|--|--------------------------------------|---|
| Processor | Supporting Intel® 9th/ 8th-Gen CPU (LGA1151 socket, 65W/ 35W TDP) - Intel® Core™ i7-9700E/ i7-9700TE/ i7-8700/ i7-8700T - Intel® Core™ i5-9500E/ i5-9500TE/ i5-8500/ i5-8500T - Intel® Core™ i3-9100E/ i3-9100TE/ i3-8100/ i3-8100T - Intel® Pentium® G5400/ G5400T - Intel® Celeron® G4900/ G4900T | Mini PCI Express | 1x full-size 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 dual front-accessible SIM sockets |
| Graphics | Integrated Intel® UHD graphics 630 | Expandable I/O | 1x MeziO™ expansion port for Neosys MeziO™ modules |
| Memory | Up to 64 GB DDR4 2666/ 2400 SDRAM (two SODIMM slots) | Power Supply | |
| AMT | Supports AMT 12.0 | DC Input | 1x 3-pin pluggable terminal block for 8 to 35V DC input |
| TPM | Supports TPM 2.0 | Remote Ctrl. & LED Output | 1x 3-pin pluggable terminal block for remote control and PWR LED output |
| I/O Interface | | Mechanical | |
| Ethernet | 2x Gigabit Ethernet ports by I219 and I210 (Nuvo-7002LP) 6x Gigabit Ethernet ports by I219 and 5x I210 (Nuvo-7006LP) | Dimension | 240 mm (W) x 225 mm (D) x 79 mm (H) |
| PoE+ | Optional IEEE 802.3at PoE+ PSE for Port 3 ~ Port 6 100 W total power budget | Weight | 3.1 kg |
| USB 3.1 | 4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports | Mounting | Wall-mount (standard) or DIN-rail mount (optional) |
| Video Port (Integrated Graphics) | 1x VGA, supporting 1920 x 1200 resolution 1x DVI-D, supporting 1920 x 1200 resolution 1x DisplayPort, supporting 4096 x 2304 resolution | Environmental | |
| 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 |
| Storage Interface | | Humidity | 10%~90% , non-condensing |
| SATA HDD | 1x front-accessible, hot-swappable 2.5" HDD/ SSD tray 1x internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/ 1 | Vibration | Operating, MIL-STD-810G, Method 514.6, Category 4 |
| M.2 | 1x M.2 2280 M key socket (PCIe Gen3 x4) for NVMe SSD or Intel® Optane™ memory installation | Shock | Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II |
| mSATA | 1x full-size mSATA port (mux with mini-PCIe) | EMC | CE/FCC Class A, according to EN 55032 & EN 55024 |
| | | Safety | UL62368-1, IEC62368-1 |

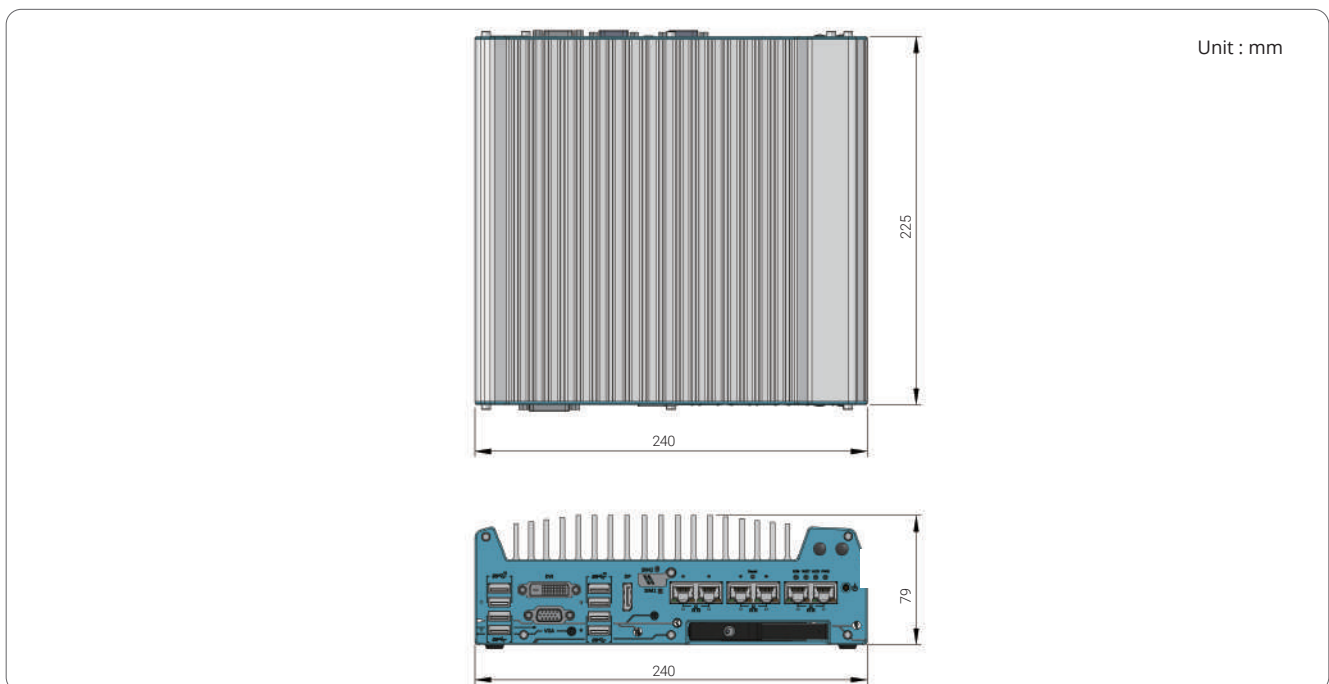
* For i7-9700E and i7-8700 running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.

** 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-7002LP | Intel® 9th/ 8th-Gen Core™ fanless controller with 2x GbE ports, MeziO™ interface and low-profile chassis |
| Nuvo-7006LP | Intel® 9th/ 8th-Gen Core™ fanless controller with 6x GbE ports, MeziO™ interface and low-profile chassis |
| <i>Optional IEEE 802.3at PoE+ for GbE ports 3 ~ 6</i> | |

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. |
| DINRAIL-O | DIN-rail mount assembly for Nuvo-7000 series |
| Dmpbr-Nuvo5000_7000 | Neosys' patented damping brackets assembly for Nuvo-7000E/DE/P/ Nuvo-7000LP |
| 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 USB 3.1 ports |
| MeziO™ -G4 | MeziO™ module with 4x GigE ports |
| MeziO™ -G4P | MeziO™ module with 4x IEEE 802.3at PoE+ ports |

Only Nuvo-7006LP-PoE supports MeziO-G4P