

Rugged Embedded



Nuvo-5000E/P Series

Intel® 6th-Gen Core™ i7/ i5/ i3 Fanless Controller with 6x GbE, Expansion Cassette and MezIO™ Interface



Key Features

- Intel® 6th-Gen Core™ i7/ i5/ i3 35W/65W LGA1151 CPU
- Patented Cassette* for PCI/ PCIe add-on card
- 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, DDR4-2133 SO-DIMM
- Accommodates two 2.5" SATA HDD/ SSD with RAID 0/ 1 support
- VGA/ DVI/ DP triple independent display, supporting 4K2K resolution

*R.O.C Patent No. M456527

Introduction

Integrating cutting-edge technologies, Nuvo-5000 is Neosys' next-generation rugged fanless embedded controller with performance and versatility. It supports socket-type 6th-Gen Core™ processors so one can choose a CPU according to application performance needs while Neosys' efficient heat-dissipating design offers true -25°C to 70°C wide-temperature operation.

With plenty of embedded I/O connections for applications including Gigabit Ethernet, USB3.0/ USB2.0, COM ports, VGA/ DVI/ DP triple display outputs and if that's not enough, Neosys' patented Cassette offers I/O expansion by installing an off-the-shelf PCIe/PCI card.

On top of all that, Nuvo-5000 also incorporates Neosys MezIO™ interface. The patented design enhances Neosys' embedded system with a cost-effective and reliable way for I/O expansion. The MezIO™ module can deliver application-oriented functions for diversified vertical markets.

Neosys Nuvo-5000 features 6th-Gen Intel® CPU, patented Cassette and MezIO™ to create a powerful and yet diverse controller for all your industrial application needs!

Specifications

System Core	
Processor	Intel® Core™ i7-6700 (8M Cache, 3.4/ 4.0 GHz, 65W TDP)* Intel® Core™ i5-6500 (6M Cache, 3.2/ 3.6 GHz, 65W TDP)* Intel® Core™ i3-6100 (3M Cache, 3.7 GHz, 51W TDP)* Intel® Pentium® G4400 (3M Cache, 3.3 GHz, 54W TDP)* Intel® Celeron® G3900 (2M Cache, 2.8 GHz, 51W TDP)* Intel® Core™ i7-6700TE (8M Cache, 2.4/ 3.4 GHz, 35W TDP) Intel® Core™ i5-6500TE (6M Cache, 2.3/ 3.3 GHz, 35W TDP) Intel® Core™ i3-6100TE (4M Cache, 2.7 GHz, 35W TDP) Intel® Pentium® G4400TE (3M Cache, 2.4 GHz, 35W TDP) Intel® Celeron® G3900TE (2M Cache, 2.3 GHz, 35W TDP)
Chipset	Intel® Q170 platform controller hub
Graphics	Integrated Intel® HD graphics 530/ 510
Memory	Up to 32GB DDR4-2133 SDRAM (two SO-DIMM slots)
AMT	Supports AMT 11.0
TPM	Supports TPM 2.0
I/O Interface	
Ethernet	2x Gigabit Ethernet ports by Intel® 1x I219 and I210 (Nuvo-5002E/P) 6x Gigabit Ethernet ports by Intel® 1x I219 and 5x I210 (Nuvo-5006E/ P)
PoE+	Optional IEEE 802.3at PoE+ PSE for GbE Ports 3 ~ 6, 80W total power budget
USB	4x USB3.0 ports via native xHCI controller 4x USB2.0 ports
Video Port	1x stacked VGA + DVI-D connector 2x DisplayPort connectors, supporting 4K2K resolution (triple-independent display support)
Serial Port	2x software-programmable RS-232/ 422/ 485 port (COM1 & COM3) 1x RS-232 port (COM2)
Audio	1x Mic-in and 1x speaker-out
Storage Interface	
SATA HDD	2x internal SATA port for 2.5" HDD/ SSD installation, supporting RAID 0/1
mSATA	1x full-size mSATA port (mux with mini-PCIe)
Expansion Bus	
PCI/PCI Express	1x PCI slot in Cassette (Nuvo-5002P/5006P) 1x PCIe x16 slot @ Gen3, 8-lanes PCIe signals in Cassette (Nuvo-5002E/ 5006E)
Mini PCI-E	1x internal Mini PCIe socket with front-accessible SIM socket 1x internal Mini PCIe socket with internal SIM socket (mux with mSATA)
Expandable I/O	1x MezIO™ expansion port for Neosys' MezIO™ modules
Power Supply	
DC Input	1x 3-pin pluggable terminal block for 8~35VDC DC input
Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
Mechanical	
Dimension	240mm (W) x 225mm (D) x 90mm (H)
Weight	3.6kg (incl. CPU, memory and HDD)
Mounting	Wall-mounting (standard) or DIN-rail mounting (optional)
Environmental	
Operating Temperature	-25°C ~ 70°C ** i7-6700TE (35W TDP) i5-6500TE (35W TDP) i3-6100TE (35W TDP) Pentium G4400TE (35W TDP) -25°C ~ 70°C */** (configured as 35W CPU mode) -25°C ~ 50°C */** (configured as 65W/ 51W CPU mode)
Storage Temperature	-40°C ~ 85°C
Humidity	10%~90%, non-condensing
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, EN 55032 & EN 60950

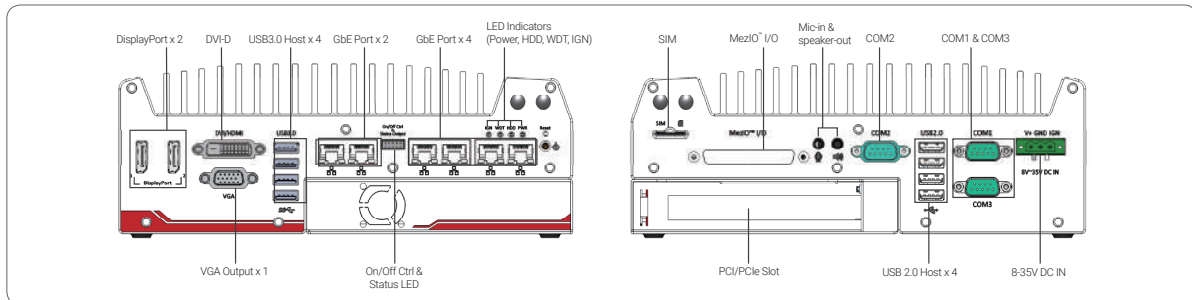
* For i7-6700 running at 65W mode, the high operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.

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

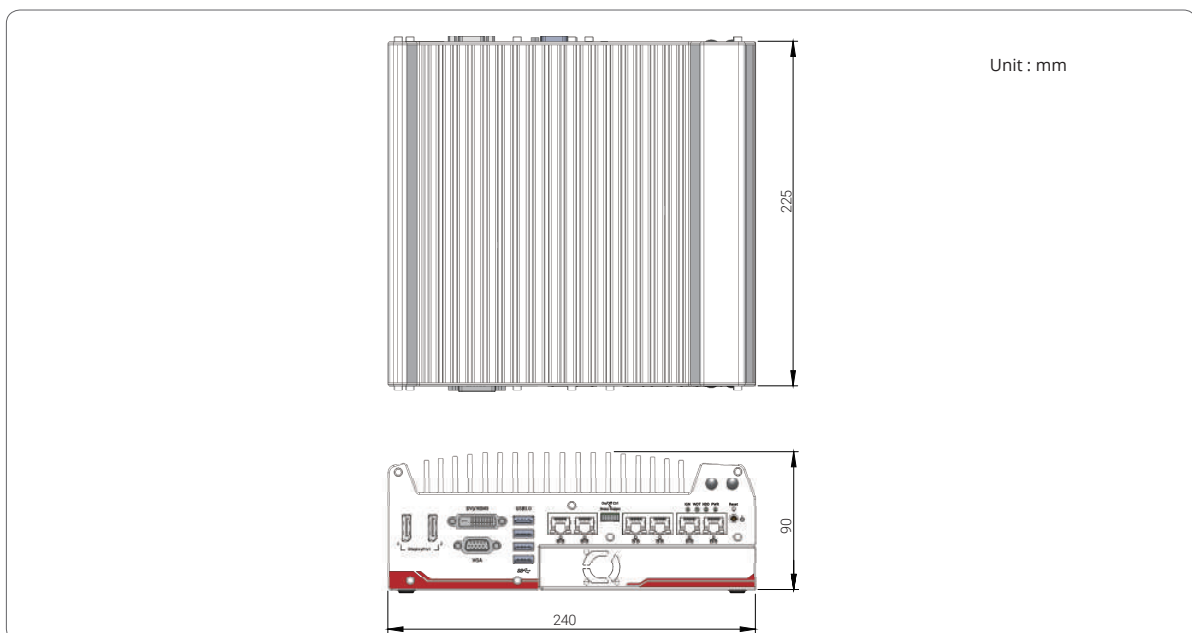
Nuvo-5000E/P Series



Appearance



Dimensions



Ordering Information

Model No.	Product Description
Nuvo-5002E	Intel® 6th-Gen Core™ fanless controller with 2x GbE, PCI Express Cassette and MeziO™ interface
Nuvo-5002P	Intel® 6th-Gen Core™ fanless controller with 2x GbE, PCI Cassette and MeziO™ interface
Nuvo-5006E	Intel® 6th-Gen Core™ fanless controller with 6x GbE, PCI Express Cassette and MeziO™ interface
Nuvo-5006P	Intel® 6th-Gen Core™ fanless controller with 6x GbE, PCI Cassette and MeziO™ interface
Optional IEEE 802.3at PoE+ for GbE ports 3 ~ 6	

Optional Accessories

DINRAIL-O	DIN-rail mounting assembly for Nuvo-5000 series	MeziO™ Modules	
Fankit-25	Fan assembly for 1-slot Cassette, 25x25x10mm	MeziO™ -C180	MeziO™ module with 4x RS-232/ 422/ 485 ports and 4x RS-232 ports
PA-120W-OW	120W AC/DC power adapter 20V/6A; 18AWG/120cm; cord end terminals for terminal block,operating temperature : -30 to 70 °C.	MeziO™ -C181	MeziO™ module with 4x RS-232/ 422/ 485 ports and 4x RS-422/ 485 ports
DmpbrNuvo5000_7000	Neosys' patented damping bracket assembly for Nuvo-7000E/DE/P	MeziO™ -D220	MeziO™ module with 8-CH isolated digital input and 8-CH isolated digital output
Cassette Modules		MeziO™ -D230	MeziO™ module with 16-CH isolated digital input and 16-CH isolated digital output
CSM-PoE354	Cassette module with PCIe-PoE354at and pre-installed passive heat-spreader	MeziO™ -V20-EP	MeziO™ module with ignition power control function for in-vehicle application
CSM-USB380	Cassette module with PCIe-USB380 and pre-installed passive heat-spreader	MeziO™ -U4	MeziO™ module with 4x USB3.0 ports
CSM-NV750	Cassette module with NVIDIA® GTX 750 Ti graphics card, pre-installed heat-spreader and fan	MeziO™ -G4	MeziO™ module with 4x GigE ports
CSM-R800	Cassette module accommodating four 2.5" HDD/ SSD (support RAID 0/ 1/ 10)	MeziO™ -G4P	MeziO™ module with 4x IEEE 802.3at PoE+ ports

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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