

Nuvo-5000E/5000P Series

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



- Intel® 6th Gen Core™ i7/i5/i3 LGA1151 socket-type CPU
- Patented Cassette* for PCI/PCIe add-on card accommodation
- MezIO™ interface for easy function expansion
- Up to 6x GigE ports, supporting 9.5 KB jumbo frame
- Up to 32 GB, DDR4-2133 SODIMM
- Accommodates two 2.5" SATA HDD/SSD with RAID 0/1 support
- VGA/DVI/DP triple independent display, supporting 4K2K resolution
- 8 ~ 35V wide DC input range

Introduction

Integrating cutting-edge technologies, Neousys creates the next-generation fanless controller, Nuvo-5000 series, with ruggedness, performance and versatility. It supports socket-type, 6th-Gen Core™ processors for more CPU selection from Pentium® to Core™ i7 according to performance consideration.

It provides plenty of embedded I/O functions for general applications, including Gigabit Ethernet, USB3/USB2, COM and VGA/DVI/DP triple display outputs. If they are not enough, Neousys' patented Cassette offers an easy way for I/O expansion by installing an off-the-shelf PCIe/PCI card.

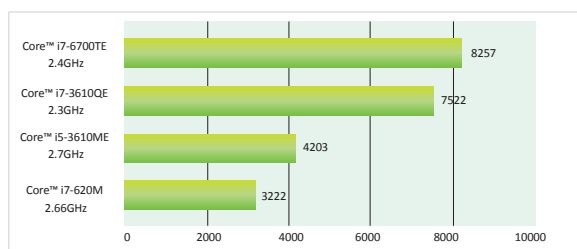
Nuvo-5000 further incorporates Neousys' MezIO™, an interface electronically and mechanically fitted for embedded system, to presents a cost-effective and reliable way for I/O enhancement. By installing optional MezIO™ module, Nuvo-5000 can deliver more application-oriented functions for diversified vertical markets.

Latest Intel® CPU, Cassette and MezIO™ creates a powerful controller with numerous I/O configuration. Nuvo-5000 is the one platform for all!

Product Highlights

Performance Boost by 14 nm Technology

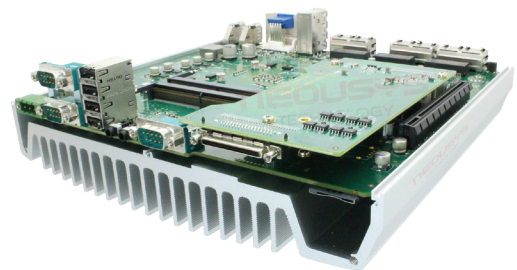
Benefited by 14 nm lithography, the 6th-Gen Core™ platform delivers significant performance boost. Comparing to 3rd-Gen IvyBridge, the new Skylake platform offers 40% increase in terms of performance per watt. Additionally, Nuvo-5000 is designed to support LGA1151 socket-type CPU to bring more flexibility for CPU installation.



* The CPU benchmark is performed using Passmark PerformanceTest 7 based on Win7 64bit OS.

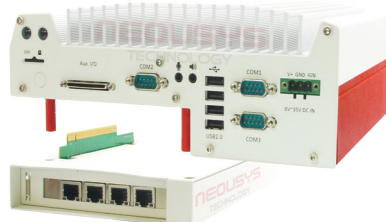
The MezIO™ Interface and Modules

MezIO™ is the interface designed for incorporating application-oriented I/O functions into a embedded system. It offers computer signals, power rails and control signals via a high-speed connector. MezIO™ is also mechanically reliable benefited from its 3-point mounted mezzanine structure. A MezIO™ module can leverage these signals to implement comprehensive I/O functions.



Patented Expansion Cassette

Neousys' Patented Cassette innovates a brilliant way for accommodating add-on card, not only because the modularized design makes easy installation/replacement, but also because the possibility of passive cooling for add-on card brings more reliable operation. You can install any PCI or PCIe card in Cassette to expand versatility of Nuvo-5000, or choose Neousys' offer of Cassette module with pre-installed heat-spreader to include PoE+, USB 3.0 or independent graphics card.



Neousys provides various MezIO™ modules, such as RS-232/422/485, isolated DIO, LVDS output, CAN bus, ignition power control, and DTIO, as the options for Nuvo-5000. Users can also leverage signals/powers on MezIO™ to create a module with specific domain know-how. MezIO™ presents a cost-effective way to build a tailor-made embedded system for your application.

Applications



1. Machine Vision
2. In-vehicle Monitoring & Management
3. Medical Imaging
4. Surveillance/Security

Specifications

| System Core | | Expansion Bus | |
|-------------------|---|------------------------------|--|
| Processor | Intel® Core™ i7-6700TE Processor (8M Cache, 2.4/3.4 GHz) Intel® Core™ i5-6500TE Processor (6M Cache, 2.3/3.3 GHz) Intel® Core™ i3-6100TE Processor (4M Cache, 2.7 GHz) Intel® Pentium® Processor G4400TE (3M Cache, 2.4 GHz) | 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) |
| Chipset | Intel® Q170 Platform Controller Hub | Mini PCI-E | 1x internal mini PCI Express socket with front-accessible SIM socket 1x internal mini PCI Express socket with internal SIM socket |
| Graphics | Integrated Intel® HD Graphics 530 | Expandable I/O | 1x MezIO™ expansion port for Neousys' MezIO™ modules |
| Memory | Up to 32 GB DDR4-2133 SDRAM by two SODIMM sockets | Power Supply | |
| AMT | Supports AMT 11.0 | DC Input | 1x 3-pin pluggable terminal block for 8~35VDC DC input |
| TPM | Supports TPM 1.2 | Remote Ctrl. & Status Output | 1x 10-pin (2x5) wafer connector for remote on/off control and status LED output |
| I/O Interface | | Mechanical | |
| Ethernet | 2x Gigabit Ethernet ports by Intel® I219 and I210 (Nuvo-5002E/P) 6x Gigabit Ethernet ports by Intel® I219 and 5x I210 (Nuvo-5006E/P) | Dimension | 240 mm (W) x 225 mm (D) x 90 mm (H) |
| PoE+ | Optional IEEE 802.3at PoE+ PSE for GbE Port 3 ~ Port 6, 80 W total power budget | Weight | 4.4 kg |
| USB | 4x USB 3.0 ports via native XHCI controller 4x USB 2.0 ports | Mounting | Wall-mounting (standard) or DIN-Rail mounting (optional) |
| Video Port | 1x stacked VGA + DVI-D connector 2x DisplayPort connectors, supporting 4K2K resolution | Environmental | |
| Serial Port | 2x software-programmable RS-232/422/485 port (COM1 & COM2) 1x RS-232 port (COM3) | Operating Temperature | -25°C ~ 60°C |
| Audio | 1x Mic-in and 1x Speaker-out | Storage Temperature | -40°C ~ 85°C |
| Storage Interface | | Humidity | 10%~90% , non-condensing |
| SATA HDD | 2x Internal SATA port for 2.5" HDD/SSD installation, supporting RAID 0/1 | Vibration | Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64) |
| | | Shock | Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27) |
| | | EMC | CE/FCC Class A, according to EN 55022 & EN 55024 |

Order Information

Nuvo-5002E

Intel® 6th-Gen Core™ fanless controller with
2x GbE, PCI Express Cassette and MezIO™

Nuvo-5002P

Intel® 6th-Gen Core™ fanless controller with
2x GbE, PCI Cassette and MezIO™

Nuvo-5006E

Intel® 6th-Gen Core™ fanless controller with
6x GbE, PCI Express Cassette and MezIO™

Nuvo-5006P

Intel® 6th-Gen Core™ fanless controller with
6x GbE, PCI Cassette and MezIO™

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

Cassette and 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

CSM-PoE354

- Cassette module with PCIe-PoE354 and pre-installed passive heat-spreader

CSM-U380

- Cassette module with PCIe-USB380 and pre-installed passive heat-spreader

CSM-NV750

- Cassette module with nVidia GTX 750 graphics card, pre-installed heat-spreader and fan

Accessories

Option of DIN-Rail mounting kit

120W AC/DC power adapter

