Nuvo-3000E/P Series
Intel® 3rd-Gen Core™ i7/i5/i3 Fanless Controller with 5x GbE, 4x USB 3.0 and Expansion Cassette

Key Features
- Intel® 3rd-Gen i7 quad-core superb performance
- Patented Cassette™ design for PCIe/PCI add-on card expansion
- Up to 5x GigE ports, supporting 9.5 KB jumbo frame
- Rugged, -25°C to 70°C fanless operation
- Optional intelligent ignition power control for in-vehicle applications
- VGA/DVI dual display outputs
- 4x USB 3.0 ports + 4x USB 2.0 ports
- Optional isolated DIO with Change-of-State interrupt support

Introduction
Discover a leapfrog of embedded controller design with Neousys Nuvo-3000E/3000P series! Nuvo-3000E/3000P incorporates the cutting-edge processor technology and Neousys' innovative Cassette architecture to construct a truly reliable and versatile embedded controller. Its 3rd-Gen i7 quad-core processor delivers tremendous boost of computing power as well as significant improvement of graphics performance. This platform also natively supports new features such as USB 3.0, DDR3-1600 and SATA3. Inheriting the heritage of proven Nuvo series, Nuvo-3000E/3000P is extremely reliable mechanically and allows -25°C to 70°C operating temperature. Moreover, it comes with Neousys' patented Cassette design. This unique expansion Cassette offers PCI/PCIe slot with minimal thermal interference between system and add-on card, so that your system can always operate in expected thermal condition.

I/O functions on Nuvo-3000E/3000P are versatile. Gigabit Ethernet, USB 3.0 and dual display outputs are natively supported on Nuvo-3000E/3000P. Its optional isolated digital I/O now supports Change-of-State interrupt to give more usability. We also introduce the function of intelligent ignition control to Nuvo-3000E/3000P to make it suitable for in-vehicle applications. As the quad-core processor boosting performance, innovative Cassette increasing expandability, and ignition control bringing in-vehicle mobility, Nuvo-3000E/3000P is ready for various application requirements.

Specifications

| System Core | Processor | Intel® Core™ (7/6100QE (2.3/3.3 GHz, 6 MB cache)
| | Intel® Core™ (5-6100ME (2.7/3.3 GHz, 3 MB cache)
| | Intel® Celeron™ 1000E (2.2 GHz, 2 MB cache)
| Chipset | Intel® HM76 Platform Controller Hub
| Graphics | Integrated Intel® HD Graphics 4000 Controller (7/i5)
| | Integrated Intel® HD Graphics Controller (Celeron)
| Memory | 2x 204-pin SO-DIMM sockets, up to 16 GB DDR3 1333/1600 MHz SDRAM
| I/O Interface | Ethernet 5x Gigabit Ethernet ports by Intel®
| | 3x Gigabit Ethernet ports by Intel®
| Video Port | 1x DB-15 connector for analog RGB, supporting 2048x1536 resolution
| | 2x DVI-D connectors for DVI outputs, supporting 1920x1200 resolution
| USB | 4x USB 3.0 ports and 4x USB 2.0 ports
| Serial Port | 2x software-programmable RS-232/422/485 (COM1 & COM2)
| Isolated DIO | 8x isolated DI with C05 interrupt and 8x isolated DO (Optional)
| KB/MS | 1x 6-pin mini-DIN connector for PS/2 keyboard/mouse
| Audio | 1x Mic-in and 1x Speaker-out
| Storage Interface | SATA HDD 1x Internal SATA port for 2.5” HDD/SSD installation
| CFast | 1x CFast socket

Expansion Bus
- 1x PCI slot in Cassette (Nuvo-3003P/3009P)
- 1x PCIe x16 slot @ 8-lanes PCIe signals in Cassette (Nuvo-3006E/3005E)

Power Supply & Ignition Control
- DC Input 1x 4-pin power connector for 8–25V DC input (for AC adapter)
- 1x 3-pin pluggable terminal block for 8–25V DC input (for direct DC wiring)

Ignition Control
Optional ignition power control with configurable on/off delay

Remote Ctrl. & Status Output
1x 10-pin (2x5) wafer connector for remote on/off control and status LED output

Power Consumption
- With Intel® 3rd-Gen QTE: 72.96W (3.84A@19V)
- With Intel® 3rd-Gen (Celeron): 48.83W (2.57A@19V)

Environmental
- Operating Temperature -25°C to 70°C (with Intel® 3rd-Gen/Intel® 3rd-Gen (Celeron)/Intel® 3rd-Gen (Celeron))
- Storage Temperature -40°C to 85°C
- Humidity 10%–90% (non-condensing)
- Vibration Operating: 5 G(4.5G), 50-500 Hz, 3 Axes (for SSD, according to IEC60068-2-2)
- Shock Operating: 50 G, Half-sine 11 ms Duration (for SSD, according to IEC60068-2-27)

EMC
- CE: FCC Class A, according to EN 55022 & EN 55024

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

- **Nuvo-3000E/P Series**

### Dimensions

**Unit : mm**

- **20**
- **240**
- **225**
- **89.7**

### Ordering Information

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<th>Model No.</th>
<th>Product Description</th>
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<tr>
<td>Nuvo-3005P-I7QC</td>
<td>Intel® Core™ i7-3610QE fanless controller with 5x GbE and PCI Cassette</td>
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<td>Nuvo-3005E-I7QC</td>
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<tr>
<td>Nuvo-3005P-I5DC</td>
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**Option of isolated DIO(8DI + 8DO) (Nuvo-3005E/P only)**

**Option of Ignition Power Control**

### Optional Accessories

- DIN-Rail mounting kit
- 120W AC/DC power adapter

### 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-NV730** Cassette module with nVidia GTX 730 graphics card, pre-installed heat-spreader and fan