

Nuvo-5000LP Series

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



Key Features

- Intel® 6th-Gen Core™ i7/ i5/ i3 35W/ 65W LGA1151 CPU
- 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 32GB, DDR4-2133 SO-DIMM
- One hot-swappable 2.5" HDD/ SSD and one fixed 2.5" HDD/ SSD, supporting RAID 0/ 1
- VGA/ DVI/ DP triple independent display, supporting 4K2K resolution
- 77mm low-profile design

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Introduction

Nuvo-5002LP/ 5006LP are low-profile systems in the Nuvo-5000 family. They feature a 77mm low-profile chassis and yet retain extraordinary -25°C to 70°C wide operating temperature capability. Neosys Nuvo-5002LP/ 5006LP supports LGA1151 socket-type CPUs so one can choose an Intel® 6th-Gen Core™ i7/i5/i3, from 35W to 65W TDP CPU according to application performance and operation needs.

Nuvo-5002LP/ 5006LP has plentiful I/Os such as GbE, USB3.0/ USB2.0, COM and VGA/ DVI/ DP. It also incorporates Neosys' MeziO™ interface for additional or application-oriented I/O expansion. By installing an optional MeziO™ module, Nuvo-5002LP/ 5006LP transforms from a typical embedded controller to a ruggedized application platform that may include up to 11x COM ports, 32 DIO channels, ignition power control or customized application-specific I/Os.

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® I219 and I210 (Nuvo-5002LP) 6x Gigabit Ethernet ports by Intel® I219 and 5x I210 (Nuvo-5006LP)
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	1x hot-swappable HDD tray for 2.5" HDD/ SSD installation 1x 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

Mini PCI-E	1x internal mini PCI Express socket with front-accessible SIM socket
	1x internal mini PCI Express socket with internal SIM socket (mux. with mSATA)

Expandable I/O 1x MeziO™ expansion interface 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 77mm (H)

Weight 3.1kg

Mounting Wall-mounting (standard) or DIN-rail mounting (optional)

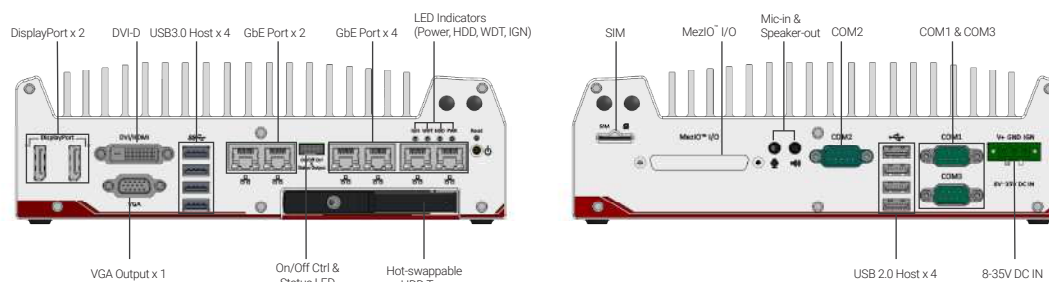
Environmental

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)	i7-6700 (65W/51W TDP) i5-6500 (65W/51W TDP) i3-6100 (65W/51W TDP)
Storage Temperature	-40°C ~ 85°C	
Humidity	10%~90% , non-condensing	
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 & EN 55032	

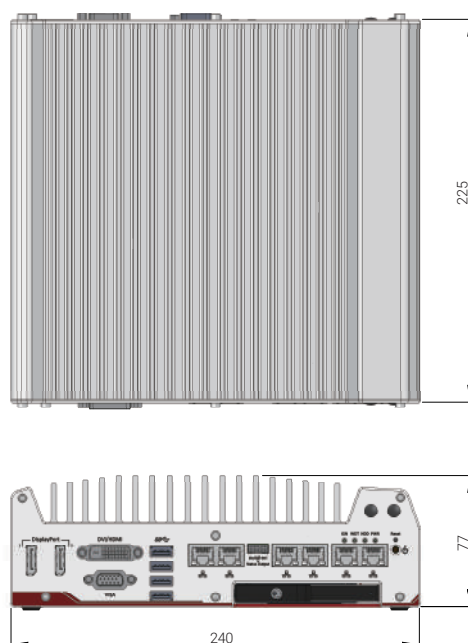
* For i7-6700 running at 65W mode, the high operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.

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

Appearance



Dimensions



Unit : mm

Ordering Information

Model No.	Product Description
Nuvo-5002LP	Intel® 6th-Gen Core™ low-profile fanless controller with 2x GbE and MeziO™ interface
Nuvo-5006LP	Intel® 6th-Gen Core™ low-profile fanless controller with 6x GbE and MeziO™ interface
Optional IEEE 802.3at PoE+ for GbE ports 3 ~ 6	

Optional Accessories

DINRAIL-O	DIN-rail mounting assembly for Nuvo-5000LP series
PA-120W-OW	120W AC/DC power adapter 20V/6A; 18AWG/120cm; cord end terminals for terminal block, operating temperature : -30 to 70 °C.
Dmpbr-Nuvo5000_7000	Neousys' patented damping bracket assembly for Nuvo-7000E/DE/P
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™-V20-EP	MeziO™ module with ignition power control function for in-vehicle application
MeziO™-C181	MeziO™ module with 4x RS-232/ 422/ 485 ports and 4x RS-422/ 485 ports	MeziO™-U4	MeziO™ module with 4x USB3.0 ports
MeziO™-D220	MeziO™ module with 8-CH isolated digital input and 8-CH isolated digital output	MeziO™-G4	MeziO™ module with 4x GigE ports
MeziO™-D230	MeziO™ module with 16-CH isolated digital input and 16-CH isolated digital output	MeziO™-G4P	MeziO™ module with 4x IEEE 802.3at PoE ports

Only Nuvo-5006LP-PoE supports MeziO-G4P