

About Neosys

Neosys Technology, established in 2010, designs and manufactures rugged embedded platforms and modules.

With the core expertise ranging from embedded computing to data acquisition and processing, our goal is to innovate and integrate feature sets into products for various vertical markets with simple yet elegant architecture.

Neosys offers application-oriented platforms in the following categories:

- Wide-temperature & rugged embedded fanless computer
- Machine vision platforms with multiple GigE/PoE ports
- In-vehicle fanless PC
- Ultra compact fanless controller
- Surveillance/video analytics computer system

www.neosys-tech.com

Neosys Technology Inc.

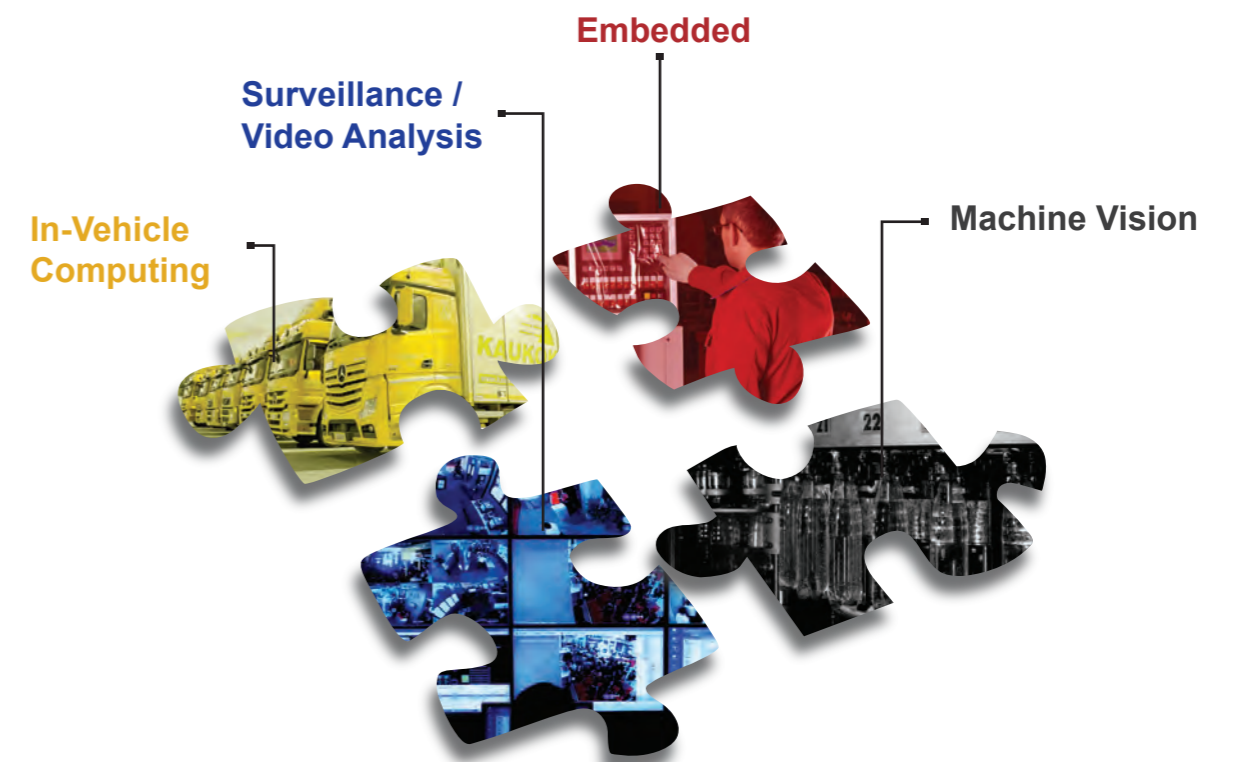
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Wide-Temperature Fanless Embedded System

www.neosys-tech.com



2016 Feature Showcase

Patented expansion cassette

Neosys' 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 to bring more reliable operation. You can install any PCI or PCIe card in Cassette to expand versatility of Nuvo-5000, or choose Neosys' offer of standard cassette modules with pre-installed heat-spreader for PoE+, USB 3.0 or independent graphics card.

**Available on Nuvo-5000, Nuvo-3000, Nuvo-2500, Nuvis-2520at, Nuvis-3304af*



MezIO™

MezIO™ is the interface designed for incorporating application-oriented I/O functions into an 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. Neosys provides various MezIO™ modules, such as RS-232/422/485, isolated DIO, LVDS output, CAN bus, ignition power control, and DTIO. 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.

**Available on Nuvo-5000, POC-120MZ*



2~16 GbE/PoE+ Ports Fanless Computer

With ultra-compact design, Neosys offers world's first and smallest surveillance platform with 16 PoE+ ports incorporates built-in 4-drives RAID for up to 8TB storage capacity. According to different application demand, such as stationary surveillance system, mobile NVR and video analytic, Neosys provides 2~16-CH PoE+ fanless computers, which can truly operate(100% CPU loading) under wide temperature range from -25°C to 70°C.

**Available on Nuvo-5000, Nuvo-3616VR, Nuvo-3608VR, Nuvo-5100VTC, Nuvis-3304af, Nuvo-3100VTC, PCI-EPoE354at, POC-200*



Product Selection Guide

● General / Embedded ● In-Vehicle Computing ● Surveillance / Video Analytics ● Machine Vision



Model Name	Nuvo-5000E/P	Nuvo-5000LP	Nuvo-5100VTC	Nuvo-6000
Chassis				
Dimensions (W x D x H)	240 x 225 x 90 mm	240 x 225 x 77 mm	240 x 225 x 79 mm	184 x 225x 174 mm (Nuvo-6032) 124 x 225 x 174 mm (Nuvo-6002)
Weight	4.4 kg	3.1 kg	3.3 kg	3.5 kg (Nuvo-6032) 2.8 kg (Nuvo-6002)
Chassis Construction	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal
System				
Processor	Intel® Core™ i7-6700/6700TE Intel® Core™ i5-6500/6500TE Intel® Core™ i3-6100/6100TE Intel® Pentium® G4400/G4400TE Intel® Celeron® G3900/G3900TE	Intel® Core™ i7-6700/6700TE Intel® Core™ i5-6500/6500TE Intel® Core™ i3-6100/6100TE Intel® Pentium® G4400/G4400TE Intel® Celeron® G3900/G3900TE	Intel® Core™ i7- 6700TE Intel® Core™ i5- 6500TE Intel® Core™ i3- 6100TE	Intel® Core™ i7-6700TE Intel® Core™ i5-6500TE Intel® Core™ i3-6100TE Intel® Pentium® G4400TE Intel® Celeron® G3900TE
Chipset	Intel® Q170	Intel® Q170	Intel® Q170	Intel® H110
Graphics	Intel® HD Graphics 530/510	Intel® HD Graphics 530/510	Intel® HD Graphics 530	Intel® HD Graphics 530/510
Memory	Up to 32 GB DDR4-2133	Up to 32 GB DDR4-2133	Up to 32 GB DDR4-2133	Up to 16 GB DDR4-2133
I/O Interface				
PoE	Optional (Port 3~6, IEEE 802.3at, 25.5W)	Optional (Port 3~6, IEEE 802.3at, 25.5W)	IEEE 802.3at (25.5W) for 4 GbE ports, M12 x-coded connector	-
Ethernet	2x GbE by Intel® I219 and I210 (5002E/P) 6x GbE by Intel® I219 and 5x I210 (5006E/P)	2x GbE by Intel® I219 and I210 (5002LP) 6x GbE by Intel® I219 and 5x I210 (5006LP)	2x GbE by Intel® I219 and I210	1x GbE by Intel® I219-LM 1x GbE by Intel® I210-IT
Video Port	1x VGA + DVI-D 2x Display Port	1x VGA + DVI-D 2x Display Port	1x VGA + DVI-D 2x Display Port	2x DVI-D
Serial Port	2x RS-232/422/485 1x RS-232	2x RS-232/422/485 1x RS-232	2x RS-232/422/485 1x RS-232	2x RS-232/422/485 3x 3-wire RS-232
USB 2.0	4	4	4	-
USB 3.0	4	4	4	4
Audio	1x Mic-in and Speaker-out	1x Mic-in and Speaker-out	1x Mic-in and Speaker-out	1x Speaker-out
Digital I/O	Optional by MezIO™ module	Optional by MezIO™ module	4 DI + 4 DO Polling, COS	-
Storage Interface				
SATA HDD	2x 2.5" HDD/SSD	1x 2.5" HDD/SSD 1x easy-swap tray for 2.5" HDD/SSD	1x 2.5" HDD/SSD 1x hot-swap tray for 2.5" HDD/SSD	3x 2.5" HDD/SSD (Nuvo-6032) 1x 2.5" HDD/SSD (Nuvo-6002)
mSATA / eSATA	1x mSATA(mux. with mini-PCIe)	1x mSATA(mux. with mini-PCIe)	1x mSATA(mux. with mini-PCIe)	1x mSATA
CFast	-	-	-	-
CompactFlash	-	-	-	-
Mini PCI-E	2	2	4	-
Expansion Bus				
MezIO™	Yes	Yes	-	-
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)	-	-	1x PCI Express x16 slot 1x PCI Express x8 slot 3x 33MHz/32-bit PCI slots (Nuvo-6032)
Power Supply				
DC Input	8~35V DC	8~35V DC	8~35V DC	12~24V DC
Power Consumption	-	-	-	-
Ignition Control	-	Optional by MezIO™ module	Built-in	-
Environmental				
Operating Temperature	-25°C ~ 70°C ** (i7-6700TE, i5-6500TE, i3-6100TE, Pentium G4400TE [35W TDP]) -25°C ~ 50°C ** (i7-6700, i5-6500, i3-6100 [65W/51W TDP])	-25°C ~ 70°C ** (i7-6700TE, i5-6500TE, i3-6100TE, Pentium G4400TE [35W TDP]) -25°C ~ 50°C ** (i7-6700, i5-6500, i3-6100 [65W/51W TDP])	-25°C ~ 70°C **	-25°C ~ 60°C **
Certification	CE/FCC	CE/FCC	CE/FCC	CE/FCC
Released Date	2015/12/1	2015/12/1	2016/6/1	2016/6/1
Page Number	P. 7 - 8	P. 9	P. 36	P. 25

* Only supports dual display with either video output combination
** 100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neosys Technology.
For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Product Selection Guide

● General / Embedded ● In-Vehicle Computing ● Surveillance / Video Analytics ● Machine Vision



Available in Q3 2016

Model Name	POC-120	POC-200	Nuvo-2500E/P	Nuvis-2520at	
Chassis	Dimensions (W x D x H)	149 x 105 x 34 mm	149 x 105 x 58 mm	205 x 146 x 76 mm	
	Weight	0.9 kg	1.1 kg	2.3kg	
	Chassis Construction	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal
System	Processor	Intel® Atom™ E3826 1.46GHz dual-core	Intel® Atom™ Bay Trail-I E3845 1.91GHz quad-core	Intel® Celeron™ J1900 Quad-core	
	Chipset	-	-	-	
	Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics	Intel® HD Graphics
	Memory	up to 8 GB DDR3L-1067	up to 8GB DDR3L-1333	Up to 8 GB DDR3L-1333	Up to 8 GB DDR3L-1333
I/O Interface	PoE	-	IEEE 802.3at (25.5W) for 2 GbE ports	-	
	Ethernet	2x GbE by Intel® I210	2x GbE by Intel® I210	2x GbE by Intel® I210	2x GbE by Intel® I210
	Video Port	1x VGA	1x DVI-I	1x VGA 1x DVI-D	1x VGA 1x DVI-D
	Serial Port	1x RS-232/422/485 1x RS-232	2x RS-232/422/485 2x RS-232	2x RS-232/422/485 2x RS-232	2x RS-232/422/485 2x RS-232
	USB 2.0	2	1	3	3
	USB 3.0	1	3	1	1
	Audio	1x Speaker-out	1x Speaker-out	1x Mic-in and Speaker-out	1x Mic-in and Speaker-out
	Digital I/O	Optional by MeziO™ module	Optional 4 DI + 4 DO Polling	Optional Auxiliary I/O (4 DI, 8 DO, 6 PWM, 1 encoder, 2 ADC)	4 DI + 8 DO Polling, COS, DTIO
	Storage Interface	SATA HDD	-	1x 2.5" HDD/SSD	1x 2.5" HDD/SSD
		mSATA / eSATA	1x mSATA	-	1x mSATA
CFast		-	-	-	
CompactFlash		-	-	-	
Expansion Bus	Mini PCI-E	-	1	2	
	MeziO™	Yes	-	-	
Power Supply	DC Input	8~35V DC	8~35V DC	8~35V DC	
	Power Consumption	-	Typical: 7.68W (0.32A@24V) Full-loading: 13.44W (0.56A@24V)*	-	
Environmental	Operating Temperature	-25°C ~ 70°C**	-25°C ~ 70°C**	-25°C ~ 70°C**	
	Certification	CE/FCC	CE/FCC	CE/FCC	
Released Date	2015/3/1	2014/5/1	2015/2/1	Available in Q1 2016	
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* Only supports dual display with either video output combination
 ** 100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neosys Technology.
 For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

● General / Embedded ● In-Vehicle Computing ● Surveillance / Video Analytics ● Machine Vision



Model Name	Nuvo-3616VR	Nuvo-3100VTC	Nuvo-2510VTC	iVIS-200		
Chassis	Dimensions (W x D x H)	240 x 255x 71mm	212 x 165 x 62 mm	205 x 146 x 44 mm		
	Weight	5.0 kg	2.8 kg	1.9 kg		
	Chassis Construction	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	Aluminum alloy	
System	Processor	Intel® i7-3610QE(2.3/3.3 GHz) Intel® i5-3610ME (2.7/3.3 GHz)	Intel® i7-3610QE (2.3/3.3 GHz) Intel® i5-3610ME (2.7/3.3 GHz) Intel® Celeron™ 1020E (2.2 GHz)	Intel® Atom™ E3845 Quad-core	Intel® Atom™ Bay Trail-I E3845 Quad-core	
	Chipset	Intel® QM77	Intel® QM77	-	-	
	Graphics	Intel® HD Graphics 4000	Intel® HD Graphics 4000 (i7/i5) Intel® HD Graphics (Celeron)	Intel® HD Graphics	Intel® HD Graphics	
	Memory	Up to 16 GB DDR3-1600	up to 8GB DDR3-1600	up to 8GB DDR3L-1333	Up to 8 GB DDR3L-1333	
I/O Interface	PoE	IEEE 802.3at (25.5W) for 16 GbE ports	IEEE 802.3at (25.5W) for 4 GbE ports	IEEE 802.3at (25.5W) for 2 GbE ports	-	
	Ethernet	1x GbE by Intel® 82579LM 16x GbE by Intel® I210+Switch	1x GbE by Intel® 82579LM 3x GbE by Intel® i210	2x GbE by Intel® I210	1x GbE by Intel® I210	
	Video Port	1x VGA 2x DVI-D	1x DVI-I 2x Display Port	1x VGA 1x DVI-D	1x VGA	
	Serial Port	2x RS-232/422/485	2x RS-232/422/485	2x RS-232/422/485 2x RS-232	1 x RS232	
	USB 2.0	2	2	3	1	
	USB 3.0	2	4	1	-	
	Audio	1x Mic-in and Speaker-out	1x Mic-in and Speaker-out	1x Mic-in and Speaker-out	-	
	Digital I/O	-	4 DI + 4 DO Polling, COS	-	-	
	Storage Interface	SATA HDD	2x 2.5" HDD/SSD 2x easy-swap HDD tray for 2.5" HDD/SSD	1x 2.5" HDD/SSD 1x easy-swap tray for 2.5" HDD/SSD	1x 2.5" HDD/SSD	-
		mSATA / eSATA	-	1x mSATA	1x mSATA	1x mSATA
CFast		1	-	-	-	
CompactFlash		-	-	-	-	
Expansion Bus	Mini PCI-E	2	2	2	1	
	MeziO™	-	-	-	-	
Power Supply	DC Input	8~35V DC	8~35V DC	8~35V DC	12/24V DC	
	Power Consumption	-	With i7 : 68.8W (3.62A@19V) With i5 : 46.9W (2.47A@19V)	-	-	
Environmental	Operating Temperature	-25°C ~ 60°C**	7-3610QE, 100% CPU loading* Maximal Perf. -25°C ~ 50°C** Reduced Perf. -25°C ~ 60°C** Extended Temp. -25°C ~ 70°C** i5-3610ME, 100% CPU loading* Maximal Perf. -25°C ~ 60°C** Reduced Perf. -25°C ~ 70°C** Extended Temp. -25°C ~ 70°C**	-25°C ~ 70°C**	-25°C ~ 60°C**	
	Certification	CE/FCC	E-Mark, CE/FCC	E-Mark, CE/FCC	CE/FCC	
Released Date	2014/7/1	2014/5/1	2015/2/1	2015/1/1		
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 For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Product Selection Guide

● General / Embedded ● In-Vehicle Computing ● Surveillance / Video Analytics ● Machine Vision



Model Name	Nuvo-2400	Nuvo-4000	Nuvo-3000E/P	Nuvis-3304af		
Chassis	Dimensions (W x D x H)	139 x 160 x 225 mm	164 x 225 x 180 mm	240 x 225 x 89.7 mm		
	Weight	2.2 kg	4.0 kg	4.4 kg		
	Chassis Construction	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal	
System	Processor	Intel® Celeron™ J1900 Quad-core	Intel® i7-3610QE (2.3/3.3 GHz) Intel® i5-3610ME (2.3/3.3 GHz) Intel® Celeron 1020E (2.2 GHz)	Intel® i7-3610QE (2.3/3.3 GHz) Intel® i5-3610ME (2.7/3.3 GHz) Intel® Celeron 1020E (2.2 GHz)	Intel® i7-3610QE (2.3/3.3 GHz) Intel® i5-3610ME (2.7/3.3 GHz)	
	Chipset	-	Intel® HM76	Intel® HM76	Intel® HM76	
	Graphics	Intel® HD Graphics	Intel® HD Graphics 4000 (i7/i5) Intel® HD Graphics (Celeron)	Intel® HD Graphics 4000 (i7/i5) Intel® HD Graphics (Celeron)	Intel® HD Graphics 4000	
	Memory	up to 8GB DDR3L-1333	up to 16 GB DDR3-1600	Up to 16 GB DDR3-1600	Up to 16 GB DDR3-1600	
	PoE	-	-	Optional (4 ports, IEEE 802.3af, 15.4W)	IEEE 802.3af (15.4W) for 4 GbE ports	
I/O Interface	Ethernet	2x GbE by Intel® I210	2x GbE by Intel® I210	5x GbE by Intel® I210 (3005E/P) 3x GbE by Intel® I210 (3003E/P)	1x GbE by Intel® I210 4x GbE by Intel® I210 with PoE	
	Video Port	1x DVI-I	1x DVI-I 1x DVI-D	1x VGA* 2x DVI-D	1x VGA* 2x DVI-D	
	Serial Port	2x RS-232/422/485 2x RS-232	2x RS-232/422/485 1x RS-232	2x RS-232/422/485	2x RS-232/422/485	
	USB 2.0	3	-	4	4	
	USB 3.0	1	4	4	4	
	Audio	1x Mic-in and Speaker-out	1x Speaker-out	1x Mic-in and Speaker-out	1x Mic-in and Speaker-out	
	Digital I/O	Optional 8 DI + 8 DO Polling	Optional 8 DI + 8 DO Polling, COS	Optional 8 DI + 8 DO Polling, COS	8 DI + 8 DO Polling, COS, DTIO	
	Storage Interface	SATA HDD	2x 2.5" HDD/SSD	2x 2.5" HDD/SSD	1x 2.5" HDD/SSD	1x 2.5" HDD/SSD
		mSATA / eSATA	-	-	-	-
		CFast	-	1	1	1
CompactFlash		-	-	-	-	
Mini PCI-E		-	-	2	2	
Expansion Bus	MezIO™	-	-	-	-	
	PCI/PCI Express	1x PCI Express x4 slot 2x 33MHz/32-bit PCI slots (Nuvo-2421) or 3x 33MHz/32-bit PCI slots (Nuvo-2430)	1x PCI Express x16 slot 1x PCI Express x4 slot 2x 33MHz/32-bit PCI slots (Nuvo-4022) or 4x 33MHz/32-bit PCI slots (Nuvo-4040)	1x PCI Express x16 slot (3000E) 1x 33MHz/32-bit PCI slot (3000P)	1x PCI Express x16 slot (3304af-E) 1x 33MHz/32-bit PCI slot (3304af-P)	
Power Supply	DC Input	8~25V DC	8~25V DC	8~25V DC	8~25V DC	
	Power Consumption	-	With i7: 66.12W (3.48A@19V)* With i5: 43.13W (2.27A@19V)*	with i7: 72.96W (3.84A@19V) with i5: 48.83W (2.57A@19V)	with i7: 72.96W (3.84A@19V) with i5: 48.83W (2.57A@19V)	
	Ignition Control	-	-	Optional	-	
Environmental	Operating Temperature	-25°C ~ 70°C**	-25°C ~ 60°C**	-25°C ~ 70°C** (i5-3610ME & Celeron 1020E) -25°C ~ 60°C** (i7-3610QE)	-25°C ~ 70°C** (i5-3610ME & Celeron 1020E) -25°C ~ 60°C** (i7-3610QE)	
	Certification	CE/FCC	CE/FCC	CE/FCC	CE/FCC	
	Released Date	2015/09/15	2013/11/1	2013/6/1	2013/10/1	
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● General / Embedded ● In-Vehicle Computing ● Surveillance / Video Analytics ● Machine Vision



Model Name	Nuvo-3000TB	Nuvo-3005LP	Nuvo-3120	Nuvo-1300af		
Chassis	Dimensions (W x D x H)	240 x 225x 85.5 mm	240 x 225 x 69 mm	212 x 165 x 62 mm		
	Weight	3.4 kg	3.4 kg	2.7 kg		
	Chassis Construction	Aluminum alloy	Aluminum alloy	Aluminum alloy with heavy duty metal	Aluminum alloy	
System	Processor	Intel® i7-3610QE (2.3/3.3 GHz) Intel® i5-3610ME (2.7/3.3 GHz) Intel® Celeron 1020E (2.2 GHz)	Intel® i7-3610QE (2.3/3.3 GHz) Intel® i5-3610ME (2.7/3.3 GHz) Intel® Celeron 1020E (2.2 GHz)	Intel® i7-3610QE (2.3/3.3 GHz) Intel® i5-3610ME (2.7/3.3 GHz) Intel® Celeron™ 1020E (2.2 GHz)	Intel® i7-620M (2.66 GHz) Intel® i5-520M (2.40 GHz)	
	Chipset	Intel® HM76	Intel® HM76	Intel® HM76	Intel® HM55	
	Graphics	Intel® HD Graphics 4000 (i7/i5) Intel® HD Graphics (Celeron)	Intel® HD Graphics 4000 (i7/i5) Intel® HD Graphics (Celeron)	Intel® HD Graphics 4000 (i7/i5) Intel® HD Graphics (Celeron)	Intel® HD Graphics	
	Memory	Up to 16 GB DDR3-1600	Up to 16 GB DDR3-1600	Up to 8 GB DDR3-1600	up to 8 GB DDR3-1066	
	PoE	Optional (4 ports, IEEE 802.3af, 15.4W)	Optional (4 ports, IEEE 802.3af, 15.4W)	-	IEEE 802.3af (15.4W) for 4 GbE ports	
I/O Interface	Ethernet	5x GbE by Intel® I210 (3005TB) 3x GbE by Intel® I210 (3003TB)	5x GbE by Intel® I210 (3005LP) 3x GbE by Intel® I210 (3003LP)	1x GbE by Intel 82579LM 1x GbE by Intel I210	1x GbE by Intel® 82574L 4x GbE by Intel® 82574L with PoE	
	Video Port	1x VGA* 2x DVI-D	1x VGA* 2x DVI-D	1x DVI-I 2x Display Port	1x VGA 1x DVI-D	
	Serial Port	2x RS-232/422/485	1 x RS-232/422/485	2x RS-232/422/485	1x RS-232/422/485 3x RS-232	
	USB 2.0	4	2	2	8	
	USB 3.0	4	2	4	-	
	Audio	1x Mic-in and Speaker-out	1x Mic-in and Speaker-out	1x Mic-in and Speaker-out	1x Mic-in and Speaker-out	
	Digital I/O	Optional 8 DI + 8 DO Polling, COS	Optional 8 DI + 8 DO Polling, COS	4 DI + 4 DO Polling, COS	8 DI + 8 DO Polling	
	Storage Interface	SATA HDD	1x 2.5" HDD/SSD 1x 3.5" HDD	1x 2.5" HDD/SSD 1x easy-swap tray for 2.5" HDD/SSD	1x 2.5" HDD/SSD	2x 2.5" HDD/SSD
		mSATA / eSATA	-	-	1x mSATA	1x eSATA
		CFast	1	1	-	-
CompactFlash		-	-	-	1	
Mini PCI-E		2	2	2	1	
Expansion Bus	MezIO™	-	-	-	-	
	PCI/PCI Express	-	-	-	-	
Power Supply	DC Input	8~25V DC	8~25V DC	8~35V DC	8~26V DC	
	Power Consumption	with i7: 72.96W (3.84A@19V) with i5: 48.83W (2.57A@19V)	with i7: 72.96W (3.84A@19V) with i5: 48.83W (2.57A@19V)	With i7: 65.6W (3.62A@19V)* With i5: 43.9W (2.47A@19V)*	61.8W (3.1A@20V)	
	Ignition Control	Optional	Optional	Optional	-	
Environmental	Operating Temperature	-25°C ~ 70°C** (i5-3610ME & Celeron 1020E) -25°C ~ 60°C** (i7-3610QE)	-25°C ~ 70°C** (i5-3610ME & Celeron 1020E) -25°C ~ 60°C** (i7-3610QE)	<i>i7-3610QE, 100% CPU loading*</i> Maximal Perf. -25°C ~ 50°C** Reduced Perf. -25°C ~ 60°C** Extended Temp. -25°C ~ 70°C** <i>i5-3610ME, 100% CPU loading*</i> Maximal Perf. -25°C ~ 60°C** Reduced Perf. -25°C ~ 70°C** Extended Temp. -25°C ~ 70°C**	-25°C ~ 70°C**	
	Certification	CE/FCC	CE/FCC	CE/FCC	CE/FCC	
	Released Date	2013/6/1	2013/10/15	2014/5/15	2012/1/1	
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* Only supports dual display with either video output combination
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 For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Nuvo-5000E/5000P Series

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

General / Embedded



Features

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

Introduction

Integrating cutting-edge technologies, Neosys creates the next-generation fanless controller, Nuvo-5000 series, with ruggedness, performance and versatility. It supports socket-type, 6th-Gen Core™ processors for flexible CPU selection from Pentium® to Core™ i7 according to performance consideration, and remains -25°C to 70°C true wide-temperature operating.

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, Neosys' patented Cassette offers an easy way for I/O expansion by installing an off-the-shelf PCIe/PCI card.

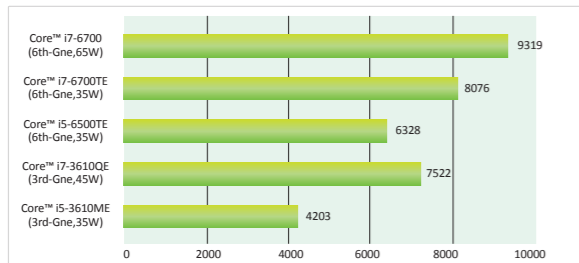
Nuvo-5000 further incorporates Neosys' MeziO™, an interface electronically and mechanically fitted for embedded system, to presents a cost-effective and reliable way for I/O enhancement. By installing optional MeziO™ module, Nuvo-5000 can deliver more application-oriented functions for diversified vertical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

Latest Intel® CPU, Cassette and MeziO™ creates a powerful controller with numerous I/O configurations. 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 the first fanless controller supporting both 35W and 65W CPU. You can configure CPU power via Neosys' unique BIOS feature to obtain a delicate balance between arithmetic-demanding and wide-temperature applications.



*The CPU benchmark is performed using Passmark PerformanceTest 8.0 based on Win7 64bit OS.

Patented Expansion Cassette

Neosys' 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 Neosys' offer of Cassette module with pre-installed heat-spreader to include PoE+, USB 3.0 or independent graphics card.



The MeziO™ Interface and Modules

MeziO™ is the interface designed for incorporating application-oriented I/O functions into an 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.



Neosys 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™ i7-6700 (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)	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 (mux. with mSATA)
Graphics	Integrated Intel® HD Graphics 530/510	Expandable I/O	1x MeziO™ expansion port for Neosys' 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 2.0	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	with i7-6700TE, i5-6500TE, i3-6100TE, Pentium G4400TE (35W TDP) -25°C ~ 70°C ** with i7-6700, i5-6500, i3-6100 (65W/51W TDP) -25°C ~ 70°C */** (configured as 35W CPU mode) -25°C ~ 50°C */** (configured as 65W/51W CPU mode)
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)
mSATA	1x full-size mSATA port (mux with mini-PCIe)	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

* 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.

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

Accessories

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

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-USB380

- 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

CSM-R800

- Cassette module with 4-drives hardware RAID 0/1/10, accommodating four 2.5" HDD/SSD



Nuvo-5002LP/5006LP Series

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



Features

- Intel® 6th Gen Core™ i7/i5/i3 LGA1151 35W/65W socket-type 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 32 GB, DDR4-2133 SODIMM
- 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
- 77 mm low-profile design

Introduction

Nuvo-5002LP/5006LP is the low-profile version of Nuvo-5000 family. It features a low-profile chassis, which reduces its height to 77 mm, and remains extraordinary -25°C to 70°C operating temperature. For those demanding varied computing power, Nuvo-5002LP/5006LP supports socket-type CPU for flexible CPU installation. You can choose Intel® 6th Gen Core™ i7/i5/i3, from 35W to 65W TDP, according to your performance consideration and operating environment.

Nuvo-5002LP/5006LP inherits comprehensive I/O functions, such as GbE, USB3/USB2, COM and VGA/DVI/DP, from Nuvo-5000E/P. It also incorporates Neosys' MeziO™ interface for further I/O expansion. By installing optional MeziO™ module, Nuvo-5002LP/5006LP turns immediately from a typical embedded controller to a ruggedized application platform including 11x COM ports, 32 DIO channels, ignition power control, or your customized application-specific I/O.

Specifications

System Core		Expansion Bus	
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)	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)
Chipset	Intel® Q170 Platform Controller Hub	Expandable I/O	1x MeziO™ expansion interface for Neosys MeziO™ modules
Graphics	Integrated Intel® HD Graphics 530	Power Supply	
Memory	Up to 32 GB DDR4-2133 SDRAM by two SODIMM sockets	DC Input	1x 3-pin pluggable terminal block for 8~35VDC DC input
AMT	Supports AMT 11.0	Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
TPM	Supports TPM 2.0	Mechanical	
I/O Interface		Dimension	240 mm (W) x 225 mm (D) x 77mm (H)
Ethernet	2x Gigabit Ethernet ports by Intel® I219 and I210 (Nuvo-5002LP) 6x Gigabit Ethernet ports by Intel® I219 and 5x I210 (Nuvo-5006LP)	Weight	3.1 kg
PoE+	Optional IEEE 802.3at PoE+ PSE for GbE Port 3 ~ Port 6, 80 W total power budget	Mounting	Wall-mount by mounting bracket or optional DIN-Rail mounting
USB	4x USB 3.0 ports via native XHCI controller 4x USB 2.0 ports	Environmental	
Video Port	1x stacked VGA + DVI-D connector 2x DisplayPort connectors, supporting 4K2K resolution	Operating Temperature	with i7-6700TE, i5-6500TE, i3-6100TE, Pentium G4400TE (35W TDP) -25°C ~ 70°C ** with i7-6700, i5-6500, i3-6100 (65W/51W TDP) -25°C ~ 70°C **/** (configured as 35W CPU mode) -25°C ~ 50°C **/** (configured as 65W/51W CPU mode)
Serial Port	2x software-programmable RS-232/422/485 port (COM1 & COM2) 1x RS-232 port (COM3)	Storage Temperature	-40°C ~ 85°C
Audio	1x Mic-in and 1x Speaker-out	Humidity	10%~90% , non-condensing
Storage Interface		Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
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	Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
mSATA	1x full-size mSATA port (mux with mini-PCIe)	EMC	CE/FCC Class A, according to EN 55022 & EN 55024

* 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.

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**
- MeziO™ module with ignition power control function and 1x mini-PCIe socket for in-vehicle usage

Order Information

Nuvo-5002LP

Intel® 6th-Gen Core™ low-profile fanless controller with 2x GbE and MeziO™

Nuvo-5006LP

Intel® 6th-Gen Core™ low-profile fanless controller with 6x GbE and MeziO™

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

Accessories

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

POC-120 Series

Ultra-compact Atom™ Bay Trail-I Fanless General-Purpose Embedded Controller



Features

- Low-profile, Ultra-compact 15 cm x 10 cm x 3.4 cm footprint
- Intel® Atom™ E3826 1.46GHz dual-core processor
- Rugged, -25°C to 70°C fanless operation
- Two GigE ports and three USB ports
- One RS-232/422/485 port and one RS-232 port
- I/O expansion interface for ODM projects
- MeziO™ interface for easy function expansion

Introduction

Introducing the latest member of Neosys' ultra-compact POC family! POC-120 is a low-cost, entry-level embedded controller with yet more compact dimension. It further reduces its height to 3.4 cm to have a very low-profile chassis for restricted space.

POC-120 incorporates Intel® Atom™ E3826 dual-core processor to deliver adequate computing performance. It provides general I/O, such as GigE ports, COM ports and USB3/USB2 ports, for most embedded applications. Instead traditional HDD, POC-120 supports mSATA SSD to ensure reliable disk access in harsh environments.

POC-120MZ, the new member of POC-120 series, further incorporates Neosys' MeziO™ interface for I/O expansion. By customizing a mezzanine board, you can have versatile I/O functions and make POC-120MZ not only an ordinary ultra-compact controller, but also a tailor-made embedded system for your specific application.

Specifications

System Core		Mechanical	
Processor	Intel® Atom™ E3826 1.46 GHz dual-core processor	Dimension	105mm (W) x 149 mm (D) x 34mm (H) (POC-120) 105mm (W) x 149 mm (D) x 46mm (H) (POC-120MZ)
Graphics	Integrated Intel® HD Graphics	Weight	0.9 kg
Memory	1x SODIMM socket for DDR3L-1067, up to 8GB	Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)
Panel I/O Interface		Environmental	
Ethernet	2x Gigabit Ethernet ports by Intel® I210 GbE controller	Operating Temperature	-25°C ~ 70°C with SSD, 100% CPU loading **
Video Port	1x VGA connector for both analog RGB output, supporting 2560x1600 resolution	Storage Temperature	-40°C ~ 85°C
Serial Port	1x RS-232/422/485 (COM1) 1x RS-232 (COM2)	Humidity	10%~90% , non-condensing
USB	1x USB 3.0 port and 2x USB 2.0 ports	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
Audio	1x Speaker-out	Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
Storage Interface		EMC	CE/FCC Class A, according to EN 55022 & EN 55024
mSATA	1x full-size mSATA socket	* 100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neosys Technology. ** For sub-zero operating temperature, a wide temperature mSATA SSD module is required.	
Power Supply			
DC Input	Built-in 8~35V DC input		
Input Connector	2-pin spring-clamp terminal block for DC input		

Order Information

POC-120

Intel® Atom™ E3826 ultra-compact controller with 2x GbE ports, 3x USB and 2x COM ports



POC-120MZ

Intel® Atom™ E3826 ultra-compact controller with 2x GbE ports, 3x USB, 2x COM ports and MeziO™ accommodation



(POC-120MZ with MeziO™-C180 installed)

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™-R10**
- MeziO™ module with 2.5" HDD/SSD accommodation and 1x mini-PCIe socket

Accessories

- Option of DIN-Rail mounting kit
- 60W AC/DC power adapter with 12V, 5A DC output

POC-200 Series

Ultra-Compact Atom™ Bay Trail-I Fanless Embedded Controller with PoE and USB 3.0



Features

- Ultra-compact 15 cm x 10 cm (6" x 4") footprint
- Intel® Atom™ E3845 1.91GHz quad-core processor
- Rugged, -25°C to 70°C fanless operation
- Two 802.3at (25.5W) Gigabit PoE+ ports
- Three USB 3.0 ports and One USB 2.0 port
- One 2.5" SATA HDD/SSD accommodation
- Up to two RS-232/422/485 ports and two RS-232 ports

Introduction

POC-200 is a breakthrough of Neosys' ultra-compact controller series. Inheriting the concept of favorable POC-100, POC-200 series further incorporates greater computing power and more versatile functions in its 3.5" HDD footprint.

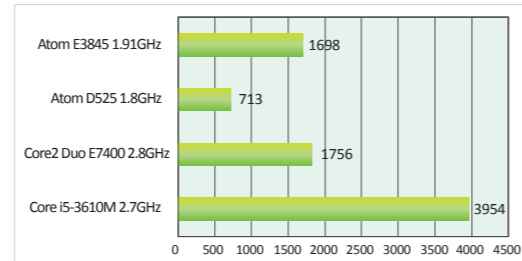
The new Intel® Atom™ Bay Trail processor brings a leaping for both arithmetic and graphics performance. With Atom™ E3845 quad-core processor, POC-200 can deliver more than 200% performance over previous D525/D2550 platform. It also features comprehensive I/O interfaces to make use of the advance of computing power. Two Gigabit Ethernet and three USB 3.0 ports are integrated so you can connect GigE/USB3 cameras for vision applications. Its IEEE 802.3at PoE+ option is capable of supply 25.5W each port to power you IP camera for surveillance applications. POC-200 also features up to four COM ports and digital I/O for general-purpose industrial applications.

Size is another attractive feature of POC-200. Its 6"x4" footprint makes installation of POC-200 extremely easy. And its -25°C to 70°C operating temperature eliminates the restriction for the deployment environment. Neosys provides derivative models with different CPU and I/O configuration so you can always find a fit POC-200 for your application.

Product Highlights

Leaping of Performance for Atom

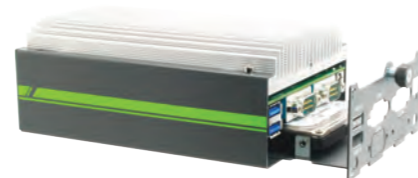
Leveraging 22 nm lithography, the latest Intel® Atom™ Bay Trail processor brings significant performance advance. POC-200 utilizes quad-core Atom™ E3845 CPU and is about 240% faster than previous D525 platform. Its integrated Intel® HD Graphics engine, moreover, can offer outstanding performance for 3D and video codec.



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

All-in-One Compact Chassis

Though POC-200 takes only a 3.5" HDD footprint, it possesses everything needed for an embedded platform. USB 3.0, COM ports, digital I/O and DVI/VGA are natively integrated on-board. It can accommodate one 2.5" HDD/SSD inside to provide larger storage capacity. For POC-212/222, an ingenious easy-swap HDD tray* is provided for quick HDD installation/replacement.



Gigabit Ethernet and IEEE 802.3at PoE+

POC-200 is the smallest embedded controller integrates multiple IEEE 802.3at PoE ports. As each port can supply 25.5W power, POC-200 is a turnkey platform for connecting PoE Powered Device (PD), such as GigE camera, IP camera, wireless AP and etc. This PoE capability gives great convenience for your vision or surveillance applications.



Applications



1. Robot Vision
2. Object Inspection
3. Industrial Control and HMI
4. Real-time Surveillance

Specifications

	POC-200	POC-210	POC-212	POC-222		POC-200	POC-210	POC-212	POC-222
System Core					Power Supply				
Processor	Intel® Atom™ E3845 1.91 GHz quad-core processor			Intel® Atom™ E3825 1.33 GHz dual-core processor	DC Input	Built-in 8~35 VDC DC input			
Graphics	Integrated Intel® HD Graphics				Input Connector	2-pin pluggable terminal block for DC input			
Memory	1x SODIMM socket for DDR3L-1333, up to 8GB			DDR3L-1067, up to 4GB	Mechanical				
Panel I/O Interface					Dimension	105mm (W) x 58mm (D) x 149 mm (H)		105mm (W) x 53 mm (D) x 149 mm (H)	
Ethernet	2x Gigabit Ethernet ports by Intel® I210 GbE controller				Weight	1.05 kg			
PoE	IEEE 802.3at PoE+ (25.5W each GbE port)	N/A			Mounting	Wall-mount (Standard) ; DIN-rail mount (Optional)			
Video Port	1x DVI-I connector for both analog RGB and DVI/HDMI outputs				Environmental				
Serial Port	2x RS-232/422/485 (COM1 & COM3) 2x RS-232 (COM2 & COM4)		1x RS-232/422/485 (COM1) 1x RS-232 (COM2)		Operating Temperature	-25°C ~ 70°C with SSD, 100% CPU loading **/*** -10°C ~ 50°C with HDD, 100% CPU loading **/***			
USB	3x USB 3.0 ports and 1x USB 2.0 port				Storage Temperature	-40°C ~ 85°C			
Audio	1x Speaker-out				Humidity	10%~90% , non-condensing			
DIO	4-CH isolated DI 4-CH isolated DO	8-CH 5V TTL GPIO (Standard) 4-CH isolated DI + 4-CH isolated DO (Optional)			Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)			
Internal I/O Interface					Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)			
Mini-PCIe	1x mini PCI Express slot with USIM socket				EMC				
Storage Interface					CE/FCC Class A, according to EN 55022 & EN 55024				
SATA	1x internal SATA port for 2.5" HDD/SSD		1x internal SATA port with easy-swap HDD tray for 2.5" HDD/SSD		** The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology *** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.				

Order Information

- POC-200**
Intel® Atom™ E3845 ultra-compact controller with 2x 802.3at PoE ports, 3x USB 3.0 and 4x COM ports
 - POC-210**
Intel® Atom™ E3845 ultra-compact controller with 2x GbE ports, 3x USB 3.0 and 4x COM ports
 - POC-212**
Intel® Atom™ E3845 ultra-compact controller with 2x GbE ports, 3x USB 3.0 and 2x COM ports
 - POC-222**
Intel® Atom™ E3825 ultra-compact controller with 2x GbE ports, 3x USB 3.0 and 2x COM ports
- Option of DIN-rail mounting kit**
60W AC/DC power adapter with 12V, 5A DC output



Nuvo-2500E/2500P Series

Intel® Celeron® Bay Trail Fanless Computer with Expansion Cassette

General / Embedded



Features

- Intel® Celeron® Bay Trail J1900 quad-core processor
- 1x PCI/PCIe expansion with compact size
- Rugged, -25°C to 70°C fanless operation
- Dual storage with 1x mSATA and 1x SATA
- Dual independent display via VGA and DVI connectors
- 2x RS-232/422/485 + 2x RS-232
- Optional MAIO for DI/O, PWM and Encoder signals
- 8 to 35VDC wide-range DC input

Introduction

Nuvo-2500 series is a general purpose fanless computer with Intel® Bay Trail processor. Powered by the quad-core Bay Trail processor, Nuvo-2500 shows outstanding computing power and is even more power efficient compared to those with its predecessors. Nuvo-2500 supports dual Independent display, dual storage for isolating system and data, 2x Gigabit Ethernet ports, 4x COM ports and 4x USB ports.

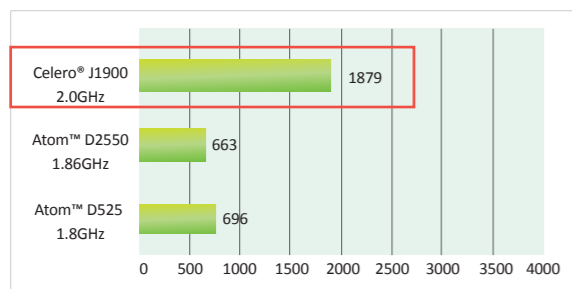
Provided with 1x PCI or PCIe expansion slot, Nuvo-2500 still features its compact design. The dimension is only 205mm (w) x 146mm (d) x 76mm (h). The expansion slot locates in Neosys Patented Expansion Cassette. The patented design well reduces the potential thermal impact from the installed add-on card, and thus make Nuvo-2500 compact, expandable yet stable.

Wireless communication, such as 3G, LTE, Wi-Fi and BT, supported by internal Mini PCIe socket with USIM socket enables Nuvo-2500 connecting to the networks. Moreover, Nuvo-2500 optionally equips with Auxiliary I/O. The Auxiliary I/O includes 4x isolated digital inputs, 8x isolated digital outputs, 6x PWM outputs, 1x quadrature encoder input and 2x ADC. The Auxiliary I/O facilitates simple sequence control and speed control to various types of motors. Nuvo-2500 is perfect for controlling your versatile equipments as well as connecting them up to the Cloud.

Product Highlights

Adequate Performance

Powered by Intel® Celeron® Bay Trail J1900 Processor, Nuvo-2500 Series shows outstanding computing power and is even more power efficient compared to those with its predecessors. Thermal Design Power, TDP, of J1900 is only 10W and shows a score around 3 times to D525 and D2550. Performance of Nuvo-2400 can meet most industrial control applications.



* According to CPU Benchmark by PassMark® (<http://www.passmark.com>)

Compact yet Expandable

Nuvo-2500 provides 1x PCI or PCIe expansion slot in Neosys Patented Expansion Cassette. The patented design makes the installation of an add-on card very easy. Neosys Patented Expansion Cassette also features its smart design of 3-level thermal management. The first level is to reduce the potential thermal impact from the add-on card to the whole system by isolating the



add-on card in the cassette. Taylor-made heat spreader can conduct main heat source on the add-on card to the chassis. For certain high power add-on cards or critical environments, an optional smart fan is the last level to actively remove the heat inside the chassis. With Neosys Patented Expansion Cassette, the dimension of Nuvo-2500 is only 205mm (w) x 146mm (d) x 76mm (h). Nuvo-2500 is the most compact Bay Trail fanless computer with 1x PCI or PCIe expansion slot and keeps a good balance of size and expandability.

Multi-function Automatic I/O

MAIO, standing for Multi-function Automatic I/O, is available as an option of Nuvo-2500.

MAIO includes 4x isolated DI, 8x isolated DO, 6x PWM, 1x Encoder and 2x ADC. With MAIO option, Nuvo-2500 can have access to many industrial devices, such as EMG buttons, solenoid valves, LED Light Towers, Hall sensor joystickers and even different types of motors. The MAIO is designed on board and the expansion slot is available for a proprietary communication card or a standard fieldbus card. Nuvo-2500 is ideal to be a industrial application controller.



Applications



1. Machine Automation
2. Factory Plant Monitoring
3. Self-service Machine
4. Tollgate Control

Specifications

System Core		Expansion Bus	
Processor	Intel® Celeron® Bay Trail J1900 quad-core processor (2.42 GHz, 2M cache)	Mini PCI-E	1x full-size mini PCI Express socket with USIM holder (PCIe x1 Gen2 and USB2 signal) 1x full-size mini PCI Express socket (USB signal)
Graphics	Integrated Intel® HD Graphics	PCIe	1x PCI Express x4 slot with 1-lane Gen2 PCI Express Signal, supporting max. card size up to 99.4mm x 167.6mm (with optional fan) or 99.4mm x 179.6mm (without optional fan) (Nuvis-2500E)
Memory	1x 204-pin SO-DIMM socket, up to 8GB DDR3L 1333MHz SDRAM	PCI	1x PCI Slot with 33MHz/33-bit PCI, supporting max. card size up to 99.4mm x 167.6mm (with optional fan) or 99.4mm x 179.6mm (without optional fan) (Nuvo-2500P)
Front Panel I/O Interface		Power Supply	
Ethernet	2x Gigabit Ethernet by Intel® Ethernet Controller I210	DC Input	8~35V DC
Video Port	1x VGA output, supporting resolution up to 2560 x 1600	Mechanical	
Serial Port	2x BIOS-Configurable RS-232/422/485 (COM1 & COM2)	Dimension	205 mm (W) x 146 mm (D) x 76 mm (H)
USB	1x USB3.0 and 3x USB2.0	Weight	2.3 kg (including one 2.5" HDD and DDR3 SO-DIMM)
Power Input	1x 3-pin pluggable terminal block for DC input	Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)
Back Panel I/O Interface		Environmental	
Video Port	1x DVI-D output via DVI-I connector, supporting resolution up to 2560 x 1600	Operating Temperature	-25°C ~ 70°C with SSD, 100% CPU loading */**
Series Port	2x RS-232 (COM3 & COM4)	Storage Temperature	-40°C ~ 85°C**
Audio	1x Speaker-out and 1x Mic-in	Humidity	10%~90% , non-condensing
Aux I/O Port	1x DB37 connector 1x DB-37 female connector 4x DI and 8x DO, 6x PWM, 1x encoder and 2x voltage inputs are available as an option of MAIO	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes(w/ SSD, according to IEC60068-2-64)
Storage Interface		Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
SATA 2.0	1x Internal SATA port for 2.5" HDD/SSD installation	EMC	CE/FCC Class A, according to EN 55022 & EN 55024
mSATA	1x internal half-sized mSATA (SATA + USB)	* The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology ** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.	

Order Information

Nuvo-2500P

Intel® Celeron® Bay Trail J1900 Fanless Computer with 1x PCI slot in Neosys Patented Cassette

Nuvo-2500E

Intel® Celeron® Bay Trail J1900 Fanless Computer with 1x PCIe x4 slot (PCIe x1 signal) in Neosys Patented Cassette

Nuvo-2500P-POE

Intel® Celeron® Bay Trail J1900 Fanless Computer with 2x IEEE 802.3at PoE+ ports and 1x PCI slot in Neosys Patented Cassette

Nuvo-2500E-POE

Intel® Celeron® Bay Trail J1900 Fanless Computer with 2x IEEE 802.3at PoE+ ports and 1x PCIe x4 slot (PCIe x1 signal) in Neosys Patented Cassette

PCIe-PoE4P Cassette Module

PCIe-USB340 Cassette Module

PCIe-PoE354 Cassette Module

PCIe-PoE352 Cassette Module

60W AC/DC power adapter with 12V, 5A DC output

Option of DIN-rail mounting kit

Option of Multi-function Automation I/O, including 4x DI, 8x DO, 6x PWM, 1x Encoder and 2x voltage input



Nuvo-3000E/3000P Series

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

General / Embedded



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/HDMI 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 leaping of embedded controller design with Neosys Nuvo-3000E/3000P series!

Nuvo-3000E/3000P incorporates the cutting-edge processor technology and Neosys' 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 Neosys' 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.

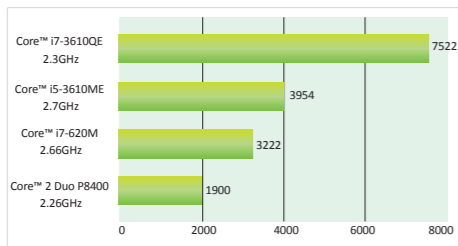
I/O functions on Nuvo-3000E/3000P are versatile. Gigabit Ethernet, USB 3.0 and dual display outputs are natively supported on Nuvo-3000E/3000P. Its optional isolated digital I/O now supports Change-of-State interrupt to give more usability. We also introduce the function of intelligent ignition control 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.

Product Highlights

Quad-core Superb Performance

Nuvo-3000E/3000P supports Intel® 3rd-Gen i7 processor to offer superb computing power. Its 4-cores/8-threads architecture has 233% performance increase compared to previous i7-620M processor. In addition, the integrated Intel® HD 4000 Graphics engine also significantly advances the graphics performance.



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

Innovative Expansion Cassette

Providing an expansion slot inside a fanless controller is easy, but the real challenge is to deal with the heat generated by add-on card. That's why we invent our patented expansion Cassette for Nuvo-3000. By creating an isolated chamber to accommodate add-on card separately, Nuvo-3000 can effectively minimize the thermal interference and maintain system stability.



This expansion cassette also innovates a better way of cooling for add-on cards. An optional fan is the general solution for most add-on cards. Neosys also provides shaped heat-spreaders for selected cards. As the shaped heat-spreader contacts both components and surface of Cassette, the heat generated is brought out and a stable thermal condition is maintained inside Cassette. Currently shaped heat-spreader are available for

- Neosys PCIe-PoE2+/4+
- Neosys PCIe-USB380/340
- Selected nVidia graphics cards



Intelligent Ignition Control with Adjustable On/off Delay

A common requirement for in-vehicle applications is to correlate system on/off with vehicle ignition signal and predefined delay. Nuvo-3000E/P features a SoC-based implementation that monitors the ignition signal and reacts to turn on/off the system



according to predefined on/off delay. Its built-in algorithm supports further features such as ultra-low standby power, battery-low protection, system hard-off and etc. With intelligent ignition control, Nuvo-3000E/3000P can be deployed seamlessly for a diverse range of in-vehicle applications.

Applications



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

Specifications

System Core		Expansion Bus	
Processor	Intel® Core™ i7-3610QE (2.3/3.3 GHz, 6 MB cache) Intel® Core™ i5-3610ME (2.7/3.3 GHz, 3 MB cache) Intel® Celeron™ 1020E (2.2 GHz, 2 MB cache)	PCI/PCI Express	1x PCI slot in Cassette (Nuvo-3003P/3005P) 1x PCIe x16 slot @ 8-lanes PCIe signals in Cassette (Nuvo-3003E/3005E)
Chipset	Intel® HM76 Platform Controller Hub	Power Supply & Ignition Control	
Graphics	Integrated Intel® HD Graphics 4000 Controller (i7/i5) Integrated Intel® HD Graphics Controller (Celeron)	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)
Memory	2x 204-pin SO-DIMM sockets, up to 16 GB DDR3 1333/1600 MHz SDRAM	Ignition Control	Optional ignition power control with configurable on/off delay
I/O Interface		Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
Ethernet	5x Gigabit Ethernet ports by Intel® i210 (Nuvo-3005E/P) 3x Gigabit Ethernet ports by Intel® i210 (Nuvo-3003E/P)	Power Consumption	With i7-3610QE : 72.96W (3.84A@19V) With i5-3610ME : 48.83W (2.57A@19V)
Video Port	1x DB-15 connector for analog RGB, supporting 2048x1536 resolution 2x DVI-D connectors for DVI/HDMI outputs, supporting 1920x1200 resolution (Supporting dual independent display outputs)	Mechanical	
USB	4x USB 3.0 ports and 4x USB 2.0 ports	Dimension	240 mm (W) x 225 mm (D) x 89.7 mm (H)
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2)	Weight	4.4 Kg (including 2.5" HDD and DDR3 SO-DIMM)
Isolated DIO	8x isolated DI with COS interrupt and 8x isolated DO (Optional)	Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)
KB/MS	1x 6-pin mini-DIN connector for PS/2 keyboard/mouse	Environmental	
Audio	1x Mic-in and Speaker-out	Operating Temperature	-25°C ~ 70°C */** (with i5-3610ME & Celeron 1020E) -25°C ~ 60°C */** (with i7-3610QE)
Storage Interface		Storage	-40°C ~ 85°C
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD installation	Humidity	10%~90% , non-condensing
CFast	1x CFast socket	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
Expansion Bus		Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
Mini PCI-E	1x internal mini PCI Express socket with USIM socket 1x internal mini PCI Express socket	EMC	CE/FCC Class A, according to EN 55022 & EN 55024

*100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neosys Technology.
**For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Order Information

- Nuvo-3005P-I7QC**
Intel® Core™ i7-3610QE fanless controller with 5x GbE and PCI Cassette
- Nuvo-3005E-I7QC**
Intel® Core™ i7-3610QE fanless controller with 5x GbE and x16 PCI Express Cassette
- Nuvo-3005P-I5DC**
Intel® Core™ i5-3610ME fanless controller with 5x GbE and PCI Cassette
- Nuvo-3005E-I5DC**
Intel® Core™ i5-3610ME fanless controller with 5x GbE and x16 PCI Express Cassette

- Option of isolated DIO(8DI + 8DO) (Nuvo-3005E/P only)**
- Option of ignition power control**
- Option of DIN-Rail mounting kit**
- PCIe-PoE4P Cassette module**
- nVidia GT730 Cassette module**
- PCIe-USB380 Cassette module**
- 120W AC/DC power adapter**

Nuvo-3005LP Series

Intel® 3rd-Gen Core™ i7/i5 Fanless Surveillance System with Low-Profile Chassis and Swappable HDD Tray



Features

- Intel® 3rd-Gen i7 quad-core superb performance
- 240 mm x 225 mm x 69 mm low-profile chassis
- One easy-swap 2.5" HDD and one fixed 2.5" HDD
- Up to 5x GigE ports, supporting 9.5 KB jumbo frame
- Rugged, -25°C to 70°C fanless operation
- Option of PoE capability
- Option of isolated DIO with COS interrupt support

Introduction

Nuvo-3005LP is the low-profile version for restricted space. It features a new chassis which reduces the height from 88 mm to 69 mm, and remains extraordinary reliability in a -25°C to 70°C operating temperature range.

Nuvo-3005LP incorporates the cutting-edge 3rd-Gen i7 quad-core processor and versatile I/O functions such as Gigabit Ethernet ports, USB 3.0 ports and dual independent display outputs. It also offers the options of PoE (Power over Ethernet), isolated DIO and ignition power control for a wider range of applications.

Its newly-designed chassis offers one fixed 2.5" HDD accommodation and one easy-swap 2.5" HDD tray. Users can take advantage of its storage design for applications that requires frequent HDD replacement. Combing its low-profile chassis and PoE option, Nuvo-3005LP is a suitable platform for advanced surveillance/security systems.

Specifications

System Core		Power Supply & Ignition Control	
Processor	Intel® Core™ i7-3610QE (2.3/3.3 GHz, 6 MB cache) Intel® Core™ i5-3610ME (2.7/3.3 GHz, 3 MB cache) Intel® Celeron™ 1020E (2.2 GHz, 2 MB cache)	DC Input	1x 4-pin power connector for 8~25V DC input
Chipset	Intel® HM76 Platform Controller Hub	Ignition Control	1x 3-pin pluggable terminal block for ignition signal input (IGN/GND/V+) (Optional)
Graphics	Integrated Intel® HD Graphics 4000 Controller (i7/i5) Integrated Intel® HD Graphics Controller (Celeron)	Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
Memory	2x 204-pin SO-DIMM sockets, up to 16 GB DDR3 1333/1600 MHz SDRAM	Power Consumption	With i7-3610QE : 72.96W (3.84A@19V) With i5-3610ME : 48.83W (2.57A@19V)
I/O Interface		Mechanical	
Ethernet	5x Gigabit Ethernet ports by Intel® i210	Dimension	240 mm (W) x 225 mm (D) x 69 mm (H)
Video Port	1x DB-15 connector for analog RGB, supporting 2048x1536 resolution 2x DVI-D connectors for DVI/HDMI outputs, supporting 1920x1080 resolution (Supporting dual independent display outputs)	Weight	3.4 Kg (including 2.5" HDD and DDR3 SO-DIMM)
USB	2x USB 3.0 ports and 2x USB 2.0 ports	Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)
Serial Port	1x software-programmable RS-232/422/485 (COM1)	Environmental	
Isolated DIO	8x isolated DI with COS interrupt and 8x isolated DO(Optional)	Operating Temperature	-25°C ~ 70°C **/** (with i5-3610ME & Celeron 1020E) -25°C ~ 60°C **/** (with i7-3610QE)
KB/MS	1x 6-pin mini-DIN connector for PS/2 keyboard/mouse	Storage	-40°C ~ 85°C
Audio	1x Mic-in and Speaker-out	Humidity	10%~90% , non-condensing
Storage Interface		Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD installation 1x easy-swap HDD tray for 2.5" HDD/SSD installation	Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
CFast	1x CFast socket	EMC	CE/FCC Class A, according to EN 55022 & EN 55024
Expansion Bus		*100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neousys Technology.	
Mini PCI-E	1x internal mini PCI Express socket with USIM socket 1x internal mini PCI Express socket	** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.	

Order Information

Nuvo-3005LP-I7QC

Intel® Core™i7-3610QE fanless embedded controller with 5x GbE, dual SATA ports and low-profile chassis

Nuvo-3005LP-I5DC

Intel® Core™i5-3610ME fanless embedded controller with 5x GbE, dual SATA ports and low-profile chassis

Option of Ignition Power Control

Option of isolated DIO(8DI + 8DO) (Nuvo-3005LP only)

Option of PoE capability for 4x GbE(Nuvo-3005LP only)

Option of DIN-Rail mounting kit

120W AC/DC power adapter

Nuvo-3005TB/3003TB Series

Intel® 3rd-Gen Core™ i7/i5/i3 Fanless Embedded Controller with -25°C to 70°C Operation and Terabytes Storage



Features

- Intel® 3rd-Gen i7 quad-core superb performance
- Up to 5x GigE ports, supporting 9.5 KB jumbo frame
- Rugged, -25°C to 70°C fanless operation
- Supports one 3.5" HDD and one 2.5" HDD
- 4x USB 3.0 ports + 4x USB 2.0 ports
- Option of isolated DIO with Change-of-State interrupt support

Introduction

Nuvo-3005TB/3003TB is the embedded version of Nuvo-3000 series. Replacing the expansion Cassette with the installation of one additional 3.5" HDD, Nuvo-3005TB/3003TB delivers terabytes storage capacity in an embedded platform with superior reliability and durability.

Nuvo-3005TB/3003TB incorporates the cutting-edge 3rd-Gen i7 quad-core processor and versatile I/O functions such as Gigabit Ethernet ports, USB 3.0 ports and dual display outputs. It also offers the options of isolated DIO with COS (Change-of-State) interrupt support for wider range of applications.

Inside its compact chassis, Nuvo-3005TB/3003TB accommodates one 2.5" HDD/SSD and one 3.5" HDD to support terabytes storage capacity. A special shock-absorbing bracket is designed to protect 3.5" HDD from shock/vibration, and a unique isolation/conduction chamber is used to manage heat generated by 3.5" HDD and increase overall system stability.

Specifications

System Core		Power Supply & Ignition Control	
Processor	Intel® Core™ i7-3610QE (2.3/3.3 GHz, 6 MB cache) Intel® Core™ i5-3610ME (2.7/3.3 GHz, 3 MB cache) Intel® Celeron™ 1020E (2.2 GHz, 2 MB cache)	DC Input	1x 4-pin power connector for 8~25V DC input
Chipset	Intel® HM76 Platform Controller Hub	Ignition Control	1x 3-pin pluggable terminal block for ignition signal input (IGN/GND/V+) (Optional)
Graphics	Integrated Intel® HD Graphics 4000 Controller (i7/i5) Integrated Intel® HD Graphics Controller (Celeron)	Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
Memory	2x 204-pin SO-DIMM sockets, up to 16 GB DDR3 1333/1600 MHz SDRAM	Power Consumption	With i7-3610QE : 72.96W (3.84A@19V) With i5-3610ME : 48.83W (2.57A@19V)
I/O Interface		Mechanical	
Ethernet	5x Gigabit Ethernet ports by Intel® i210 (Nuvo-3005TB) 3x Gigabit Ethernet ports by Intel® i210 (Nuvo-3003TB)	Dimension	240 mm (W) x 225 mm (D) x 85.5 mm (H)
Video Port	1x DB-15 connector for analog RGB, supporting 2048x1536 resolution 2x DVI-D connectors for DVI/HDMI outputs, supporting 1920x1080 resolution (Supporting dual independent display outputs)	Weight	3.4 Kg (including 2.5" HDD and DDR3 SO-DIMM)
USB	4x USB 3.0 ports and 4x USB 2.0 ports	Mounting	Wall-mounting (Standard) or DIN-Rail mounting (optional)
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2)	Environmental	
Isolated DIO	8x isolated DI with COS interrupt and 8x isolated DO(Optional)	Operating Temperature	With wide-temperature range HDD or SSD installed -25°C ~ 70°C **/** (with i5-3610ME & Celeron 1020E) -25°C ~ 60°C **/** (with i7-3610QE) With 3.5" HDD installed -10°C ~ 60°C **/** (with i5-3610ME & Celeron 1020E) -10°C ~ 50°C **/** (with i7-3610QE)
KB/MS	1x 6-pin mini-DIN connector for PS/2 keyboard/mouse	Storage Temperature	-40°C ~ 85°C
Audio	1x Mic-in and Speaker-out	Humidity	10%~90% , non-condensing
Storage Interface		Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD installation 1x Internal SATA port for 3.5" HDD installation	Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
CFast	1x CFast socket	EMC	CE/FCC Class A, according to EN 55022 & EN 55024
Expansion Bus		*100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neousys Technology.	
Mini PCI-E	1x internal mini PCI Express socket with USIM socket 1x internal mini PCI Express socket	** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.	

Order Information

Nuvo-3005TB-I7QC

Intel® Core™i7-3610QE fanless embedded controller with 5x GbE and dual SATA ports

Nuvo-3005TB-I5DC

Intel® Core™i5-3610ME fanless embedded controller with 5x GbE and dual SATA ports

Option of isolated DIO (8DI + 8DO)(Nuvo-3005TB only)

Option of DIN-Rail mounting kit

120 W AC/DC power adapter

Nuvo-3120 Series

Intel® 3rd-Gen Core™ i7/i5 Fanless Controller with Compact Size and Configurable CPU Power Mode

General / Embedded



Features

- 212 mm x 165 mm x 62 mm very compact size
- Intel® 3rd-Gen i7/i5 PGA-type processor
- User-configurable CPU power mode for adaptation to various environments
- Dual GbE ports and four USB3 ports
- DVI/VGA + DisplayPort triple independent display outputs
- Built-in isolated digital I/O with change-of-state (COS) interrupt
- 8 ~ 35V wide-range DC input

Introduction

Introducing the most compact fanless controller supporting PGA-type 3rd-Gen i7/i5 processor! Neosys' Nuvo-3120 features a very compact 212 mm x 165 mm x 62mm footprint. While other compact fanless controllers adopt low-voltage, BGA-type i7 CPU (17W), Nuvo-3120 supports standard voltage, PGA-type i7/i5 CPU (45W/35W) for flexible CPU selection. A unique feature, configurable CPU power mode, is developed to balance the trade-off between heat-sink size and operating temperature. According to ambient condition, you can configure Nuvo-3120 to operate in maximal performance, reduced performance or extended temperature mode. Plenty of I/O functions, such as Gigabit Ethernet, USB 3.0, SATA, COM ports, mini-PCIe and isolation DIO are provided in Nuvo-3120's compact chassis. It also supports triple independent display outputs to benefit image-related applications. Compact yet powerful, Nuvo-3120 meets all your requirements for a embedded platform.

Product Highlights

PGA CPU Support with Configurable CPU Power Mode

Nuvo-3120 supports PGA-type CPU to offer greater flexibility of CPU selection. PGA-type processors are with higher CPU power, and therefore introduce higher performance and more heat. To adapt Nuvo-3120 to various environments, we develop a unique function, configurable CPU power mode, to alter CPU power per user's preference.

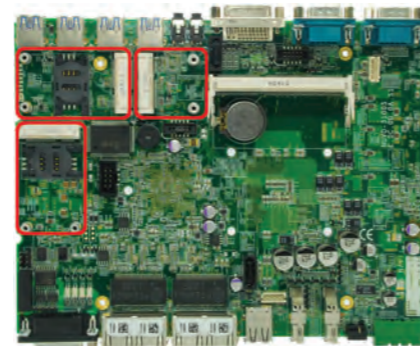
By selecting maximal performance, reduced performance or extended temperature mode, you can get adequate performance/temperature preference according to deployment environment. You can refer to the table of CPU benchmark v.s. operating temperature in different CPU power modes. Compared to other embedded controllers using i7-3517UE CPU, Nuvo-3120 offers better flexibility and more computing power without sacrificing thermal reliability.

CPU	Nuvo-3120 with i7-3610QE (PGA)	Nuvo-3120 with i5-3610ME (PGA)	i7-3517UE (BGA)
Operating Temp.			
Maximal Performance	7407 / 50°C	4388 / 60°C	3449 / 70°C
Reduced Performance	5873 / 60°C	3896 / 70°C	
Extended Temperature	3471 / 70°C	3896 / 70°C	

* The CPU benchmark score is measured using Passmark® PerformanceTest™ (<http://www.passmark.com>).

Rich I/O Functions in Compact Chassis

Nuvo-3120 integrates all general I/O functions in its compact chassis. Not only Gigabit Ethernet, USB3/USB2, SATA and COM ports are included, Nuvo-3120 further supports triple independent display outputs via its DVI/VGA + DP connectors. Inside Nuvo-3120, there are three mini-PCIe/mSATA slots with two SIM sockets for WIFI, 3G/4G, GPS and storage expandability.



Applications



1. Fleet Management System
2. Robot Vision
3. Medical Imaging
4. Factory Plant Automation

Specifications

System Core		Power Supply & Ignition Control				
Processor	Intel® Core™ i7-3610QE (2.3/3.3 GHz, 6 MB cache) Intel® Core™ i5-3610ME (2.7/3.3 GHz, 3 MB cache) Intel® Celeron™ 1020E (2.2 GHz, 2 MB cache)	DC Input	8~35V DC input via 3-pin pluggable terminal block			
Chipset	Intel® HM76 Platform Controller Hub	Ignition Control	Ignition power control with user-selectable on/off delay (Optional)			
Graphics	Integrated Intel® HD Graphics 4000 Controller	Max. Power Consumption	With Core™ i7-3610QE: 65.6W (3.45A@19V)* With Core™ i5-3610ME: 43.9W (2.31A@19V)* With Celeron™ 1020E: 38.5W (2.03A@19V)*			
Memory	1x 204-pin SO-DIMM sockets, up to 8 GB DDR3 1333/1600 MHz SDRAM	Mechanical				
I/O Interface		Dimension	212 mm (W) x 165 mm (D) x 62 mm (H)			
Ethernet	1x Gigabit Ethernet port by Intel® 82579LM, supporting Wake-on-LAN 1x Gigabit Ethernet ports by Intel® i210	Weight	2.7 Kg (including one 2.5" HDD and DDR3 SODIMM)			
Video Port	1x DVI-I connector for VGA/DVI output, supporting 2048x1536 (VGA) or 1920x1080 (DVI) resolution 2x DisplayPort, supporting 2560x1600 resolution	Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)			
USB	4x USB 3.0 ports and 2x USB 2.0 ports	Environmental				
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2)	Operating Temperature	Maximal Performance	-25°C ~ 50°C***	-25°C ~ 60°C***	-25°C ~ 70°C***
Isolated DIO	4x isolated DI with COS interrupt and 4x isolated DO		Reduced Performance	-25°C ~ 60°C***	-25°C ~ 70°C***	-25°C ~ 70°C***
Audio	1x mic-in and 1x speaker-out		Extended Temperature	-25°C ~ 70°C***	-25°C ~ 70°C***	-25°C ~ 70°C***
Storage Interface		Storage Temperature	-40°C ~ 85°C			
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD	Humidity	10%~90% , non-condensing			
mSATA	1x full-size mSATA (SATA/USB/W_DISABLE#) with USIM socket	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)			
Expansion Bus		Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)			
Mini PCI-E	1x full-size mini PCI Express socket with USIM socket 1x half-size mini PCI Express socket	Certification	CE/FCC Class A, according to EN 55022 & EN 55024			

* The maximal power consumption is measured in Max. Performance Mode with 100% CPU loading applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology
** The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology
***For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Order Information

- Nuvo-3120-I7QC**
Intel® Core™ i7-3610QE fanless controller with compact size and configurable CPU power mode
- Nuvo-3120-I5DC**
Intel® Core™ i5-3610ME fanless controller with compact size and configurable CPU power mode
- Nuvo-3120-C1020**
Intel® Celeron™ 1020E fanless controller with compact size and configurable CPU power mode
- Option of ignition power control**
- Option of DIN-Rail mounting kit**
- 120W AC/DC power adapter**



Nuvo-2400 Series

Intel® Celeron® Bay Trail fanless shoe-box IPC with dual display, dual GbE and triple PCI/PCIe slots



Features

- Intel® Celeron® Bay Trail J1900 quad-core processor
- 3x PCI slots or 1x PCIe x4 + 2x PCI slots
- Rugged, -25°C to 70°C fanless operation
- Dual independent display via DVI-I connector
- 2x SATA ports for 2.5" HDD/SSD
- 2x RS-232/422/485 and 2x RS-232
- Optional isolated 8-ch DI and 8-ch DO
- 8 to 25 VDC wide-range DC input

Introduction

Nuvo-2400 is a fanless shoe-box IPC with 3 PCI/PCIe expansion slots. The expansion slots are provided for add-on cards, such as COM port cards and frame grabbers. Nuvo-2430 provides 3 PCI slots, while Nuvo-2421 provides one PCIe x4 slot with 1-lane PCI Express 2.0 signal and two PCI slots.

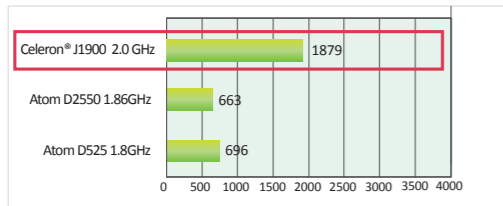
A convenient design of Nuvo-2400 facilitates the integration of both remote on/off switch and the system status indicators. Corresponding signals are reserved for buttons and LEDs outside of Nuvo-2400. And users can power on/off Nuvo-2400 externally. Furthermore, 8-channel digital input and 8-channel digital outputs are provided as an option of Nuvo-2400. All inputs and outputs are isolated and 24VDC-rated. This makes the DI/O compatible with many industrial sensors, indicators, coils and actuators.

Powered by Intel® Celeron® Bay Trail J1900 quad-core processor, Nuvo-2400 shows outstanding computing power and is even more power efficient compared to those with its predecessors. Nuvo-2400 supports dual independent displays, dual 2.5" SATA bays and dual gigabit LAN ports with teaming and PXE. These features, together with the 3 expansion slots, maximize the flexibility of Nuvo-2400 for even more generic applications.

Product Highlights

Adequate Performance

Powered by Intel® Celeron® Bay Trail J1900 Processor, Nuvo-2400 Series shows outstanding computing power and is even more power efficient compared to those with its predecessors. Thermal Design Power, TDP, of J1900 is only 10W and shows a score around 3 times to D525 and D2550. Performance of Nuvo-2400 can meet most industrial control applications.



* According to CPU Benchmark by PassMark® (<http://www.passmark.com>)

Dual VGA, Dual GbE and Dual Storage

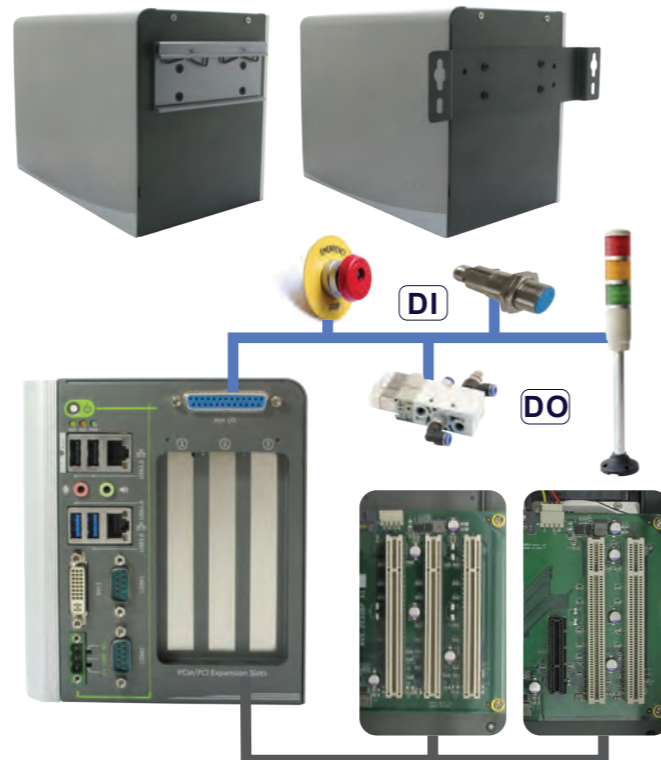
Nuvo-2400 provide rich I/O configuration for industrial usage. Dual independent display is provided via a DVI-I connector. Dual GbE ports supporting PXE and Teaming provides sufficient network connectivity and bandwidth. Dual SATA ports allow to separate the system and data storage, and maximize the stability and storage space.

3x Expansion Slot and Isolated DIO

8-ch isolated DI and 8-ch isolated DO are available as an option on Nuvo-2400 without an additional add-on card. The expansion slots enable Nuvo-2400 to operate with more add-on cards and makes Nuvo-2400 suitable for various usage.

Small and Smart Chassis Design

Nuvo-2400 has an ingenious mechanical design which gives consideration to small dimension, superior heat dissipation, flexible wall-mounting or DIN-Rail mounting, and intuitive pattern of use. Furthermore, its compact chassis can accommodate two 2.5" SATA hard drives to expand your storage capacity.



Applications



Specifications

System Core		Expansion Bus	
Processor	Intel® Celeron® Bay Trail J1900 Quad-core Processor (2.42GHz, 2MCache)	PCI	3x PCI Slot with 33MHz, 32-bit PCI signal (Nuvo-2430) 2x PCI Slot with 33MHz, 32-bit PCI signal (Nuvo-2421)
Graphics	Integrated Intel® HD graphics	PCI Express	1x PCI Express x4 slot with 1-lane Gen2 PCI Express signal (Nuvo-2421)
Memory	1x 204-pin SO-DIMM Socket up to 8GB DDR3L-1333MHz SDRAM	Power Supply	
Front Panel I/O Interface		DC Input	8~25V DC
Ethernet	2x Gigabit Ethernet by Intel® Ethernet Controller I210	Mechanical	
Video Port	1x DVI-I connector for VGA and DVI dual independent display outputs	Dimension	139 mm (W) x 225 mm (D) x 160 mm (H)
Serial Port	2x BIOS-Configurable RS-232/422/485 (COM1 & COM2)	Weight	2.2 kg
USB	1x USB3.0 and 3x USB2.0	Mounting	Wall-mount (Standard) or DIN-rail mount (Optional)
Audio	1x Speaker-out and 1x Mic-in	Environmental	
Power Input	1x 3-pinpluggable terminal block for DC input	Operating Temperature	-25°C ~ 70°C, 100% CPU loading **
Internal I/O Interface		Storage Temperature	-40°C ~85°C
Serial Port	2x RS-232 (COM3 & COM4)	Humidity	10%~90% , non-condensing
Parallel Port	1x Parallel Port	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, w/o add-on card, according to IEC60068-2-64)
Isolated DIO	Optional 8-CH DI and 8-CH DO (Polling Mode Only)	Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, w/o add-on card, according to IEC60068-2-27)
Remote Control & Status Output	1x 3-pin 2.0mm wafer connector for remote on/off control 1x 2x6-pin 2.0mm pin-header connector for status output	EMC	CE/FCC Class A, according to EN 55022 & EN 55024
Storage Interface		* The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology	
SATA 2.0	2x internal SATA ports for 2.5" HDD/SSD installation	** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.	

Order Information

Nuvo-2430

Intel® Celeron® Bay Trail J1900 fanless shoe-box IPC with dual display, dual GbE and triple PCI Slots

Nuvo-2421

Intel® Celeron® Bay Trail J1900 fanless shoe-box IPC with dual display, dual GbE and dual PCI and one PCIe4 slot

60W AD/DC power adapter 12V/5A

Panel/cable kit for 2x COM ports

Panel/cable kit for 1x COM + 1x LPT ports

Option of isolated DIO for Nuvo-2400

Option of DIN-rail mounting clip for Nuvo-2400

Nuvo-4000 Series

Intel® 3rd-Gen Core™ i7/i5 Fanless Box-PC with 4x PCIe/PCI Expansion Slots



Features

- Intel® 3rd-Gen i7 quad-core superb performance
- Four slots expansion capacity
 - x16 and x4 PCI Express slot
 - Up to four PCI slots
- 164 mm x 225 mm x 180 mm small foot-print
- Rugged, -25°C to 60°C fanless operation
- DVI+DVI+VGA triple independent display outputs
- One CFast socket and two SATA ports
- Smart-fan option and on-board isolated DIO option available

Introduction

Nuvo-4000 is a high-performance box-pc with fanless design and small footprint. It incorporates Intel® 3rd-Gen i7/i5 processor to offer extraordinary computing power, and fanless architecture to offer reliable operation in various environments.

The 4-slot expandability makes Nuvo-4000 very versatile. Its two Gen2 PCI Express slots delivers a total of 6 GB/s bandwidth for applications demanding high-speed data transmission. A notable 48W power budget is dedicatedly supplied to the x16 PCIe slot for powering a high-watt PCIe card (e.g. a graphics card). Nuvo-4000 also has PCI slots to accommodate up to 4 PCI cards for general industrial automation and test & measurement applications.

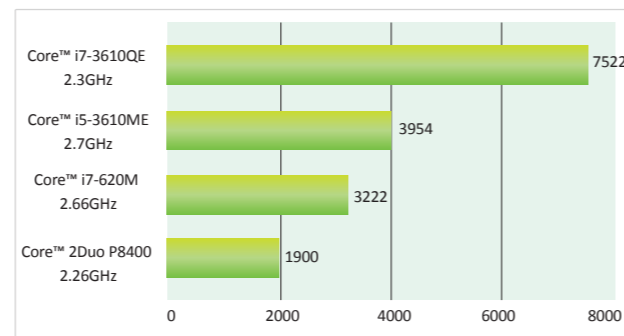
Nuvo-4000 features the smallest foot-print for a fanless box-pc with four expansion slots. It supports ample I/O interfaces for communication/control purpose, and implements DVI+DVI+VGA triple independent display outputs for video/image related applications. An option of smart fan is available for better operating reliability when high-watt cards installed.

The combination of high performance, small foot-print and versatility makes Nuvo-4000 not only an ideal application platform, but also a great replacement of traditional rack-mount or wall-mount IPC.

Product Highlights

Quad-core Superb Performance

Nuvo-4000 supports Intel® 3rd-Gen i7 processor to offer superb computing power. Its 4-cores/8-threads architecture has 233% performance increase compared to previous i7-620M processor. In addition, the integrated Intel® HD 4000 Graphics engine also significantly advances the graphics performance.



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

Four PCIe/PCI Expansion Slots for Add-on Cards

To make full use of i7 performance, Nuvo-4000 comes with 4 PCI/PCIe expansion slots. There are two configurations, x16/x4 PCIe slots + 2 PCI slots (Nuvo-4022), and 4 PCI slots (Nuvo-4040) can be chosen according to your application requirements. Considering the power consumption of high-performance PCIe card, a 48W (4A@12V) power is dedicatedly supplied to the x16 slot, and another 48W is shared by the x4 slot and peripheral devices. You can integrate all kinds of PCIe/PCI cards to create a comprehensive application platform.



Small & Smart Chassis Design

Nuvo-4000 features a very promising mechanical design. Not only because it has the smallest foot-print among 4-slot Box PCs in the market, but also it can operate 24/7 within -25°C/60°C temperature range. For the system contains high-watt PCIe cards (e.g. a graphics card or a PoE card), Nuvo-4000 offers the fan option to create active air flow and maintain proper system temperature. A smart mechanism is implemented to activate the fan only when needed and thus a longer life of fan can be expected.



Applications



1. Machine Automation
2. Factory Plant Monitoring

Specifications

System Core		Internal I/O Interface	
Processor	Intel® Core™ i7-3610QE (2.3/3.3 GHz, 6 MB cache) Intel® Core™ i5-3610ME (2.7/3.3 GHz, 3 MB cache) Intel® Celeron™ 1020E (2.2 GHz, 2 MB cache)	Isolated DIO	Optional 8-CH isolated DI + 8-CH isolated DO
Chipset	Intel® HM76 Platform Controller Hub	Storage Interface	
Graphics	Integrated Intel® HD Graphics 4000 Controller (i7/i5) Integrated Intel® HD Graphics Controller (Celeron)	SATA HDD	2x Internal SATA ports for 2.5" HDD/SSD installation
Memory	2x 204-pin SO-DIMM sockets, up to 16 GB DDR3 1333/1600 MHz SDRAM	CFast	1x CFast socket
Front-panel I/O Interface		Power Supply	
Ethernet	2x Gigabit Ethernet ports by Intel® I210	DC Input	1x 4-pin power connector for 8~25V DC input
Video Port	1x DVI-I connector for VGA and DVI/HDMI outputs, supporting 1920x1080 resolution 1x DVI-D connectors for DVI/HDMI output, supporting 1920x1080 resolution (Supporting triple independent display outputs)	Power Consumption	Intel® Core™ i7-3610QE : 66.12W (3.48A@19V) Intel® Core™ i5-3610ME : 43.13W (2.27A@19V)
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2) 1x RS-232 (COM3)	Mechanical	
USB	4x USB 3.0 ports	Dimension	164 mm (W) x 225 mm (D) x 180 mm (H)
Audio	1x Speaker-out	Weight	4.0 kg (including one 2.5" HDD and DDR3 SO-DIMM)
Expansion Bus		Mounting	Wall-mounting (Standard) or DIN-Rail mounting (optional)
PCI Express (Nuvo-4022 only)	1x PCIe x16 slot @ 8-lanes PCIe signal with dedicated 48W power budget 1x PCIe x4 slot	Environmental	
PCI	2x 33MHz/32-bit 5V PCI slots (Nuvo-4022) 4x 33MHz/32-bit 5V PCI slots (Nuvo-4040)	Operating Temperature	-25°C ~ 60°C, 100% CPU loading */**
Internal I/O Interface		Storage Temperature	-40°C ~ 85°C
USB	2x USB 2.0 ports via 10-pin box-header	Humidity	10%~90% , non-condensing
		Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, w/o add-on card, according to IEC60068-2-64)
		Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, w/o add-on card, according to IEC60068-2-27)
		EMC	CE/FCC Class A, according to EN 55022 & EN 55024

* The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology
** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Order Information

Nuvo-4022-I7QC

Intel® Core™i7-3610QE fanless box-pc with 2x PCIe and 2x PCI slots

Nuvo-4022-I5DC

Intel® Core™i5-3610ME fanless box-pc with 2x PCIe and 2x PCI slots

Nuvo-4040-I7QC

Intel® Core™i7-3610QE fanless box-pc with 4x PCI slots

Nuvo-4040-I5DC

Intel® Core™i5-3610ME fanless box-pc with 4x PCI slots

Option of isolated DIO (8 DI + 8 DO) with panel/cable kit

Option of an 80mm x 80mm fan for dissipating heat of add-on cards

Option for DIN-Rail mounting clip for Nuvo-4000

120W AC/DC power adapter

160W AC/DC power adapter

Nuvo-6000 Series

Intel® 6th-Gen Skylake Core™ i7/i5 Fanless Box-PC with Up to 5 PCIe/PCI Expansion Slots



Nuvo-6032

Nuvo-6002

Features

- Supports 6th-Gen Intel® Core™ i7/i5/i3, Pentium® and Celeron® LGA1151 CPU
- Up to five expansion slots
 - x16 PCIe, x8 PCIe and three PCI slots (Nuvo-6032)
 - x16 PCIe and x8 PCIe slots (Nuvo-6002)
- Rugged, -25 °C to 60 °C fanless operation
- 2x GbE, 4x USB 3.0 and 5x COM ports
- Dual DVI display outputs
- Up to 3x 2.5" SATA accommodation and 1x mSATA socket
- Wall-mounting, DIN-rail mounting and rack-mounting available
- Automatic temperature sensing and fan control (optional)

Introduction

Nuvo-6000 series is the perfect replacement of your bulky rack-mount or wall-mount IPC systems. Leveraging 6th-Gen Intel® Skylake platform, It delivers the same computing power as traditional IPCs, but in a more compact form-factor and fanless operation.

Nuvo-6000 series supports LGA1151 socket-type CPU, thus you can choose from Core™ i7 to Celeron® depending on your performance and cost consideration. Its 5-slot capacity gives the same level of expandability as most IPCs. The front-accessible I/O design, including 2 GbE, 4 USB 3.0 and 5 COM ports, makes it easier to access your Nuvo-6000 when it's placed inside a cabinet or a rack.

Neosys' proven fanless design on Nuvo-6000 presents extraordinary reliability in all circumstances. And its versatile mounting options make it fit for desktop, cabinet or a 19" rack. With similar performance and cost, better form-factor and reliability, Nuvo-6000 series is speaking for itself on the new horizon of industrial computer.

Specifications

	Nuvo-6032	Nuvo-6002		Nuvo-6032	Nuvo-6002
System Core			Storage Interface		
Processor	Supports 6th-Gen Intel® Core™, Pentium® and Celeron® LGA1151 CPU 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)		SATA	3x SATA ports for 2.5" HDD/SSD installation	1x SATA port for 2.5" HDD/SSD installation
Chipset	Intel® H110 Platform Controller Hub		mSATA	1x full-size mSATA socket	
Graphics	Integrated Intel® HD 530/510 Controller		Power Supply		
Memory	Up to 16 GB DDR4-2133 by one SODIMM socket		DC Input 8~35V DC input		
I/O Interface			Mechanical		
Ethernet port	1x Gigabit Ethernet port by Intel® I219-LM 1x Gigabit Ethernet port by Intel® I210-IT		Dimension	184mm(W)x225mm(D)x174mm(H)	124mm (W)x225mm(D)x174mm(H)
Video Port	2x DVI-D connectors for DVI/HDMI outputs, supporting 1920x1200 resolution		Weight	3.5 kg (include one 2.5" HDD and DDR4 SO-DIMM)	2.8 kg (include one 2.5" HDD and DDR4 SO-DIMM)
Serial Port	2x Software-programmable RS-232/422/485 ports 3x 3-wire RS-232 ports		Mounting	Wall-mounting (standard), DIN-Rail mounting (optional), rack-mounting (optional)	
USB	4x USB 3.0 ports		Environmental		
Audio	1x Speaker-out		Operating Temperature	-25°C ~ 60°C */**	
Expansion Bus			Storage Temperature	-40°C ~ 85°C	
PCI Express	1x PCIe x16 slot @ Gen3, 16-lanes PCIe signals 1x PCIe x8 slot @ Gen2, 4-lanes PCIe signals		Humidity	10%~90% , non-condensing	
PCI	3x 33MHz/32-bit PCI slots		Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, w/o add-on card, according to IEC60068-2-64)	
			Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, w/o add-on card, according to IEC60068-2-27)	
			EMC	CE/FCC Class A, according to EN 55022 & EN 55024	

* The CPU loading is applied using Passmark® BurnInTest 8.0. For detail testing criteria, please contact Neosys Technology
** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Accessories

- Option of 80mm x 80mm smart fan
- Option of DIN-Rail mounting clip
- Option of rack mounting kit
- 12V, 120W AC/DC power adapter

Order Information

Nuvo-6032

Intel® 6th-Gen Core™ i7/i5/i3 Fanless Box-PC with 2x PCIe and 3x PCI expansion slots

Nuvo-6002

Intel® 6th-Gen Core™ i7/i5/i3 Fanless Box-PC with x16 and x8 PCIe expansion slots

Nuvis-2520at Series

Intel® Celeron® Bay Trail Machine Vision Fanless Computer with Expansion Cassette



Features

- Intel® Celeron® Bay Trail J1900 quad-core processor
- 2x IEEE 802.3at PoE+ Gigabit Ethernet ports
- DTIO v2 for camera and lighting timing control
- 1x constant current or voltage output for LED driving
- Isolated 4-ch DI and 8-ch DO
- 6x PWM and 1x quadrature encoder interface
- 1x PCI/PCIe slot in Neosys Patented Cassette*
- Operating temperature from -25° to 70°C

Specifications

System Core		Expansion Bus	
Processor	Intel® Celeron® Bay Trail J1900 quad-core processor (2.42 GHz, 2M cache)	Mini PCI-E	1x full-sized mini PCI Express socket with USIM socket (PCIe + USB)
Graphics	Integrated Intel® HD Graphics	PCIe	1x PCIe x4 slot @ 1-lane PCIe 2.0 signal in Cassette (Nuvis-2520at-E)
Memory	1x 204-pin SO-DIMM socket, up to 8GB DDR3L 1333MHz SDRAM	PCI	1x 33MHz/32-bit PCI slot in Cassette (Nuvis-2520at-P)
Front Panel I/O Interface		Power Supply	
PoE	2x IEEE 802.3at (25.5W) Gigabit Ethernet ports by Intel® I210	DC Input	8~35V DC
Video Port	1x DB-15 connector for analog RGB, supporting 2560 x 1600 resolution	Mechanical	
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2)	Dimension	205 mm (W) x 146 mm (D) x 76 mm (H)
USB	1x USB 3.0 port and 3x USB 2.0 ports	Weight	2.3 kg (including one 2.5" HDD and DDR3 SO-DIMM)
Power Input	1x 3-pin pluggable terminal block for DC input	Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)
Back Panel I/O Interface		Environmental	
Video Port	1x DVI-I connector with DVI-D output, supporting 2560 x 1600 resolution	Operating Temperature	-25°C ~ 70°C with SSD, 100% CPU loading **/*** -10°C ~ 50°C with HDD, 100% CPU loading **/***
Audio	1x Mic-in, 1x Speaker-out	Storage Temperature	-40°C ~ 85°C
Series Port	2x RS-232 (COM3 & COM4)	Humidity	10%~90% , non-condensing
Aux I/O Port	1x DB-37 female connector 4x DI and 8x DO 6x PWM, 1x Encoder and 2x ADC 1x constant current 0.5A or constant voltage 24V output for LED driving	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
Storage Interface		Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD installation	Certification	CE/FCC Class A, according to EN 55022 & EN 55024
mSATA	1x internal half-sized mSATA (SATA + USB)	** The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology *** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.	

Order Information

Nuvis-2520at-P

Intel® Celeron® Bay Trail J1900 Machine Vision Fanless Computer with 1x PCI slot in Neosys Patented Cassette

Nuvis-2520at-E

Intel® Celeron® Bay Trail J1900 Machine Vision Fanless Computer with 1x PCIe x4 slot (PCIe x1 signal) in Neosys Patented Cassette

Nuvis-2520at-E-PoE+

Intel® Celeron® Bay Trail J1900 Machine Vision Fanless Computer with pre-installed Neosys 4-port PoE+ card (PCIe-PoE4+) and heat spreader

Nuvis-2520at-E-USB340

Intel® Celeron® Bay Trail J1900 Machine Vision Fanless Computer with pre-installed Neosys 4-port USB3.0 card (PCIe-USB340) and heat spreader

60W AC/DC power adapter with 12V, 5A DC output

Option of DIN-rail mounting kit

Nuvis-3304af Series

Intel® 3rd-Gen Core™ i7/i5 Fanless Vision System with 4x GigE PoE and Deterministic Trigger I/O

Features

- Intel® 3rd-Gen i7 quad-core superb performance
- Integrated camera interfaces
 - 4x 802.3af Gigabit PoE ports via Intel® I210
 - 4x USB 3.0 ports
- Patent-pending Deterministic Trigger I/O technology for accurate trigger/strobe control
- Patented Cassette* design for PCIe/PCI add-on card expansion
- Per-port PoE power on/off control
- Rugged, -25°C to 70°C fanless operation



Introduction

Nuvis-3304af is a vision system dedicatedly designed for machine vision applications. Inheriting Neosys' proven fanless architecture and Power-over-Ethernet technology, Nuvis-3304af combines superb computing performance, integrated camera interfaces and great reliability in its compact chassis.

As accurate trigger/strobe control is crucial for vision applications, Neosys developed a new technology, Deterministic Trigger I/O, or DTIO, on Nuvis-3304af. Unlike legacy isolated DIO, this patent-pending DTIO technology allows users to program a deterministic timing correlation between input and output signals at a resolution of 25 microseconds. With DTIO, your vision system can have extremely precise control for proximity sensor input, strobe output and camera trigger.

Camera connectivity is another key for vision systems. In addition to integrated PoE and USB3 ports, Nuvis-3304af is provided with Neosys' patented Cassette design for PCIe/PCI expansion. By installing dedicated interface card, Nuvis-3304af can work with analog, 1394, Camera Link or CoaXPress camera. Or you can integrate a motion control card to fulfill an all-in-one inspection system.

Combining the quad-core CPU performance, PoE/USB3 camera interface, innovative DTIO and Cassette technology, Nuvis-3304af is the perfect platform for your vision application.

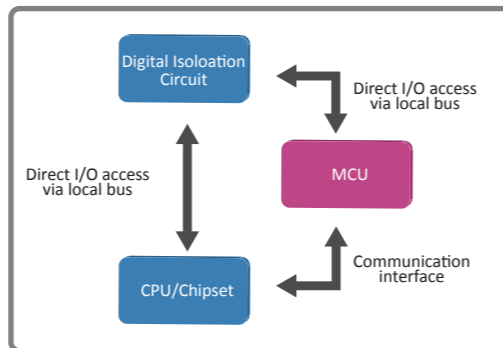
Product Highlights

Deterministic Trigger I/O Technology

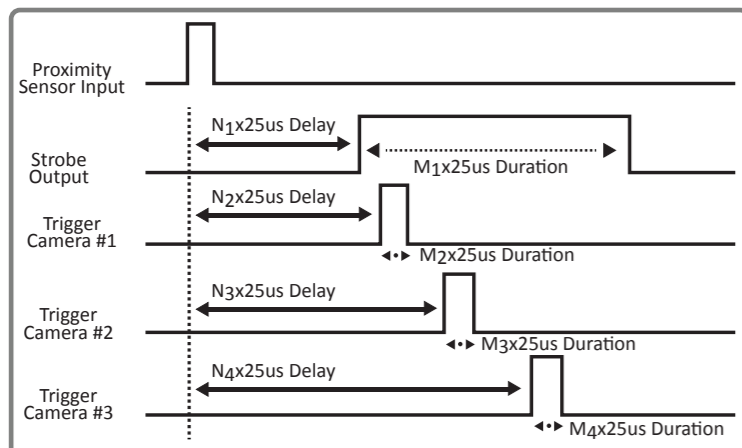
DIO cards with change-of-state (COS) interrupt support are generally used for trigger/strobe control in vision systems. The interrupt latency introduced in operating system, however, increases the difficulty of an accurate timing control for strobe/trigger signals.

Neosys' Deterministic Trigger I/O, or DTIO, is a technology to provide a deterministic timing correlation between input and output signals. It utilizes a standalone microprocessor with highly-optimized algorithm to collaborate with platform and DIO circuit.

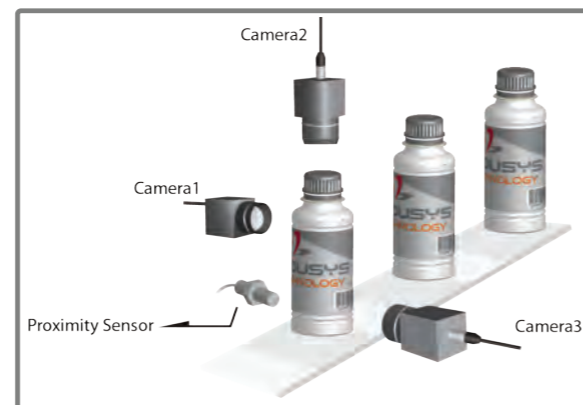
Users can configure output delay/duration for multiple DO channels (e.g. strobe and camera trigger) to respond a trigger signal on specific input channel (e.g. proximity sensor) at a resolution of 25 microseconds.



Hardware architecture of DTIO

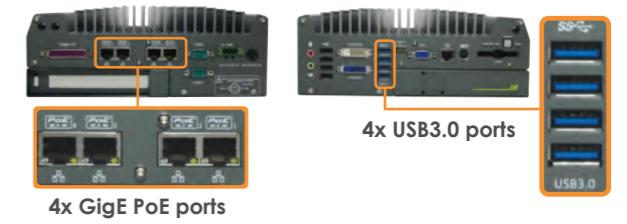


User-configurable output delay/duration



Integrated Gigabit PoE and USB3.0 Camera Interfaces

Nuvis-3304af integrates four GigE PoE ports and four USB 3.0 ports for camera connectivity. Its IEEE 802.3af-compliant PoE port delivers 15.4 W of power and 1000 Mb/s bandwidth. USB 3.0, as an emerging camera interface, supports up to 5 Gbps signaling for high-speed data transmission. In addition, Nuvis-3304af features a unique per-port PoE power on/off control function for fault recovery operations.



Patented Expansion Cassette

For vision systems require other camera interfaces, Nuvis-3304af incorporates Neosys' patented Cassette to accommodate other interface cards such as Camera Link, CoaXPress and analog frame-grabber. You can also integrate a motion control card into Nuvis-3304af to build up an all-in-one machine vision system.



Specifications

System Core	
Processor	Intel® Core™ i7-3610QE (2.3/3.3 GHz, 6 MB cache) Intel® Core™ i5-3610ME (2.7/3.3 GHz, 3 MB cache)
Chipset	Intel® HM76 Platform Controller Hub
Graphics	Integrated Intel® HD Graphics 4000 Controller
Memory	2x 204-pin SO-DIMM sockets, up to 16 GB DDR3 1333/1600 MHz SDRAM
I/O Interface	
PoE	4x Gigabit IEEE 802.3af (15.4W) PoE ports by Intel® I210
Ethernet	1x Gigabit Ethernet port by Intel® I210
Video Port	1x DB-15 connector for analog RGB, supporting 2048x1536 resolution 2x DVI-D connectors for DVI/HDMI outputs, supporting 1920x1080 resolution (Supporting dual independent display outputs)
USB	4x USB 3.0 ports and 4x USB 2.0 ports
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2)
KB/MS	1x 6-pin mini-DIN connector for PS/2 keyboard/mouse
Audio	1x Mic-in and Speaker-out
Deterministic Trigger I/O	
Digital Input	8x isolated digital input channels
Digital Output	8x isolated digital output channels
Operating Mode	DTIO with 25 microseconds resolution, Polling I/O with change-of-state interrupt
Storage Interface	
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD installation
CFast	1x CFast socket

Expansion Bus	
Mini PCI-E	1x internal mini PCI Express socket with USIM socket 1x internal mini PCI Express socket
PCI/PCI Express	1x PCI slot in Cassette (Nuvis-3304af-P) 1x PCIe x16 slot @ 8-lanes PCIe signals in Cassette (Nuvis-3304af-E)
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)
Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
Power Consumption	With i7-3610QE : 72.96W (3.84A@19V) With i5-3610ME : 48.83W (2.57A@19V)
Mechanical	
Dimension	240 mm (W) x 225 mm (D) x 89.7 mm (H)
Weight	4.4 Kg (including 2.5" HDD and DDR3 SO-DIMM)
Mounting	Wall-mounting (Standard) or DIN-Rail mounting (Optional)
Environmental	
Operating Temperature	-25°C ~ 70°C **/*** (with i5-3610ME) -25°C ~ 60°C **/*** (with i7-3610QE)
Storage Temperature	-40°C ~ 85°C
Humidity	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

** 100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neosys Technology.
*** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Order Information

- Nuvis-3304af-E-I7QC**
Intel® Core™ i7-3610QE vision system with 5x GigE PoE Ports, DTIO and PCI-E Cassette
- Nuvis-3304af-P-I7QC**
Intel® Core™ i7-3610QE vision system with 5x GigE PoE Ports, DTIO and PCI Cassette
- Option of DIN-Rail mounting kit**
- 160 W AC/DC power adapter**



Nuvo-1300af Series

Intel® Core™ i7/i5 Fanless Embedded Controller with 4x integrated Gigabit PoE ports

Machine Vision



Features

- Intel® i7 superb computing performance
- Integrated four GigE PoE ports and one GigE port by Intel® 82574L controller
- Rugged, -25°C to 70°C fanless operation
- Isolated/non-isolated PoE power design
- Integrated 8-CH isolated DI and 8-CH isolated DO
- One RS-232/422/485 port and three RS-232 ports
- Dual SATA ports to accommodate two 2.5" SATA hard drives

Introduction

Neosys Nuvo-1300af is world's first i7 fanless embedded controller with integrated Gigabit PoE ports. PoE, or Power over Ethernet, is a technology to supply electrical power along with data on a standard CAT-5e/CAT-6 Ethernet cable. Nuvo-1300af integrates four GigE PoE ports compliant with IEEE 802.3af standard. Each PoE port can deliver 15.4 W of power to a PoE device, such as a PoE camera. Nuvo-1300af also features unique design of isolated PoE power, which allows users to alternatively supply two sets independent power to PoE function and to the system. This minimizes the risk of an external power surge on Ethernet cable which may damage the system.

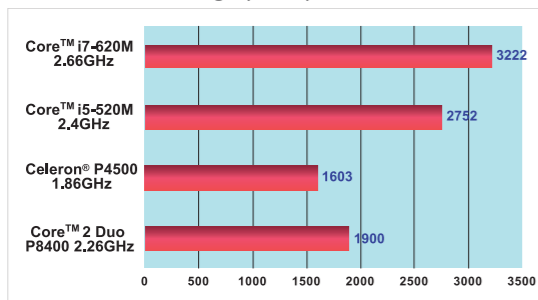
In addition, Nuvo-1300af integrates versatile I/O interfaces in its compact chassis. It has one additional GigE port for data communication and two SATA ports for accommodating two 2.5" SATA hard drives inside. Nuvo-1300af also features on-board isolated DIO and serial ports for device control/communication.

The PoE capability of Nuvo-1300af reduces the cost of deployment of Ethernet-based devices since power outlet is no longer needed. Its fanless design gives exceptional long-term durability, vibration resistance, and an operating temperature from -25°C to 70°C. For machine vision, surveillance, and network-intensive applications, Neosys Nuvo-1300af is definitely your best solution!

Product Highlights

Performance Advantage

Nuvo-1300af inherits remarkable features introduced to Intel Core™ i7/i5 platform, such as new 32nm micro-architecture, Turbo Boost and Hyper-Threading (2 cores/4 threads). The result is a significant performance improvement over previous Core™2 Duo platform. In addition, the new, integrated Intel® HD Graphics engine also doubles the graphics performance.



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

4x Gigabit 802.3af PoE Ports

Nuvo-1300af integrates four Gigabit PoE ports compliant with IEEE 802.3af standard. Each port can deliver 15.4 W of power and 1000 Mb/s bandwidth over a CAT-5e/CAT-6 cable of up to 100 meters. Our highly integrated design, moreover, allows us to effectively manage the heat PoE circuit generates by conducting it to the heat sink, and consequently makes Nuvo-1300af a very reliable i7 fanless controller possessed of PoE capability.



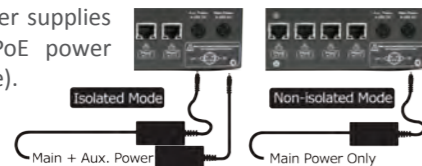
Accommodation of Two 2.5" SATA HDDs

Considering the huge volume of data in a vision or surveillance application, Nuvo-1300af is designed to accommodate two 2.5" SATA hard drives in its compact chassis to offer terabytes of capacity. If that's not enough, you can have the eSATA port for storage expansion, or the front-accessible CF card for system installation.

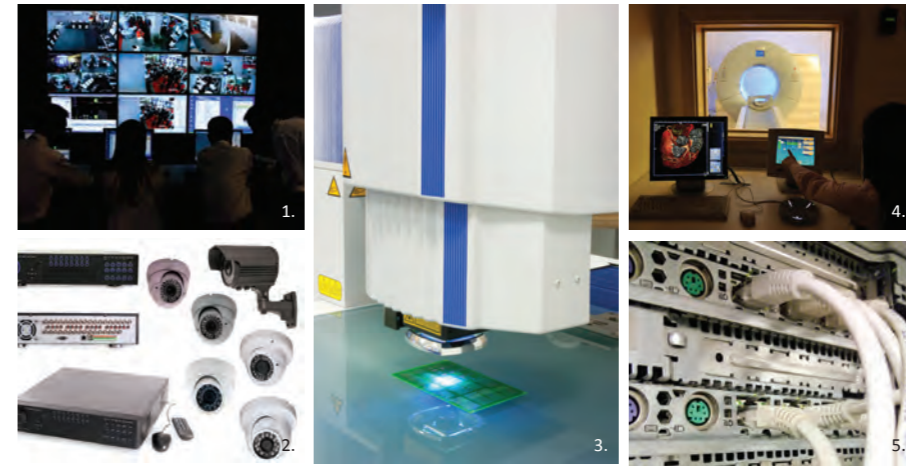


Isolated/Non-isolated PoE Power Design

Since PoE can deliver power over a long cable, an unexpected power surge may enter the copper cable and cause system damage. In addition to well-designed surge protection, Nuvo-1300af features an isolated PoE design to minimize the risk. You can alternatively use single power supply for both system and PoE power (non-isolated mode), or use two independent power supplies for system power and PoE power respectively (isolated mode).



Applications



1. Surveillance / Security
2. NVR
3. Machine Vision
4. Medical Imaging
5. Network Platform

Specifications

System Core		Power Supply	
Processor	Intel® Core™i7-620M (2.66 GHz, 4 MB cache) Intel® Core™i5-520M (2.4 GHz, 3 MB cache)	DC Input	Built-in 8~26V DC input, supporting two power mode - Non-isolated mode: Use one power supply for both system and PoE power - Isolated mode: Use two power supplies for system power and PoE power respectively
Chipset	Intel® HM55 Platform Controller Hub	Input Connector	1x 4-pin power connector for system & PoE power input (Main DC-IN, 8~26 VDC) 1x 4-pin power connector for isolated PoE power input (Aux. DC-IN, 8~26 VDC)
Graphics	Integrated Intel® HD Graphics Controller	Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
Memory	2x 204-pin SO-DIMM socket, up to 8 GB DDR3 1066MHz SDRAM	Power Consumption	61.8W (3.1A@20V)
I/O Interface		Mechanical	
PoE	4x Gigabit IEEE 802.3af (15.4W) PoE ports by Intel® 82574L	Dimension	240 mm (W) x 225mm (D) x 78 mm (H)
Ethernet	1x Gigabit Ethernet port by Intel® 82574L	Weight	3.2kg (including one 2.5" HDD and DDR3 SO-DIMM)
Video Port	1x DB-15 connector for analog RGB, supporting 2560x1600 resolution 1x DVI-D connector for DVI/HDMI output, supporting 1920x1080 resolution	Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)
Serial Port	1x software-programmable RS-232/422/485 (COM1) 3x RS-232 (COM2~COM4)	Environmental	
Isolated DIO	8x isolated digital input channels and 8x isolated digital output channels	Operating Temperature	Ambient with air flow (> 0.5 m/s or 1.8 km/hr), 100% CPU loading* -25°C ~ 70°C** Ambient without air flow, 100% CPU loading* -25°C ~ 60°C**
USB	8x USB 2.0 ports	Storage Temperature	-40°C ~ 85°C
KB/MS	1x PS/2 keyboard and 1x PS/2 mouse	Humidity	10% ~ 90%, non-condensing
Audio	1x Mic-in and Speaker-out	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
Storage Interface		Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
SATA HDD	2x Internal SATA ports for two 2.5" HDD/SSD installation	EMC	CE/FCC Class A, according to EN 55022 & EN 55024
eSATA	1x eSATA ports for storage expansion	* The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology	
CompactFlash	1x Type I CF socket	** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.	
Expansion Bus			
Mini PCI-E	1x internal mini PCI Express socket with USIM socket		

Order Information

Nuvo-1300af-620M

Intel® Core™ i7-620M fanless controller with 4x Gigabit PoE

Nuvo-1300af-520M

Intel® Core™i5-520M fanless controller with 4x Gigabit PoE

Option of DIN-Rail mounting kit

120 W AC/DC power adapter (for isolated PoE and system power)

160 W AC/DC power adapter (for non-isolated PoE and system power)

iVIS-200 Series

Intel® Atom™ E3845 Processor Board for x86-based Smart Camera Framework



Features

- Intel® Atom™ E3845 quad-core 1.91 GHz processing power
- Built-in GigE/USB3/USB2 camera interfaces
- Patented DTIO technology for accurate trigger/strobe control
- Built-in 500 mA constant current and 24 V constant voltage LED controller
- 802.3at PoE+ PD and auxiliary DC dual power input
- M12 connectors for water-proof design

Introduction

iVIS-200 is a Atom™ E3845 processing unit as part of an innovative smart camera framework, where you can build up your own x86-based smart camera by integrating an off-the-shelf camera.

iVIS-200 integrates leading-edge technologies its ultra-compact footprint. In addition to internal GigE/USB3/USB2 camera interfaces, it incorporates Neosys' DTIO technology for precise trigger/strobe control and built-in constant current/constant voltage LED controller for directly driving LED light. Moreover, iVIS-200 carries 802.3at PoE+ PD (Powered Device) capability, so you can simply access and power your smart camera with just one Ethernet cable.

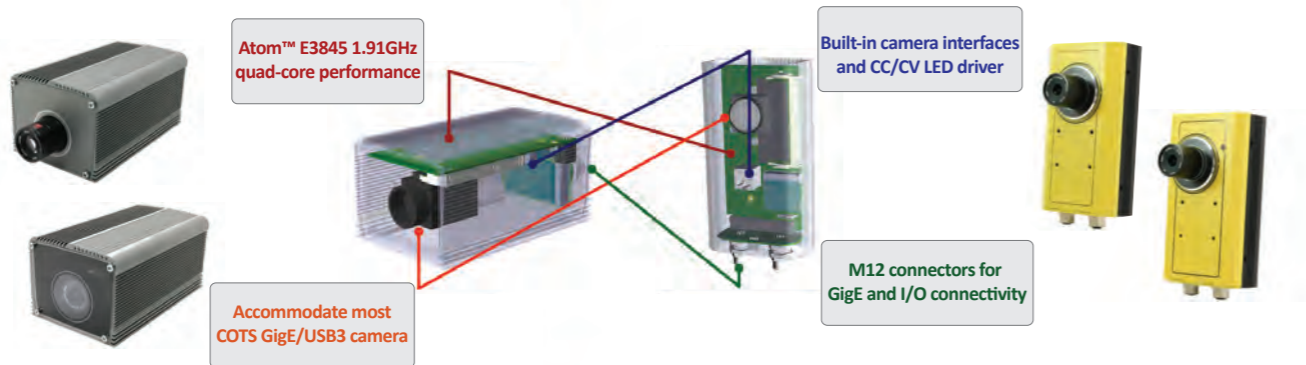
Targeting on different vertical markets, iVIS-200 series is offered in several barebone configurations. iVIS-210B-MVS and iVIS-211B-MVS are designed for machine vision applications. Both of them come with a slim enclosure to accommodate Basler Dart and Point Grey Chameleon3 board camera respectively. iVIS-220B-ITS and iVIS-227B-ITS, aiming at intelligent traffic system, are equipped with an IP50 and an IP67 enclosure to accommodate a 29mm x 29mm USB3/GigE camera. They also feature a mini-PCIe slot with SIM support for installing a 3G/4G/WIFI module.

iVIS-200 and the innovative framework expand the possibility of smart camera. With iVIS-200, you can quickly develop a smart camera based on Windows/Linux open platform and maximize your effort on vision software.

Product Highlights

x86-based Smart Camera Framework for Machine Vision and Intelligent Transportation System

iVIS-200 presents a new concept of creating a smart camera. By integrating off-the-shelf GigE/USB3 camera into a x86-based processing unit, you can simply develop your smart camera using Windows-based or Linux-based commercial or open source vision software, which significantly expands the possibility and flexibility for a smart camera system. iVIS-200 is offered in several configurations for machine vision and intelligent transportation system applications.



Built-in Constant Current and Constant Voltage LED Controller with Patented DTIO Technology

iVIS-200 incorporates LED illumination controller for directly driving the LED light. It supports both 500 mA max. adjustable constant current mode and 24 V constant voltage mode. PWM dimming control is also included to control the intensity of light. Combining Neosys' DTIO, a MCU-based trigger control mechanism, iVIS-200 can respond to a trigger signal with LED strobe and camera trigger at a deterministic 10us timebase. You can have a highly integrated smart camera system that always captures the image with right illumination when object is in position!



Compatible with Off-the-Shelf USB 3.0 and GigE Cameras

iVIS-200 is designed to work with off-the-shelf USB3/GigE camera to offer more choices in camera resolution and frame rate. For your selected camera, you can find a corresponding iVIS-200 model to accommodate it. iVIS-210B is well fit for Basler Dart board camera and iVIS-211B is for Point Grey Chameleon3. iVIS-220B and iVIS-227B, on the other hand, can accommodate most cameras with cross section of 29mm x 29mm, via either USB 3.0 or GigE interface.



iVIS-210 with Basler Dart



iVIS-211 with Point Grey Chameleon3



iVIS-220 with The Imaging Source DMK 23G618

* The model names, trademarks and company names listed here belong to their respective owners and are for representation purposes only.
** Lens and cameras shown on the photos are for demonstration purposes only and are excluded in the iVIS-200 series barebone.

Applications



1. AOI

2. Robotic Vision

3. Mobile NVR

4. LPR/ANPR

Specifications

	iVIS-210B-MVS iVIS-211B-MVS	iVIS-220B-ITS iVIS-227B-ITS		iVIS-210B-MVS iVIS-211B-MVS	iVIS-220B-ITS iVIS-227B-ITS
System Core			Storage/Expansion Interface		
Processor	Intel® Atom™ Bay Trail-I E3845 Quad-core processor		mSATA	1x half-size mSATA port	
Graphics	Integrated Intel® HD Graphics		Mini-PCIe	-	1x full-size mini-PCIe socket with SIM support
Memory	1x SODIMM socket for DDR3L-1333, up to 8GB		OS Support		
On-board Camera Interface			Windows	Windows 7 32/64-bit, WES7	
Ethernet	1x GigE interface by Intel® I210		Linux	Ubuntu 14.04, OpenSUSE 13.1, Fedora 20	
USB	1x USB 3.0 interface		Power Supply		
Trigger I/O	1-CH trigger-Out (to camera) and 1-CH strobe-in (from camera)		PoE+ PD	Support IEEE 802.3at PoE+ PD (powered via Ethernet cable)	
Panel I/O Interface (M12 connectors)			Auxiliary DC-IN	Support 12/24 VDC auxiliary power input when PoE+ PSE is not available	
Ethernet	1x Gigabit Ethernet ports by Intel® I210		Mechanical		
Trigger Input	2-CH isolated trigger input (<2us L-to-H and H-to-L propagation delay)		Dimension	83mm (W) x 43mm (D) x 153mm (H)	88mm (W) x 153mm (D) x 74mm (H)
Strobe Output	1-CH isolated strobe output (24 VDC / 0.5 A rated)		Weight	0.55 kg / 0.95 kg	
LED Illumination Controller	1-CH LED illumination driving output, supporting 24 VDC constant voltage mode or 500 mA max. adjustable constant current mode with 100 KHz, 250 steps PWM dimming control		Environmental		
COM	1x 3-wire RS-232		Operating	-25°C ~ 60°C, 100% CPU loading */**	
Auxiliary I/O Interface (internal wafer connector)			Storage Temperature	-40°C ~ 85°C	
VGA	1x VGA port		Humidity	10%~90%, non-condensing	
USB	1x USB 2.0 port		Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, w/o add-on card, according to IEC60068-2-64)	
			Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, w/o add-on card, according to IEC60068-2-27)	
			EMC	CE/FCC Class A, according to EN 55022 & EN 55024	

* When using built-in LED illumination controller to drive LED light, 24 VDC input is required to meet the rated current of the M12 connector
** The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neosys Technology

Order Information

iVIS-210B-MVS

Intel® Atom™ E3845 Smart Camera framework for MV application, accommodating Basler Dart camera (CS-mount)

iVIS-211B-MVS

Intel® Atom™ E3845 Smart Camera framework for MV application, accommodating Point Grey chameleon3 camera (CS-mount)

iVIS-220B-ITS

Intel® Atom™ E3845 Smart Camera framework for ITS application, accommodating COTS 29mm x 29mm USB3/GigE camera, with IP50 enclosure

iVIS-227B-ITS

Intel® Atom™ E3845 Smart Camera framework for ITS application, accommodating COTS 29mm x 29mm USB3/GigE camera, with IP67 enclosure

Cable kit for USB 3.0 camera

Cable kit for GigE camera



PCIe-PoE354at/PCIe-PoE352at

4-Port / 2-Port Server-grade Gigabit 802.3at PoE+ Frame Grabber Card



Features

- x4, Gen2 PCI Express interface offering 2GB/s total bandwidth
- Intel® I350 server-grade Gigabit Ethernet controller
- Supports four (354at) or two (352at) independent GigE Ports
- Compliant with IEEE 802.3at to deliver 25.5 W each port
- Supports 9.5 kB jumbo frame, teaming and IEEE 1588
- Per-port PoE+ power on/off control

Introduction

PCIe-PoE354at is world's first PoE frame grabber card combing server-grade GigE controller and 802.3at PoE+ capability. Inheriting Neousys' expertise on PoE technology, PCIe-PoE354at further implements the updated 802.3at-2009 standard and offers up to 25.5W of power each port.

PCIe-PoE354at is designed with state-of-the-art Intel® I350 Gigabit Ethernet controller. This server-grade GigE controller incorporates advanced features, such as checksum offloading, segmentation offloading and intelligent interrupt generation/moderation, to increase overall Ethernet performance and reduce CPU utilization. In addition, its single-bus, multi-port topology minimizes the compatibility issue with off-the-shelf motherboards when installing multiple cards.

Machine vision applications can be benefited by PCIe-PoE354at's server-grade network performance. Its 25.5W PoE+ can now power PTZ (pan-tilt-zoom) cameras for surveillance applications. PCIe-PoE354at presents the best cost/performance ratio for your Power over Ethernet solution.

Applications



1. Machine vision & AOI
2. Surveillance / Security
3. Medical Imaging
4. Automated Traffic Enforcement

Specifications

Model	PCIe-PoE354at	PCIe-PoE352at
Bus Interface	x4, Gen2 PCI Express	
Gigabit Ethernet Port	4x GigE ports by Intel® I350-AM4 controller, supporting 9.5 kB jumbo frame, teaming and IEEE 1588	2x GigE ports by Intel® I350-AM2 controller, supporting 9.5 kB jumbo frame, teaming and IEEE 1588
PoE Capability	In compliant with IEEE 802.3at-2009 (PoE+), each port delivers up to 25.5 W of power	
Cable Requirement	CAT-5e or CAT-6 cable, 100 meters maximal	
Power Requirement	Maximal 1.2 A @ 3.3 V from PCI Express bus Maximal 9.6 A @ 12 V from PCI Express bus or on-board 4-pin power connector*	Maximal 0.9 A @ 3.3 V from PCI Express bus Maximal 4.8 A @ 12 V from PCI Express bus**
Operating Temperature	0°C ~ 55°C with air flow	
Dimension	167.7 mm (W) x 111.2 mm (H)	

* PCIe-PoE354at is designed to obtain 12 VDC for PoE devices from either PCI Express bus or on-board 4-pin power connector according to a user-configurable jumper.
** PCIe-PoE352at is designed to obtained 12 VDC for PoE devices directly from PCI Express bus. No external 12 VDC is needed.

Order Information

- PCIe-PoE354at**
4-Port Intel® I350-AM4 server-grade Gigabit 802.3at PoE+ frame grabber card
- PCIe-PoE352at**
2-Port Intel® I350-AM2 server-grade Gigabit 802.3at PoE+ frame grabber card

PCIe-USB380/PCIe-USB340

8-Port/4-Port USB 3.0 Host Adapter Card with 4x Independent USB 3.0 Controllers



Features

- x4 PCI Express® Gen2 interface to deliver 2GB/s total bandwidth
- 8-port/4-port by 4x NEC/Renesas μPD720202 Host Controllers
- On-board 5VDC regulated power supply, no external power needed
- User-configurable 900mA and 1500mA current limit
- Software-programmable per-port power on/off control
- Supports cable-lock mechanism for reliable cable connection
- Supports Windows XP/7/8 and Linux
- Compliant with
 - Universal Serial Bus 3.0 specification Rev. 1.0
 - Intel® xHCI specification Rev. 1.0

Introduction

Neousys PCIe-USB380/340 is an 8-port/4-port USB 3.0 host adapter dedicatedly designed for industrial and vision applications. USB 3.0, or SuperSpeed USB, is an emerging bus technology to deliver ten times of data rate over USB 2.0, and is particularly useful for high-speed data storage and imaging devices.

Most off-the-shelf USB 3.0 cards implement multiple ports with single USB 3.0 controller, which introduce significant performance degradation for multi-port operation. To achieve maximal per-port performance, PCIe-USB380 has four independent NEC/Renesas μ PD720202 USB 3.0 Host Controllers and x4 PCI Express® Gen2 interface to fulfill up to 5 Gbps bandwidth for each port when four ports run simultaneously. In addition to bandwidth advantage, PCIe-USB380/340 features on-board regulated 5VDC power supply with a unique design of configurable 900mA/1500mA current limit to supply stable 5VDC power to external USB devices. It also supports software-programmable per-port power on/off control for fault recovery operations.

Combining high bandwidth, industrial-grade power design and reliable cable connection, PCIe-USB380/340 brings great convenience to interface USB 3.0 devices for versatile operating systems, such as Windows XP, 7, 8 and Linux.

Specifications

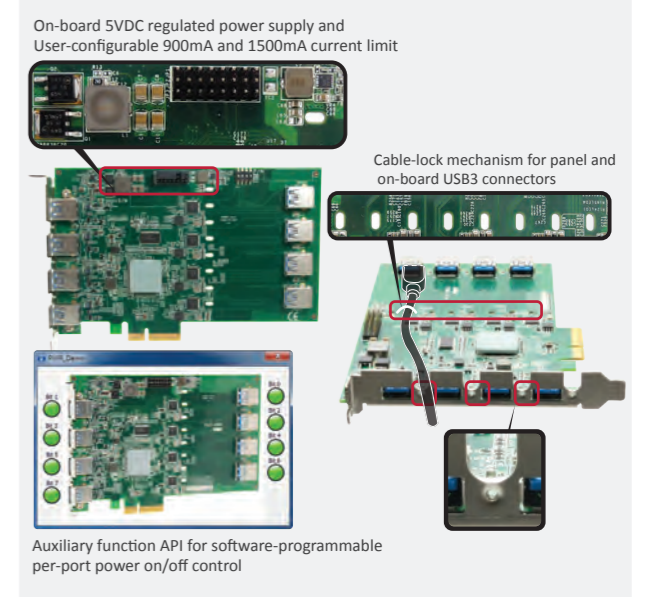
Model	PCIe-USB380	PCIe-USB340
USB Ports	8x USB 3.0 ports, Compatible with USB 2.0/1.1/1.0	4x USB 3.0 ports, Compatible with USB 2.0/1.1/1.0
USB Connectors	4x panel-accessible USB 3.0 Type-A connectors with M2 screw threads 4x on-board USB 3.0 Type-A connectors with fix points for cable tie	4x panel-accessible USB 3.0 Type-A connectors with M2 screw threads
Bus Interface	4-lanes, Gen2 PCI Express interface, compliant with PCI Express Base Specification Revision 2.0	
USB Controller	4x NEC/Renesas μPD720202 Host Controllers Compliant with Universal Serial Bus 3.0 specification Revision 1.0 Compliant with Intel® xHCI specification Revision 1.0	
USB Per-Port Current Limit	User-configurable 900mA/1500mA per-port current limit	
Power Requirement	Maximal 2.0A@3.3V from PCI Express bus Maximal 5.5A@12V from PCI Express bus for devices	Maximal 2.0A@3.3V from PCI Express bus Maximal 2.8A@12V from PCI Express bus for devices
Operating Temperature	0°C ~ 60°C with ambient air flow	
Dimension	167.7 mm (W) x 111.2 mm (H)	

Applications

1. Machine vision & AOI
2. Production test for USB3 devices
3. Medical Imaging
4. 3D image scanning

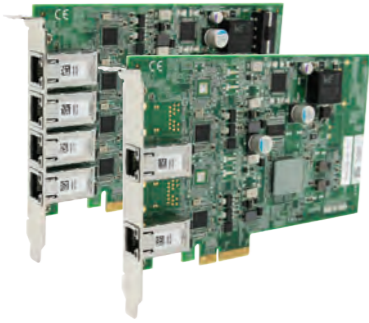
Order Information

- PCIe-USB380**
8-Port USB 3.0 host adapter with 4x independent USB 3.0 controllers
- PCIe-USB340**
4-Port USB 3.0 host adapter with 4x independent USB 3.0 controllers
- USB3-Cable-3M**
USB3 Type-A to Micro-B cable with latched connectors, 3-meter length



PCIe-PoE2+/PCIe-PoE4+

2-Port/4-Port x4 PCI-E Gigabit Power over Ethernet Frame Grabber Card



Features

- x4 PCI Express® interface to support a total bandwidth of 1GB/s
- Supports four (PoE4+) or two (PoE2+) independent GigE Ports
- Compliant with IEEE 802.3af to deliver 15.4 W each port
- Supports 9 kB jumbo frame and link aggregation
- No external 12 VDC input needed for PCIe-PoE2+

Introduction

Neousys PCIe-PoE2+ and PCIe-PoE4+ are x4 PCI Express GigE frame grabber cards with PoE capability. PoE, or Power over Ethernet, is a technology to supply electrical power along with data over a standard Ethernet cable. PCIe-PoE2+ offers two PoE ports and PCIe-PoE4+ offers four PoE ports via independent Intel® 82574L Gigabit Ethernet controllers.

PCIe-PoE2+ and PCIe-PoE4+ are dedicatedly designed for PoE cameras. Each port can deliver 15.4 W of power and 1000 Mb/s bandwidth over a CAT-5/CAT-6 cable of up to 100 meters. It features 9 kB jumbo frame and link aggregation, which conduct exceptional performance for continuously receiving large amount of image data. And for your convenience, we design PCIe-PoE2+ with the capability of directly drawing power from PCI-E bus so no external 12 VDC is needed.

The PoE technology significantly reduces the installation and maintenance cost by eliminating the power wire. Combining PoE and the Gigabit bandwidth, PCIe-PoE2+ and PCIe-PoE4+ are the perfect fit for your vision application!

Applications



1. Machine vision & AOI
2. Surveillance / Security
3. Medical Imaging
4. Automated Traffic Enforcement

Specifications

Model	PCIe-PoE2+	PCIe-PoE4+
Bus Interface	x4 PCI Express	
Gigabit Ethernet Port	2x Gigabit Ethernet ports by Intel® 82574L controllers, supporting 9 kB jumbo frame & link aggregation (teaming)	4x Gigabit Ethernet ports by Intel® 82574L controllers, supporting 9 kB jumbo frame & link aggregation (teaming)
PoE Capability	IEEE 802.3af compliant, each port delivers up to 15.4W	
Cable Requirement	CAT-5e or CAT-6 cable, 100 meters maxima	
Power Requirement	Maximal 1.6A @ 3.3V from PCI Express bus Maximal 2.8A @ 12V directly from PCI Express bus*	Maximal 2.4A @ 3.3V from PCI Express bus Maximal 5.6A @ 12V from external power plug via 4-pin power connector**
Operating Temperature	0°C ~ 60°C with air flow	
Dimension	167.7 mm (W) x 111.2 mm (H)	

* PCIe-PoE2+ is designed to directly draw 12V power for PoE devices from PCI Express bus. No external 12 VDC input is needed.
** PCIe-PoE4+ is designed to obtain additional 12V power for PoE devices from its on-board 4-pin power connector.

Order Information

- PCIe-PoE2+**
2-Port x4 PCI-E Gigabit Power over Ethernet Frame Grabber Card
- PCIe-PoE4+**
4-Port x4 PCI-E Gigabit Power over Ethernet Frame Grabber Card

Nuvo-5100VTC Series

Intel® 6th-Gen Skylake Core™ i7/i5/i3 In-Vehicle Controller with 4x M12 PoE+ Ports, DIO, CAN Bus and RAID



Features

- Supports Intel® 6th-Gen Core™ i7/i5/i3 LGA1151 socket-type CPU
- 4x 802.3at Gigabit PoE+ ports via M12 connectors
- On-board CAN bus for in-vehicle communication
- 4-CH isolated DI and 4-CH isolated DO
- 2x SATA ports with one hot-swappable HDD tray, supporting RAID 0/1
- 4x full-size mini-PCIe sockets with SIM support
- 8~35V wide-range DC input with built-in ignition power control
- E-Mark and EN 50155 certificate

Introduction

Nuvo-5100VTC is a state-of-the-art in-vehicle controller in compliant with E-Mark and EN 50155 certificate. Featuring Intel® 6th-Gen Core™ CPU, it exhibits superb CPU and GPU performance for various in-vehicle applications.

Nuvo-5100VTC offers four 802.3at PoE+ ports to supply 25W power to the connected device. They are implemented using M12, x-coded connectors, which guarantee extremely rugged connectivities in shocking/vibrating environments. Two more Gigabit Ethernet ports by RJ-45 are available for data communication. You can also utilize four internal mini-PCIe sockets with corresponding modules for 3G/4G/WIFI/GPS communication.

In addition, Nuvo-5100VTC integrates CAN bus for in-vehicle communication, and isolated DIO for sensor/actuator control. Combining ignition power control and dual-drive RAID storage, Nuvo-5100VTC is simply the one to satisfy all your application demands.

Specifications

System Core		Expansion Bus	
Processor	Supports 6th-Gen Intel® Core™ i7/i5/i3 LGA1151 CPU • 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)	Mini PCI-E	1x full-size mini-PCIe socket with panel-accessible SIM socket 1x full-size mini-PCIe socket with internal SIM socket (mux. with mSATA) 2x full-size mini-PCIe sockets (USB signals only) with internal SIM sockets
Chipset	Intel® Q170 Platform Controller Hub	Power Supply	
Graphics	Integrated Intel® HD Graphics 530	DC Input	1x 3-pin pluggable terminal block for 8~35VDC DC input
Memory	Up to 32 GB DDR4-2133 SDRAM by two SODIMM sockets	Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
AMT	Supports AMT 11.0	Mechanical	
TPM	Supports TPM 2.0	Dimension	240 mm (W) x 225 mm (D) x 79 mm (H)
I/O Interface		Weight	3.3 kg
Ethernet	2x Gigabit Ethernet ports by Intel® I219 and I210	Mounting	Neousys' patented damping bracket (standard) or optional DIN-Rail mounting
PoE+	4x IEEE 802.3at (25.5W) Gigabit PoE+ ports by Intel® I210, M12 x-coded connector	Environmental	
CAN	1x CAN 2.0 port	Operating Temperature	-25°C ~ 70°C */**
Isolated DIO	4x isolated DI and 4x isolated DO	Storage Temperature	-40°C ~ 85°C
USB	4x USB 3.0 ports via native XHCI controller 4x USB 2.0 ports	Humidity	10%~90% , non-condensing
Video Port	1x stacked VGA + DVI-D connector 2x DisplayPort connectors, supporting 4K2K resolution	Vibration	Operating, 5 Grms, 5-50 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
Serial Port	2x software-programmable RS-232/422/485 port (COM1 & COM2) 1x RS-232 port (COM3)	Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
Audio	1x mic-in and 1x speaker-out	EMC	CE/FCC Class A, according to EN 55022 & EN 55024
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)		

* The CPU loading is applied using Passmark® BurnInTest 8.0. For detail testing criteria, please contact Neousys Technology
** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Order Information

- Nuvo-5100VTC**
Intel® 6th-Gen Skylake Core™ i7/i5/i3 In-Vehicle Controller with 4x M12 PoE+ Ports, DIO, CAN Bus and RAID

Accessories

- M12, x-coded to RJ-45 Ethernet cable, 5 m length
- M12, x-coded to RJ-45 Ethernet cable, 10 m length
- Option of DIN-Rail mounting kit
- 120W AC/DC power adapter

Nuvo-3100VTC Series

Intel® 3rd-Gen Core™ i7/i5 Fanless in-Vehicle Controller with 4x 802.3at PoE+ Ports and Dual-Drives RAID

E13 10R-0413512



Features

- 212 mm x 165 mm x 62 mm very compact size
- Intel® 3rd-Gen i7/i5 PGA-type processor
- 4x IEEE 802.3at (25.5W) Gigabit PoE+ ports
- Dual 2.5" SATA ports with one easy-swap HDD tray
- Patented shock-absorbing bracket for in-vehicle installation
- 8 ~ 35V wide-range DC input and built-in ignition power control
- 3x mini-PCIe/mSATA slots for 3G/WIFI/GPS capability
- E13 No. 10R-0413512 and EN 50155/EN 50121-3-2 certificate

Introduction

Nuvo-3100VTC is a fanless controller with E-Mark and EN 50155/EN 50121-3-2 certificate for in-vehicle usage. It supports 3rd-Gen i7 quad-core CPU to provide extraordinary performance for emerging high-end requirements. It also integrates four IEEE 802.3at PoE+ ports to facilitate Ethernet connectivity and power IP cameras for surveillance applications.

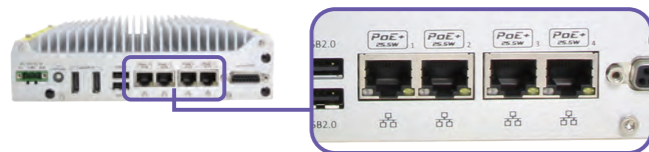
Nuvo-3100VTC takes into account all demands of in-vehicle applications. It has very compact footprint to fit into restricted space. Its 8~35V wide-range DC input and enhanced surge protection make Nuvo-3100VTC highly robust when car power applied. Nuvo-3100VTC further incorporates built-in RAID supporting data striping (RAID 0) and data mirroring (RAID 1) for two 2.5" HDDs. You can also take advantage of the easy-swap HDD tray for easy HDD replacement. For in-vehicle installation, our patented mounting bracket can absorb shock/vibration and extend overall system reliability.

Combining superior performance, PoE+ and comprehensive design, Nuvo-3100VTC presents more possibilities for innovative in-vehicle applications!

Product Highlights

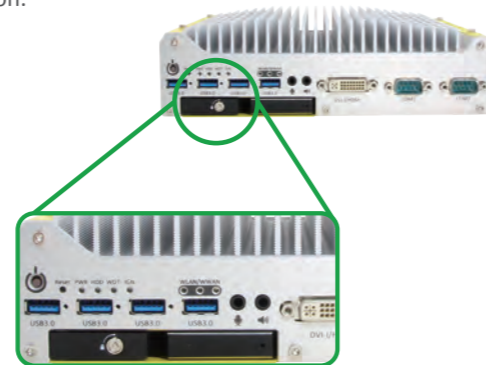
4x 802.3at PoE+ Ports

Power Over Ethernet, or PoE, is a technology that passes electrical power along with data over a single CAT5/6 cable. Compliant with IEEE 802.3at PoE+ standard, Nuvo-3100VTC can supply 25.5W to each of its four ports. For in-vehicle surveillance applications, PoE+ significantly reduces the complexity of camera installation as only one CAT5/6 cable is enough to connect and power the camera.



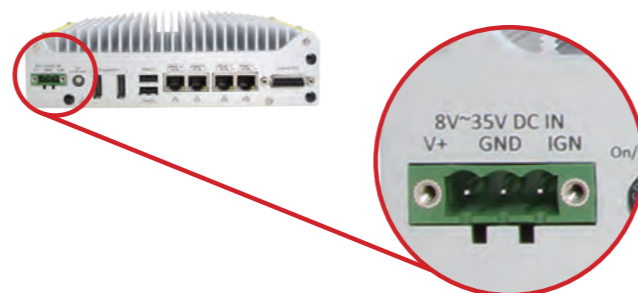
RAID with Easy-Swap HDD Tray

Nuvo-3100VTC has built-in hardware RAID to enhance reliability and efficiency of disk access. It maintains two 2.5" SATA drives and supports RAID 0 (higher throughput) and RAID 1 (data redundancy). In addition, Nuvo-3100VTC hosts a easy-swap HDD tray to accommodate one of SATA drives for storing portable information.



Comprehensive Power Design for In-Vehicle Applications

Aiming at in-vehicle usage, Nuvo-3100VTC has comprehensive power circuitry design. It accepts 8~35VDC input range with enhanced surge protection to work reliably with battery power on the car (12V) or bus/truck (24V). Ignition power control is implemented to respond ACC signal according to configurable power on/off delay.



Applications



1. Fleet Management System
2. In-Vehicle Surveillance System
3. Mobile ANPR

Specifications

	Nuvo-3100VTC	Nuvo-3110VTC	Nuvo-3100VTC	Nuvo-3110VTC
System Core			Power Supply & Ignition Control	
Processor	Supports the following CPU • Intel® Core™ i7-3610QE (2.3/3.3 GHz, 6 MB cache) • Intel® Core™ i5-3610ME (2.7/3.3 GHz, 3 MB cache) • Intel® Celeron™ 1020E (2.2 GHz, 2 MB cache)		DC Input	8~35V DC input via 3-pin pluggable terminal block
Chipset	Intel® QM77 Platform Controller Hub with AMT & RAID support		Ignition Control	Ignition power control with user-selectable on/off delay
Graphics	Integrated Intel® HD Graphics 4000 Controller		Mechanical	
Memory	1x 204-pin SO-DIMM sockets, up to 8GB DDR3 1333/1600 MHz SDRAM		Dimension	212 mm (W) x 165 mm (D) x 62 mm (H)
I/O Interface			Weight	2.8 kg (including one 2.5" HDD and DDR3 SO-DIMM)
Ethernet	1x Gigabit Ethernet port by Intel® 82579LM, supporting Wake-on-LAN 3x Gigabit Ethernet ports by Intel® i210		Mounting	Damping bracket (Standard) or DIN-Rail mounting (optional)
PoE	Compliant to IEEE 802.3at (25.5W) with per-port power on/off control 75W total power budget for 4x PoE+ ports		Environmental	
Video Port	1x DVI-I connector for VGA/DVI output, supporting 2048x1536 (VGA) or 1920x1080 (DVI) resolution 2x DisplayPort, supporting 2560x1600 resolution		Operating Temperature	Maximal Performance: -25°C ~ 50°C** Reduced Performance: -25°C ~ 60°C** Extended Temperature: -25°C ~ 70°C**
USB	4x USB 3.0 ports and 2x USB 2.0 ports		Storage Temperature	-40°C ~ 85°C**
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2)		Humidity	10%~90% , non-condensing
Isolated DIO	4x isolated DI with COS interrupt and 4x isolated DO		Vibration	Operating, 1 Grms, 5-500 Hz, 3 Axes (w/ HDD, according to IEC60068-2-64) Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
Audio	1x mic-in and 1x speaker-out		Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
Storage Interface			Certification	E-Mark for vehicle applications EN 50155/EN 50121-3-2 CE/FCC Class A, according to EN 55022 & EN 55024
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD 1x Easy-swap HDD tray for 2.5" HDD/SSD		* The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neousys Technology. ** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.	
mSATA	1x full-size mSATA (SATA/USB/W_DISABLE#) with USIM socket			
Expansion Bus				
Mini PCI-E	1x full-size mini PCI Express socket with USIM socket 1x half-size mini PCI Express socket			

Order Information

- Nuvo-3100VTC-I7QC**
Intel® Core™ i7-3610QE fanless in-vehicle controller with 4x 802.3at PoE+ ports and dual-drives RAID
- Nuvo-3100VTC-I5DC**
Intel® Core™ i5-3610ME fanless in-vehicle controller with 4x 802.3at PoE+ ports and dual-drives RAID
- Nuvo-3100VTC-C1020**
Intel® Celeron™ 1020E fanless in-vehicle controller with 4x 802.3at PoE+ ports and dual-drives RAID
- Option of DIN-Rail mounting kit**
120W AC/DC power adapter

- Nuvo-3110VTC-I7QC**
Intel® Core™ i7-3610QE fanless in-vehicle controller with 4x GbE ports and dual-drives RAID
- Nuvo-3110VTC-I5DC**
Intel® Core™ i5-3610ME fanless in-vehicle controller with 4x GbE ports and dual-drives RAID
- Nuvo-3110VTC-C1020**
Intel® Celeron™ 1020E fanless in-vehicle controller with 4x GbE ports and dual-drives RAID



Nuvo-2510VTC

Intel® Atom™ Bay Trail In-Vehicle Fanless Computer with 2x IEEE 802.3at PoE+ Ports

In-vehicle Computing



Features

- Intel® Atom™ Bay Trail E3845 quad-core processor
- Dual mPCIe and USIM sockets for 3G, LTE, WLAN, BT or GPS modules
- Dual storage with 1x mSATA and 1x SATA
- Intelligent ignition power control
- 1x CAN bus port with compliance to CAN 2.0A and CAN 2.0B
- 8 to 35VDC wide-range DC input
- Operating temperature from -25° to 70°C
- Patented damping bracket* increases stability with HDD
- E13 No. 10R-0513905

Introduction

Nuvo-2510VTC is an in-vehicle fanless computer with Intel® Atom™ E3845 quad-core processor. Equipped with 2 IEEE 802.3at Gigabit Ethernet ports, Nuvo-2510VTC is capable of directly driving 25W GigE and PoE IP cameras with a single standard CAT-5e. Along with intelligent ignition power control and built-in CAN bus, Nuvo-2510VTC is ideal for light-weight mobile applications, such as mobile NVR and mobile ANPR.

Designed for in-vehicle applications, Nuvo-2510VTC supports wide-range DC input, and thus can be directly powered by 12VDC or 24VDC vehicle battery. It features intelligent ignition power control with selectable on and off delay and battery voltage monitoring. Nuvo-2510VTC also supports one built-in CAN bus port with compliance to CAN 2.0A and CAN 2.0B. The CAN bus is the foundation of many different kinds of vehicles protocols.

Nuvo-2510VTC provides 2 PoE+ Gigabit Ethernet ports and 1 USB3.0 port for industry cameras and IP cameras. Besides, 4 serial ports and 3 USB2.0 ports are available. For mobile applications which require data transmission, Nuvo-2510VTC is possible to install two 3G/4G modules with USIMs in its 2 mini PCI Express (mPCIe) sockets. Nuvo-2510VTC is ideal for your versatile in-vehicle applications.

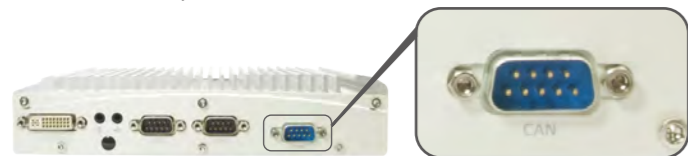
Product Highlights

High Value Fanless Computer

Equipped with Intel® Bay Trail quad-core processor, Nuvo-2510VTC shows much higher performance than previous Atom D2550 computers. This provides adequate computing power for many light-weight applications with reasonable cost. With TDP, thermal design power, of the on-board processor is only 10W, as well as the wide range DC input, Nuvo-2510VTC is also good for battery-powered applications. Moreover, many value-added features, such as shock-absorbing mounting, ignition power control, wide operating temperature, wide-range DC input, are designed in. Whether for in-vehicle or general purpose applications, Nuvo-2510VTC is really a high value industrial fanless computer.

Built-in CAN Bus Port

CAN bus is a vehicle bus standard allowing the in-vehicle devices to communicate with each other without a host, and is widely used in different vehicles nowadays. Nuvo-2510VTC provides built-in CAN bus port. The built-in CAN bus supports the bit rate up to 1Mbps and both CAN2.0A and CAN2.0B. These two frame formats forms the Data Link Layer and Physical Layer of many CAN-based HLP, Higher Layer Protocols, such as ISO TP, J1939 and OBD. The built-in CAN bus is provided with SDK facilitating sending and receiving CAN bus messages with configurable CAN bus identifier. By assigning different identifier and data byte, Nuvo-2510VTC is possible to handle different CAN-base HLPs.



Ignition Control and Voltage Monitoring

The DC input of Nuvo-2510VTC ranges from 8V to 35V. Besides of AC-DC power supplies for general purpose usages, both 12VDC and 24VDC vehicle batteries can directly power Nuvo-2510VTC for in-vehicle applications. The built-in micro-controller turns on and off the system with a selectable delay correlated with the vehicle ignition signal. Nuvo-2510VTC also monitors the battery voltage power and turns itself off in case of low voltage.



2x IEEE 802.3at PoE+ Ports

Nuvo-2510VTC integrates 2 Gigabit PoE+ PSE ports compliant with IEEE 802.3at standard. Each port can deliver power up to 25.5W and simultaneously transfer data up to 1000 Mb/s over a single CAT-5e/CAT-6 cable. The built-in PoE+ ports support per-port on/off. The per-port on/off feature allows you to reset the connected PoE PD devices. The highly integrated design, moreover, allows Nuvo-2510VTC to effectively manage the heat which PoE circuit generates and consequently makes Nuvo-2510VTC a very stable fanless computer equipped with PoE+ PSE ports.

Applications



1. Mobile NVR
2. In-Vehicle infotainment
3. Fleet Management System
4. Mobile ANPR

Specifications

System Core		Expansion Bus	
Processor	Intel® Atom™ Bay Trail E3845 quad-core processor (1.91 GHz, 2M cache)	Mini PCI-E	1x full-sized mini PCI Express socket with USIM socket (PCIe + USB) 1x full-sized mini PCI Express socket with external USIM socket (USB)
Graphics	Integrated Intel® HD Graphics		
Memory	1x 204-pin SO-DIMM socket, up to 8GB DDR3L 1333MHz SDRAM	Power Supply	
Front Panel I/O Interface		DC Input	8~35V DC
PoE Port	2x IEEE 802.3at (25.5W) Gigabit Ethernet ports by Intel I210	Mechanical	
Video Port	1x DB-15 connector for analog RGB, supporting 2560 x 1600 resolution	Dimension	205 mm (W) x 146 mm (D) x 44 mm (H)
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2)	Weight	1.9 kg (including one 2.5" HDD and DDR3 SO-DIMM)
USB	1x USB 3.0 port and 3x USB 2.0 ports	Mounting	Patented shock-absorbing wall-mounting (standard) or DIN-Rail mounting (optional)
Power Input	1x 3-pin pluggable terminal block for ignition signal and DC input	Environmental	
Back Panel I/O Interface		Operating Temperature	-25°C ~ 70°C with SSD, 100% CPU loading **/*** -10°C ~ 50°C with HDD, 100% CPU loading **/***
Video Port	1x DVI-I connector with DVI-D output, supporting 2560 x 1600 resolution	Storage Temperature	-40°C ~ 85°C
Audio	1x Mic-in, 1x Speaker-out	Humidity	10%~90% , non-condensing
Series Port	2x RS-232 (COM3 & COM4)	Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes(w/ SSD, according to IEC60068-2-64)
CAN Bus	1x DB-9 connector for CAN Bus communications	Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
Storage Interface		Certification	E-Mark for vehicle applications (To Be Certified) CE/FCC Class A, according to EN 55022 & EN 55024
SATA HDD	1x Internal SATA port for 2.5" HDD/SSD installation		
mSATA	1x internal half-sized mSATA (SATA + USB)		

** The 100% CPU loading is applied using Passmark® BurnInTest™ v7.0. For detail testing criteria, please contact Neousys Technology
*** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Order Information

Nuvo-2510VTC

Intel® Atom™ Bay Trail E3845 In-Vehicle Fanless Computer with 2x IEEE 802.3at PoE+ Ports

60W AC/DC power adapter with 12V, 5A DC output

Option of DIN-rail mounting kit

Nuvo-3616VR Series

Intel® 3rd-Gen Core™ i7/i5 Fanless Surveillance System with 16x 802.3at PoE+ Ports and 4-Drives RAID

Surveillance / Video Analytics



Features

- Intel® 3rd-Gen i7 quad-core superb performance
- Up to 16x IEEE 802.3at (25.5W) PoE+ ports
- Rugged, -25 °C to 60 °C fanless operation
- Four 2.5" SATA HDDs with RAID 0/1/5/10 support
- Patented easy-swap trays* for HDD replacement
- 8~35V wide-range DC input with built-in ignition power control
- Per-port power on/off control for each PoE+ port

Introduction

Nuvo-3616VR is world's first surveillance platform integrates 16 PoE+ ports, i7 CPU and RAID in a compact, fanless chassis. It is designed to meet requirements of a stationary or mobile surveillance system, and is capable for not only video recording but also high-end video analytics.

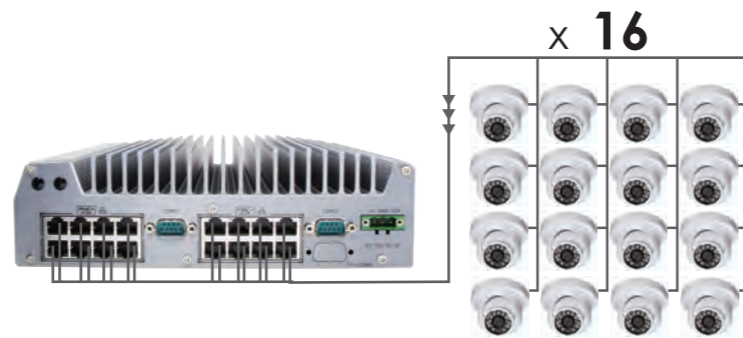
A typical surveillance system uses a NVR to connect IP cameras and record video streams on its disk array. Similar to a NVR, Nuvo-3616VR features 16 PoE+ ports and built-in disk array for video recording. Each of its 802.3at PoE+ ports can supply 25.5W to power a bullet, dome or PTZ camera. Nuvo-3616VR also incorporates built-in 4-drives RAID for up to 8TB storage capacity. More than the off-the-shelf NVR, Nuvo-3616VR comes with a quad-core i7 CPU, which delivers extraordinary computing performance to facilitate advanced video analytics algorithms.

Nuvo-3616VR inherits Neosys' proven fanless architecture to ensure true wide-temperature operation. Two of its four 2.5" drives come with Neosys' patented easy-swap trays for simple HDD/SSD replacement. Nuvo-3616VR also features 8~35V wide-range DC input and ignition control for stationary or in-vehicle usage. Combining numerous PoE+ ports, RAID storage and superb computing power, Nuvo-3616VR ignites a new era of surveillance applications!

Product Highlights

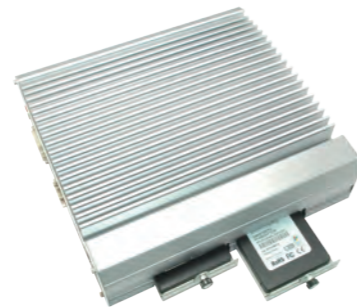
16x 802.3at PoE+ Ports

Connecting cameras for video capture is the fundamental of a surveillance system. Nuvo-3616VR features 16x 802.3at PoE+ ports for connecting IP cameras. Each port can supply 25.5W power, capable of powering a high-watt PTZ (Pan-Tilt-Zoom) camera. As electrical power is passed along with data on a single CAT5/6 cable, Nuvo-3616VR significantly reduces the cost of deployment for a surveillance system supporting up to 16 cameras.



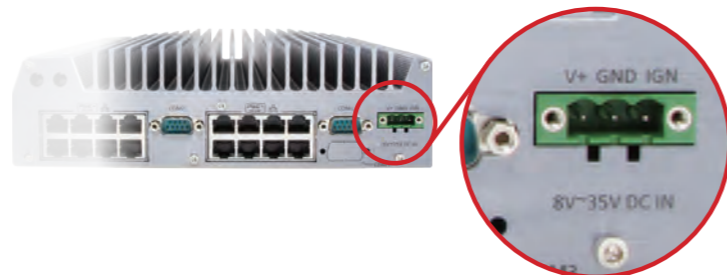
Built-in 4-Drives RAID

Storing video streams from 16x cameras requires a reliable storage with high throughput and high capacity. Thus Nuvo-3616VR incorporates a 4-drives RAID 0/1/5/10 storage system to offer up to 1GB/s disk access and 8TB capacity. Moreover, two of four drives are installed with easy-swap HDD trays so you can replace the HDD/SSD in just few seconds.



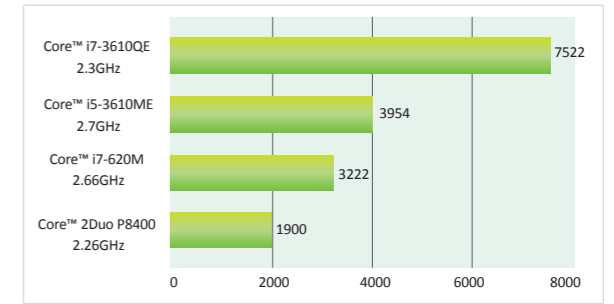
8~35V DC-in and Ignition Control

Nuvo-3616VR is designed for both stationary and mobile surveillance applications. Some notable features, such as 8~35V wide-range input, ignition control, input surge protection and damping bracket, are integrated into Nuvo-3616VR to make it feasible not only for fixed deployment but also for in-vehicle usage.



Quad-core i7 CPU for Video Analytics

Video analytics is an emerging requirement for modern surveillance systems to facilitate real-time analyzing/alarming. In addition to PoE+ and RAID, Nuvo-3616VR equips Intel® 3rd-Gen i7 quad-core processor to offer extraordinary computing power for performing complicated video analytics algorithms (e.g. face detection). This makes Nuvo-3616VR a versatile surveillance system combining video capture/streaming and advanced video analytics.



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

Applications



1. Stationary Surveillance System
2. Mobile Surveillance System

Specifications

	Nuvo-3616VR	Nuvo-3608VR		Nuvo-3616VR	Nuvo-3608VR
System Core			Expansion Bus		
Processor	Intel® Core™ i7-3610QE (2.3/3.3 GHz, 6 MB cache) Intel® Core™ i5-3610ME (2.7/3.3 GHz, 3 MB cache)		Mini PCI-E	1x internal mini PCI Express socket with USIM socket 1x internal mini PCI Express socket	
Chipset	Intel® QM77 Platform Controller Hub with AMT & RAID support		Power Supply & Ignition Control		
Graphics	Integrated Intel® HD Graphics 4000 Controller		DC Input	1x 3-pin pluggable terminal block for 8~35V DC input (for direct DC wiring)	
Memory	2x 204-pin SO-DIMM sockets, up to 16 GB DDR3 1333/1600 MHz SDRAM		Ignition Control	Ignition power control with configurable on/off delay (V+/GND/IGN)	
I/O Interface			Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output	
Ethernet	1x Gigabit Ethernet ports by Intel® 82579LM		Mechanical		
PoE	16x IEEE 802.3at (25.5W) PoE+ Ports with per-port power on/off control 160W total power budget	8x IEEE 802.3at (25.5W) PoE+ Ports with per-port power on/off control 80W total power budget	Dimension	240mm (W) x 255mm (D) x 71 mm (H)	
Video Port	1x DB-15 connector for analog RGB, supporting 2048x1536 resolution 2x DVI-D connectors for DVI/HDMI outputs, supporting 1920x1080 resolution		Weight	5.0 Kg	
USB	2x USB 3.0 ports and 2x USB 2.0 ports		Mounting	Wall-mounting	
Serial Port	2x software-programmable RS-232/422/485 (COM1 & COM2)		Environmental		
KB/MS	1x 6-pin mini-DIN connector for PS/2 keyboard/mouse		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	4x Internal SATA ports for 2.5" HDD/SSD installation with RAID 0/1/5/10		Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)	
CFast	1x CFast socket		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	

** 100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neosys Technology.
*** For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

Order Information

Nuvo-3616VR-I7QC

Intel® Core™ i7-3610QE fanless surveillance system with 16x PoE+ Ports and 4-drives RAID

Nuvo-3616VR-I5DC

Intel® Core™ i5-3610ME fanless surveillance system with 16x PoE+ Ports and 4-drives RAID

Nuvo-3608VR-I7QC

Intel® Core™ i7-3610QE fanless surveillance system with 8x PoE+ Ports and 4-drives RAID

Nuvo-3608VR-I5DC

Intel® Core™ i5-3610ME fanless surveillance system with 8x PoE+ Ports and 4-drives RAID

280W AC/DC power adapter



EDX-104 Series

5-port IEEE 802.3at PoE+ Gigabit Unmanaged Industrial Ethernet Switch with PoE+ PD and DC Dual Power Input



Features

- Five 10/100/1000 Mbps Gigabit Ethernet ports
- Supports IEEE 802.3at PoE+ PSE on port 2~5
- Up to 25.5 W power output on each port, total 80W power budget
- Dual power Input
 - PoE+ PD (Powered Device) mode via port 1
 - 24/48 VDC input with power connector
- EMS level 3 protection for industrial environments
- Industrial-grade, -25°C to 70°C fanless operation
- IP50 (EDX-104J) housing

Introduction

EDX-104 series is world's first PoE+ unmanaged switch combining IEEE 802.3at PSE/PD capability and fanless enclosure for IP protection. It offers five Gigabit Ethernet ports compliant with 802.3 (10BASE-T), 802.3u (100BASE-TX) and 802.3ab (1000BASE-T). Four of its ports support 802.3at PoE+ PSE (Power Sourcing Equipment) capability and can deliver up to 25.5W to PoE PD on each port.

The feature of dual power mode is what makes EDX-104 unique. It can operate as a PoE+ PD thus you can simply power it using a Ethernet cable from a PSE. Or, when PSE is not available, you can supply 24/48 VDC to make it work. The combination of PSE and PD minimizes the effort of installation and maintenance as only Ethernet cables are needed to connect everything.

EDX-104 series is designed with EMS level 3 protection. Combining its -25°C to 70°C fanless operation and IP protection, EDX-104 is a simple yet rugged Ethernet switch for your industrial environments.



Industrial PoE+ PSE+PD GigE Switch

Specifications

EDX-104J	
PoE Standard	IEEE 802.3at PSE (port 2~5) IEEE 802.3at PD (port 1)
Ethernet Standard	IEEE 802.3 for 10BASE-T / IEEE 802.3u for 100BASE-TX IEEE 802.3ab for 1000BASE-T / IEEE 802.3x for Flow Control
# of Port	5-port, 1000/100/10 Mbps, auto-negotiation
Switch Features	MAC table size: 8192 entries Frame buffer memory: 1 Mb Jumbo frame support: 10 KB
Ethernet Connector	RJ-45 PSE power out: V+/V+/V-/V- on pin 1/2/3/6
Power Input (PD Mode)	Via Ethernet port 1 (RJ-45), total power budget for PSE: 25 W
Power Input (DC Mode)	24/48 VDC, via 3-pin terminal block, total power budget for PSE: 80 W
IP Rating	IP50
EMC	CE/FCC Class A, according to EN 50022 & EN 55024 EN 50155 / 50121-3-2
EMS	EN 61000-4-2 (Level 3), EN 61000-4-3 (Level 3), EN 61000-4-4 (Level 3), EN 61000-4-5 (Level 3), EN 61000-4-6 (Level 3), EN 61000-4-8 (Level 3)
Operating Temperature	-25°C to 70°C
Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes, according to IEC60068-2-64
Shock	Operating, 50 Grms, Half-sine 11 ms Duration, according to IEC60068-2-27
Dimension	31mm(W)x90mm(D)x130mm(H)
Weight	0.5kg

Order Information

EDX-104J
5-port IEEE 802.3at PoE+ Unmanaged Gigabit Ethernet Switch with PD/DC Dual Power Mode, RJ-45 connector and IP50 housing

MezIO™ Series

MezIO-C180/MezIO-C181

8-port RS-232/422/485 MezIO™ Module



Features

- 4x RS-232/422/485 multi-mode ports
- 4x RS-232 ports (C180) or 4x RS-422/485 ports (C181)
- Up to 921.6 Kbps baud rate
- BIOS-configurable mode/termination settings
- Supports Windows 7/8/8.1/10
- SCSI-II 68-pin connector

Specifications

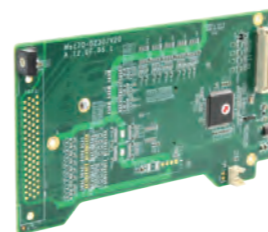
	MezIO-C180	MezIO-C181
# of Port	4x RS-232/422/485 4x RS-232	4x RS-232/422/485 4x RS-422/485
Baud Rate	50 bps to 921600 bps	
FIFO	256-byte TX and RX FIFOs	
ESD Protection	15 kV	
Interface Signals	RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND RS-422: TxD+, TxD-, RxD+, RxD-, GND RS-485: Data+, Data-, GND	
Connector	68-pin SCSI-II female connector	
OS Support	Windows 7/8/8.1/10 and Linux kernel 2.6.32 or later	

Order Information

- MezIO-C180-50**
4x RS-232/422/485 and 4x RS-232 ports MezIO™ module, for Nuvo-5000 series
- MezIO-C180-12**
4x RS-232/422/485 and 4x RS-232 ports MezIO™ module, for POC-120 series
- MezIO-C181-50**
4x RS-232/422/485 and 4x RS-422/485 ports MezIO™ module, for Nuvo-5000 series
- MezIO-C181-12**
4x RS-232/422/485 and 4x RS-422/485 ports MezIO™ module, for POC-120 series
- Cable-S68MD9M-50**
SCSI-68(M) to 8x DB-9(M) cable, 50 cm

MezIO-V20 (for Nuvo-5000LP only)

16-mode Ignition Power Control MezIO™ Module



Features

- Ignition power control with 16 predefined on/off delay modes
- Ultra-low 12 mA ignition-off standby power
- Advanced features for ignition control
 - Low-battery protection
 - Guarded power-on/power-off delay duration
 - System hard-off
 - BIOS POST check
- Supports 12 VDC (sedan) and 24 VDC (bus/truck) vehicles

Order Information

MezIO-V20
16-mode ignition power control and 1x mini-PCIe socket MezIO™ module for in-vehicle usage

MezIO-D230/MezIO-D220

32/16-CH Isolated Digital I/O MezIO™ Module



Features

- 16-CH isolated DI (D230) or 8-ch isolated DI (D220)
- 16-CH isolated DO (D230) or 8-ch isolated DO (D220)
- 2500 Vrms isolation voltage
- Up to 24 VDC operation for DI and DO
- Up to 500 mA sink current on DO channel
- SCSI-II 68-pin connector

Specifications

	MezIO-D230	MezIO-D220
Isolated Digital Input		
# of Channel	16	8
Logic Level	Logic High: 5 to 24 VDC ; Logic Low: 0 to 1.5 VDC	
Isolation Voltage	2500 Vrms	
Operation Mode	Polling	
Isolated Digital Output		
# of Channel	16	8
Operation Voltage	Up to 24 VDC	
Sink Current	500 mA for each channel (100% duty)	
Isolation Voltage	2500 Vrms	
Operation Mode	Polling	

Order Information

- MezIO-D230-50**
16-CH isolated DI and 16-CH isolated DO MezIO™ module, for Nuvo-5000 series
- MezIO-D230-12**
16-CH isolated DI and 16-CH isolated DO MezIO™ module, for POC-120 series
- MezIO-D220-50**
8-CH isolated DI and 8-CH isolated DO MezIO™ module, for Nuvo-5000 series
- MezIO-D220-12**
8-CH isolated DI and 8-CH isolated DO MezIO™ module, for POC-120 series
- Cable-S68MM-100**
SCSI-68(M) to SCSI-68(M) cable, 100 cm
- TB-10**
Terminal board with 68-pin SCSI-II female connector and 68-pole terminal block

MezIO-R10 (for POC-120MZ only)

2.5" SATA HDD/SSD and Mini-PCIe Accommodation MezIO™ Module



Features

- Accommodates one 2.5" SATA HDD/SSD
- One full-size mini-PCIe port with SIM socket
- Optional HDMI output

Order Information

MezIO-R10
2.5" SATA HDD/SSD and Mini-PCIe accommodation MezIO™ Module

List of Optional Cable

Cable	Model Name	Description	Applicable Models
	Cable-DIO-POC	Flat Cable assembly, with 2.0mm pitch 2x8 female connector/Open End, 3m long, for digital input/output. Only for POC-200 series	<ul style="list-style-type: none"> • POC-200 • POC-210 • POC-212 • POC-222
	Remote on/off cable	Remote control cable : 2x5 wafer connector, Length 1 meter	<ul style="list-style-type: none"> • Nuvo-3000 series • Nuvo-3616VR series
	Cable-RS-232	2x5 Pin-header to DB9 RS-232 Cable	• POC-100
	DIN4 Cable	50 CM/AWG 20 cable, 4 male Pin Mini DIN to open end	<ul style="list-style-type: none"> • Nuvo-1000 series • Nuvo-1300af • Nuvo-3000 series • Nuvo-4000 series
	Cable-USB2.0-Int	Cable Assembly, USB(female) to PIN header(16 pin, female), 20 cm, for Nuvo-1300af, Nuvo-1000, Nuvo-2000 internal USB port connectivity.	<ul style="list-style-type: none"> • Nuvo-1300af • Nuvo-1000 series • Nuvo-2400 series
	Cable-USSB2.0 x2-Int	Cable Assembly, USB(female) to PIN header(16 pin, female), 20 cm, for internal USB port connectivity.	<ul style="list-style-type: none"> • Nuvo-3000 series • Nuvo-4000 series
	DVI Y cable	DVI to DVI/VGA splitter Y cable	<ul style="list-style-type: none"> • POC-200 • POC-210 • POC-212 • POC-222 • Nuvo-4000

Cable	Model Name	Description	Applicable Models
	N3-4P-Cable	Cable Assembly, Nuvo-3000E/P 4P Power cable to provide 12V to add-on card, 20 cm.	<ul style="list-style-type: none"> • Nuvo-2500E/P • Nuvo-3000E/P • Nuvo-5000E/P
	USB-Cable-3M	USB3 Type-A to Micro-B cable with latched connectors, 3-meter length. Released Date : 2014-Mar-01	• PCIe-USB380/340
	USB22-bracket-20pin	2x10 Pin Header to 2x USB 2.0 CN with Bracket	• Nuvo-4000 series
	RS232x2 Panel	One Panel and cables for 2 x RS-232 (COM3 and COM4)	• Nuvo-2400 series
	RS232-Parallel Panel	One Panel and cables for 1 x Parallel port and 1 x RS-232 (COM3 or COM 4)	• Nuvo-2400 series
	Panel-DIO-DB25	2x13 Pin Header(Female) to DB25	<ul style="list-style-type: none"> • Nuvo-2400 • Nuvo-4000
	Cable-S68MM-100	SCSI-68(M) to SCSI-68(M) cable	<ul style="list-style-type: none"> • MezIO-220 • MezIO-230
	Cable-S68MD9M-50	SCSI-68(M) to 8 x DB9(M) Cable	<ul style="list-style-type: none"> • MezIO-C180 • MezIO-C181