

Nuvo-2000 Series

Intel® Atom™ D525 Fanless Shoe-Box IPC with 3x PCI/PCIe slots



- Intel® Atom™ D525 1.8GHz Dual-core processor
- Rugged, -10 °C to 55 °C fanless operation (-20 °C to 70 °C for extended temperature model)
- 1x PCI slot or 3x PCI/ PCIe slots
- Two SATA ports to accommodate two 2.5" HDD
- One RS-232/422/485 port and three RS-232 ports
- On-board isolated DIO option
- Wide range 8~25V DC input
- Mini-PCIe expansion with SIM support

- Introduction -

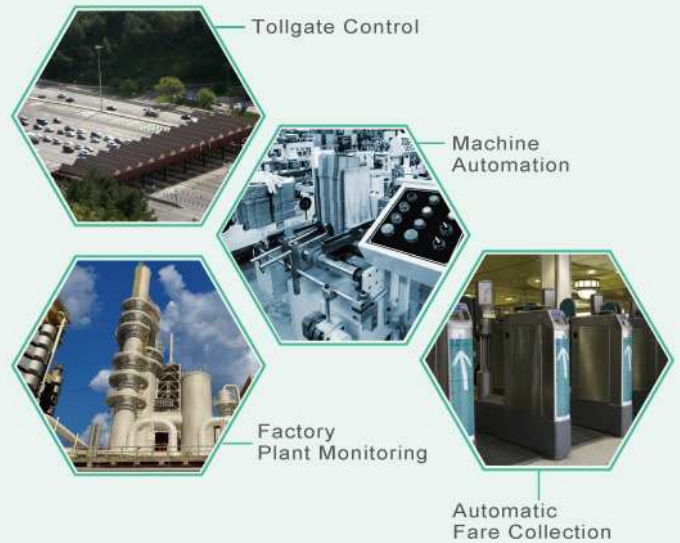
It is an Intel® Atom™ D525 IPC. It is, moreover, a reliable fanless IPC.

Nuvo-2000 accommodates three PCI/PCIe cards and two 2.5" hard drives in its shoe-box size. More than that, it provides versatile I/O interfaces such as COM ports, USB ports, Gigabit Ethernet port, parallel port and mini-PCIe port, not to mention that the isolated DIO channels can be integrated optionally into this compact box.

Leveraging Intel® Atom™ D525 1.8GHz dual-core processor, Nuvo-2000 delivers adequate computing performance for most Industrial applications. We also give Nuvo-2000 ingenious design mechanically and electronically so it can have a reliable, fanless operation in the temperature range of -20 to 70°C.

Nuvo-2000 is designed for general-purpose usage. Its compact size, PCI/PCIe slots and simple yet useful I/O functions fit most applications where wall-mount IPC is currently deployed. And, what is more, the fanless design of Nuvo-2000 gives you much more reliability than an ordinary IPC in all kinds of environments.

- Application -



- Product Highlights -

■ Adequate Performance

Nuvo-2000 utilizes the latest Atom D525 processor. It is a 2-cores/4-threads CPU works with DDR3-800 memory. According to benchmarking result, Atom D525 has better performance than previous Pentium M CPU and is very close to entry-level Core 2 Duo CPU. This gives Nuvo-2000 adequate computing power for most industrial control applications.



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

■ Small & Smart Chassis Design



Nuvo-2000 has an ingenious mechanical design which gives consideration to small dimension, superior heat dissipation, flexible wall-mounting, and intuitive pattern of use. Like handling a traditional wall-mount IPC, you can remove the top cover and install add-on cards by loosening few screws. And its dual SATA ports and dual HDD brackets provide an easy and flexible way to mount your hard drives.

■ 3x Expansion Slots for Add-on Cards

Nuvo-2000 accommodates up to 3 PCI/PCIe slots in its compact chassis. There are 3 configurations, one PCI slot, or Two PCI slots plus one x4 PCIe slot, or three PCI slots. With capacity of installing multiple add-on cards, you could expand a much wider range of applications with Nuvo-2000.

Model	PCI	x4 PCIe
Nuvo-2010	1	0
Nuvo-2021	2	1
Nuvo-2030	3	0



■ Rich I/O Functions

We integrate rich I/O functions, which are useful for industrial applications, into Nuvo-2000. In addition to general computer I/O on the front panel, there are more inside. If necessary, you can have two additional COM ports and one parallel port using a flat cable connection. Or you can have the option of isolated DIO (12DI+12DO) with another flat cable connection.



- Nuvo 2000 Series Specification -

System Core	
Processor	Intel® Atom™ D525 1.8GHz dual-core processor
Chipset	Intel® ICH8-M I/O Control Hub
Graphics	Integrated Intel® GMA 3150 graphics
Memory	1x 204-pin SO-DIMM socket, up to 4GB DDR3 800MHz SDRAM
Front-panel I/O Interface	
Ethernet	1x Intel® 82574L Gigabit Ethernet port
Video Port	1x DB-15 connector for analog RGB, supporting 2048x1563 resolution
Serial Port	1x software-programmable RS-232/422/485 (COM1) 1x RS-232 (COM2)
USB	4x USB 2.0 ports
KB/MS	1x 6-pin Mini-Din for PS/2 keyboard and mouse
Audio	1x Mic-in and 1x Speaker-out
Internal I/O Interface	
Serial Port	2x RS-232 (COM3 & COM4)
Parallel Port	1x Parallel port
Mini-PCIe	1x mini PCI Express slot with SIM socket
Isolated DIO	12-CH isolated DI + 12-CH isolated DO (Optional)
Storage Interface	
SATA HDD	2x Internal SATA ports for 2.5" HDD/SSD installation
CompactFlash	1x Type I & II CF socket

Expansion Bus	
PCI	3x PCI slots (Nuvo-2030) 2x PCI slots (Nuvo-2021) 1x PCI slot (Nuvo-2010)
PCI Express	1x PCI Express x4 slot (Nuvo-2021 only)
Power Supply	
DC Input	Built-in 8~25 VDC DC input
Input Connector	1x 2-pin pluggable terminal block for DC input 1x DC jack (ø2.5) for AC/DC adapter input
Mechanical	
Dimension	141 mm (W) x 157mm (H) x 226 mm (D)
Weight	2.9 kg (including one 2.5" HDD and DDR3 SODIMM)
Mounting	Wall-mount by mounting bracket
Environmental	
Operating Temperature	Standard model: -10°C~55°C, 100% CPU loading ^{*/**} Extended temperature model: -20°C~70°C, 100% CPU loading ^{*/**}
Storage Temperature	-40°C ~ 85°C
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 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.

- Ordering Information -

- Nuvo-2021
Intel® Atom™ D525 fanless IPC with two PCI slots and one PCI Express x4 slot
- Nuvo-2030
Intel® Atom™ D525 fanless IPC with three PCI slots
- Nuvo-2010
Intel® Atom™ D525 fanless IPC with one PCI slot
- Nuvo-2021W
Intel® Atom™ D525 extended temperature fanless IPC with two PCI slots and one PCI Express x4 slot
- Nuvo-2030W
Intel® Atom™ D525 extended temperature fanless IPC with three PCI slots
- Nuvo-2021-DIO/ Nuvo-2030-DIO/ Nuvo-2010-DIO
Option of isolated digital input/output (12DI + 12DO) with panel/cable kit
- Panel/cable kit for 2xCOM ports
- Panel/cable kit for 1x COM port + 1x LPT port
- 60W AC/DC power adapter with 12V, 5A DC output

- Package List -

- 1x Nuvo-2000 Unit
- 1x Accessory Box, including
 - 1x PS/2 Y-cable for KB/MS connection
 - 1x SATA cable for 2nd HDD installation
 - 1x HDD bracket
 - 1x Driver CD
 - 2x Wall-mount brackets