Rugged Embedded

NEOUSYS TECHNOLOGY

Nuvo-8000 Series

Intel® 9th/ 8th-Gen Core™ i7/ i5/ i3 Expansion Box-PC with up to 5 PCIe/ PCI Slots

CE FC

Key Features

- **Supports Intel® 9th/ 8th-Gen Core™ i7/ i5/ i3, Pentium® and Celeron® LGA1151 CPU**
- **Up to five expansion slots, a mixed combination of x16 PCIe, x4 PCIe, and PCI slots**
- **Dedicated heat dissipation for -25°C to 60°C wide-temperature operation**
- **2x GbE, 4x USB 3.1 Gen1 and 5x COM ports**
- **Dual DVI display outputs**
- **Up to 2x 2.5" SATA HDD/ SSD accommodation and 1x mSATA socket**
- **Wall-mounting and rack-mounting available**

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Introduction

Nuvo-8000 series systems are cost-effective box-PCs with up to 5 expansion slots that can perfectly replace your bulky rack-mount or wall-mount IPC systems. Leveraging Intel® 9th/ 8th-Gen Core™ i desktop processor with H310 chipset, it delivers the same computing power as traditional IPCs but in a much more compact footprint with a budgetary price.

There are four models in the Nuvo-8000 series with various expansion configurations. Customers can choose from a compact 3-slot PCIe system to a 5-slot system with up to three PCIe slots or up to four PCI slots, that best suit their industrial automation or machine vision application needs. It features front-accessible I/Os including two GbE, four USB 3.1 Gen1 and five COM ports that make it easier to access when it is rack-mounted or placed inside a cabinet. Storage wise, Nuvo-8000 series systems have two 2.5" SATA SSD/ HDD and one mSATA socket to support various storage devices. The system can also support a 125W NVIDIA® GPU to offer TFLOPS computing power for modern deep-learning applications.

Nuvo-8000 series systems are designed with satisfying industrial demands in mind. Retaining traditional IPC expansion capabilities and fulfilling diverse application requirements in an extremely compact form-factor with industrial-grade reliability.

Specifications

	Nuvo-8003	Nuvo-8023	Nuvo-8032	Nuvo-8041
System Core				
Processor	Supporting Intel® 9th/ 8th-Gen Core™ CPU (LGA1151 socket) - Intel® Core™ i7-9700TE/ i7-8700*/ i7-8700T - Intel® Core™ i5-9500TE/ i5-8500*/ i5-8500T - Intel® Core™ i3-9100TE/ i3-8100*/ i3-8100T - Intel® Pentium® G5400T (4M Cache, 3.1GHz, 35W TDP) - Intel® Celeron® G4900T (2M Cache, 2.9GhHz, 35W TDP)			
Chipset	Intel® H310 platform controller hub			
Graphics	Integrated Intel® UHD Graphics 630, or independent 125W GPU via x16 PEG port			
Memory	Up to 32 GB DDR4 2666 SDRAM (one SODIMM slot)			
I/O Interface				
Ethernet	1x Gigabit Ethernet port by Intel® I219-LM 1x Gigabit Ethernet port by Intel® I210-IT			
Video Port (Integrated Graphics)	2x DVI-D connectors, each supporting 1920x1200 resolution			
Serial Port	1x software-programmable RS-232/ 422/ 485 ports (COM1) 1x software-programmable RS-422/ 485 ports (COM2) 3x 3-wire RS-232 ports (COM3/ COM4/ COM5)			
USB 3.1	4x USB 3.1 Gen1 (5 Gbps) ports			
USB 2.0	1x USB 2.0 port with Type-A connectors(internal) 2x USB 2.0 port with 2x8 pins box header(internal)			
Audio	1x 3.5 mm jack for mic-in and speaker-out			
Storage Interface				
SATA HDD	2x internal SATA ports for 2.5" HDD/ SSD installation			
mSATA	1x full-size mSATA port			

	Nuvo-8003	Nuvo-8023	Nuvo-8032	Nuvo-8041
Expansion Bus				
PCI/PCI Express	**1x PCIe x16 slot** @Gen3, 16-lanes **1x PCIe x8 slot** @Gen2, 4-lanes **1x PCIe x4 slot** @Gen2, 1-lane	**1x PCIe x16 slot** @Gen3, 16-lanes **1x PCIe x4 slot** @Gen2, 2-lanes **1x PCIe x4 slot** @Gen2, 1-lane	**1x PCIe x16 slot** @Gen3, 16-lanes **1x PCIe x8 slot** @Gen2, 4-lanes	**1x PCIe x16 slot** @Gen3, 16-lanes
PCI	-	**2x** 33MHz/ 32-bit 5V PCI slots	**3x** 33MHz/ 32-bit 5V PCI slots	**4x** 33MHz/ 32-bit 5V PCI slots
mSATA	1x full-size mSATA socket (mux with USB 2.0 signals)			
Power Supply				
DC Input	1x 3-pin pluggable terminal block for 8~35VDC DC input			
Mechanical				
Dimension	154 mm (W) x 235 mm (D) x 174 mm (H)	185 mm (W) x 235 mm (D) x 174 mm (H)		
Weight	3 Kg	3.6 Kg		
Mounting	Wall-mount (standard) DIN-Rail mounting (optional) Rack-mount (optional)			
Environmental				
Operating Temperature	-25°C ~ 60°C			
Storage Temperature	-40°C ~ 85°C			
Humidity	10%~90% , non-condensing			
Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4			
Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II			
EMC	CE/FCC Class A, according to EN55032 & EN55035			

** Due to thermal limitations, 65W CPUs will be configured to operate in 35W mode by default.*

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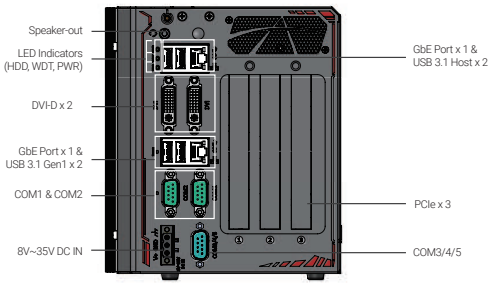
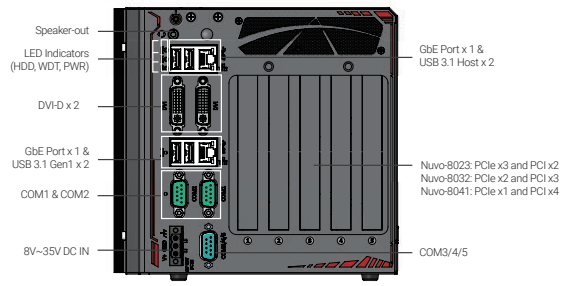
Nuvo-8000 Series

NEOUSYS TECHNOLOGY

Appearance



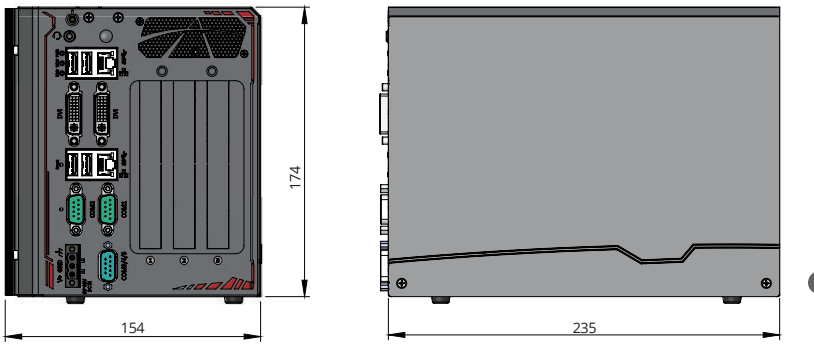
Nuvo-8003



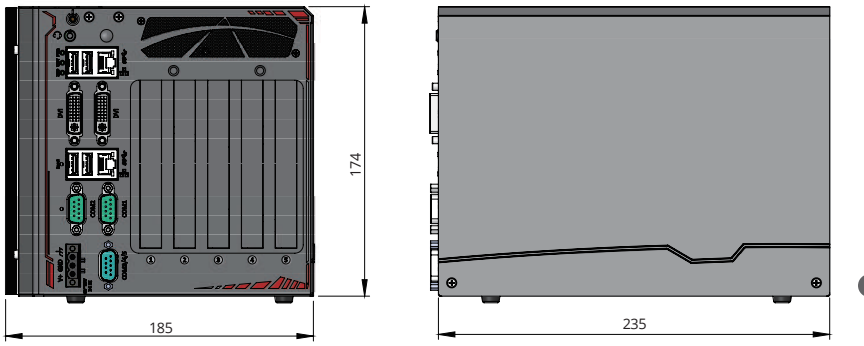
Nuvo-8023/ 8032/ 8041

Dimensions

Unit : mm



Nuvo-8003



Nuvo-8023/ 8032/ 8041

Ordering Information

Model No.	Product Description
Nuvo-8003	Intel® 9/ 8th-Gen Core™ i7/ i5/ i3 fanless rugged Box-PC with 3x PCIe expansion slots
Nuvo-8023	Intel® 9/ 8th-Gen Core™ i7/ i5/ i3 fanless rugged Box-PC with 3x PCIe and 2x PCI expansion slots
Nuvo-8032	Intel® 9/ 8th-Gen Core™ i7/ i5/ i3 fanless rugged Box-PC with 2x PCIe and 3x PCI expansion slots
Nuvo-8041	Intel® 9/ 8th-Gen Core™ i7/ i5/ i3 fanless rugged Box-PC with 1x PCIe and 4x PCI expansion slots

Optional Accessories

PA-120W-OW	120W AC/ DC power adapter 20V/ 6A; 18AWG/ 120cm; cord end terminals for terminal block, operating temperature : -30°C to 70 °C
PA-160W-OW	160W AC/DC power adapter 20V/ 8A; 18AWGx4C/ 120cm, cord end terminals for terminal block, operating temperature : -30°C to 70 °C
PA-280W-ET2	280W AC/DC power adapter 24V/ 11.67A ; 16AWG/ 100cm; cord end terminals for terminal block, operating temperature : -30°C to 60°C
Fankit-92	Fan assembly for Nuvo-8000, 92x92x25 mm
Rmkit-Nuvo6000	Rack mounting assembly for Nuvo-6000/ 8000 series

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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