NEOUSYS TECHNOLOGY

Nuvo-8111 Series

Cost-effective AI Platform for Factory Automation Supporting NVIDIA® 200W GPU and Intel® 9th/ 8th-Gen Core™ Processor

Key Features

· **Intel® 9th/ 8th-Gen Core™ i7/ i5/ i3, Pentium® and Celeron® LGA1151 CPU**
· **Supports NVIDIA® GPU up to 200W TDP**
· **An additional x4 PCIe, and a PCI slot for add-on cards**
· **-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**

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Introduction

Nuvo-8111 series is a cost-effective box-PC with 3 expansion slots designed specifically to support an advanced mid to high-end 200W NVIDIA® graphics card, such as an RTX 3060/ 3060 Ti, to offer stunning edge AI performance. Offering tremendous GPU power up to 20 TFLOPS in FP32 for emerging GPU-accelerated applications, they boost the performance and efficiency of factory automation, image recognition, product inspection, pick and place robots, etc.

Nuvo-8111 series leverages an Intel® 9th/ 8th-Gen Core™ processor with H310 chipset. It has one x16 Gen3 PCIe slot for accommodating a GPU card, and an additional x4 PCIe and a PCI slot for industrial I/O cards such as DIO, AIO, communication or motion control card. It features front-accessible I/Os including two GbE, four USB 3.1 Gen1 and five COM ports for easy access when it is rack-mounted or placed inside a cabinet. Storage-wise, the system supports two 2.5" SATA SSDs/ HDDs plus one mSATA socket to house an mSATA SSD.

As edge AI demand continues to grow for traditional production and factory automation, Neousys Nuvo-8111 seeks to fulfill this need. With mid to high-end GPU support, expansion capability, compact and rugged design that plays an important role in bringing artificial intelligence to the edge and factory floors, the Nuvo-8111 is no doubt the most cost-effective AI platform for automation in its class!
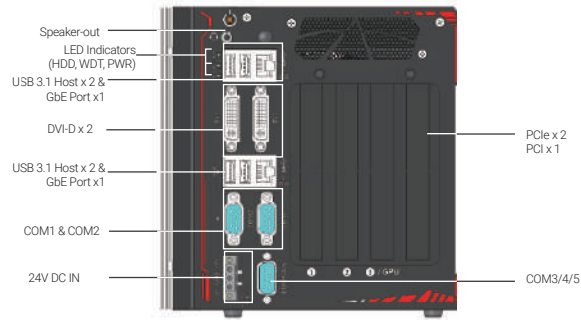
Specifications

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 NVIDIA® RTX 3060/ 3060 Ti via x16 PEG port
Memory	Up to 32 GB DDR4 2666 SDRAM (one SODIMM slots)

I/O Interface	
Ethernet	1x Gigabit Ethernet port by Intel® I219-LM 1x Gigabit Ethernet port by Intel® I210-IT
USB 2.0	1x USB 2.0 port with Type-A connector (internal) 2x USB 2.0 port with 2x8 pins box header (internal)
USB 3.1	4x USB 3.1 Gen1 (5 Gbps) ports
Video Port	2x DVI-D connector, supporting 1920 x 1200 resolution
Serial Port	1x software-programmable RS-232/ 422/ 485 port (COM1) 1x software-programmable RS-422/ 485 port (COM2) 3x 3-wire RS-232 ports (COM3/ COM4/ COM5)
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 (SATA + USB 2.0 + USIM)

Internal Expansion Bus	
PCI Express	1x PCIe x16 slot @Gen3, 16-lane (for GPU installation) 1x PCIe x4 slot @Gen2, 4-lane signal
PCI	1x 33MHz/ 32-bit 5V PCI slot

Power Supply	
DC Input	1x 3-pin pluggable terminal block for 24V DC input

Mechanical	
Dimension	174 mm (W) x 330 mm (D) x 174 mm (H)
Weight	4.5 kg
Mounting	Optional wall-mount bracket

Environmental	
Operating Temperature	-25°C to 60°C**
Storage Temperature	-40°C to 85°C
Humidity	10% to 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 EN 55032 & EN 55035

* For i7-9700E and i7-8700 running at 65W mode, the highest 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.
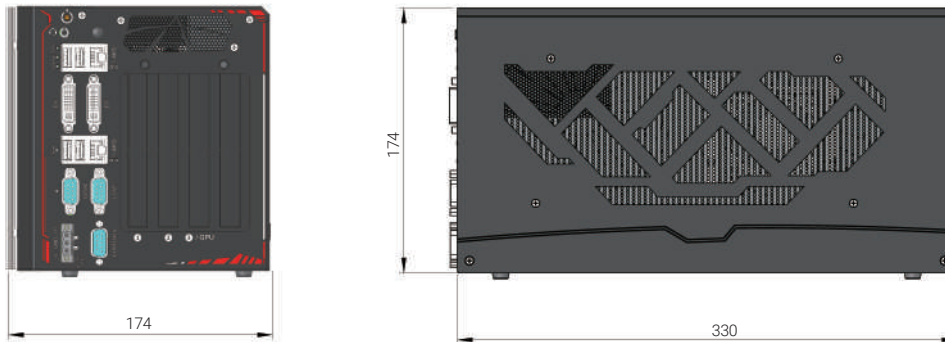*** For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.*

Appearance

Speaker-out

LED Indicators (HDD, WDT, PWR)

USB 3.1 Host x 2 & GbE Port x1

DVI-D x 2

USB 3.1 Host x 2 & GbE Port x1

COM1 & COM2

24V DC IN

PCIe x 2
PCI x 1

COM3/4/5

Dimensions

Unit : mm

174

174

330

Ordering Information

Model No.	Product Description
Nuvo-8111	Intel® 9th/ 8th-Gen Core™ i7/ i5/ i3 expansion box PC with 2x PCIe and 1x PCI, supporting NVIDIA® 200W graphics card

Optional Accessories

PA-280W-ET2	280W AC/DC power adapter 24V/11.67A; 16AWG/100cm; cord end terminals for terminal block, operating temperature : -30 to 60°C
Wmkit-H-Nuvo8111	Wall mounting assembly for Nuvo-8111 series, horizontal type