



Rugged Embedded

# Nuvo-2822

Intel® Alder Lake N Compact Expansion Box-PC with 2x PCIe and 2x PCI slots



CE FC

## Key Features

- Intel® Alder Lake N97 processor 12W with 4 E-Cores
- 2x PCIe Slots and 2 PCI slots
- 2x GbE, 2x USB3.2 and 2x USB2.0 ports
- 1x M.2 2280 for storage, 1x RS232/422/485, 3x RS232
- 1x DP++ & 1x HDMI 1.4b
- 4-CH isolated DI + 4-CH isolated DO
- 12~24V DC input, Ultra-Low Power Consumption during shutdown states

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## Introduction

Nuvo-2822 is a compact expansion box PC powered by an Intel® Alder Lake N CPU featuring two PCIe and two PCI slots. The expansion slots are designed to support various frame grabbers, motion control cards, COM port expansion cards, and data acquisition cards.

With up to five times the performance boost compared to our previous Nuvo-2400 series, the new Nuvo-2822 can efficiently process vast amounts of data acquired from extensive I/O interfaces in real time. It features two Ethernet ports with I210-IT controllers, and two USB 3.2 Gen 2 ports with screw lock mechanisms to connect and secure industrial cameras for machine vision applications. Furthermore, the Nuvo-2822 supports 8-channel isolated DIO and four COM ports to communicate with and control various industrial sensors, indicators, motors, and actuators.

The system also features a unique "Super Power Saving Mode" to minimize energy consumption when the system is in standby (S4/S5) mode, significantly reducing electricity usage. Thanks to its compact dimensions, it can be deployed in restricted spaces or small cabinets. With support for versatile PCIe and PCI expansion cards, it is ideal for industrial control and machine automation applications.

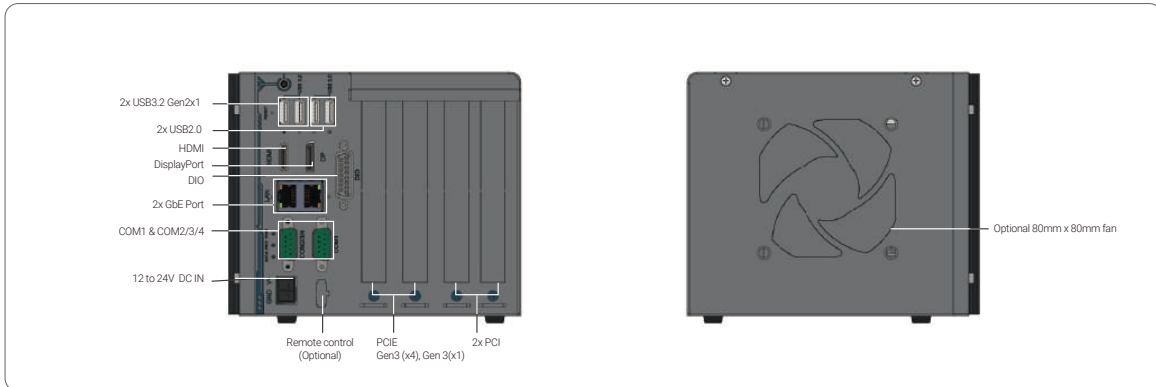
## Specifications

System Core	
Processor	Intel® Alder Lake N97 processor (4C/4T, 2.0 /3.6 GHz, 12W TDP)
Graphics	Integrated Intel® UHD Graphics with 24EUs
Memory	Up to 16 GB DDR5-4800 SDRAM (one SODIMM socket)
TPM	Supports dTPM 2.0
I/O Interface	
Ethernet	2x Gb Ethernet by Intel I210-IT (1x with WoL)
USB 3.2	2x USB 3.2 Gen2 ports with screw-lock
USB 2.0	2x USB 2.0 ports with screw-lock
Video Port	1x DP++, Supporting 4096 x 2160 resolution 1x HDMI1.4b, Supporting 3840 x 2160 30Hz
Serial Port	1x Software-programmable RS-232/422/485 ports (COM1) 3x 3-wire RS-232 ports (COM2/3/4)
Isolated DIO	4-CH isolated DI and 4-CH isolated DO
Storage Interface	
M.2 M Key	1x M.2 2280 SATA interface
Internal Expansion Bus	
PCI Express	1x PCIe x4 slot @ Gen3, 4-lanes 1x PCIe x4 slot @ Gen3, 1-lanes
PCI	2x 33MHz/ 32-bit 5V PCI slots

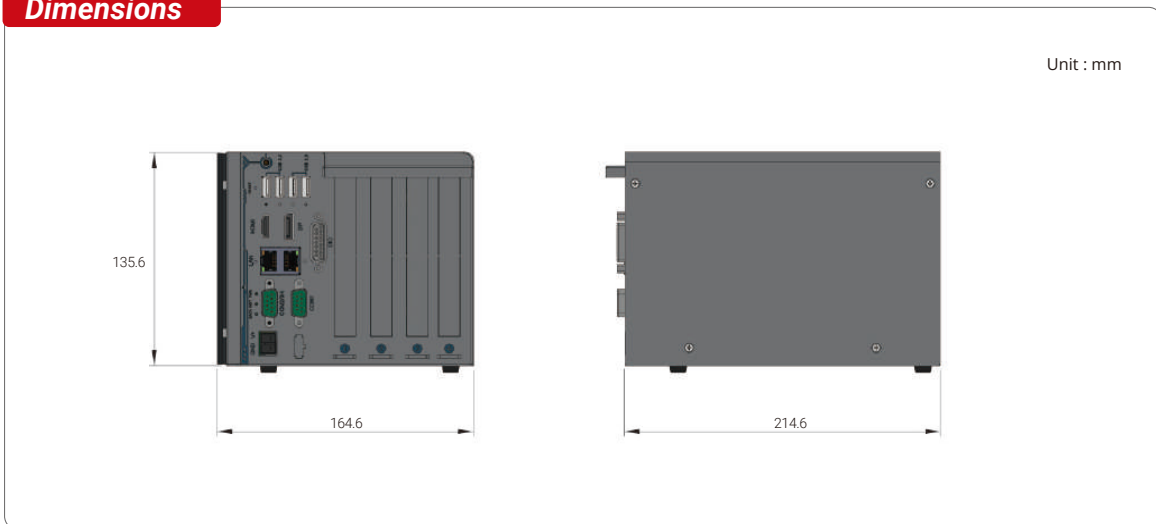
Power Supply	
DC Input	1x 2-pin pluggable terminal block for 12 to 24V DC input
Remote Ctrl. & LED Output	1x 10-pin (2x5) wafer connector for remote on/off control and status LED output
Mechanical	
Dimension	164.6mm (W) x 214.6mm (D) x 135.6mm (H)
Weight	2.3kg
Mounting	Wall-mount (Optional)
Fan	Optional 80mm x 80mm fan for system heat dissipation
Environmental	
Operating Temperature	With FAN Kit -10°C ~ 70°C <sup>[1][2]</sup> Without FAN Kit -10°C ~ 60°C <sup>[1]</sup>
Storage Temperature	-40°C ~ 85°C
Humidity	10% ~ 90% , non-condensing
Vibration	MIL-STD-810H, Method 514.8, Category 4
Shock	MIL-STD-810H, Method 516.8, Procedure I
EMC	CE/FCC Class A, according to EN 55032 & EN 55035

[1] For sub-zero and over 60°C operating temperature, a wide temperature Solid State Disk (SSD) is required.  
[2] The optional fan kit is recommended for operating at ambient temperatures higher than 60°C.

Nuvo-2822



**Dimensions**



**Ordering Information**

Model No.	Product Description
Nuvo-2822	Intel® Alder Lake N97 Compact Expansion Box-PC with 2x PCIe and 2x PCI slots

**Optional Accessories**

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
Wmkit-Nuvo2822	Wall mounting assembly for Nuvo-2822
AccyBx-FAN-Nuvo-2822	Fan assembly for Nuvo-2822 series, 80x80x15 mm
Cbl-W212F-W210F-23CM	Cable Wafer 2.0 Female 12P to 10P, Length: 23cm

All specifications and photos are subject to change without prior notice

## 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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