NEOUSYS TECHNOLOGY

Nuvo-9531 Series

Intel® 12th-Gen Core™ i9/ i7/ i5/ i3 Compact Fanless Computer with 4x GbE, 4x USB3.2 and 1x Hot-swappable HDD Tray

Preliminary

◢ *Key Features*

· **212 x 165 x 63 mm low-profile design**
· **Intel® 12th-Gen Core™ 35W/ 65W LGA1700 CPU**
· **Rugged, -25°C to 60°C fanless operation**
· **4x GbE and 4x USB3.2 Gen 1 with screw-lock**
· **1x hot-swappable HDD tray and 1x M.2 2280 Gen4 x4 NVMe for storage**
· **2x full-size mPCIe sockets**
· **4-CH isolated DI and 4-CH isolated DO**
· **VGA + DP dual display outputs**

[Contact Neousys]   [Get Quote]

CE FC

Introduction

Nuvo-9531 is one of the most compact fanless embedded computers based on the Intel 12th -Gen Alder Lake platform. Measuring just 212 x 165 x 63 mm, it can fit into restricted spaces, such as in robotic arm and AMR applications. Despite its compact size, Nuvo-9531 does not compromise on performance. Built on Intel's 7nm process, Intel 12th Gen processors have up to 16 cores/ 24 threads to deliver up to 1.8x the performance when compared to previous Intel 10th or 11th Gen platforms. Nuvo-9531 is a compact fanless embedded computer that can provide the ultimate computing for various industrial applications.

Nuvo-9531 has rich I/O functions. It features four GbE and four USB3.2 Gen 1 ports for multiple camera connectivity. In addition, it features a Gen4 x4 M.2 NVMe slot for the latest NVMe SSDs that support read/ write speeds up to 7000 MB/s. It also has another hot-swappable HDD tray to hot-swap the storage drive without turning off the system or dismantling the chassis. There are two mPCIe and one M.2 E key slots to install WiFi or 5G/ 4G for wireless communication needs. In addition, Nuvo-9531 is also equipped with 8x DIO, 2x COM ports, and dual display outputs for your application needs.

As a compact embedded computer, Nuvo-9531 delivers excellent computing performance and offers an abundance of I/O connections. It is suitable for a variety of industrial applications, especially when installation space is limited. Nuvo-9531 is the ideal compact fanless computer for the industrial market.
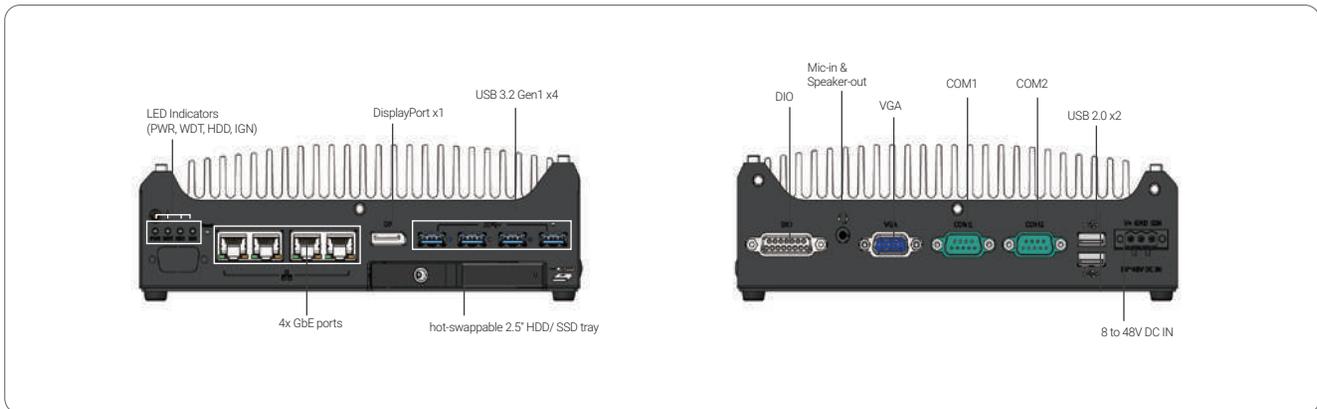
Specifications

System Core

Processor	Supporting Intel® 12th-Gen Alder Lake Core™ CPU (LGA1700 socket, 35W/ 65W TDP) - Intel® Core™ i9-12900E/ i9-12900TE - Intel® Core™ i7-12700E/ i7-12700TE - Intel® Core™ i5-12500E/ i5-12500TE - Intel® Core™ i3-12100E/ i3-12100TE - Intel® Pentium® G7400E/ G7400TE - Intel® Celeron® G6900E/ G6900TE
Chipset	Intel® H610E platform controller hub
Graphics	Integrated Intel® UHD Graphics 770 (32EU)
Memory	Up to 32GB non-ECC DDR4 3200 SDRAM (one SODIMM slot)
TPM	Supports dTPM 2.0

I/O Interface

Ethernet	4x Gigabit Ethernet ports by 4x I210
USB 3.2	4x USB 3.2 Gen1 (5 Gbps) ports
USB 2.0	2x USB 2.0 ports
Video Port (Integrated Graphics)	1x VGA output, supporting 1920 x 1200 resolution 1x DisplayPort, supporting 4096 x 2304 resolution
Serial Port	1x software-programmable RS-232/422/485 ports (COM1) 3x 3-wire RS-232 ports (COM2/3/4) or 1x RS-422/485 port (COM2)
Audio	1x 3.5 mm jack for mic-in and speaker-out
Isolated DIO	4-CH isolated DI and 4-CH isolated DO

Expansion Bus

Mini PCI Express	2x full-size mini PCI Express sockets with internal SIM sockets
M.2 E key	1x M.2 2230 E key socket for WiFi5, WiFi6 or Google edge TPU module

Storage Interface

SATA HDD	1x hot-swappable 2.5" HDD/ SSD tray
M.2	1x M.2 2280 M key socket (PCIe Gen4 x4) for NVMe SSD

Power Supply

DC Input	1x 3-pin pluggable terminal block for 8 to 48V DC input

Mechanical

Dimension	212mm (W) x 165 mm (D) x 63 mm (H)
Weight	2.5 kg
Mounting	Wall-mount (standard) or DIN-rail mount (optional)

Environmental

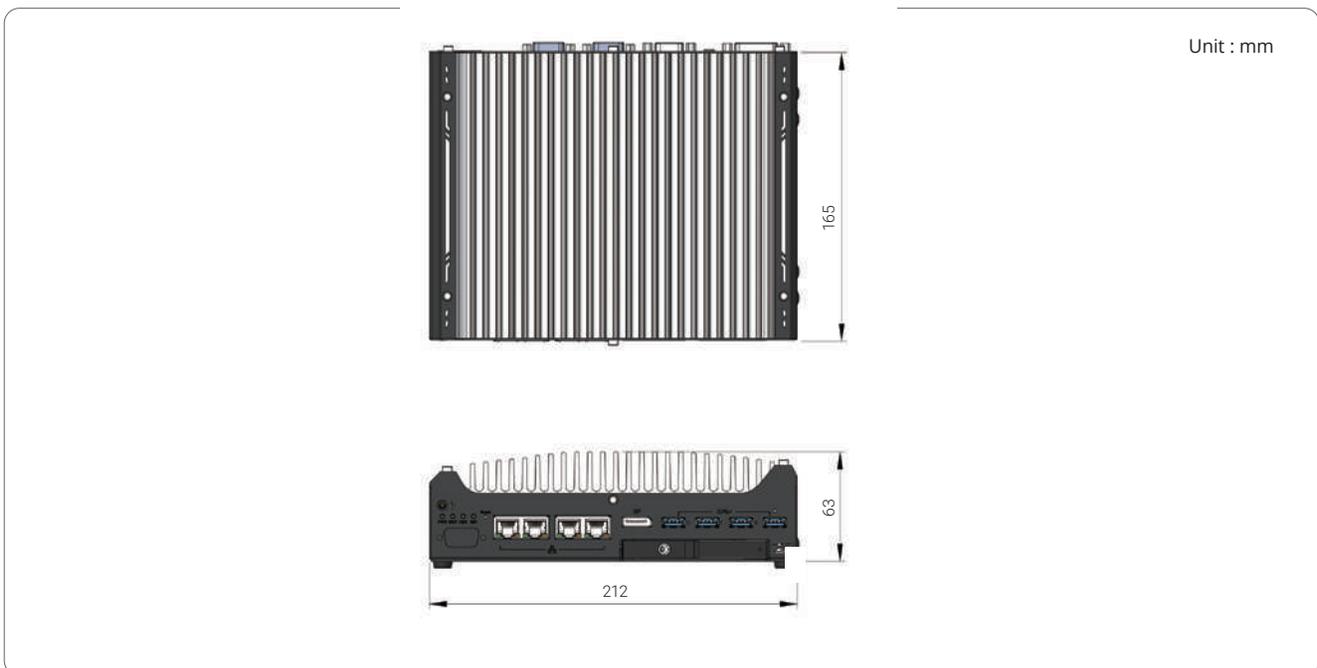|	
Operating Temperature	**with 35W CPU** -25°C ~ 60°C * **with 65W CPU** (installation of the optional fan kit is recommended) -25°C ~ 60°C */**
Storage Temperature	-40°C ~ 85°C
Humidity	10%~90% , non-condensing
Vibration	Operating, MIL-STD-810G, Method 514.6, Category 4
Shock	Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II
EMC	CE/FCC Class A, according to EN 55032 & EN 55035

* For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.
** For 65W CPUs, the optional fan kit is recommended for operating at ambient temperatures higher than 50°C.

Appearance

LED Indicators
(PWR, WDT, HDD, IGN)

DisplayPort x1

USB 3.2 Gen1 x4

4x GbE ports

hot-swappable 2.5" HDD/ SSD tray

Mic-in &
Speaker-out

DIO

VGA

COM1

COM2

USB 2.0 x2

8 to 48V DC IN

Dimensions

Unit : mm

165

63

212

Ordering Information

Model No.	Product Description
Nuvo-9531	Intel® 12th-Gen Core™ i9/ i7/ i5/ i3 compact fanless computer with 4x GbE , 4x USB3.2 gen 1 and a hot-swappable HDD tray

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; 18AWG/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. (recommended for 65W CPU)
DINRAIL-31	DIN-rail mounting assembly for Nuvo-9531 series
Fan kit	Fan kit with 92mm x 92mm fan for Nuvo-9531 series