

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



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

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Preliminary

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.

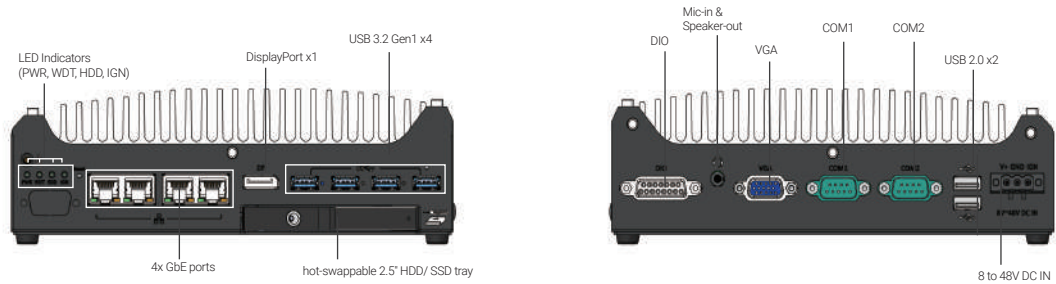
Specifications

| System Core | | Expansion Bus | |
|----------------------------------|---|-----------------------|---|
| Processor | Supporting Intel® 12th-Gen Alder Lake Core™ CPU (LGA1700 socket, 35W/ 65W TDP) | Mini PCI Express | 2x full-size mini PCI Express sockets with internal SIM sockets |
| | - Intel® Core™ i9-12900E/ i9-12900TE | M.2 E key | 1x M.2 2230 E key socket for WiFi5, WiFi6 or Google edge TPU module |
| | - Intel® Core™ i7-12700E/ i7-12700TE | Storage Interface | |
| | - Intel® Core™ i5-12500E/ i5-12500TE | SATA HDD | 1x hot-swappable 2.5" HDD/ SSD tray |
| | - Intel® Core™ i3-12100E/ i3-12100TE | M.2 | 1x M.2 2280 M key socket (PCIe Gen4 x4) for NVMe SSD |
| | - Intel® Pentium® G7400E/ G7400TE | Power Supply | |
| Chipset | Intel® 600 Series PCH Platform Controller Hub | DC Input | 1x 3-pin pluggable terminal block for 8 to 48V DC input |
| Graphics | Integrated Intel® UHD Graphics 770 (32EU) | Mechanical | |
| Memory | Up to 32GB non-ECC DDR4 3200 SDRAM (one SODIMM slot) | Dimension | 212mm (W) x 165 mm (D) x 63 mm (H) |
| AMT | Supports Intel vPro/ AMT 16.0 | Weight | 2.5 kg |
| TPM | Supports dTPM 2.0 | Mounting | Wall-mount (standard) or DIN-rail mount (optional) |
| I/O Interface | | Environmental | |
| Ethernet | 4x Gigabit Ethernet ports by 4x I210 | Operating Temperature | with 35W CPU -25°C ~ 60°C * |
| USB 3.1 | 4x USB 3.2 Gen1 (5 Gbps) ports | | with 65W CPU (installation of the optional fan kit is recommended) -25°C ~ 60°C */** |
| USB 2.0 | 2x USB 2.0 ports | Storage Temperature | -40°C ~ 85°C |
| Video Port (Integrated Graphics) | 1x VGA output, supporting 1920 x 1200 resolution 1x DisplayPort, supporting 4096 x 2304 resolution | Humidity | 10%~90% , non-condensing |
| Serial Port | 2x software-programmable RS-232/ 422/ 485 ports (COM1/ COM2) | Vibration | Operating, MIL-STD-810G, Method 514.6, Category 4 |
| Audio | 1x 3.5 mm jack for mic-in and speaker-out | Shock | Operating, MIL-STD-810G, Method 516.6, Procedure I, Table 516.6-II |
| Isolated DIO | 4-CH isolated DI and 4-CH isolated DO | EMC | CE/FCC Class A, according to EN 55032 & EN 55035 |

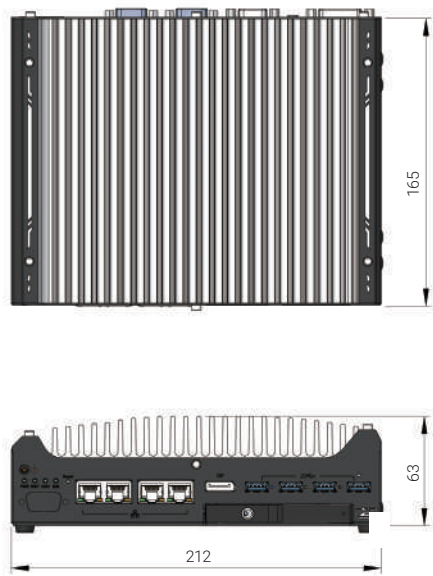
* For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.

** For 65W CPUs, the optional fan kit is recommended for operating at ambient temperatures higher than 50°C.

Appearance



Dimensions



Unit : mm

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 |
| DINRAIL-31 | DIN-rail mounting assembly for Nuvo-9531 series |
| Fan kit | Fan kit with 80mm x 80mm fan for Nuvo-9531 series |