

# Nuvo-9501 Series

Intel® 14<sup>th</sup>/13<sup>th</sup>/12<sup>th</sup>-Gen Core™ Compact Fanless Computer with 2x 2.5GbE and 4x USB3.2



CE FC

## Key Features

- Intel® 14<sup>th</sup>/13<sup>th</sup>/12<sup>th</sup>-Gen Core™ 35W/ 65W LGA1700 CPU
- Compact 212 x 165 x 80 mm footprint
- Rugged, -25°C to 60°C fanless operation (Nuvo-9505D only)
- Up to 32GB DDR4 3200 SODIMM
- 2x 2.5GbE and 4x USB3.2 Gen 1 with screw-lock
- Supports 1x M.2 2280 Gen4 x4 NVMe and 1x 3.5"/2.5" SATA HDD/SSD storage
- 4-CH isolated DI and 4-CH isolated DO (Nuvo-9505D only)
- VGA + DP dual display outputs

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## Introduction

Nuvo-9501 is a cost-effective compact fanless embedded computer based on the Intel® 14<sup>th</sup>/13<sup>th</sup>/12<sup>th</sup>-Gen platform. Built on the advanced Intel® 7 process, Intel® 14th Gen processors offer up to 24 cores/ 32 threads to deliver up to 2x the performance when compared to previous Intel® 10<sup>th</sup> or 11<sup>th</sup>-Gen platforms. Nuvo-9501 is a cost-effective, compact and yet powerful fanless embedded computer that offers the ultimate computing for various industrial applications.

Nuvo-9501 offers essential I/O functions for general industrial needs including dual 2.5GbE ports, dual display ports and four USB3.2 ports. In addition, it features a Gen4 x4 M.2 NVMe slot for the latest NVMe SSD with read/ write speeds up to 7000 MB/s. Also, it supports a 2.5" or 3.5" HDD for high capacity storage needs such as data collection or surveillance applications. It also offers two mPCIe and one M.2 E key slots for installing WiFi or 5G/ 4G wireless communication modules.

As a cost-effective and compact embedded computer, Nuvo-9501 delivers excellent computing performance and offers essential I/O connectivity to meet customers' needs and cost. It is suitable for a variety of industrial applications.

## Specifications

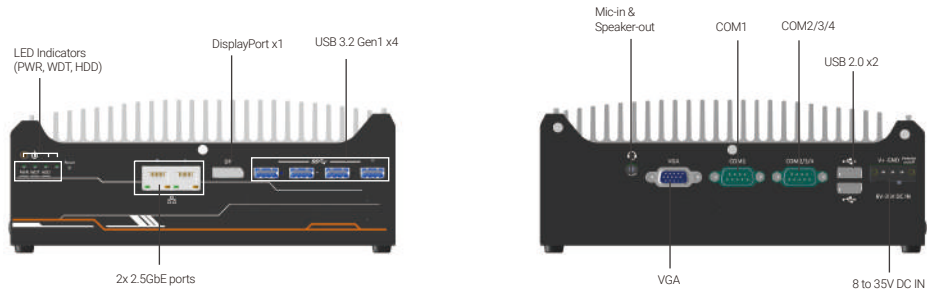
| System Core                      |  | Internal Expansion Bus |  |
|----------------------------------|--|------------------------|--|
| Processor                        | Supporting Intel® 14 <sup>th</sup> -Gen Core™ CPU (LGA1700 socket, 65W/ 35W TDP)   | Mini PCI Express       | 2x full-size mini PCI Express sockets with internal SIM sockets  |
|                                  | - Intel® Core™ i9-14900/ i9-14900T   | M.2 E key              | 1x M.2 2230 E key socket for WiFi5, WiFi6 or Google Edge TPU module  |
|                                  | - Intel® Core™ i7-14700/ i7-14700T   | Storage Interface      |  |
|                                  | - Intel® Core™ i5-14500/ i5-14400/ i5-14500T   | SATA HDD               | 1x internal SATA port for 3.5" HDD or 2.5" HDD/ SSD  |
|                                  | - Intel® Core™ i3-14100/ i3-14100T   | M.2                    | 1x M.2 2280 M key socket (PCIe Gen4 x4) for NVMe SSD   |
|                                  | Supporting Intel® 13 <sup>th</sup> -Gen Core™ CPU <sup>[1]</sup> (LGA1700 socket, 65W/ 35W TDP)  | Power Supply           |  |
|                                  | - Intel® Core™ i9-13900E/ i9-13900TE   | DC Input               | 1x 3-pin pluggable terminal block for 8-35V DC input with remote on/ off control   |
|                                  | - Intel® Core™ i7-13700E/ i7-13700TE   | Mechanical             |  |
|                                  | - Intel® Core™ i5-13500E/ i5-13400E/ i5-13500TE  | Dimension              | 212mm (W) x 165 mm (D) x 80 mm (H)   |
|                                  | - Intel® Core™ i3-13100E/ i3-13100TE   | Weight                 | 2.5 kg   |
|                                  | Supporting Intel® 12 <sup>th</sup> -Gen Core™ CPU (LGA1700 socket, 65W/ 35W TDP)   | Mounting               | Wall-mount (optional) or DIN-rail mount (optional)   |
|                                  | - Intel® Core™ i9-12900E/ i9-12900TE   | Environmental          |  |
|                                  | - Intel® Core™ i7-12700E/ i7-12700TE   | Operating Temperature  | With 35W CPU<br>-10°C to 60°C <sup>[2]</sup> (Nuvo-9501)<br>-25°C to 60°C <sup>[2]</sup> (Nuvo-9505D)<br>With 65W CPU (installation of the optional fan kit is recommended)<br>-10°C to 60°C <sup>[2][3]</sup> (Nuvo-9501)<br>-25°C to 60°C <sup>[2][3]</sup> (Nuvo-9505D) |
|                                  | - Intel® Core™ i5-12500E/ i5-12500TE   | Storage Temperature    | -40°C ~ 85°C   |
|                                  | - Intel® Core™ i3-12100E/ i3-12100TE   | Humidity               | 10%~90% , non-condensing   |
|                                  | - Intel® Pentium® G7400E/ G7400TE  | Vibration              | MIL-STD-810H, Method 514.8, Category 4   |
|                                  | - Intel® Celeron® G6900E/ G6900TE  | Shock                  | MIL-STD-810H, Method 516.8, Procedure I  |
| Chipset                          | Intel® H610E platform controller hub   | EMC                    | CE/FCC Class A, according to EN 55032 & EN 55035   |
| Graphics                         | Integrated Intel® UHD Graphics 770 (32EU) / 730 (24EU)   |                        |  |
| Memory                           | Up to 32GB non-ECC DDR4 3200 SDRAM (one SODIMM slot)   |                        |  |
| TPM                              | Supports fTPM 2.0  |                        |  |
| I/O Interface                    |  |                        |  |
| Ethernet                         | 2x 2.5GBASE-T Ethernet ports by Intel® I226-V GbE controllers (Nuvo-9501)<br>2x 2.5GBASE-T Ethernet ports by Intel® I226-IT GbE controllers (Nuvo-9505D) |                        |  |
| 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<br>1x DisplayPort, supporting 4096 x 2304 resolution  |                        |  |
| Serial Port                      | 1x software-programmable RS-232/422/485 ports (COM1)<br>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 (Nuvo-9505D only)  |                        |  |

<sup>[1]</sup> A BIOS update may be required for the system to recognize 13th-Gen processors. Please contact Neosys Technology for more information.

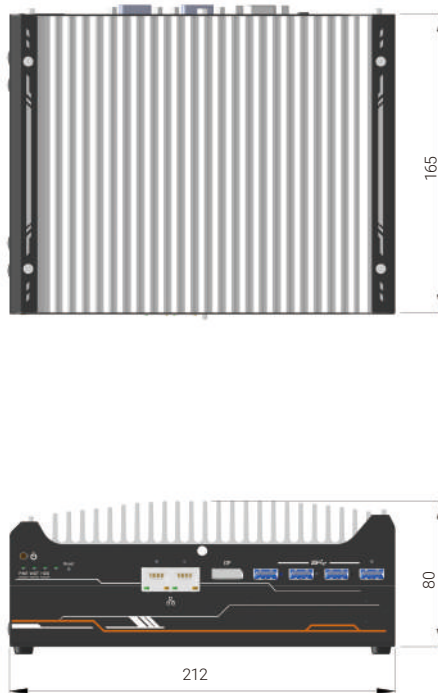
<sup>[2]</sup> For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.

<sup>[3]</sup> 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  |
|-------------------|--|
| <b>Nuvo-9501</b>  | Intel® 14 <sup>th</sup> / 13 <sup>th</sup> /12 <sup>th</sup> -Gen Core™ compact fanless computer with 2x 2.5GbE and 4x USB3.2                  |
| <b>Nuvo-9505D</b> | Intel® 14 <sup>th</sup> / 13 <sup>th</sup> /12 <sup>th</sup> -Gen Core™ compact fanless computer with 2x 2.5GbE, 4x USB3.2 and 8x isolated DIO |

## Optional Accessories

|                                  |  |
|----------------------------------|--|
| <b>PA-160W-OW</b>                | 160W AC-DC power adapter 20V/8A; 18AWG/120cm; cord end terminals for terminal block, operating temperature: -30°C to 70°C. (recommended for 35W CPU)       |
| <b>PA-280W-ET2</b>               | 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) |
| <b>Wmkit-H-Nuvo9501</b>          | Wall mount assembly for Nuvo-9501 series   |
| <b>DINRAIL-31</b>                | DIN-rail mounting assembly for Nuvo-9501 series  |
| <b>AccsyBx-FAN-Nuvo9531_9501</b> | Fan kit with 92mm x 92mm fan for Nuvo-9501/ Nuvo-9531 series   |