Nuvo-9531 Series

Compact and fanless Box PC with Intel® Core™ i9/ i7/ i5/ i3 12th generation

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Features

- Intel® 13th/12th-Gen Core™
- Up to 32GB non-ECC DDR4 3200 SDRAM
- 1x hot-swappable HDD tray
- 4x GbE and 4x USB 3.2 Gen 1
- Operating temp.: -25 °C ~ 60°C

Nuvo-9531 – Compact and fanless Box PC

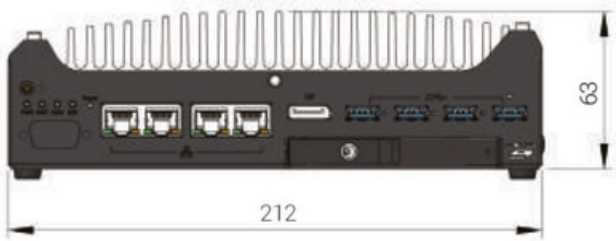
Nuvo-9531 is one of the most compact fanless embedded computers based on the Intel 13th/12th-Gen platform. Measuring just 212 x 165 x 63 mm, it can fit into restricted spaces, such as in robotic arm and AMR applications. Despite its compact size, Nuvo-9531 does not compromise on performance. Built on the advanced Intel 7 process, Intel 13th Gen processors have up to 24 cores/ 32 threads to deliver up to 2x the performance when compared to previous Intel 10th or 11th Gen platforms. Nuvo-9531 is a compact fanless embedded computer that offers the ultimate computing for various industrial applications.

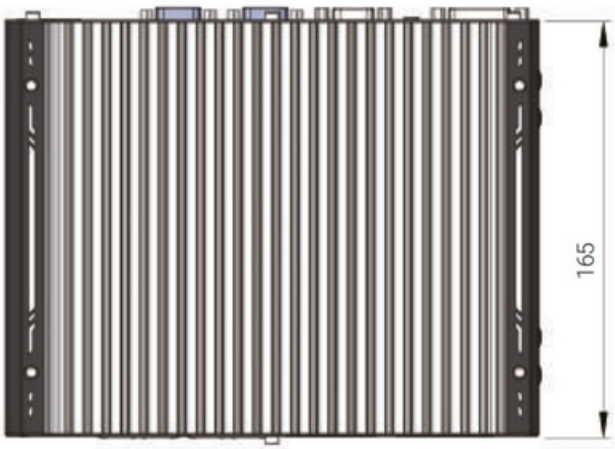
Rich I/O options and outstanding computer performance

Nuvo-9531 has rich I/O functions. It features four 2.5GbE with optional PoE+ PSE and four USB3.2 Gen1 ports for multiple camera connectivity for machine vision and surveillance applications. In addition, it features a Gen4 x4 M.2 NVMe slot for the latest NVMe SSDs that supports read/ write speeds up to 7000 MB/s; a hot-swappable HDD tray to hot-swap the storage drive without turning off the system or dismantling the chassis; two mPCIe and one M.2 E key slots to install WiFi or 5G/ 4G wireless communication modules. The system is also equipped with 8x DIO, 2x COM ports, and dual display outputs for your industrial embedded 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.

Dimensions (mm)





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	Nuvo-9531 Series
SYSTEM	
CPU	Supports Intel® Core™ 13th Gen CPUs (LGA1700 socket, 65W/35W TDP) – Intel® Core™ i9-13900E/ i9-13900TE – Intel® Core™ i7-13700E/ i7-13700TE– Intel® Core™ i5-13500E/ i5-13400E/ i5-13500TE – Intel® Core™ i3-13100E/ i3-13100TE Supports Intel® Core™ 12th Gen CPUs (LGA1700 socket, 65W/35W 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) / 730 (24EU)
RAM	Up to 32 GB non-ECC DDR4 3200 SDRAM (one SODIMM slot)
Storage	1x Hot-swappable 2.5″ HDD/SSD tray for 7mm HDD/SSD 1x M.2 2280 M-key slot (PCIe Gen4 x4) for NVMe SSD
Expansion	2x Full-size Mini-PCI Express sockets with internal SIM slots 1x M.2 2230 E-key slot for WiFi5, WiFi6, or Google Edge TPU module
INTERFACE	
Ethernet	4x 2.5GBASE-T Ethernet ports with Intel® I226-IT GbE controllers Optional IEEE 802.3at PoE+ PSE for 4×2.5GbE ports with 100W total power budget
USB	4x USB 3.2 Gen1 (5 Gbps) ports 2x USB 2.0 ports
COM	1x Software-programmable RS-232/422/485 port (COM1) 3x 3-wire RS-232 ports (COM2/3/4) or 1x RS-422/485 port (COM2)
Digital I/O	4CH isolated DI and 4CH isolated DO
Video	1x VGA output, supports resolution up to 1920 x 1200 1x DisplayPort, supports resolution up to 4096 x 2304
Audio	1x 3.5mm jack for mic-in and line-out
ENVIRONMENTAL	
Power Supply	1x 3-pin pluggable terminal block for 8 to 48V DC input with optional ignition power control
Operating Temperature	**With 35W** CPU-25°C ~ 60°C * **With 65W CPU** (optional fan kit installation recommended) -25°C ~ 60°C */**
Storage Temperature	-40°C ~ 85°C
Vibration / Shock Resistance	Vibration: In operation, MIL-STD-810G, Method 518.6, Category 4 Shock: In operation, MIL-STD-810G, Method 516.8, Procedure I
Humidity	10% ~ 90%, non-condensing
Dimensions	(W x D x H): 212 x 165 x 63mm
Weight	2.5kg
Mounting	Wall-mount (standard) or DIN-rail mount (optional)
Certifications	CE/FCC Class A, compliant with EN 55032 & EN 55035

*For operating temperatures below freezing or above 60°C, a high-temperature HDD or SSD is required.
**For 65W CPUs, the optional fan kit is recommended for operation in ambient temperatures above 50°C.

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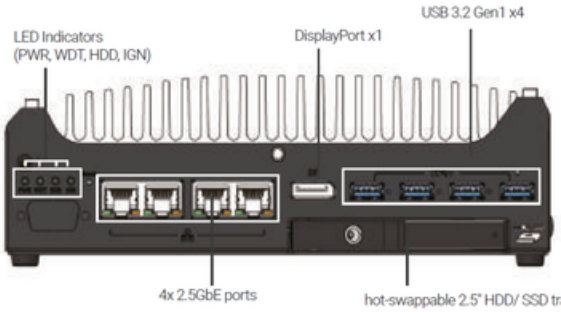

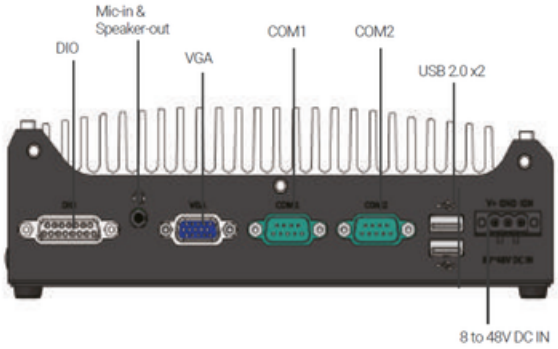

Ordering Information	Product Description
Nuvo-9531	Intel® 13th/ 12th-Gen Core™ i9/i7/i5/i3 icompact fanless computer with 4x 2.5GbE, 4x USB3.2 Gen 1 and a hot-swappable HDD tray Optional 802.3at PoE + PSE for 4x 2.5GbE ports Optional ignition power control

Optional Accessories	
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