 NEOUSYS TECHNOLOGY

Nuvo-7000E/ 7000DE/ 7000P Series

Intel® 8th-Gen Coffee Lake Core™ i7/ i5/ i3 Fanless Controller with 6x GbE Ports, Patented Cassette and MezIO™ Interface

🔻 *Key Features*

· Intel® 8th-Gen Core™ hexa-core 35W/ 65W LGA1151 CPU
· Patented Cassette for PCI/PCIe add-on card accommodation
· MezIO™ interface for easy function expansion
· Rugged, -25°C to 70°C fanless operation
· Up to 6x GigE ports, supporting 9.5 KB jumbo frame
· M.2 2280 M key NVMe (Gen3 x4) socket for fast storage access
· 4x USB 3.1 Gen2 ports and 4x USB 3.1 Gen1 ports
· VGA/ DVI/ DP triple independent display, supporting 4K2K resolution

CE FC

R.O.C Patent No. M456527

Introduction

Introducing Neousys Technology's 2018 flagship rugged fanless controllers, the new Nuvo-7000 series, powered by Intel® 8th-Gen Core™ processors with up to 6-core/ 12-thread architecture that offer significant performance improvement over previous 6th-Gen and 7th-Gen platforms.

Nuvo-7000 series includes Neousys' track-proven technologies for superior ruggedness and versatility, such as effective fanless design, patented expansion Cassette and proprietary MezIO™ interface. It also incorporates cutting-edge computer I/O like USB 3.1 Gen2 and M.2 NVMe for ultimate system performance. The plethora of on-board I/O ports (GbE, USB and COM) feature sophisticated protection circuits to endure stress from ESD and power surge. This makes Nuvo-7000 series by far the most rock-solid embedded controller we've ever created.

Flexible and versatile for a variety of applications, Nuvo-7000 variants are available with different Cassette expansion options. With Neousys Nuvo-7000 series, you get a true rugged platform that can accommodate a single PCIe card (Nuvo-7000E), dual PCIe cards (Nuvo-7000DE) or a single PCI card (Nuvo-7000P) according your application needs.
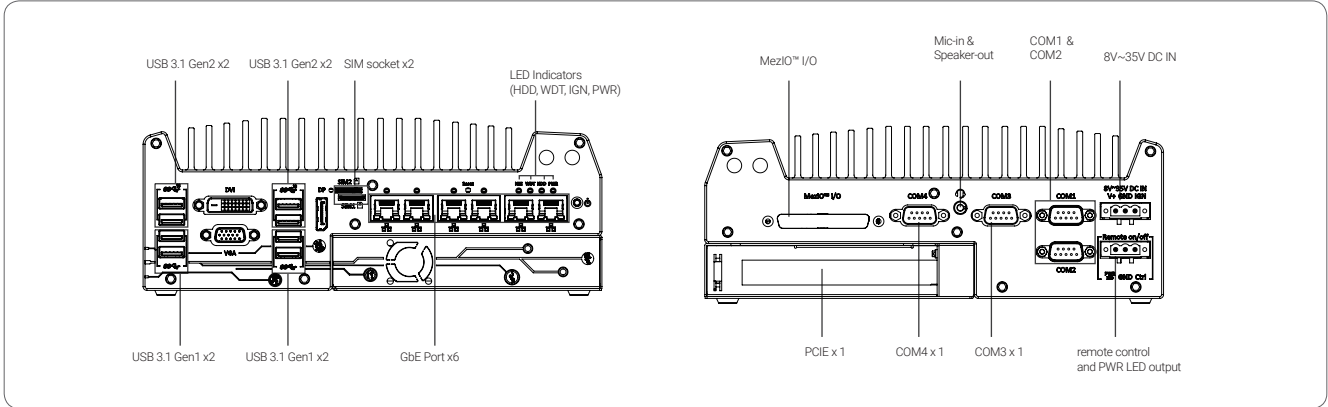
Specifications

System Core

Processor	Supporting Intel® 8th-Gen Coffee Lake CPU (LGA1151 socket, 35W/ 65W TDP) - Intel® Core™ i7-8700/ i7-8700T - Intel® Core™ i5-8500/ i5-8500T - Intel® Core™ i3-8100/ i3-8100T - Intel® Pentium® G5400/ G5400T - Intel® Celeron® G4900/ G4900T
Chipset	Intel® Q370 Platform Controller Hub
Graphics	Integrated Intel® UHD Graphics 630
Memory	Up to 32 GB DDR4 2666/ 2400 SDRAM (two SODIMM slots)
AMT	Supports AMT 12.0
TPM	Supports TPM 2.0

I/O Interface

Ethernet	2x Gigabit Ethernet ports by I219 and I210 (Nuvo-7002E/ P/ DE) 6x Gigabit Ethernet ports by I219 and 5x I210 (Nuvo-7006E/ P/ DE)
PoE+	Optional IEEE 802.3at PoE+ PSE for Port 3 ~ Port 6 100 W total power budget
USB	4x USB 3.1 Gen2 (10 Gbps) ports 4x USB 3.1 Gen1 (5 Gbps) ports
Video Port (Integrated Graphics)	1x VGA connector, supporting 1920 x 1200 resolution 1x DVI-D connector, supporting 1920 x 1200 resolution 1x DisplayPort connector, supporting 4096 x 2304 resolution
Serial Port	2x software-programmable RS-232/422/485 ports (COM1/ COM2) 2x RS-232 ports (COM3/ COM4)
Audio	1x 3.5 mm jack for mic-in and speaker-out

Storage Interface

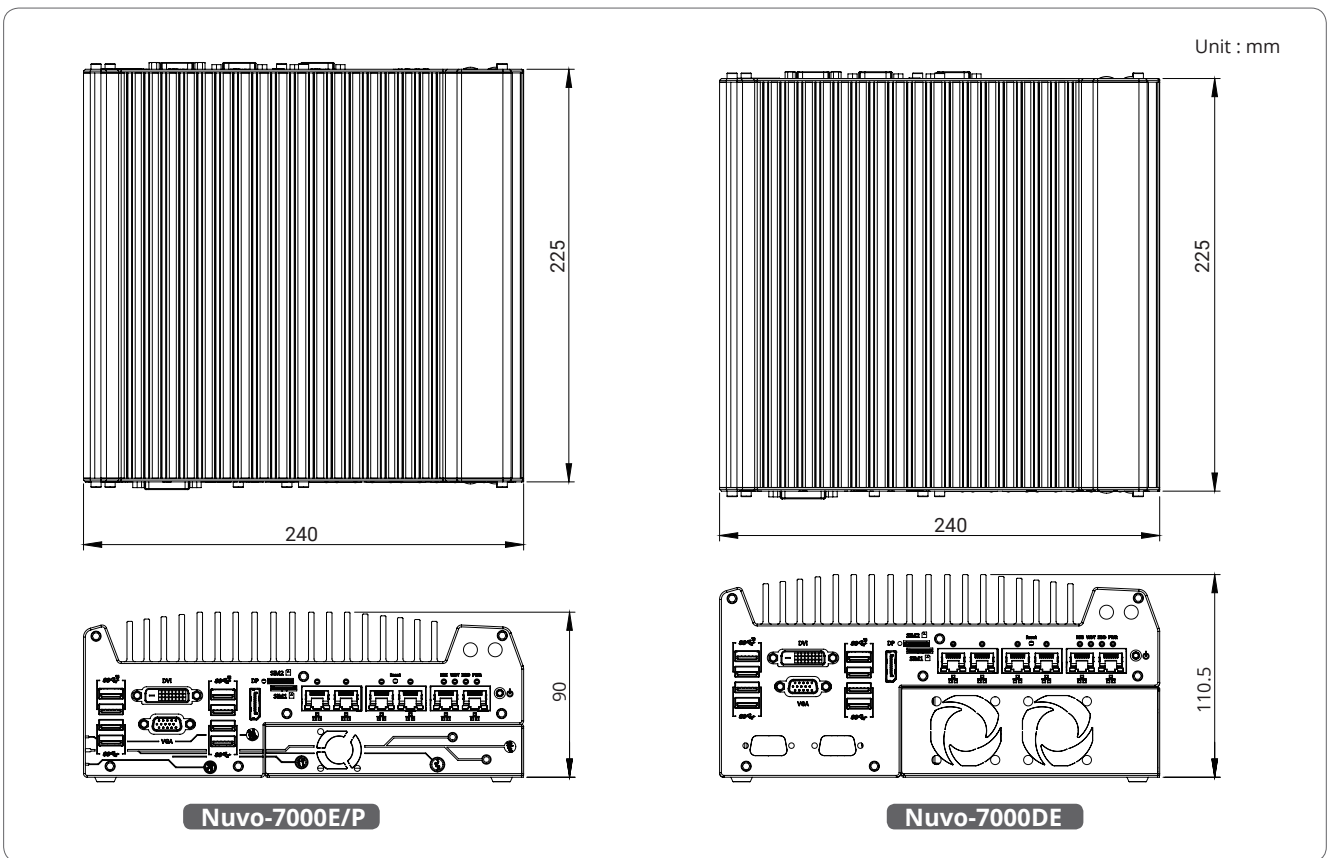|	
SATA HDD	2x internal SATA port for 2.5" HDD/SSD installation, supporting RAID 0/ 1
M.2 NVMe	1x M.2 2280 M key NVMe socket (PCIe Gen3/ x4) for NVMe SSD installation
mSATA	1x full-size mSATA port (mux with mini-PCIe)

* For i7-8700 running at 65W mode, the highest operating temperature shall be limited to 50°C and thermal throttling may occur when sustained full-loading applied. Users can configure CPU power in BIOS to obtain higher operating temperature.
** For sub-zero operating temperature, a wide temperature HDD or Solid State Disk (SSD) is required.

Expansion Bus

PCI/PCI Express	1x PCIe x16 slot@Gen3, 8-lanes PCIe signals in Cassette (Nuvo-7002E/ 7006E) 2x PCIe x8 slots@Gen3, 4-lanes PCIe signals in Cassette (Nuvo-7002DE/ 7006DE) 1x PCI slot in Cassette (Nuvo-7002P/ 7006P)
Mini PCI-E	1x full-size mini PCI Express socket with internal SIM socket (mux with mSATA)
M.2	1x M.2 2242 B key socket with front-accessible SIM socket, supporting dual SIM mode with selected M.2 LTE module
Expandable I/O	1x MezIO™ expansion port for Neousys MezIO™ modules

Power Supply

DC Input	1x 3-pin pluggable terminal block for 8~35VDC DC input
Remote Ctrl. & LED Output	1x 3-pin pluggable terminal block for remote control and PWR LED output

Mechanical

Dimension	240 mm (W) x 225 mm (D) x 90 mm (H) (Nuvo-7000E/ P series) 240 mm (W) x 225 mm (D) x 110.5 mm (H) (Nuvo-7000DE series)
Weight	3.58 kg (Nuvo-7000E/ P series) 3.7 kg (Nuvo-7000DE series)
Mounting	Wall-mounting (standard) or DIN-Rail mounting (optional)

Environmental

Operating Temperature	**with 35W CPU** -25°C ~ 70°C ** **with 65W CPU** -25°C ~ 70°C */** (configured as 35W TDP) -25°C ~ 50°C */** (configured as 65W TDP)
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 55024

Appearance

Dimensions

Unit : mm

Nuvo-7000E/P

Nuvo-7000DE

Ordering Information

Model No.	Product Description
Nuvo-7002E	Intel® 8th-Gen Core™ fanless controller with 2x GbE, single-slot PCI Express Cassette and MezIO™
Nuvo-7002DE	Intel® 8th-Gen Core™ fanless controller with 2x GbE, dual-slot PCI Express Cassette and MezIO™
Nuvo-7002P	Intel® 8th-Gen Core™ fanless controller with 2x GbE, single-slot PCI Cassette and MezIO™
Nuvo-7006E	Intel® 8th-Gen Core™ fanless controller with 6x GbE, single-slot PCI Express Cassette and MezIO™
Nuvo-7006DE	Intel® 8th-Gen Core™ fanless controller with 6x GbE, dual-slot PCI Express Cassette and MezIO™
Nuvo-7006P	Intel® 8th-Gen Core™ fanless controller with 6x GbE, single-slot PCI Cassette and MezIO™
Option of 802.3at PoE+ for GbE ports 3 ~ 6	

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.
Fan-25	Fan assembly for 1-slot Cassette, 25x25x10 mm
DINRAIL-O	DIN-rail mounting assembly for Nuvo-7000 series