Nuvis-3304af Series

Intel® 3rd-Gen Core™ i7/ i5 Fanless Vision System with 4x GigE PoE and Deterministic Trigger I/O

Key Features

· Intel® 3rd-Gen i7 quad-core processor
· Integrated camera interfaces
  - 4x 802.3af Gigabit PoE ports via Intel® I210
  - 4x USB3.0 ports
· Patented Deterministic Trigger I/O* technology for accurate trigger/ strobe control
· Patented Cassette* design for PCIe/ PCI add-on card expansion
· Per-port PoE power on/ off control
· Rugged, -25°C to 70°C fanless operation

*R.O.C Patent No. I526834 / M456527

Introduction

Nuvis-3304af is specifically designed for machine vision applications. Inheriting Neousys' proven fanless architecture and Power-over-Ethernet technology, Nuvis-3304af combines superb computing performance, integrated camera interfaces and great reliability in a compact chassis.

As accurate trigger/ strobe control is crucial for vision applications, Neousys developed a new technology "Deterministic Trigger I/O or DTIO" for Nuvis-3304af. Unlike legacy isolated DIO, this patented DTIO technology (R.O.C Patent No. I526834) allows users to program a deterministic timing correlation between input and output signals at a resolution of 25 microseconds. With DTIO, your vision system can have extremely precise control for proximity sensor input, strobe output and camera trigger.

Camera connectivity is another key feature for vision systems. In addition to integrated PoE and USB3.0 ports, Nuvis-3304af also features Neousys' patented Cassette (R.O.C Patent No. M456527) design for PCIe/ PCI expansion. By installing a dedicated interface card, Nuvis-3304af can work with analog, 1394, Camera Link or CoaXPress camera. Alternatively, you can integrate a motion control card to fulfill an all-in-one inspection system.

Combining the quad-core CPU performance, PoE/ USB3.0 camera interface, innovative DTIO and Cassette technology, Nuvis-3304af is the perfect platform for your vision application.

Specifications

System Core

Processor	Intel® Core™ i7-3610QE (2.3/ 3.3 GHz, 6 MB cache) Intel® Core™ i5-3610ME (2.7/ 3.3 GHz, 3 MB cache)
Chipset	Intel® HM76 Platform Controller Hub
Graphics	Integrated Intel® HD Graphics 4000 Controller
Memory	Up to 16 GB DDR3 1333/ 1600 MHz SDRAM (two SO-DIMM slots)

I/O Interface

PoE	4x Gigabit IEEE 802.3af (15.4W) PoE ports by Intel® I210
Ethernet	1x Gigabit Ethernet port by Intel® I210
Video Port	1x DB-15 connector for analog RGB, supporting 2048x1536 resolution 2x DVI-D connectors for DVI outputs, supporting 1920x1080 resolution (Supporting dual independent display outputs)
Serial Port	2x software-programmable RS-232/ 422/ 485 (COM1 & COM2)
USB	4x USB3.0 ports and 4x USB2.0 ports
KB/MS	1x 6-pin mini-DIN connector for PS/2 keyboard/ mouse
Audio	1x Mic-in and 1x Speaker-out

Deterministic Trigger I/O

Digital Input	6x Gigabit Ethernet ports by Intel® 1x I219 and 5x I210
Digital Output	8x isolated digital output channels
Operating Mode	DTIO with 25 microseconds resolution, Polling I/O with change-of-state interrupt

Storage Interface

SATA HDD	1x Internal SATA port for 2.5" HDD/SSD installation
CFast	1x CFast socket

Expansion Bus

Mini PCI-E	1x internal mini PCI Express socket with USIM socket 1x internal mini PCI Express socket
PCIe	1x PCIe x16 slot @ 8-lanes PCIE signals in Cassette (Nuvis-3304af-E)
PCI	1x PCI slot in Cassette (Nuvis-3304af-P)

Power Supply & Ignition Control

DC Input	1x 4-pin power connector for 8~25V DC input (for AC adapter) 1x 3-pin pluggable terminal block for 8~25V DC input (for direct DC wiring)
Remote Ctrl. & Status Output	1x 10-pin (2x5) wafer connector for remote on/ off control and status LED output
Power Consumption	With i7-3610QE : 72.96W (3.84A@19V) With i5-3610ME : 48.83W (2.57A@19V)

Mechanical

Dimension	240 mm (W) x 225 mm (D) x 90 mm (H)
Weight	4.4 Kg (incl. CPU, memory and HDD)
Mounting	Wall-mounting (Standard) or DIN-rail mounting (optional)

Environmental

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Operating Temperature	-25°C ~ 70°C */** (with i5-3610ME) -25°C ~ 60°C */** (with i7-3610QE)
Storage Temperature	-40°C ~85°C**
Humidity	10%~90% , non-condensing
Vibration	Operating, 5 Grms, 5-500 Hz, 3 Axes (w/ SSD, according to IEC60068-2-64)
Shock	Operating, 50 Grms, Half-sine 11 ms Duration (w/ SSD, according to IEC60068-2-27)
EMC	CE/FCC Class A, according to EN 55022 & EN 55024

* 100% CPU loading is applied using Intel® Thermal Analysis Tool. For detail testing criteria, please contact Neousys Technology.
**For sub-zero operating temperature, a wide temperature HDD drive or Solid State Disk (SSD) is required.

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NEOUSYS
TECHNOLOGY

Appearance

USB 2.0 Host x 4   USB3.0 Host x 4   VGA Port x 1   PS/2   LED Indicators (HDD, WDT, IGN)

Trigger. I/O   PoE+ Port x 2   PoE+ Port x 2   8V-25V DC IN

Mic-in & Speaker-out   DVI x 2   On/Off Ctrl & Status LED   GbE Port   CFast socket

PCI/PCIe Slot   COM1 & COM2   8V-25V DC IN

Dimensions

Unit : mm

225

89.7

240
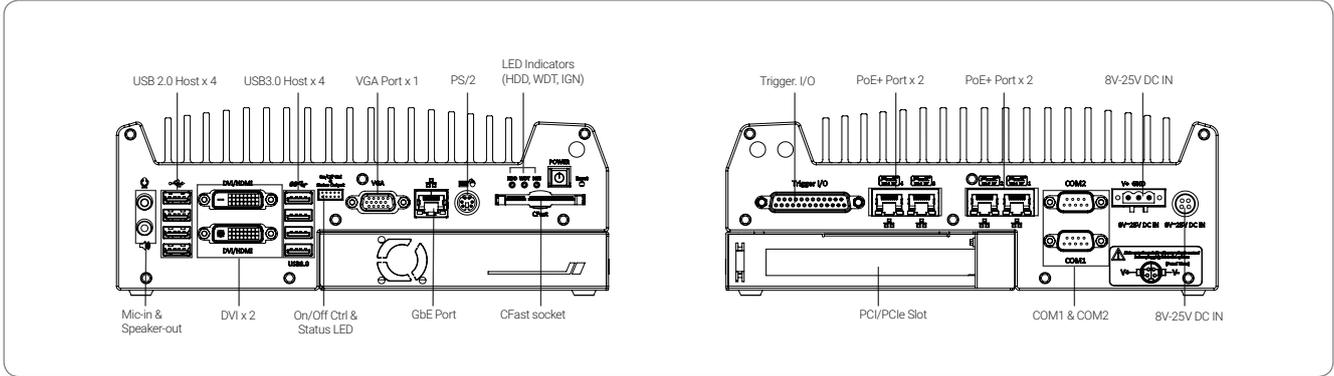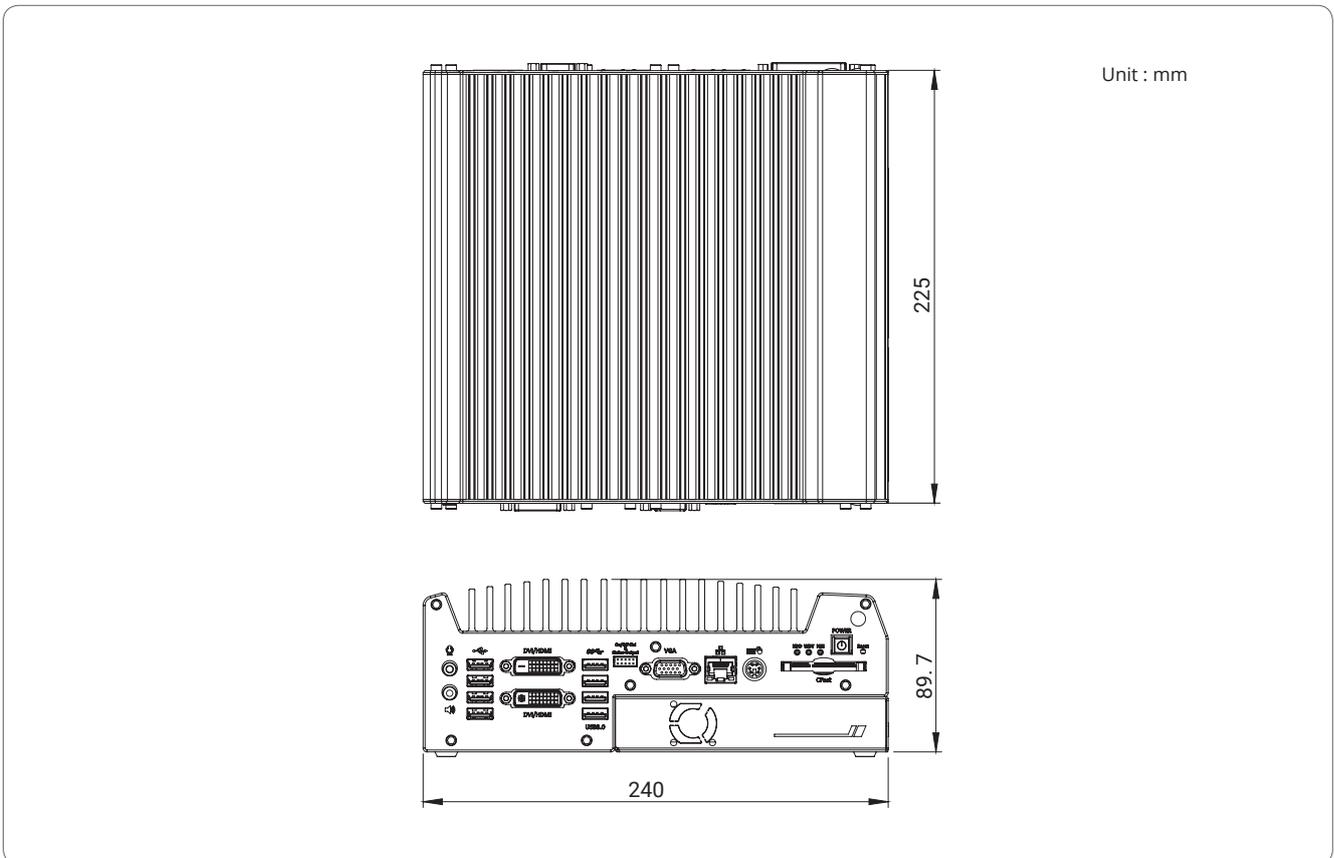
Ordering Information

Model No.	Product Description
Nuvis-3304af-E	Intel® 3rd-Gen Core™ i fanless machine vision controller with 5x GigE PoE ports, DTIO and x16 PCI Express Cassette (@ x8 signals)
Nuvis-3304af-P	Intel® 3rd-Gen Core™ i fanless machine vision controller with 5x GigE PoE ports, DTIO and PCI Cassette

Optional Accessories

DINRAIL-O	DIN-rail mounting assembly for Nuvis-3304af series
PA-160W-OW	160W AC/DC power adapter 20V/8A; 18AWGx4C/120cm, cord end terminals for terminal block. operating temperature : -30 to 70 °C.
Fan-25	Fan assembly for 1-slot Cassette, 25x25x10 mm

Cassette Modules

CSM-PoE354 (Nuvis-3304af-E Only)	Cassette module with PCIe-PoE354 and pre-installed passive heat-spreader
CSM-USB380 (Nuvis-3304af-E Only)	Cassette module with PCIe-USB380 and pre-installed passive heat-spreader