

NISE 3900E-H310

8th Generation Intel® Core™ i7/i5/i3 LGA
Fanless System with Expansion



Main Features

- Support 8th generation Intel® Core™ i7/i5/i3 LGA socket type embedded processor
- Intel® H310 PCH
- Support 1 x 2.5" SATA HDD
- 1 x DVI-D and 1 x HDMI with independent display support
- Two Intel® GbE LAN ports
- 1 x External M.2 socket and 1 x SIM card socket
- 4 x USB 3.0, 2 x USB 2.0, 2 x RS232/422/485 with auto flow control
- 2 x Internal mini-PCIe socket support optional Wi-Fi/3.5G/4G LTE
- Support +9V to 30VDC input; ATX power mode
- One PCIe x4 expansion

Product Overview

Integrated with 8th generation Intel® Core™ i7/i5/i3 processors, NISE 3900 series is the fanless PC designed for industrial applications which demand high CPU and graphics performance. NISE 3900 series supports up to 16G DDR4 memory and have several options on storage devices like M.2, HDD or SSD. NISE 3900 series supports wide range of DC input from +9V to 30V DC input, and can be operated in an extended operating temperature range between -5 to 55 Celsius degree. For extended module availability, NISE 3900 series also designed two internal mini-PCIe sockets to support IoT wireless connectivity applications (support optional Wi-Fi, 3.5G, 4G LTE modules).

Specifications

CPU Support

- Support 8th generation Intel® Core™ i7/i5/i3 LGA socket type embedded processor
 - Core™ i7-8700T, 6 Core, 2.4GHz, 12M Cache
 - Core™ i5-8500T, 6 Core, 2.1GHz, 9M Cache
 - Core™ i3-8100T, 4 Core, 3.1GHz, 6M Cache
- Turbo-boost disabled by default

Main Memory

- 2 x DDR4 2400/2666 SO-DIMM socket, support up to 16GB with un-buffered and non-ECC

Display Option

- Two independent display
 - HDMI + DVI-D

Front I/O Interface Status LEDs

- 3 x LAN active LEDs
- 2 x GPO status/COM1/2 TX/RX LEDs
- 1 x HDD access LEDs
- 1 x Battery low
- 1 x M.2

Front I/O Interface

- 1 x ATX power on/off switch
- 1 x Line-out and 1 x Mic-in
- 2 x Antenna holes
- 1 x External M.2 socket (M-key)

- 1 x SIM card holder
- 2 x USB 2.0 ports (500mA per each)

Rear I/O Interface

- 2 x DB9 for COM1 & COM2
 - COM1: RS232/422/485 auto flow control
 - COM2: RS232/422/485 auto flow control
- 4 x USB 3.1 ports (900mA per each)
- 1 x DVI-D port
- 1 x HDMI port
- 2 x Intel® I210AT GbE LAN ports; support WoL, teaming and PXE
- 1 x 3-pin remote power on/off switch
- +9V to 30V DC input

Internal I/O

- COM3/COM4: internal box header, support RS232 only
- 8CH GPIO: internal pin header, support 4 x GPO and 4 x GPI, TTL 5V level
- On-board TPM2.0 (SLB9665) for data encryption purpose
- 1 x Internal M.2 (B-key) support optional LTE

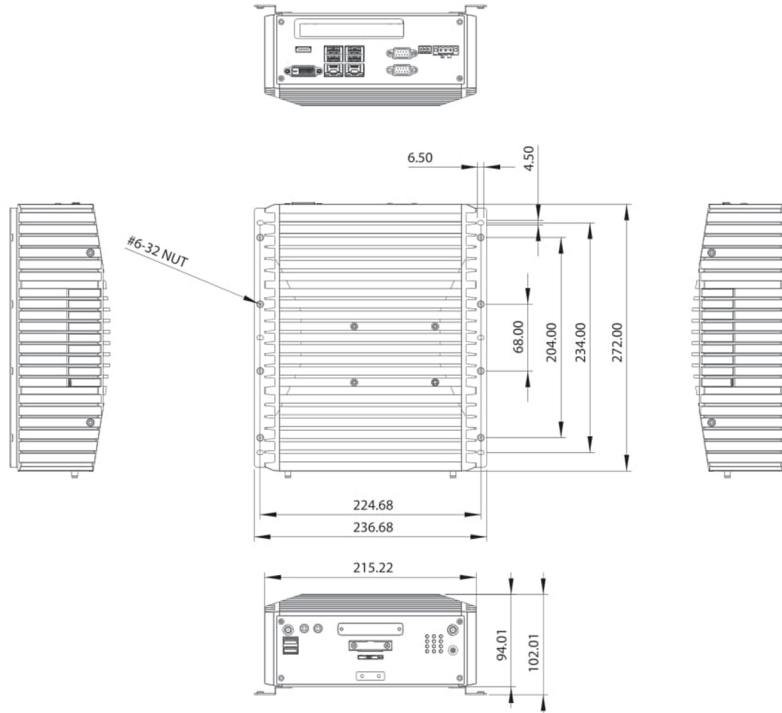
Storage Device

- 1 x Internal M.2 socket (M-key SATA 3.0)
- 1 x 2.5" HDD or SSD (SATA 3.0) driver bay

Expansion Slot

- One PCIe x4 expansion slot
 - Add-on card length: 169mm max.
 - Power consumption: 10W/slot max.
- 1 x Internal mini-PCIe socket support optional Wi-Fi/3.5G/4G LTE

Dimension Drawing



Power Requirements

- AT/ATX power mode (default: ATX power mode)
- Power input: +9 to +30V DC
- Power adapter: optional AC to DC power adapter (24V DC, 120W)

Dimensions

- 215 mm(W) x 272mm (D) x 94mm (H) without wall mount bracket (8.5" x 10.7" x 3.7")

Construction

- Aluminum and metal chassis with fanless design

Environment

- Operating temperature:
Ambient with air flow: -5°C to 55°
(according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
 - HDD: 20G, half sine, 11ms, IEC60068-2-27
 - M.2: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection with HDD condition:
 - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
 - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-6
- Vibration protection with SSD & M.2 condition:
 - Random: 2Grms @ 5~500 Hz, IEC60068-2-64
 - Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6

Certifications

- CE approval- EN61000-6-2- EN61000-6-4
- FCC Class A

OS Support Lists

- Windows 10 64-bit
- Linux Kernel 4.9

Weight Information

- Gross weight: 6.54kg
- Net weight: 5kg

Ordering Information

- **NISE 3900E-H310 system (P/N: 10J00390006X0)**
8th generation Intel® Core™ i7/i5/i3 fanless system with one PCIe x4 expansion
- **24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120023X00)**