

NISE 3900E2/P2/P2E

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® Q370 PCH
- Support 1 x 2.5" SATA HDD
- 1 x DVI-D, 1 x DP, and 1 x HDMI with independent display support
- Three Intel® GbE LAN ports; support WoL, teaming and PXE
- 1 x External M.2 socket and 1 x SIM card socket
- 6 x USB 3.0, 4 x USB 2.0, 2 x RS232/422/485 with auto flow control
- 1 x Internal mini-PCIe socket support optional Wi-Fi/3.5G/4G LTE
- Support +9V to 30VDC input; ATX power mode
- 2 x PCI or PCIe x4 expansions

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 one 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

- Three independent display
 - HDMI + DP+ DVI-D
- Dual independent display
 - HDMI + DP
 - HDMI + DVI-D
 - DP + 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 DP
- 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
- 4 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
- 6 x USB 3.1 ports (900mA per each)
- 1 x DVI-D port
- 1 x HDMI port
- 2 x Intel® I210-IT GbE LAN ports; support WoL, teaming and PXE
- 1 x Intel® I219-LM GbE LAN port
- 1 x 3-pin remote power on/off switch
- +9V to 30V DC input

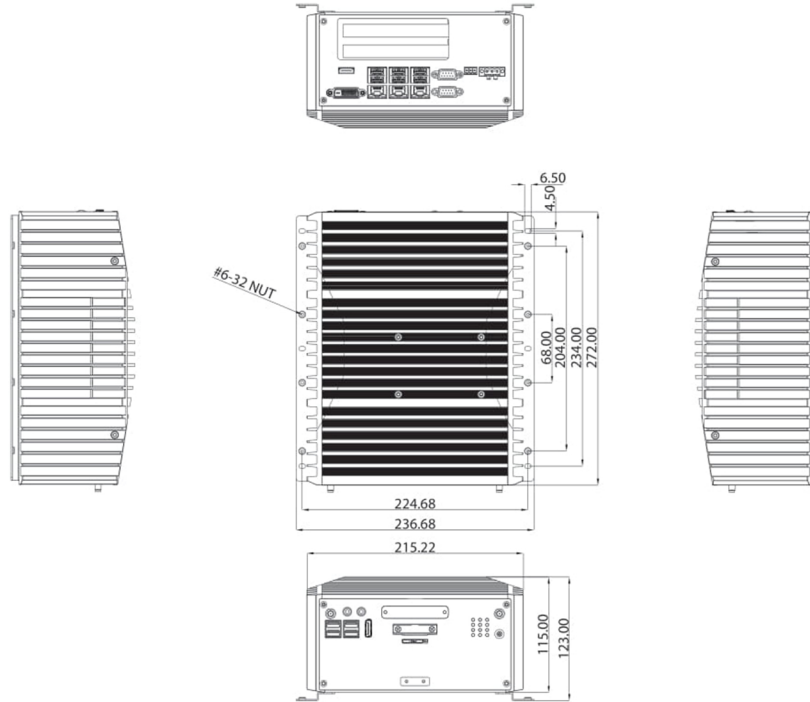
Internal I/O

- 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 External M.2 socket (M-key SATA 3.0, PCIe x4)
- 1 x 2.5" HDD or SSD (SATA 3.0) driver bay

Dimension Drawing



Expansion Slot

- NISE 3900E2: two PCIe x4 expansion slots
 - Add-on card length: one 169mm max, and one 240mm max.
 - Power consumption: 10W/slot max
- NISE 3900P2: two PCI expansion slots
 - Add-on card length: one 169mm max, and one 240mm max.
 - Power consumption: 10W/slot max
- NISE 3900P2E: one PCIe x4 and one PCI expansion slot
 - Add-on card length: one 169mm max for PCIe x4, and one 240mm max for PCI
 - Power consumption: 10W/slot max
- 1 x Internal mini-PCIe socket support optional Wi-Fi/3.5G/4G LTE

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 115mm (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: 6.84kg
- Net weight: 5.3kg

Ordering Information

- **NISE 3900E2 System (P/N: 10J00390001X0)**
8th generation Intel® Core™ i7/i5/i3 fanless system with two PCIe x4 expansions
- **NISE 3900P2 System (P/N: 10J00390002X0)**
8th generation Intel® Core™ i7/i5/i3 fanless system with two PCI expansions
- **NISE 3900P2E System (P/N: 10J00390003X0)**
8th generation Intel® Core™ i7/i5/i3 fanless system with one PCI and one PCIe x4 expansion
- **24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120023X00)**