

NISE 3720E2/P2/P2E

Intel® Core™ i7 Fanless System
with mSATA, mini-PCIe, and Two Expansion Slots



Main Features

- Support both Intel® 5th generation i7/i5/i3 processors with U platform, Dual Core with HD graphical power
- 1 x DVI-I , 1 x DVI-D with three independent display support
- 2 x Intel® GbE LAN ports; support WoL, teaming and PXE
- 2 x USB 3.0 & 2 x USB 2.0
- 2 x RS232/422/485 with auto flow control
- 1 x CFAST socket
- 1 x Internal mini-PCIe socket support optional mSATA or Fieldbus module (by jumper switch)
- 1 x Internal mini-PCIe socket support optional Wi-Fi or 3.5G (auto detection)
- Support external RTC battery holder
- Support 24V DC input

Product Overview

With the 5th generation Intel® Core™ BGA processor, NISE 3720 immediately becomes a remarkable model in the NISE family line. By comparing to the previous Ivy-Bridge mobile platform, the 5th generation mobile platform increases computing power up to 10%, and the graphical performance also increases up to 30% with Intel® HD graphics 6000. The mobile processor features ultra low power consumption (15W), and the NISE 3720 system is housing in a ruggedized design with aluminum chassis. This combination allows NISE 3720 to offer great computing/graphical power and able to run from -20 to 60 Celsius Degree.

NISE 3720 supports up to 8G DDR3L memory and provides SATAIII/CFast interfaces for storage expansions. For network connectivity, NISE 3720 supports 2x Intel® I210-IT LAN ports onboard for dual network teaming functions. For power input range, NISE 3720 supports +24V DC Input with +/- 20% and this is significant design improvement for allowing more voltage fluctuation of DC power source.

In addition of the design improvement, NISE3720 is designed to support PCI, PCIe4 and 2x mini-PCIe for more interface expansions. For the 2x mini-PCIe, it can install either fieldbus interfaces (PROFIBUS®, PROFINET®, DeviceNet®, EtherCAT®, and EtherNet/IP™) for automation applications, or 3G/ Wi-Fi/GSM/LTE interface for building up IoT applications. For the PCI/PCIe4 expansion, the user can adapt suitable PCI and PCIe4 cards for their project needs.

With such rich expansions, the users can easily transform this reliable general purpose PC and set it ready for any specific markets.

Specifications

CPU Support

- Onboard BGA type CPU is Core™ i7-5650U, Dual Core, 2.2GHz, 4M Cache, Max Turbo Frequency 3.1 GHz
- Onboard BGA type CPU is Core™ i7-4650U, Dual Core, 1.7GHz, 4M Cache, Max Turbo Frequency 3.3 GHz
- Support following onboard BGA type processors by project base
 - 5th generation Intel® Core™ i5/i3/Celeron® MCP processors
 - Core™ i5-5350U, Dual Core, 1.8GHz, 3M Cache, Max Turbo Frequency 2.9 GHz
 - Core™ i3-5010U, Dual Core, 2.1GHz, 3M Cache
- Turbo-boost disabled by default

Main Memory

- 2 x DDR3L SO-DIMM socket, support up to 8GB DDR3L 1333/1600 RAM, un-buffered and non-ECC

Display Option

- Support dual independent sdsplay
 - DVI-I (DVI-D + VGA)
 - DVI-D

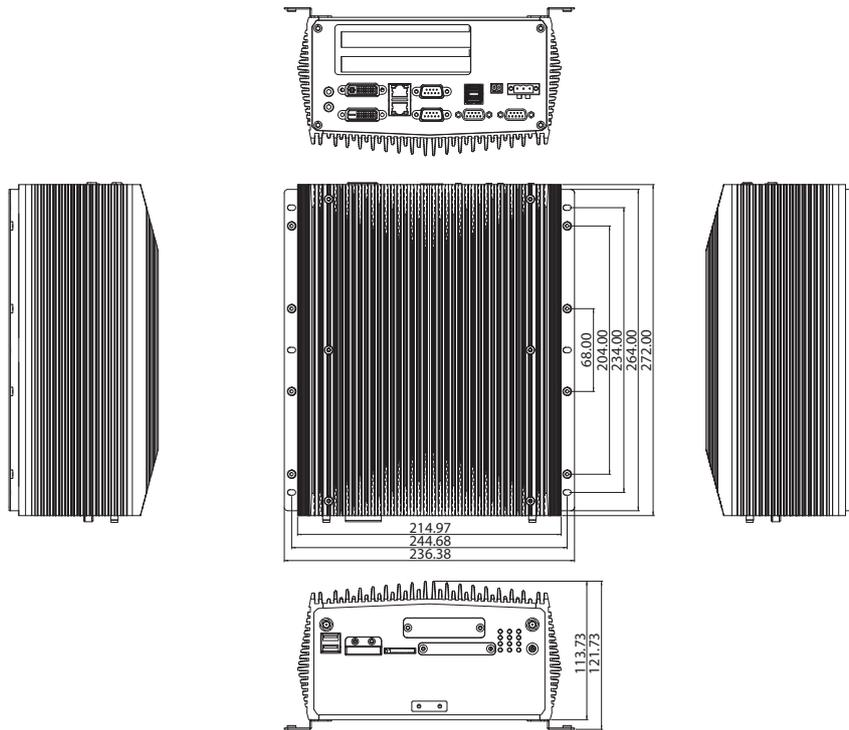
I/O Interface-Front

- ATX power on/off switch
- 1 x Power status/1 x HDD access LEDs
- 2 x LAN status/1 x CFast LEDs
- 3 x Programmable GPO/1 x battery low LEDs
- 2 x USB 2.0 ports (500mA per each)
- 1 x External CFast socket
- 1 x SIM card holder
- 1 x External RTC Li-ion battery holder
- 2 x Antenna holes for Wi-Fi/GSM

I/O Interface-Rear

- 2 x USB 3.0 ports (blue color, 900mA per each)
- 1 x DVI-I
- 1 x DVI-D
- 2 x DB9 for 2x COM ports
 - COM1: RS232/422/485 with auto flow control
 - COM2: RS232/422/485 with auto flow control
 - COM1 support 5V/12V/ring function by jumper, default is ring

Dimension Drawing



- 1 x Line-out and 1 x Mic-in (realtek HD ALC886)
- 2 x Intel® I210IT GbE LAN ports; support WoL, teaming and PXE

I/O Interface-Internal

- 4 x GPI and 4 GPO (5V, TTL type)
- 1 x Pin header for COM3~COM6, RS232 only
- 1 x USB 2.0 internal connector

Storage Device

- 1 x CFAST (SATA 3.0)
- 1 x mSATA (SATA 3.0)
- 1 x 2.5" HDD (SATA 3.0)

Expansion Slot

- 2 x mini-PCIe sockets
 - 1 x mini-PCIe socket for Wi-Fi/3.5G
 - 1 x mini-PCIe socket for mSATA/Fieldbus
 - *Onboard JP8 jumper switch for mSATA/Fieldbus
- NISE 3720E2: one PCIe x4 and one PCIe x1 expansion slot
 - Add-on card length: one 169mm max. and one 240mm max.
 - Power consumption: 10W/slot max.
- NISE 3720P2: two PCI expansion slot
 - Add-on card length: one 169mm max. and one 240mm max.
 - Power consumption: 10W/slot max.
- NISE 3720P2E: one PCIe x4 and one PCI expansion slot
 - Add-on card length: one 169mm max. and one 240mm max.
 - Power consumption: 10W/slot max.

Power Requirements

- AT/ATX power mode (ATX power mode, default with jumper switch)
- Power input: typical +24Vdc +/-20%
- Power adapter: optional AC to DC power adapter (+24Vdc, 120W)

Dimensions

- 215mm(W) x 272mm(D) x 114mm(H) without wall mount bracket

Environment

- Operating temperature: ambient with air flow: -20°C to 60°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -40°C to 85°C
- Relative humidity: 95% at 40°C
- Shock protection:

- HDD: 20G, half sine, 11ms, IEC60068-27
- CFAST: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/ HDD condition:
 - Random: 0.5Grms @ 5~500Hz, IEC60068-2-64
 - Sinusoidal: 0.5Grms @ 5~500Hz, IEC60068-2-6

Certifications

- CE approval, FCC Class B, LVD

OS Support Lists

- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

Ordering Information

Barebone

- **NISE 3720E-5650U (P/N: 10J00372004X0)**
Intel® Core™ i7-5650U fanless system with one PCIe expansion
- **NISE 3720E2-5650U (P/N: 10J00372005X0)**
Intel® Core™ i7-5650U fanless system with two PCIe expansion
- **NISE 3720P2-5650U (P/N: 10J00372007X0)**
Intel® Core™ i7-5650U fanless system with two PCI expansion
- **NISE 3720P2E-5650U (P/N: 10J00372008X0)**
Intel® Core™ i7-5650U system with one PCI expansion and one PCIe expansion
- **NISE 3720E (P/N: 10J00372000X0)**
Intel® Core™ i7-4650U fanless system with one PCIe expansion
- **NISE 3720E2 (P/N: 10J00372001X0)**
Intel® Core™ i7-4650U fanless system with two PCIe expansion
- **NISE 3720P2 (P/N: 10J00372002X0)**
Intel® Core™ i7-4650U fanless system with two PCI expansion
- **NISE 3720P2E (P/N: 10J00372003X0)**
Intel® Core™ i7-4650U system with one PCI expansion and one PCIe expansion
- **24V, 120W AC/DC power adapter w/o power core (P/N: 7400120015X00)**