

# NISE 109-E01/E02

Intel® Celeron® Processor J6412 Quad Core, 2.0GHz  
Intel Atom® Processor x6211E Dual Core, 1.3GHz



## Main Features

- Onboard Intel® Celeron® processor J6412 2.0Ghz or Atom® processor x6211E 1.3Ghz
- Dual display port: 1 x HDMI & 1 x DP
- 2 x Intel® I210-IT GbE LAN ports; support WoL, teaming, PXE and Ethercat
- 3 x USB 3.0 & 3 x USB 2.0
- 2 x RS232 & 2 x RS232/422/485
- Support 1 x 2.5" SSD & 1 x M.2 Key B storage
- Support 9~30V DC input; support ATX power mode
- Operation temperature
  - Intel® Celeron® J6412: -5~55°C
  - Intel Atom® x6211E: -20~70°C
- Support 1 x M.2 & 1 x mini-PCIe expansion slot
- Support TPM 2.0

## Product Overview

Powered by the latest generation of Intel® Celeron® J6412 quad core or Atom® x6211E dual core (formerly codenamed "Elkhart Lake"), NISE 109 provides outstanding performance not only on computing but also on graphics, and it presents a brand new opportunity for both intelligent and industrial computing solutions. Up to 16G DDR4 memory, NISE 108 have several options on storage devices like M.2 and SSD. The NISE 109 has high integration ability with optional mini-PCIe module, 4 x COM ports (2 x RS232 and 2 x RS232/422/485), which makes it a real intelligent system for various applications such as factory automation applications, network applications (with optional Wi-Fi module and 4G/LTE module) and communication applications (with optional GPIO, RS232/422/485). For more harsh environment, the NISE 109 also provide extended operation temperature SKU from -20 up to 70 degree C.

## Specifications

### CPU Support

- Onboard Intel® Celeron® processor J6412 2.0Ghz
- Onboard Intel Atom® processor x6211E 1.3Ghz

### Main Memory

- 1 x SO-DIMM DDR4 non ECC up to 2666 MT/s, 16G max., support IB ECC, non-ECC, and un-buffered memory

### Display Option

- 1 x DP 1.4
- 1 x HDMI 1.4

### I/O Interface-Front

- ATX power on/off switch
- Status LEDs: storage, battery, and COM1/2 TX/RX.
- 3 x USB 3.0 (900mA per each)
- 1 x USB 2.0 (500mA per each)
- 2 x Intel® I210-IT GbE LAN ports; support WoL, teaming and PXE
- 1 x DP
- 1 x HDMI
- 1 x DB9 for COM3, it supports RS232/422/485 with auto flow control
  - Jumper-free setting on RS232/422/485 by BIOS

- 1 x Line-out and 1 x Mic-in
- 1 x Optional I/F window
- 3-pin DC input, support 9~30V DC

### I/O Interface-Rear

- 3 x DB9 for COM2, COM3 & COM4
  - COM2: RS232/422/485 auto flow control
  - COM3 & COM4: RS232
- 2 x USB 2.0 (500mA per each)
- 1 x 2-pin remote power on/off switch
- 2 x Antenna hole for optional Wi-Fi/4G/LTE antenna

### TPM

- TPM 2.0

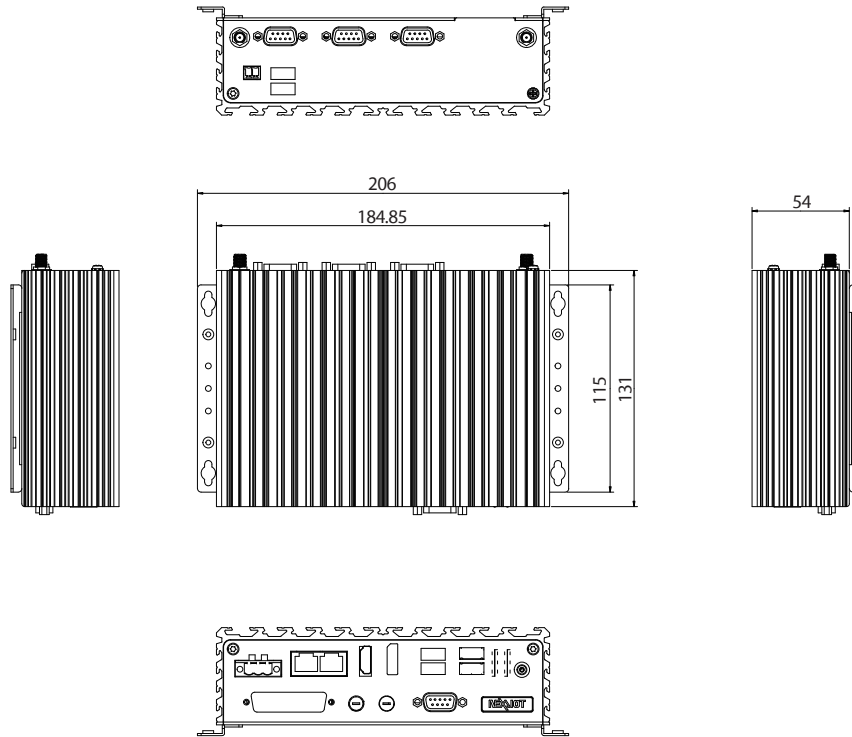
### Storage Device

- 1 x M.2 (SATA/PCIe x 1, 2242, Key B & B+M)
- 1 x 2.5" SATAIII SSD

### Expansion Slot

- 1 x mini-PCIe socket for optional Wi-Fi/3.5G/4G/LTE module (for 3.5G/4G/LTE function, support SIM card holder onboard)

## Dimension Drawing



### Power Requirements

- Power input: +9 to 30V DC
- 1 x Optional 24V, 60W power adapter

### Support OS

- Windows 10 64-bit
- Linux Kernel

### Dimensions

- 185mm (W) x 131mm (D) x 54mm (H) without wall-mount bracket

### Construction

- Aluminum and metal chassis with fanless design

### Environment

- Operating temperature (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
  - NISE 109-E01 ambient with air flow: -20°C to 70°C
  - NISE 109-E02 ambient with air flow: -5°C to 55°C
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 90% (non-condensing)
- Shock protection
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - M.2: 50G, half sine, 11ms, IEC60068-2-27

- 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

- Linux Kernel version 4.1
- Windows 10 IoT Enterprise, 64-bit

## Ordering Information

- **NISE 109-E01 system (P/N: 10J00010900X0)**  
Intel Atom® processor x6211E 1.3Ghz
- **NISE 109-E02 system (P/N: 10J00010901X0)**  
Intel® Celeron® processor J6412 2.0Ghz
- **24V, 60W AC to DC power adapter w/o power cord (P/N: 7400060054X00)**