



Main Features

- Onboard Intel® Celeron® processor N3350 Dual Core, 2.4GHz
- 1 x DP display
- 2 x Intel® I211AT GbE LAN ports; support WoL, teaming and PXE
- 2 x USB 2.0
- 2 x USB 3.0
- 1 x mini-PCIe sockets for optional Wi-Fi/3.5G/LTE module
- 2 x M.2 slot for Wi-Fi/Bluetooth and storage/LTE modules
- 2 x RS232, 1 x RS422/485 with auto flow control
- Support -5~55 degree C operating temperature
- Support 12V and 24V DC input

Product Overview

Powered by the latest generation of Intel® Celeron® processor N3350 (formerly codenamed "Apollo Lake"), NISE 51 series positions at the intelligent IoT gateway for factory automation and for smart city applications. DDR3L SODIMM memory socket, the NISE 51 series support operating temperature from -5 up to 55 degree C with 12V/24V DC input with +/-10% range. The NISE 51 series have strong connectivity - Ethernet-based LAN port and traditional RS485, mainly for Modbus TCP or Modbus RTU communication. For wireless connectivity, there are 1 x mini-PCIe sockets and 2 x M.2 slots which can support optional wireless modules for IoT applications, for example, Wi-Fi, Bluetooth, 3.5G and 4G LTE module as well as storage module. NISE 51 is definitely the best choice for M2M intelligent system as an intelligent IoT gateway.

Specifications

CPU Support

- Onboard Intel® Celeron® processor N3350 Dual Core, 2.4GHz
- Onboard Intel Atom® processor E3950 Quad Core, 2.0GHz

Main Memory

- 1 x DDR3L SO-DIMM socket, support DDR3L 1866 8GB RAM max., un-buffered and non-ECC

Display Option

- 1 x DP display

I/O Interface-Front

- ATX power on/off switch
- 1 x Storage/2 x GPO programmable LED
- 1 x SIM card holder
- 2 x Intel® I211-AT GbE LAN ports; support WoL, teaming and PXE
- 1 x DP display output
- 2 x USB 2.0

Expansion Slot

- 1 x mini-PCIe socket for optional Wi-Fi/3.5G module and 2 x M.2 slot for optional WiFi/Bluetooth and LTE modules

mini-PCIe Slot	Configuration	USB	PCIe	SATA	3.5G/4G	Wi-Fi/Bluetooth	Storage
Mini_card1	Full size	v	v	N/A	Support	Support	N/A
M.2 Slot	Configuration	USB	PCIe	SATA	3.5G/4G	Wi-Fi/Bluetooth	Storage
M.2_Key_A1	A Key 2230	v	v	N/A	N/A	Support	N/A
M.2_Key_B1	BKey2242/3042	v (3042)	N/A	v (2242)	Support (3042)	N/A	Support (2242)

- 2 x USB 3.0

- 3 x Antenna holes for optional Wi-Fi/3.5G antenna

I/O Interface-Rear

- 3 x DB9 for COM1 & COM2 & COM3
 - COM1/COM2: full RS232 signal
 - COM3: RS422/485 auto flow control
- 1 x Line-out
- Support 12V/24V DC input

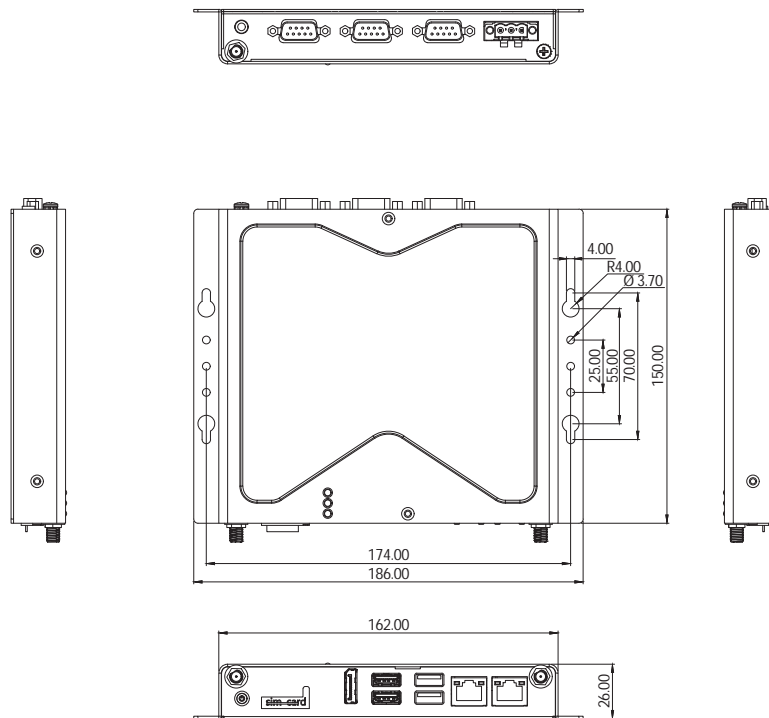
I/O Interface - Internal

- 4 x GPI and 4 x GPO (programmable to GPI or GPO)
- 1 x RS232, pin header, support RS232 TX/RX/GND signal only

Storage Device

- Onboard 16GB EMMC, max up to 32G by request
- Optional M.2 B, BM key 2242 module

Dimension Drawing



Power Requirements

- Power input: 12V/24V DC +/-10%
- 1 x Optional 24V, 60W power adapter

Support OS

- Linux Kernel version 4.1 (storage: 16GB eMMC)
- Windows 10 IoT Enterprise (storage: M.2 is recommended)

Dimensions

- 162mm (W) x 26mm (H) x 150mm (D) without wall-mount bracket

Construction

- Metal chassis with fanless design

Environment

- Operating temperature:
Ambient with air flow: -5°C to 55°C
(according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 75°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
- M.2/eMMC: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/M.2 or eMMC condition:
- Random: 2Grms @ 5~500 Hz, IEC60068-2-64
- Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6

Certifications

- CE
- FCC Class A

Ordering Information

- **NISE 51 (P/N: 10J00005100X0)**
Intel® Celeron® processor N3350 Dual Core fanless system, with onboard 16GB eMMC
- **NISE 51-E3950 (P/N: 10J00005101X0)**
Intel Atom® processor E3950 Quad Core fanless system, with onboard 16GB eMMC
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060033X00)**