



Main Features

- Onboard Intel® Celeron® processor J6412, 2.0 GHz
- 3 x HDMI (triple displays)
- 2 x USB 3.0, 2 x USB 2.0
- 1 x RS232/485, 1 x RS232/485 with auto flow control
- 3 x GbE LAN ports
- 1 x Full-size mini-PCIe (storage and wireless connectivity)
- 1 x Front accessible M.2 Key B (storage and wireless connectivity)
- 1 x Internal M.2 Key B (wireless connectivity)
- Support operating temperature from -5 to 55 Celsius degree
- Support +12V/24V DC input; support ATX power mode

Product Overview

NISE 53 is a fanless PC powered by the newest generation Intel® Celeron® J series and Atom® x6000 series (formerly code-named “Elkhart Lake”) processors. It offers power-efficient performance designed for the next generation of industrial edge-connected embedded systems that require high-resolution graphics and low power consumption - such as industrial automation, intelligent transportation, retail, and smart city IoT solutions. NISE 53 can operate in an extended temperature range from -5 to 55 Celsius degrees, indicating its reliability in industrial environments. NISE 53 supports up to 3 display outputs simultaneously and delivers superior graphics capabilities via Intel® UHD graphics 16EUs. NISE 53 has strong connectivity – 3 x GbE LAN ports, and 2 x COM ports, mainly for Modbus TCP or Modbus RTU communication. NISE 53 supports efficient scalable networks and storage configurations with an internal 1 x M.2 slot (Key B) for 4G LTE, 1 x full-size mini-PCIe slot for Wi-Fi and Bluetooth, and front-accessible 1 x M.2 slot (Key B) for storage. NISE 53-E01 drives performance, integration, and versatility for industrial environments, offers a lower total cost of ownership, and supports 12 VDC/24 VDC and onboard TPM2.0 for enhanced security.

Specifications

CPU Support

- Onboard Intel® Celeron® J6412 processor, 2.0 GHz
- Support Intel® Atom® processor x6211E with different SKUs

Main Memory

- 1 x DDR4 2133 unbuffered Non-ECC SO-DIMM socket, support up to 16 GB

Display Option

- Support triple independent displays
 - 3 x HDMI, resolution 1920 x 1080 @ 60Hz

I/O Interface-Front

- ATX power on/off switch
- 3 x HDMI
- 1 x Intel® I210-AT GbE LAN port
- 2 x Marvell SOC PHY GbE LAN ports
- 2 x USB 3.0 (900mA per each)

- 1 x 2-pin remote power on/off switch

I/O Interface-Rear

- 2 x USB 2.0 ports (500mA per each)
- 2 x DB9 for COM1 & COM2
 - COM1: RS232/485, only support TX/RX/CTS/RTS, with auto flow control
 - COM2: RS232/485, only support TX/RX/CTS/RTS
- 1 x 3-pin terminal block, support +12/+24V DC input

I/O Interface-Internal

- 4 x GPI and 4 x GPO (programmable to GPI or GPO)

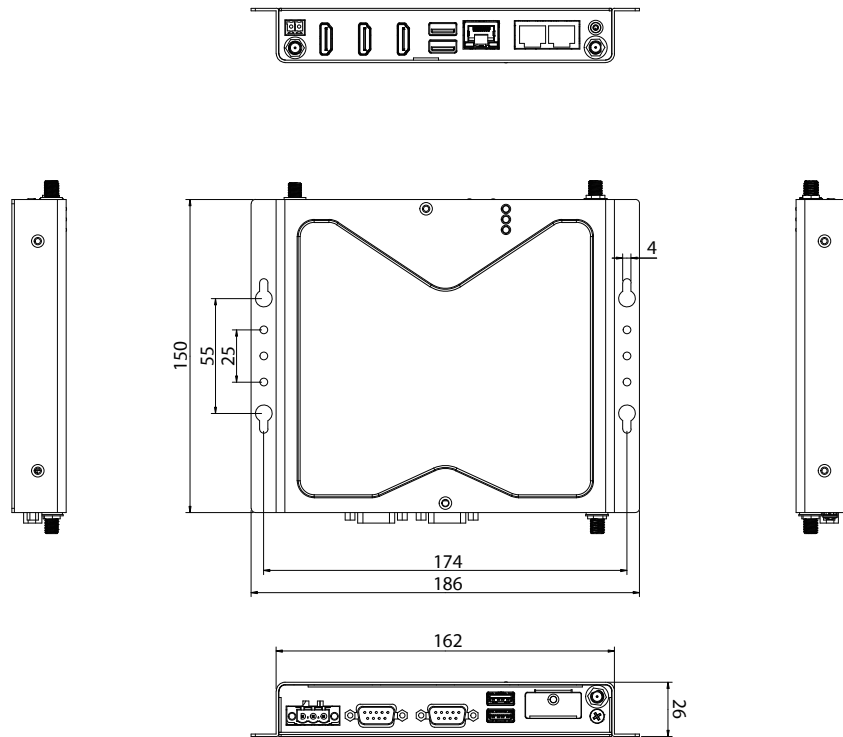
Storage Device

- 1 x Optional onboard 32 GB EMMC

Expansion Slot

- 1 x Internal nano SIM card holder for 2 x M.2 Key B & mPCIe

Dimension Drawing



- 1 x Full-size mini-PCIe for optional Wi-Fi/BT/4G LTE (PCIe x1, USB2.0, SATA, SIM)
- 1 x Front access M.2 (Key B) 2242/3042/3052 (PCIe x2, USB2.0, SATA, SIM)
- 1 x Internal M.2 (Key B) 2242/3042/3052 (PCIe x1, USB3.0, SIM)

	USB	PCIe	SATA	mSATA	4G/LTE	Wi-Fi/BT
mini-PCIe	2.0	x1	v	Support	Support	Support
Front M.2 (Key B)	2.0	x2	v	Support	Support	Support
Internal M.2 (Key B)	3.0	x1	x	x	Support	Support

Power Requirements

- AT/ATX power mode (default: ATX power mode)
- Power input: +12/+24V DC in
- Default 24V, 60W AC to DC power adapter w/o power cord (P/N: 7400060054X00)

Support OS

- Windows 11
- Windows® 10 Enterprise 64 bit
- Linux Kernel version 4.19

Dimensions

- 162mm (W) x 150mm (D) x 26mm (H) without wall mount bracket
- 186mm (W) x 150mm (D) x 26mm (H) with 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: -40°C to 85°C
- Relative humidity: 10% to 90% (non-condensing)
- Shock protection
 - M.2/mSATA: 50G @ wall mount, half sine, 11ms(operation), IEC60068-2-27
- Vibration protection with M.2/ mSATA 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 53-E01 Art. n° 166752
Intel® Celeron® J6412 processor quad core fanless system
- NISE 53-E02 Art. n° 166753
Intel Atom® x6211E processor dual core fanless system
- 24V, 60W AC to DC power adapter w/o power cord

Last update: 12/13/2021