

NISE 54-A01/02/03

Intel Atom® x7433RE/N97 Quad Core Fanless System
(Preliminary)



Main Features

- Onboard Intel Atom® X7433RE/N97 Quad Core Processor
- 1 x HDMI output
- 3 x Intel® 2.5GbE LAN ports, supports WoL and PXE
- 2 x M.2 Key B (1 x 3042/3052 + 1 x 2242)
- 1 x M.2 Key E 2230 for Wifi/BT
- 2 x USB 3.2 Gen 1
- 1 x DB9 for RS232/422/485
- Optional 2 x USB Type C (1 w/ PD + Alt Mode)
- Optional 4 x USB 3.2 Gen 1 + 2 x COM port
- Support -40°C~60°C extended operating temperature
- Support 12~24V DC input; support ATX power mode

Product Overview

Powered by Intel Atom® Amston Lake or Alder Lake CPUs, the NISE54 gateway supports up to 16GB of DDR5-4800MHz SO-DIMM memory with In-Band Error Correction Code (IBEC) capability, to boost multitasking performance, reliability, and safety. Applications include factory AI, gateway and edge AI, automation, and embedded computing. The NISE54 gateway brings AI to the edge, with deep learning inference capabilities, including integrated Intel UHD Graphics up to 32EUs (Execution Units), Intel Deep Learning Boost (Intel DL Boost), Intel Advanced Vector Extensions (Intel AVX2) with INT8 support, and OpenVINO toolkit support.

Specifications

CPU Support

- Onboard Intel® Atom® Quad Core Processor
 - N97, 12W, 2.0GHz
 - x7433RE, 9W, 1.5GHz

Main Memory

- 1 x DDR5 4800 SO-DIMM, supports up to 16GB

Display Option

- 1 x HDMI

I/O Interface-Front

- ATX power on/off switch
- 2 x USB3.2 Gen 1, Type A
- 1 x DB9 for COM1, supports RS232/422/485 with auto flow control
 - BIOS setting on RS232/422/485
- 1 x HDMI
- 3 x 2.5GbE LAN port, RJ45 (1 x Intel® i226IT, 2 x Intel® i226V)
- 1 x 3-pin DC input, supports +12 to 24VDC input

I/O Interface-Top

- LED indicator: RTC battery low, PG0/PG1 programmable LEDs

I/O Interface-Rear (Optional)

- Optional 2 x USB Type C (1 w/ PD + Alt Mode)
- Optional 4 x USB 3.2 Gen 1 + 2 x COM port

I/O Interface - Internal

- 1 x M.2 Key B for storage 2242/2280 (SATA)
- 1 x M.2 Key B for 5G/LTE 3042/3052 (PCIe x1, USB 3.0, USB 2.0, SATA)
- 1 x M.2 Key E for Wi-Fi/BT 2230 (PCIe x1, USB 2.0)
- 1 x Mic in, 1 x Line out pin header
- 4 x GPI, 4 x GPO pin header
- 1 x nano SIM slot

Storage Device

- 2 x M.2, supports Key B, B+M module (2242)

Power Requirements

- Power input: +12 to 24 Vdc
- 1 x Optional 24V, 60W power adapter

Dimensions

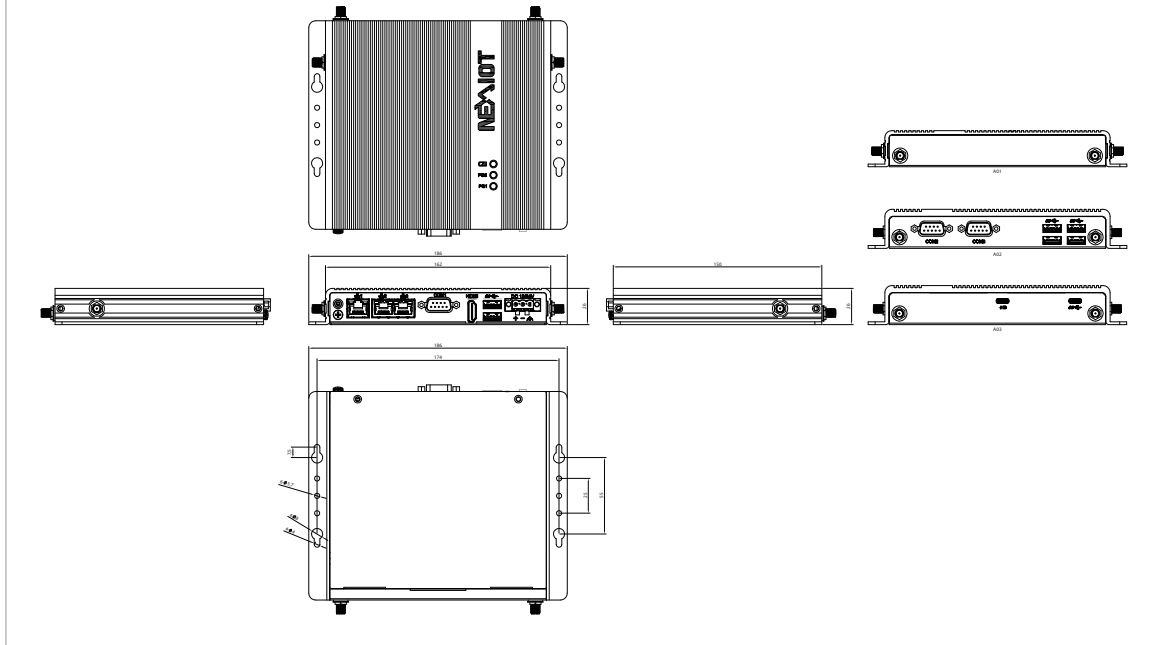
- 186mm (W) x 150mm (D) x 26mm (H) without wall-mount bracket

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Dimension Drawing

Reference only



Construction

- Aluminum chassis with fanless design

Environment

- Operating temperature: Ambient with air flow: -40°C to 60°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 95% at 40°C

Support OS

- Windows 10
- Windows 11

Assured Systems

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