NIFE210-E11/E12

Intel® Celeron® J6413 Quad Core 1.8 GHz
Factory Automation Fanless System
with Fieldbus Expansion Ability

Main Features

- Onboard Intel® Celeron® processor J6413 Quad Core 1.8GHz
- 1 x DP++ and 1 x HDMI for dual independent display support
- 1 x Intel® 2,5GbE LAN port, support WoL & PXE
- 2 x Marvell PHY GbE LAN ports, support WoL
- 2 x RS232/422/485 with auto-flow control and 2.5KV isolation protection
- 2 x USB 3.0, 4 x USB 2.0
- 1 x Front access 2.5" SATA HDD/SSD tray, support DuoSSD (2.5" SSD + MicroSD card)
- 2 x mini-PCIe socket support optional modules and mSATA device
- 1 x M.2 3042/3052 Key B socket
- TPM 2.0 onboard
- PCIe x4 expansion
- Support +24VDC input, support ATX power mode

Product Overview

Powered by Intel® Celeron® processor J6413 (formerly code-named "Elkhart Lake"), the NIFE 210 presents an intelligent fanless PC-based controller and IoT gateway for factory automation. The NIFE 210 supports up to 32GB DDR4 memory and has several options on storage devices like mSATA, front-access 2.5" SSD/HDD, and supports DuoSSD (2.5" SSD + MicroSD card) for applications requiring storage redundancy and capacity expansion. The NIFE 210 features all-front I/O for easy installation and maintenance and has high integration ability with three LAN ports, two isolated COM ports, and optional M.2 and mini-PCIe modules, allowing reliable connection with devices in factory automation applications (with optional PROFIBUS, PROFINET, DeviceNET, EtherCAT, EtherNet/IP, CANopen, SERCOSIII master module), IoT applications (with optional Wi-Fi, 5G/4G LTE module) and communication applications (with optional GPIO, RS232/422/485), and features onboard TPM 2.0 for enhanced security. The NIFE 210 is designed for industrial environments and is compliant with EN61000-6-2, and EN61000-6-4 to ensure the reliability and safety of industrial equipment and systems, support DIN-rail mounting, 24V DC power input with +/-20% range and reverse polarity protection, and can be operated in an extended operating temperature range of -10~60 °C, making it ideal for the next generation of M2M intelligent systems, serving as both a factory automation controller and a gateway.

Specifications

CPU Support

- Onboard Intel® Celeron® processor J6413 Quad Core 1.8GHz

Main Memory

- 1 x SO-DIMM DDR4 non-ECC up to 3200 MT/s, 32GB max.

Display Option

- Dual independent display
  - 1 x HDMI 2.0
  - 1 x DP 1.4 ++

Status LEDs

- 1 x Power LED
- 1 x HDD/SSD access LED
- 1 x Battery LED
- 4 x COM ports Tx/Rx LED
- 5 x programmable GPO LEDs

Storage Device

- 1 x 2.5" HDD/SSD (external, SATA 3.0), support DuoSSD (2.5" SSD + MicroSD card)
- 1 x 2.5" HDD/SSD (internal, SATA 3.0)
- 1 x mSATA (via internal mini-PCIe socket)

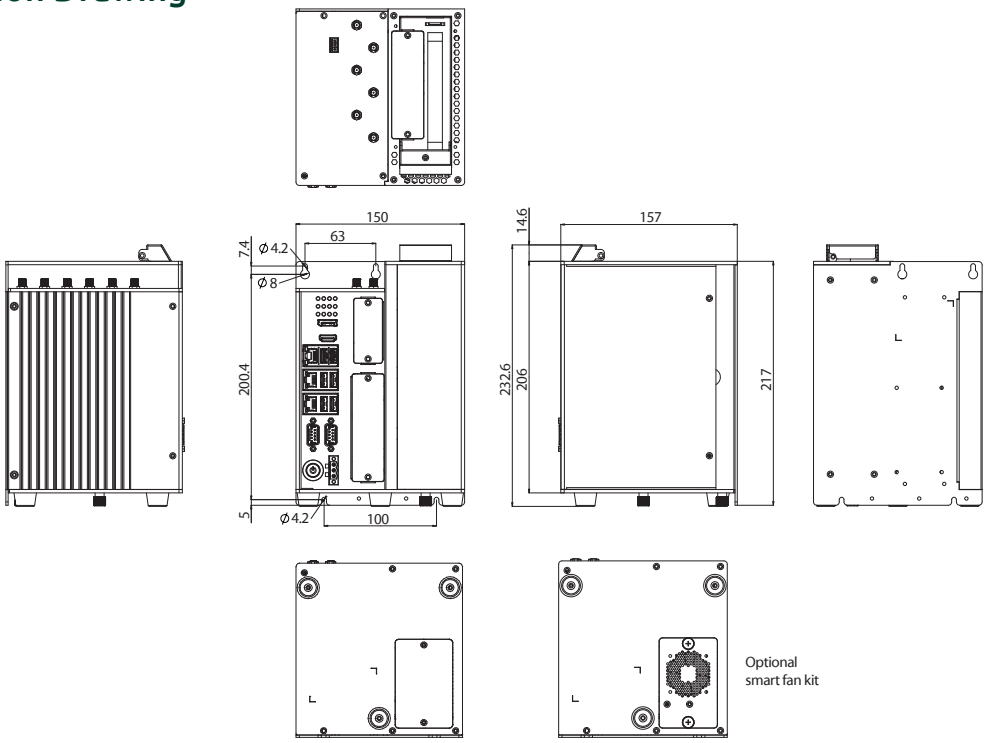
Top I/O Interface

- 1 x 3-pin remote switch
- 6 x Antenna holes

Front I/O Interface

- ATX power on/off switch
- 1 x Intel® I226-V 2,5GbE LAN port, support WoL and PXE
- 2 x Marvell PHY GbE LAN ports, support WoL
- 1 x DP 1.4 ++
- 1 x HDMI 2.0
- 2 x USB 3.0 (900mA per each)
- 4 x USB 2.0 (500mA per each)
- 1 x Front access 2.5" HDD/SSD tray (SATA 3.0) or DuoSSD (2.5" SSD + MicroSD card)
- 2 x DB9 for COM1/COM2 RS232/422/485 with auto-flow control and 2.5KV isolation protection
- 1 x 3-pin DC input, typical 24V DC input with ±20% range

Dimension Drawing



Expansion Slot
- NIFE 210-E11: one PCIe x4 expansion
  - Add-on card length: 176mm max.
  - Power consumption: 20W/slot max.
- 1 x Mini-PCIe full size (PCIe x1, USB 2.0, SATA, SIM)
- 1 x Mini-PCIe full size for Fieldbus (FBI) module (PCIe x1, USB 2.0)
- 1 x M.2 3042/3052 Key B (PCIe x1, USB 3.0, SIM)

Power Requirement
- 24V DC input with +/-20% range, with reverse polarity protection
- 1 x Optional 24V, 60W power adapter

Dimensions
- 150mm (W) x 157mm (D) x 232mm (H)

Construction
- Aluminum and metal chassis with fanless design

Environment
- Operating temperature:
- Ambient with air flow: -10°C to 60°C (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 95% (non-condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-2-27
  - SSD: 50G, half sine, 11ms, IEC60068-2-27
- Vibration protection w/ SSD condition:
  - Random: 2Grms @ 5~500Hz, IEC60068-2-64
  - Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-64

Certifications
- CE approval
  - EN61000-6-2
  - EN61000-6-4
- FCC Class A

OS Support
- Windows 11 Pro, 64-bit
- Windows 10 Enterprise, 64-bit
- Linux Kernel 5.10

Ordering Information

- **NIFE 210-E11 (P/N: 10J70021001X0)**
  Intel® Celeron® processor J6413 Quad Core 1.8GHz fanless system with PCIe x4 expansion
- **NIFE210-E12 (P/N: 10J70021004X0)**
  Intel® Celeron® processor J6413 Quad Core 1.8GHz fanless system with PCIe x4 expansion and power backup module NISPAK-M1100
- **24V, 60W AC/DC power adapter w/o power cord (P/N: 7400060054X00)**