NIFE 300

6th Generation Intel® Core™ i7/i5/i3 LGA Automation System





- Support 6th generation Intel® Core™ i7/i5/i3 LGA1151 socket type processors
- Intel® Q170 PCH
- 1 x DVI-D, and 1x HDMI for dual independent display support
- 3 x Intel® GbE LAN ports; support WoL, teaming and PXE
- 4 x USB 3.0, 2 x USB 2.0 and 2 x RS232/422/485 auto
- 1 x front access 2.5"SATA HDD tray
- 2 x mini-PCIe socket support optional modules and mSATA device
- 1 x external CFast socket and 1 x SIM card socket
- Support +24VDC input; support ATX power mode

Product Overview

NEXCOM PC-based IoT controller solution NIFE 300 accelerates the migration of automation systems to cyber-physical systems for smart manufacturing. Boosted by Intel® Core™ i5-6500TE and i7-6700TE processors (formerly codenamed Skylake-S), the NIFE 300's open architecture features high interoperability to provide a unified infrastructure, communication network, and programming tool for factory floors and company offices, regaining speed, efficiency, and agility in manufacturing.

The 6th generation Intel® Core™ processors utilizing Intel's 14nm process have integrated Intel® HD Graphics and the latest generation interfaces including DDR4 2133. NIFE 300 excellent performance is suited for graphic- and compute-intensive applications such as motion control and machine vision, while the 4K2K support enables human machine interface (HMI) to show exquisite details of working pieces and 3D simulation of working processes.

NIFE 300 also meets PLCopen® specifications and allows easy control programming via Softlogic tool kit. Using libraries of reusable logic and motion functionality, control schemes can be developed with reduced programming efforts for fast deployment of SoftPLC and IoT controllers.

Specifications

CPU Support

- Support 6th generation Intel® Core™ i7/i5/i3 LGA socket type processors
  - Core™ i7-6700TE, Quad Core, 2.4GHz, 8M Cache (maximum frequency 3.4GHz if turbo boost enabled)
  - Core™ i5-6500TE, Quad Core, 2.3GHz, 6M Cache (maximum frequency 3.3GHz if turbo boost enabled)
  - Core™ i3-6100TE, Quad Core, 2.7GHz, 4M Cache (no turbo boost)
  - Pentium G4400TE, Dual Core, 2.4GHz, 3M Cache (no turbo boost)
  - Celeron® G3900TE, Dual Core, 2.3GHz, 2M Cache (no turbo boost)

Main Memory

- 2 x DDR4 SO-DIMM socket, supports 2133MHz and up to 8GB with un-buffered and non-ECC type

Display Option

- Dual independent display
  - HDMI + DVI-D

Front I/O Interface Status LEDs

- 1 x Battery/1 x C-Fast LEDs
- 4 x GPO status/2 x Tx/Rx LEDs
- 1 x Power/1 x HDD access LEDs

Front I/O Interface

- 1 x ATX power on/off switch
- 1 x HDMI and 1 x DVI-D
- 4 x USB 3.0 ports (900mA per each)
- 2 x USB 2.0 ports (500mA per each)
- 1 x Line-out and 1 x Mic-in
- 2 x Antenna holes for WI-FI/ GSM
- 1 x Front access 2.5" HDD tray
- 1 x mini-PCIe expansion support optional modules
- 2 x RS232/422/485 auto with 2.5KV Isolation
- 3 x Intel® I210IT GbE LAN ports, support WoL, teaming and PXE

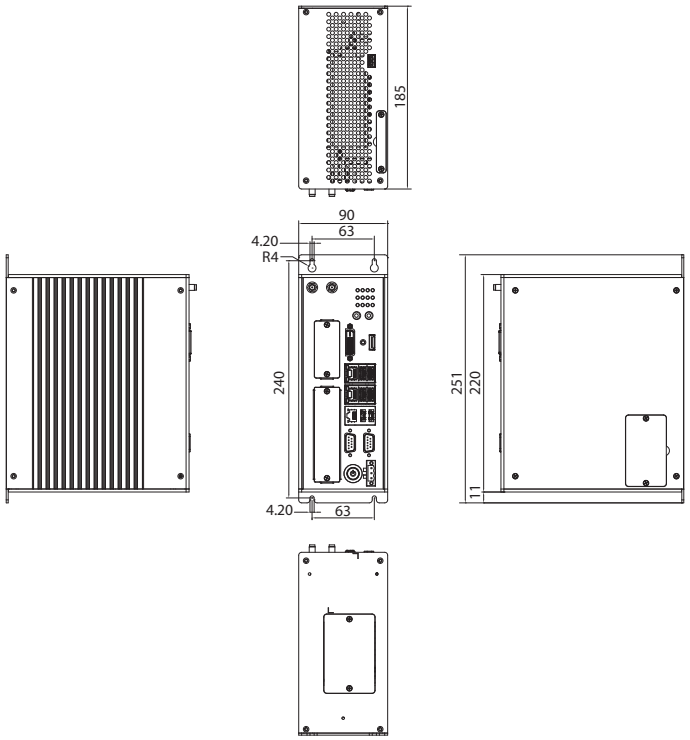
Top I/O Interface

- 1 x 3-pin remote switch
- 1 x CFast expansion
- 1 x SIM card

Storage Device

- 1 x CFast (SATA 3.0)
- 1 x 2.5" HDD (external, SATA 3.0)
- 1 x 2.5" HDD (internal, SATA 3.0)
- 1 x mSATA (via internal mini-PCIe socket)

Dimension Drawing



Expansion Slot
- NIFE 300: no expansion
- NIFE 300P2: two PCI expansion slots
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300P2E: one PCI expansion slot, and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300P3: two PCI expansion slots and one PCIe x8 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300E3: one PCIe x8 and two PCIe x4 expansion slot
  - Add-on card length: 180mm max
  - Power consumption: 10W/slot max
- NIFE 300E16: one PCIe x16 expansion slot
  - Add-on card length: 180mm
  - Power consumption: 30W/slot max

Power Requirement
- AT/ ATX power mode (default with ATX power mode)
- Power input: typical +24VDC ±20%, with reverse polarity protection
- Power adapter: optional AC to DC power adapter (+24Vdc, 120W)

Dimensions
- NIFE 300: 90 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300P2: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300P2E: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300E16: 155 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300P3: 175 mm(W) x 185mm (D) x 251mm (H)
- NIFE 300E3: 175 mm(W) x 185mm (D) x 251mm (H)

Construction
- Aluminum and metal chassis with front access 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 85°C
- Relative humidity: 10% to 93% (non-condensing)
- Shock protection:
  - HDD: 20G, half sine, 11ms, IEC60068-27
  - CFast: 50G, half sine, 11ms, IEC60068-27
- Vibration protection w/ HDD condition:
  - Random: 0.5Grms @ 5~500 Hz, IEC60068-2-64
  - Sinusoidal: 0.5Grms @ 5~500 Hz, IEC60068-2-64

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

OS Support Lists
- Windows 7 32-bit and 64-bit
- Windows 8.1 32-bit and 64-bit

Ordering Information

- **NIFE 300 system (P/N: 10J70030000X0)**
- **NIFE 300P2 system (P/N: 10J70030001X0)**
- **NIFE 300P2E system (P/N: 10J70030002X0)**
- **NIFE 300P3 system (P/N: 10J70030003X0)**
- **NIFE 300E3 system (P/N: 10J70030008X0)**
- **NIFE 300E16 system (P/N: 10J70030004X0)**
- **24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120015X00)**

We reserve the right to change specifications and product descriptions at any time without prior notice.