

# NIFE 300/300P2E Controller

Intel® Core™-i Automation  
PC-Based Controller



## Main Features

- Distributed, modularized and open-architecture controller
- Compliant with Industrial IEC61131-3 Programming Languages (LD/FBD/SFC/IL/ST/CFC)
- Support 1024+ I/O Points and maximum 64 Axis for motion control
- Support PLC Handler APIs and OPC-UA server for Client/M2M communication
- Available HMI APIs for human-machine interface
- Support industrial Ethernet Fieldbus protocols (EtherCAT, EtherNet/IP, PROFINET)
- Support industrial Fieldbus protocols (PROFINET, PROFIBUS, DeviceNET) by optional FBI
- Available NEXCOM IoT Studio for cloud and data acquisition
- Support Multi-Core, Multi-Tasking powered by Intel® Core™-i processor

## 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 the 6th generation Intel® Core™ processors, 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 Control RTE and SoftMotion 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.

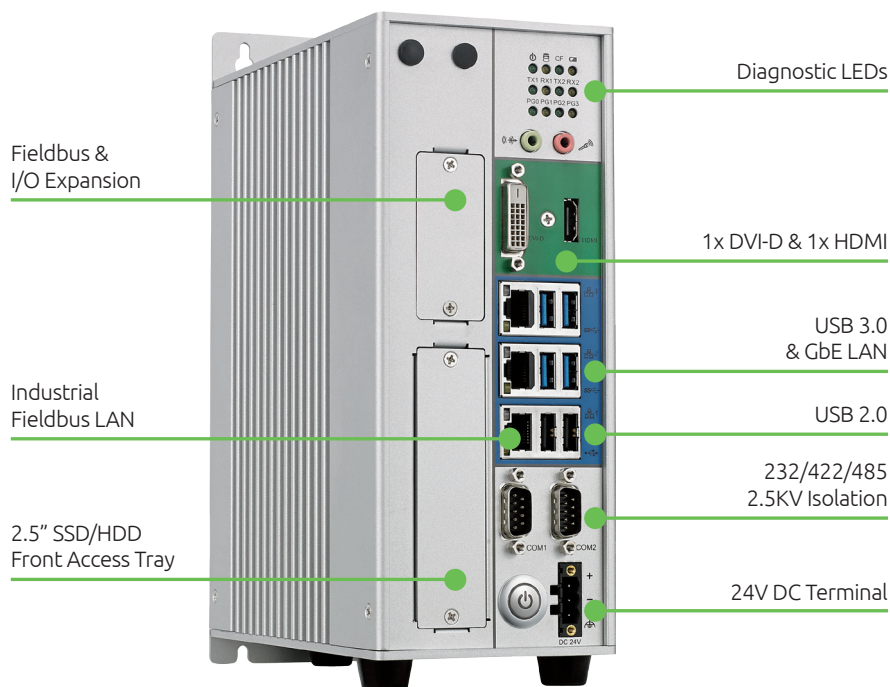
## Controller Specifications

Specification	SoftPLC Controller	SoftMotion Controller	SoftMotion CNC Controller	
Performance Index	P30	M60	R20	R60
Real-Time	Yes	Yes	Yes	Yes
Software Protocols	EtherCAT, EtherNet/IP, PROFINET			
Optional Protocols via FBI	PROFIBUS, DeviceNET, CANopen			
IEC61131-3 Language	Ladder Diagram, Function Block Diagram, Instruction List, Structured Text, Sequential Function Chart, Continuous Function Chart			
Cycle Time (ms)	0.5	0.5	0.5	0.5
Max. I/O Points	1024+	1024+	1024	1024+
Max. Axes	No support	64	24	64
Control Group	No support	No Support	2	6
Motion Features	No support	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration options		
High-Computing Applications Other Application Software	Yes	Yes	No support	Yes
HMI (License Options)	JMobile Suite	TargetVisu	TargetVisu	TargetVisu

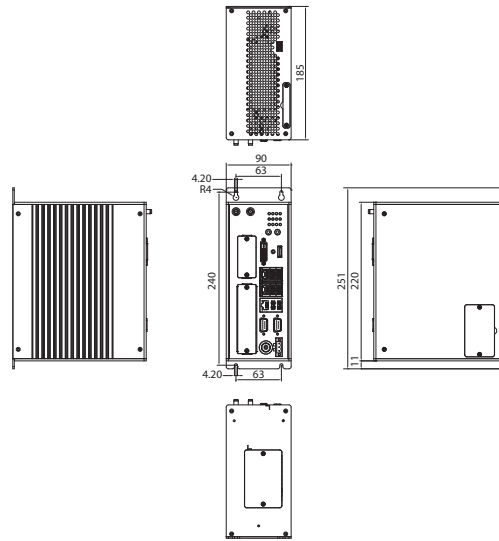
## System Specification

Technical Data	NIFE 300 / NIFE 300P2
Processor	6 <sup>th</sup> generation Intel Core i7/i5/i3 LGA Socket Type Processor - Core™ i7-6700TE, quad core, 2.4GHz, 8M cache - Core™ i5-6500TE, quad core, 2.3GHz, 6M cache - Core™ i3-6100TE, dual core, 2.7GHz, 4M cache
Main Memory	DDR4 2133MHz Memory Maximum up to 8GB
Storage Memory	Optional 2.5" SSD or HDD
Persistent Memory	Optional 1MBit NVRAM via mini-PCIe
Power Backup	Optional Battery Pack, NISKBAT
General Interface	3 x GbE RJ45 (I210IT), 1 x DVI-D, 1 x HDMI, 2 x USB 2.0, 4 x USB 3.0
Diagnostics LED	1 x Power, 1 x Storage, 1 x CFast, 1 x Battery Low, 2 x Tx/Rx, 4 x GPO LEDs
Operating System	Win8 32-bit/64-bit, WES8 32-bit/64-bit Win7 32-bit/64-bit, WES7 32-bit/64-bit Linux Kernel version 3.8.0
Control Software	SoftPLC: P30 (Optional) SoftMotion: M60 (Optional) SoftMotion CNC: R20, R60 (Optional)
Serial Ports	2 x RS232/422/485 with 2.5KV Isolation
Power Requirement	Typical 24V DC input with ±20% range
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 Resistance	50G, half sine, 11ms, IEC60068-27
Vibration Resistance	Random: 2Grms @ 5~500Hz, IEC60068-2-64 Sinusoidal: 2Grms @ 5~500Hz, IEC60068-2-64
EMC Standard	CE Approval: EN61000-6-2 & EN61000-6-4/FCC Class A/LVD
Dimension and Weight	90mm(W) x 185mm(D) x 251mm(H), Net weight 3.5kg

## I/O Connectors

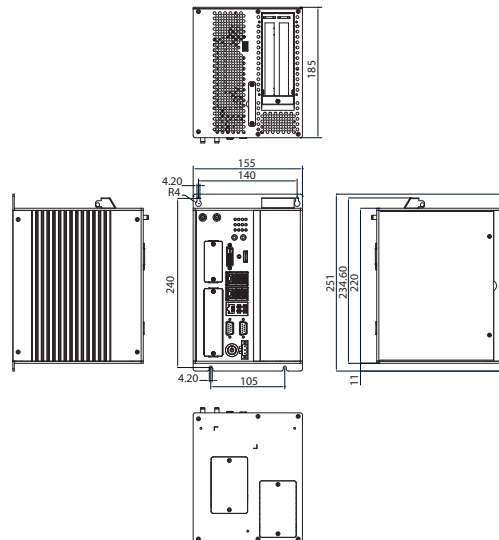


## Dimension Drawing



NIFE 300

## Dimension Drawing



NIFE 300P2E




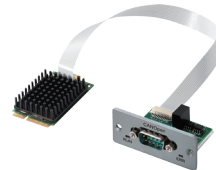





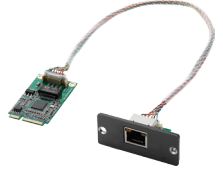



## Ordering Information

\* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC			HMI (Optional)	
					SoftMotion	SoftMotion CNC	JMobile	TargetVisu	
NIFE300 P30 Controller A0J70030000X0	Core-i i3-6100TE	4G	32G	<ul style="list-style-type: none"> <li>P30 Windows WES7 Package (P/N: 88J70030013X0)</li> <li>P30 Linux Ubuntu Package (P/N: TBC)</li> </ul>	√	-	-	√	-
NIFE300 M60 Controller A0J70030000X0	Core-i i3-6100TE	4G	32G	<ul style="list-style-type: none"> <li>M60 Windows WES7 Package (P/N: 88J70030014X0)</li> <li>M60 Linux Ubuntu Package (P/N: TBC)</li> </ul>	√	√	-	-	√
NIFE300 M60 Controller A0J70030000X0	Core-i i5-6500TE	4G	32G	<ul style="list-style-type: none"> <li>M60 Windows WES7 Package (P/N: 88J70030015X0)</li> <li>M60 Linux Ubuntu Package (P/N: TBC)</li> </ul>	√	√	-	-	√
NIFE300 R20 Controller A0J70030000X0	Core-i i3-6100TE	8G	64G	<ul style="list-style-type: none"> <li>R20 Windows 7 Pro Emb Package (P/N: 88J70030016X0)</li> <li>R20 Linux Ubuntu Package (P/N: TBC)</li> </ul>	√	√	√	-	√
NIFE300 R60 Controller A0J70030000X0	Core-i i3-6100TE	8G	64G	<ul style="list-style-type: none"> <li>R60 Windows 7 Pro Emb Package (P/N: 88J70030017X0)</li> <li>R60 Linux Ubuntu Package (P/N: TBC)</li> </ul>	√	√	√	-	√
NIFE300 R60 Controller A0J70030000X0	Core-i i5-6500TE	8G	64G	<ul style="list-style-type: none"> <li>R60 Windows 7 Pro Emb Package (P/N: 88J70030018X0)</li> <li>R60 Linux Ubuntu Package (P/N: TBC)</li> </ul>	√	√	√	-	√
NIFE300P2 R60 Controller A0J70030001X0	Core-i i7-7600TE	8G	64G	<ul style="list-style-type: none"> <li>R60 Windows 7 Pro Emb Package (P/N: 88J70030019X0)</li> <li>R60 Linux Ubuntu Package (P/N: TBC)</li> </ul>	√	√	√	-	√

System	Processor	Main Memory	Storage	Software Package	SoftPLC		HMI (Optional)		
					SoftMotion		JMobile		TargetVisu
					SoftMotion CNC				
NIFE300 Bare-bone System 10J70030000X0	Option	Option	Option	Support • Win8 32-bit/64-bit, WES8 32-bit/64-bit • Win7 32-bit/64-bit, WES7 32-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-
NIFE300P2 Bare-bone System 10J70030001X0	Option	Option	Option	Support • Win8 32-bit/64-bit, WES8 32-bit/64-bit • Win7 32-bit/64-bit, WES7 32-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-	-
System	Optional Power Adapter								
Power Adapter	24V, 120W AC to DC power adapter w/o power cord (P/N: 7400120022X00) 24V, 180W AC to DC power adapter w/o power cord (P/N: 7400180005X00)								

## Optional Modules

FBI Fieldbus Module			
			
P/N:10J50090E08X0 EtherCAT Protocol	P/N:10J50090E09X0 PROFIBUS Protocol	P/N:10J50090E10X0 DeviceNet Protocol	P/N:10J50090E15X0 CANopen Protocol
FBI Fieldbus Module		COM Module	
			
P/N:10J50090E20X0 EtherNet/IP Protocol	P/N:10J50090E21X0 PROFINET Protocol	P/N:10JK0ECOM04X0 NISKECOM3 4xRS485	P/N:10JK0ECOM06X0 NISKECOM4 4xRS232
LAN Module		Power Pack	
			
P/N:10JKLAN0401X0 NISKLAN04 2X1210AT	P/N:10JKLAN0101X0 NISKLAN01 1X82574L	P/N:10JK00BAT00X0 NISKBAT MAIN	P/N:10JK00BAT01X0 NISKBAT EXPANSION
Persistent Memory Module			
			
P/N:10JKNVRAM00X0 NISK-NVRAM 1MB			