

NIFE 100/101 Controller

Intel® Atom™ Dual Core
Automation PC-Based Controller



NIFE 100



NIFE 101



Main Features

- Distributed, modularized and open-architecture controller
- Compliant with industrial IEC61131-3 programming languages (LD/FBD/SFC/IL/ST/CFC)
- Support up to 512 I/O points and maximum 12 axis for motion
- Support PLC handler APIs and OPC-UA server for Client/M2M communication
- 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® ATOM® Dual Core processor

Product Overview

Powered by the latest generation of Intel® Atom™ processor E3826 (formerly codenamed “Bay Trail-I”), NIFE 100 presents intelligent PC-based controller and IoT gateway for smart factory automation. Up to 4G DDR3L memory, NIFE 100 have several options on storage devices like CFast and SSD. NIFE 100 support extended operating temperature from -20 up to 70°C with typical DC input 24V ±20% range. The NIFE 100 has high integration ability with optional mini-PCIe module and 2 x COM ports with 2.5KV isolation protect, which makes it a reliable connection with devices in factory automation applications via EtherCAT protocol and IoT applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module)

NIFE 100 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.

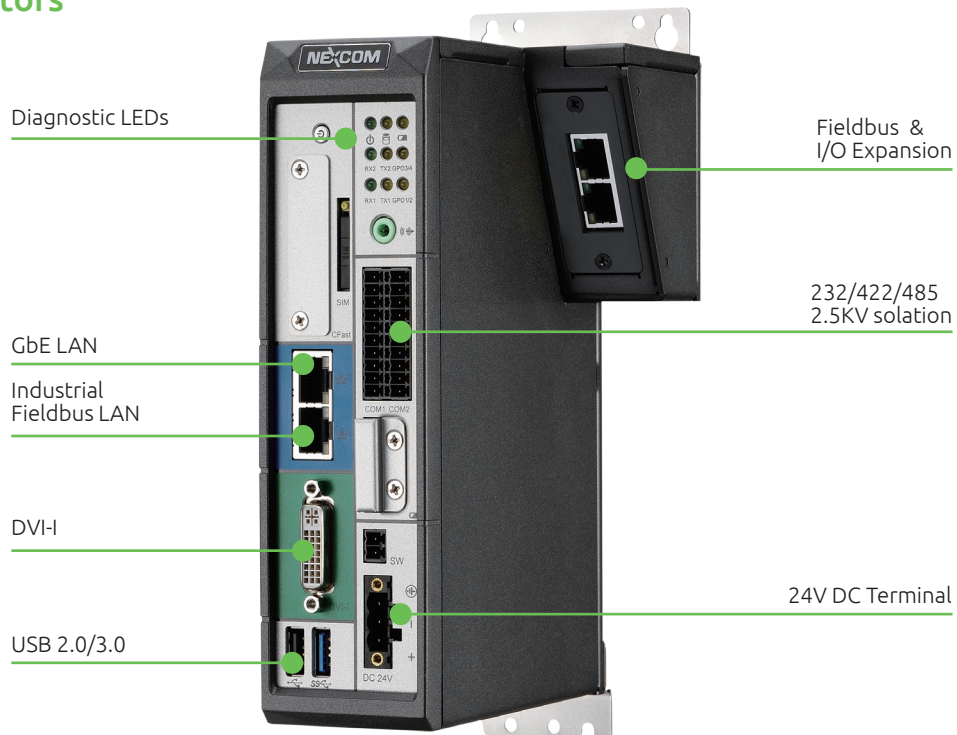
Controller Specifications

Specification	SoftPLC Controller	SoftMotion Controller
Performance Index	P10	M10
Real-Time	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)	1	1
Max. I/O Points	512	512
Max. Axes	No support	12
Control Group	No support	No support
Motion Features	No support	GEAR, CAM Function Integrated graphical CAM editor with extensive configuration option
High-Computing Applications Other Application Software	No support	No support
HMI (License Options)	No support	No support

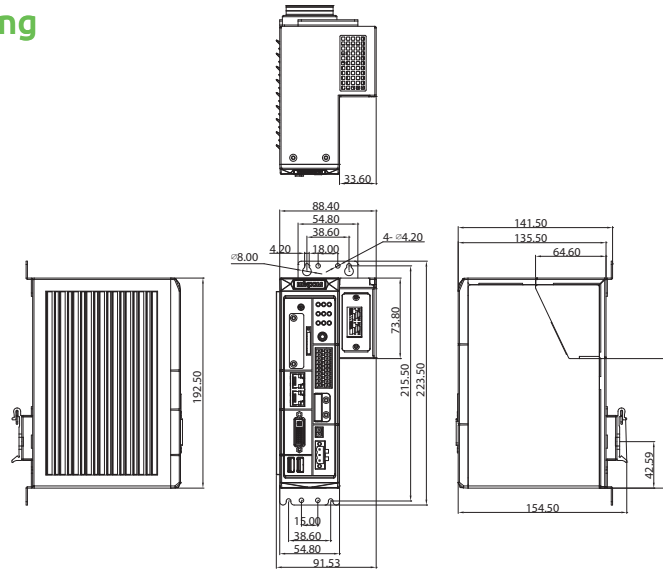
System Specification

Technical Data	NIFE 100/NIFE 101
Processor	Onboard Intel® Atom™ processor E3826 Dual Core 1.46GHz
Main Memory	DDR3L 1600/1333MHz memory maximum up to 4GB
Storage Memory	Optional 2.5" SSD or HDD
Persistent Memory	Optional 1M-bit NVRAM via NISKNVRAM module
Power Backup	Optional battery pack, NISKBAT
General Interface	2 x GbE LAN (I210IT), 1 x DVI-I (DVI-D + VGA), 1 x USB 2.0, 1 x USB 3.0
Diagnostics LED	1 x Power, 1 x storage, 1 x CMOS battery low, 2 x Tx/Rx, 4 x programmable LEDs
Operating System	Win8 32-bit/64-bit, WES8 32-bit/64-bit Win7 32-bit/64-bit, WES732-bit/64-bit WEC7 Linux Kernel version 3.8.0
Control Software	P10: control RTE/M10 : SoftMotion RTE (optional)
Serial Ports	2 x RS232/422/485 with 2.5KV isolation protection
Power Requirement	Typical 24V DC input with ±20% range
Operating Temperature	Ambient with air flow: -20°C to 70°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: EN55032 & EN55024/FCC Class A/LVD
Dimension and Weight	92mm(W) x 135.5mm(D) x 192.5mm(H), Net weight 1.9kg

I/O Connectors

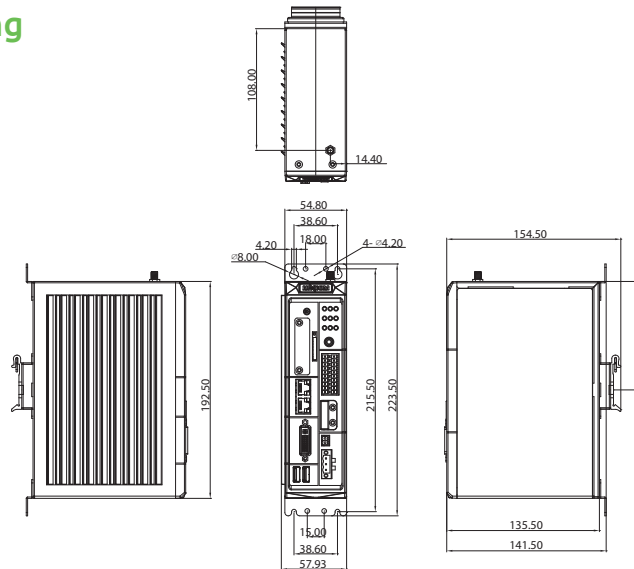


Dimension Drawing



NIFE 100

Dimension Drawing



NIFE 101



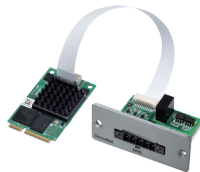
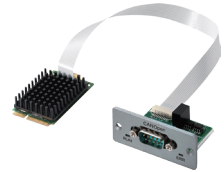





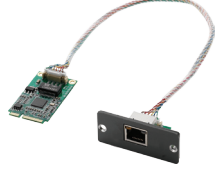



Ordering Information

* HMI Software License Exclude

System	Processor	Main Memory	Storage	Software Package	SoftPLC		HMI (Optional)		
					SoftMotion	SoftMotion CNC	JMobile	TargetVisu	
NIFE100 P10 Controller A0J70010000X0	Atom E3826	4G	32G	<ul style="list-style-type: none"> P10 Windows WES7 Package (P/N: 88J70010017X0) P10 Linux Ubuntu Package (P/N: TBC) 	v	-	-	-	-
NIFE101 P10 Controller A0J70010100X0		4G	32G	<ul style="list-style-type: none"> P10 Windows WES7 Package (P/N: 88J70010017X0) P10 Linux Ubuntu Package (P/N: TBC) 	v	-	-	-	-
NIFE100 M10 Controller A0J70010000X0		4G	32G	<ul style="list-style-type: none"> M10 Windows WES7 Package (P/N: 88J70010018X0) M10 Linux Ubuntu Package (P/N: TBC) 	v	v	-	-	-
NIFE101 M10 Controller A0J70010100X0		4G	32G	<ul style="list-style-type: none"> M10 Windows WES7 Package (P/N: 88J70010018X0) M10 Linux Ubuntu Package (P/N: TBC) 	v	v	-	-	-

System	Processor	Main Memory	Storage	Software Package	SoftPLC		HMI (Optional)	
					SoftMotion		JMobile	
					SoftMotion CNC		TargetVisu	
NIFE 100 Bare-bone System 10J70010000X0	Atom E3826	Option	Option	Support • Win8 32-bit/64-bit, WES8 32-bit/64-bit • Win7 32-bit/64-bit, WES732-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-
NIFE 101 Bare-bone System 10J70010100X0		Option	Option	Support • Win8 32-bit/64-bit, WES8 32-bit/64-bit • Win7 32-bit/64-bit, WES732-bit/64-bit • Linux Kernel version 3.8.0	-	-	-	-
System	Optional Power Adapter							
Power Adapter	60W 24V/2.5A w/ 3pin phoenix contact w/o power cord (P/N: 7400060033X00)							

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 2XI210AT	P/N:10JKLAN0101X0 NISKLAN01 1X82574L	P/N:10JK00BAT00X0 NISKBAT MAIN	P/N:10JK00BAT01X0 NISKBAT EXPANSION
Persistent Memory Module			
			
P/N:10JKNVRAM00X0 NISK-NVRAM 1MB			