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VYKON JACE[®]-NXT



Overview

The JACE-NXT is a powerful embedded controller built with the full functions of the Niagara Framework[®] suite and provides a total building automation solution. Users can seamlessly integrate LonWorks[®], BACnet[®], Modbus[®], OPC[®], oBIX, and other standard protocols with legacy systems to deliver a unified real-time controls network. The suite includes a browser-based graphical user interface, allowing users to view and manipulate underlying systems without the need for dedicated workstations or client software. The JACE-NXT contains a Lon FTT10A communications card and RS-485 port with the packaging, power supply and UPS options.

With the JACE-NXT, users have the ability to create a customized user interface that combines intuitive navigation screens with dynamic, real-time displays, third party graphic images, jpegs, or gif images. Unique software technology eliminates the need for page refreshes or data updates, minimizing required bandwidth. JACE[®] products bundle this software capability in a hardware platform that is easily installed in any building control environment. JACEs connect to system field busses and provide real-time control functions as constant streams of data from individual systems, and are instantly transformed to a common object model within the device. Functioning as a fully distributed system when multiple units are networked together, the JACE provides unsurpassed scalability and reliability. In this configuration, VYKON's AX Web Supervisor[®] can be used to network multiple JACE controllers and manage enterprise-level control functions. The appropriate JACE model is determined by connectivity and computing power requirements.

Applications

The JACE-NXT is ideally suited for integration, monitoring and control in all commercial and light industrial installations.

The JACE-NXT employs superior computing power with 2 GB RAM, and a 1.2 GHz, 800 MHz FSB Celeron processor. This superior computing and processing power make it ideal for installations where large amounts of archives and graphics are required.

J-NXT-AX-FL with 2 GB Flash memory and integral UPS power supply has no moving parts, which provides increased reliability. For installations with large storage requirements, the J-NXT-HD-AX offers a 250 GB Hard Disk Drive.

Both platforms include embedded Microsoft[™] Windows XP, which is ideal for organizations whose IT policies dictate Microsoft products, or when applications such as OPC require a Windows-based operating system.

The unit is available as either wall or panel-mount (din-rail). Panel mounting brackets are included with each unit along with the standard din-rail mount. Built-in communication ports provide controller flexibility to meet most connectivity requirements.



Features

- High performance Intel Celeron Microprocessor at 1.2 GHz for fast, reliable processing
- Real-time Niagara Framework® software control engine for local, closed-loop control across multiple protocols
- Integral energy management options
- Trending, scheduling, and alarm notification via email
- Distributed architecture for scalability and reliability
- Can be integrated with other JACE controllers and an AX Supervisor for large-scale systems and deployment
- Available with Flash memory storage with no moving parts or a Hard Drive based version

Ordering Information

Part Number	Description
J-NXT-FL-AX	JACE-NXT with 2 GB Flash Memory and 2GB RAM, universal input power supply, and UPS module with battery and AX software Version 3.5 or later required. Base Unit includes one RS-232 port, one electrically isolated RS-485 port, two 10/100/1000 Mb Ethernet Network Interfaces, one Lonworks™ FTT10A interface port, and four USB ports. Also includes UI Web Server and Niagara Connectivity.
J-NXT-HD-AX	JACE-NXT with 2 GB RAM, 250 GB Hard drive, universal power supply and AX software Version 3.5 or later required. Base Unit includes one RS-232 port, one electrically isolated RS-485 port, two 10/100/1000 Mb Ethernet Network Interfaces, one Lonworks™ FTT10A interface port, and four USB ports. Also includes UI Web Server and Niagara Connectivity.
J-NXT-R2	JACE-NXT with 250 GB hard drive and R2 software. Base Unit includes one RS-232 port, one electrically isolated RS-485 port, two 10/100/1000 Mb Ethernet Network Interfaces, one Lonworks™ FTT10A interface port, and four USB ports. Each unit also includes a universal input power supply.
Hardware Option	
NXT-UPS	Optional UPS for NXT-R2 or NXT-HD-AX, this option is already included in the NXT-FL-AX.

Specifications

Platform

- High Speed Intel Celeron 1.2 GHz, 800 MHz FSB
- 2 Gigabyte, DDR3 1066, SDRAM
- 2 Gigabyte Compact Flash for storage or 250 GB HD (in appropriate model, in lieu of Flash memory storage)
- Two Ethernet ports 10/100/1000 Mbit autosensing with RJ-45 style connectors
- Real-time clock with lithium battery backup

Power Supply

- Input voltage: JACE-NXT (any version) 24 volts DC supplied via included universal input 100 VAC-240 VAC power supply
- Input frequency: 47 to 63Hz
- Input power: 2A Max/115V and 1A Max/230V for the included Universal Power Supply, mains AC voltage is not to be applied directly to the JACE-NXT
- Battery backup unit is included with Flash memory equipped J-NXT-FL-AX, providing approximately 15 minutes backup time, depending on battery state-of-charge and environmental conditions. This unit is optional for the J-NXT-R2 and J-NXT-HD-AX

Communication Ports– Base Unit

- Two 10/100/1000-Mbit Ethernet ports–RJ 45 connection
- One high-speed RS-232 serial port; DB-9 connector
- One RS-485 Port, electrically isolated with three terminal connector
- One Lon FTT10 A port (78 Kbps) with standard two-terminal Weidmuller style connector
- Four standard USB ports which can be used to transfer data to memory from a “thumb-drive” for updates, etc.

Operating System

- Embedded version of Microsoft Windows™ XP, Microsoft Java Virtual Machine or Sun Hotspot VM, depending on version
- Includes either R2.3.532 or later or AX 3.5 or later - plus Lon and oBIX drivers, along with the Niagara Web server (UI) software. Other drivers and software options are available separately

* Note: BACnet MSTP driver is not available for this JACE; BACnet IP or BACnet over Ethernet is available. Also does not support VYKON IO modules.

Chassis

- Construction: Heavy-duty aluminum and steel chassis
- Cooling: Convection Fin cooling / no fans
- Dimensions: 133mm (5-1/4”) W x 89mm (3-1/2”) H x 262mm (10-5/16”) L. Units in mm and (inches)
- Weight: Net 4.5Kg. (9.9 lbs.) / Gross 6.3Kg. (13.9 lbs.)

Environment

NXT-AX-FL	0° to 50°C (32° to 122°F) for horizontal mounting position, or 0° to 45°C (32° to 113°F) for vertical mounting position. Refer to Installation Guide for mounting details
NXT-AX-HD	5° to 40°C (41° to 104°F) in either mounting position
NXT-R2	5° to 40°C (41° to 104°F) in either mounting position

Storage temperature – all models: All models 0°C to 70°C (32°F to 158°F)

Relative humidity – all models: All models 5 to 80% at 25°C (77°F), non-condensing



Vibration, in operation (tested to DIN IEC 60068-2-6):

- Flash-based model: 5 to 9 Hz: 3.5 mm, 9 to 500 Hz: 9.8 m/s²;
- Hard drive version and wall mounting: 10 to 58 Hz: 0.0375mm, 58 to 200 Hz: 4.9 m/s²
- Hard drive version and DIN mounting or vertical installation: vibration not permitted

Resistance to shock, in operation (tested to DIN IEC 60068-2-27):

- Flash-based model: 150 m/s², 11 ms
- Hard drive version: 50 m/s², 30 ms

Agency listings:

- RoHS Compliant 
- UL 916
- BTL listed as a B-BC device when optional BACnet driver is used 
- FCC part 15, Class A
- C-UL listed to Canadian Standards Association (CSA) C22.2 No. 205-M1983 “Signal Equipment”

- CE - Device fulfills requirements for the EC directive "204/108/EEC Electromagnetic Compatibility," and the following fields of application apply according to its CE label:

Area of use	Emitted Interference	Noise Immunity
Residential area, business and trade areas and small business	EN 61000-6-3: 2007	EN 61000-6-1: 2007
Industry	EN 61000-6-4: 2007	EN 61000-6-2: 2005

Architecture

