JACE Equipment Controller

Overview

The VYKON JACE Equipment Controller (JEC-234) is part of the VYKON portfolio of Java-based controller/server products, software applications and tools, designed to integrate a variety of devices and protocols into unified, distributed systems. VYKON products are powered by the Niagara^AX Framework®, the industry's leading software technology that integrates diverse systems and devices into a seamless system. Niagara^AX supports a range of protocols including LONWORKS®, BACnet®, Modbus, oBIX and many Internet standards. The Niagara^AX Framework also includes integrated management tools to support the design, configuration and maintenance of a unified, real-time controls network. The Input/Output module with low voltage power supply makes this package ideal for plant control applications.

Applications

The JACE Equipment Controller is ideal for controlling and monitoring building systems including HVAC equipment, lighting, and meters. The Input/Output module provides 34 points for local control. The IO count can be expanded with up to 2 additional 16 point NDIO modules and four 16 point remote NRIO modules. In addition to local control, the JEC-234 is licensed for up to 5 remote devices that can come into the controller via LON, BACnet, Modbus, or Sedona. The JEC-234 serves data and rich graphical displays to a standard web browser via an Ethernet LAN or remotely over the Internet. In larger facilities, multi-building applications and large-scale control system integrations, Niagara^AX Supervisor™ software can be used to aggregate information (real-time data, history, alarms, etc.) from large numbers of JACEs into a single unified application. The Niagara^AX Supervisor can manage global control functions, support data passing over multiple networks, connect to enterprise level software applications, and host multiple, simultaneous client workstations connected over the local network, the Internet, or dial-up modem.

Features

- Embedded Power PC platform @ 250 MHz

- Supports open protocols

- Web User interface serves rich presentations and live data to any browser

- Supports simultaneous stand-alone control, energy management, and multi-protocol integration

- BTL® listed when BACnet driver is used – complies with B-BC (BACnet Building Controller)

- Two Communications board sockets for optional communications card

- Built-in 24 volt AC/DC input power supply

- 34 hardware control points (expandable with NDIO and NRIO modules).

- Pre-Licensed for five remote devices – either BACnet, Modbus, LON, or Sedona

- Din Rail mountable for quick installation
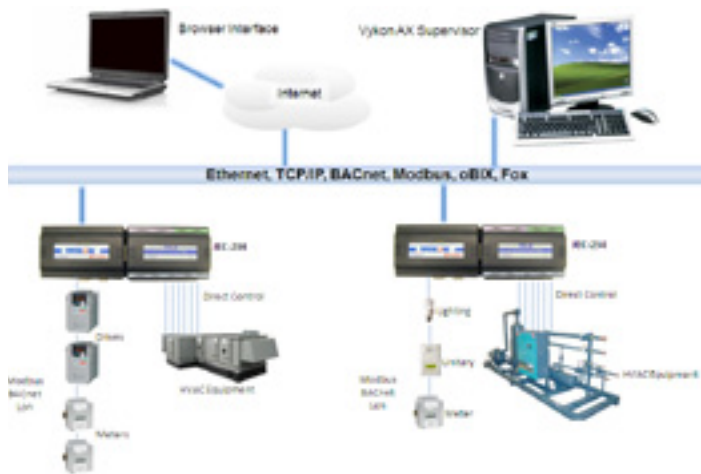
Specifications

Platform
- AMCC PowerPC 405EP @ 250 MHz processor
- 64 MB SDRAM & 64 MB Serial Flash
- Battery backup – 5 minutes typical – shutdown begins within 10 seconds
- Real-time clock – 3 month backup max via battery

Operating System
- QNX RTOS
- IBM J9 JVM Java Virtual Machine
- Niagara^{AX}

IO-34 - 34 Point I/O Module
- Includes integral 24 volt AC/DC input power supply for JACE 2 and IO; no other power required
- 16 Universal Inputs (Type 3 (10k) Thermistors, 0-1000 ohm, 0-10 volts, 0-20 mA with external resistor)
- 10 relay outputs (Form A contacts, 24 VAC @.5 amp rated)
- 8 analog outputs (0-10 volt DC)

Communications
- 2 Ethernet Ports – 10/100 Mbps (RJ-45 Connectors)
- 1 RS 232 Port (RJ-45 connector)
- 1 RS 485 non isolated port (Screw Connector on base board)
- 2 card slots for optional communication cards

Power Input
- 24 Volt AC or DC input power supply
- Termination is via screw type terminal block

Part Number	Description
JEC-234	JACE® 2 with 34 point I/O module. Features include Niagara station and Web User Interface. Standard drivers include oBIX Client / Server and Niagara Network (Fox) Client / Server. Includes Modbus, BACnet, LON, and Sedona drivers limited to a total of 5 devices per controller. 650 KRU (650,000 resource unit) limit. Requires 24 VAC or 24 VDC Power Source. The JACE® 2 and IO-34 module are designed for DIN rail mounting. Option cards required for communication to remote devices are not included.

Optional Communication Cards	
NPB-LON	78 Kbps FTT 10 A LON® adapter
NPB-232	Single Port RS 232 Option Card
NPB-2X-485	Dual Port RS-485 Option Card
NPB-SED-001	Sedona Wireless Option Card with Antenna
NPB-MDM	56K Dial-up Modem. Installation of the modem disables the on-board RS232 port
NPB-GPRS-W	GPRS Modem option, bundled with Wyless SIM card
NPB-SRAM	Static RAM data backup card. Requires Niagara^{AX} 3.6 or later.

Optional I/O Expansion Modules	
IO-16	Includes 8 Universal Inputs, 4 Form A Relay Outputs, and 4 0-10 VDC Analog Outputs. Mounts in-line with JEC-234 on DIN rail. JEC-234 supports up to 2 IO-16 modules.
IO-16-485	Includes 8 Universal Inputs, 4 Form A Relay Outputs, and 4 0-10 VDC Analog Outputs. May be mounted remotely. Communicates to JEC-234 via a dedicated RS-485 port. JEC-234 supports up to 4 IO-16-485 modules.

JACE and IO-34 Chassis
- Construction – Plastic, din rail or screw mount chassis, plastic cover
- Cooling – Internal air convection
- Dimensions (JACE) – 6.313" (16.04 cm) W x 4.820"(12.24 cm) H (including connectors) x 2.438" (6.19 cm) D
- Dimensions (IO-34) – 5.969" (15.16 cm) W x 4.820"(12.24 cm) H (including connectors) x 2.438" (6.19 cm) D
- Dimensions for both JACE and IO-34 including Mounting Ears 13.094" (33.26 cm) W x 4.820"(12.24 cm) H (including connectors) x 2.438" (6.19 cm) D

Environment
- Operating temperature range – 0° to 50°C (32°F to 122°F)
- Storage temperature range – 0° to 60°C (32°F to 140°F)
- Relative humidity range – 5% to 95%, non-condensing

Agency Listings
- RoHS Compliant
- UL 916
- C-UL listed to Canadian Standards Association (CSA) C22.2 No. 205-M1983 "Signal Equipment"
- CE
- FCC part 15 Class A
- C-tick (Australia)

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