

# JACE-5R-AX

## Overview



Products developed on Tridium's Niagara<sup>AX</sup> Framework<sup>®</sup> enable end-to-end building automation and device-to-enterprise integration solutions. Users can seamlessly integrate LonWorks<sup>®</sup>, BACnet<sup>®</sup> IP (client), BACnet MSTP, Modbus<sup>®</sup>, OPC<sup>®</sup>, and other standard protocols with legacy systems to provide a unified, real-time controls network. A Niagara<sup>AX</sup> solution includes a browser-

based graphical user interface allowing users to view and control underlying systems without the need for dedicated workstations or thick client software.

Niagara<sup>AX</sup> based products provide the ability to create customized user interfaces that combine intuitive navigation screens with dynamic, real-time displays. Third party graphic images, jpegs, and gif images can also be used in the creation of the user interface. Unique software technology eliminates the need for page refreshes or polling for data updates, thereby minimizing required bandwidth.

JACE<sup>®</sup> (Java Application Control Engine) products bundle this software capability in a hardware platform that can be installed in most building control environments. JACEs connect to system field busses and provide real-time control functions as data from individual systems are instantaneously transformed to a common object model within the JACE. JACEs provide a fully distributed system when multiple units are networked together, providing unsurpassed scalability and reliability. In this configuration, the Niagara-based Web Supervisor<sup>®</sup> can be used to network JACE controllers and manage enterprise-level control functions. The appropriate JACE model is determined by connectivity and computing power requirements.

## Applications

Specifically designed for commercial and data center applications, the JACE 5R-AX is ideally suited for users who require a compact controller that can be 19" rack or wall mounted. Its low 1U (1.75") height requires little room in crowded racks. A single JACE 5R-AX controller supports a network of devices via the LonWorks port, or through the four RS-485 ports, or the two RS-232 ports with the appropriate protocol driver.

The JACE 5R-AX can integrate a combination of LON, Modbus, BACnet, or legacy devices with the appropriate optional drivers.

## Features

- Embedded 250 MHz RISC Microprocessor platform with 256 MB RAM/128 MB storage Flash
- 19" standard Rack Mount configuration; 1U height
- One LON FTT10A port for LON device integration
- Four RS-485 ports (electrically isolated) for connection to open and proprietary protocol devices
- Two RS-232 ports for serial communication device Integration
- Includes connectivity services to enable the JACE-5-R-AX to communicate with other JACEs or to the AX Supervisor
- Includes User Interface (Web Server) to serve graphical information to a standard Web Browser
- BTL listed when BACnet driver is used – complies with B-BC (BACnet Building Controller)

## Ordering Information

Part Number	Description
11194	J5-R-AX rack mount with AX software – includes rack mount brackets
J5R-WMT-BKT	Optional wall mount brackets – adapts rack enclosure to wall mounting
10148	RJ-45 to DB-9 connector adaptor for RS-232 ports
10180	4' RJ-45 cable with male RJ-45 plugs on each end
10181	10' RJ-45 cable with male RJ-45 plugs on each end
10182	25' RJ-45 cable with male RJ-45 plugs on each end

## Specifications

- CPU- 250 MHz RISC type processor
- 256 MB Ram, 128MB Flash for database backup
- One 10/100 Mb Ethernet RJ-45 connector

### Communications

- One 10/100 Mb Ethernet port – RJ-45 connection
- Two RJ-45 connectors for RS-232 ports
- Four RS-485 ports (up to 76,800 baud) electrically isolated, screw terminal block connections for each trunk
- One LonWorks port – FTT-10A with Weidmuller style connector
- Fox (Niagara Network) and oBIX driver included, other drivers optional
- User Interface service (Web Server) included
- Niagara connectivity included

### Operating System

- QNX® Operating System with IBM J9™ Java Virtual Machine
- Niagara<sup>AX</sup> Software

### Power Supply

- 24VAC, 50/60 Hz, or 24 VDC
- 20 watts maximum
- Externally accessible 2 Amp fuse
- Screw terminal block for power input connections

### Battery Backup

- Battery backup provided for all on board functions
- Battery is monitored and trickle charged
- Battery maintains processor operation through power failures for a pre-determined interval, then writes all data to flash memory, the processor then shuts down, and the clock is maintained for a minimum of five years

### Chassis - Housed in metal enclosure,

- Intended for indoor rack or wall mounting only
- Cooling: Internal air convection
- Dimensions: 17" wide X 12" deep X 1.75" high (431.8 mm wide X 304.8 mm wide X 44.5 mm high)
- Weight: Net 6 lbs. (2.72 kg), Gross 7 lbs. (3.18 kg)
- Optional Wall Mounting Brackets

### Agency Listings

- UL 916
- C-UL listed to Canadian Standards Association (CSA) C22.2 No. 205-M1983 "Signal Equipment"
- CE
- CC part 15 Class A.
- BTL B-BC BACnet Building controller listed when the BACnet driver is installed and configured (Release 3.2.20.1 or greater)

### Environment

- Operating temperature range: 0°C to 50°C (32°F to 122°F).
- Storage Temperature range: 0°C to 70°C (32°F to 158°F).
- Relative humidity range: 5% to 95%, non-condensing.

### Other

- Maximum Lon devices = up to 124 plus three repeaters
- Maximum MSTP devices per RS-485 port = 31 standard load; 124-¼ load devices;
- RS-485 Port speeds supported up to 76.8 KBps
- RS-232 Port speeds supported up to 115.2 KBps
- RS-232 Port speeds are up to 115.2 KBps

Architecture

