DISTECH CONTROLS™

EC-BOS^{AX} Plant Controller

Overview

EC-BOS^{AX} Plant Controller is an embedded controller/server platform. It combines integrated control, supervision, data logging, alarming, scheduling and network management functions with Internet connectivity and web serving capabilities. In addition to this, the plant controller features spare I/O points to attach sensors, peripherals and equipment. The plant controller makes it possible to control and manage external devices over the Internet and present real-time information to users in web-based graphical views.

EC-BOS^{AX} Plant Controller is part of the EC-Net^{AX} suite of Java-based controller/ server products, software applications and tools, which are designed to integrate a variety of devices and protocols into unified, distributed systems. EC-Net^{AX} products are powered by the Niagara^{AX} Framework®, the industry's first software technology designed to integrate diverse systems and devices into a seamless system. EC-Net^{AX} supports a wide range of protocols including LONWORKS®, BACnet® and Internet standards. The Niagara^{AX} Framework also includes integrated network management tools to support the design, configuration, installation and maintenance of interoperable networks.

Supervisor^{AX} software can be used to aggregate information (real-time data, history, alarms, etc.) from large numbers of EC-BOS^{AX} into a single unified application, making it ideal for larger facilities, multi-building applications and large-scale control system integrations. The Supervisor^{AX} 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.

Applications

- Ideal for smaller facilities and remote sites, this Plant Controller is all you need for a complete system. Or use it to distribute control and monitoring throughout large facilities.

- Control of equipment such as: multi-stage air handling units, chillers, boilers, cooling towers, lighting systems, etc.

- Control of many other types of HVAC and lighting equipment, as well as power measurement applications.

- Supports a wide range of field buses for connection to remote I/O and stand-alone controllers.

- Serves data and rich graphical displays to a standard web browser via an Ethernet LAN or remotely over the Internet, or dial-up modem.

Features & Benefits

- I/O module provides more control options

- Supports open and legacy protocols

- Web User interface (optional) serves rich graphical presentations for easier and more user-friendly control of control system integrations.

- Integral energy management routines

- Run stand-alone control, energy management and multi-protocol integration

- Standard and optional communications boards

- Includes oBIX client/server and Niagara Network (Fox) client/server drivers

- BTL listed when BACnet driver is used. Complies with B-BC (BACnet Building Controller)

Product Warranty & Total Quality Commitment

All Distech Controls product lines are built to meet rigorous quality standards and carry a two-year warranty.

Recommended Peripherals

EC-Net[AX] I/O Modules[1]

EC-Net[AX] IO-16:
- 8 universal inputs
- 4 form A Relay outputs
- 4 Analog outputs (0-10VDC)
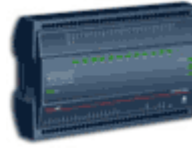- Up to four (4) IO-16 can be connected to the EC-BOS-2[AX]

EC- Net[AX] IO-34:
- 16 universal inputs
- 10 form A Relay outputs
- 8 Analog outputs (0-10VDC)
- Maximum one (1) IO-34 can be connected to the EC-BOS-2[AX]
- In addition to the IO-34, up to two (2) IO-16 can also be connected to the EC-BOS-2[AX]

Distech Controls I/O Modules[2]

ECC-301:
- 8 universal inputs
- 8 triac outputs

ECC-401:
- 12 universal inputs
- 12 triac outputs

ECC-520:
- 16 universal inputs

Hardware

EC-PLCTRL2	Base EC-BOS[AX] plant controller with IO-34 included
EC-NPB-LON	78Kbps FTT-10A LON adapter
EC-NPB-MDM	56Kbps Modem option card
EC-NPB-PWR	24V AC/DC, 50/60Hz Power Supply Module. DIN rail mountable
EC-NPB-PWR-UN	90-263VAC/15VDC, 50/60Hz Universal Power Supply Module. DIN rail mountable
EC-WPM-US	90-240VAC, 50/60Hz Wall adapter U.S. plug type
EC-WPM-EUR	90-240VAC, 50/60Hz Wall adapter European/Asian plug type
EC-WPM-UK	90-240VAC, 50/60Hz Wall adapter U.K. plug type
EC-NPB-GPRS	GPRS Modem option card

Software

EC-DR-LON-AX	LonWorks driver
EC-DR-MSTP-AX	Driver for MS/TP BACnet communications over RS-232 or RS-485 port.
EC-NPM-128	Extended memory part for 64Mb to 128Mb
EC-UI-SP-2XX	Web User Interface add-on
EC-NC-SP-2XX	Niagara Connectivity Station Pack
EC-WP-AX-WEB	Embedded EC-Net[AX] Pro (requires EC-UI-SP-2XX)

Special Note: The number of external devices supported by EC-BOS[AX] Plant Controller is dependent on the memory option used in EC-BOS[AX] Plant Controller and on the number and types of external devices used. Please refer to the Tech Note on our web site at www.distech-controls.com for more details.

For more information on these or other Distech Controls products please refer to our web site at www.distech-controls.com or contact sales@distech-controls.com.

1. For more information and details please refer to the *EC-Net[AX] I/O Modules datasheet*.
2. For more information please refer to the *Remote I/O datasheet*.

Product Specifications[3]

Platform	
Processor:	IBM PowerPC 405EP 250MHz processor
Memory:	64MB[4] SDRAM and 64MB Serial Flash
Battery Backup:	5 minutes typical. Shutdown begins within 10 seconds
Real-Time Clock:	3 month backup max via battery

Communications	
Methods:	

- 2 Ethernet Ports – 10/100Mbps (RJ-45 connectors)
- 1 RS-232 Port (9-pin D-shell connector)
- 1 RS-485 non-isolated port (3 screw connector on base board)
- 1 One 20-Pin Euro-DIN Connector (for I/O and Power modules)
- 2 communication card option slots

Hardware

IO-34 module included:
- 16 universal inputs (resistance, 0-10VDC, 0-20mA with external resistor)
- 10 form A Relay outputs
- 8 Analog outputs (0-10VDC)

Operating Systems

Types:
- QNX RTOS
- IBM J9 JVM Java Virtual Machine
- Niagara[AX]

Chassis	
Construction:	Plastic, din rail or screw mount chassis, plastic cover
Cooling:	Internal air convection
Dimensions:	16.0cm (6.3") W x 12.2cm (4.8") H (including connectors) x 6.2cm (2.4") D

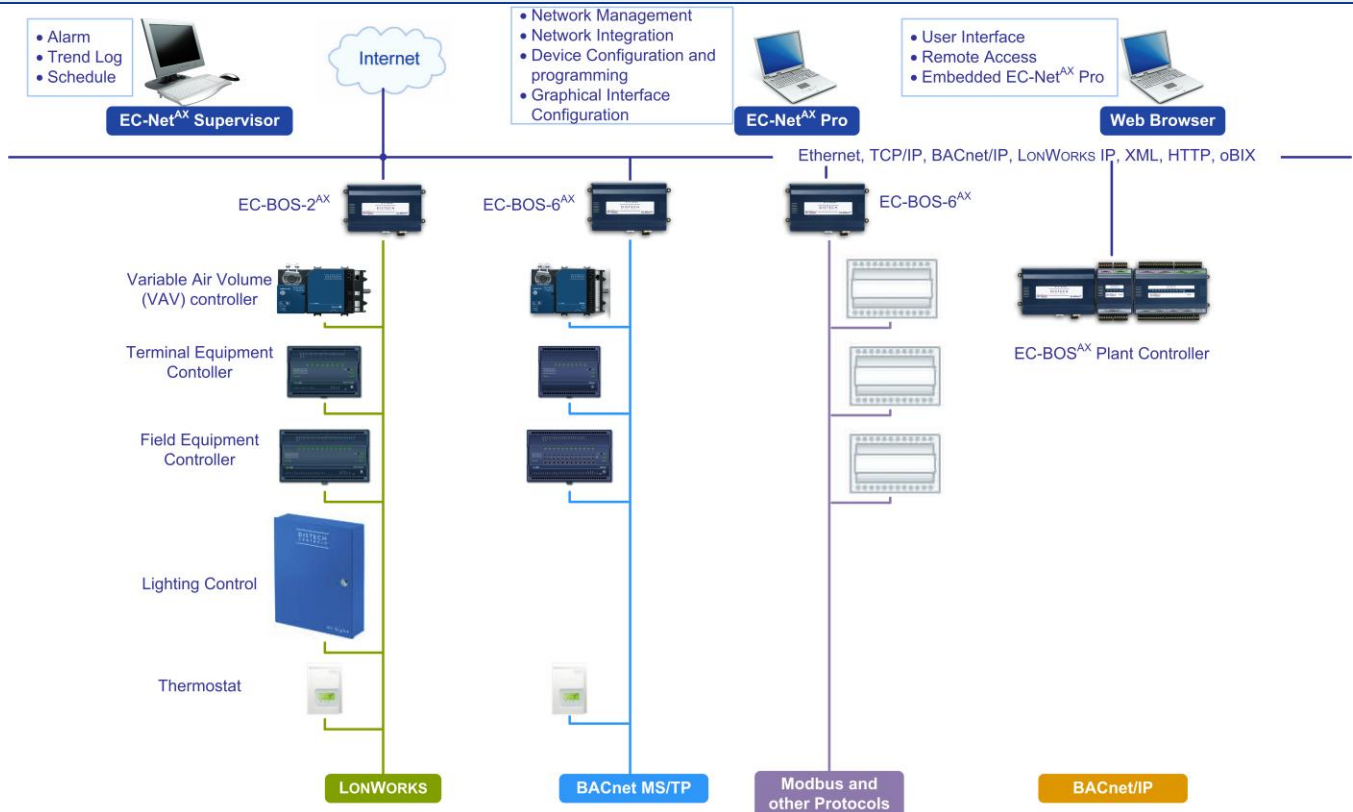| Environment	
Operating Temp.:	0°C to 50°C (32°F to 122°F)
Storage Temp:	0°C to 60°C (32°F to 140°F)
Relative Humidity:	5% to 95%, non-condensing

Agency Listings	
UL:	UL916
	C-UL listed to Canadian Standards Association (CSA) C22.2 No. 205-M1983 "Signal Equipment"
CE:	Refer to *EC-BOS-2[AX] Mounting and Wiring Instructions* for more details
FCC:	Part 15 Class A

3. For more detailed specifications please refer to the *EC-BOS-2AX Mounting and Wiring Instructions*.
4. Can be upgraded to 128MB with EC-NPM-128 option.

Typical Architecture

The above architecture is shown as an example only.