



# EC-BOS-8

Multi-protocol Web Building Controller



## Overview

The EC-BOS-8 is a compact, embedded controller and server platform for connecting multiple and diverse devices and sub-systems. With Internet connectivity and Webserving capability, the EC-BOS-8 provides integrated control, supervision, data logging, alarming, scheduling and network management. It streams data and graphical displays to a standard Web browser via an Ethernet or wireless LAN, or remotely over the Internet.

The EC-BOS-8 operates with EC-Net™ 4 web-based building management platform powered by the Niagara Framework®. The EC-BOS-8 can also run EC-Net<sup>AX</sup> Security for managing access control systems.

## Applications

- Network management of field controllers and devices
- Integration of various field buses and communication protocols
- Web serving capabilities that allow remote monitoring and management of network
- Scalable licensing model and modular hardware make the EC-BOS-8 suitable for installation in small buildings, as well as large multi-unit campuses when combined with EC-Net 4 Supervisor

## Features & Benefits

### Hardware Platform

#### Optimized for EC-Net 4

- 2GB user storage can carry the load of EC-Net 4 and more user data
- 1000MHz processor with secure boot feature offers fast performance and authentication of data storage prior to station startup
- USB port offers support for station backup and restore
- Backward compatibility allows the EC-BOS-8 to run an EC-Net<sup>AX</sup> station (minimum requirement is 3.8.111)

### Modern Design for

#### Simplified Installation and Integration

- The new, modular design of the EC-BOS-8 makes it easy to install, integrate and deploy.
- Two on-board isolated RS-485 ports for connecting BACnet MS/TP and Modbus RTU devices.
- Users can easily check system status by glancing at the front panel LEDs to diagnose network issues.

- No need for an additional voltage transformer since EC-BOS-8 is powered directly by global standard 24VAC/DC power supply.

### Wireless Capability

Standard Wi-Fi offers enhanced wireless capability when interfacing with the next generation of wireless sensors and devices. The EC-BOS-8 is also configurable as an access point so that mobile phones and tablets can display information and advanced graphics. Expansion also is available when interfacing with other wireless field buses seen in connected buildings.

### Expandable with Up to Four Option Modules

Option modules directly attach to the controller for additional communications ports, including types for LONWORKS®, RS 232 and RS 485 networks.

Controller and option modules are designed for easy mounting on a 35mm-wide DIN rail.

### Capacity-Based Licensing Model

The licensing model for the EC-BOS-8 is simplified and includes standard open protocol drivers (e.g., BACnet®, LonWorks®, Modbus®) by default along with optional field bus expansion modules for ultimate flexibility and expandability.

Determine the number of points that will be integrated and select the right capacity license from the start. License upgrades can be purchased in the future as your needs grow.

## Model Selection

### EC-BOS-8 Series

Model	Product Description
EC-BOS-8 with US WiFi	EC-BOS-8 includes two isolated RS485 ports, two 10/100MB Ethernet ports, USB Backup & Restore and Wi-Fi connectivity. US WiFi setting for enabling WiFi on EC-BOS-8 units installed in the US.
EC-BOS-8 with Worldwide WiFi	EC-BOS-8 includes two isolated RS485 ports, two 10/100MB Ethernet ports, USB Backup & Restore and Wi-Fi connectivity. Worldwide WiFi setting for enabling WiFi on EC-BOS-8 units installed anywhere in the world except the US.
EC-BOS-8 with Permanently Disabled WiFi	EC-BOS-8 includes two isolated RS485 ports, two 10/100MB Ethernet ports and USB Backup & Restore. WiFi setting for permanently disabling WiFi on EC-BOS-8 units.

### EC-BOS-8 Core Software

Model	Product Description
EC-BOS-8 Core - 5 Devices/250 Points	EC-BOS-8 core software. Includes standard open drivers. Supports up to 5 devices and 250 points. Requires EC-Net 4.1 or higher. Software Maintenance Agreement (SMA) must be purchased in conjunction with core software.
EC-BOS-8 Core - 10 Devices/500 Points	EC-BOS-8 core software. Includes standard open drivers. Supports up to 10 devices and 500 points. Requires EC-Net 4.1 or higher. Software Maintenance Agreement (SMA) must be purchased in conjunction with core software.
EC-BOS-8 Core - 25 Devices/1250 Points	EC-BOS-8 core software. Includes standard open drivers. Supports up to 25 devices and 1250 points. Requires EC-Net 4.1 or higher. Software Maintenance Agreement (SMA) must be purchased in conjunction with core software.
EC-BOS-8 Core - 100 Devices/5000 Points	EC-BOS-8 core software. Includes standard open drivers. Supports up to 100 devices and 5000 points. Requires EC-Net 4.1 or higher. Software Maintenance Agreement (SMA) must be purchased in conjunction with core software.
EC-BOS-8 Core - 200 Devices/10000 Points	EC-BOS-8 core software. Includes standard open drivers. Supports up to 200 devices and 10000 points. Requires EC-Net 4.1 or higher. Software Maintenance Agreement (SMA) must be purchased in conjunction with core software.
EC-BOS-8 Core - Demo	EC-BOS-8 core software. Includes all available drivers. Supports up to 500 devices and 25000 points. Runs on EC-Net 4.1 or higher and EC-Net <sup>AX</sup> (minimum v3.8.111). Note: This license expires annually and its renewal is covered by the EC-Net Support Fee.

### EC-BOS-8 Device Integration Pack

Model	Product Description
EC-BOS-8 Device Integration Pack - 10	EC-BOS-8 device integration pack purchased in conjunction with initial core software. Adds support for additional 10 devices and 500 points to core software.
EC-BOS-8 Device Integration Pack - 25	EC-BOS-8 device integration pack purchased in conjunction with initial core software. Adds support for additional 25 devices and 1250 points to core software.
EC-BOS-8 Device Integration Pack - 50	EC-BOS-8 device integration pack purchased in conjunction with initial core software. Adds support for additional 50 devices and 2500 points to core software.

## EC-BOS-8 Device Upgrade Pack

Model	Product Description
EC-BOS-8 Device Upgrade Pack - 10	EC-BOS-8 device upgrade pack purchased any time after initial core software purchase. Adds support for additional 10 devices and 500 points to core software.
EC-BOS-8 Device Upgrade Pack - 25	EC-BOS-8 device upgrade pack purchased any time after initial core software purchase. Adds support for additional 25 devices and 1250 points to core software.
EC-BOS-8 Device Upgrade Pack - 50	EC-BOS-8 device upgrade pack purchased any time after initial core software purchase. Adds support for additional 50 devices and 2500 points to core software.

## EC-BOS-8 Software Maintenance Agreement

Software maintenance is required when purchasing an EC-BOS-8. The minimum initial software maintenance plan is 18 months. Optional 3 or 5 year maintenance may be substituted.

If Maintenance coverage is not purchased for any period, the price of Maintenance for the next period for which it is purchased will be (a) the Maintenance fee for the period(s) for which Maintenance was not purchased, up to a maximum of 5 years; and (b) the Maintenance fee for the next year.

These software maintenance plans are ordered separately according the EC-BOS-8 model chosen. See the price list for more details.

Model	Product Description
EC-BOS-8 (5 Device Core) 18 month SMA	EC-BOS-8 (5 Device Core) initial 18 month software maintenance agreement. Must be purchased in conjunction with initial core software. Optional 3 or 5 year maintenance may be substituted.
EC-BOS-8 (5 Device Core) 1 year SMA	EC-BOS-8 (5 Device Core) 1 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (5 Device Core) 3 year SMA	EC-BOS-8 (5 Device Core) 3 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (5 Device Core) 5 year SMA	EC-BOS-8 (5 Device Core) 5 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (10 Device Core) 18 month SMA	EC-BOS-8 (10 Device Core) initial 18 month software maintenance agreement. Must be purchased in conjunction with initial core software. Optional 3 or 5 year maintenance may be substituted.
EC-BOS-8 (10 Device Core) 1 year SMA	EC-BOS-8 (10 Device Core) 1 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (10 Device Core) 3 year SMA	EC-BOS-8 (10 Device Core) 3 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (10 Device Core) 5 year SMA	EC-BOS-8 (10 Device Core) 5 year software maintenance agreement (includes new and interim releases).

Model	Product Description
EC-BOS-8 (25 Device Core) 18 month SMA	EC-BOS-8 (25 Device Core) initial 18 month software maintenance agreement. Must be purchased in conjunction with initial core software. Optional 3 or 5 year maintenance may be substituted.
EC-BOS-8 (25 Device Core) 1 year SMA	EC-BOS-8 (25 Device Core) 1 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (25 Device Core) 3 year SMA	EC-BOS-8 (25 Device Core) 3 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (25 Device Core) 5 year SMA	EC-BOS-8 (25 Device Core) 5 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (100 Device Core) 18 month SMA	EC-BOS-8 (100 Device Core) initial 18 month software maintenance agreement. Must be purchased in conjunction with initial core software. Optional 3 or 5 year maintenance may be substituted.
EC-BOS-8 (100 Device Core) 1 year SMA	EC-BOS-8 (100 Device Core) 1 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (100 Device Core) 3 year SMA	EC-BOS-8 (100 Device Core) 3 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (100 Device Core) 5 year SMA	EC-BOS-8 (100 Device Core) 5 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (200 Device Core) 18 month SMA	EC-BOS-8 (200 Device Core) initial 18 month software maintenance agreement. Must be purchased in conjunction with initial core software. Optional 3 or 5 year maintenance may be substituted.
EC-BOS-8 (200 Device Core) 1 year SMA	EC-BOS-8 (200 Device Core) 1 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (200 Device Core) 3 year SMA	EC-BOS-8 (200 Device Core) 3 year software maintenance agreement (includes new and interim releases).
EC-BOS-8 (200 Device Core) 5 year SMA	EC-BOS-8 (200 Device Core) 5 year software maintenance agreement (includes new and interim releases).

## EC-BOS-8 Software Option

Model	Product Description
EC-BOS-8 AX Station Pack	Enables EC-BOS-8 to run EC-Net <sup>AX</sup> (minimum 3.8.111)
EC-BOS-8 AX Security Pack	Enables EC-BOS-8 to run EC-Net <sup>AX</sup> <i>Security</i> (minimum 2.3.118). Includes licensing for 32 readers and EC-BOS-8 AX Station Pack.

## EC-BOS-8 Hardware Accessory

Model	Product Description
EC-BOS-8 Wall Plug Module	100-240VAC, 50/60 Hz. Wall Adapter – Connects to the 2.5mm barrel plug 24V input on the EC-BOS-8 and includes US, EU, UK, and AU style plugs.
EC-BOS-8 WLAN Antenna Cable Extension	Extension cable and bracket for EC-BOS-8 WLAN antenna.

## EC-BOS-8 Add-on Modules

Model	Product Description
EC-NPB8-LON	EC-BOS-8 - Add-on single port LON FTT10A module.
EC-NPB8-2X-485	EC-BOS-8 - Add-on dual port RS-485 module.
EC-NPB8-232	EC-BOS-8 - Add-on single port RS-232 module.
IO-R-16	16 Point IO Module. Powered by IO-R-34. Connected to the EC-BOS-8 remotely over RS485.
IO-R-34	34 Point IO Module. Powered by 24VAC/DC. Capable of powering (4) IO-R-16 modules. Connected to the EC-BOS-8 remotely over RS485.
EC-SEC-R2R	Remote reader module - 2 card reader inputs, 4 supervised inputs, 2 digital inputs, 2 form C (SPDT) relay outputs.
EC-SEC-RIO	Remote I/O module - 8 supervised inputs, 2 digital inputs, 8 form C (SPDT) relay outputs.
EC-SEC-INT-KP	LCD display and keypad for arming and disarming Intrusion Zones. Display also provides feedback to the user regarding arming status and status of individual intrusion points.

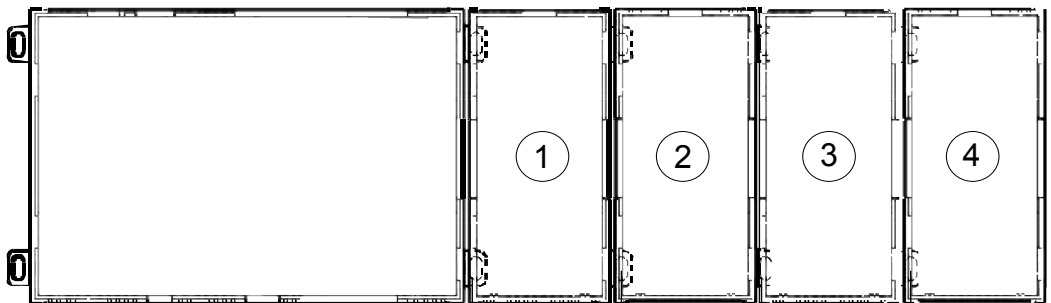
## Expansion Modules

Modules	Description	Maximum Expansion Modules Supported
EC-NPB8-LON	EC-BOS-8 - Add-on single port LON FTT10A module.	4
EC-NPB8-2X-485	EC-BOS-8 - Add-on dual port RS-485 module.	2
EC-NPB8-232	EC-BOS-8 - Add-on single port RS-232 module.	4
IO-R-16	16 Point IO Module	16*
IO-R-34	34 Point IO Module	8*
EC-SEC-R2R	Remote reader module	16 (each or combined)
EC-SEC-RIO	Remote I/O module	
EC-SEC-INT-KP	Intrusion keypad	6

\*For detailed information about maximum number of modules supported and maximum combinations, refer to the EC-BOS-8 I/O Modules datasheet.

## Maximum Combinations

Expansion ①	Expansion ②	Expansion ③	Expansion ④
EC-NPB8-232 OR EC-NPB8-LON	EC-NPB8-232 OR EC-NPB8-LON	EC-NPB8-232 OR EC-NPB8-LON	EC-NPB8-232 OR EC-NPB8-LON
EC-NPB8-2X-485	EC-NPB8-232 OR EC-NPB8-LON	EC-NPB8-232 OR EC-NPB8-LON	EC-NPB8-232 OR EC-NPB8-LON
EC-NPB8-2X-485	EC-NPB8-2X-485	EC-NPB8-232 OR EC-NPB8-LON	
EC-NPB8-2X-485	EC-NPB8-2X-485		



## Product Specifications

### Platform

Processor — TI AM3352 1000MHz ARM® Cortex™-A8

Memory — 1GB DDR3 SDRAM

- Removable micro-SD card with 4GB flash total storage/2GB user storage
- Real-time clock
- Batteryless
- Secure boot

### Communications

Wi-Fi — Client or WAP

Wi-Fi Communication Protocol — IEEE802.11a/b/g/n

— IEEE802.11n HT20 @ 2.4GHz

— IEEE802.11n HT20/HT40 @ 5GHz

Configurable radio — Off, WAP, or Client

Client Authentication Method — WPAPSK/WPA2PSK supported

USB type A connector — Back-up and restore support

RS-485 — 2 isolated RS-485 with selectable bias and termination

Ethernet — 2 10/100MB Ethernet ports

## Power Supply

Voltage \_\_\_\_\_ 24VAC/DC power supply

Consumption \_\_\_\_\_ 24VA (24VAC); 24W (24VDC)

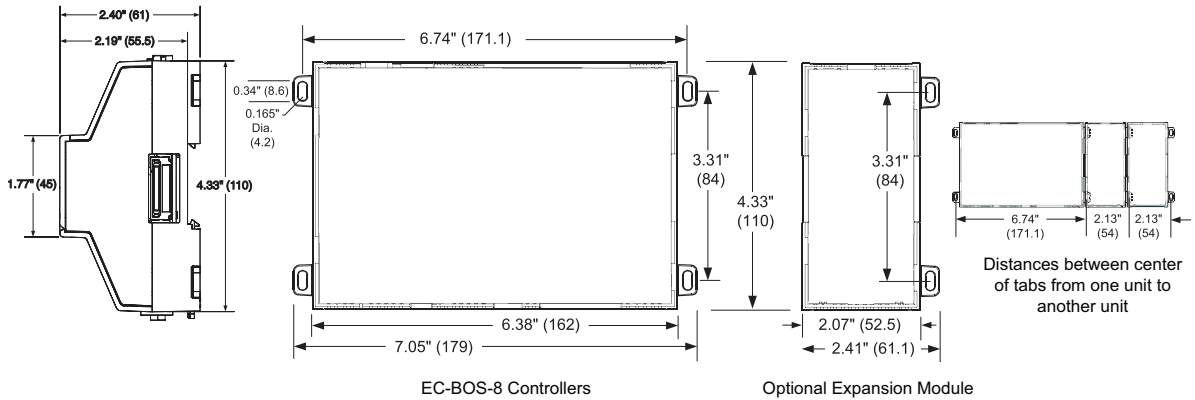
## Operating Systems

EC-Net 4 \_\_\_\_\_ 4.1 or later

EC-Net<sup>AX</sup> \_\_\_\_\_ 3.8.111 or later

EC-Net<sup>AX</sup> *Security* \_\_\_\_\_ 2.3.118 or later

## Mechanical



## Environmental

Operating Temperature \_\_\_\_\_ -20 to 60°C (-4 to 140 °F)

Storage Temperature \_\_\_\_\_ -40 to 85°C (-40 to 185 °F)

Relative Humidity \_\_\_\_\_ 5% to 95% - Non condensing

Shipping and Vibration \_\_\_\_\_ ASTM D4169, Assurance Level II

MTTF \_\_\_\_\_ 10 years+

## Standards and Regulations

UL \_\_\_\_\_ UL 916

C-UL listed to Canadian Standards Associations (CSA)

C22.2 No. 205-M1983 "Signal Equipment"

CE \_\_\_\_\_ EN 61326-1

FCC \_\_\_\_\_ Part 15 Subpart B, Class B, Part 15 Subpart C

R&TTE Compliance \_\_\_\_\_ 1999/5/EC R&TTE Directive

Other compliances :

- CCC
- SRRC
- RSS
- RoHS

Specifications subject to change without notice.

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