



ECLYPSE™ Series

Connected IP and Wi-Fi Product Series and Accessories



ECLYPSE™

Overview

The ECLYPSE series is a range of connected BACnet/IP controllers and accessories that are used to control a wide range of HVAC equipment and other applications.

The ECLYPSE series offers IP Ethernet connectivity as well as Wi-Fi capabilities. The solution is complemented with ENVYSION, a web-based graphics design and visualization interface.

Applications

The ECLYPSE Series can be used for:

- Equipment control
- Small building applications
- Larger and multi-location building applications and integration with EC-Net^{AX}.

Features & Benefits

Connectivity

The different types of connections supported by the ECLYPSE Series are as follows:

IP wired connection

Internal switch with two Ethernet ports allows the controllers to be wired in a star or daisy-chain topology. With a daisy-chain topology:

- Fewer wire runs to a centralized switch are required, thereby achieving installation and cost reduction.
- A laptop can be connected to the second Ethernet port for direct programming, configuration, and commissioning using EC-*gfx*-Program or ENVYSION.

IP wireless (Wi-Fi) connection

The following types of Wi-Fi connections are possible when using the ECLYPSE Wi-Fi Adapter:

- Wi-Fi Client - Connection to the building's existing Wi-Fi network or to another controller's Wi-Fi Hotspot or Access Point.

- Wi-Fi Access Point - extending the building's wired IP network to your Wi-Fi Client devices.
- Wi-Fi Hotspot - your own wireless area network, for wireless communication between the controllers, or with a mobile device or laptop for configuration, commissioning and servicing.

Both IP wired and wireless (Wi-Fi) connection

The availability of both Ethernet ports and USB ports for the Wi-Fi Adapter, allows for simultaneous wired IP and Wi-Fi communication on the same controller, which means you can choose and combine these connection methods. For example, Wi-Fi can be used between two controllers to jump a large atrium.

Connect from anywhere

Control technicians, facility managers, occupants, and others can easily connect to the system, on-site or off-site, using the different available tools:

- ENVYSION to create and view the graphical interface
- EC-*gfx*Program to create custom control sequences
- *myDC* Control to view, edit, and configure system operating parameters

IP Communication

- Increased speed and improved handling of numerous trend logs that enable applications such as advanced analytics that require a large amount of data.
- Faster response when programming, configuring, creating and viewing graphics, and upgrading your system.

Open to Web Services

With the RESTful API, the ECLYPSE Series's data can be accessed from different applications, such as energy dashboards, analytics tools, and mobile applications. The RESTful API documentation explains the implementation protocol for this interface.

HTML5 Visual Interface

The ECLYPSE Connected System Controller comes embedded with both ENVYSION Studio and Viewer, and xpressENVYSION.



The ECLYPSE Connected Equipment Controller, the ECLYPSE Connected VAV Controller and the ECLYPSE Terminal Unit Controller come embedded with ENVYSION Viewer and xpressENVYSION.

ENVYSION – Web-based graphic design and visualization interface

ENVYSION is a web-based graphic design and visualization interface used to create and deliver interactive graphical user interfaces and an optimal user experience for building owners and facility managers to better manage facility data.

ENVYSION Viewer – Web-based graphical user interface

The embedded ENVYSION viewer provides fast loading of visual applications through native web pages with absolutely no browser plug-ins. Host and view preloaded graphics, and access schedules, alarms, and trend logs directly from your ECLYPSE Series.

xpressENVYSION – Workflow oriented graphical user interface configuration

xpressENVYSION offers a simplified and streamlined experience in a workflow oriented, drag & drop GUI environment while ENVYSION still offers the full customization features and editing environment.

Multi-Protocol Support

The ECLYPSE Series supports a range of communication protocols such as BACnet MS/TP, Modbus RTU, and Modbus TCP.

BACnet MS/TP to BACnet IP routing is supported by the ECLYPSE Connected System Controller, while Modbus RTU and Modbus TCP are supported by both the ECLYPSE Connected System Controller and Connected Equipment Controller.

The Connected System Controller can have up to three RS-485 ports when equipped with the ECY-RS485 communication module allowing it to support up to three BACnet MS/TP or Modbus RTU trunks combined. The Connected Equipment Controller has one RS-485 port to integrate the Modbus RTU devices.

Furthermore, for both controllers, Modbus TCP devices can be integrated by connecting them to the IP network.

MS/TP to IP routing

Integrate full MS/TP trunks into a supervisory system like the EC-Net^{AX} Supervisor, without the need for other hardware components such as an external BACnet MS/TP to IP router.

The ECLYPSE Series optionally supports both Modbus TCP devices by connecting them to the controller's IP network and Modbus RTU devices by connecting them directly to the controller's RS-485 port.

Modbus RTU and TCP

Modbus RTU and TCP communication can be used to integrate a wide variety of Modbus devices such as power and water meters, Variable Frequency Drives, air flow sensors, and more, without the need for additional hardware such as a gateway.

Controllers with the Modbus communications option can integrate a wide variety of Modbus devices such as power and water meters, Variable Frequency Drives, air flow sensors, and more, without the need for additional hardware such as a gateway.

Mobility

The controller can be remotely accessed to program, configure, or maintain the installation thus reducing costs associated with on-site visits. Through a mobile device or PC, a range of tasks can be performed using the following free-to-use tools and interfaces:

- ENVYISION web-based graphic design and visualization interface
- EC-*gfx*Program graphical programming interface
- *myDC* Control mobile application

FIPS 140-2 Level 1 Compliant

FIPS 140-2 Level 1 compliance provides an enhanced level of security to protect data the controller is collecting and sharing making it suitable for use in the most sensitive environments.

Allure™ Series Communicating Sensors Support

The following Allure Series of communicating room sensors¹ are supported by the ECLYPSE series via the dedicated subnet port:

- Allure EC-Smart-View sensors feature a backlit-display and graphical menus that provide precise environmental zone control, with any combination of the following: temperature, humidity, CO₂, and motion sensor.
- Allure EC-Smart-Comfort sensors feature colored LED indicators to provide user feedback, rotary knobs to adjust the setpoint offset and fan speed, and an occupancy override push button. This sensor can also be expanded with a combination of up to 4 add-on push button modules for lighting and shade/ sunblind control.
- Allure EC-Smart-Air sensors combine precise environmental sensing in a discreet and alluring enclosure for temperature, humidity, and CO₂.



1. A controller can support a maximum of 2 Allure sensor models equipped with a CO₂ sensor. Any remaining connected sensors must be without a CO₂ sensor. For supported quantities, see the ECLYPSE Selection Tool available for download from SmartSource.

Simplified Network Commissioning

The *xpressNetwork* Utility saves you time and expense by giving you increased control over multiple ECLYPSE controllers through device discovery and batch operations such as configuring and updating multiple ECLYPSE controllers on the network.

In addition, with the embedded step by step Commissioning Wizard, all configuration operations can be setup and applied in one go.

Increase productivity using the *xpressNetwork* Companion mobile app, making it easier to identify and locate a controller on the network. Use the QR Code marked on ECLYPSE controllers to easily collect key controller data and to facilitate its network integration with *xpressNetwork* Utility.

ECx-Display –Streamlined Mechanical Room Displays

The ECx-Display is a full-color backlit display accessory for the ECB and ECL 203 / 300 / 400 / 600 Series controllers as well as the ECLYPSE™ Connected Controllers.

It allows quick and easy real-time access to view and modify many controller options such as PID loops, schedules and calendars, weather, favorites, alarms, and overrides (refer to controller datasheet for complete compatibility).



HORYZON - IP-based Resistive Touchscreen Color Displays

HORYZON

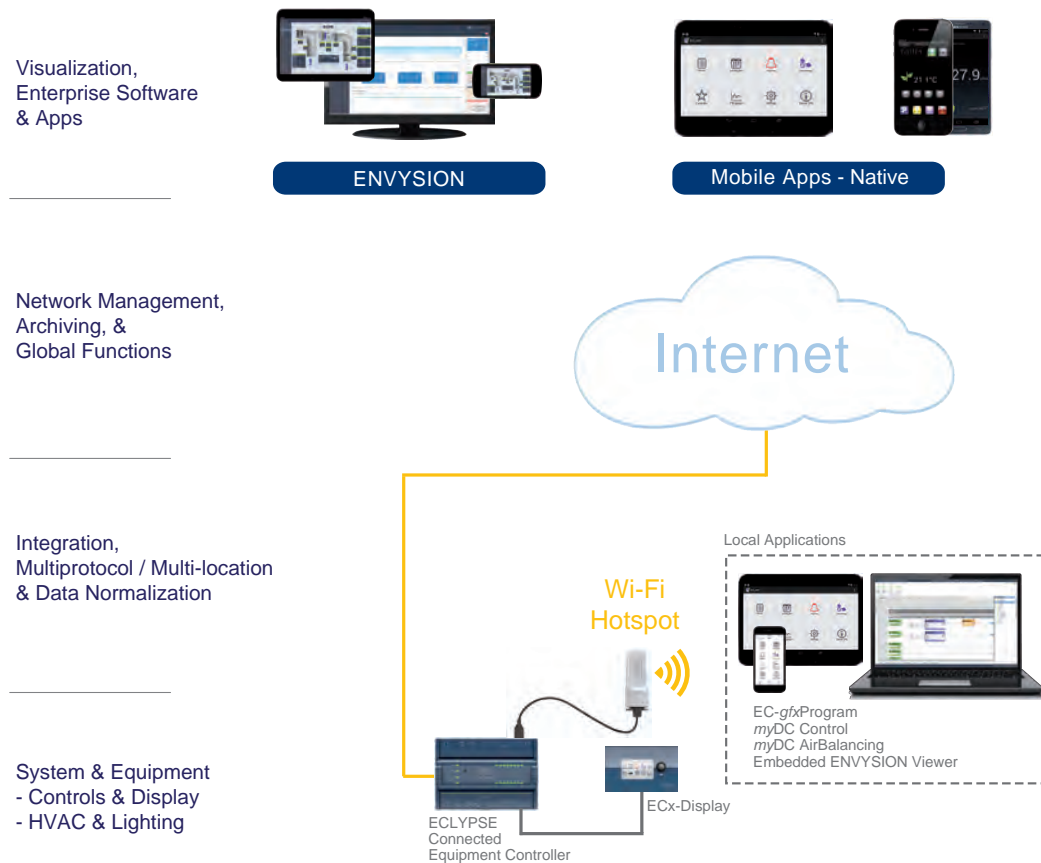
The HORYZON IP-based displays feature a high resolution, color LCD touchscreen, designed, for wall or panel mounting. They provide easy and intuitive access to the internal data of ECLYPSE™ series controllers, delivering a completely autonomous solution in mechanical rooms, for the management and servicing of HVAC equipment.

With HORYZON displays, system integrators and facility managers can quickly access, view, and configure operating parameters for simplified commissioning, operations, and troubleshooting.



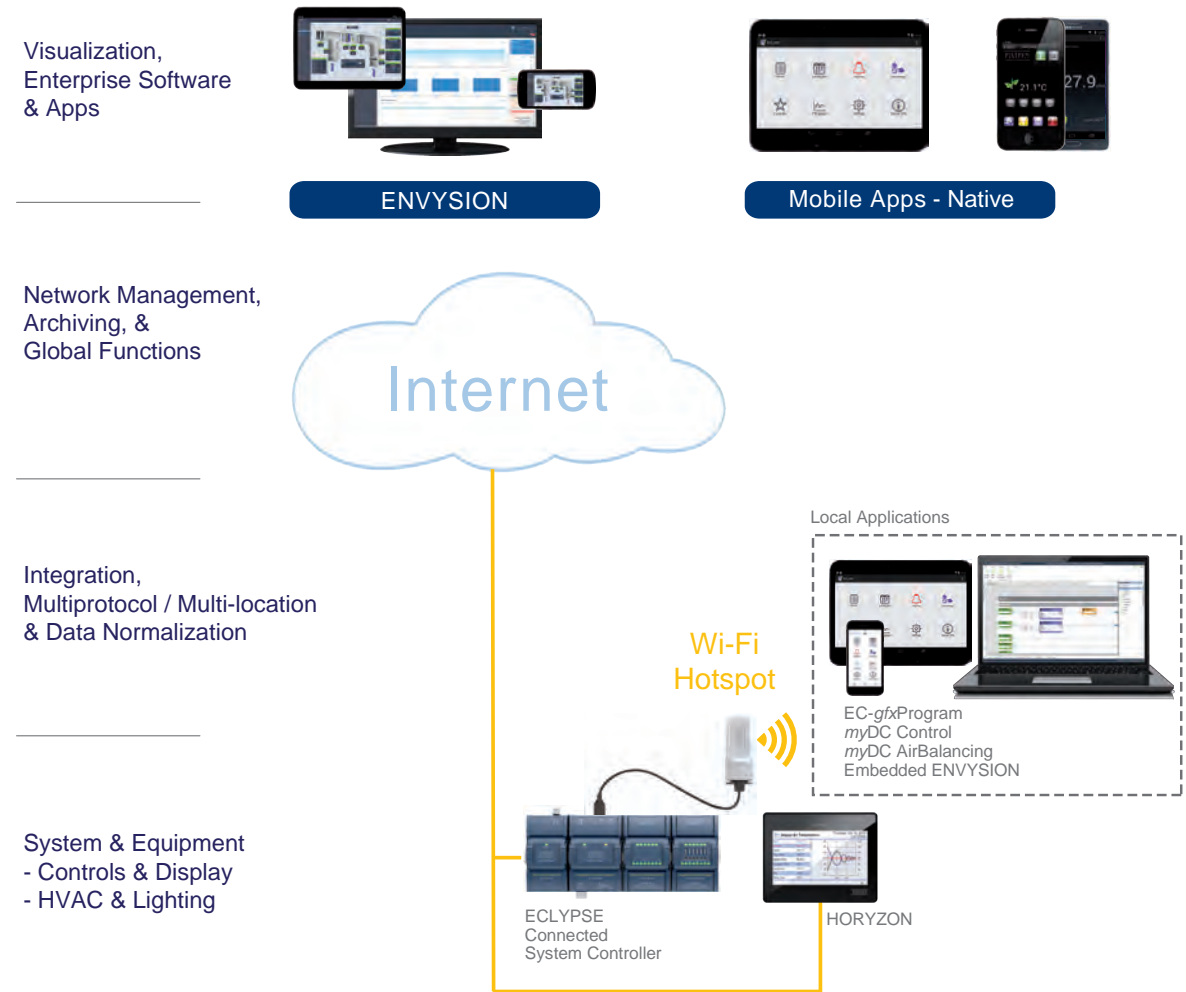
Small Equipment Control System Architecture

This example shows an ECLYPSE Connected Equipment Controller controlling small equipment (rooftop unit, small air handling unit, etc.). The different users (building owner, technician, end user) can access the system on-site using the IP wireless connection (Wi-Fi Adapter configured to Wi-Fi hotspot) or IP wired connection with tools such as ENVYSION, EC-*gfx*Program, and *myDC* Control. The ECx-Display can also be used for on-site access to the internal data of the ECLYPSE series controllers. Off-site access is also available through the Internet using the same tools.



Large Equipment Control System Architecture

This example shows a single Connected System Controller controlling large equipment (boiler, large air handling unit, etc.). The different users (building owner, technician, end user) can access the system on-site using the IP wireless connection (Wi-Fi Adapter configured to Wi-Fi hotspot) or IP wired connection with tools such as ENVYSION, EC-*gfx*Program, and *myDC* Control. HORYZON displays can also be used for on-site access to the internal data of the ECLYPSE series controllers. Off-site access is also available through the Internet using the same tools.

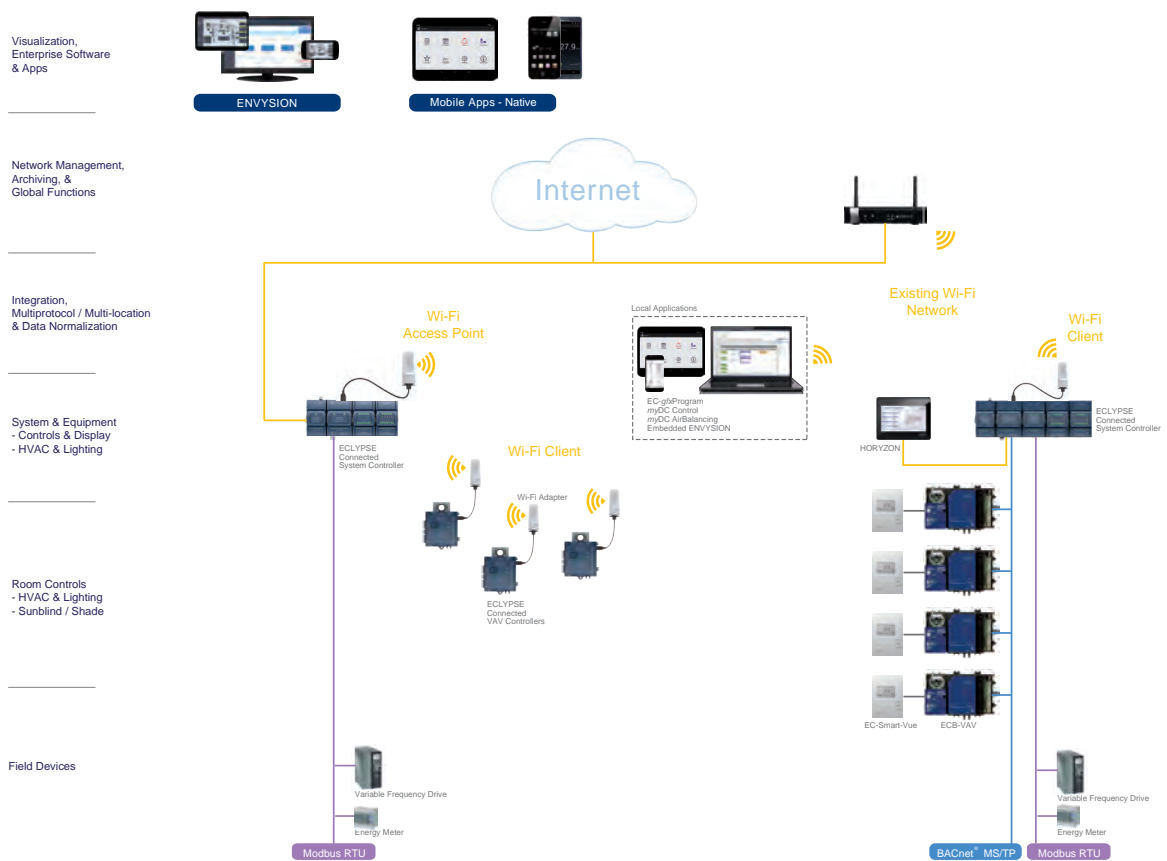


Small Building System Architecture

This example shows two Connected System Controllers, including one with an ECY-RS485 communication module, and multiple Connected VAV Controllers throughout the building:

- A Connected System Controller, equipped with the ECY-RS485 communication module, to control the equipment (boiler, air handling unit, etc.) and integrate configurable preloaded ECB-VAV controllers and Modbus RTU devices. EC-Net Pro is required for firmware and EC-*gfx*Program project updates to the ECB-VAV controllers.
- A Connected System Controller with multiple Connected VAV Controllers for an AHU with a VAV system and Modbus RTU devices.

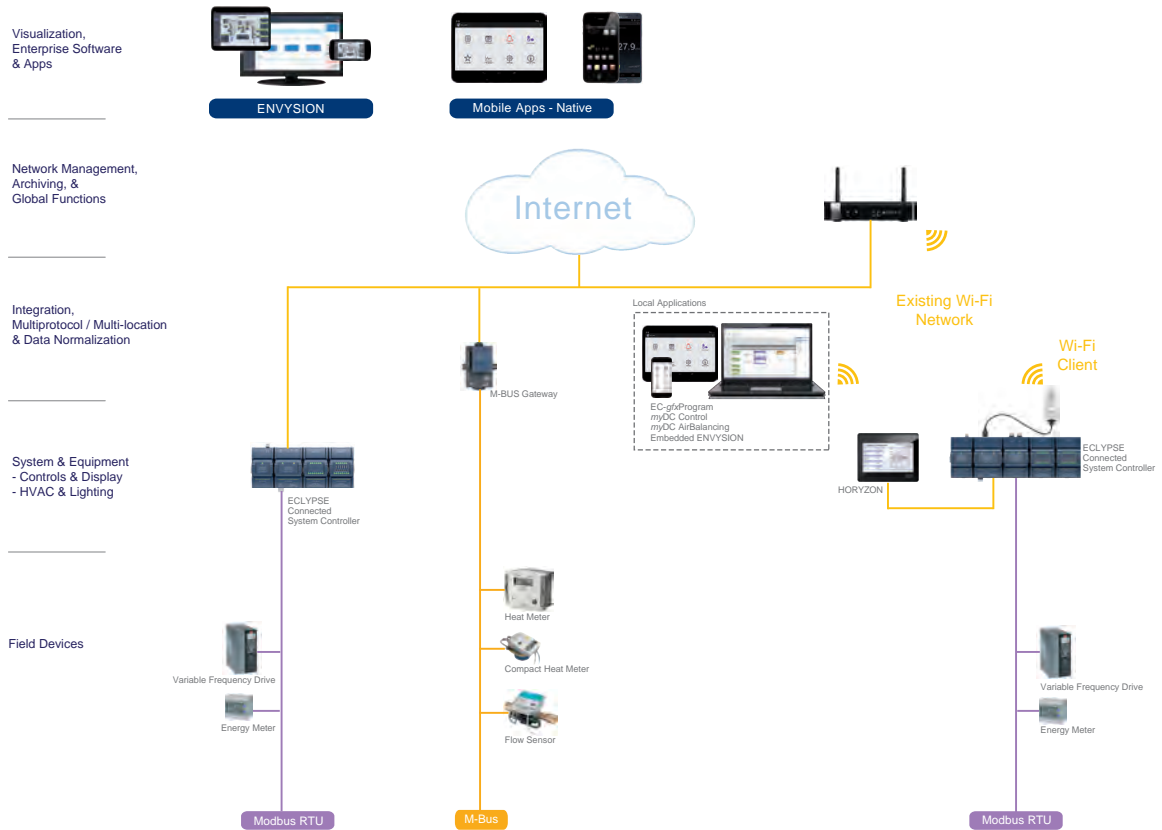
Building owners, control technicians, and end-users can access the system on-site using the IP wireless connection (Wi-Fi Adapter configured to Wi-Fi client) or IP wired connection with tools such as ENVYISION, EC-*gfx*Program, and *myDC* Control. HORYZON displays can also be used for on-site access to the internal data of the ECLYPSE series controllers. Off-site access is also available through the internet using the same tools.



Small Building System Architecture - Modbus/M-Bus Meters

This example shows two Connected System Controller, equipped with an ECY-RS485 extension module, allowing the controller to support more than one trunk or communication protocol at a time. This example also shows Modbus RTU and M-Bus devices.

Building owners, control technicians, and end-users can access the Connected System Controller on-site using the IP wireless connection (Wi-Fi Adapter configured to Wi-Fi client) or the entire system using the IP wired connection with tools such as ENVYSION, EC-gfxProgram, and myDC Control. HORIZON displays can also be used for on-site access to the internal data of the ECLYPSE series controllers. Off-site access is also available through the internet using the same tools.



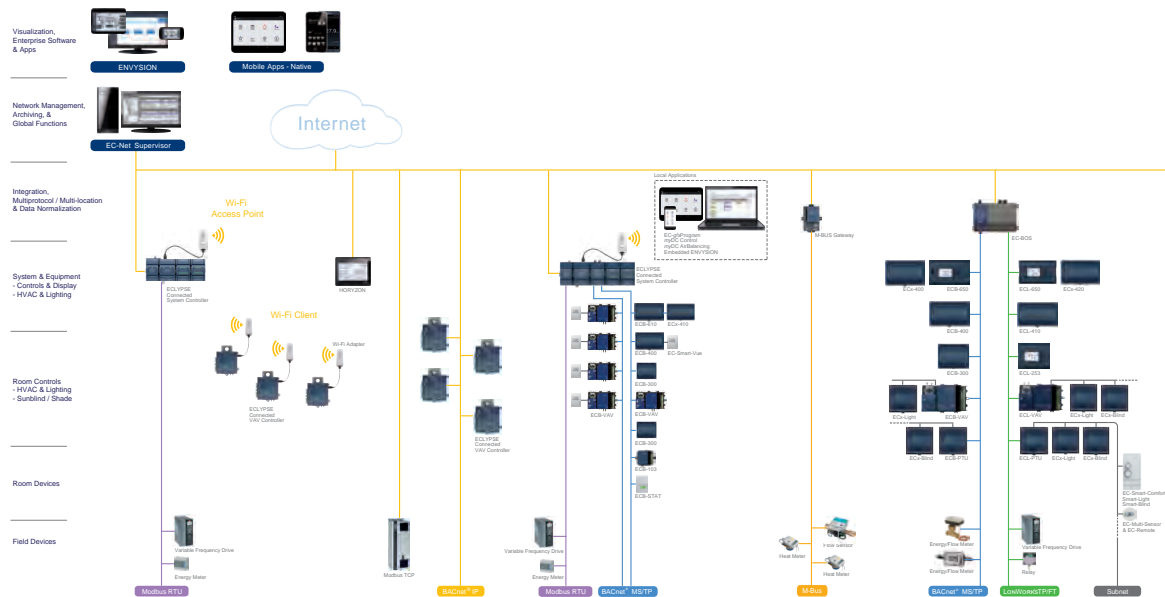
Medium/Large Building System Architecture

This example shows a Connected System Controller, Connected System Controller equipped with an RS-485 extension module, multiple Connected VAV Controllers, Modbus RTU and TCP devices, and an EC-BOS throughout the building:

- A Connected System Controller with multiple Connected VAV Controllers for an AHU with VAV system and Modbus RTU devices.
- A Connected System Controller, equipped with an ECY-RS485 module, with BACnet MS/TP communication devices and Modbus RTU devices.
- IP integration of a Modbus TCP device using EC-*gfx*Program.
- An EC-BOS integrating different BACnet, LON, and other communicating devices.
- M-Bus device integration via the M-Bus to BACnet IP Gateway.

The network management is done through EC-Net Supervisor.

Building owners, control technicians, and end-users can access the Connected System Controller and Connected VAV Controllers on-site using the IP wireless connection (Wi-Fi Adapter configured to Wi-Fi hotspot) or the entire system using the IP wired connection with tools such as EC-Net Supervisor, ENVYISION, EC-*gfx*Program, and *myDC* Control. Off-site access is also available through the internet using the same tools.

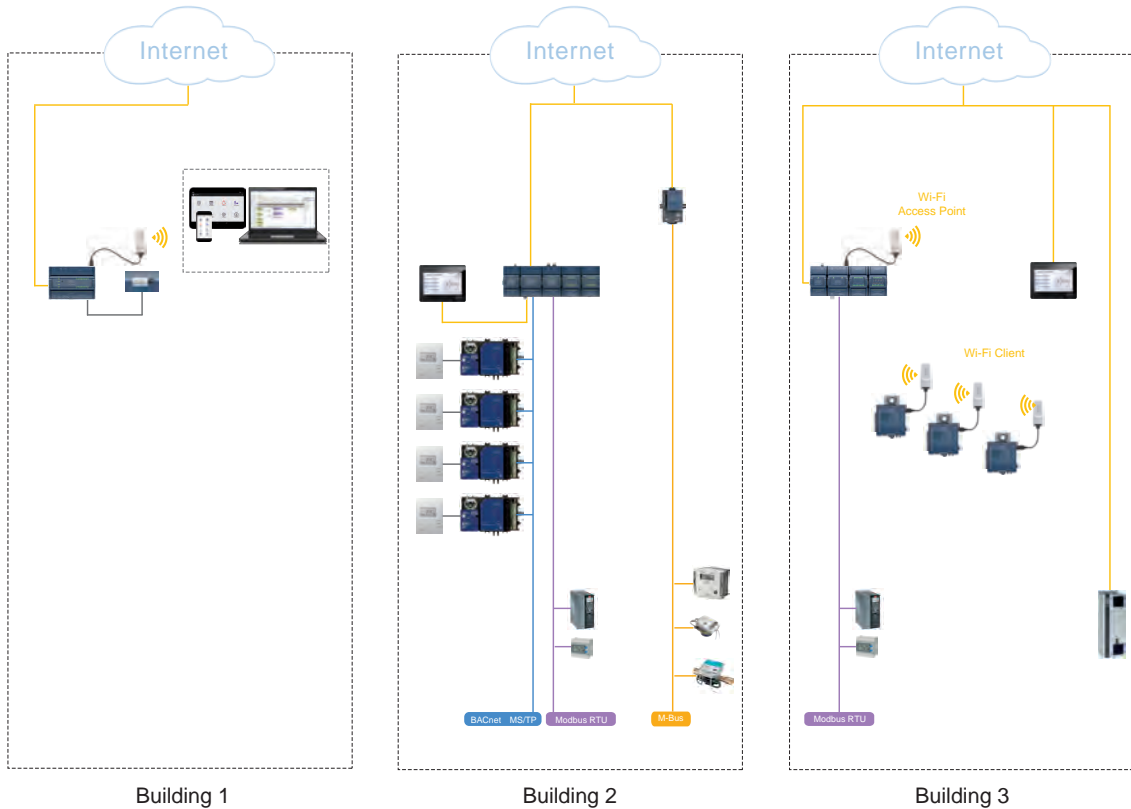


Multi-Location System Architecture

This example shows multiple buildings, from small to large equipment or buildings, connected to the Internet and integrated using the EC-Net Supervisor for network access and management.



EC-Net Supervisor



Building 1

Building 2

Building 3

Specifications subject to change without notice.

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