Equipment Portal Controller

Technical Instructions

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Contents

What is the Equipment Portal?

The Equipment Portal controller lets you integrate a single third-party device into your WebCTRL® system. The Equipment Portal can convert proprietary or open protocols such as Modbus or LonWorks to BACnet/ARC156 or BACnet MS/TP communications.

NOTE This document contains the instructions to install the Equipment Portal in a WebCTRL® system. For instructions to integrate the third-party device into the WebCTRL® system, see the *Integration Guide* for the appropriate third-party protocol. Go to http://accounts.automatedlogic.com/download, then select **Third-party Interfaces** > **Documents** > **Third-party Integration Guides (Equipment Portal)**.

Driver and control program

Driver	Specific to the third-party protocol. See the appropriate Integration Guide.
Maximum number of control programs	1
Maximum number of BACnet objects*	12000

* Depends on available memory.

Specifications

Power	24 Vac ±10%, 50–60 Hz, 10 VA, single Class 2 source only 20 VA or less. 26 Vdc ±10%, 5W
Third-party integration points	100
BACnet port	For communication with the controller network using ARC156 or MS/TP (9600 bps–76.8 kbps).
Equipment Port	For communication on EIA-232 or EIA-485. Communicates with a third-party device and protocol at various baud rates.
Optional Plug-in Comm Port	14-pin port that supports a LonWorks® plug-in card.
Rnet port	Supports: • Up to 5 ZS sensors • One Wireless Adapter that communicates with up to 5 wireless sensors • One Equipment Touch • Up to 4 RS Standard sensors and one RS Plus, RS Pro, or RS Pro-F sensor. **NOTE** ZS sensors, a Wireless Adapter, and an Equipment Touch can share the Rnet, but not RS sensors.

Local Access port	For system start-up and troubleshooting
Microprocessor	High speed 16-bit microprocessor with ARCNET communication co-processor
Memory	1 MB non-volatile battery-backed RAM, 1 MB Flash memory, 16-bit memory bus
Real-time clock	Battery-backed real-time clock keeps track of time in event of power failure
Battery	10-year Lithium CR2032 battery retains the following data for a maximum of 10,000 hours during power outages: time, control programs, editable properties, schedules, and trends. A low battery is indicated by a low battery alarm in the WebCTRL® application.
Protection	Incoming power and network connections are protected by non-replaceable internal solid-state polyswitches that reset themselves when the condition that causes a fault returns to normal. The power and network connections are also protected against transient excess voltage/surge events lasting no more than 10 msec.
BT485 connector	You attach a BT485 (not included) to a controller at the beginning and end of a network segment to add bias and to terminate a network segment.
Status indicators	LED's indicate status of communications, running, errors, and power
Environmental operating range	0 to 130°F (-17.8 to 54.4°C), 10–90% relative humidity, non-condensing **NOTE** The controller must be installed within the building.
Physical	Rugged GE C2950 Cycoloy plastic
Overall dimensions	Width: 4 in. (10.16 cm) Height: 5 in. (12.7 cm)
Recommended panel depth	1.75 in. (4.45 cm) **NOTE** Add .75 in. (1.91 cm) for the option card.
Weight	.56 lbs (.25 kg)
Listed by	UL-916 (PAZX), cUL-916 (PAZX7), FCC Part 15-Subpart B-Class A, CE

Zone sensors

Automated Logic® wireless sensors

You can connect a Wireless Adapter to Equipment Portal's **Rnet** port. The Wireless Adapter communicates with up to 5 wireless sensors. When using wireless sensors, the Rnet can have:

- Up to 5 wireless and ZS sensors (any combination)
- One Wireless Adapter
- One Equipment Touch

ZS Sensors

You can wire up to 5 ZS sensors to the Equipment Portal's Rnet port.

RS sensors

You can wire RS sensors to the Equipment Portal's **Rnet** port. An Rnet can consist of any of the following combinations of devices wired in a daisy-chain or star configuration:

- 1 RS Plus, RS Pro, or RS Pro-F
- 1–4 RS Standards
- 1–4 RS Standards, and 1 RS Plus, RS Pro, or RS Pro-F

Equipment Touch devices

You can wire an Equipment Touch to the Equipment Portal's Rnet port to view or change the controller's property values, schedule equipment, view trends and alarms, and more, without having to access the system's server. The Rnet can have one Equipment Touch, one Wireless Adapter, and up to 5 ZS sensors. RS sensors cannot share the Rnet with an Equipment Touch.

To mount the Equipment Portal

The Equipment Portal is to be mounted inside a building.

Screw the Equipment Portal into an enclosed panel using the mounting holes provided on the cover plate. Leave about 2 in. (5 cm) on each side of the controller for wiring.

Wiring for power

WARNING Do not apply line voltage (mains voltage) to the controller's ports and terminals.

CAUTIONS

- The Equipment Portal is powered by a Class 2 power source. Take appropriate isolation measures when mounting it in a control panel where non-Class 2 circuits are present.
- Automated Logic® controllers can share a power supply as long as you:
  - Maintain the same polarity.
  - Use the power supply only for Automated Logic® controllers.

To wire for power

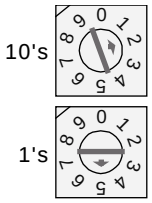
1. Remove power from the power supply.
2. Pull the screw terminal connector from the Equipment Portal's power terminals labeled **Hot** and **Gnd**.
3. Connect the transformer wires to the screw terminal connector.
4. Apply power to the power supply.
5. Measure the voltage at the Equipment Portal's power input terminals to verify that the voltage is within the operating range of 21.6–26.4 Vac.
6. Connect a 4-inch (10.2 cm) wire from **Gnd** to the control panel.
7. Insert the screw terminal connector into the Equipment Portal's power terminals.
8. Verify that the **Power** LED is on and the **Run** and **Error** LED's are blinking.

To address the Equipment Portal

You must give the Equipment Portal an address that is unique on the network. You can address the Equipment Portal before or after you wire it for power.

1. If the Equipment Portal has been wired for power, pull the screw terminal connector from its power terminals labeled **Gnd** and **Hot**. The controller reads the address each time you apply power to it.
2. Using the rotary switches, set the controller's address to match the **Address** in the controller's properties dialog box in SiteBuilder. Set the **Tens** (**10's**) switch to the tens digit of the address, and set the **Ones** (**1's**) switch to the ones digit.

   EXAMPLE If the controller's address is 25, point the arrow on the **Tens** (**10**'s) switch to 2 and the arrow on the **Ones** (**1**'s) switch to 5.



Wiring for communications

The Equipment Portal communicates through the following ports:

Port	Communicates with...	Protocol	Port type(s)	Baud rate(s)
BACnet	The WebCTRL® system	BACnet/ARC156 [1]	ARC156	156 kbps
		BACnet MS/TP	EIA-485 (2-wire)	9600 bps 19.2 kbps 38.4 kbps 76.8 kbps (default)
Eq Port	A third-party device	Modbus	EIA-232 EIA-485 (2- wire or 4-wire)	9600 bps 19.2 kbps 38.4 kbps
Optional Plug-in Comm Port	A LonWorks device	LonWorks	Plug-in card	
Local Access [2]	A computer and an APT	Enhanced Access	Rnet	115.2 kbps

[1] ARC156 is a unique implementation of the industry standard ARCNET. For a summary of differences between ARCNET and ARC156, see the *ARC156 Wiring Technical Instructions*.

[2] See *To communicate through the local access port* (page 14).

Wiring specifications

For wiring specifications to wire a third-party device, see the *Integration Guide* for the third-party protocol.

For...	Use...	Maximum Length
ARC156 [1] or MS/TP [2]	22 AWG, low-capacitance, twisted, stranded, shielded copper wire	2000 feet (610 meters)

[1] See the *ARC156 Wiring Technical Instructions*.

[2] See the *MS/TP Networking and Wiring Technical Instructions*.

WARNING Do not apply line voltage (mains voltage) to the controller's ports and terminals.

To wire to a BACnet/ARC156 network

1. Remove power from the Equipment Portal.
2. Check the communications wiring for shorts and grounds.
3. Connect the communications wiring to the **BACnet port** screw terminals labeled **Net +**, **Net -**, and **Shield**.

   NOTE Use the same polarity throughout the network segment.
4. If the Equipment Portal is at either end of a network segment, connect a BT485 to the Equipment Portal.
5. Set DIP switch 4 to **Off**.
6. Apply power to the Equipment Portal.
7. Verify communication with the network by viewing a Module Status report in the WebCTRL® interface.

To wire to a BACnet MS/TP network

1. Remove power from the Equipment Portal.
2. Check the communications wiring for shorts and grounds.
3. Connect the communications wiring to the **BACnet port** screw terminals labeled **Net +**, **Net -**, and **Shield**.

   NOTE Use the same polarity throughout the network segment.
4. If the Equipment Portal is at either end of a network segment, connect a BT485 to the Equipment Portal.
5. Set DIP switch 4 to **On**.
6. Apply power to the Equipment Portal.
7. Set DIP switches 1 and 2 to the appropriate baud rate. See the MS/TP baud diagram on the Equipment Portal.

   NOTE Use the same baud rate for all controllers on the network segment.

To wire a third-party device

See the *Integration Guide* for the third-party device or protocol.

Wiring devices to the Equipment Portal's Rnet port

You can wire the following devices to the Equipment Portal's Rnet port in a daisy-chain or star configuration:

- *ZS or RS sensors* (page 7)
- *Wireless Adapter* (page 8) that communicates with wireless sensors
- *Equipment Touch* (page 9)

NOTE ZS sensors, a Wireless Adapter, and an Equipment Touch can share the same Rnet, but not RS sensors.

The Rnet communicates at a rate of 115 kbps.

Rnet wiring specifications

NOTE Use the specified type of wire and cable for maximum signal integrity.

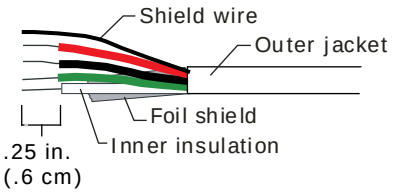
Description	4 conductor, shielded or unshielded, CMP, plenum rated cable
Conductor	22 AWG (7x0096) bare copper
Maximum length	500 feet (152 meters)
Insulation	Low-smoke PVC (or equivalent)
Color Code	Black, white, green, red
Shielding	If shielded, Aluminum/Mylar shield (100% coverage) with TC drain wire
UL temperature rating	32–167°F (0–75°C)
Voltage	300 Vac, power limited
Listing	UL: NEC CL2P, or better

To wire a ZS or an RS sensor to the Equipment Portal

For complete sensor installation instructions, including ZS sensor power requirements, see:

- *ZS Sensors Technical Instructions*
- *RS Sensors Technical Instructions*

1. Remove power from the Equipment Portal.
2. Partially cut, then bend and pull off the outer jacket of the Rnet cable(s). Do not nick the inner insulation.



3 Strip about .25 inch (.6 cm) of the inner insulation from each wire.

4 Wire each terminal on the Equipment Portal's **Rnet** port to the terminal of the same name on the sensor.

NOTE If using shielded wire, connect the shield wire and the ground wire to the **Gnd** terminal.

5 Apply power to the Equipment Portal.

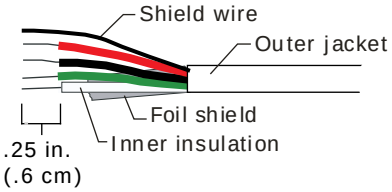
To wire a Wireless Adapter to the Equipment Portal

NOTES

- The Wireless Adapter requires a 24 Vac power supply. It is not powered by the Rnet.
- If the Wireless Adapter will be:
  - Daisy-chained on the Rnet with ZS sensors or an Equipment Touch, use the standard 4-conductor Rnet cable.
  - The only device on the Rnet, you can use a 3-conductor cable instead of the standard 4-conductor Rnet cable.
- For complete Wireless Adapter installation instructions, see the *Wireless Sensors Technical Instsructions*.

1 Remove power from the Equipment Portal.

2 Partially cut, then bend and pull off the outer jacket of the Rnet cable(s). Do not nick the inner insulation.



3 Strip about .25 inch (.6 cm) of the inner insulation from each wire.

4 Wire the Equipment Portal's **Rnet+**, **Rnet-**, and **Gnd** terminals to the terminals of the same name on the Wireless Adapter's Rnet connector.

NOTE If using shielded wire, connect the shield wire and the ground wire to the **Gnd** terminal.

5 Apply power to the Equipment Portal.

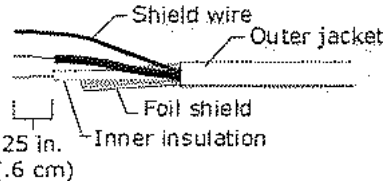
To wire an Equipment Touch to the Equipment Portal

NOTES

- The Equipment Touch requires a 24 Vac power supply. It is not powered by the Rnet.
- If the Equipment Touch will be:
  - Daisy-chained on the Rnet with ZS sensorsor a Wireless Adapter, use the standard 4-conductor Rnet wiring and follow the wiring instructions *To wire a ZS or an RS sensor to the Equipment Portal* (page 7).
  - The only device on the Rnet, you can use a 2-conductor cable instead of the standard 4-conductor Rnet cable and follow the instructions below.
- For complete Equipment Touch installation instructions including wiring diagrams, see the *Equipment Touch Installation and Setup Guide*.

1 Remove power from the Equipment Portal.

2 Partially cut, then bend and pull off the outer jacket of the cable. Do not nick the inner insulation.



3 Strip about .25 inch (.6 cm) of the inner insulation from each wire.

4 Wire the Equipment Portal's **Rnet+** and **Rnet-** terminals to the terminals of the same name on the Equipment Touch's connector.

NOTE If using shielded wire, connect the shield wire and the ground wire to the **Gnd** terminal.

5 Apply power to the Equipment Portal.

Downloading the Equipment Portal

Download the following items to the Equipment Portal's battery-backed memory:

Item	Notes
Control program	Must be in **WebCTRLx.x\webroot**<system_name>**\programs**.
Driver	Must be in **WebCTRLx.x\webroot**<system_name>**\drivers**. **NOTE** To verify that you have the driver's latest version, go to http://accounts.automatedlogic.com/download, then select **Drivers** > **ExecB**. Compare the latest version to the Equipment Portal's driver in SiteBuilder.
Editable properties	
Schedules	

If you change any of the above items or the Equipment Portal's address after the initial download, you must download again. The first download takes longer than subsequent downloads.

CAUTIONS

- The Equipment Portal will lose stored data when you download.
- Equipment controlled by the Equipment Portal will shut down and restart when you download.

To download from the WebCTRL® interface

If your network is complete, you can download from any network browser. If not complete, connect a laptop with a local copy of the system database to the Equipment Portal's local access port. See *To communicate through the local access port* (page 14).

1 On the WebCTRL® **Network** tree, select the controller.
2 Click **Downloads**.
3 Do one of the following:
   - If the controller is in the Downloads list, go to step 4.
   - If the controller is not in the list:
     a. Click **Add**.
     b. In the pop-up, select the controller.
     c. Select **All Content**.
     d. Click **Add**.
     e. Click **Close**.
4 Select the controller in the Downloads list.
5 Click **Start**.

NOTES

- If the download fails, locate and resolve the problem, then retry the download.
- You can also download a controller from the **Devices** page.

To set up the driver

After you download the driver and control program(s) to the Equipment Portal, you may want to change the driver's properties in the WebCTRL® interface to suit your application.

1 On the WebCTRL® **Network** tree, click ▷ to the left of your Equipment Portal.
2 Click ▷ to the left of **Driver** to see its children.
3 Make changes as needed on the **Properties** page for **Driver** and any of its children.

Driver

On the **Driver** page, you can change the following properties:

- Module clock synchronization and failure. See table below.
- Network Input microblock communication properties.

BACview Control	
BACnet Write Priority	Select **View Field Definition Help** for a description of this field.
Keypad inactivity timeout (minutes)	Log out the user (if a user-level password is required), turn off the backlight, and display the standby screen after this period of inactivity.
Keypad user-level password	Numeric password user must enter to access system through a BAC*view*® device.
TouchScreen Control	
TouchScreen Schedule Edit Enable	Check this field to allow a user to edit this controller's schedules from an Equipment Touch's Schedules screen.
Module Clock	
Clock Fail Date and Time	Date and time the control program uses when controller's real-time clock is invalid.  **TIP** Use an occupied date and time (such as a Tuesday at 10 a.m.) so the equipment does not operate in unoccupied mode if the controller loses power during occupancy.
Time Synch Sensitivity (seconds)	When the controller receives a time sync request, if the difference between the controller's time and the time sync's time is greater than this field's value, the controller's time is immediately changed. If the difference is less than this field's value, the controller's time is slowly adjusted until the time is correct.
Network Microblocks	
Number of poll retries before Network Input Microblocks indicate failure	The maximum number of retries after the initial attempt that a Network microblock will attempt to communicate with its target device. If unsuccessful, the point will transition to an idle state for 30 seconds before attempting to communicate again. Change this field only if directed by Technical Support.
Periodic rebinding interval	If a microblock uses a wildcard in its address, this timer determines how often the microblock will attempt to find the nearest instance of its target. For example, if an outside air temperature address uses a wildcard, a VAV application will look for the outside air temperature on the same network segment or on the nearest device containing that object.
BACnet COV Throttling	
Enable COV Throttling	Under normal circumstances, COV Throttling should be enabled to prevent excessive network traffic if an object's COV Increment is set too low. See EXCEPTION below. When enabled, if an object generates excessive COV broadcasts (5 updates in 3 seconds), the driver automatically throttles the broadcasts to 1 per second. Also, if the object's value updates excessively for 30 seconds, an alarm is sent to the WebCTRL® application listing all objects that are updating excessively. A Return-to-normal alarm is sent only after all objects have stopped updating excessively. EXCEPTION: In rare circumstances, such as process control, a subscribing object may require COV updates more frequently than once per second. For these situations, clear this checkbox, but make sure that your network can support the increased traffic. You will also need to disable the **Excessive COV** alarms under the driver's **Common Alarms**.

Trend Sampling	
Collect a daily midnight sample for all points in this controller that are sampling on COV	For values that change infrequently, select to verify at midnight daily that the point is still able to communicate trend values.

Device

On the **Device** page, you can change the following properties:

- BACnet device object properties for the Equipment Portal
- Equipment Portal communication

Configuration	**NOTE** The three APDU fields refer to all networks over which the Equipment Portal communicates.
Max Masters and Max Info Frames	Apply only if the Equipment Portal's MS/TP network is enabled.

Notification Classes

Alarms in the WebCTRL® application use Notification Class #1. A BACnet alarm's Notification Class defines:

- Alarm priority for Alarm, Fault, and Return to Normal states
- Options for BACnet alarm acknowledgment
- Where alarms should be sent (recipients)

Priorities	**NOTE** BACnet defines the following Network message priorities for Alarms and Events.	
	Priority range	**Network message priority**
	00–63	Life Safety
	64–127	Critical Equipment
	128–191	Urgent
	192–255	Normal
Priority of Off-Normal	BACnet priority for Alarms.	
Priority of Fault	BACnet priority for Fault messages.	
Priority of Normal	BACnet priority for Return-to-normal messages.	

Ack Required for Off-Normal, Fault, and Normal	Specifies whether alarms associated with this Notification Class require a BACnet Acknowledgment for Off-Normal, Fault, or Normal alarms.  **TIP** You can require operator acknowledgment for an Alarm or Return-to-normal message (stored in the WebCTRL® database). In the WebCTRL® interface on the **Alarm** > **Enable/Disable** tab, change the acknowledgment settings for an alarm source or an alarm category.
Recipient List	
Recipients	The first row in this list is the WebCTRL® application. Do not delete this row. Click **Add** if you want other BACnet devices to receive alarms associated with this Notification Class.
Recipient Description	Name that appears in the **Recipients** table.
Recipient Type	Use **Address** (static binding) for either of the following: • Third-party BACnet device recipients that do not support dynamic binding • When you want alarms to be broadcast (you must uncheck **Issue Confirmed Notifications**). This use is rare.
Days and times	The days and times during which the recipient will receive alarms.
Recipient Device Object Identifier	Type the **Device Instance** from SiteBuilder (or from the network administrator for third-party devices) in the **#** field.
Process Identifier	Change for third-party devices that use a BACnet Process Identifier other than 1. The WebCTRL® application processes alarms for any 32-bit Process Identifier.
Issue Confirmed Notifications	Select to have a device continue sending an alarm message until it receives delivery confirmation from the recipient.
Transitions to Send	Uncheck the types of alarms you do not want the recipient to get.

Calendars

Calendars are provided in the driver for BACnet compatibility only. Instead, use the **Schedules** feature in the WebCTRL® interface.

Common and Specific Alarms

On these pages, you can enable/disable, change BACnet alarm properties, or set delays for the following BACnet alarms:

Common alarms:

- Module Halted
- All Programs Stopped
- Duplicate Address
- Locked I/O
- Control Program
- Program Stopped
- Excessive COV

Specific alarm:

- Low Battery Alarm

NOTE To set up alarm actions for controller generated alarms, see *Setting up alarm actions* in WebCTRL® Help.

Module Generated Alarm	
Description	Short message shown on the **Alarms** page or in an alarm action when this type of alarm is generated.
Events	
Alarm Category and Alarm Template	See *Customizing alarms* in WebCTRL® Help.
Enable	Clear these checkboxes to disable Alarm or Return to normal messages of this type from this controller.
Notification Class	Do not change this field.

Protocols

The **Protocols** page shows the status of the protocols currently running on the Equipment Portal.

To communicate through the local access port

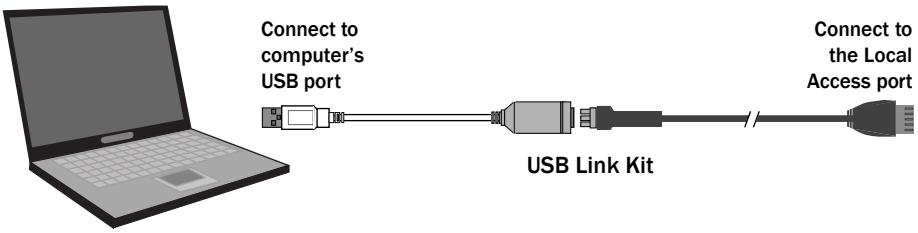
Using a computer and a USB Link Kit, you can communicate locally with the Equipment Portal to download or to troubleshoot.

PREREQUISITES

- A computer with a USB port
- A USB Link Kit. See the *USB Link Kit Technical Instructions*.
  NOTE The USB Link Kit driver is installed with a WebCTRL® v5 or later system. But if needed, you can get the latest driver from *http://www.silabs.com/products/mcu/Pages/USBtoUARTBridgeVCPDrivers.aspx*. Install the driver before you connect the USB Link Kit to your computer.
- v1.73c.005 or later controller driver

CAUTION If multiple controllers share power but polarity was not maintained when they were wired, the difference between the controller's ground and the computer's AC power ground could damage the USB Link Kit and the controller. If you are not sure of the wiring polarity, use a USB isolator between the computer and the USB Link Kit. Purchase a USB isolator online from a third-party manufacturer.

Connect the USB Link Kit to the computer and to the controller's Local Access port.



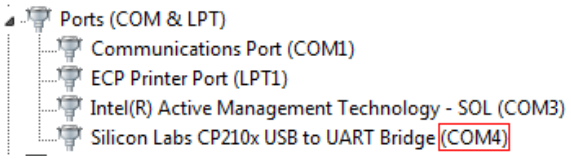
NOTE If using a USB isolator, plug the isolator into your computer's USB port, and then plug the USB Link Kit cable into the isolator.

To set up a Local Access connection in the WebCTRL® interface

For the WebCTRL® application to communicate with the Local Access port, you must do the following:

1. On the **System Configuration** tree, select **Connections**.
2. On the **Configure** tab, click **Add**.
3. From the **Type** drop-down list, select **BACnet Local Access**.
4. Optional: Edit the **Description**.
5. Type the computer's **Port** number that the USB cable is connected to.

   NOTE To find the port number, plug the USB cable into the computer's USB port, then select **Start** > **Control Panel** > **System** > **Device Manager** > **Ports (Com & LPT)**. The COM port number is beside **Silicon Labs CP210x USB to UART Bridge**.



6. Set the **Baud** rate to 115200.
7. Click **Accept**.
8. On the **View** tab, click the button next to the BACnet/IP network, then select **BACnet Local Access**.
9. Click **Accept**.
10. On the **Configure** tab, select **BACnet Local Access**, then click **Start**.

    NOTE If an error message appears, make sure the COM port you selected is not in use. For example, PuTTY may be open and is holding the port open.
11. On the **Network** tree, select the controller that you are connected to.
12. Click , then select **Manual Command**.
13. Type `rnet here` in the dialog box, then click **OK**.
14. On the **Properties** page, click **Module Status**. If a Modstat report appears, the WebCTRL® application is communicating with the controller.

Troubleshooting

If you have problems mounting, wiring, or addressing the Equipment Portal, contact ALC Technical Support.

LED's

The LED's on the Equipment Portal show the status of certain functions.

If this LED is on...	Status is...
Power	The Equipment Portal has power
Rx1	The Equipment Portal is receiving data on the BACnet port.
Tx1	The Equipment Portal is transmitting data on the BACnet port.
Rx2	The Equipment Portal is receiving data on the Eq Port.
Tx2	The Equipment Portal is transmitting data on the Eq Port.

The **Run** and **Error** LED's indicate controller and network status.

If Run LED shows...	And Error LED shows...	Status is..
2 flashes per second	Off	Normal
2 flashes per second	2 flashes, alternating with **Run** LED	Five minute auto-restart delay after system error
2 flashes per second	2 flashes in sync with **Run** LED, then pause	The controller is configured for a different baud rate than the rest of the network segment
2 flashes per second	3 flashes, then off	The controller has just been formatted
2 flashes per second	4 flashes, then pause	Two or more devices on this network have the same ARC156 network address
2 flashes per second	On	Exec halted after frequent system errors or control programs halted
5 flashes per second	On	Exec start-up aborted, Boot is running
5 flashes per second	Off	Firmware transfer in progress, Boot is running
7 flashes per second	7 flashes per second, alternating with **Run** LED	Ten second recovery period after brownout
14 flashes per second	14 flashes per second, alternating with **Run** LED	Brownout

NOTE If you resolve the issue but the **Error** LED does not turn off, cycle power to the controller.

To format the controller

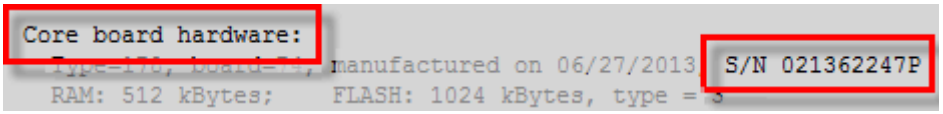
If you cannot communicate with a controller after downloading it, as a last resort, you can manually format the controller to erase its memory.

1. Pull the screw terminal connector from the controller's power terminals labeled **Gnd** and **Hot**.
2. Make sure the address switches are not set to 0, 0.
3. Short the **Format** jumper's pins and maintain the short for steps 3 and 4.
4. Insert the power screw terminal connector into the Equipment Portal's power terminals.
5. Continue to short the jumper until the **Error** LED flashes three times in sync with the **Run** LED.
6. Remove the short.
7. Download the Equipment Portal.

To get the Equipment Portal's serial number

If you need the Equipment Portal's serial number when troubleshooting, the number is on:

- a sticker on the back of the main controller board
- a Module Status report (Modstat) under **Core** (or **Main**) **board hardware**



To obtain a modstat in the WebCTRL® interface:

1. Select the Equipment Portal in the **Network** tree.
2. On the **Properties** page, click **Module Status**.

Recovering from a power outage

The Equipment Portal has a 10-year Lithium CR2032 battery that retains the following data for a maximum of 10,000 hours during power outages.

- Time
- Control programs
- Editable properties
- Trends
- Schedules

If the above data is lost after power returns, replace the battery and then download the Equipment Portal. See instructions below.

To replace the Equipment Portal's battery

If the Equipment Portal sends a **Low Battery** alarm to the WebCTRL® application, replace the battery.

1. Verify that the Equipment Portal's power is on.
2. Remove the battery from the controller, making note of the battery's polarity.
3. Insert the new battery into the controller, matching the polarity of the battery you removed.
4. Download the Equipment Portal.

To take the Equipment Portal out of service

If needed for troubleshooting or start-up, you can prevent the WebCTRL® application from communicating with the Equipment Portal.

1 On the WebCTRL® **Network** tree, select the Equipment Portal.

2 On the **Properties** page, check **Out of Service**.

3 Click **Accept**.

Compliance

FCC Compliance

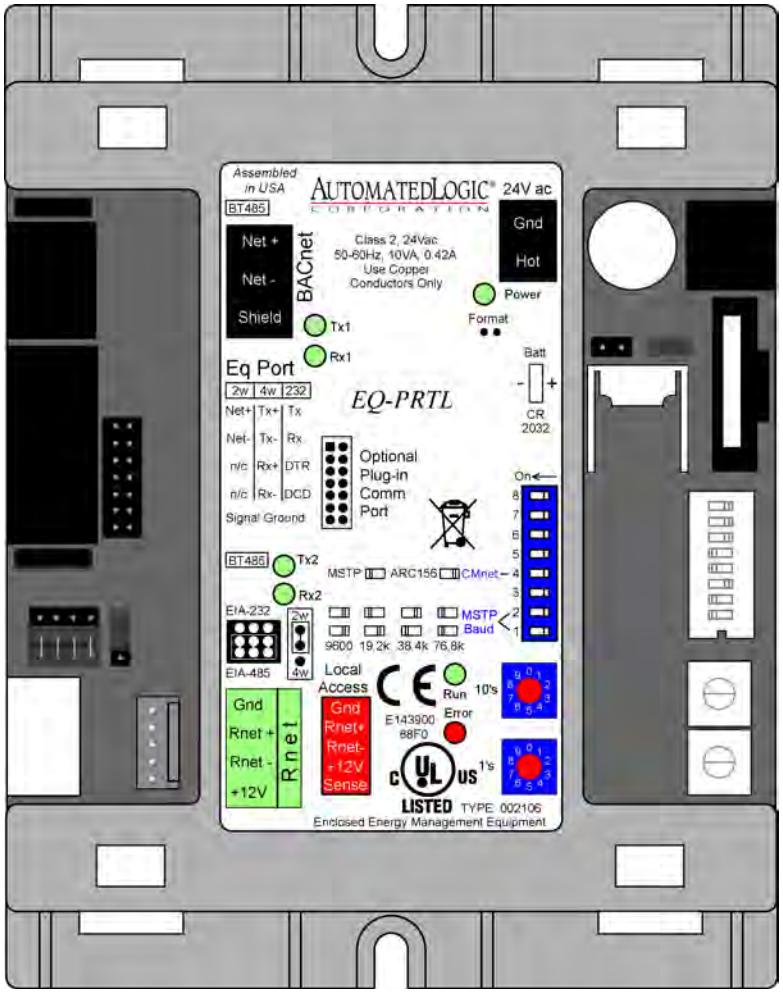
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION Changes or modifications not expressly approved by the responsible party for compliance could void the user's authority to operate the equipment.

CE Compliance

WARNING This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Appendix - Equipment Portal coverplate



Document revision history

Important changes to this document are listed below. Minor changes such as typographical or formatting errors are not listed.

Date	Topic	Change description	Code*
2/6/17	Specifications	Added wireless sensors to the Rnet port specification.	X-D
	Zone sensors	Added wireless sensors to this topic.	
	Equipment Touch	Added Wireless Adapter to this topic.	
	Wiring devices to the Rnet port	Added Wireless Adapter to this topic.	
	To wire a Wireless Adapter to the Equipment Portal	New topic.	
9/26/16	To set up a Local Access connection in the WebCTRL interface	Updated WebCTRL menu button in step 12.	A-D
	Appendix - Equipment Portal coverplate	Updated coverplate.	A-D
4/16/15	Entire document	New look, no content changes.	A-D
10/7/14	Driver	Added the Network Microblock fields.	A-TS-RB-F
5/13/14	Specifications	Rnet Port: Added Equipment Touch and removed BACview® devices.	A-D-CP-O-TC
	Zone sensors	Removed references to BACview.	
	Equipment Touch devices	New topic.	
	BACview devices	Removed topic.	
	Wiring zone sensors to the Equipment Portal	Changed to "Wiring devices to the Equipment Portal's Rnet port".	
	To wire an Equipment Touch to the Equipment Portal	New topic.	
	To set up the driver > Driver	Added new driver property: TouchScreen Schedule Edit Enable.	

* For internal use only