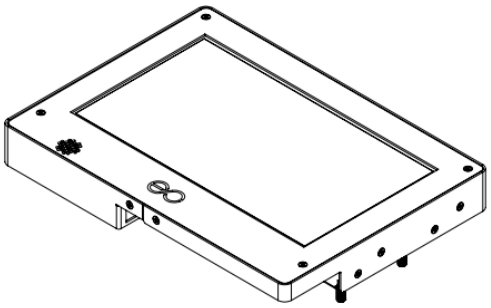
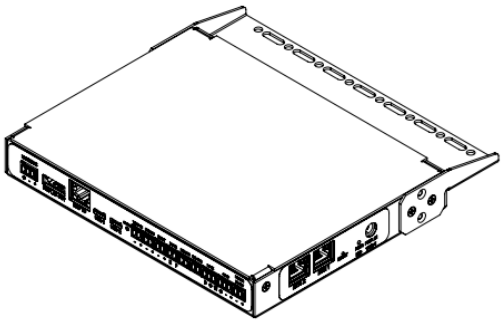
ENCONNEX

Universal Controller
USER MANUAL





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Notice

Enconnex is not responsible for damages to the unit or personal injury due to noncompliance with operation requirements as outlined in this document.

- This User Manual must be strictly complied with at the time of installation and throughout the life of the Universal Controller.
- Only technicians that have received professional training from Enconnex may service the system.
- Warranty of the equipment is ensured only under the premise that the contents included in this manual are complied with.
- Parameters included in this manual are only to be used as a reference. Enconnex reserves the right to change the parameters without prior notice.
- In case of a lost, damaged, or misplaced manual, a replacement copy can be requested from the Enconnex website, www.enconnex.com.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities or lack of experience and knowledge unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- This appliance can be used by children aged 8 years and above and persons with reduced physical, sensory, or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the appliance safely and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be performed by children without supervision.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons to avoid a hazard.
- Recommended to only use cords provided with unit, or from Enconnex for replacements.

- The controller will only work with the Enconnex display. It is not compatible with other manufacturer displays.

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Table of Contents

1. General Safety Precautions

1.1. Overview

Enconnex is not responsible for any of the following situations:

- Operation of equipment in adverse environments beyond the manual instructions.
- Any installation and operation environment beyond regulations of any relevant international standards.
- Alteration of the product or changes in the software without prior approval.
- Failure to follow the product and manual's operational instructions and safety warnings. See the end of this manual for further details.
- Equipment damage caused by natural disasters.

1.2. Local Rules and Regulations

Local rules and regulations should be followed during equipment operation. Safety precautions in the manual serve as a supplementary guide to local safety specifications.

1.3. Basic Installation Requirements

Personnel performing the Universal Controller maintenance must receive authorized training.

- Equipment installation, operation, and maintenance can only be conducted by qualified and trained people.
- Replacing and changing equipment or components (including software) must be completed by professionals with Enconnex certification or authorization.
- Operators should immediately report faults or errors which may cause safety issues.

2. Product Overview

The Universal Controller is intended to be mounted to either the EdgeRack 5M or 8M as a real-time system interface for remote appliance monitoring and management. Two versions are possible, one with and one without a 10” high resolution, fast-response touch screen display.

2.1. Appearance

- Figure 2-1-1 Appearance of Universal Controller Display on EdgeRack

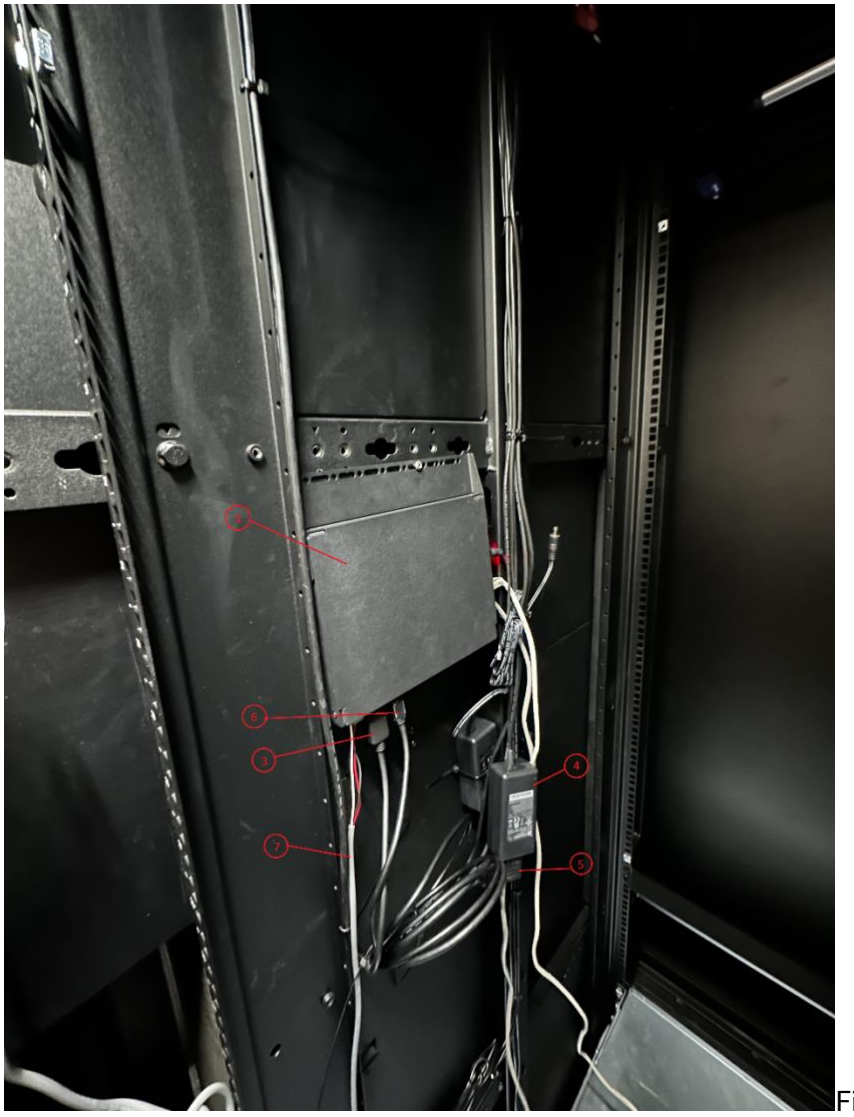
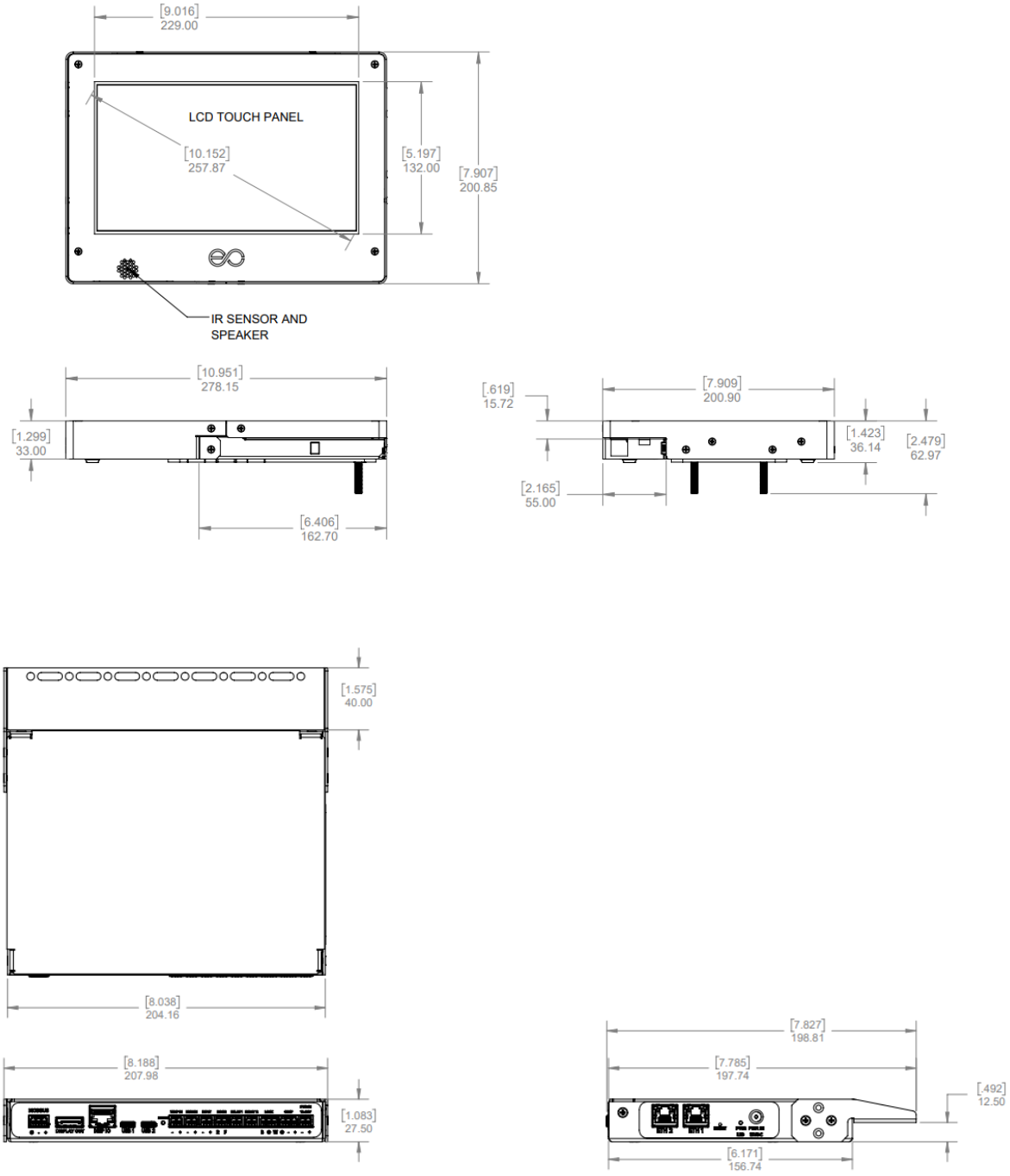
- 

Figure 2-1-2 Appearance of Universal Controller Computer in EdgeRack. (Labeled parts in Figure 2-3)



- Figure 2-1-3 Dimensions drawings of Universal Controller

2.2. Specifications

The specifications for the Universal Display Controller can be viewed in the following table 2-2.

Table 2-2 Specifications

Parts	Controller Display
Input Power/Current	12VDC Input @ 1 Amp w Display 12VDC Input @ 700 mA w/out Display 120-240VAC @ 0.48A (external supply)
Protection Rating	Display module not intended for wet, or dirty environments. Controller is internally mounted.
Controller Dimensions Display Dimensions	7.82" x 8.19" x 1.08" (198.65mm x 208.00mm x 27.5mm) 10.95" x 7.91" x 2.48" (2278.15 mm x 200.85 mm x 63.00 mm)
Shipping Dimensions (H x W x D) (Without components)	12" x 12" x 2" (304.8mm x 304.8mm) (1 box for Controller + 1 box for Display)
Net Weight / Shipping Weight (Without components)	11lb (5kg) /12lb (5.45kg) Total 4lb (1.8kg) Controller 7lb (3.1kg) Display
Networking	2x 1Gbps RJ-45 Ethernet
RCU Communications	MODBUS RS-485
Door Lock	Wiegand, ODSP 485
Relay Outputs	2 Outputs, 5A contact rating 277 VAC, 125 VDC
Discrete Inputs	2 (Ground Side Switching)

Sensors	Temperature & Humidity (0-5V)

2.3. Components

The system components are shown in Figure 2-3 and Table 2-3

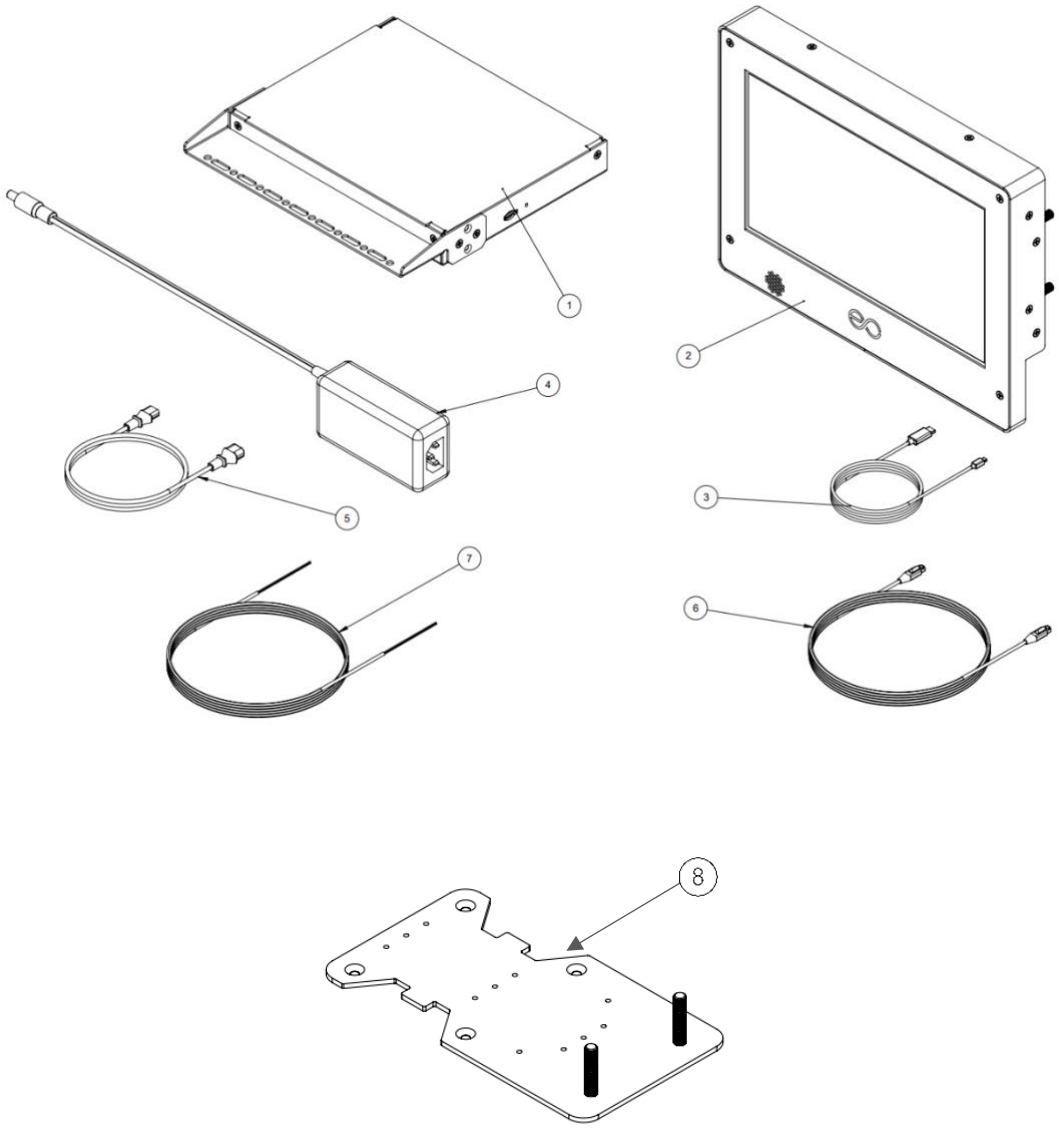


Figure 2-3 Components of Universal Controller

Table 2-3 Universal Controller Main components

No.	Component Name
1	Universal Controller Computer
2	Universal Controller Display
3	Display Port Cable
4	12V 1.6A Power Brick
5	12 ft C13 to C14 120-240VAC Power Cable
6	RJ50 Display Communications and Power
7	3 Conductor MODBUS 15 ft Cable
8	Visa mounting bracket

2.4. Environmental Requirements

2.4.1. Operating conditions

The Universal Controller Display installation location should be on the front of the EdgeRack, away from heat, direct sunlight, and corrosive gasses. It can run continually at temperature ranges between 15-40°C.

3. Installation

3.1. Basic Installation Instructions

Please install the equipment in strict accordance with these requirements to achieve the best operation and longest lifetime. Please contact Enconnex if detailed step-by-step instructions are necessary.

It is highly recommended to install the EdgeRack Display in cabinets that do not have server components installed. If server components are installed, it is recommended to remove the front door for the installation of the display to ensure that metal chips from the drilling and reaming procedure do not drop debris on server components that has the potential to cause damage.

WARNINGS:

- Must use a RJ50 cable with 10 pins, it is suggested to only use the provided cable for IO connection between Controller and Display.
- The controller will only work with the Enconnex Display, it is not compatible with other manufacturer displays.

Display installation

1. Using a tape measure and the Visa mount bracket as a guide, drill (1.8mm bit) the top pilot hole five feet from the bottom of the door (NOTE: Do not apply too much force when drilling or the drill bit will break).
2. After drilling the first pilot hole use another drill bit or a pin to hold the bracket in place for drilling the other two pilot holes (NOTE: Again, do not apply too much force when drilling or the drill bit will break).
3. Ream the two upper holes using a ¼” (6.35mm) drill bit and ream the lower hole to ¾" (19.05mm) using a stepped drill bit.
4. Clean up any burrs from the drilling process using a ring deburr tool or a larger drill bit if available
5. Install the Visa mount bracket onto the back of the EdgeRack display panel, fastening in place with four M4x8mm countersunk screws
6. Feed the RJ50 cable through the ¾” hole from the backside of the door then from the backside of the door feed the Display Port Mini connector into the cabinet.
7. Install the display on the EdgeRack Door and secure it in place with the provided M6 Nyloc Screws. Using an M10 socket, tighten screws ¼ turn past snug. (NOTE: Door removal may help facilitate this step)
8. Reinstall the cabinet door if removed for Step 7.
9. Route both the Display Port Cable and the RJ50 cable along the cable harness on the door. (NOTE: It may be difficult to route these cables through the gap between the rack and its external enclosure, but it can be done. If access to the side of the cabinet is available, the top side-panel may be removed for the routing step.)
10. Install the Universal Controller Computer inside the cabinet. Recommended on the RCU side.
11. Lead the RJ50 and display port cables to the Universal Controller Computer location following the routes of existing cable bundles and securing the cables with provided cable ties.
12. Install the PDU power cable for the controller leading the cable from the PDU to the EdgeRack Controller location cable tying the cable in place as needed.

13. Wire up the MODBUS cable using the following table:

	Pin out Position	
Wire Color	Controller Side	RCU Side
Black	2	3
White	1	2
Red	3	1

14. Install the MODBUS Cable, ensure the Controller side is plugged into the port labeled MODBUS on the controller and plug the other end of the MODBUS cable into the MODBUS control port in the back of the cabinet, located on the backside of the cabinet, in the upper left inside corner.
15. Secure the MODBUS cable in place following other cable bundles using cable ties as needed.
16. Plug the 12-volt power brick into the controller and then bundle up any extra cable from the power brick, RJ50 and Display Port cable in a loop bundle.
17. Plug the network cable into the EdgeRack Controller into ETH 1, if you have a redundant cable for networking it can be plugged into ETH 2.
18. Plug the power brick into its power cable and finish securing the power cable as needed.
19. Check the front display panel and make sure that the display is on, if the MODBUS shows not connected, follow the troubleshooting guide.

3.1.1. Tools Required

Table 3-1-1 Tools required for the installation process.

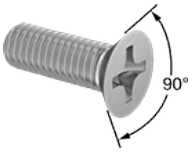
Name	Drawing	Name	Drawing
Tape Measure		Philips-head Screwdriver	

1.8mm Drill Bit		Electric Drill	
6.35mm Drill Bit		Stepped Drill Bit ¾”	
M10 Socket Wrench		Wire Cutters	
Wire Strippers		No. 0 Flat-head Screwdriver	
Ring Deburring Tool			

3.1.2. Installation Hardware

Table 3-2-2 Installation Hardware

No.	Product Name	Quantity	
1	¾” Wire Grommet	1	
2	40LB Cable Tie	24	

3	6mm Tri-Lobe Self Tapping Screw	2	
4	M4 Countersunk Screw	4	
5	¼” x ½” Spacer	2	
6	M6 Nyloc Nut	2	
7	Silicone Sealant	1	
8	2x1 Terminal Block Male	7	
9	3x1 Terminal Block Male	3	

3.2. Power-up

The system powers up when plugged in.

4. Controller Configuration

4.1. Front Panel Display

After powering on, the default display interface is shown on the HMI, as shown in Figure 4-1.

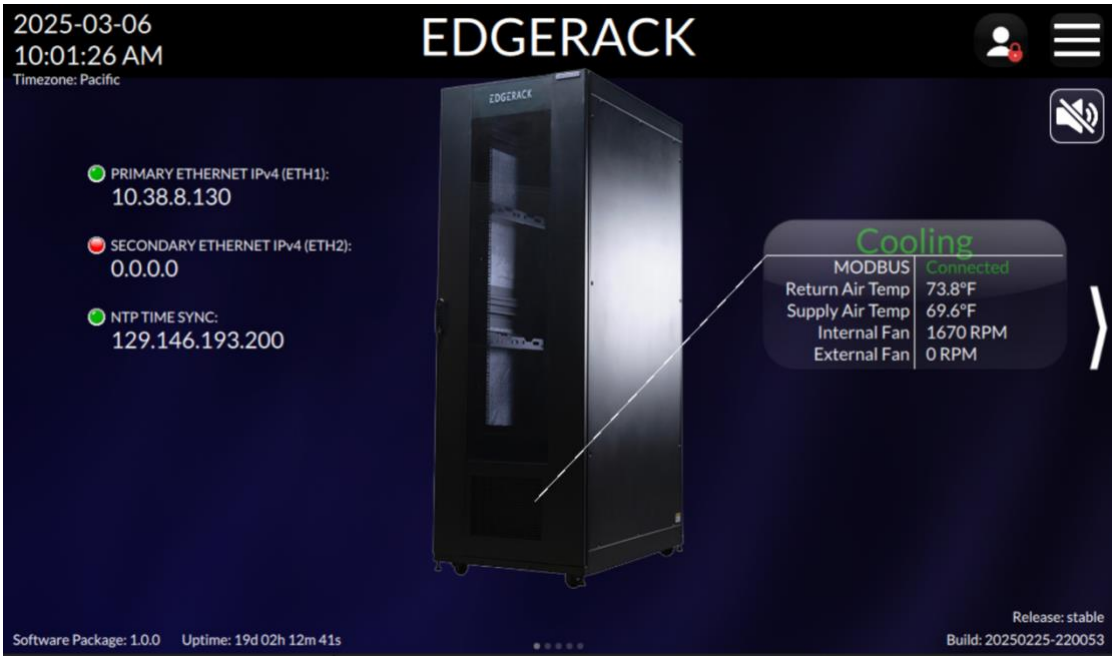


Figure 4-1 HMI Home page

On the home screen display, you will find the local server time at the top left, indicators of the status and addresses of the two Ethernet interfaces, NTP status (if enabled), the status of any active alarms, and a summary of the Row Cooling Unit (RCU). The speaker icon on the top right displays the buzzer status (enabled/disabled) and will indicate if the buzzer will sound if any of the two dry contact alarms (Smoke and Water alarms) are triggered. Also visible at the top right is a “user icon” with a padlock which will enable you to log in or log out, as well as indicate if you are logged in (shown with a “user icon” in green color overlay). Adjacent to the login/logout icon is the navigation icon indicated by the 3 parallel lines to provide quick navigation to the available pages within this section. Navigation can also be achieved by swiping or tapping the navigation arrow at the left or right sides of the screen. Finally, this home screen also shows the currently-running Software Package shown on the bottom left with the uptime of the controller, along with the “release” and “build” information at the bottom right.

Ensure that the RCU is powered on, and the “MODBUS” field shows “Connected” in green. If this is the case, the controller is communicating with the RCU successfully.

To change any configuration settings, including the RCU’s settings, you will need to log in. Tap the User Icon at the top right and you will be presented with a pop-up titled “LOG IN” with two fields for username and password, as shown in Figure 4-2.

Figure 4-2 Log In Pop-up

Only the ***admin*** user is available for Software Package version 1.0.0, and the default password is ***enconnex***. The login for the front panel is also the same login for the local website and API. User password can be changed via the web and the API, but not yet through the front panel in version 1.0.0.

4.2 Network Settings

Navigating to the right of the home screen display is the Network Settings screen, allowing you to view configuration values and actual real-time metrics of the two 1 Gbps Ethernet interfaces available on the Universal Controller. Depending on your current logged in status, the view of this page will look different. See Figure 4-3 (logged out version) and Figure 4-4 (logged in version).

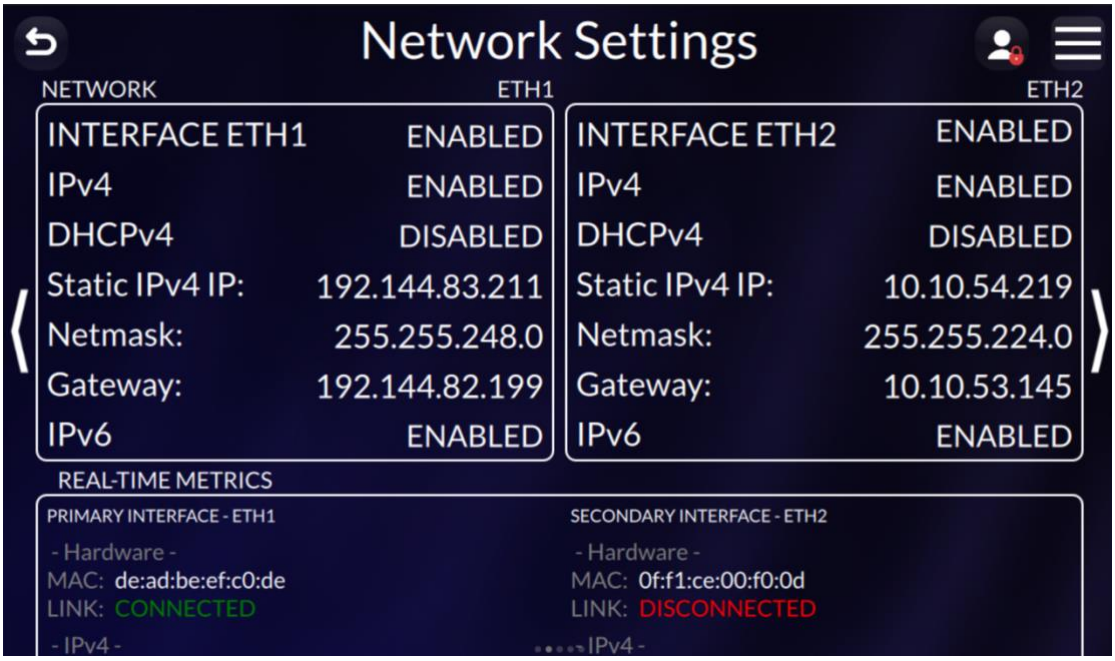


Figure 4-3 Viewing Network Settings logged out

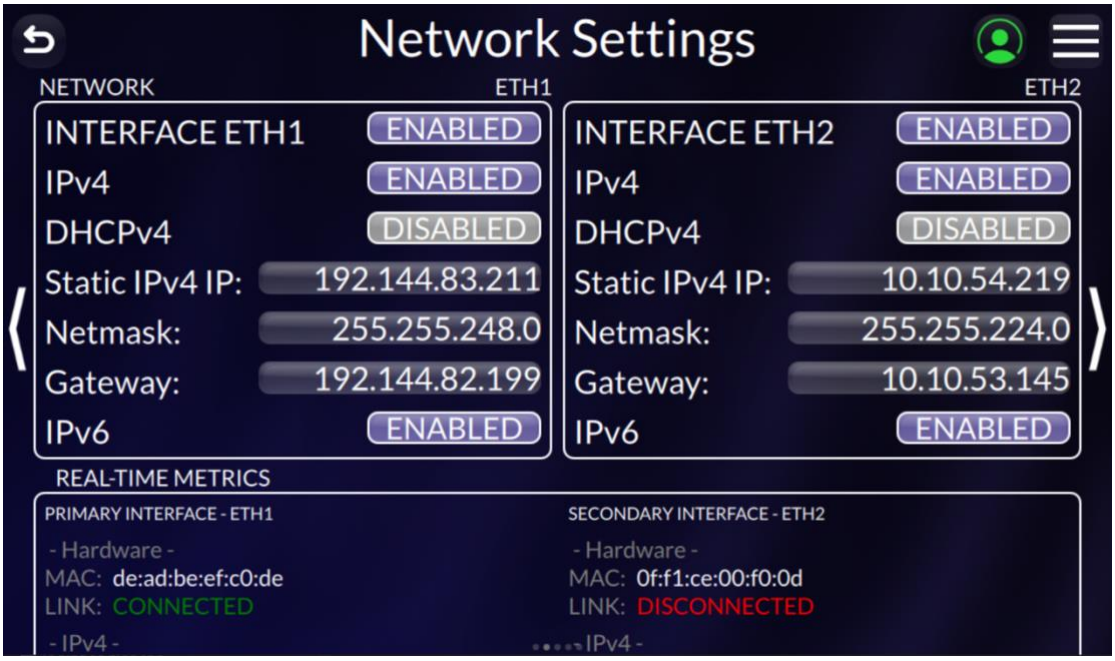


Figure 4-4 Viewing Network Settings logged in

When logged in, the display enables buttons that will allow you to toggle or change values as needed.

NOTE: if DHCPv4 is set to ENABLED, the “Static IPv4 IP”, “Netmask”, and “Gateway” values will not be visible as they are not applicable. Also note that IPv6 in this current Software Package (version 1.0.0) can only be set via automatic addressing, such as DHCPv6 or SLAAC, and no manual IPv6 addressing is available. For example, if you

wish to modify the Static IPv4 IP address of ETH1 (also known as the Primary Interface), tap the current value and you will be presented with a pop-up showing a set of tumblers to enable you to change the value. See Figure 4-5.

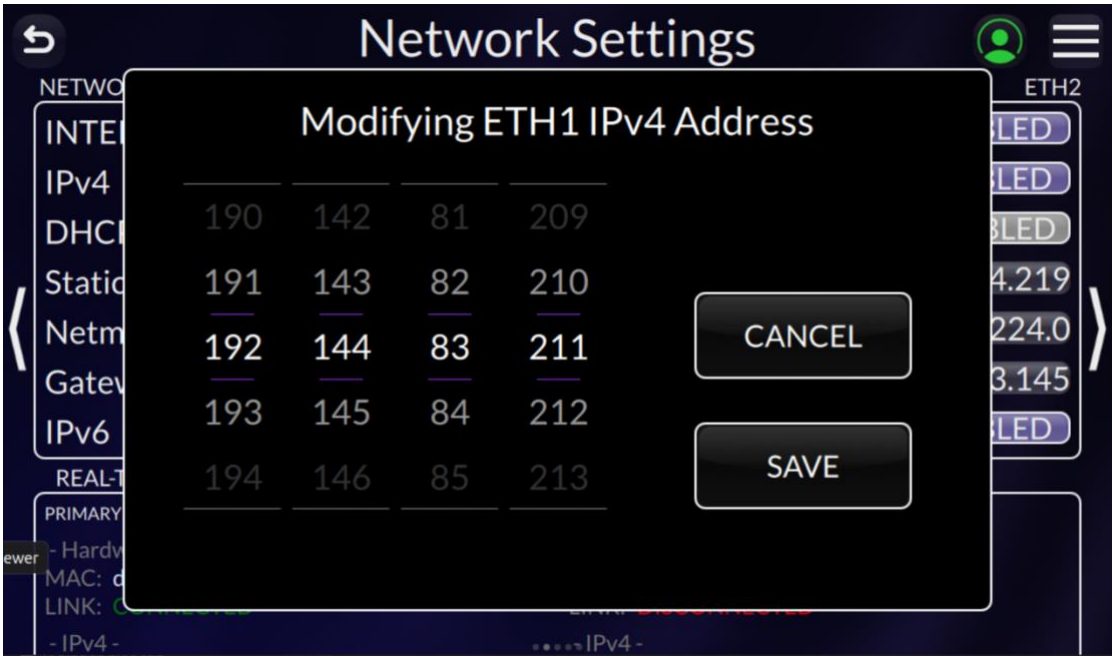


Figure 4-5 Modifying the Primary IPv4 IP Address

Modifying “Gateway” will present a similar pop-up as the “Static IPv4 IP”, however, the “Netmask” has a more distinct and restrictive pop-up to ensure the values presented are considered valid netmask address. CIDR notation is also provided in case that is preferred. See Figure 4-6.

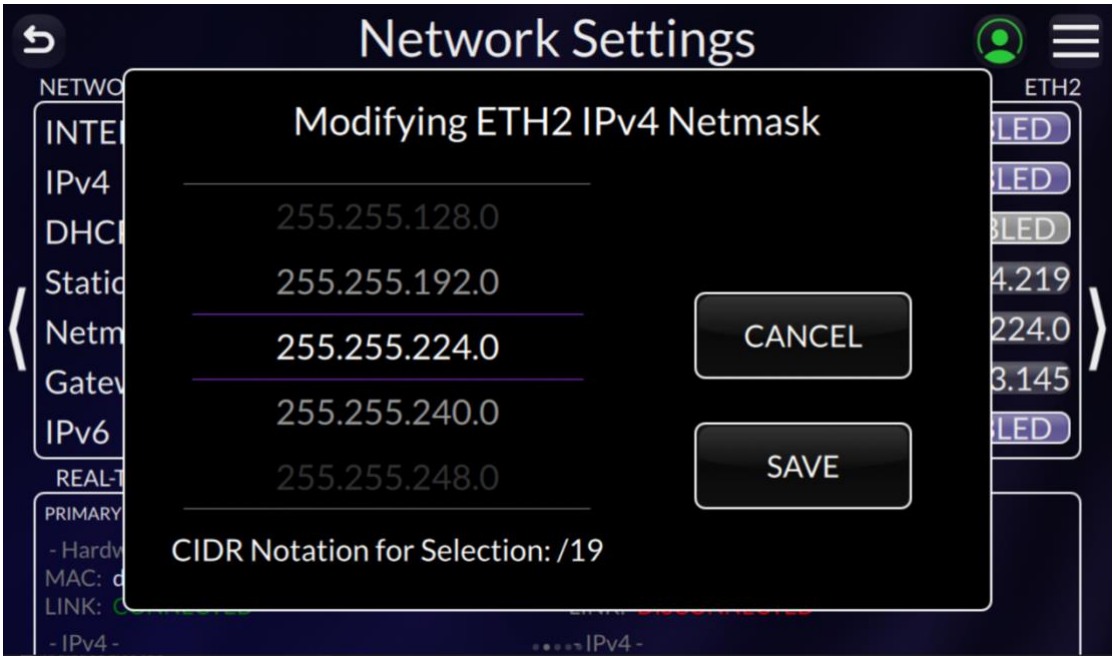


Figure 4-6 Modifying Netmask for Ethernet interfaces

In the lower half (below) of the Network Settings screen, it shows the “REAL-TIME METRICS,” which reports the settings that are currently active for each interface, including the MAC addresses and link status. See Figure 4-7.

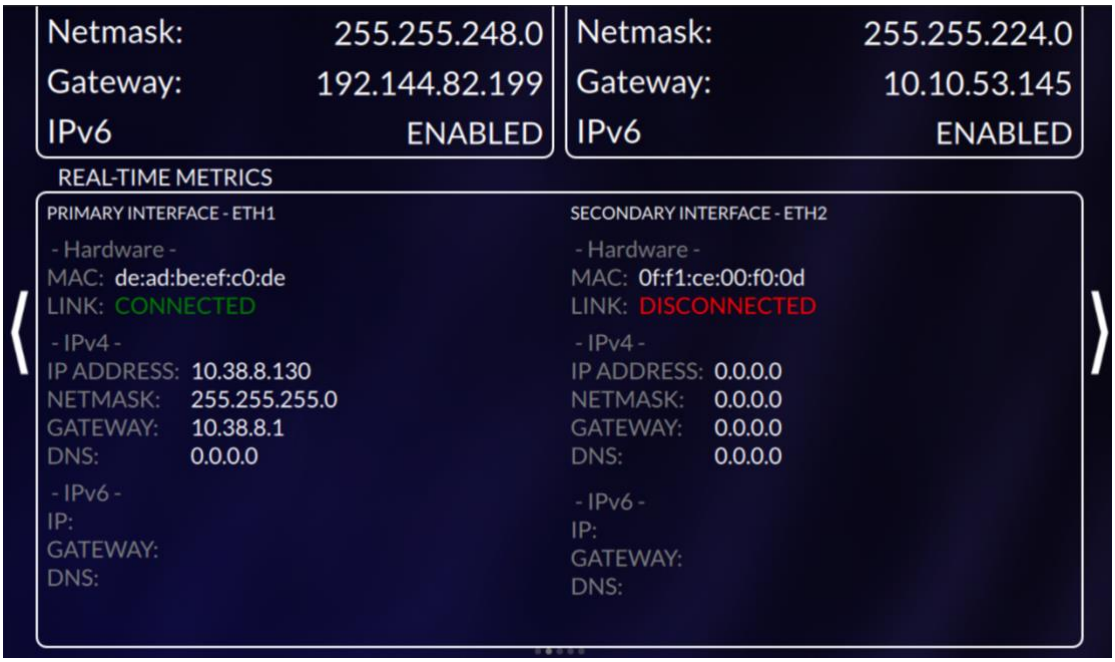


Figure 4-7 Real-Time Metrics of the Network Settings screen

4.3 General Settings

Adjacent to the Network Settings screen is the General Settings screen. It provides a

way to view and modify settings that are not network-related but relate specifically to the display of the Universal Controller and other relevant settings. This screen will also change visually depending on your log in status. See Figure 4-8 for logged out version, and Figure 4-9 for the logged in version.

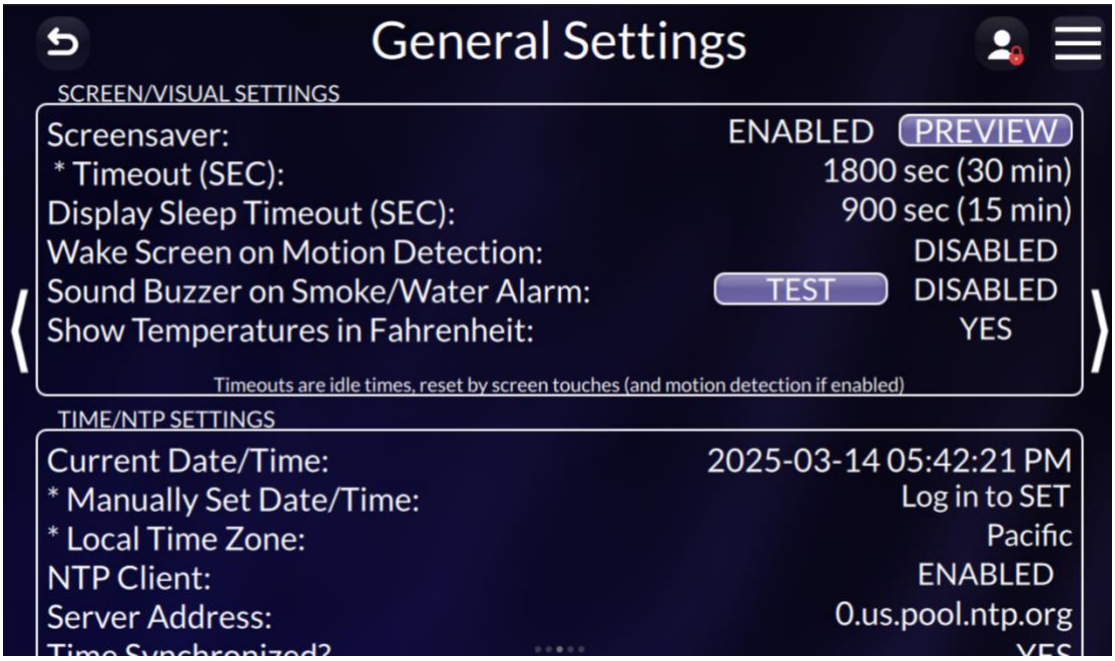


Figure 4-8 General Settings when logged out

Figure 4-9 General Settings when logged in

All “Screen/Visual Settings” will only affect the display’s functionality and do not affect the other interfaces, such as the website or the API, with exception of the temperature

unit settings.

“Screensaver” relates to the bouncing logo that shows up after the number of idle seconds listed in the “* TIMEOUT (SEC)” is reached. If touch or motion activity happens while in the screensaver, this wake-up event is logged.

“Display Sleep” is the state when the front panel display completely turns off to reduce power consumption. This timeout begins after the screensaver is activated if screensaver is enabled, or immediately after the last screen activity if screensaver is disabled. If touch or motion activity happens while in the screensaver, this wake-up event is logged.

“Wake Screen on Motion Detection” causes the screen activity to reset if the motion sensor on the front panel display board detects motion. If the display is in screensaver or display sleep mode, this will awaken the screen and log an event to show that the screen was reawakened due to motion detection.

“Sound Buzzer on Smoke/Water Alarm” will cause the buzzer at the front of the display to activate if either alarm is detected. This setting is also shown on the home screen of the display. You may test the sound of the buzzer by holding down the “TEST” button.

“Show Temperatures in Fahrenheit” indicates simply whether the temperature units will be set to use Fahrenheit, as the RCU by default only provides Celsius temperatures. This is the only setting that will affect all visual interfaces – front panel display, website, and API.

In the lower half of the General Settings page are the NTP/Date/Time and MODBUS settings sections. See Figure 4-10 below for the logged in version.

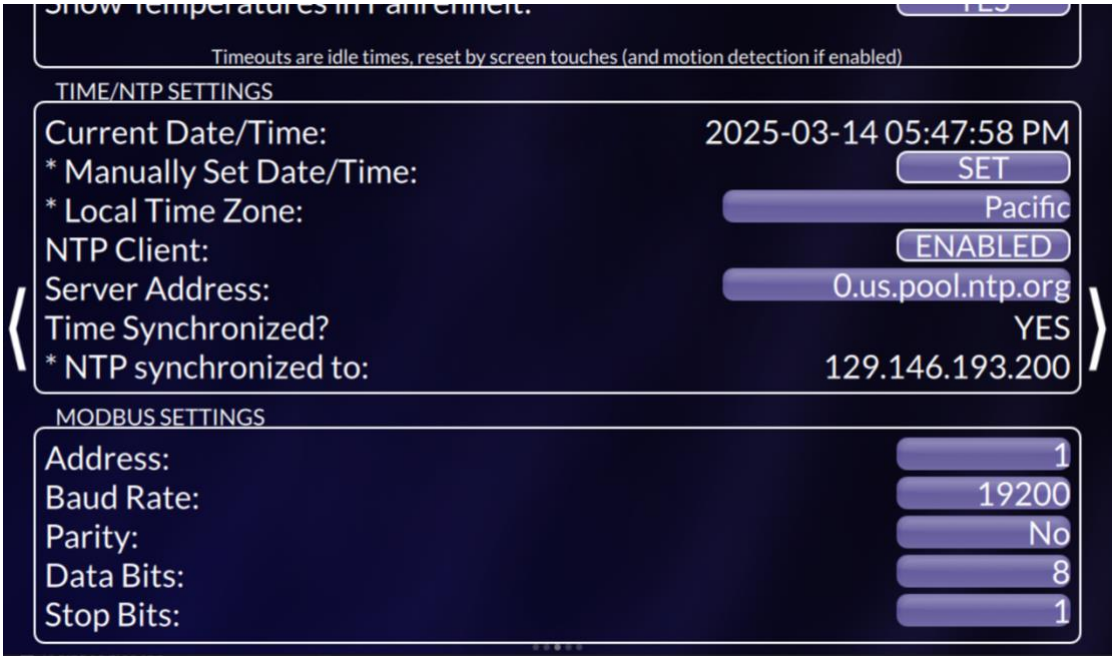


Figure 4-10 Time/NTP & MODBUS Settings of General Settings screen

The “Time/NTP Settings” section allows viewing of the current date and time of the server, along with the ability to enable/disable the NTP client. Please note that if the NTP client is enabled, manual time setting WILL be overwritten by any updates from the NTP client.

The “MODBUS Settings” section relates to the MODBUS 485 connection to the RCU. Generally, these settings should not need to be modified, but they are provided if necessary.

4.4 Event Log

This screen allows viewing of the latest 40 controller event logs, including Alarm events. There are no settings available here. See Figure 4-11.

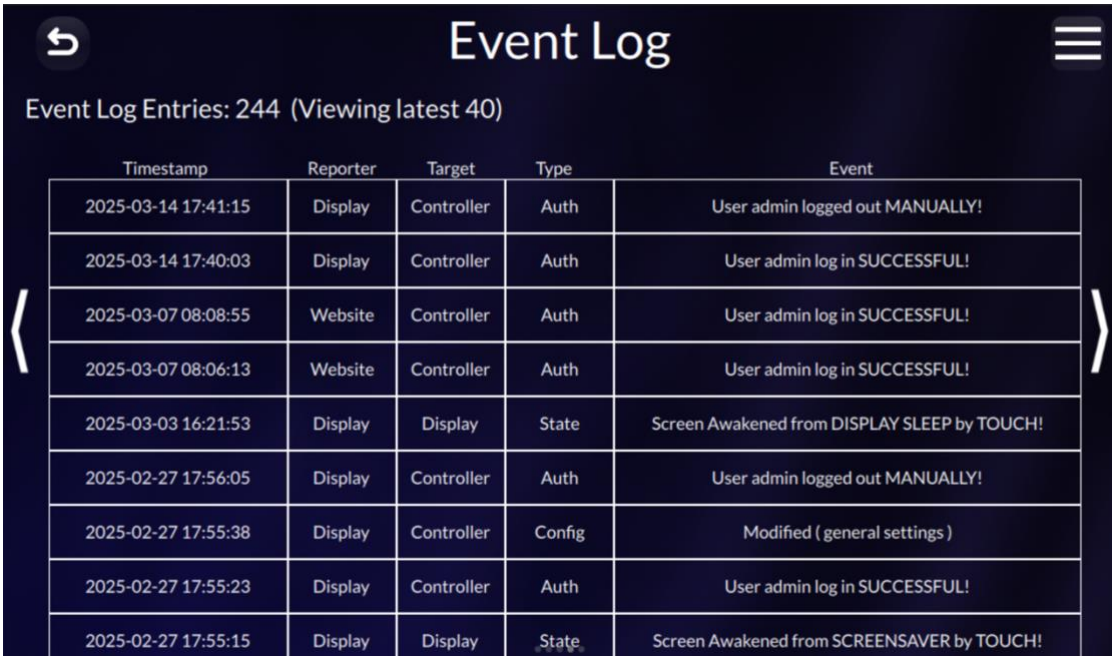


Figure 4-11 Event Log viewer

4.5 System

This screen displays versioning information, system vitals, and administration controls available to the user. See Figure 4-12.

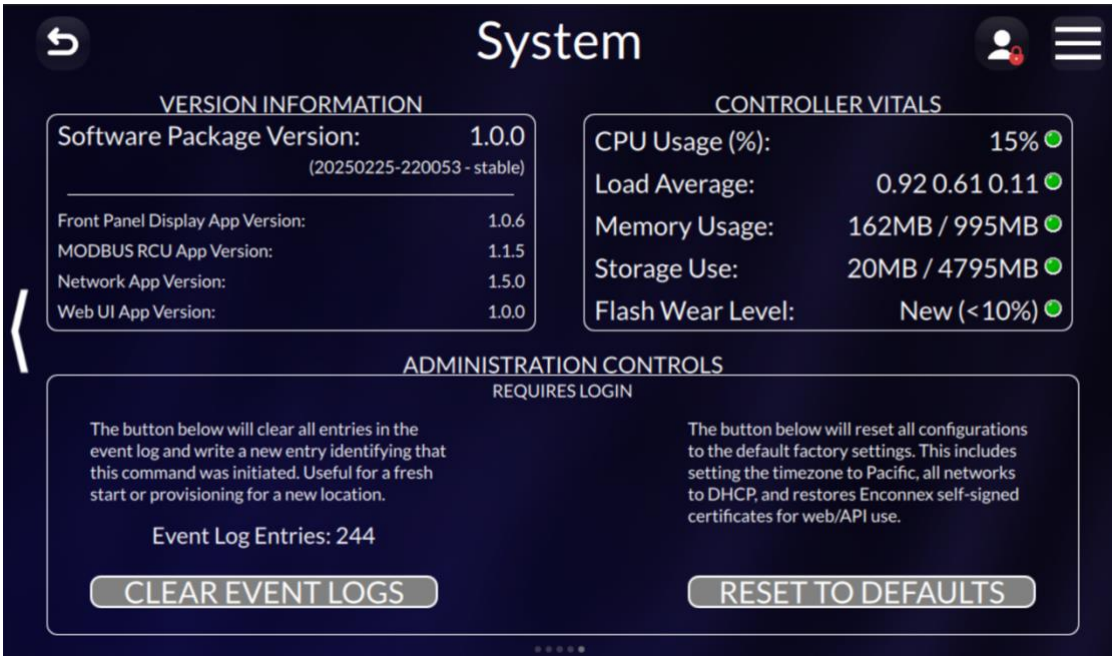


Figure 4-12 System view

This page is meant to be used to track system performance and other relevant metrics. If device response seems slow, this is a good screen to view and understand what is

happening in the system.

The administration controls allow a privileged user to clear Event logs, which will remove all entries and then log that the “clear event log” command was executed. This is ideal when moving the cabinet to a new location.

The ability to restore factory defaults is also provided, in the case that current settings are causing issues on the system and need to be removed.

4.6 Web page / Web UI

The Controller’s local website also provides a means to remotely view and modify real-time metrics and configuration, with exception to those settings related solely to the front panel display. Both Ethernet interfaces can provide this web UI. The homepage presents a quick overview of the Controller’s and the RCU’s status. Figure 4-13 shows the top of the page with the navigation bar at the top right. The web UI can be accessed at the following URL.

NOTE that https is being enforced, and attempting to access the address as http will result in a redirection into https. Future software package versions will include the ability to enable custom user signed security certificates for https use.

URL
https://controller.ip.address/

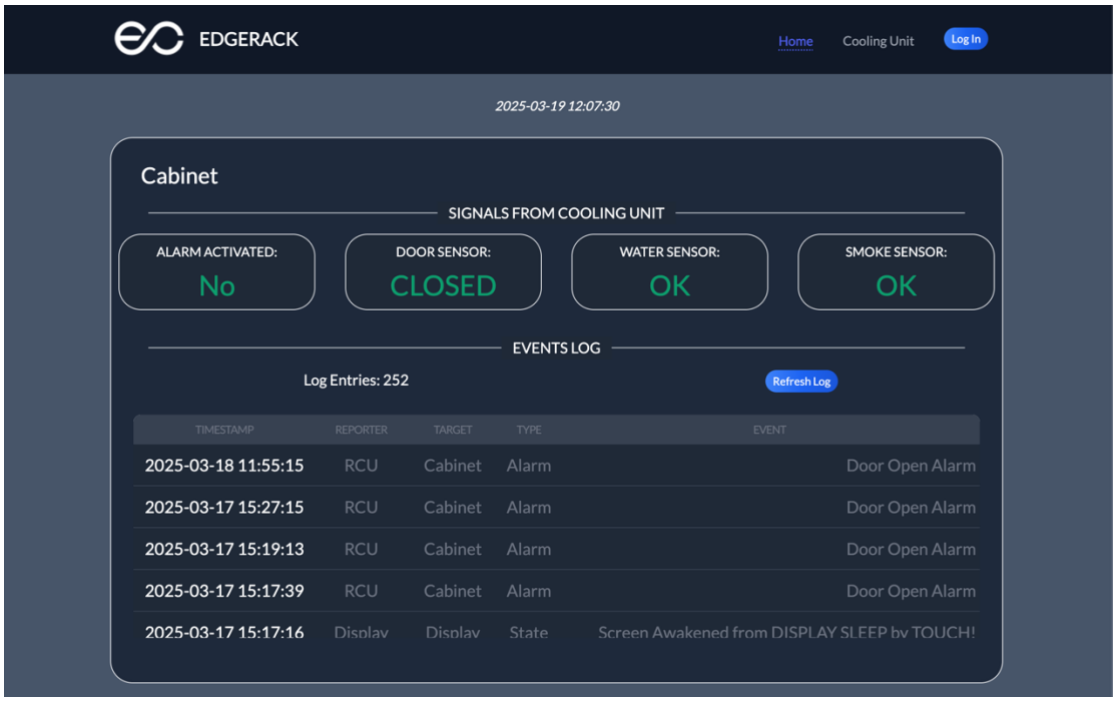


Figure 4-13 Home page - Top segment with Cabinet Info

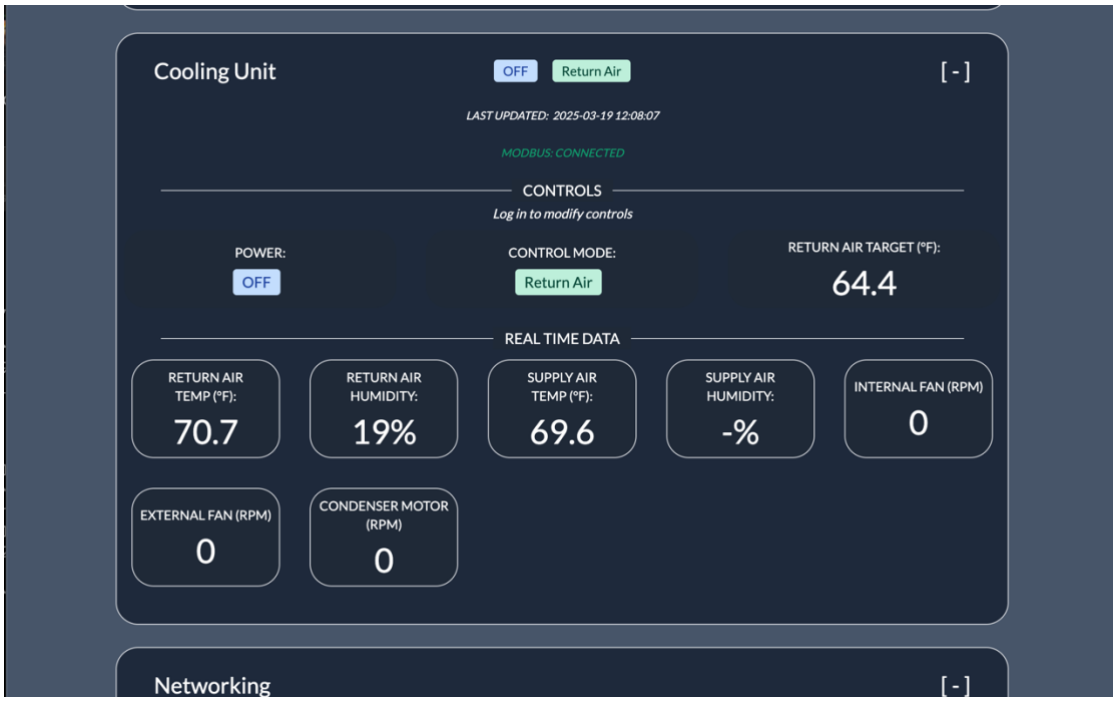


Figure 4-14 Home page – Middle segment with Cooling Unit Info

The Cooling Unit section shows icons relating to the present running state of the RCU. The first block icon sign of the machine state is presently set to OFF or ON, and which temperature mode is being used by the RCU, either “Return Air” or “Supply Air.” Additional icons indicate any active alarms, cooling state being active, and whether any of the fans are running.

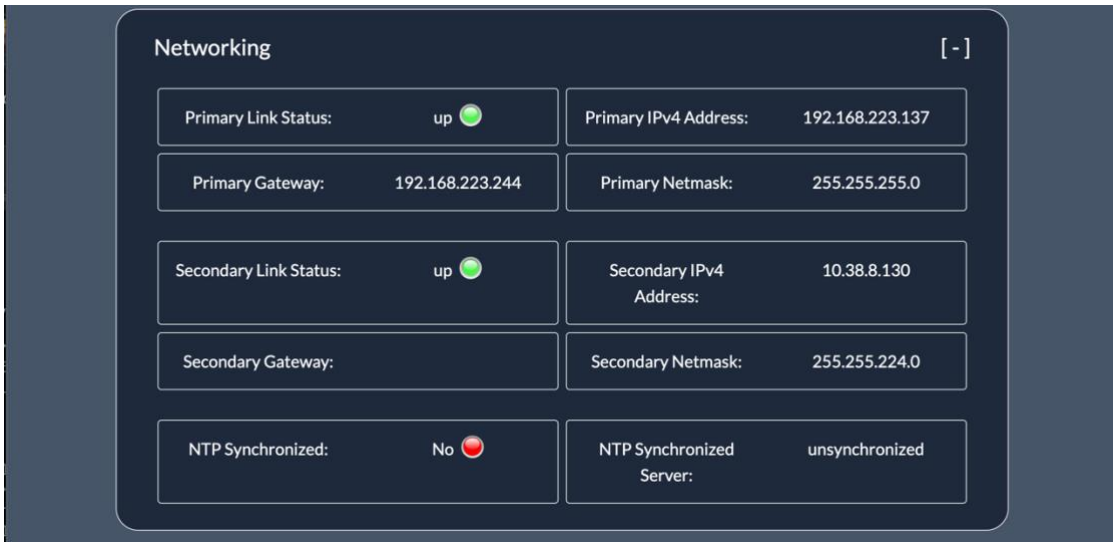


Figure 4-15 Home page – Middle segment with Networking Info

Figure 4-16 Home page – Bottom segment with System Info

Within this home page, users can log in at the top right with the “Log In” button. Logging in changes the Cooling Unit section to enable the ability to change the machine state (also known as Power), the control mode, and the corresponding target temperature for the selected control mode i.e. If control mode is “Supply Air,” then “Supply Air Target” can be modified.

4.7 Authentication

Changing configuration settings can be achieved through the blue “Log In” button at the top right of every page. This presents a sign in pop-up to enter credentials. This pop-up can also restore the user factory password if necessary. The restoration of the factory password requires knowing the MAC address of either physical Ethernet interfaces.

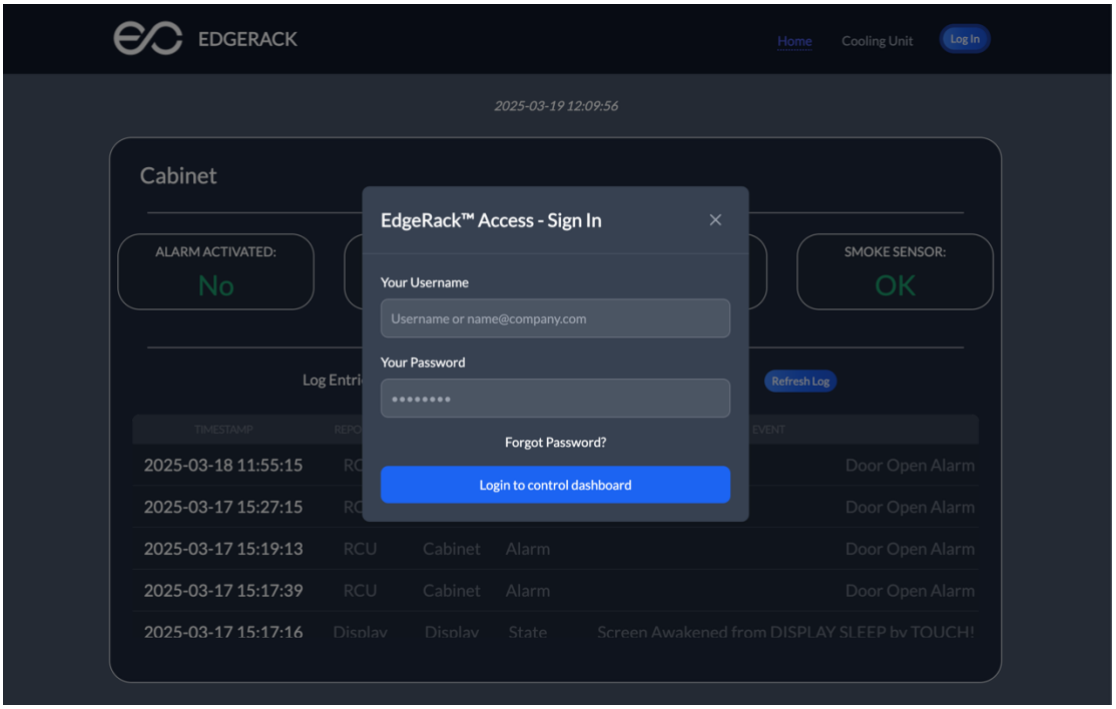


Figure 4-17 Log in Pop-up

4.8 User Settings

After logging in, clicking the “Hi admin!” link on the navigation bar presents a page with the user’s login statistics and timestamp identifying the last time the password was updated. The user password can also be updated here. See Figure 4-18.

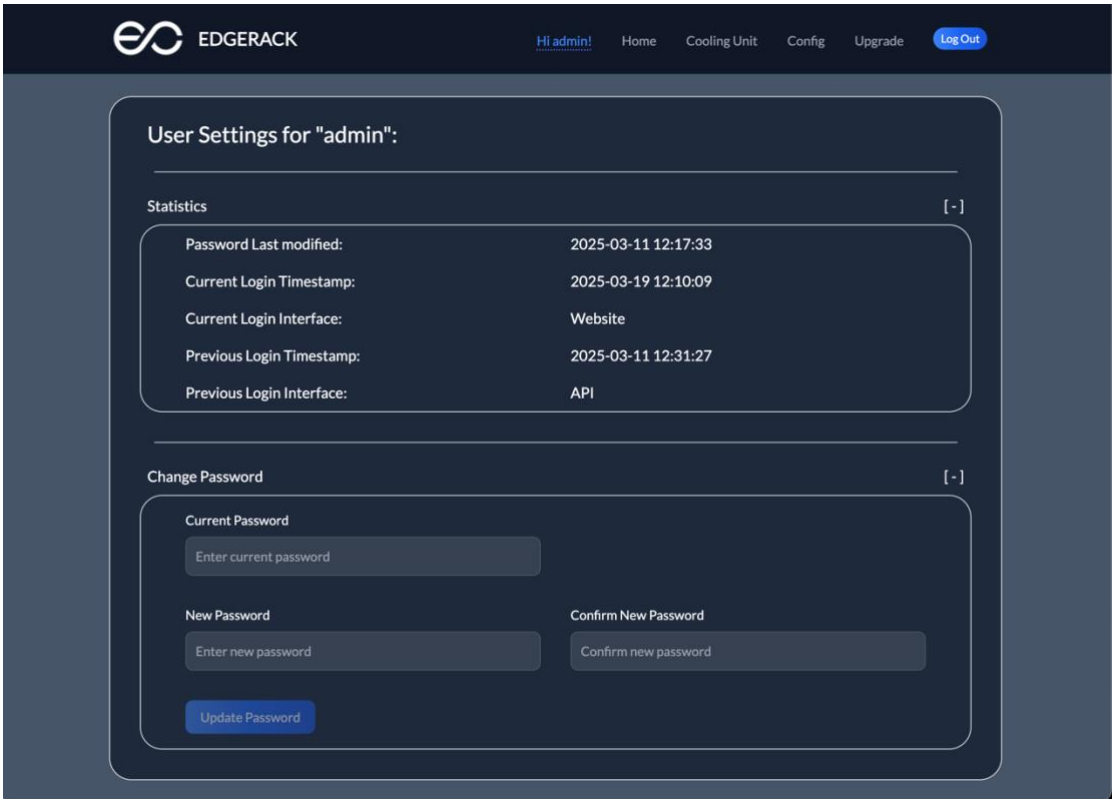


Figure 4-18 User Settings page

4.9 Configuration Page

After logging in, the Configuration page is also available on the navigation bar. Within this page, general settings can be modified, and network settings of both interfaces can be modified. Also available is the ability to clear the event log, assuming the user has credentials to do so. See Figures 4-19 to 4-22.

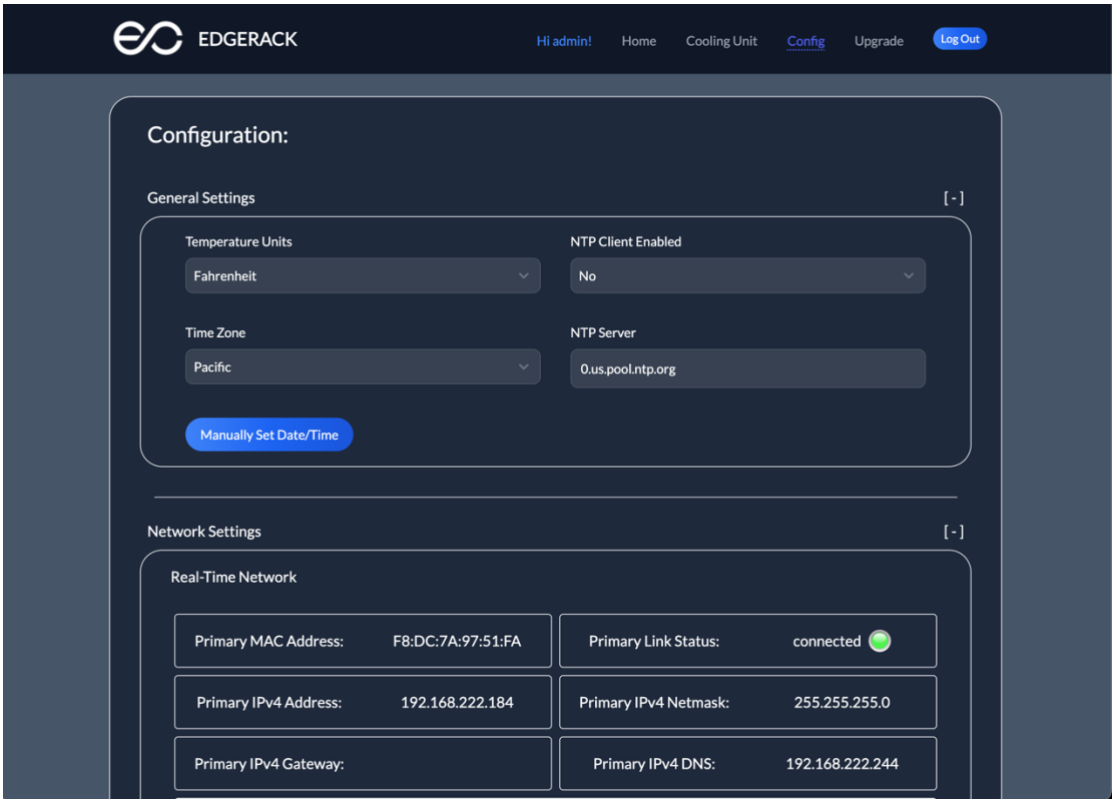


Figure 4-19 Configuration Page – General Settings

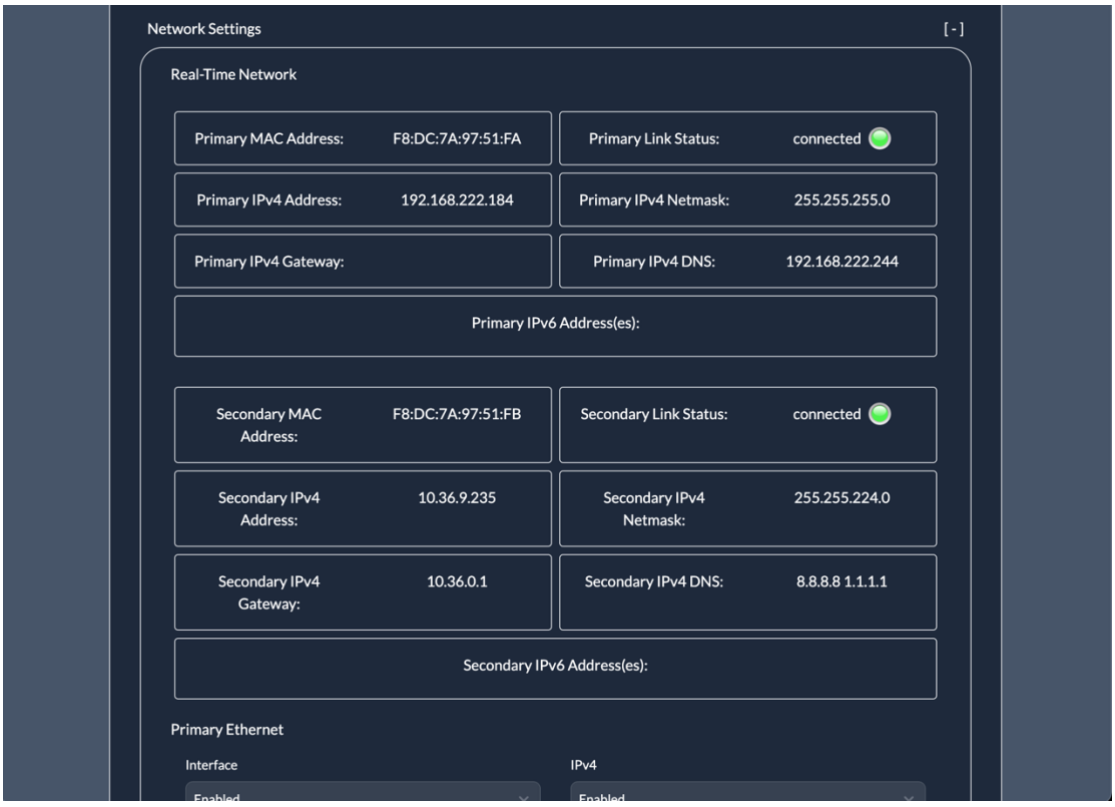


Figure 4-20 Configuration Page – Real-Time Network Settings

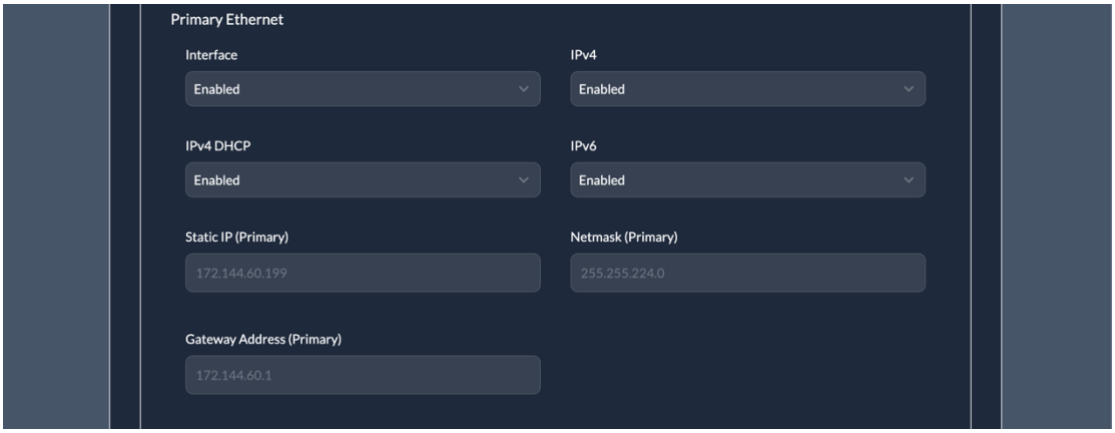


Figure 4-21 Configuration Page – Primary Ethernet

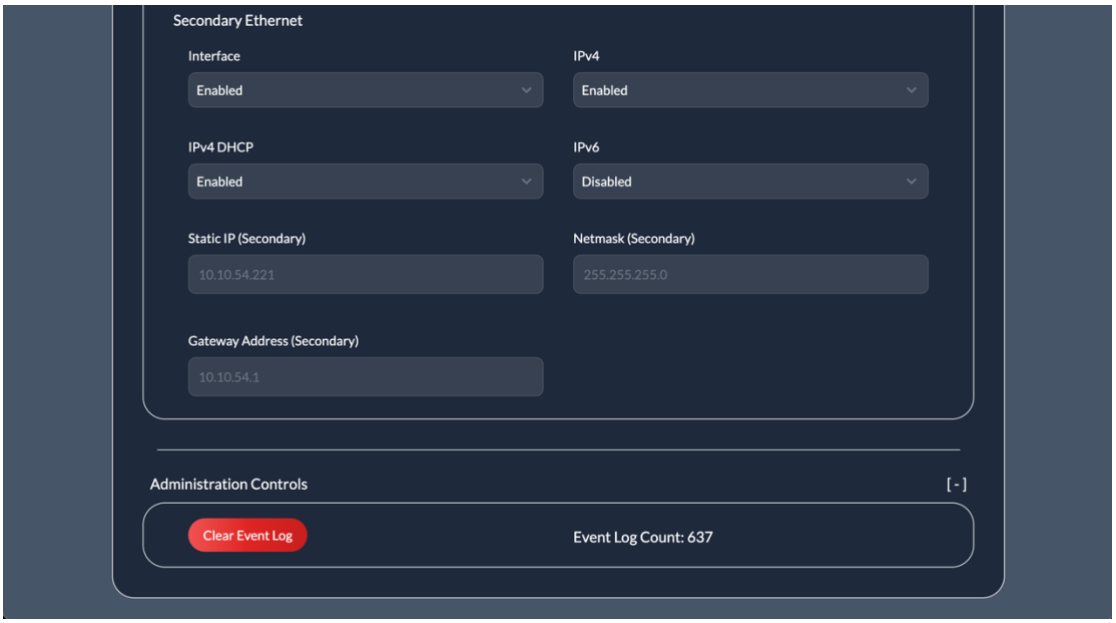


Figure 4-22 Configuration Page – Secondary Ethernet / Admin Controls

4.10 Software Package Upgrading

After logging in, the Upgrade page is available and presents a way to upgrade system software and applications. See Figure 4-23.

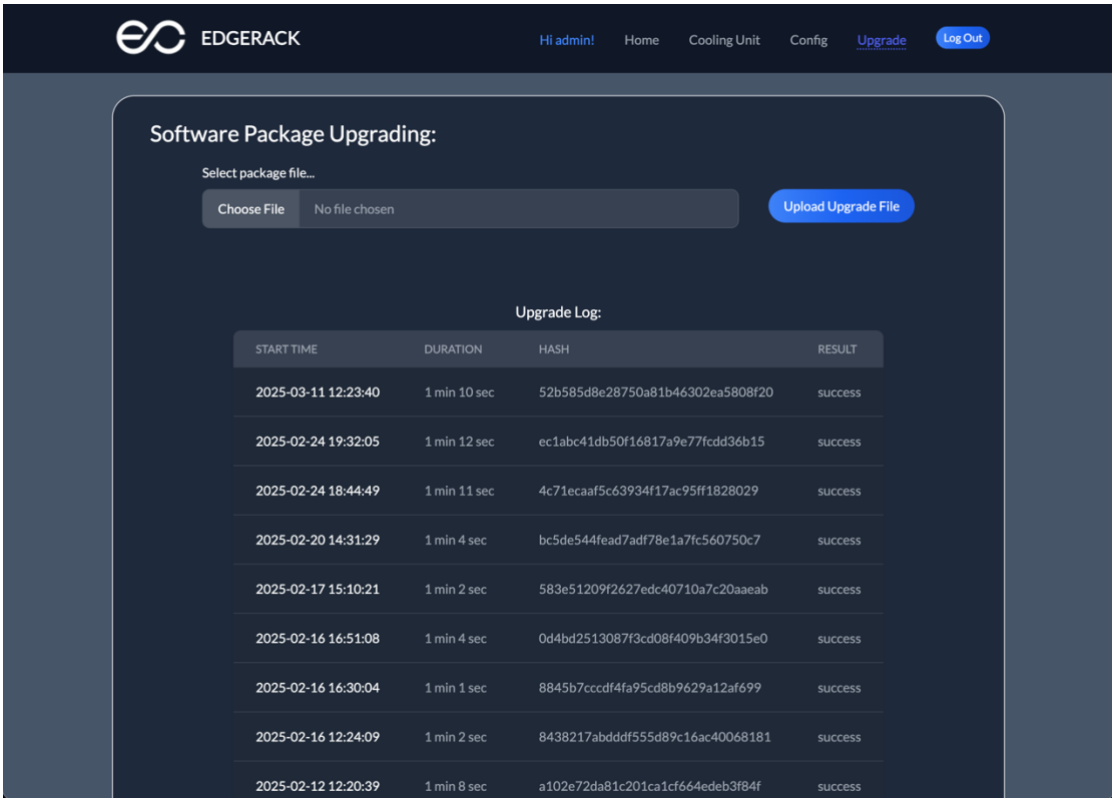


Figure 4-23 Upgrade Page

Software Package files will always be a ***.swu*** file extension. Click “Choose File” or the “No file chosen” box to open a file dialog pop-up. Locate the upgrade file and click OK, then click the blue “Upload Upgrade File”. Upon clicking this button, a pop-up will appear to confirm the steps that will be undertaken, including uploading the file, verifying integrity, and finally, applying the upgrade. Assuming a fast connection to the Controller, most upgrades will complete all processes within 5 minutes.

4.2. API

The API system in the Universal Controller provides a way to access information and all software-related configuration settings using JSON-based endpoints. Refer to the API Reference guide document for more details.

5. Row Cooling Unit Management

5.1. Controller Capabilities

The Universal Controller provides the capability to communicate and modify certain configuration metrics of the Row Cooling Unit (RCU).

Table 5-1 lists the commands/metrics that the Controller can view/report and set.

Description	*Available Actions*	*Range*
Machine State	Read/Write	N/A
Self-Checking State	Read/Write	N/A
Cooling State	Read-Only	N/A
Heating State	Read-Only	N/A
Internal Fan State	Read-Only	N/A
Internal Fan Speed	Read-Only	0 – 3200 RPM
External Fan State	Read-Only	N/A
External Fan Speed	Read-Only	0 – 10000 RPM
Compressor Motor Speed	Read-Only	0 – 5000 RPM
Dehumidification State	Read-Only	N/A
Humidification State	Read-Only	N/A
Dry Contact Alarming	Read-Only	N/A
Sensor Faults	Read-Only	N/A
Sensor Alarms	Read-Only	N/A
Control Mode	Read/Write	“Supply” or “Return”
Supply Air Temperature	Read-Only	N/A
Supply Air Target Temp.	Read/Write	53.6F – 122.0F (12-50C)
Return Air Temperature	Read-Only	N/A
Return Air Target Temp.	Read/Write	64.4F – 122.0F (18-50C)
Misc. Temperatures	Read-Only	N/A

Refer to the EdgeRack User Manual regarding the recommended settings for the configurable temperatures.

5.2 Front Panel Display

The Controller has views specific to the RCU. From the original home screen referenced in 4.1, tapping on the large “Cooling” button takes you to the RCU home screen as shown in Figure 5-1.

5.3 RCU Home Screen

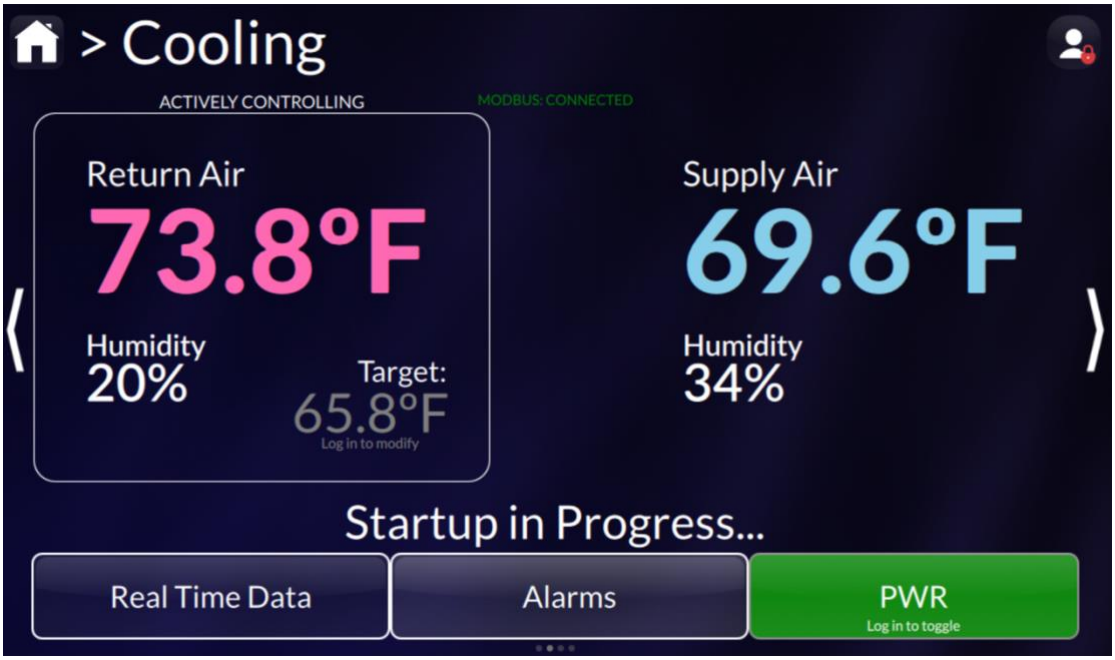


Figure 5-1 RCU home screen, logged out

This screen emulates a view like the RCU's own front panel display, showing the real-time Return Air temperature and humidity (if available), Supply Air temperature and humidity (if available), the target temperatures for both Return Air and Supply Air, the selected control mode as denoted by the box labeled "ACTIVELY CONTROLLING", as well as any relevant status indicators. When a user is logged in, additional options to toggle the machine state of the RCU and control mode become available as well. See Figure 5-2 for an example of the view when cooling is active while a user is logged in, and see Figure 5-3 for an example where cooling is active and there are active alarms, while a user is logged in.

When the MODBUS connection has errors, this view grays out all data metrics and suggests checking the MODBUS cable. See Figure 5-4.

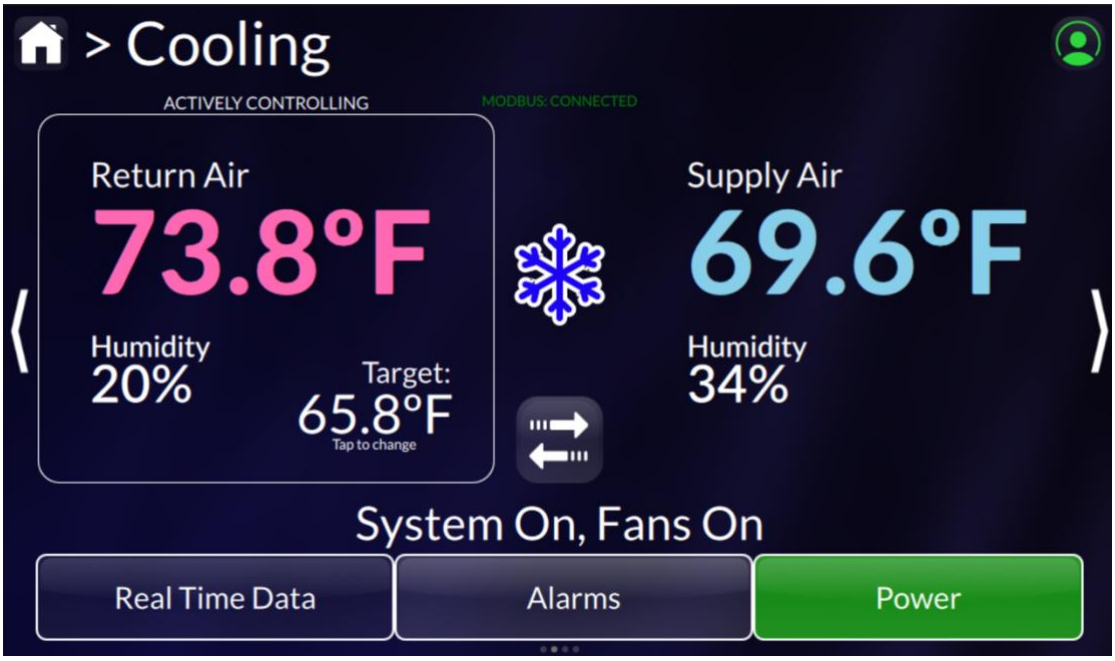


Figure 5-2 RCU home screen with cooling indicator active, logged in

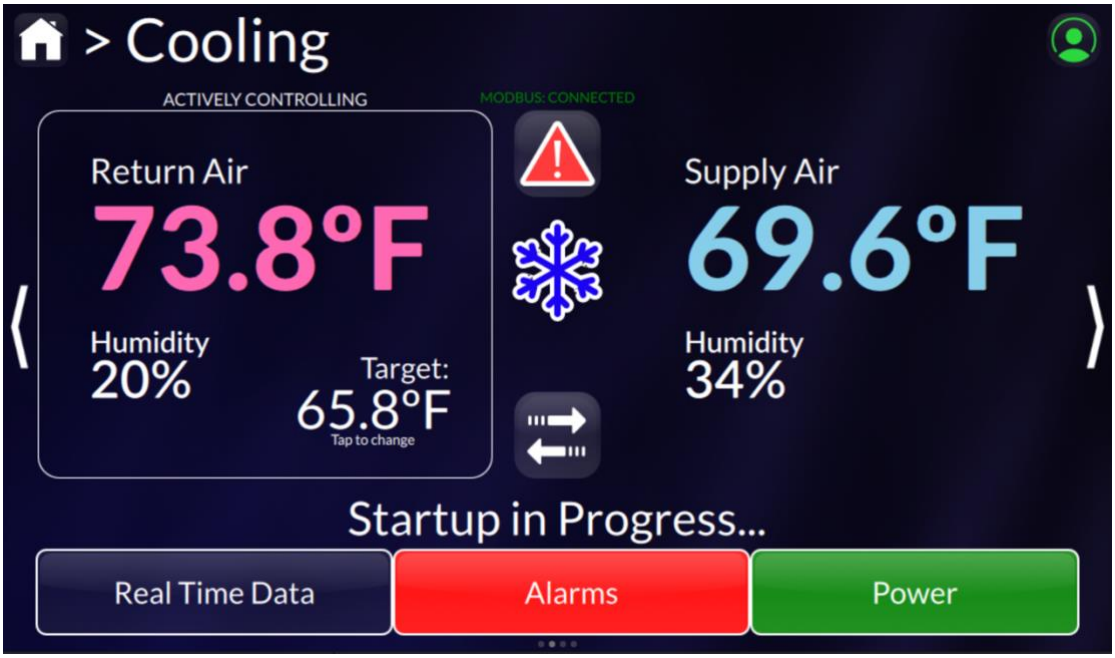


Figure 5-3 RCU home screen with cooling and alarm indicators, logged in

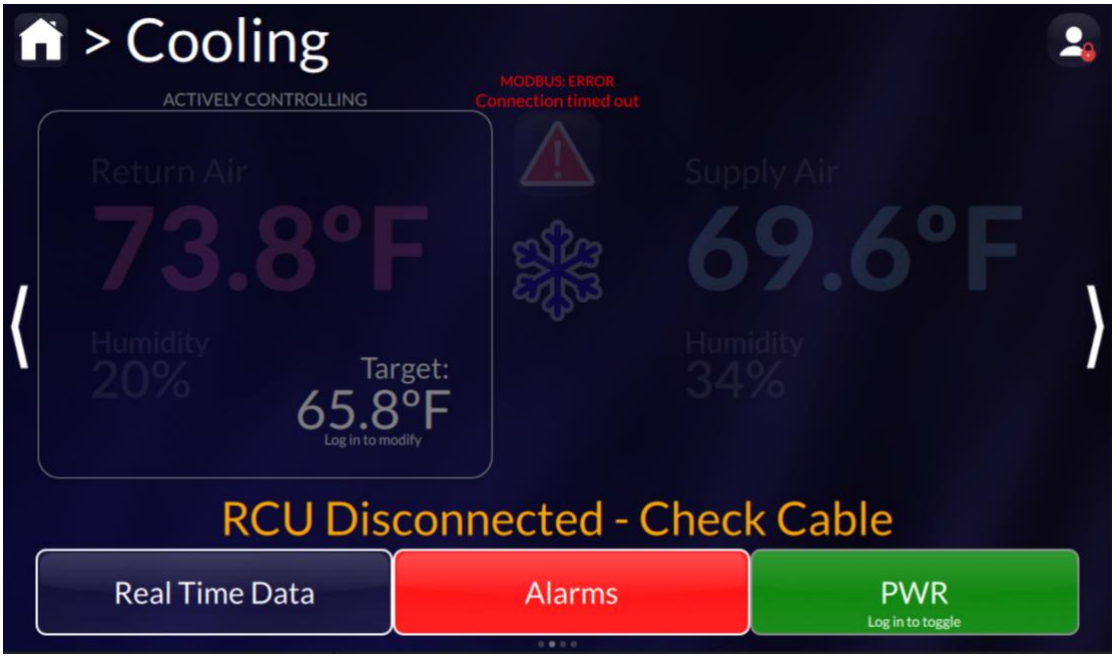


Figure 5-4 RCU home screen with a MODBUS error

5.4 Real Time Data Screen

Moving left of the RCU home screen via swipe action or tapping the left navigation arrow takes you to the Real Time Data screen. Provided in this screen are more detailed metrics as reported by the RCU. See Figure 5-5, which shows all possible states (not possible) for demonstration purposes.

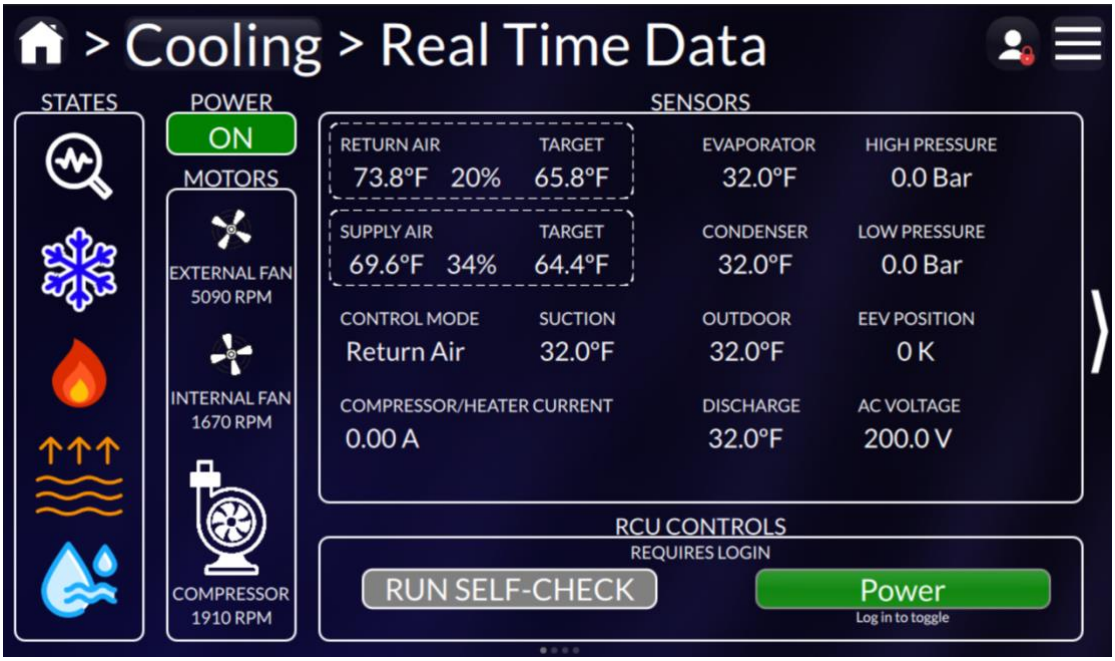


Figure 5-5 Real Time Data with all states

 This indicator appears when the self-checking function is running, which typically occurs when the RCU powers on or when the self-checking function is activated by the user.

 This indicator appears when the cooling system is active, and the compressor motor's movement will follow shortly after appearing.

 This indicator appears when the heating system is active.

 This indicator appears when the dehumidifier system is active.

 This indicator appears when the humidifier system is active.

When the user is logged in, this screen also allows the user to toggle power and run the self-checking function within the RCU Controls section at the bottom of the screen.

The definitions of each sensor shown in Figure 5-5 is defined below as referenced from the EdgeRack 8M manual.

- **Return Air Temp**, detected by the sensor located in the return air side inside the cooling unit, which is also the air temperature in the area drawn out from the IT equipment to the air inlet of the cooling unit.
- **Supply Air Temp**, detected by the sensor located on the supply air side inside the cooling unit, which is also the air temperature in the area blown out from the air outlet of the cooling unit to cool the IT equipment.
- **Evaporator Temp**, the evaporating temperature, detected by the sensor located on the evaporator outlet pipe inside the cooling unit.
- **Condenser Temp**, the condensing temperature, detected by the sensor located on the condenser outlet pipe inside the cooling unit.
- **Suction Temp**, detected by the sensor located on the compressor suction pipe inside the cooling unit.
- **AC Voltage**, the input voltage of the cooling unit.
- **EEV**, the opening step of the electronic expansion valve when the cooling unit is operating.
- **External Fan**, the evaporating fan output.
- **Internal Fan**, the condensing fan output.
- **Compressor**, the compressor output.
- **Electrical Heater**, the electrical heater operating current of the condensate water processing device in the cooling unit. When there is the current means that the condensate water processing device is working.

- **Low Pressure,** it is the suction pressure of the compressor detected by the pressure sensor located on the compressor suction pipe inside the cooling unit.
- **Air Temperature & Humidity** inside the cabinet,
- **Hot Air Temp.** and **Hot Air Humid** is detected by the sensor located in the rear of the cabinet to detect the air. When the "Hot Air Temp" is higher than the "Hot Air High Temperature" setting value, the front door will automatically open.
- **Unit Operating status**
- **Control Mode**, the control mode of the cooling unit. Display supply air or return air according to the operation control mode selected by the user.
- **Self-Check**, the self-check status of the cooling unit. When the cooling unit is powered on, it will automatically enter the self-Check mode, and the self-check status is shown as "Running". When the self-check mode ends, the status is shown as "Stop".

5.5 Active Alarm Screen

This screen displays any active Alarms reported by the RCU. Under normal circumstances, there are no active Alarms to report.

Figure 5-6 Active Alarms Screen (with Active Alarm)

Note that all active alarms will have the description "(ongoing)" without any text in the "Duration" field. Navigating to the next screen on the right or tapping the "VIEW LOG" button will take you to the Alarm Log screen.

5.6 Alarm Log Screen

This screen displays all logged alarm events available in the system but will only allow the

user to view the latest 40 Alarm entries. See Figure 5-7. To view more than the latest 40 entries, use the Web or API.

Figure 5-7 Alarm Log screen

Note that any alarms that have an “(ongoing)” indicator is an active alarm. Any alarm entries with “(closed)” means the Controller lost power while that alarm was active. If the alarm state continues when the Controller starts up, a new entry will be generated.

5.7 Web page / Web UI

The Web UI provides the same data metrics for the RCU and the same ability to modify certain RCU configuration settings. The home page as shown in Figure 4-14 displays the Cooling Unit segment that presents the machine state (or Power), control mode, and the corresponding supply or return air target temperature. While the homepage presents an overview, the cooling unit page presents all available data metrics along with the alarm log events that are reported by the RCU. See Figures 5-8 to 5-10. For other Controller related topics related to the Web UI, see section 4.2.

URL
https://controller.ip.address/cooling

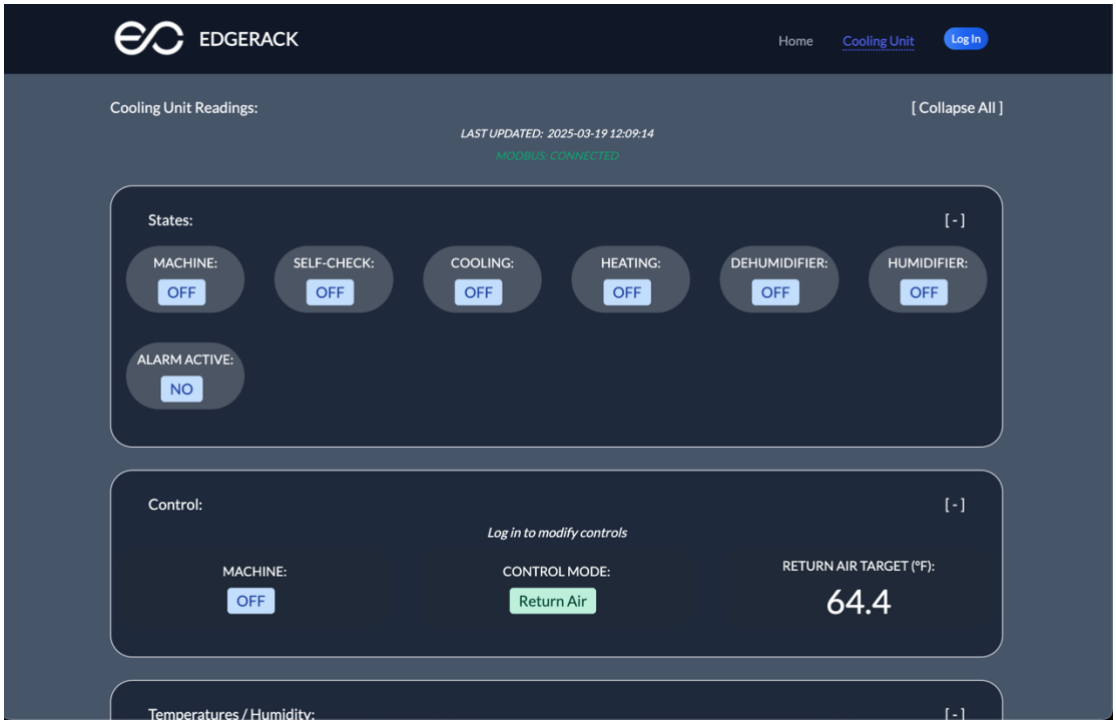


Figure 5-8 Cooling Unit page – top segment

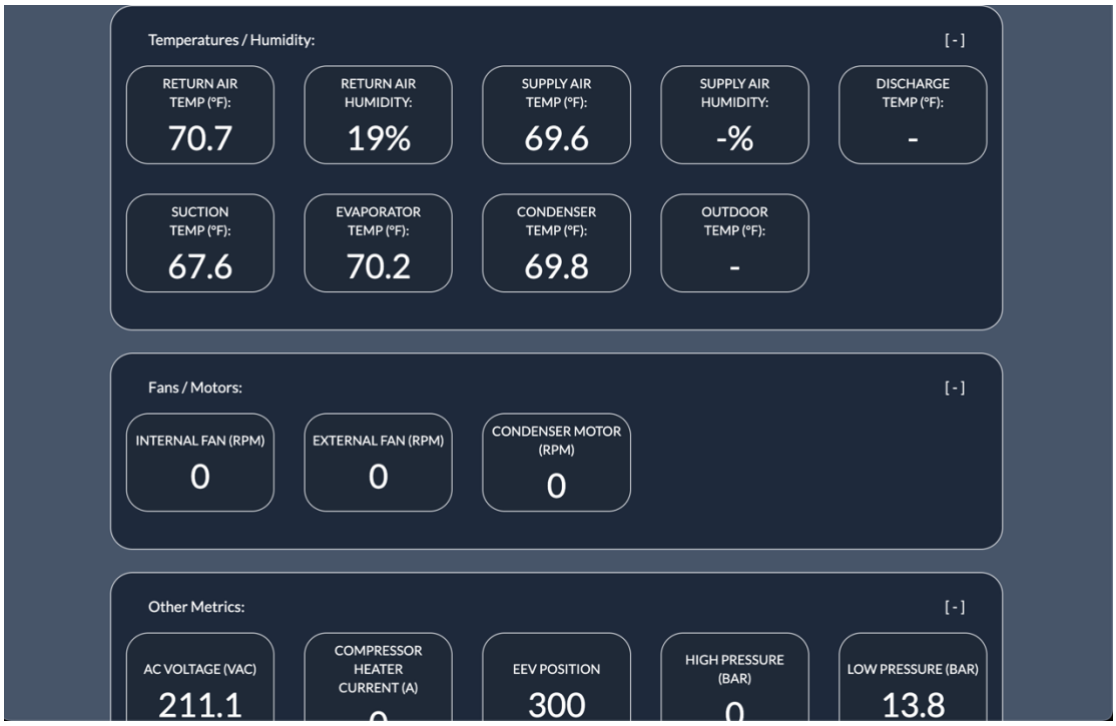


Figure 5-9 Cooling Unit page – middle segment

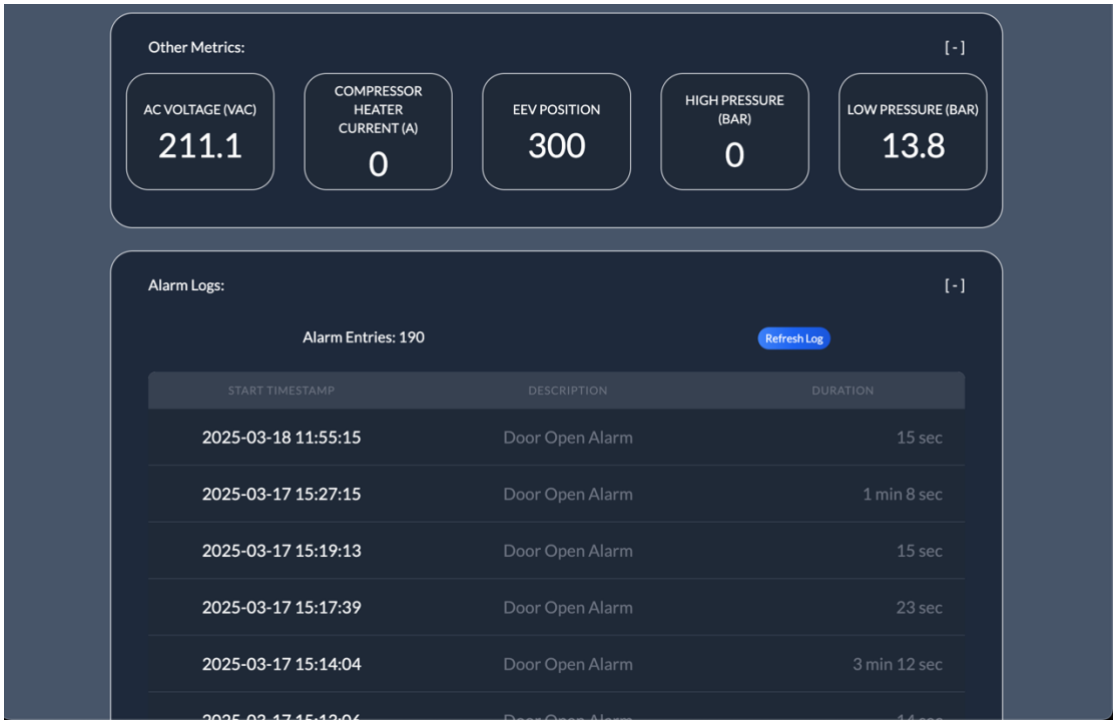


Figure 5-10 Cooling Unit page – bottom segment

6. Maintenance

Software updates are available on the Enconnex website (www.enconnex.com) and are done through the Web page/Web UI. Refer to section 4.2.4 for the steps on upgrading.

6.1. Safety Guidelines

- All maintenance work must be performed by authorized qualified professionals in strict accordance with relevant codes; otherwise, it may result in personal injury, environmental damage, and safety hazard.
- Professional maintenance shall be implemented with caution. Please contact Enconnex for specific details.

6.2. Troubleshooting

Below are basic troubleshooting steps. Contact Enconnex technical support for further instruction.

Table 6-1 Troubleshooting

Symptom	Possible Causes	Measures
Display blank on power up, blinking green light present from the Controller	DisplayPort and/or RJ-50 connector not seated properly	Disconnect and reseat both connectors from the display, then try again from the Controller box. If issue persists, contact Enconnex technical support.
Display blank on power up, no blinking green LED present from the Controller, red LED not present from the Controller	+12V power has a problem, or internal hardware failure	Contact Enconnex technical support.
RCU shows MODBUS error	3-pin MODBUS 485 cable disconnected or not seated properly	Check the 3-PIN MODBUS cable. Reseat connector from the RCU and Controller. If problem persists, contact Enconnex for technical support.
RCU shows MODBUS error	MODBUS baud rate does not match	Verify baud rate in “General Settings” with the RCU’s “User Settings” on its display. Change if necessary.

Front panel screen data is changing, but not responding to touch	Issue with application and/or hardware	Remove +12V power and retry. If failure persists, contact Enconnex for technical support.
Flash wear as shown in “System” screen reports value of 90+	Flash storage reaching I/O limits	Contact Enconnex technical support.
System is slow to respond, through any interface	Internal application encountered error	Remove +12V power, retry, then recheck. If slow performance persists, contact Enconnex for technical support.