USER MANUAL

KE2 Basic Display

KE2 Combo Display

KE2 Console/Controller

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Basic Display Instructions

Description

The KE2 Basic Display, is a small unit on the inside of the box located on the Evaporator. The Basic Display will always display the room temperature. You can also do adjustments to your Evap OEM Board from the Basic Display.

Lights and their meaning

The Basic Display has three (3) lights.

- **Red**:   Critical alarm, system is not running.
- **Yellow**:   Non-critical alarm, system is running.
- **Green**:   Calling for refrigeration, Liquid Line Solenoid (LLS) / Compressor Contactor Relay energize.
- **Green Flashing**: Waiting on min. run or min. off timer to energize/ de-energize LLS / Comp. Contactor Relay.

Getting to Evap OEM Board Set Points and Adjustments

- To access the basic set points, press and hold **ENTER** until "tS" (Room Temperature Screen) appears
- Press the ▲ or ▼ to scroll through the set points.
- Press **ENTER** to view the current set points.
- Press ▲ or ▼ to change the setpoints. Press **ENTER** to move between digits to accelerate changes.
- Press and hold **ENTER** to save the setpoint.
- Press **BACK** to escape

Room Temperature and Defrost type

Please follow the steps above to do the tasks below.

- The sign for Room Temperature is – tS.
- The sign for Defrost type is – dtY.
    - If your room temperature is ≥ 33° Fahrenheit (0.5° Celsius), the Defrost Type should be "Air", will be displayed as "Air".
    - If your room temperature is ≤ 32° Fahrenheit (0° Celsius), the Defrost Type should be "Electric", will be displayed as "ELE".
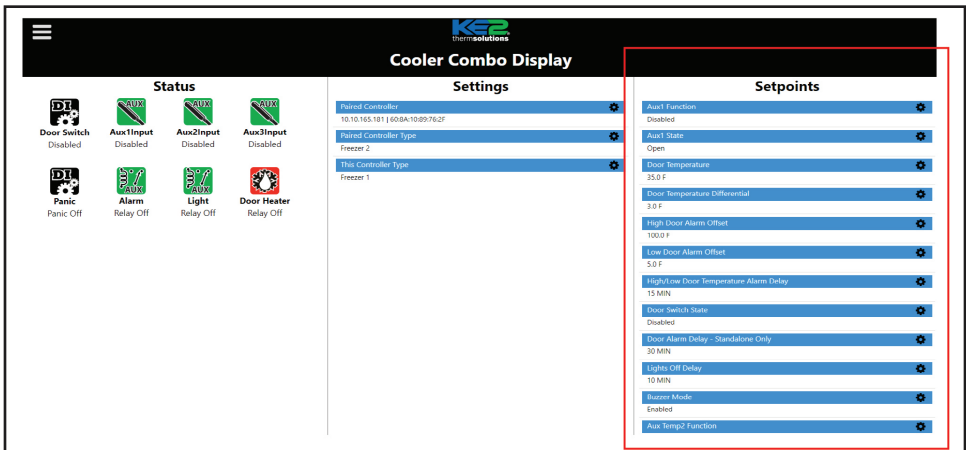
Combo Display Instructions

Description

The KE2 Combo Display, located on the front of your Polar King unit, will automatically display the room temperature of your unit. From the Combo Display, you can also access the Set Points of your Evap OEM Board and change settings. All the set points for both the Evap OEM Board and the Combo Display come preprogrammed for you. Later, you may decide to make some changes and you can do that from your Combo Display.

Get to the Set Points from your Web Interface

• Connect and login to your Evap OEM Board.

• Once you are on, click on the three bars in the top left side of the screen.

• Scroll down to "Pair Controller/ Combo Display".

- On the far right you will find your Combo Display set points.

Combo Display Setpoints ✕

Aux1 Function	Aux1 State
Disabled	Open

Door Temperature (units: F)	Door Temperature Differential (units: F)
35.0	3.0

High Door Alarm Offset (units: F)	Low Door Alarm Offset (units: F)
100.0	5.0

High/Low Door Temperature Alarm Delay (units: MIN)	Door Switch State
15	Disabled

Door Alarm Delay - Standalone Only (units: MIN)
30

Lights Off Delay (units: MIN)
10

Buzzer Mode
Disabled

Aux Temp2 Function
Disabled

Aux2 State
Open

Monitor Temp2 High Alarm (units: F)
35.0

Monitor Temp2 Low Alarm (units: F)
-10.0

Monitor Temp2 Alarm Delay (units: MIN)
10

Aux Temp3 Function
Disabled

Aux3 State
Open

Monitor Temp3 High Alarm (units: F)
35.0

Monitor Temp3 Low Alarm (units: F)
-10.0

Monitor Temp3 Alarm Delay (units: MIN)
10

Save   Cancel

- All Combo Display set points will come preprogrammed.
- One you may look into changing would be "Buzzer Mode".
  - Buzzer Mode- this set point has three options.
    - Disabled- alarm will never make sound.
    - Enabled- alarm will make sound.
    - Door Alarm Only- alarm only makes sound for the door being opened to long (will need a door switch for this feature).

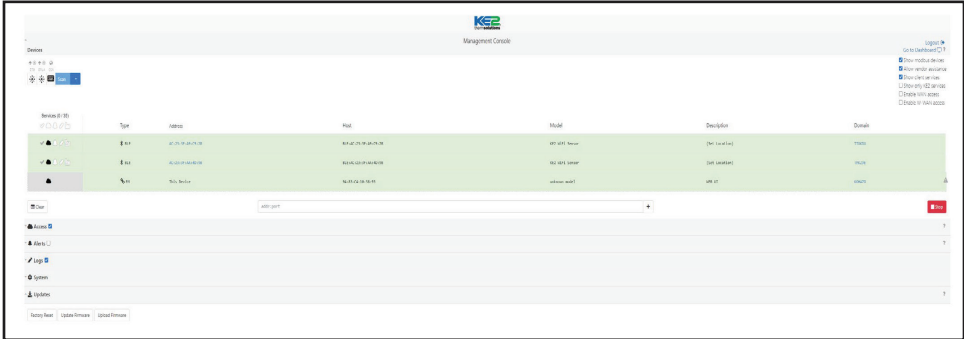## Adjustments on your Combo Display

- Combo Display set points can also be adjusted on the combo display itself.
  - To get to Combo Display setpoints, press and hold **ENTER** and **BACK** till "Aux 1 Function" appears.
  - Once you are on "Aux 1 Function" you can scroll through the settings using ▲ and ▼.
  - Once on the set point you would like to change, press **ENTER**.
  - If the yellow and red LEDs are blinking, that set point has selectable options.
    - Use ▲ and ▼ to scroll through the options.
    - If the set point is a number, use ▲ and ▼ to change the number.
    - Use ◄ and ► to move to the next digit.
  - Press and hold **ENTER** for 3 seconds to save changes.
  - Press **BACK** to go back to the setpoints page.
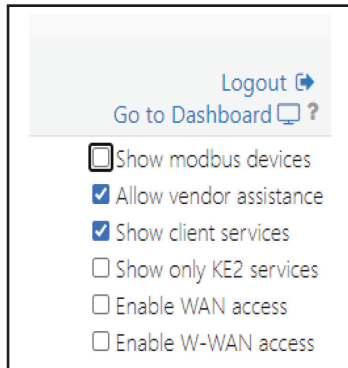 - Press **BACK** 3 times to return to default screen.

Evap OEM Board changes from your Combo Display

- Press ◄ or ► so you will see "SELECT CONTROLLER" come across your Combo Display.
- Then use ▲ or ▼ to select the controller you would like to look at.
- Press **ENTER** on your desired controller.
- Then use ◄ and ► to scroll through the menus.
    - Setpoints, Variables, Manual Menu, Login, Alarms.
- Press **ENTER** on "Setpoints".
- "LOGIN" will be displayed, Press **ENTER.**
    - 0000 will be displayed.
    - Use ▲ and ▼ to change the digit to 2.
    - Use ◄ and ► to move to the next digit.
    - The password is 2222.
    - Press and hold ENTER for 3 seconds.
- Once logged in, use ◄ and ► to scroll through the set points.
- Press **ENTER** to display current value of set point.
- If yellow and red LEDs are blinking, the set point is adjustable.
    - Use ▲ and ▼ to scroll through the options.
    - If it is a number, the right most digit will be blinking.
    - Use ▲ and ▼ to adjust the digit.
    - Use ◄ and ► to change digit.
- Press and hold **ENTER** for 3 seconds to save the change.
- Press **BACK** to return to the Setpoint menu.
- Press **BACK** 3 times to return to default display.

Management Console Instructions

Check Boxes

- On the right side of the page should be 6 check boxes, you will want to make sure the following boxes are checked.
  - Allow vendor assistance.
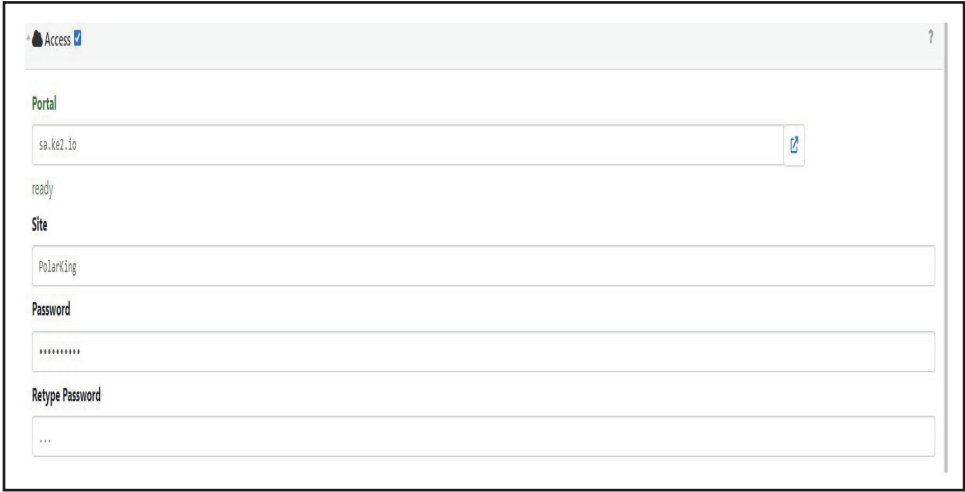 - Show client services.

Services

- On the left side of your screen, you will see all your KE2 devices that are connected to that EM-Plus (OEM board(s), wireless sensors, EM-Plus).
- You will need to make sure for all your devices to click on the 3 of the 4 icons: the check mark, the cloud, the bell, and the pencil.
- If your EM-Plus is not connected to internet, the cloud will not allow you to click it.
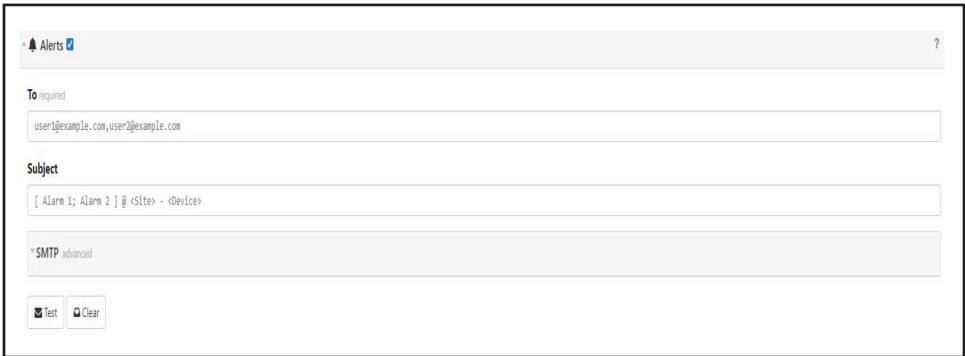- The EM-Plus only has a cloud.

Access Tab

- Under this tab, is where you set up your KE2 Portal (this tab is usually preprogrammed, and you can reach out to Polar King Inc. to get access to the site.

- If you wish to have your own site or you already have one and would like to add this, please contact KE2 Tech Support at information@ke2therm.com or call 636-266-0140.

- Click the check box next to the cloud to save.
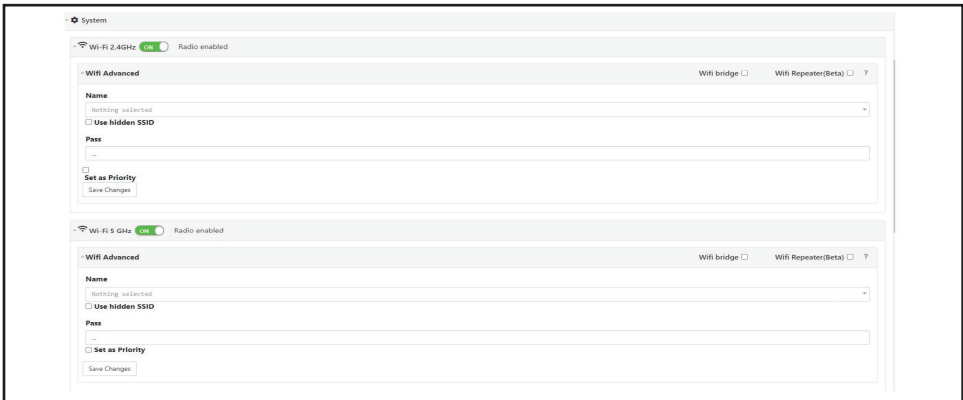
Alerts Tab

- Under this tab, you can set up your EM-Plus to email you alerts (please note your EM-Plus must be connected to internet).

- In the "To" field, please type in the email address you would like to receive alerts on.

- If there is more than one, put a coma in between the email addresses.

- In the "subject" field, put in the subject you would like the email to say in your inbox once you receive an alert.

- Click the check box next to the bell to save.

Logs Tab

- Under this tab, you will be able to set up how often your EM-Plus logs on your unit's data (please note these come preprogrammed at every 10 MIN or 144 logs a day).
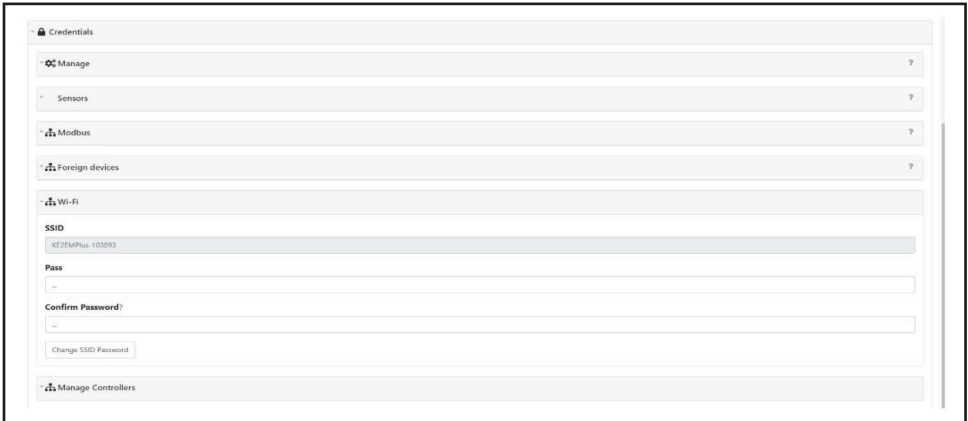- Click the check box next to the pencil to save.

System Tab

- Under this tab, you will be able to set up a wi-fi bridge.
    - To do a wi-fi bridge, click the Wi-fi 2.4GHz section or Wi-Fi 5 GHz section.
    - In the "Name" field, type in the SSID you wish to connect to (if your SSID is hidden make sure to click the check box).
    - In the "Pass" field, type in the password to that SSID.
    - Click the check box by "Wi-Fi bridge".
    - Once a Wi-Fi bridge is complete, please not that one of your two EM-Plus Wi-Fi will be gone.

- Under the "Credentials" section under the "Systems" tab, you will find where you can change your username and password.
    - Go to the "Manage" section.
    - In the "User" field, you can type in your new Username.
    - In the "Pass" field, you can type in your new Password.
    - In the "Confirm Pass" field, re-enter your new Password.
    - Click "Change and log out" to confirm your change (Please note that this will log you out and make you resign in.

- Under the "Credentials" section under the "Systems" tab, you will find where you can change your EM-Plus SSID password.
    - Go to the "Wi-Fi" section.
    - In the "Pass" field, type in your new password.
    - In the "Confirm Pass" field, re-enter your new password.

Once you are done on the EM-Plus, make sure to properly log out at the top right of your screen.

EM-Plus Instructions

How to Connect

- **Wi-Fi**
    - Open your computer and open your wi-fi settings.
    - On the list of available wi-fis should be a "KE2EMPlus-#####".

    - Type in password provided for you.
    - Open web browser (ex: Chrome, Safari).
    - Type in 192.168.50.1 in the URL bar.
- **Ethernet Wire**
    - Connect ethernet wire to the LAN port and to your ethernet port on your computer.
    - Open web browser (ex: Chrome, Safari).
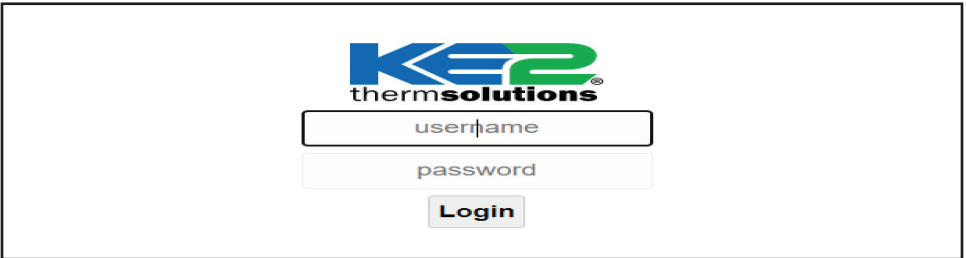   - Type in the IP address 192.168.50.1 in the URL bar.

Management Console

- **How to get to Management Console**
  - After you are on the web page, in the top right-hand corner of the screen, there should be a link saying "Go to Management Console".
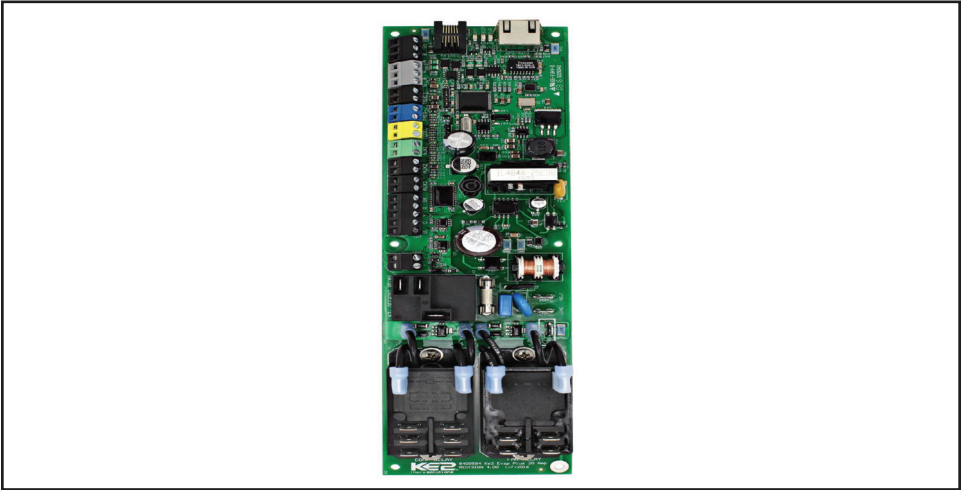

  - Once you click on the link, it will have you login (login information should be provided to you).
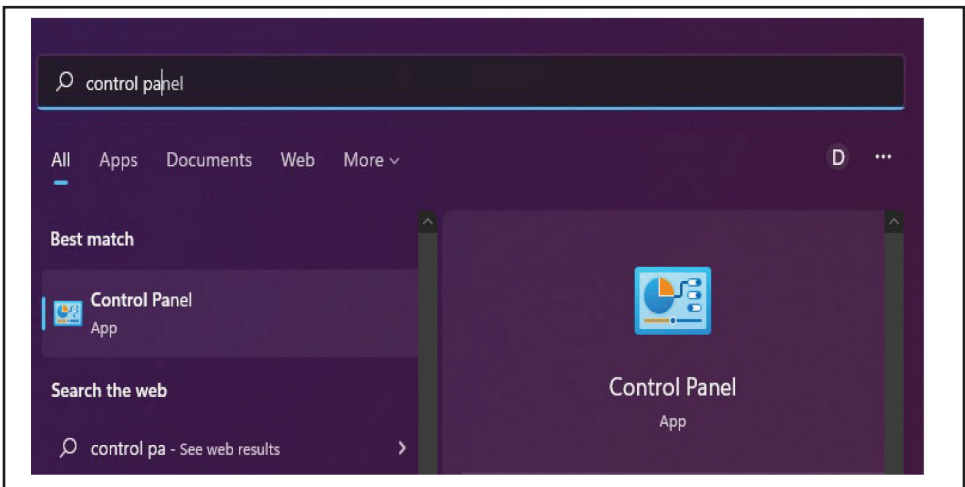

  - This is the page where you will be able to edit: Alarms, KE2 Smart Access Portal, Logs, and Network Settings.
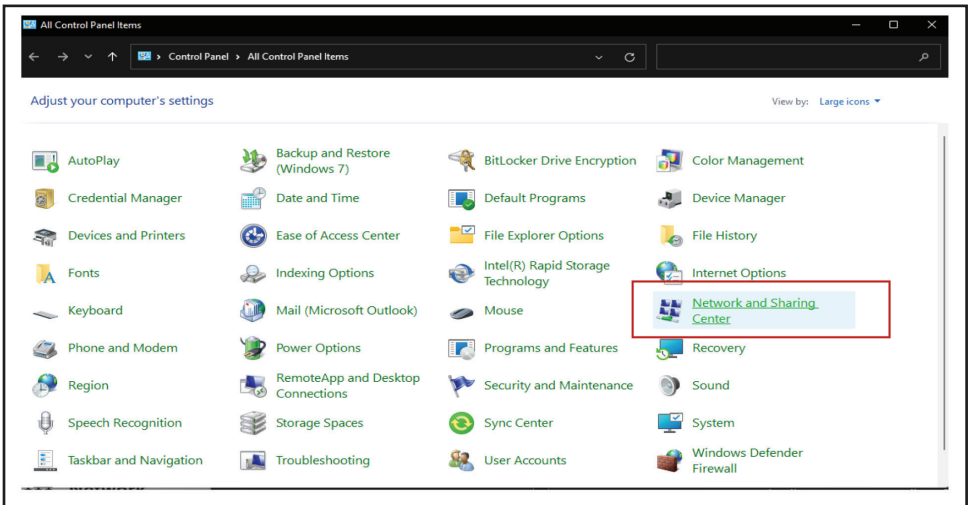
OEM Board Instructions
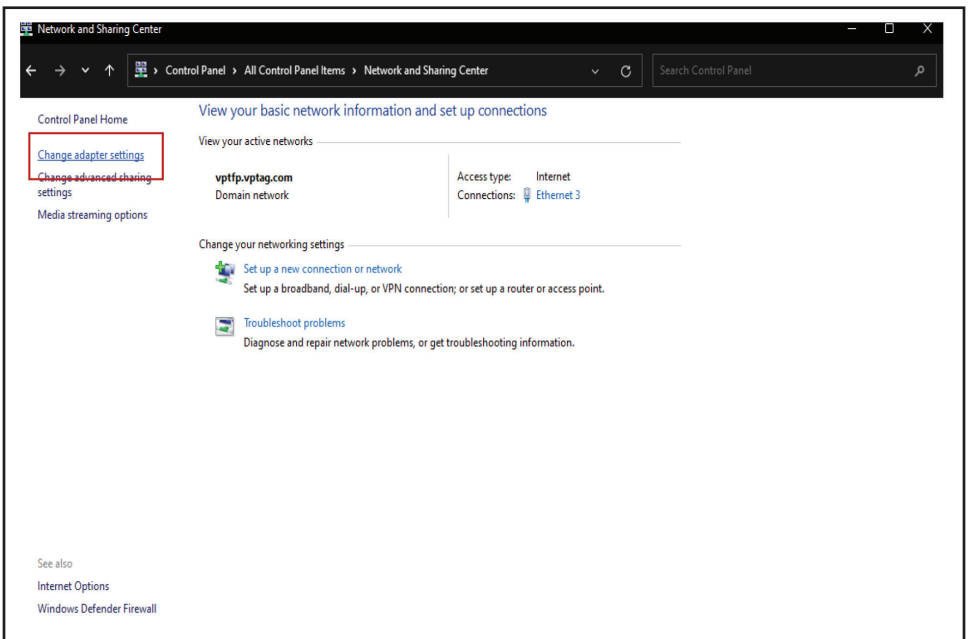

How to Connect

- Via EM-Plus

    - Connect to your EM-Plus.

    - Go to Management Console.

    - Under Management Console, your OEM should be towards the top of your screen.

    - Click the IP address.

- Via Ethernet wire

    - Connect an Ethernet wire to the OEM board (Please note that the ethernet hook up port on the outside of the unit, by the door, is there for this purpose, you can plug into the ethernet hook up).

    - On your Windows Operating System,

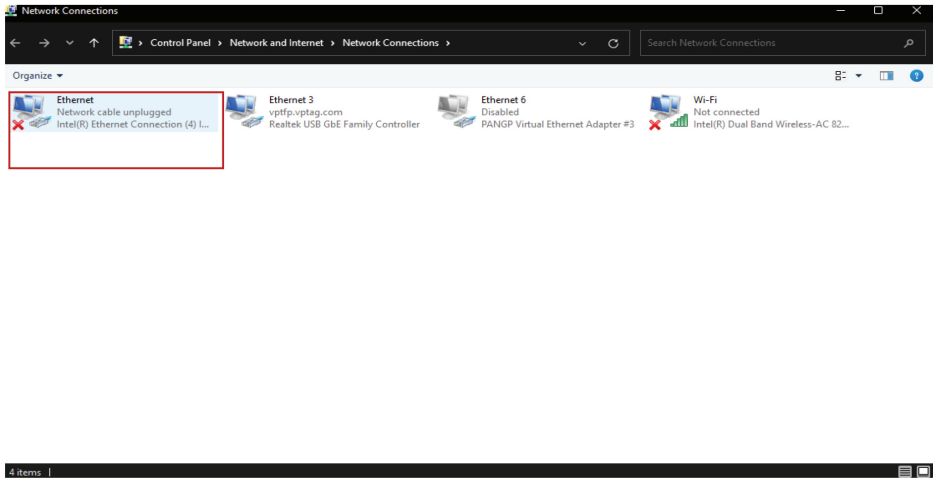   - Click the windows key ⊞ on your keyboard, and type "Control Panel".
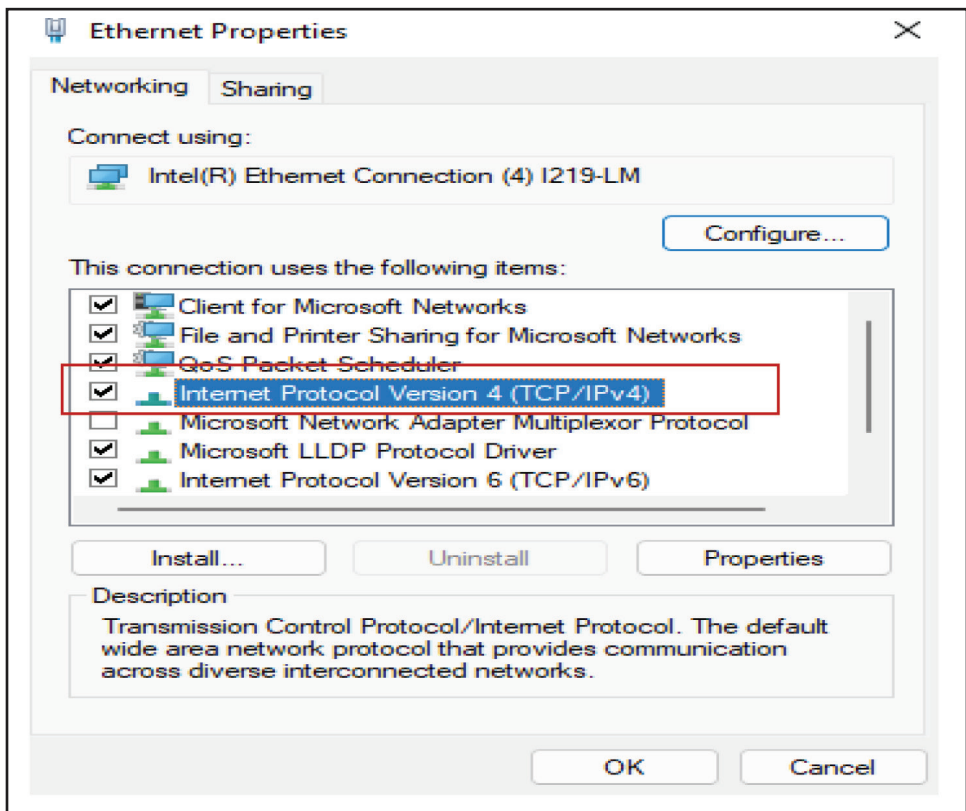
- Go to control panel.

- Network and Sharing Center.
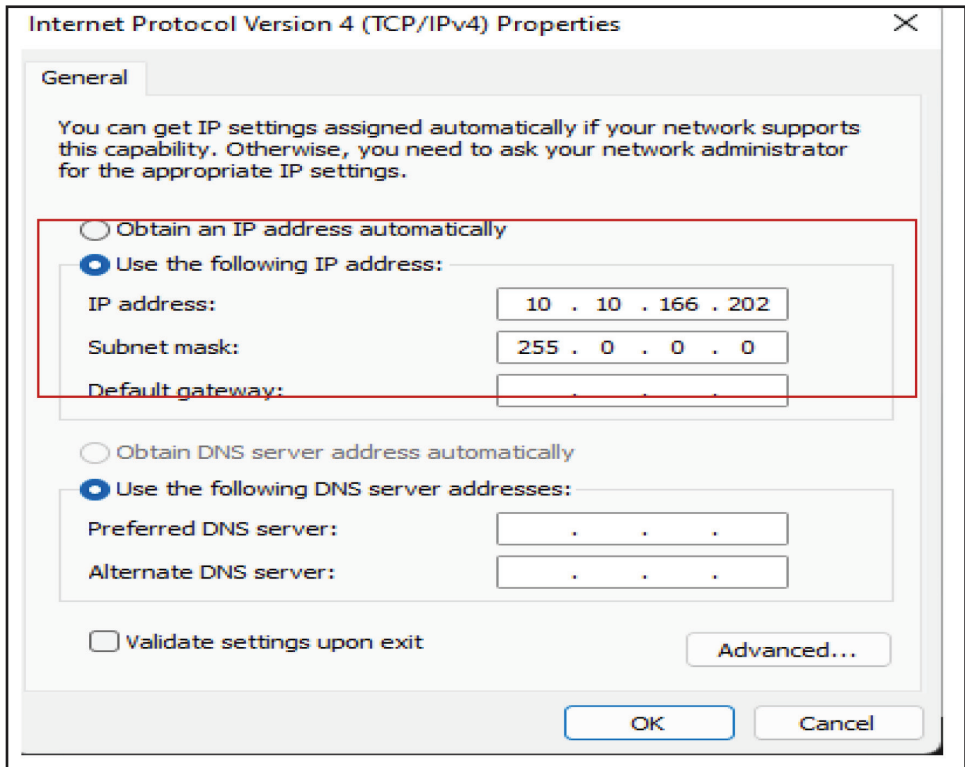
- Change adapter settings.
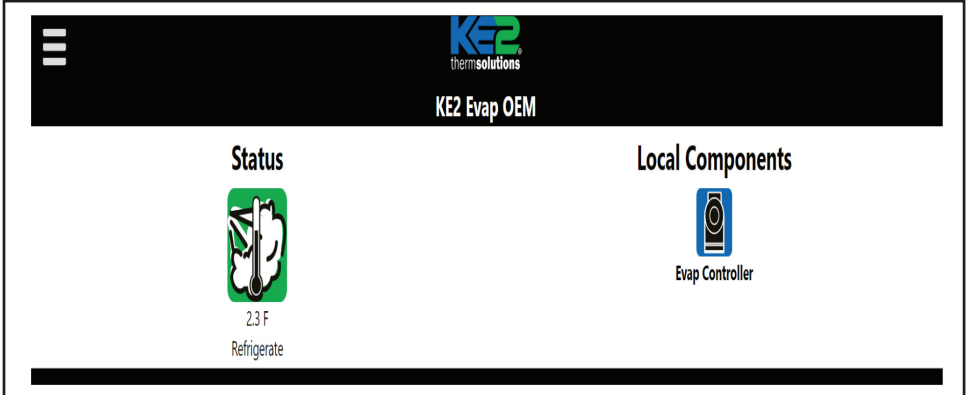

- Right Click "Ethernet" and scroll down "Properties".

- Double Click Internet Protocol Version 4 (TCP/IPv4).

Internet Protocol Version 4 (TCP/IPv4) Properties   ✕

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
◉ Use the following IP address:

IP address:	10 . 10 . 166 . 202
Subnet mask:	255 . 0 . 0 . 0
Default gateway:	. . .

○ Obtain DNS server address automatically
◉ Use the following DNS server addresses:

| Preferred DNS server: | . . . |
| Alternate DNS server: | . . . |

☐ Validate settings upon exit   Advanced...
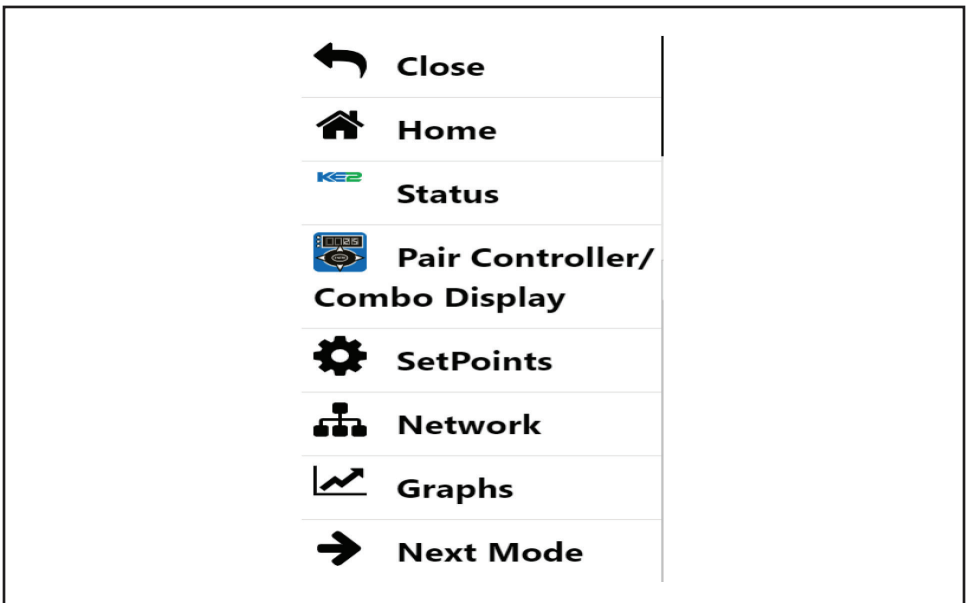
OK   Cancel

- Change IP address to match the first 3 sections of the IP address of your OEM Board.
    - Ex: OEM IP- 10.10.166.211.
    - Your IP- 10.10.166.202.
    - Change your Subnet mask to 255.0.0.0.
- Click "OK".
- Click "OK" under Ethernet Properties.
- Getting to web interface
    - Once you have changed your computers IP address, open your web browser (ex: Chrome, Safari).
    - Type in the IP address of your OEM Board into the URL bar.
        - A pop up may occur saying that this website is not safe, advance through this page.
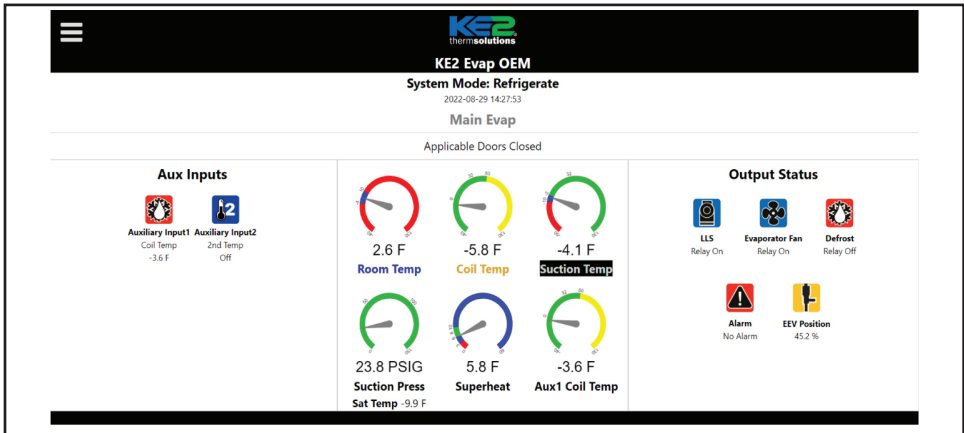
How to Operate your OEM Board
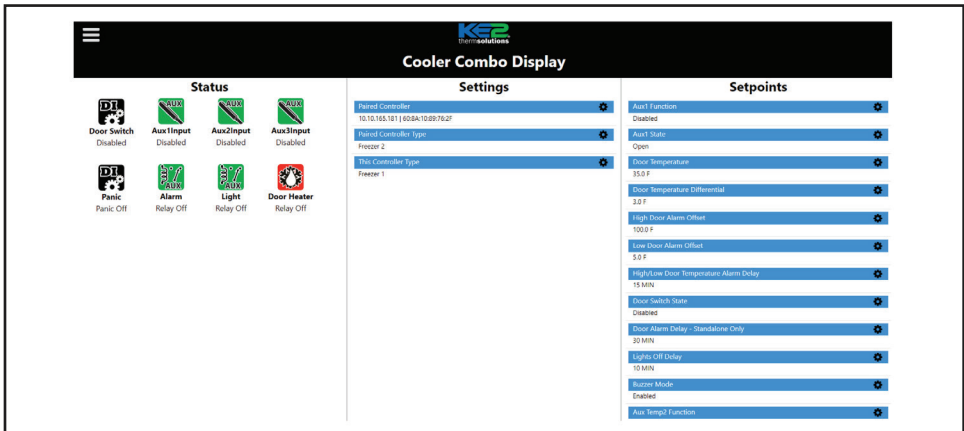
• The opening page will be the Home page.

• On the home page in the top left corner, will be three bars.
  • If you click on the three bars, you will be able to jump around to the other pages.
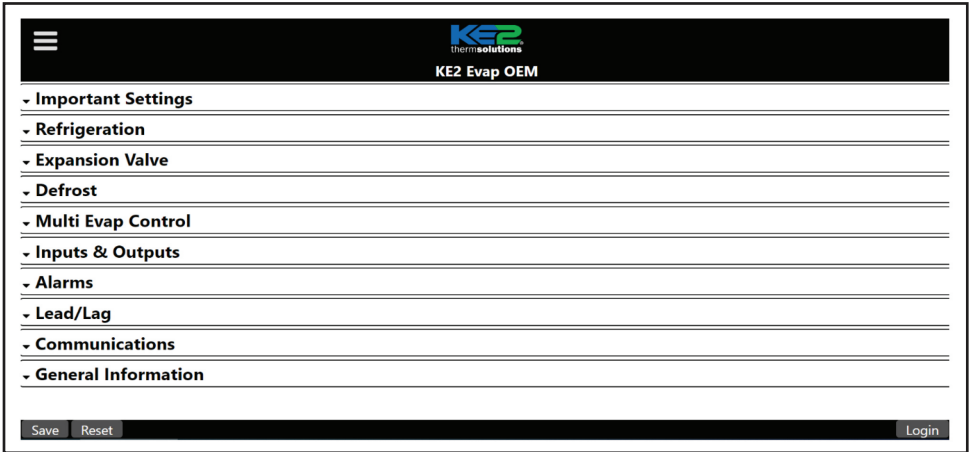
- Status page.

- The Status page is just a viewing page, you may view

  - Room Temp.
  - Coil Temp.
  - Suction Temp.
  - Suction Pressure.
  - Saturation Temp.
  - Super Heat.
  - And all other Auxiliary sensors.
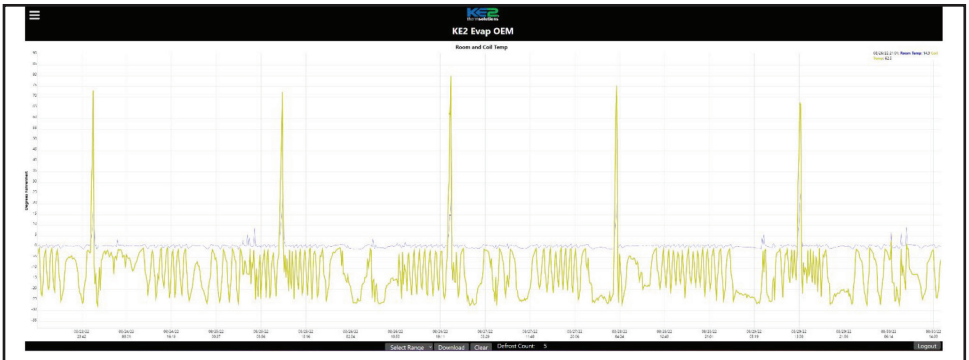
- Pair Controller/ Combo Display.

- Pair Controller/ Combo Display page is for accessing your Combo Display set points and pairing controllers.
- Your controllers come paired.
- Your Combo Display set points come preprogrammed.
  - Some set points you may look into changing later would be
    - Buzzer settings (disabled, enabled, or door only)
      - If you do not have a door switch the door open alarm will never buzz
- You will have to login with the username and password provided to you to make any changes.

- Set Points

- Set Points page is where you make all adjustments to your unit such as room temperature, main valve type, super heat goal temperature, and so much more.
- All these settings will come preprogrammed to your liking.
- Graphs

- Graphs page is another viewing page where you can see how your box has been running, it will show you room temperature and coil temperature readings from the last week or month. It also shows the defrost count of whichever time frame you choose.

When done with the KE2 OEM Board, make sure to properly logout of the device before closing the window.

Notes

Notes

Notes

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