

EasyTouch
354
Operating Manual
Revision 1.5



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The EasyTouch 354 model thermostats were designed to directly replace Coleman™, Airxcel™ and RVP™ ZC thermostats. Original thermostats must have model numbers of 8330-331, 8330-335, or 8430-331 to be replaced by this thermostat. A typical example of this thermostat is shown in figure 1. Note the single slide switch and mode/zone button specific to this model. If your thermostat is not listed or as shown, please contact Micro-Air <https://www.micro-air.com/SupportRequest> to verify the thermostat you received is correct for your application.



Figure 1

Installing the thermostat

There are three steps to installing the thermostat. First remove your old thermostat. Next disconnect and reconnect the wiring. Finally install the mounting pins to the wall and mount your new thermostat.

Removing the old thermostat

The original thermostat is held to the wall with a backing plate that extends about ¼" (6.3mm) from the wall. There are two slots on the top of the thermostat as shown in Figure 1. Place a small screwdriver in the slot and twist the screw driver while pulling gently out from the thermostat top.

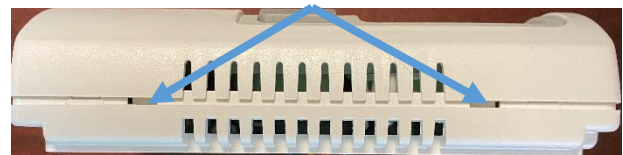


Figure 2

After the first side pops loose, do the same with the second slot. Remove the screws from the mounting plate and remove the plate and thermostat. Unplug the connector from the RV wiring harness. Note, some thermostats are directly wired by the manufacturer. See the next section for further details.



Wiring the thermostat

Original thermostats can have a plug-in connector, or could be direct wired to the RV manufacturers wiring. Thermostats wired with a plug can simply unplug the original plug and plug in the EasyTouch RV thermostat.

Micro-Air provides a connector to directly wire these thermostats to the wiring if the manufacturer has directly wired the thermostat. Match the original wiring colors to the provided EasyTouch connector colors to install the thermostat. See Table 1 for details on the colors used with the thermostat and the function of the wires.

Note: Some versions of this thermostat come with a connector wired to the EasyTouch circuit board. Directly wired customers can cut off the connector to access the wires to make connections.

Note: See [Appendix C: 8430-331 wiring](#) for a different wiring table when replacing model number 8430-331.

Table 1

Original thermostat wire color	Micro-Air harness color	Function	Factory harness color (Provided to write in your color)
Purple	Purple	Signal	
White	White	Heat 1	
Orange	Orange	Heat 2	
Yellow	Yellow	Heat 3	
Green	Green	Heat 4	
Blue	Blue	Ground in	
Blue/White stripe	Blue/White stripe	Ground out	
Red	Red	+ 12 VDC in	
Red/White stripe	Red/White stripe	+12 VDC out	



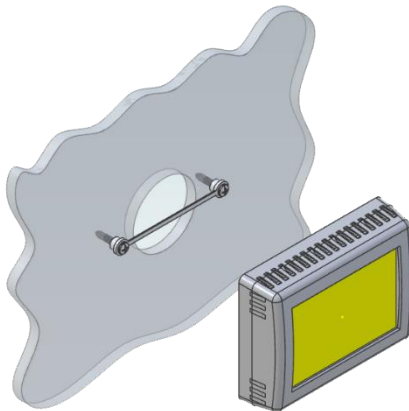
Mounting the thermostat



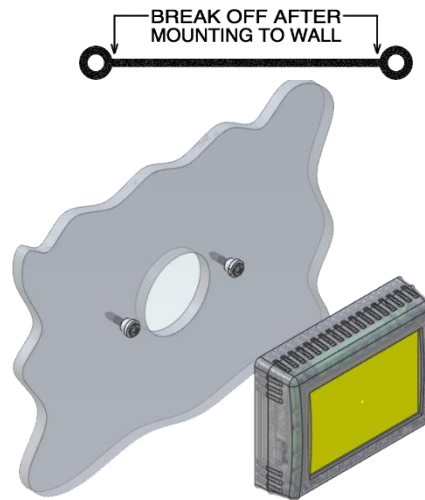
Step 1: Locate the mounting buttons horizontally across the hole with the smaller diameter against the wall.



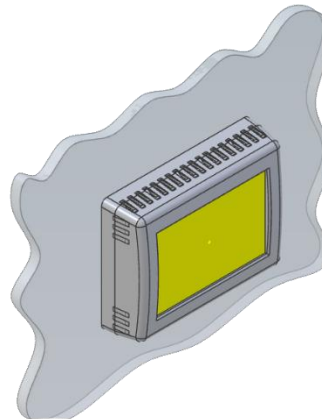
Step 2: Screw in one screw and level the buttons so the display will be straight when installed.



Step 3: Screw in second screw making sure the two buttons remain level.



Step 4: Remove mounting tab before mounting on the wall.



Step 5: Aligning the buttons with the holes in the back of the display. Press the display against the wall and gently slide the display down to lock it in place.



Initial setup instructions

Setting the available modes

It is necessary to set up the available modes prior to operating your thermostat. Press the settings button  on the main screen. Select the available modes  button on the settings screen. Select cooling,  Gas heat,  or electric heat  by pressing the icon. The red circle with a line through it will disappear indicating the mode is available. Available modes must match your original thermostat's available modes. Use the zone button to set them appropriately for each available zone.

Special model compatibility

There is text in the available modes screen that reads "Normal" as shipped from Micro-Air. Pressing this text, changes the operating modes to different options to support specific thermostats.

Option B must be selected when replacing a thermostat with model number 8430-331. Press the "Normal" text in the available modes screen to change the text to "Option B" when replacing this thermostat. See [Appendix C: 8430-331 wiring](#) for more information on these systems.

Connecting remotely

This thermostat may be operated remotely using either Bluetooth or WIFI. Apps may be loaded from the Google Play store or Apple App store. The first time the app is opened, it will ask to create an account. A WIFI connection on your smart device is necessary for this step. Create your account and follow the prompts to connect your thermostat.

If a second user is going to use the thermostat remotely, they can use the same account and password as the first user. Each thermostat can only be assigned to a single account.

Operating the thermostat

Main screen

1. Inside temperature shows the ambient temperature of the room.
2. WIFI indicator shows the state of the WIFI connection. Green indicates WIFI is connected properly, Red indicates connection to router only, bars indicate signal strength, and no symbol indicates no connection.
3. Raise and lower the temperature set point using the red and blue arrows.
4. Use the power button to turn the system on or off. Button is red for off and green for on.
5. Pressing the mode icon changes from cooling or heating modes depending on what is available in your system. See Table 2 for a list of all possible modes.

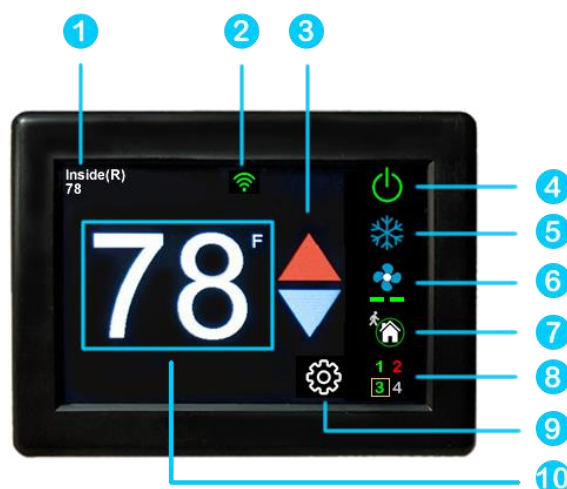
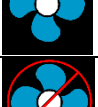


Table 2

	Fan only			Automatic
	Cool Only			Zone on
	Gas heating			Zone off
	Electric Heating			

6. Pressing the fan icon selects between manual (always on) fan speeds and automatic fan speeds. Automatic will turn the fan off after the heating or cooling cycle is completed. See Table 3 for available fan speeds.

Table 3

	Indication	Available in mode	Action
	Manual fan low	Manual fan, Cooling	Fan runs continually on low
	Manual fan high	Manual fan, Cooling	Fan runs continually on high
	Auto fan	Cooling, Auto	Fan cycles with compressor or electric element
	Fan off		Fan does not turn on

7. Home-away-schedule icon. Pressing this button selects between these modes. Home mode is the normal operating mode using a single setpoint for temperature control. Schedule mode allows changing set points throughout the day programmatically. Away mode allows setting a heating and a cooling set point and automatically changing from heating to cooling.
8. The zone selection button will show a zone in green when it is turned on. The zone number will show in gray if the zone is not available and in red if there is a fault with the zone.
9. Pressing the gear will change the settings screen to allow additional setup functions.
10. Pressing the set point will change the system units from °F to °C and back. The set point is also used as an indicator of system operation. A red set point indicates a heating cycle is in process. A blue set point indicates a cooling cycle is in process. A white icon indicates no cycle is in process.

Additional items on main screen

Local weather: A weather icon will appear on the top row when the thermostat is connected to the internet. Outside air temperature will be available in the lower left corner. Pressing the icon will give additional local details.



Away screen (Heat and cool set points)



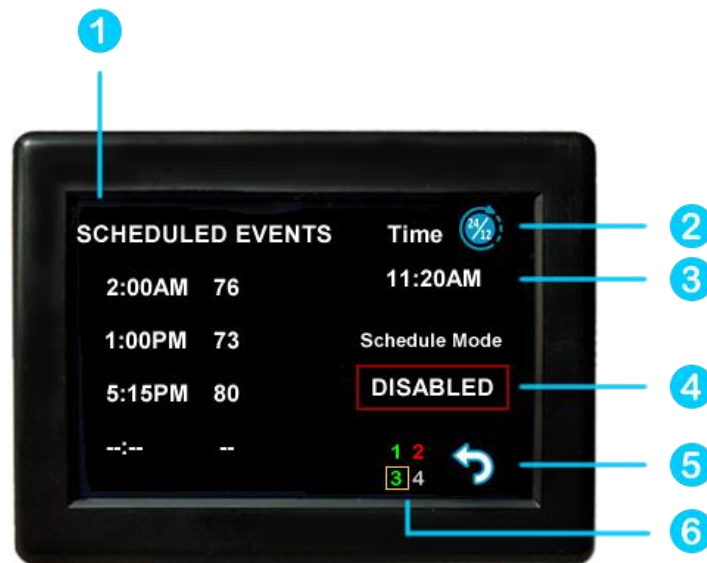
Away operation allows setting upper and lower limits for temperature with a non-operating area or “dead band” in the middle. This can be useful when setting a higher daytime cooling temperature and lower night time heating temperature. It can also be used to control the temperature extremes when you are away from the RV. The mode selected must be an automatic mode to allow both heating and cooling operation.

1. Press the setpoints area to toggle between the selected value. A blue square will show around the value you are changing. The upper value changes the cooling set point and the lower value changes the heating set point.

2. Use the up and down arrows to change the selected temperature value.



Schedule screen



Set points may be changed on a time-based schedule. The mode used will be the heating or cooling mode set on the main screen.

Setting a change event

1. Events will show --:-- when the event is disabled. Press the hours position to set the hours. A flashing bar will appear under the hours along with up and down adjustment selectors. Use the adjustment selectors to change the hours.

Press the minutes to move the flashing bar under the minutes and allow $\frac{1}{4}$ hour adjustments. Use the up and down adjustment selectors to make changes.

Press the temperature to change the desired temperature set point. This is the temperature the system will try to achieve after the time that was set.

12- or 24-hour format

2. Press the time in the upper right to change 12 and 24-hour time formats.

Setting the time

3. Time zone is set and saved whenever the thermostat connects using Bluetooth. Time is set on power up through the internet connection, or whenever a connection is made on either Bluetooth or WIFI.

Enabling the schedule

4. Press the enabled/disabled button to enable the schedule. The schedule will be active and make set point changes anytime the schedule is selected on the main screen. The Home/Schedule/Away button will only toggle between schedule and away when the schedule is enabled. The button will only select between home and away if the schedule is disabled. Away mode is not configurable on a schedule.

5. Press the round arrow to return to the regular settings screen.



Settings Screen

Pressing the settings gear brings up a menu with multiple options listed below. These are informational or operational changes that can be made to the thermostat.

	Last menu navigation.
	Next menu navigation.
	Return to main screen.
	Help Screen: The QR code will bring you to the Micro-Air EasyTouch page when selected using a QR compatible phone app. Below the QR code is the serial number for the thermostat and the firmware revision for the thermostat. Firmware updates can be checked for in the smart device application.
	Day/Night mode. Day mode (shown above) will dim the display down to the screen saver set point after 30 seconds. Night mode (moon icon) will turn off the back light after 30 seconds. The display will brighten again once the touch screen is pressed.
	Schedule is used to change the set point automatically at a pre-determined time. See Schedule operation for more details.
	Temperature adjustment is used to adjust the inside temperature with an offset. This will only apply to zone 1.
	Temperature gap: Sets the “dead band” or gap. This is the number of degrees the temperature must move to start a cycle. High numbers can prevent short cycling in smaller RV's
	Restart: This icon allows restarting the thermostat just like removing and restoring the power.
	Touchscreen calibrate: This icon allows calibrating the touch press locations on EasyTouch. This is normally not necessary. Follow the on-screen prompts to complete calibration.
	WiFi is used to view your WIFI settings and MAC address. Changes to the WIFI connection must be made using the smart device application.
	Bluetooth is used to reset the Bluetooth password. This password is saved from your account password. Only one account at a time may access the thermostat. Reset the password whenever you change your account password.
	Brightness settings allow dimming the normal brightness and setting the screen saver brightness.
	The DIP switches icon is used to configure the modes available in the thermostat. It must be used when installing the thermostat to set the available heat sources. See setting the available modes for more details.
	Reset all will reset the thermostat to factory settings including all set points, schedule events, and other settings.



Gas Heat Override

This feature turns on the gas furnace from an electric heat mode when the setpoint is five or more degrees away from the ambient temperature and heating is required. It is only available on systems that have both gas and electric heating and is only active in electric heat or cool/electric heat modes.

If heating setpoint is 5 degrees or more above the inside temperature in an electric heating mode, the furnace will come on along with the electric heater. Both will remain on until the set point is reached. If this action is necessary more than twice in a row, gas heat will be used for the next two hours without electric heating. This is indicated by a red circle and line through the electric mode button.

When the furnace is actively overriding the electric heat, a furnace symbol will appear at the top of the thermostat screen.

Smart device application only features

Reset device

This Bluetooth only feature allows resetting the display just as if you removed and restored power.

Calibrate Touchscreen

It is normally not necessary to recalibrate the touchscreen. This selection prompts the user to press the four corners of the display then test the calibration using three diagonal marks. This feature is only available from Bluetooth since being at the thermostat is required.

Check for updates

Checks to see if any updates are available for the thermostat. The smart device application must have internet and the thermostat must be connected to WIFI with a green WIFI symbol. Tap Check for Updates and follow the prompts.



Notifications

Notifications provide a way for the thermostat to communicate back to a smart device like a tablet or phone. These notifications are indications of the temperature exceeding a set limit. Limits are set by connecting to the thermostat in the app, selecting the settings gear, and then selecting notifications. A minimum and maximum allowed temperature can be set. Table 4 shows an example of operation with an 80°F maximum temperature set. Notification will be sent for each degree it rises above the maximum temperature. If temperature drops, no notification will be sent unless the temperature exceeds the last maximum temperature again (82 in the example). If the temperature drops two degrees below the set maximum, (78 in the example) it will again alert for each degree above the set maximum. This behavior helps avoid nuisance notifications to your smart device.

Table 4

Temperature °F	Action
80	Send first notification
81	Send another notification
82	Send another notification
81...79	Temperature drops, no notification
78	Max temp resets



Appendix A: Installation Troubleshooting

The most common problem is not knowing the thermostat operation. If the system is running a heating or cooling cycle, the set point will turn red for heating and blue for cooling. When the thermostat turns white, the heat pump, heat strip and furnace should all be off. The fan may continue to run for a while after the cycle completes. If a fan is left in a manual mode, it will not shut off.

WIFI Troubleshooting

No WIFI Icon

- SSID (Network name) and password are both case sensitive.
- Be sure you are connecting to a 2.4 GHz network and not a 5GHz or 6GHz network.
- Set the security to WPA2 and TKIP+AES if you are having trouble.
- The thermostat has a limit of 31 characters for the SSID and 50 for the password.
- The number of devices limit for the network is not full.
- The WIFI source is not out of range or metal partitions blocking the signal
- Reset the router to renew the DHCP lease.
- If you are in a metal enclosure, try moving the router or thermostat a few inches (even if temporary) and trying again.
- If using MAC filtering, add the thermostat to the allowed devices list.
- Make sure your router does not have the SSID set to “hidden”.

Red WIFI Icon

- The router must have an internet connection
- Server may be down, check back at a later time
- Be sure there is no firewall in the router blocking the incoming messages (port 443, HTTPS).



Appendix B: Connecting remotely

First connection steps

1. This thermostat uses BLE which is a special implementation of Bluetooth. It is not necessary to “Pair” the thermostat with the phone but an account must be created for operation.
2. Start the app on your smart device. The app will open and if you have not entered your account information, it will ask you to create an account. Enter your name, email and a password at the prompts. The system will send a confirmation email to your inbox. Enter the number in the confirmation email when asked.
3. Once the account is created, the application may ask to add a device. If your device is powered it will show in the list to be added to your account. Select the control and enter a name or location for the control.
4. If you added a control, the app will ask if you want to connect to WIFI now. Enter your SSID (network name) and password in the boxes.

Adding a control

Follow the next steps if the account process does not add a control or a second thermostat is to be added.

1. Press “Add” on the top of the selection screen (Apple) or press the settings gear and “Add Device” (Android).
2. The second thermostat should be listed in the new selection window. Select the device and enter a name for the device.
3. Press OK and the screen will return to the settings menu (Android) or the selection screen (Apple). Android users should press the back button to get to the selection screen.
4. Select the device name to open the thermostat screen.

Connecting to a new WIFI network

1. Connect to the thermostat in Bluetooth (Apple) and press the settings gear.
2. Select WIFI Setup from the settings window.
3. Enter the SSID (network name) and password (Both case sensitive).
4. Press OK and the screen will return to the selection screen. The thermostat will reset and a green WIFI symbol will appear on the thermostat screen if the connection was successful.

Updating the thermostat

Ensuring you have the latest thermostat software is key to having all the latest features.

1. Ensure the thermostat is connected to WIFI with a green WIFI symbol.
2. Connect to the thermostat using a smart device. Press the settings gear on the top right in the thermostat screen. Tap the “Check for Updates” selection.
3. Follow the prompts to update the thermostat if one is available.



Appendix C: 8430-331 wiring

Table 5

Original thermostat wire color	Micro-Air harness color	Function	Factory harness color (Provided to write in your color)
Purple	Purple	Signal 1	
Black	Black	Signal 2	
Green	Green	Zone 2 On	
White	White	Zone 1 High	
Blue	Blue	Ground in	
Red/White stripe	Red/White stripe	+12 VDC out	
Red	Red	+ 12 VDC in	
Blue/White stripe	Blue/White stripe	Ground out	
Orange	Orange	Zone 2 High	
Yellow	Yellow	Zone 1 On	

Table 5 shows the wiring functions used for this model thermostat. Option B must be selected in the settings' switches menu. Only two heating zones are possible in this configuration. Yellow and green are used to turn on single stage furnaces for zones 1 and two respectively. This can be used in Aqua hot systems as well to turn on each of the two zones for heating.

Two stage furnaces like certain suburban models use the orange and white wires to turn on the high furnace fan and high gas valve. This feature activates high furnace if the ambient temperature is more than four degrees below the set point.

