

Instruction Manual

Supplementary Manual for TH220-W Wireless Temperature and Humidity Controller

Version 1.0 (Feb, 2017)

1. Overview

Auber's TH220-W is a temperature and humidity controlling device with Wi-Fi network connection capability. It has a build-in Wi-Fi module which allow its user to monitor and control both temperature and humidity remotely from a smart phone or a tablet. Once set up, user can access the data and change parameter settings even the user is thousands of miles away from the device.

This guide provides an instruction on how to use AuberSmart app to connect to the controller TH220-W. For basic operations of the controller, please check the main manual of TH220/TH220-W.

2. Wireless connection

2.1. Specifications

Frequency Range	2.412 GHz - 2.484 GHz
Standards	802.11b/g/n
Output Power	802.11b: 16 dBm 802.11g: 14 dBm 802.11n: 13 dBm
Receiving Sensitivity	802.11b < -78 dBm 802.11g < -68 dBm 802.11n < -66 dBm
Data Rates	11 M @ 802.11b, 54 M @ 802.11g, MCS7 @ 802.11n
Security	Encryption Standards: WEP/WEPA/WPA2 Encryption Algorithms: WEP64/WEP128/TKIP/AES
Wi-Fi Type	STA/AP

Note

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. TH220-W contains radio module. FCC ID: 2ACDZ-3301-SBSL.

2.2. Requirements

- User must have a smart phone/tablet with AuberSmart app installed (available for Android 4.4 or above and for iOS 10).
- User must have a Wi-Fi network, the network's name (SSID) and the password.
- During the initial set up, user's smart phone/tablet must connect to the designated Wi-Fi network.
- The device must under the coverage of the designated Wi-Fi network all the time.

2.3. Wireless connection indicator

There is a blue LED indicator shows the status of the wireless connection. It is located at the lower right corner of the display window. Different blinking frequency indicates different communication status.

Fast blinking (4 Hz): initializing/reset wireless connection.

Slow blinking (0.5 Hz): wireless signal out-of-range; device lost wireless connection.

Short single or multiple pulses: device is communicating with user's phone/tablet.

2.4. Initial set up

When the device is first power up, the wireless connection indicator will fast blink, which means the device is not connected to any Wi-Fi signal yet. User can configure the device from his/her smart phone/tablet if AuberSmart app is installed. The indicator will stop blinking after wireless connection is set up. Or if user hasn't set up the wireless connection during the first 30 min, the indicator will also stop blinking. User will have to reset the Wi-Fi module when he/she wants to re-configure the wireless connection.

2.5. Reset wireless connection

If the device TH220-W was configured to a Wi-Fi signal and later it was taken to a new place that is not under the coverage of the Wi-Fi signal, the wireless module must be reset.

- 1) Place the device under the coverage of the new Wi-Fi signal. When the device is powered up, the blue indicator will start blinking slowly (0.5 Hz) due to the original Wi-Fi signal is out-of-range.
- 2) On the device, hold both SET key and Down Arrow (▼) key for 2 seconds till the blue LED start fast blinking (4 Hz).
- 3) On your AuberSmart app, delete this device if it is still on the device list. Then proceed to add a new device. A step by step instruction can be found in section 4.

Note

After reset the wireless connection, other users need to delete the device from Device List and add it back to their AuberSmart app again, but they don't need to reset the Wi-Fi module on the device. If other users don't delete the device and re-configure it, they may still be able to connect to the device when their phones and device are both in the original Wi-Fi network. But they won't be able to connect the device once when they leave the Wi-Fi network.

3. Getting started

- 1) Download and install the latest AuberSmart app. The app can be found in Google Play (for Android users) or from Apple Store (for iOS user). The Android version app can also be downloaded as the apk file from Auber's website.
- 2) Take the device to a location that is under the coverage of a Wi-Fi network signal which you have its name (SSID) and the password. Power up the device and you should see the blue indicator start blinking.
- 3) Make sure you have turned on the Wi-Fi connection in smart phone/tablet, and make sure it is connected to the Wi-Fi signal that you have the password. You can go to "Settings", then "Wi-Fi" in your phone/tablet to set it up.
- 4) Add a new device. Open the AuberSmart app, at "Device list" page, click the plus icon "+" on the top right corner to add a new device (see Figure 1).
- 5) On the Add Device page (Figure 2), enter your current Wi-Fi network name (SSID) and then type in your password. If the SSID doesn't show

up automatically or correctly, please manually enter the correct SSID. Once you have entered these information, click "Connect Device". This step may take up to 1 minute.

- 6) The new device should have been added to the Device List like Figure 3. The model number of the device, current program step, and current probe reading will be displayed. Multiple devices can be added to AuberSmart app.

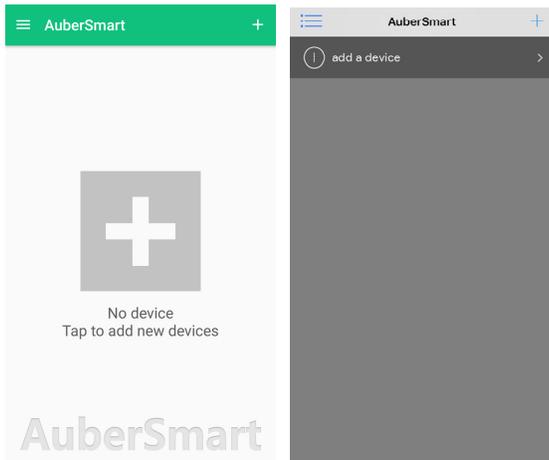


Figure 1. Device List page of AuberSmart (left: Android version; right iOS version).

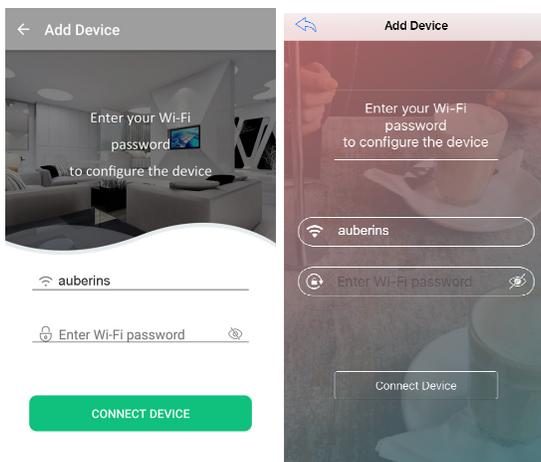


Figure 2. Add Device page. (Left: Android version; right iOS version).

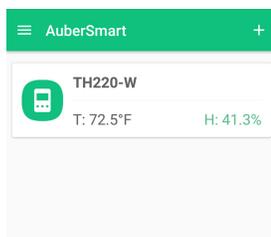


Figure 3. When the device is added successfully, app will return back to Device List page.

- 7) To view the detailed information about the device, short tap on the device name/info. To rename this device or delete it from the device list, long tap on the device name/info. To refresh the information, tap the refresh button on the top right corner.

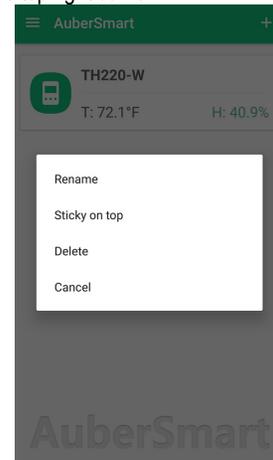


Figure 4. Available operations when long tap on the device tab.

- 8) To exit the app, tap the return button twice on your Android phone; or tap the top left corner to bring up the menu list and select "Exit" (see Figure 5).

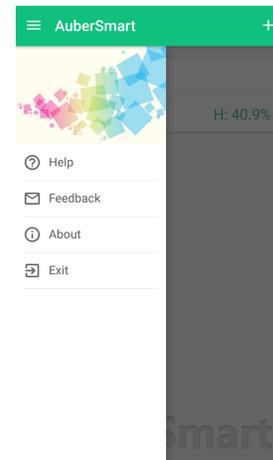


Figure 5. Menu list.

4. Navigating AuberSmart app

The AuberSmart app is constructed in three main layers: device list, device information page, and settings.

4.1 Device list page

The Device List page show a list of devices that has been paired with this smart phone/tablet. It gives user a quick view of the current status of devices on this list. User also can add new devices or remove added devices from this page.

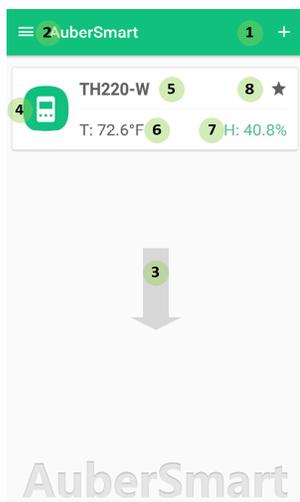


Figure 6. Device List.

- (1) Add a new device.
- (2) App menu button.
- (3) Pull down to refresh device list.
- (4) Device quick-view. Short tap it to view the device information page; long tap it to bring up a quick action menu.
- (5) Device name.
- (6) Current temperature reading.
- (7) Current humidity reading.
- (8) Device sticky to the top of the list.

4.2 Device information page

The device information page shows current probe reading, device working status, and data plot collected in the past. See Figure 7 and 8 for details. The page can be divided into three sections: A) quick access bar, B) temperature control status, and C) humidity control status.

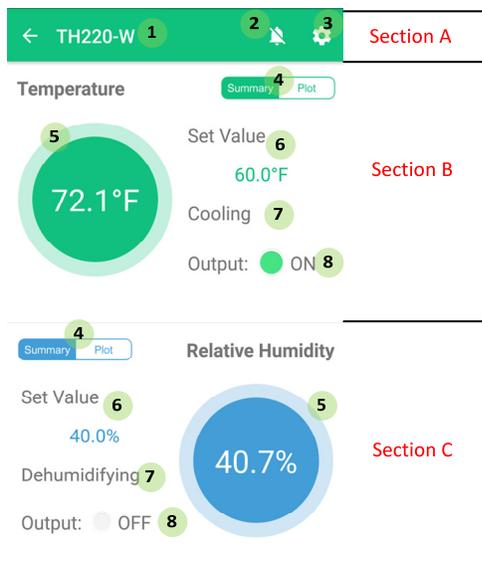


Figure 7. Device information page.

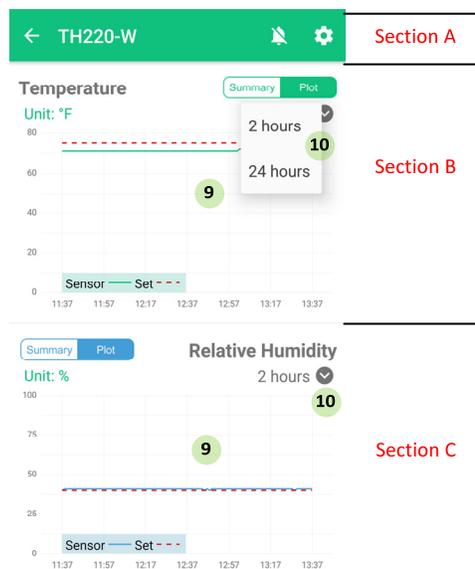


Figure 8. View data plots from the device information page.

Section A: quick access bar.

- (1) Return back to the Device List page.
- (2) Mute alarm buzzer.
- (3) Configuration button. Go to Device Settings and App Preferences. These options are password protected.

Section B and C: temperature and humidity control status.

- (4) Switch between Status Summary and Data Plot.
- (5) Current probe reading.
- (6) Set value.
- (7) Control mode.
- (8) Output status.
- (9) Data plot (see Figure 8).
- (10) Time scale selection menu (see Figure 8).

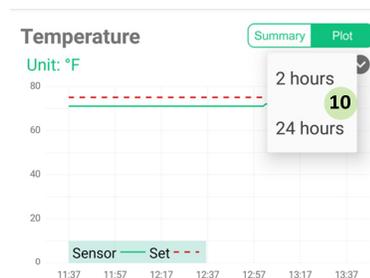


Figure 9. Change the time scale of the data plot.

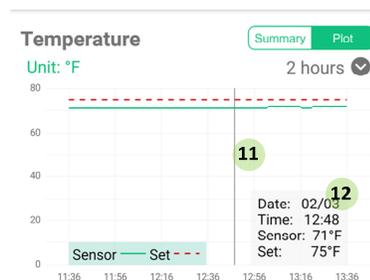


Figure 10. Check a data point on the plot.

To change the time scale of the temperature or humidity plot, tap the drop down menu (10) in the top right corner, and select "2 hours" or "24 hours". Please see Figure 9 for details.

To check the data, user can tap anywhere on the plot and a thin vertical line (11) will appear to help user locate data points on the curve. Data will be shown in the box in the lower right corner (12) of the plot. Please see Figure 10 for details.

4.3 Device settings and app preferences

To check or change the device settings or app preferences, click on the Configuration button on the Quick Access Bar of the Device Info page.

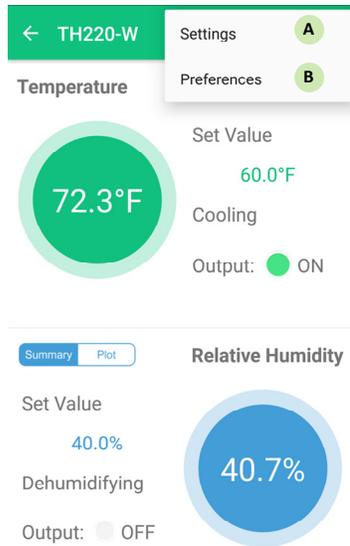


Figure 11. Press the configuration button to go to settings or preferences.

A. Settings

These parameters, which can also be accessed from the device, are relevant to how the device should operate. All parameters and program settings of the device can be changed from the app and will be synchronized to the device. Settings are password protected (default code is 666). Users can change password to any 3-digit code as they want. User can also choose to save the code to avoid entering the code every time they try to access the parameter settings.

B. Preferences

App preferences (Figure 12) are additional settings only available on AuberSmart app, not on the device itself.

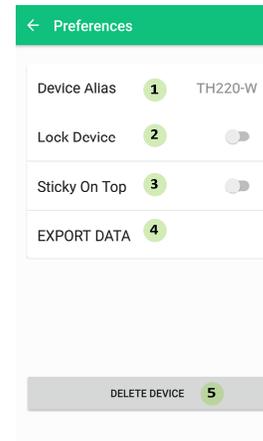


Figure 12. Preferences setting page.

- 1) Device Alias. User can rename the device in order to differentiate it from other devices.
- 2) Lock Device. This setting determines whether a new user can find and add this device to his/her AuberSmart app. When this feature is turned on, other users of AuberSmart App won't be able to connect to the device. But users that have already established the connection won't be affected. By default, this feature is set to "off".
- 3) Sticky On Top (not available for iOS). When this feature is set to "on", this device will stay on top of the device list.
- 4) Export Data (not available for iOS users). Humidity data recorded on the device will be saved as CSV file on user's phone or tablet. User can also choose to share the data file via other apps such as Gmail, Outlooks, or etc.
- 5) Delete Device. By tapping on this button, user can remove this device from AuberSmart app.

5. FAQs (regarding wireless connection)

- 1) Can I add more than one Auber's Wi-Fi device to AuberSmart app?

Yes. You can add multiple devices (TH220-W and/or HD220-W) to AuberSmart app. For example, if you have two devices under the coverage of the same wireless network, you'll add two devices to your AuberSmart at the same time.

- 2) Can multiple smart phones or tablets connect to the same device?

Yes. An Auber's Wi-Fi device (TH220-W or HD220-W) can connect with more than one smart phone or tablet.

- 3) How can I prevent other AuberSmart app users from adding my device?

First of all, the other user must know your Wi-Fi password in order to add the device. Secondly, you can choose to "Lock" the device so new users won't be able to add the device even if he/she has the Wi-Fi password. Please note that this "Lock Device" feature won't block users that are already connected with the device.

- 4) How can I prevent other users from changing my settings on the device?

The parameter settings and app preferences are password protected. Users don't know the password won't be able to access the parameter or preference settings. However, changing parameter settings from the device itself doesn't require password.

- 5) My device picked up other people's wireless signal instead of mine.

The device automatically picks up the strongest Wi-Fi signal around it. You can manually input the Wi-Fi signal's name (SSID). Or you can move the device to a location that is closer to your Wi-Fi router during the initial set up. Once the connection is established, you can move the device back to where it was as long as it is under the coverage of the same Wi-Fi signal.

- 6) Can I access the device info without Wi-Fi network?

Once your phone/tablet has successfully connected with the device, you can access the device via cellular signal.

- 7) Can I access the device info from a Wi-Fi network that is different from my home Wi-Fi network?

If you are connecting the device for the first time, your phone/tablet and the device must be under the coverage of the same Wi-Fi network. Once your phone/tablet has successfully connected with the device, you can access the device from a different Wi-Fi network as long as it has internet access.

- 8) I can see and access the device from AuberSmart app when I was home, but when I was away from home I cannot connect to it.

Please try 1) delete the device from the app, 2) reset the Wi-Fi module, and 3) add the device again.

The reason why this happened is probably this: you added device while the device was configured to your home Wi-Fi network. And later the device was reset and configured to another Wi-Fi network. Then the device was reset and configured to your home Wi-Fi network again by someone else, not by you. In that case, you can connect to the device while you are connecting to your home Wi-Fi network, but you won't be able to connect to the device when you are not using your home Wi-Fi (i.e., using cellular signal or using a different Wi-Fi network).

- 9) After I installed the app and added my device, my phone constantly shows "connection error".

You probably didn't exit your AuberSmart App properly and it is still running in the background. To exit the app, tap return button (for Android user) or tap the app menu and select "exit".

- 10) Where does the AuberSmart save exported data?

The default file path is
"/storage/emulated/0/Android/data/com.auberins/files/".

- 11) Can I use TH220-W or HD220-W without internet?

Yes. These units can work as standalone units just as regular TH220 or HD220 that doesn't have wireless connection capability.

- 12) How to reset the Wi-Fi module?

On TH220-W, hold down both SET key and Down key (▼) for a few seconds until you see the blue LED on the lower right corner on the display window of the device start fast flashing.

On HD220-W, hold down both SET key and Mute key for a few seconds until you see the blue LED on the lower right corner on the display window of the device start fast flashing.

(End)

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