# HC-T020-EWF Series Thermostat

## User Guide

*For Water Heating/Boiler/Electric Heating*

## WELCOME

Thank you for your purchase.

Your new thermostat will provide uniform and comfortable temperature control throughout every room in your property. We bring together technology, craftsmanship and the highest quality materials to provide you with a safe reliable product combined with sleek contemporary design.

Please read this installation/programming manual for comprehensive instructions on installing and operating your thermostat. Please also ensure a suitably qualified person installs your thermostat and complies with all local regulations.

## IN THE BOX YOU WILL FIND

| | | | |
|---|---|---|---|
| Thermostat | 1 pc | Screws | 2 pcs |
| User Guide | 1 pc | QC Passed | 1 pc |
| Floor sensor | 1 pc | | |

## ABOUT YOUR THERMOSTATS

The HC-020-WIFI series range has been developed to control electric underfloor, water heating or water/gas boiler systems. These units are designed for use in commercial, industrial, civil and domestic properties.

## FEATURES

**On Appearance**
1. Convenient operation creates convenient life.
2. Fashion design blends in with any decor.
3. Touch Screen display with backlight is easy to read, even in the dark.
4. Bright buttons always remind you the world truely exist.
5. Easy UI interface could be used even by child.
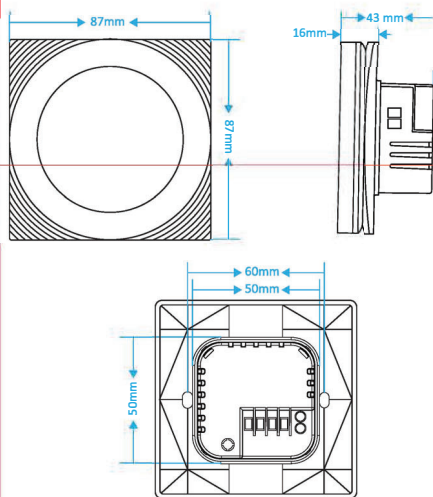6. Optionals of black and white housing.

**On Functionality**
1. Remote control by eWeLink App.
2. 0.5°C Accuracy keeps temperature within the level you set.
3. Data memory when power is off.
4. 7 days individual programming maximize comfort and economy.
5. Create thermostat group to Centralized control
6. Integrated with **Amazon Alexa, Google Assistant, etc.**
7. All setting languages synchronize your time zone, address and language.
8. No limit to add rooms and support Smart Scene.

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## MODEL DEFINITION

GA: Water heating, 5A    GB: Electric floor Heating, 16A
GC: Water/Gas Boiler, 5A    L: Backlight
P: Weekly Programmable    WF: Wi-Fi
E: eWeLink    S2: Both internal sensor and floor external sensor
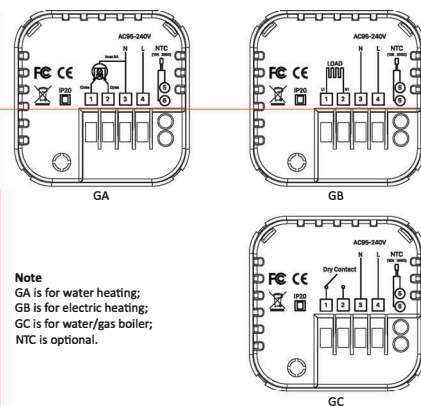*For example: HC-020-WIFI-GC*

## DIMENSION



## TECHNICAL DATA

Power Supply: 95 ~ 240V AC, 50 ~ 60HZ
Current Load: 5A (water heating/water boiler/gas boiler), 16A (electric heating)
Sensor: NTC
Accuracy: +0.5 °C or +1 °F
Set Temp. Range: 5~ 35 °C
Display Temp. Range: 5~ 99 °C
Ambient Temp.: 0~ 45 °C
Ambient Humidity: 5 ~ 95 % RH (Non Condensing)
Storage Temp.:-5~45 °C
Power Consumption: <1.5W
Timing Error: < 1%
Shell Material: PC +ABS ( flame retardant)
Protection Class: IP 20
Buttons: Capacitive Touch Buttons

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## BEFORE WIRING AND INSTALLING

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

**CAUTION:** Electrical Shock or Equipment Damage Hazard. Can shock individuals or short equipment circuitry. Disconnect power supply before installation.
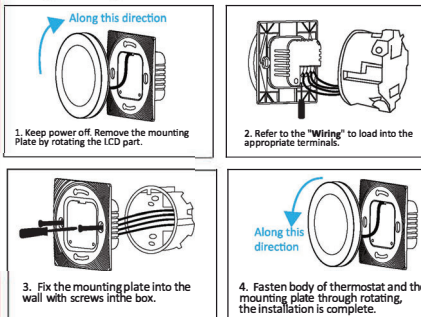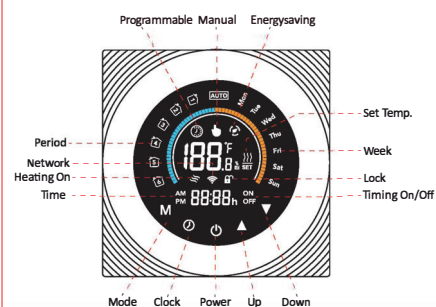
## WIRING



GA    GB



GC

**Note**
GA is for water heating;
GB is for electric heating;
GC is for water/gas boiler;
NTC is optional.

## INSTALLATION

Your thermostat is suitable for installation within a standard 86mm pattress box or European 60mm pattress box.



1. Keep power off. Remove the mounting Plate by rotating the LCD part.

2. Refer to the **"Wiring"** to load into the appropriate terminals.

3. Fix the mounting plate into the wall with screws in the box.

4. Fasten body of thermostat and the mounting plate through rotating, the installation is complete.

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## HOME SCREEN QUICK REFERENCE



## OPERATION

**1. Power On/off:** Press " ⏻ " to turn the thermostat on/off.

**2. Mode switch among "Manual/Programmable/ECO"**
Touch " M "(mode) to change among "Manual/Programmable/ECO"
In the manual mode, " 👆 " will display in the bottom of the screen;
In programmable mode, " ⏱ " will display in the bottom of the screen;
In ECO mode, " 🍃 " will display in the right side.

**3. Setting Temperature**
In the mode of ECO and programmable, set temperature, time could not be adjusted. If the user want to change, please go to manual mode.
In the mode of manual, press " ▲ " and " ▼ " set the desired temperature.
When the thermostat is turned on, press and hold "▲ " 5 seconds to switch the temperature mode, Celsius (ºC) or Fahrenheit ( ºF).

**4. Adjusting/Setting the Time**
Touch the icon " ⏱ " to set minute, hour and weekday by using " ▲ " and " ▼ ". Press " ⏱ " once more to confirm and exit.

**5. Locking your Thermostat**
Press and hold " ▲ " and " ▼ " 5 seconds to lock/unlock your thermostat.

**6. Adjusting/setting the Program Schedules**
When Wi-Fi connection is made, your thermostat will automatically accept the program schedule made via the APP on your device (see below for detailed instructions). To set the program schedules through your thermostat (NOT via your smartphone/tablet) simply follow the instructions as below:

**Note: In any of Manual/Programmable/ECO" modes, touch " ⏱ "key can enter the setting of program schedule.**

Touch " ⏱ " key 4 times to enter programming setting (The first three times are set to the current time and week).

Use " ▲ " and " ▼ " to adjust each value, and then press " ⏱ " to switch between 1~6 Period, time and temperature.

After finishing the above settings, press " ⏱ " to exit the programming mode.

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## Default setting for program schedule

| Period | Working days (Monday to Friday) | | weekend (Saturday to Sunday) | |
|---|---|---|---|---|
| | Time | Temperature | Time | Temperature |
| Period 1 | 06:00 | 20 °C | 06:00 | 20 °C |
| Period 2 | 08:00 | 15 °C | 08:00 | 20 °C |
| Period 3 | 11:30 | 15 °C | 11:30 | 20 °C |
| Period 4 | 13:30 | 15 °C | 13:30 | 20 °C |
| Period 5 | 17:00 | 22 °C | 17:00 | 20 °C |
| Period 6 | 22:00 | 15 °C | 22:00 | 15 °C |

**7. Checking the Temperature of Floor Sensor**
Press and hold the arrow " ▼ " for 5 seconds to display the temperature of floor sensor.

**8. Setting the Advanced Features**
Turn off the thermostat, press " M " and " ⏱ " buttons at the same time for 5 seconds to enter the advanced features setting, press " M" button For function selection, press " ▲ " and " ▼ " to adjust individual functions.
All high level option settings will take effect automatically after restarting the thermostat.

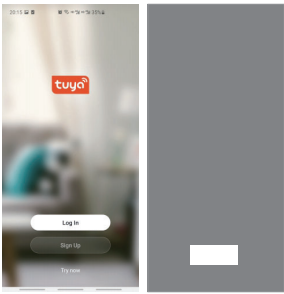| Code | Function | Setting and options | Default |
|---|---|---|---|
| 1 | Temperature Compensation | -9 °C to +9 °C (for internal sensor) | -1 |
| 2 | Temperature Deadzone | 1 °C ~ 5 °C | 1 |
| 3 | Button Locking | 00: All buttons are locked except power button. 01: All buttons are locked. | 01 |
| 4 | Sensor Types | In: Internal Sensor ( to control or limit the temp. ) Ou: Only external sensor AL: Internal/ External Sensor (Internal sensor to control the temp., external sensor to limit the temp.) | AL |
| 5 | Min. Set Temp. | 5 °C ~ 15 °C | 05 |
| 6 | Max. Set Temp. | 15 °C ~ 45 °C | 35 |
| 7 | Display Mode | 00: Display both set temp. and room temp. 01: Display set temp. only | 00 |
| 8 | Low Temperature Protection Setting | 0 °C ~ 10 °C | 00 |
| 9 | High Temperature Protection Setting | 25 °C ~ 70 °C | 45 |
| A | Economy Mode | 00: Non-energy saving mode 01: Energy saving mode | 0 |
| B | Economy Temperature Range | 0 °C ~ 30 °C | 20 |

## WIFI CONNECTION

**Step 1: Download your APP**
There are two APPs to choose from, the wifi connection takes " **Tuya Smart** "as an example. Scan the QR code to download " **Tuya Smart** " App, or you can also search keyword "**Tuya Smart**" at App Store or Google play to download App.

"Tuya Smart" QR code     "Smart Life" QR code

**Step 2: Register your account**
Open " **Tuya Smart** ", log in or register your account with your mobile number or e-mail address. Type in the verification code sent to your mobile or mail box, then set your login password.

Figure 1          Figure 2          Figure 3

Figure 7          Figure 8          Figure 9

**Step 3: Wi-Fi connection operation**

**Note: The thermostat support two paring modes, you can choose according to the actual situation.**

EZ pairing mode: EZ mode allows for rapid networking, with high performance requirements for WIFI signal strength, routers, mobile phones or management devices, as shown below.

After turning off the thermostat, press and hold the " ▼ " button for 10 seconds, when the 📶 icon fast flash, that stand for the device enter into paring mode.

Then open "Tuya" app, click "Add advice" to add device, choose "Small Home Appliance", select "Thermostat (Wi-Fi)" **(when you open Bluetooth on your smartphone, the thermostat will be detected automatically (figure 6))** choose the suitable WiFi network and enter the password, click "next" to enter automatic connection state, complete the Wi-Fi connection of the thermostat.
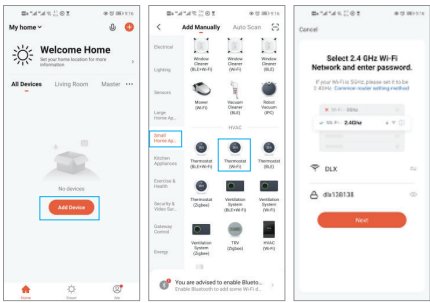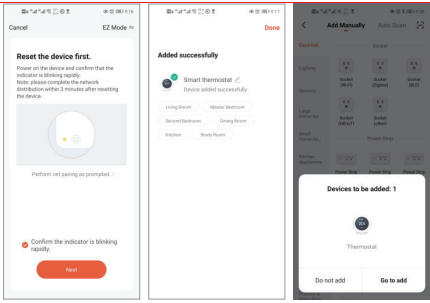
AP pairing mode: AP mode compatibility is good, Wi-Fi signal strength, router, mobile phone or management equipment performance requirements are low, the operation is shown below.

After turning off the thermostat, press and hold the " ▼ " button for 10 seconds, when the 📶 icon fast flash, press and hold the " ▼ " button for another 10 seconds, the ⟳ icon appears, that stand for the thermostat enter into AP pairing mode.

Open "Tuya" app, click "Add Device" to add device, choose "Small Home Appliance", select "Thermostat (Wi-Fi)", choose the suitable Wi-Fi network and enter the password, click "next", filter "Confirm the indicator is blinking slowly", click "Next", then click "Go to Connect", your phone will automatically enter Wi-Fi settings interface, choose the Wi-Fi signal"SmartLife-xxxx", then reopen "Tuya" app to enter an automatic connection state, complete the Wi-Fi connection of the thermostat.

Figure 4          Figure 5          Figure 6
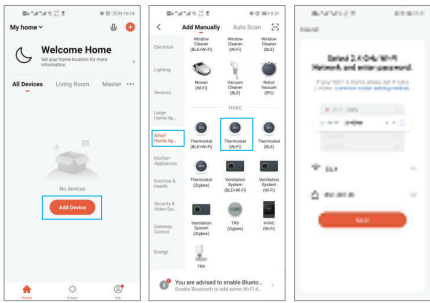
Figure 10          Figure 11          Figure 12

## PROGRAMMING YOUR THERMOSTAT

After a successful connection, it will enter the thermostat setting interface, as shown in Figure 13. You can make relevant settings according to your needs.

**1.** Power on/off. press it, turn on the device. press it again, turn off the device.

**2.** Mode switch button, press it to switch mode among "Manual/Programmable/ECO".

**3.** Timing On/Off.

**4.** Advanced features.

**5.** Slide the orange button backwards or forwards to manually adjust the temperature, the temperature will show in the centre.
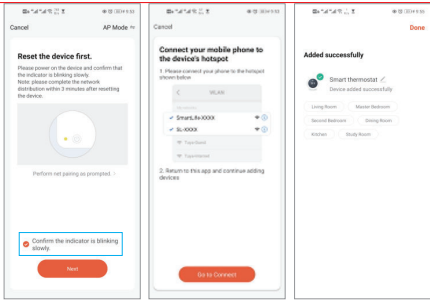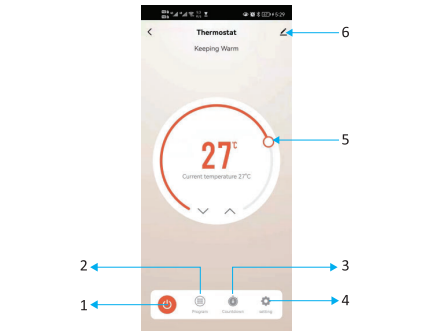
**6.** Settings.

Figure 13

In Figure 13, click the " ⚙ " icon to enter the setting interface.
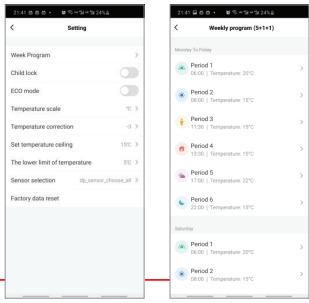
Figure 14          Figure 15

**Week program**
You can set it on weekdays (Monday to Friday), and then set the time / temperature and adjust it according to your work schedule.
You can set 6 periods (time and temperature), as shown in Figure 15.
Repeat the above steps to set Saturday-Sunday.
Once your schedule has been set, click save and the application will transfer the programmed data to the thermostat and the plan has been saved.

**Child lock**
Turn on this function, the thermostat buttons are locked and cannot be operated.

**ECO mode**
The ECO mode is disabled by default, if the user want to use this function, please go to advanced features to enable it. Then touch "M" key on the thermostat to switch among "Manual/Programmable/ECO" modes.

In Figure 13, click the " ✎ " icon to enter the Advanced features interface. As shown in Figure 16.
You can change the device information, as shown in Figure 17; Add third-party control, such as Amazon Echo or Google Home, as shown in Figure 18; Share the device, as shown in Figure 19, 20; create a group, as shown in Figure 21.
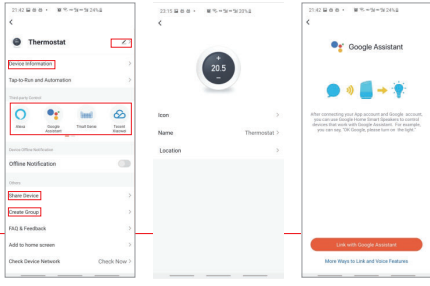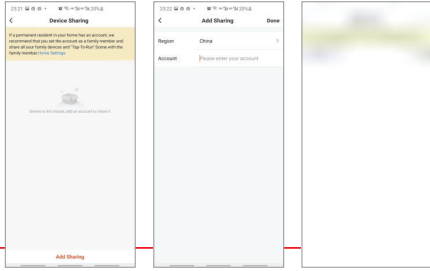
Figure 16          Figure 17          Figure 18

Figure 19          Figure 20          Figure 21

## SIMPLE EXCEPTION HANDLING

| No. | No Phenomenons Handling | Handling |
|---|---|---|
| 1 | Power is on but without display. | Check if the terminals between LCD panel and Power Unit Box is loosen. |
| 2 | Without output but display works. | Use a new LCD panel or new Power Unit Box to replace the old one. |
| 3 | Room Temp. is a litte dfferent from the actual. | Do temperature calibration in item 1 of **Advanced Features** |
| 4 | "E2" is displayed on Tuya App operation interface | Enter the advanced function and set the "Sensor Type" to "Internal Sensor" |