Smart 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.

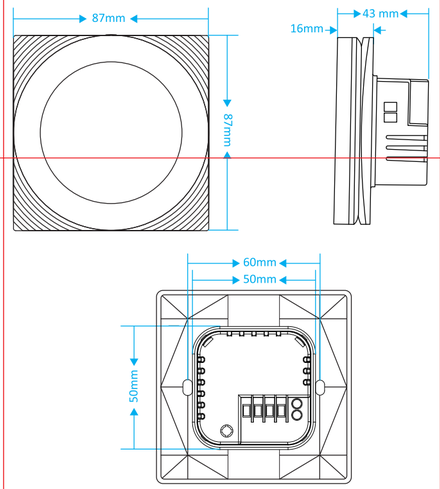
On Functionality

1. Remote control by Tuya App.
2. 0.5°C Accuracy keeps temperature within the level you set.
3. Data memory when power is off.
4. 5+2 six periods programmable 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.

MODEL DEFINITION

GA: Water heating, 5A GB: Electric floor Heating, 16A
GC: Water/Gas Boiler, 5A L: Backlight
P: Weekly Programmable W: Wi-Fi
S2: Both internal sensor and floor external sensor
For example: HC-T020-WIFI-GC

DIMENSION



TECHNICAL DATA

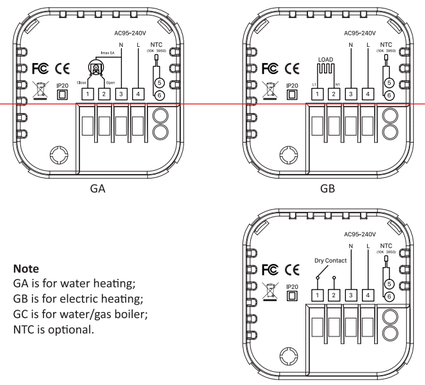
Power Supply: 95 ~ 240V AC, 50 ~ 60HZ
Current Load: 5A (water heating/water boiler/gas boiler), 16A (electric heating)
Sensor: NTC
Accuracy: +0.5 °C or +1 °F
Set Temp. Range: 5~ 35 °C
Display Temp. Range: 5~ 99 °C
Ambient Temp.: 0~ 45 °C
Ambient Humidity: 5 ~ 95 % RH (Non Condensing)
Storage Temp.:-5~45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

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

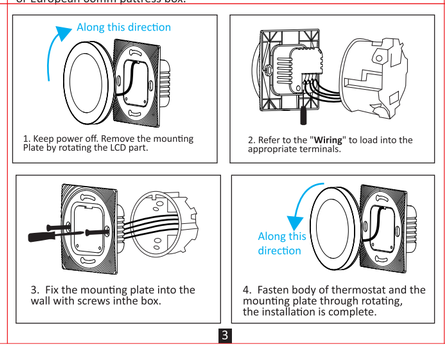


GA GB GC

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

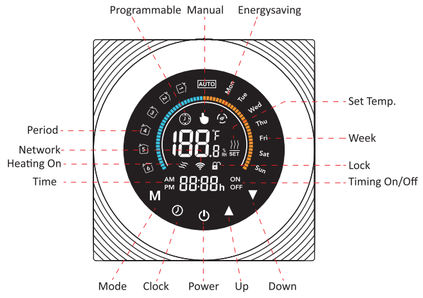
INSTALLATION

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

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 (°C) or Fahrenheit (°F).

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 thesetting 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.

Default setting for program schedule

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

FCC Caution:
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.Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception,which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.
To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.

WIFI CONNECTION

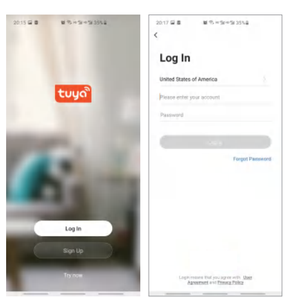
Step 1: Download your APP

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.



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.

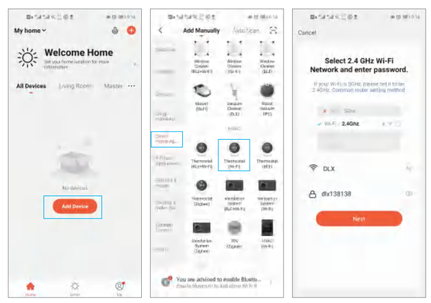
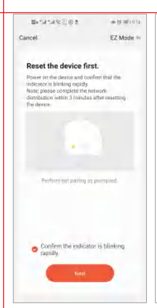

Figure 1

Figure 2

Figure 3


Figure 4

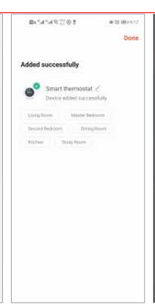

Figure 5


Figure 6

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.

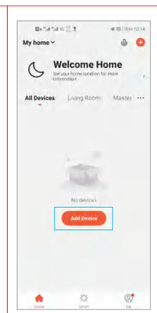
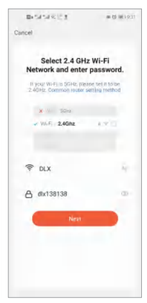

Figure 7


Figure 8


Figure 9

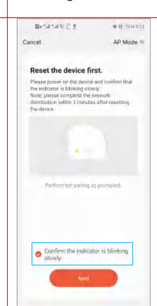
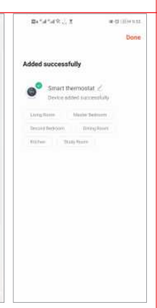

Figure 10


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.

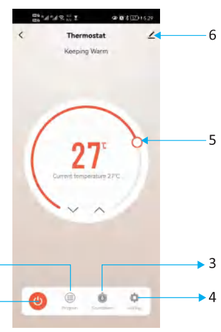
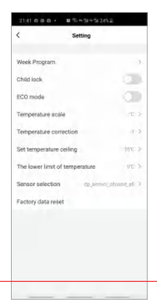
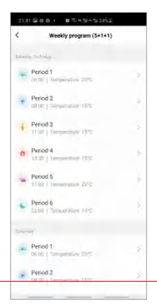


Figure 13

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.

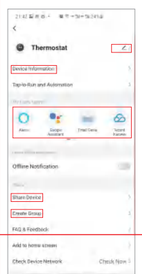
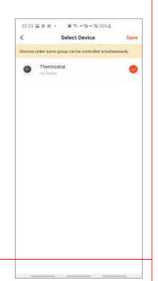

Figure 16


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"