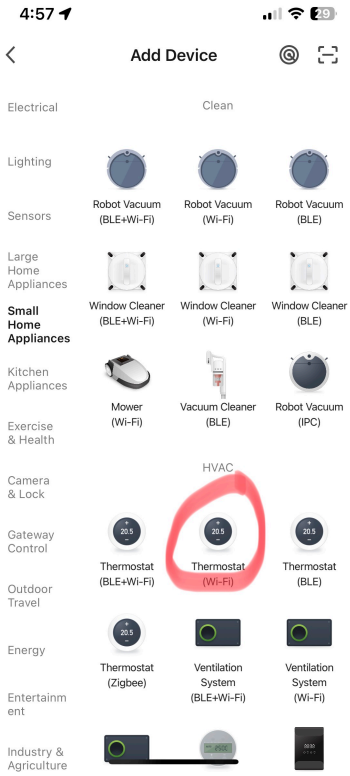
Warm Floor TH-05, Home Assistant and Homekit

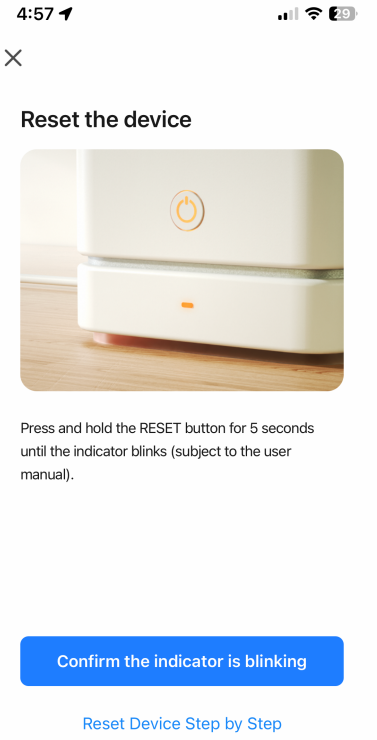
This document describes how to enable TH-05 warm floor thermostat with Home Assistant and then into Homekit.

Step 1)

Download and install the smartlife app from the app store. You'll need to setup an account.

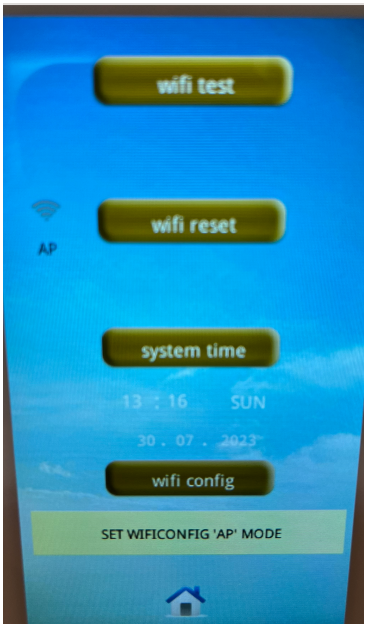


1.Open App on Phone
2.Press "Add Device"
3.Select "Small Home Appliances"
4.Select "Thermostat (WiFi)" (see image to left)
5.You'll then be at the reset your device on the app screen. (See image on right)



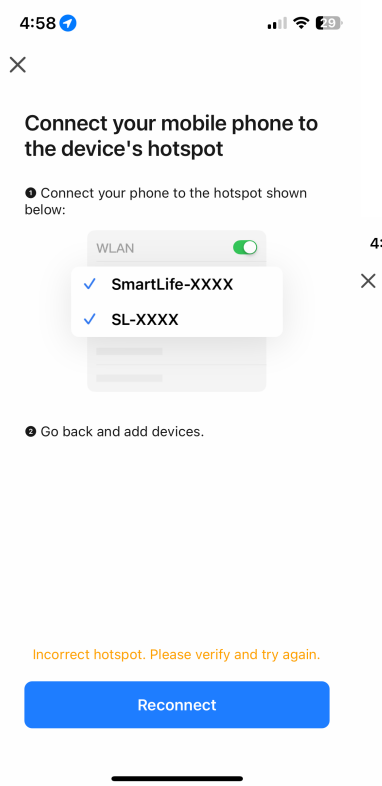
Step 2)

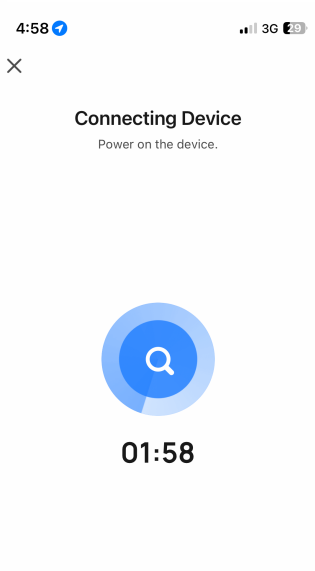
1. Power off the TH05 Thermostat and wait 10 seconds
2. Power the TH05 back on.
3. Press the WiFi icon in the top right corner of the screen
4. When new screen opens, press "WiFi Config" (See image to right)
5. WiFi should indicate it is now in AP Mode as per picture on right.
6. Confirm WiFi indicator is rapidly blinking

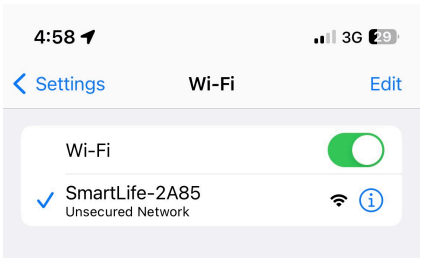


Step 3)

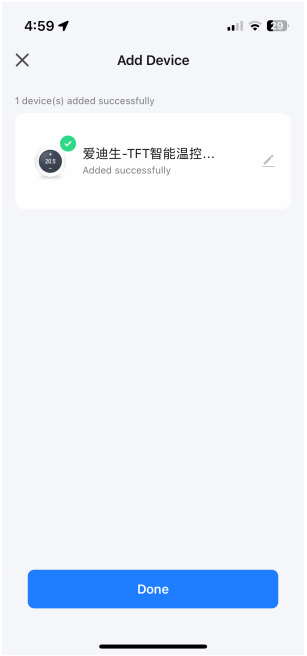
7. Make sure your WiFi is set to 2.4 Ghz
8. You'll seen a prompt to connect your phone to the Smartlife wifi network. See imaged on right.
9. Go into your phones wifi settings and connect to Smartlife network, see image below.







10. Press "Device Added Successfully."
11. You can use the pencil to rename the device to something like the room its in, ie "Warmfloor Bathroom"
12. Press "Done"



Your device should now automatically reconnect with your phone each time the app is launched and you are with range of the network.

Step 4)
Install and setup Home Assistant.

Follow the instructions on
https://www.home-assistant.io/installation/

My own build is a raspberry PI 3B computer with corresponding home assistant image installed on a SD card. The setup and install is pretty straight forward for anyone who is familiar with PCs and has had a wee play with linux. Its mostly follow your nose and you don't need to be a guru.

You might want to install the Home Assistant app for iOS on both iPhone and iPad. You can also use the web interface on homeassistant.local:8123/

Step 5)
Setup and install localtuya

This is a little more complex, as you need to setup a tuya development account to obtain the device keys, which are then used in tuya local. The nice thing with tuyalocal is you dont need to have an internet connection to use the warmfloor integration.

Follow instructions on
https://github.com/rospogrigio/localtuya

Note the account you setup within the smartlife app you would have to do in steps 1 is not the same as the development account, although they can share the same email address.

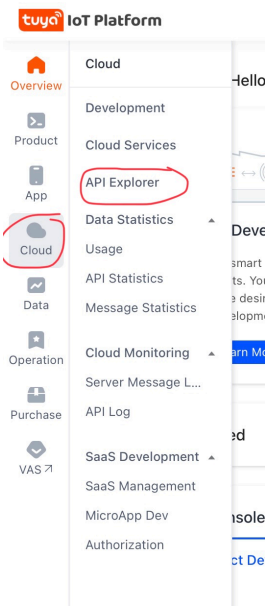
The above instructions refer to the below to setup the development account
https://www.home-assistant.io/integrations/tuya/

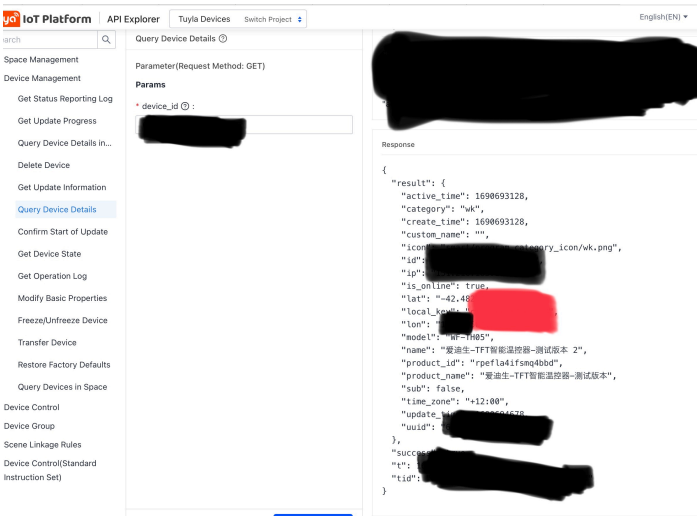
Make sure you choose the right datacentre when your doing the setup. For new zealand which is where TH-05 are made, its Western American Datacenter.

As part of the above steps you'll link your smartlife app account to the development account.

Key thing which is a little burried in the above is how to get the tuya Key for the warmfloor device.

Once you have followed all the instructions above, see below screen shots on how to find the key. The red highlighted bit below is how you find the key, using the API explorer, and "Query Device Details"





Step 6)
Modify the tuya install to support the TH-05. This is a little tricky.

If your familiar with a shell terminal, then in addins suggest you install "Terminal & ssh" its a nice little terminal emulator. Otherwise the easier one to do is "File Editor" that has a fairly straight forward front end when you "Open Web UI".

Use "File Editor" to navigate custom_components\localtuya\climate.py

in climate.py insert the below red lines. Tip, make sure the quotes don't change on you to the ones which are a on a angle

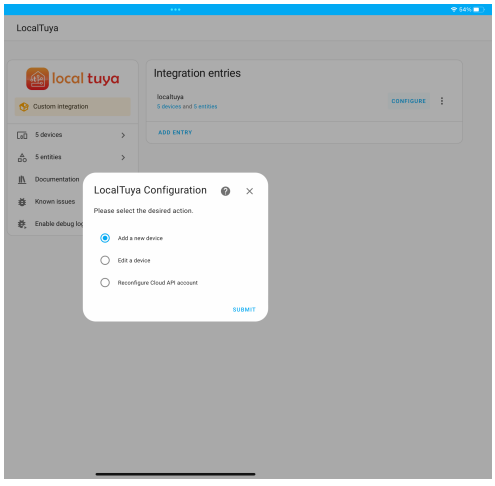
```
HVAC_MODE_SETS = {
    "hand/auto": {
        HVAC_MODE_HEAT: "hand",
        HVAC_MODE_AUTO: "auto",
    },
    "manual/auto": {
        HVAC_MODE_HEAT: "manual",
        HVAC_MODE_AUTO: "auto",
    },
```

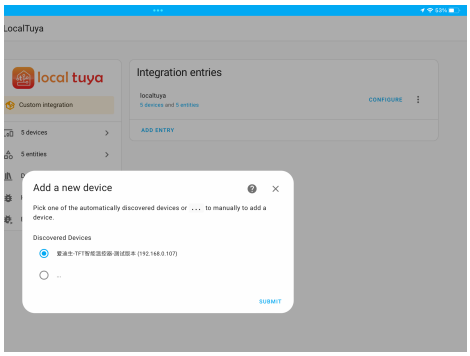
Once done the above and saved, restart home assistant.

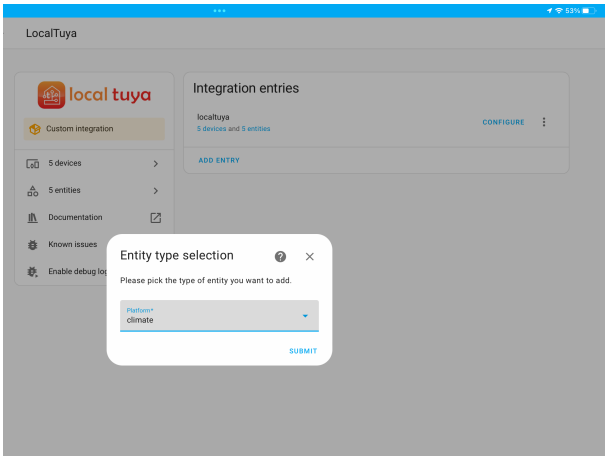
Step 7)

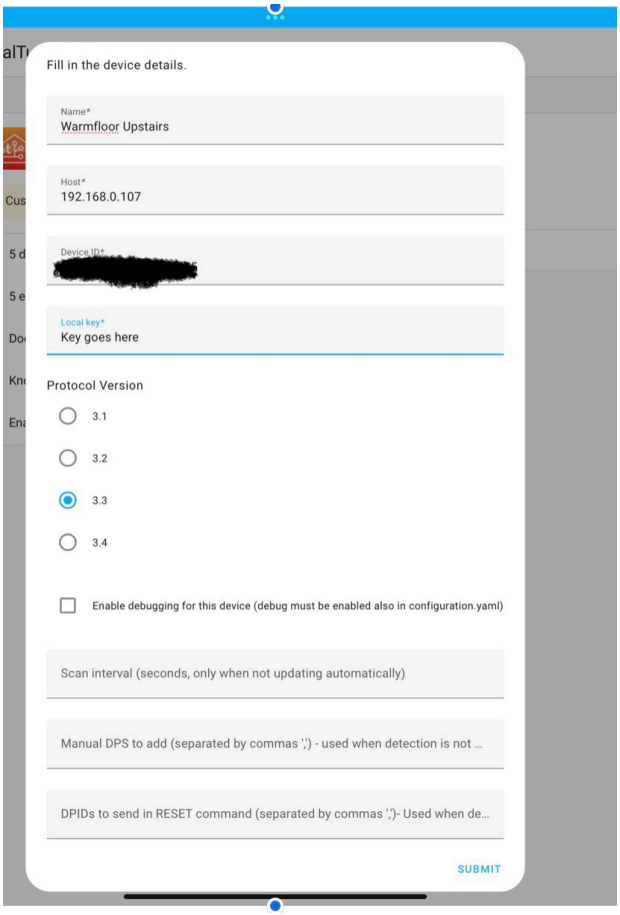
IMPORTANT: First set the thermostat via the thermostat control panel to manual heating and a set temperature higher than the current on. If you dont do this, then you dont get some of the options in some of the steps below, which means you cant successfully configure the integration.

Install the Thermostat in local tuya by following the below screen shots.

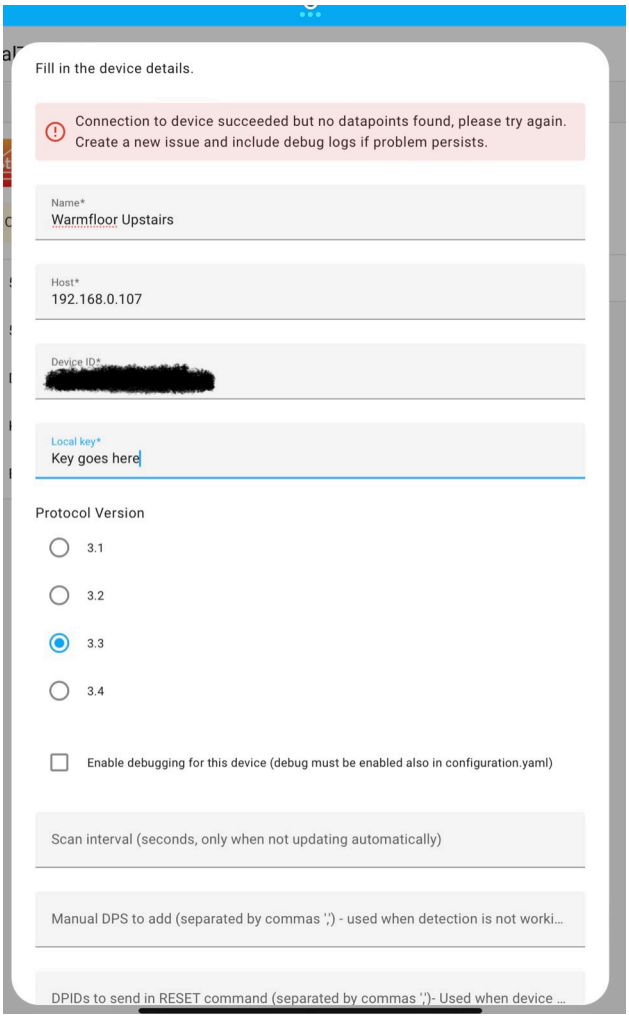



LocalTuya
local tuya
Custom integration
5 devices
5 entities
Integration entries
localtuya
5 devices and 5 entities
CONFIGURE
ADD ENTRY
Add a new device
Pick one of the automatically discovered devices or ... to manually to add a device.
Discovered Devices
SUBMIT

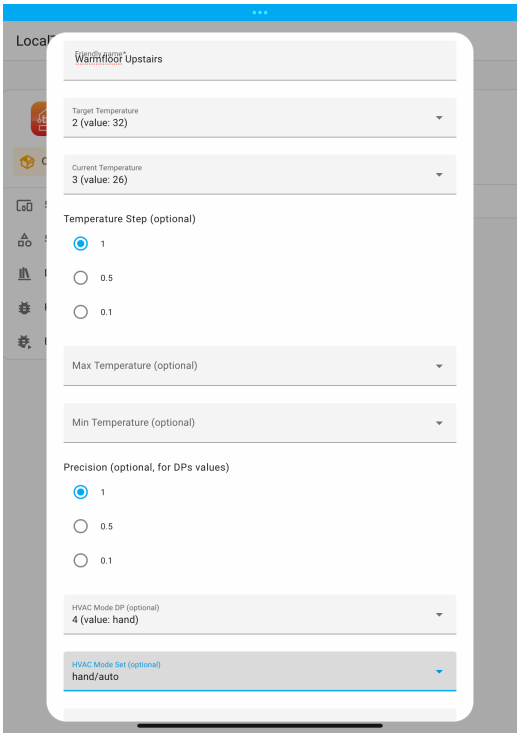

LocalTuya
local tuya
Custom integration
5 devices
5 entities
Documentation
Known issues
Integration entries
localtuya
5 devices and 5 entities
CONFIGURE
ADD ENTRY
Entity type selection
Please pick the type of entity you want to add.
Platform*
climate
SUBMIT


Fill in the device details.
Name*
Warmfloor Upstairs
Host*
192.168.0.107
Device ID*
Local key*
Key goes here
Protocol Version
3.1
3.2
3.3
3.4
Enable debugging for this device (debug must be enabled also in configuration.yaml)
Scan interval (seconds, only when not updating automatically)
Manual DPS to add (separated by commas ',') - used when detection is not ...
DPIDs to send in RESET command (separated by commas ',')- Used when de...
SUBMIT

The below error seemed to happen sometimes, not sure why. Could be if you have the smartlife app open when trying to do the below. Retrying and/or closing the smartlife app seemed to fix it for me.



Its very important that the below settings are selected. Particularly "Temperature step" 1 is important for correct response, and you should be able to choose the "hand/auto" HVAC Mode as shown below (which is enabled by the previous step 6).



Step 8)

The easy bit is setting it up in homekit. You'll need to configure homekit bridge within Home Assistant, ensure "Climate" is selected as part of domains to include when you run the homekit configuration.

Once you have done this you should see the TH-05 appearing in your default room in Homekit (if not, try reloading the homekit bridge configuration with the 3 dots).

Limitations.

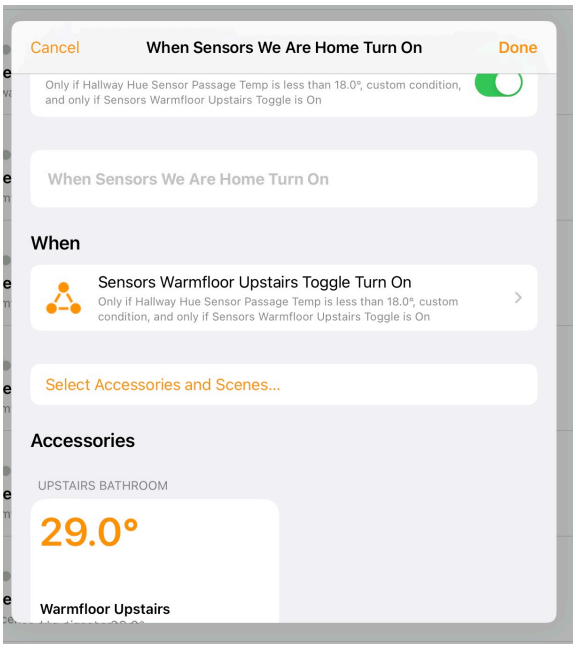
Unfortunately you cant directly control the aux heater (such as a heated towel rail). What ive done is set the aux function in the TH-05 to always be on, so it comes on when the floor tiles start heating up.

Note:

Within TH-05 Ive set all schedules for the main heating to be off as its all controlled as ive described below.

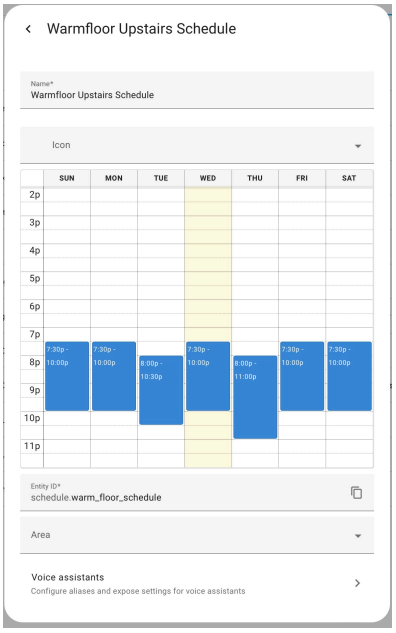
Uses:

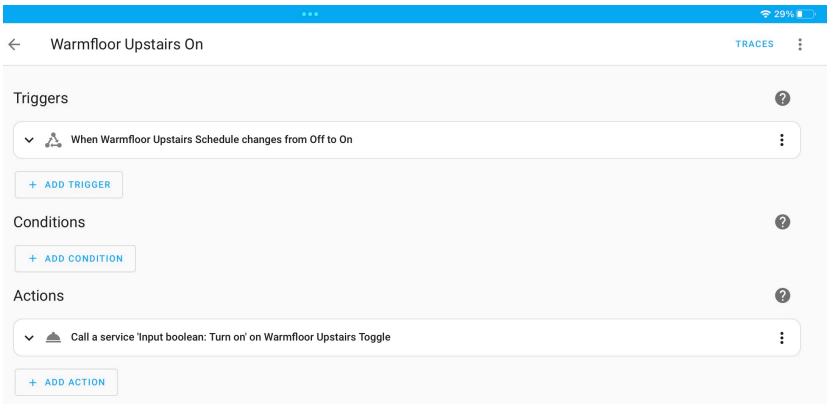
Below is a screen shot of one of my home kit automation rules. It checks for presence to see if we are home, if the toggle described lower down is on, and the temp is <18 degrees.



The reason one portion says custom condition is the rules are configured in eve. The eve app provides some additional functions homekit doesn't support directly, however the automations dont always display correctly in homekit.

The key bit is the automation is primed to trigger when a toggle kicks in. This a toggle is created in home assistant, and driven via a schedule helper and a automation rule to turn on and another to turn off. Screen shots below.





The final rule I have which is pretty cool for marital buy into these kinds of things.. It sends a notification to the wifes iPhone telling her when the bathroom is nice and warm.