

ITS Heat pump pairing with Home assistant

This guide provides the steps for connecting a ITS 6.3 Super heat pump with Home Assistant

By Renier Lewis (renier.lewis@gmail.com)

Last updated: 21 October 2024

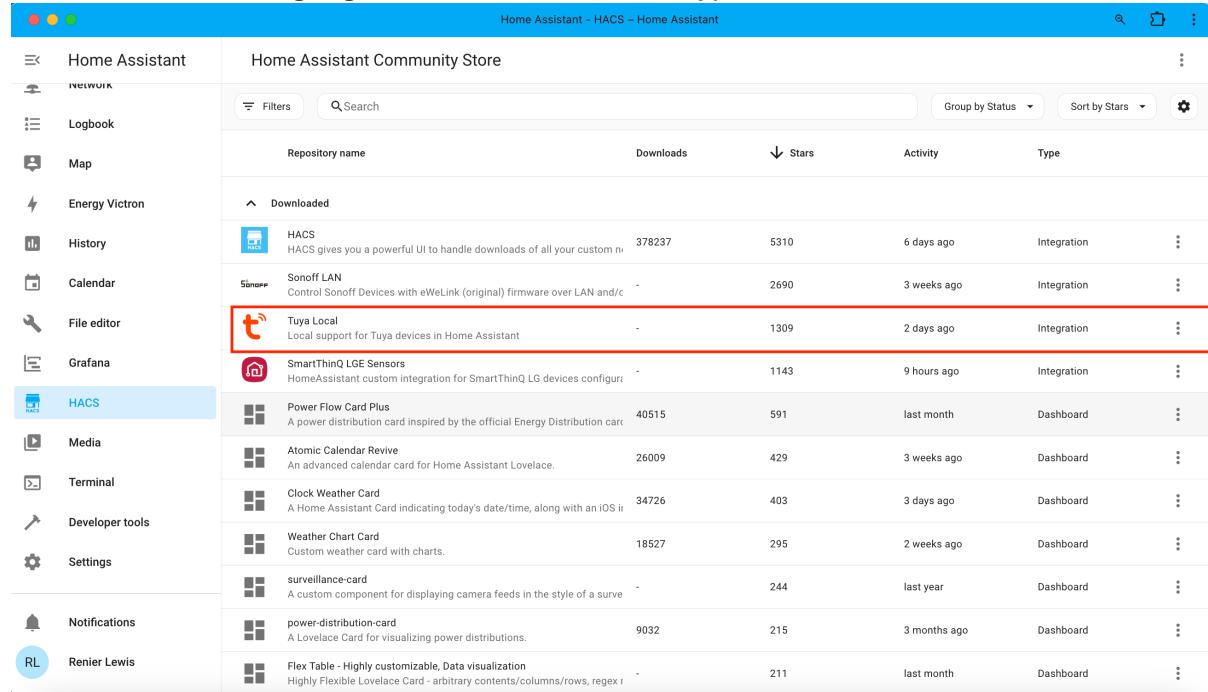
Assumptions:

1. You have already got the ITS heat pump setup and working in the Smart Life app
2. You already have HACS installed in Home Assistant

Steps

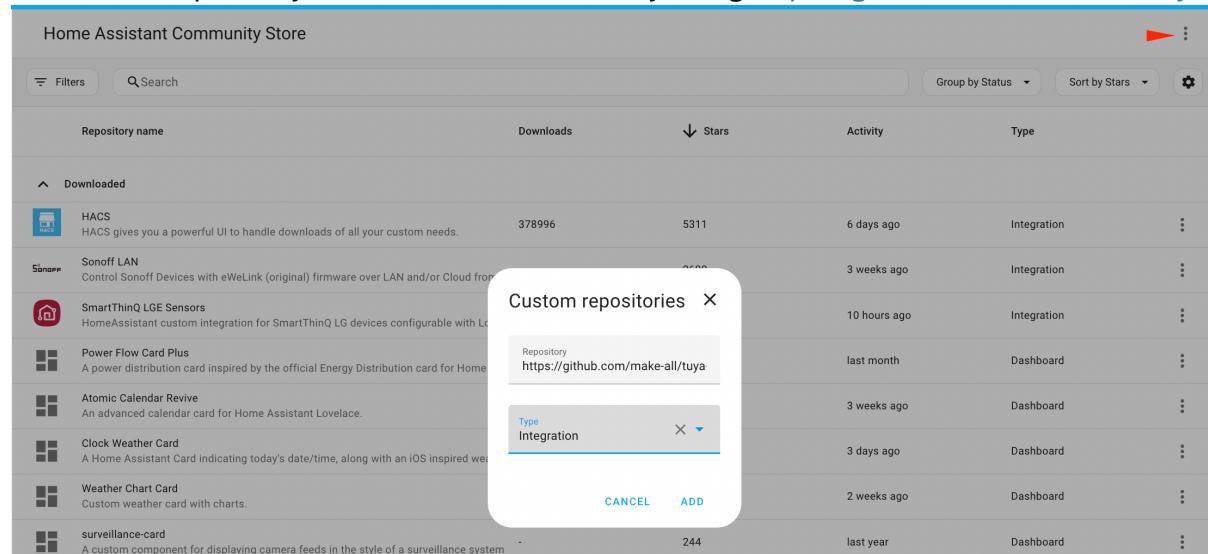
1. Install Tuya Local

I chose this option as it appeared to have frequent commits, it had support for ITS and because it might give me freedom later to bypass the cloud.



The screenshot shows the Home Assistant HACS Community Store interface. The sidebar on the left has a 'HACS' section selected, which is highlighted with a blue background. In the main area, there is a table listing various repositories. One repository, 'Tuya Local', is highlighted with a red box. The table columns include Repository name, Downloads, Stars, Activity, and Type. The 'Tuya Local' entry has 1309 downloads, 2 days ago activity, and is categorized as an Integration.

Should the repository not show, add it manually using <https://github.com/make-all/tuya-local>



The screenshot shows the same HACS store interface as above, but with a modal dialog open in the foreground. The dialog is titled 'Custom repositories' and contains fields for 'Repository' (set to 'https://github.com/make-all/tuya-local') and 'Type' (set to 'Integration'). At the bottom of the dialog are 'CANCEL' and 'ADD' buttons. The background table lists other repositories like HACS, Sonoff LAN, and Power Flow Card Plus.

2. Once the repository is available, Download it

The screenshot shows the Home Assistant Community Store interface. On the left is a sidebar with various icons for Home Assistant components like Weather, Calendar, Network, Logbook, Map, Energy, History, Calendar, File editor, Grafana, and HACS (which is selected). The main area displays a search bar with 'tuya' and a list of repositories. The first result is 'Tuya Local' with a red arrow pointing to its icon. To the right of the list is a detailed view of the repository, including its name, description, download count (1310), star count (6 hours ago), activity, type (Integration), and a context menu. The context menu includes options like Show details, Repository, Update information, Download (which is highlighted in grey), Dismiss new, and Open issue.

3. Select the relevant version. At the time of writing this guide it was 2024.10.0

This screenshot shows the same HACS interface as above, but with a modal dialog box overlaid on the 'Tuya Local' repository page. The dialog is titled 'Tuya Local' and contains the following text:
Version 2024.10.0 will be downloaded
When downloaded, this will be located in
'/config/custom_components/tuya_local'.
Remember that you need to restart Home Assistant before changes to integrations (custom_components) are applied.
At the bottom of the dialog, there is a dropdown menu labeled 'Need a different version?' with a downward arrow, and two buttons: 'CANCEL' and 'DOWNLOAD'.

4. Restart Home assistant

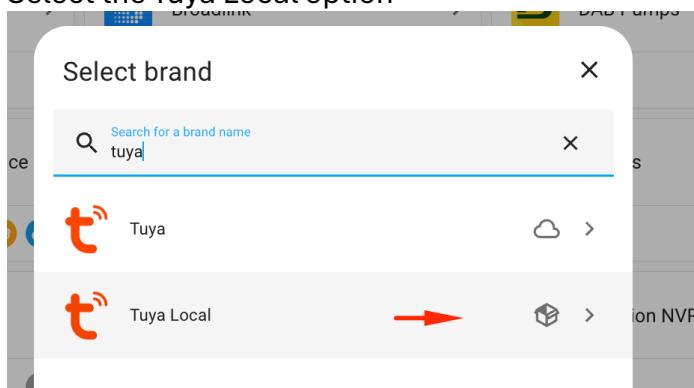
The screenshot shows the Home Assistant Settings page. On the left is a sidebar with various icons and labels: Home Assistant, Weer & temperatuur, Kalender, Network, Logbook, Map, Energy Victron, History, Calendar, File editor, Grafana, HACS, Media, Terminal, Developer tools, Settings (selected), Notifications, and Renier Lewis. A blue notification bar at the top right says "1 repair" and "Restart required" with a timestamp of "9 seconds ago by HACS". The main content area lists several configuration sections with icons and descriptions:

- Home Assistant Cloud: Logged in and connected
- Devices & services: Integrations, devices, entities, and helpers
- Automations & scenes: Automations, scenes, scripts, and blueprints
- Areas, labels & zones: Manage locations in and around your house
- Add-ons: Run extra applications next to Home Assistant
- Dashboards: Organize how you interact with your home
- Voice assistants: Manage your voice assistants
- Tags: Set up NFC tags and QR codes
- People: Manage who can access your home

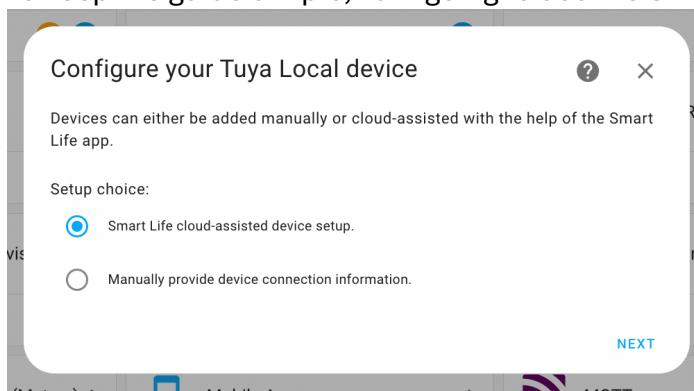
5. Go to Settings, Devices & services

6. Click Add Integration

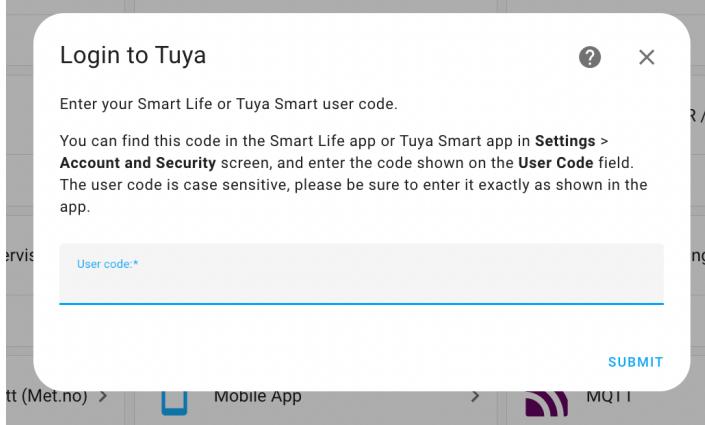
7. Select the Tuya Local option



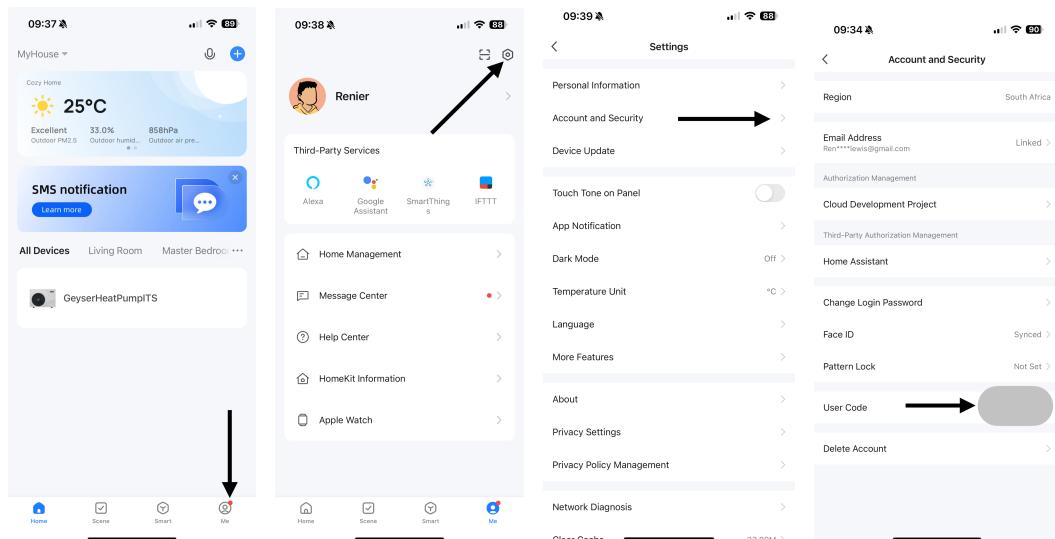
8. To keep the guide simple, I am going to use the Smart Life app route.



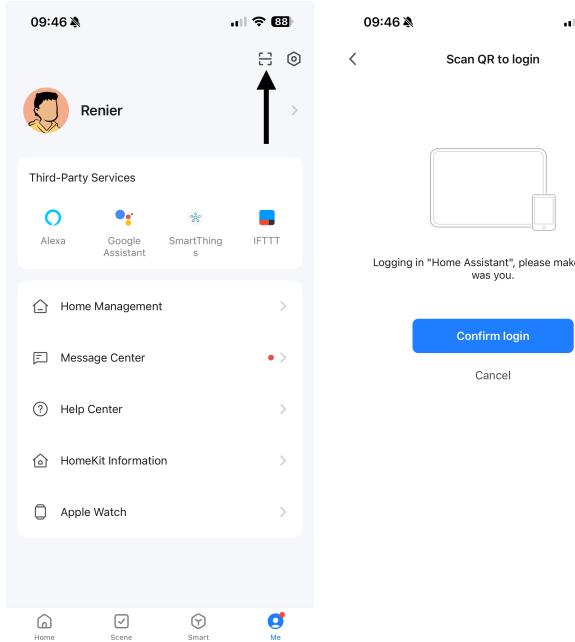
9. You will be asked for the SmartLife app user code



This code can be obtained in the SmartLife app. In the home page in the SmartLife app, click on the profile picture. See the instructions on the next page. This was done using the iPhone app.

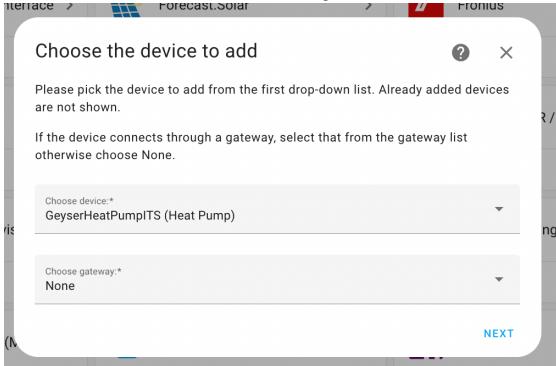


10. After entering the user code, you will need to scan a QR code through the app



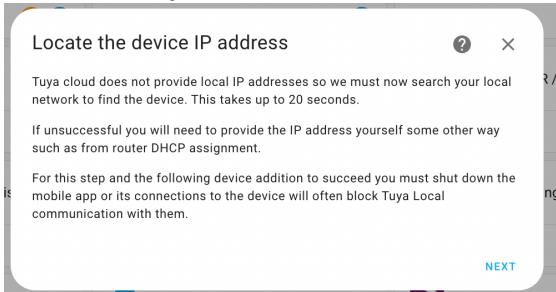
11. After confirming the login, go back to Home Assistant and Submit the QR page

12. You should now see all your SmartLife devices appear



If you have more than one, select the relevant one to add to Home Assistant.

13. It will now try to search the local network for the IP of the device



14. If all went according to plan, you should see a perfectly completed form

Follow these instructions to find your device id and local key.

Device ID*
xxxxxxxxx-masked-for-the-guide

IP address or hostname*
www.xx.yy.zz-masked-for-the-guide

Local key*
yyyyyyyyy-masked-for-the-guide

Protocol version (try auto if not known)*
v3

Poll only (try this if your device does not work fully)

Sub device ID (for devices connected via gateway)

SUBMIT

(Note: I have asked the details above for privacy reasons.)

15. Next you need to select the correct device

I have a ITS Super 6.3kva machine.

Choose the type of device ? X

Choose the type that matches your device

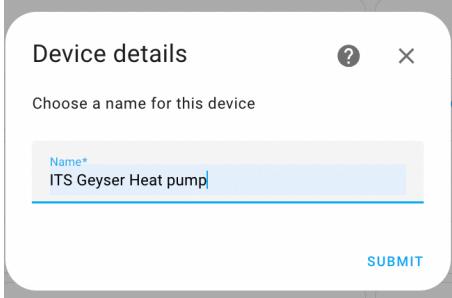
Device type*
its_45hd_heatpump

SUBMIT

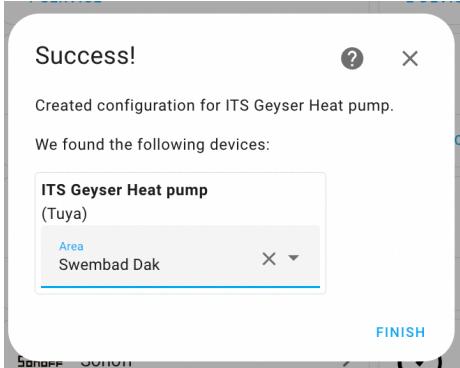
Using that option it only auto creates 16 entities.

*When using the hydrotherm option, it auto created 25 entities. On quick inspection it did not look if the entities were accurate.

16. Give your device a name



17. Select the area where your heat pump is placed



18. You should now see all the entities and be able to use them

ITS Geyser Heat pump

A screenshot of the Tuya app dashboard for the "ITS Geyser Heat pump". The top bar shows the device name and its location "In Swembad Dak". On the right is a red "tuya" logo. The dashboard is divided into several sections: "Device info" (by Tuya, Tuya Local, DOWNLOAD DIAGNOSTICS), "Controls" (Idle (Heat) 60 °C, Currently: 58 °C, ADD TO DASHBOARD), "Logbook" (October 20, 2024, log entries for pump status changes), "Configuration" (Anti-frost, ADD TO DASHBOARD), "Scenes" (No scenes added, ADD TO DASHBOARD), "Scripts" (No scripts added, ADD TO DASHBOARD), "Diagnostic" (Ambient temperature 32 °C, Aux heat Not running, Coil temperature 32 °C, Compressor Not running, High pressure valve Closed, Inlet temperature 58 °C, Low pressure valve Open, Outlet temperature 52 °C).

19. The following entities were available to view

Diagnostic		
	Ambient temperature	30 °C
	Aux heat	Not running
	Coil temperature	21 °C
	Compressor	Running
	High pressure valve	Closed
	Inlet temperature	55 °C
	Low pressure valve	Open
	Outlet temperature	60 °C
	Problem	OK
	Suction temperature	21 °C
	Time since defrost	0
	Vent temperature	74 °C
	Water flow	High
	Water pump	Running

[ADD TO DASHBOARD](#)

20. Comparison between Smart Life app data & Home Assistant
(Screenshots take a couple of seconds apart so minor difference visible in some entities)

11:48

■ ■ ■ 78

Status Query

Fluorine/Water	Water...
High pressure switch	Close
Low pressure switch	Close
Water flow switch	Open
Compressor state	ON
Four_valve state	OFF
Water Flow	High Fan
Pump State	ON
Heating elemet state	OFF
Runing time before defrost	0min
Linked switch	Open
Unit Tooling Number	24
SW1	Open
SW2	Open
Work State	Nothing

Diagnostic

	Ambient temperature	32 °C
	Aux heat	Not running
	Coil temperature	24 °C
	Compressor	Running
	High pressure valve	Closed
	Inlet temperature	59 °C
	Low pressure valve	Open
	Outlet temperature	66 °C
	Problem	OK
	Suction temperature	25 °C
	Time since defrost	0
	Vent temperature	87 °C
	Water flow	High
	Water pump	Running

[ADD TO DASHBOARD](#)

11:49 78

< Temp. Query ↗

Coiler Temp.	24 °C
Ambient Temp.	32 °C
Suction Temp.	25 °C
Exhaust Temp.	86 °C
Inlet temp.	59 °C
Outlet temp.	66 °C
EEV Open	345P

Diagnostic

	Ambient temperature	32 °C
	Aux heat	Not running
	Coil temperature	24 °C
	Compressor	Running
	High pressure valve	Closed
	Inlet temperature	59 °C
	Low pressure valve	Open
	Outlet temperature	66 °C
	Problem	OK
	Suction temperature	25 °C
	Time since defrost	0
	Vent temperature	87 °C
	Water flow	High
	Water pump	Running

[ADD TO DASHBOARD](#)

21. Have fun!

If this guide helped you, please drop me a note on renier.lewis@gmail.com