

Remote Temperature and Humidity Control Systems

List of devices to buy

- **Assistant** - Either Google Home or Amazon. I prefer Google since it's excellent if you're already an android user.
- **Temperature and Humidity Sensors**
 - **Govee – APP – Whole room monitoring** - This monitors the room and let's you specify alert ranges for Temp and humidity. I highly recommend downloading the app before buying as they have sale coupons that might get you 50% off for the device from Amazon directly, so always check the price on the app before buying or wait for a sale during a holiday. The Govee app is used for alerts and monitoring.
 - **SensorPush– APP – In-cage monitoring** - This lets you monitor individual geckos or cages that the sensor is in. This is a two-part purchase and has improved husbandry for us a lot because I can monitor the temperature of cages in different areas of the room to see how it fluctuates inside the cages which is very different from the whole room sensor. We even have one in our incubators. The app is used for alerts and monitoring.
 - The Sensor Push has local monitoring and remote monitoring, both are very simple to setup and once done can be switched between both monitoring types easily. For local monitoring, which means you need to be 20-50 feet away from the devices, you only need the sensor by itself. For monitoring from anywhere you have an internet connection you need to add the G1 WiFi Gateway. Place it somewhere in your home central to all the sensors.
 - **Local Temp and Humidity monitor** bluetooth only.
 - **Remote Monitoring** System for all devices.
- **On/Off Switches** for dumb devices. These will add to the smart life app and then the Assistant app to turn devices on/off. These are 15Amps switches, the higher the better because if a device pulls 12 amps to power on but only 7 amps to run like a heater or AC unit then it can trip the circuit and you might lose control of the device. This plug, if tripped, will reset after a while. Some however will die completely and need to be warrantied.

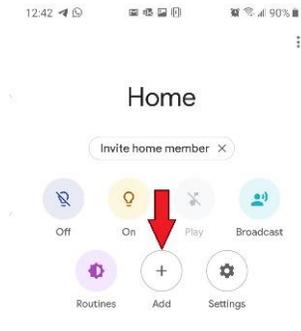
The Assistant to control Devices on/off functions only

1. The first step is to setup a [Google Home](#) (PREFERRED) or [Amazon Alexa](#) assistant to be able to turn devices on or off and monitor their state. This is just downloading the assistant app and setting that app up with different rooms. The rooms help to know where the devices are if they have the same name such as the AC, fan, and heater for each room. Here at LIL MONSTERS we have a Gecko Room, Iguana/Tegu Room, and Bedroom.
2. Once setup you can purchase devices that are compatible with the assistants. I try to stick to products that use [Smart Life](#).  If you have a dumb device you need to be sure it will return to the last operating status.
3. Once you add your Devices to the Smart Life app you can then add this service to your Google Home app. [See below for instructions.](#)
4. Once added you can then add the devices to Rooms to monitor and control different Rooms. Try to be organized in how you name your devices, they can have the same name and as long as they are in separate rooms you can voice control their functions. So, controlling an AC with the same name but in different rooms by saying "Ok Google turn on the AC in the Gecko Room" will only turn it on in the Gecko Room, just make sure the device name is simple like AC or TV or Fan, etc...
5. Once the devices are setup you can let your Assistant control them from anywhere and monitor their status from your assistant rather than using several apps to control them. You can also purchase devices that are "Smart" or Assistant compatible and have that all controlled and monitored from the Home app.

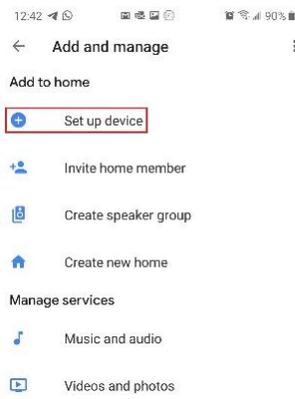
TIP: If you add a device to control after Smart Life is setup. Say to your google assistant, "*Hey Google Sync my Lights*" and it will add new devices from Smart Life and other services.

Adding the Smart Life app to your Google Home assistant

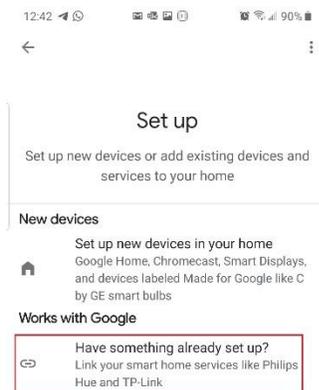
1. *Open* the **Home App** . 
2. *Click* the **plus** to add your service.



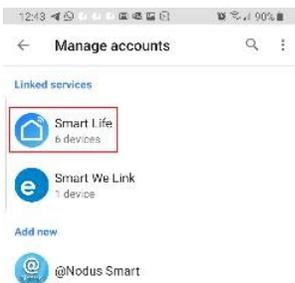
3. Then *select* **Set up device**.



4. Then *select* **Have something already set up?**



5. Find and *select* the **Smart Life** app and *login*.



This is how we have our sensors setup:

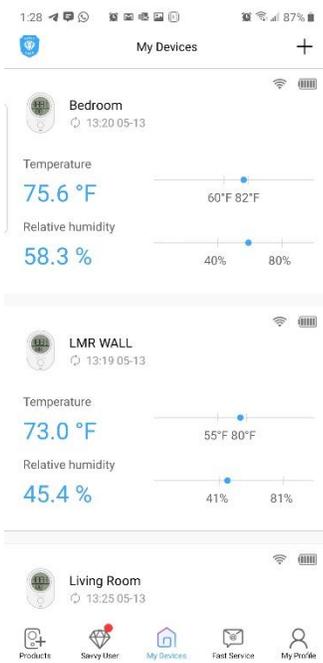
1. SensorPush

For this app I recommend using a sharpie and numbering each Sensor. Then in the app number and name it which cage it is located in, or in our case the animals name. This is the most organized way to keep track of where everything is and to move them around easily to different cages.



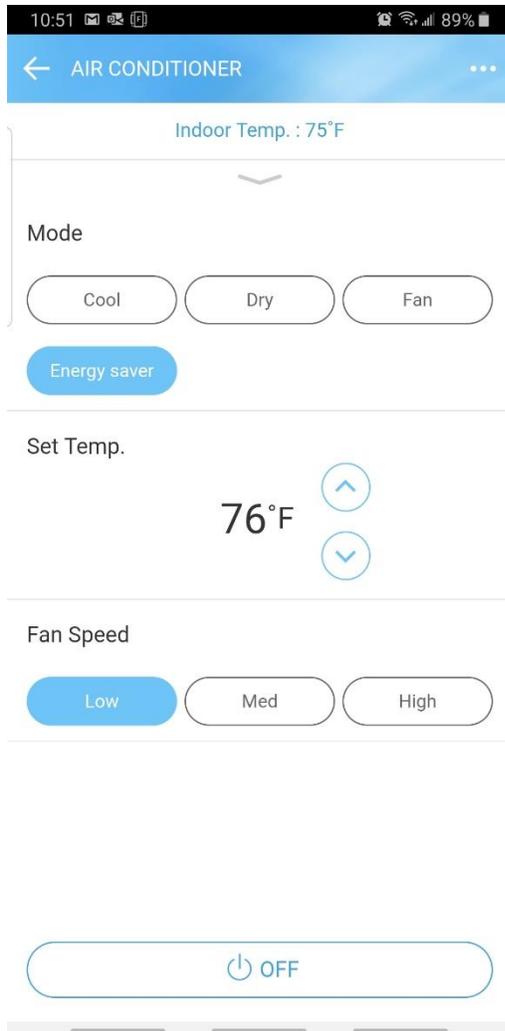
2. Govee

This device we stick to a central place in the room and use it to monitor the Temp/Humidity in each space.



Best in window Air Conditioners with Remote Control from anywhere.

1. <https://www.lg.com/us/window-air-conditioners> or [Amazon](#)
2. Control Screen



Calibration of the Temp/Humidity Sensors

Each sensor NEEDS to be calibrated for where you live. Otherwise, this could throw all your readings off while trying to monitor your room. I learned this the hard way. To calibrate get a jar that you can fit the sensors in, at least 3 at a time so you know they are all accurate to each other. For new devices use a known calibrated sensor to help calibrate new ones as you buy more. In my opinion this is a crucial step to do for humidity. As for the temperature just add up the temperature for all your devices and divide by the number of devices you have to get an average and set them all to that, calculation steps below.

1. Use a small gecko feeding dish filled with table salt (Sodium Chloride), about ½ a table spoon will do. Moisten it so that it looks like wet sand but not so much that water is freely moving around.
2. Place the sensors and salt in a sealed air tight container for 8 hours. Do not move it around too much and keep it in an area with a relatively consistent temperature and little to no exposure to light as possible.
3. Once 8 hours have passed the Humidity in the container should now be about 75%
4. Use the settings tab for each device in the app to calibrate each sensor's Temperature and Humidity. They should all be the exact same while in the Jar. Below is a reference table for the temperature and what the humidity should be in the container to help. Once calibrated you can remove the sensors and use them.

| Salt | 59°F | 68°F | 77°F | 86°F | 95°F |
|-----------------|-------|-------|-------|-------|-------|
| Sodium Chloride | 75.61 | 75.47 | 75.29 | 75.09 | 74.87 |

Temperature Calibration example

Sensor 1 – 74.3°F

Sensor 2 – 75.6°F

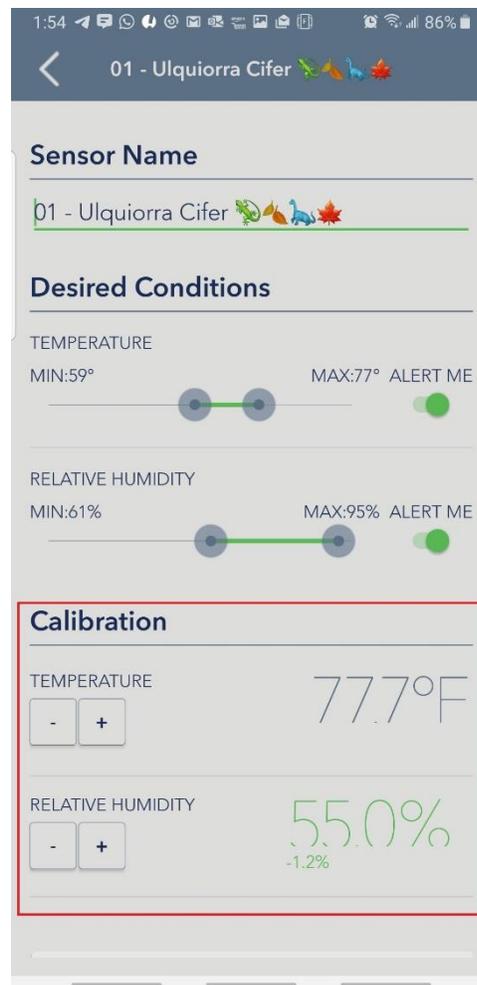
Sensor 3 – 75.1°F

Add together: **74.3+75.6+75.1=225**

Divide by # of devices: **225/3=75.0**

Set all sensors to **75.0** degrees.

Sample of the Calibration Page



For additional Info/suggestions:

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