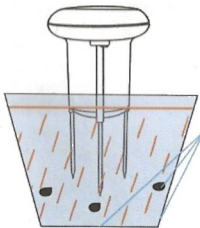
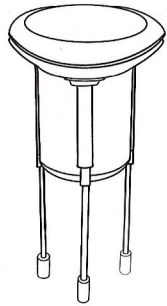


Smart Solar Soil Sensor

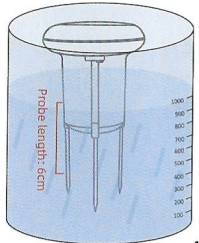
USER GUIDE

ZIGBEE



Notes: Please avoid detection probes to touch stones, the bottom and edges of container when using the device

4. Operation steps for reaching 100% moisture in water environment



The device can only reach 100% moisture in water environment. Please do as below steps,
Step 1, prepare a container with 1L water firstly.
Step 2, please put soil sensor in the center of container.

Notes: Please avoid the probes

Specifications

- Battery: AA 1.2V * 3 Ni-MH battery (Rechargeable)
- Solar Charging Current: 35mA
- Communication Protocol: Zigbee 3.0
- Wireless Protocol: Zigbee IEEE 802.15.4
- Wireless distance: 50M
- Waterproof level: IP66
- Temperature detection range: -10 ~ 60°C(14°F ~ 140°F)
- Moisture detection range: 0 ~ 100%RH(Non-Condensing)
- Maximum detection range of Electrical Conductivity: 20ms/cm
- Temperature Detection Accuracy: 0.5°C(Adjustable)
- Moisture Detection Accuracy: 5%RH(Adjustable)
- Electrical Conductivity Detection Accuracy: 3%FS
- 0.01ms/cm
- Time span of detection: 10min (Adjustable)
- Working temperature: -10 ~ 60°C(14 ~ 140°F)
- Working humidity: 0~100%RH(Non-Condensing)
- Size: 78mm X 78mm X 146mm

01

touching the bottom and edges of the container, and make sure the water has submerged the detection probes and reached 7cm (higher than the probes).
Step 3, please press the reset key to wake up the soil sensor, and device will detect current temperature, moisture and EC level immediately, also will display 100% moisture at APP interface.

LED State

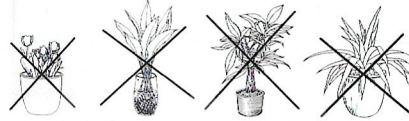
Device Status	LED State
Mode of waiting for configuration	Led flashes quickly(2 times per second)
Reset	Press the reset key and hold it for 7 seconds. During holding the reset key, the led state keeps on. Once the led flashes, it means soil sensor has been reset successfully.

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Precautions about usage environment

1, It is not suitable to install the soil sensor in indoor potted plants

Due to small inner diameter, which will affect the probe needle. It is also not recommended to insert the smart soil sensor into metal pot.



2, Precautions for using in garden environment

When using a soil sensor on a dense lawn, please remove the grass layer on the lawn first to ensure the sensor can fully contact the soil.



02

Get Started

1. Download APP

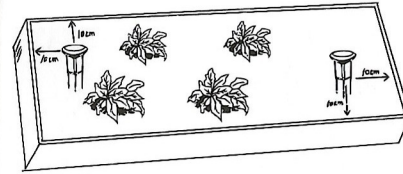
Android system: Download the "Smart Life" APP at Google Play;
iOS system: Download the "Smart Life" APP from the Apple Store.



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3, Precautions for using in flower bed

When using the sensor in a flower bed, the distance between the sensor and flower bed barrier should be more than 10cm. If the distance is too short, the probe needle will be affected, and will lead to inaccurate test data.



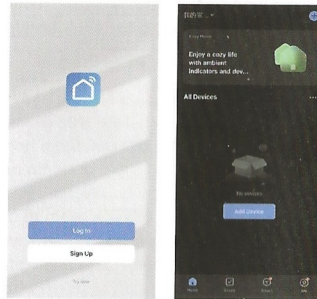
03

Notes:

From rainy days to sunny days, or sunny days to rainy days, for different soil, the infiltration conditions are not the same. Under normal circumstances, there will be moisture change within 30 minutes, and the moisture change is greater than 5% within 1 hour. The picture below shows the weather and moisture changes in the park.

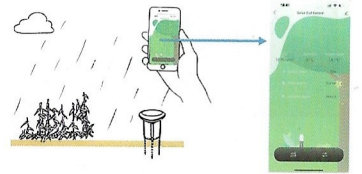
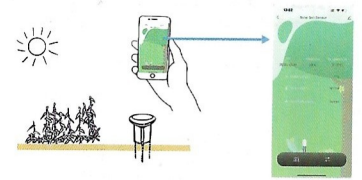
2. Register and Login

- 2-1 Launch the "Smart life" app.
- 2-2 To register, enter your mobile phone number or email address, create a password, then login to the app.
- 2-3 Login if you have an account already.



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a, Sunny to rainy

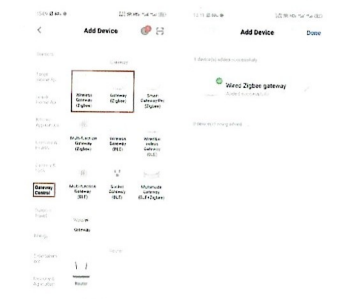


04

3. Add Devices

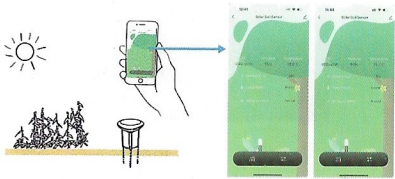
3-1. Add ZigBee Gateway

Add Tuya Zigbee gateway firstly, please follow the gateway instructions (distinguish wired gateway and wireless gateway).



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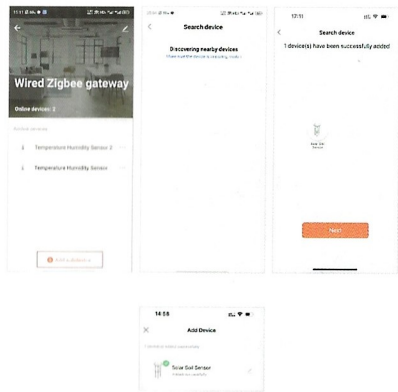
b. Rainy to sunny
The soil moisture would temporarily decline, and then gradually rise.



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3-2. Add Sub-devices

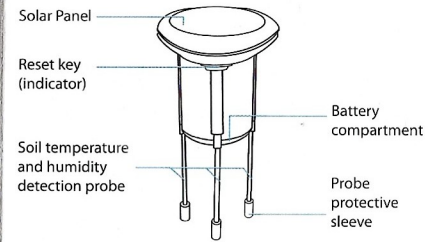
Before adding a sub-device, ensure that the device is in the pairing state (flashing indicator). If the device is not in the pairing state, press the reset button for 7 seconds



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Product Configuration

1. Product Configuration



2. Packaging accessories

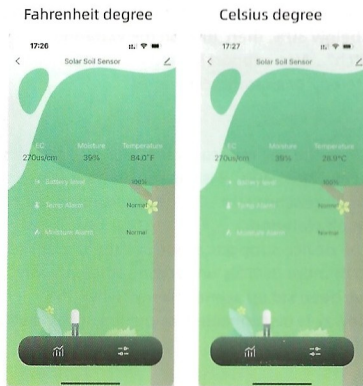
- ① Solar Soil Sensor ② Cross screwdriver ③ user manual



06

Functions and Settings

App Main interface



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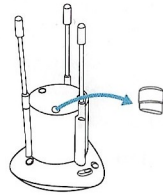
Installation and use

1. Battery Installation

Notes:

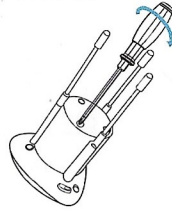
Please dry the device before installing battery, to ensure that no stains or water seep into the interior of the device.
When installing battery, please pay attention to the positive and negative poles, and install the battery according to the silk screen markings on the battery compartment.

Step 1. Please remove the waterproof rubber plug from the battery compartment.



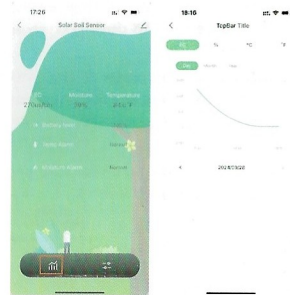
07

Step 2. Please use a screwdriver to unscrew the screws.



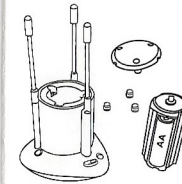
1. Records

(1) Records about Electrical Conductivity:
support checking daily, monthly, and yearly Electrical Conductivity

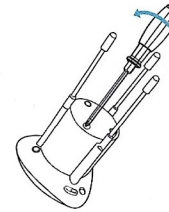


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Step 3. Please remove the cover and battery compartment, then install the batteries.



Step 4. Please put the battery compartment back, cover it, and tighten it with screws.



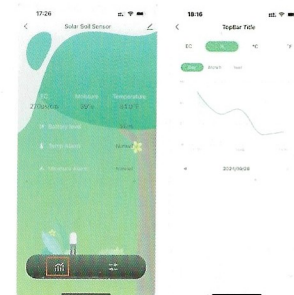
Step 5. When installing waterproof plugs, please make sure to face the sloping side upwards to prevent water leakage.



08

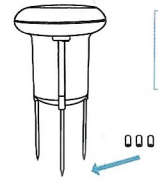
(2) Moisture records:

support checking daily, monthly and yearly Moisture



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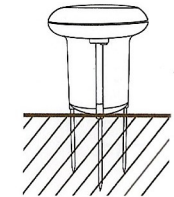
2. Insert device into Soil



Please remove the probe protective sleeve first then fully insert the probes into soil.

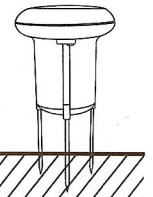
3. Demonstration about probes in soil

Correct demonstration



Three probes need to be fully inserted into soil

Error demonstration

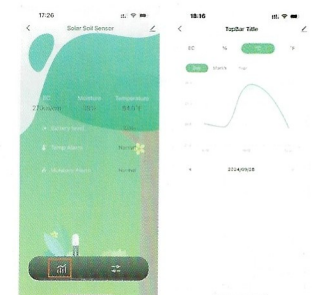


Three probes were not fully inserted into soil.

09

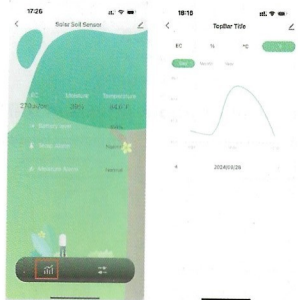
(3) Temperature records in Celsius unit:

support checking daily, monthly and yearly temperature



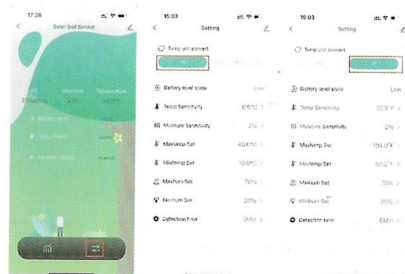
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4) Temperature records in Fahrenheit unit:
support checking daily, monthly and yearly temperature



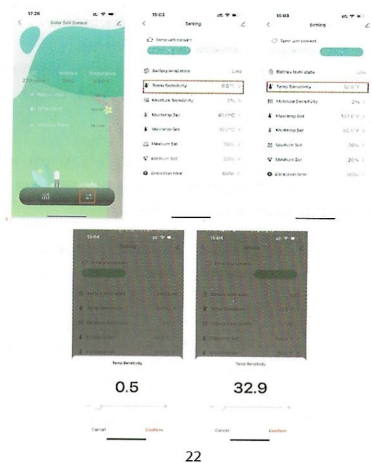
Parameters setting

1, Support switching temperature unit between Celsius and Fahrenheit.



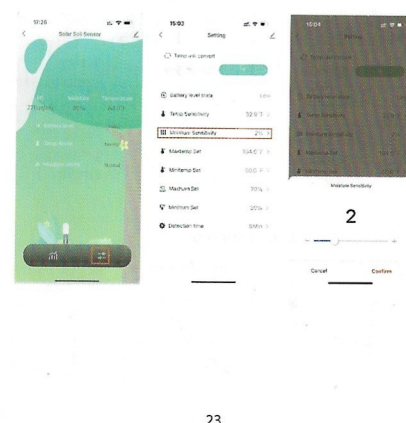
2, Temperature Sensitivity Setting

Temperature sensitivity means temperature changing value, and temperature sensitivity setting range: 0.5 C ~ 3 C & 32.9 F ~ 37.4 F)

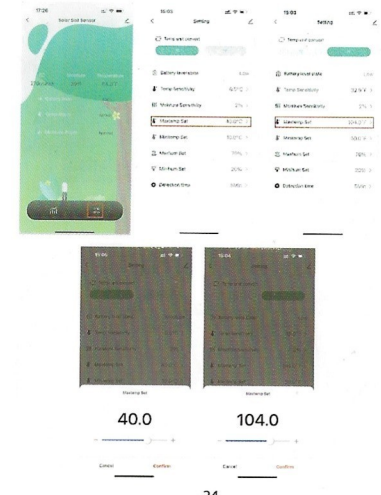


3, Moisture Sensitivity Setting

Moisture sensitivity means moisture changing value, and moisture sensitivity setting range: 1% ~ 5%

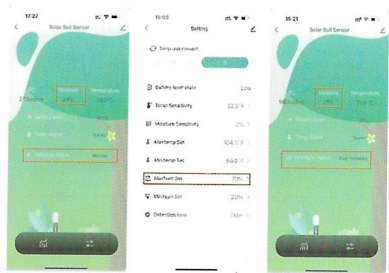


4, Setting on high temperature alarm
temperature setting range: -10 C ~ 60 C & 14 F ~ 140 F



2, Logic about soil temperature and moisture alarm

The device will trigger an alarm or not, depends on if it is above the upper limit or below the lower limit of preset temperature and moisture value. For example, if preset the maximum moisture to be 70%, once the soil moisture exceeds 70%, the device will trigger a high moisture alarm.



3, Temperature value display

Detect Soil's surface temperature



4, Logic about solar energy charging for the battery

When the battery level is low, it would start charging automatically if there is sunlight.

Attention should be paid to during charging

a, Avoid obstruction

During the charging process, please ensure that the solar panel can fully absorb sunlight and avoid any obstruction that affects the charging effect.

b, Cleaning solar panel

Regularly clean the dust and dirt on the solar panel, to improve charging efficiency.

Other Function

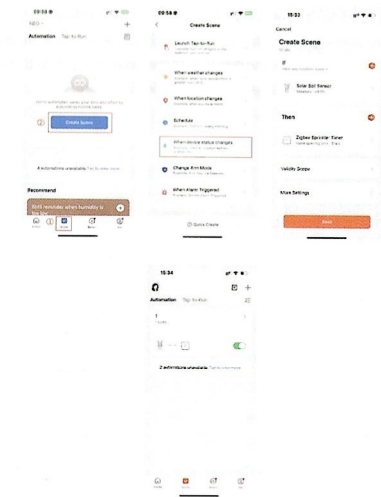
1. Scene Linkage

Eg: set at app "if the soil moisture is detected to be below 30%, then turn on the watering switch". Also support setting how long to be watered, for example 5 minutes.

Notes:

a, When the soil moisture of garden lawn plants reaches 30% -40%, it is suitable to start watering. When it reaches 60% -70%, it is recommended to turn off watering.

b, The device supports scene linkage under LAN. If two or more devices under the same gateway have been set up scene linkage, when the gateway is disconnected, scene linkage will still work.



5, Setting on low temperature alarm
temperature setting range:-10℃~60℃ & 14℉~140℉



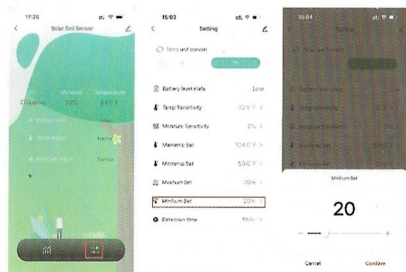
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6, Setting on high moisture alarm
moisture setting range :0%~100%



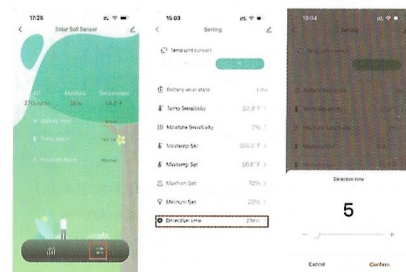
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7, Setting on low moisture alarm
moisture setting range: 0%~100%



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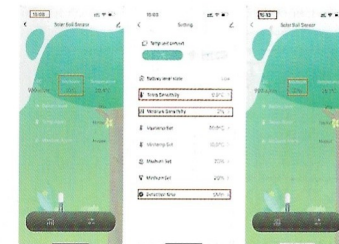
8, Setting on detection interval time
setting range of detection interval time:5min~60min



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Declaration about reporting logic and alarm logic
1, Logic about reporting soil temperature and moisture to app

The device will report to app or not, depends on if the temperature changing value or moisture changing value reaches the preset value(temperature sensitivity or moisture sensitivity) or not during the preset detection interval time. For example, if preset the detection interval time to be 5 minutes, the temperature sensitivity to be 0.5 ℃, and the moisture sensitivity to be 2%, the device will detect every 5 minutes. During detecting, if the soil temperature changes by more than 0.5 ℃ or the soil moisture changes by more than 2%, the main interface of APP will update new values of soil temperature, moisture and EC.



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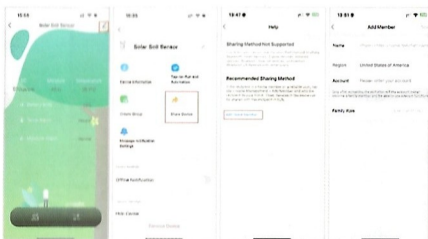
2. Alarm records



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3. Sharing device

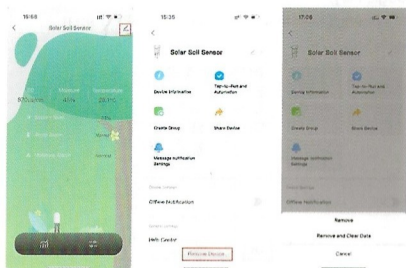
Zigbee device only can be shared with home members



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4. Delete and Reset

Delete the device through the app and add it again to clear all device records and restore default settings



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Due to the app update, the above interface is for reference only

FQA

1, Any other methods to detect the soil's temperature, moisture except setting automatic detection at app? Press the reset button then device will begin detecting and reporting new values to app, and the detection time is 3 seconds.

2, In what range does the moisture measured by the device indicate that the soil moisture is too high? When the moisture of the device is about 80%, it means that the soil is too wet. Please note, the device cannot reach 100% moisture in the soil. Because the device defines 0% moisture in the air and 100% moisture in the water.

3, During using the device, what should be noticed? Make sure to clean the soil on the metal probe during using, so as not to affect the sensing accuracy and stability of the device.

4, The device does not update new values to app for a long time, is it a normal phenomenon? It is normal. If the device does not update new values to

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