CCL ELECTRONICS LTD

WIRELESS SOIL MOISTURE & TEMPERATURE SENSOR

Model: C3127A

User Manual

Thank you for selecting this Wireless Soil Moisture & Temperature sensor. This manual is used for EU, US or AU version. Please read the instructions carefully according to the version you purchased and keep the manual well for future reference.

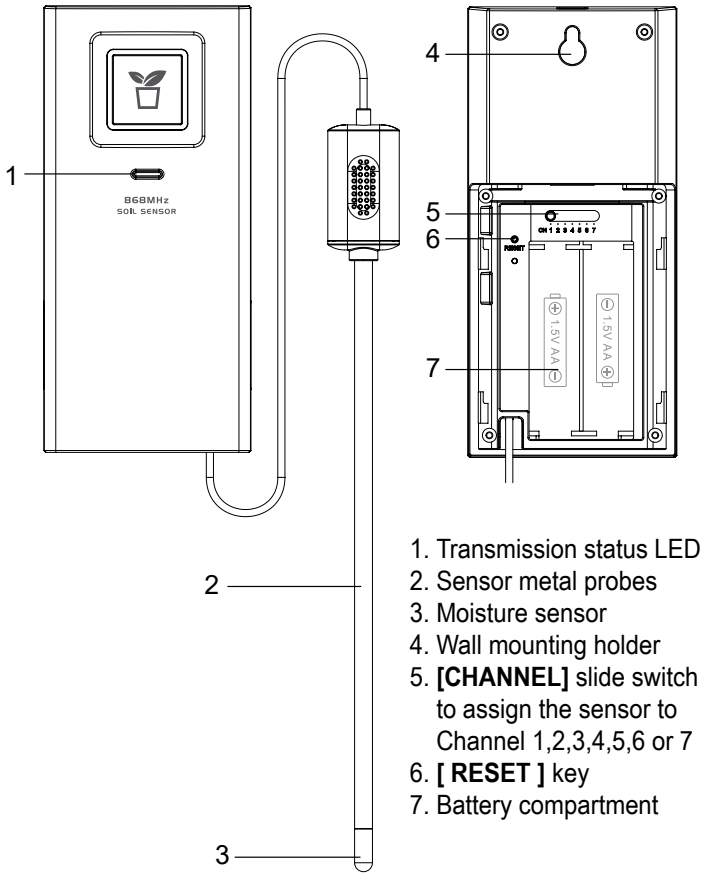
IMPORTANT NOTE

- Read and keep these instructions.
- Do not cover the ventilation holes with any items such as newspapers, curtains etc.
- Do not clean the unit with abrasive or corrosive materials.
- Do not tamper with the unit's internal components. This invalidates the warranty.
- Only use fresh batteries. Do not mix new and old batteries.
- Do not dispose old batteries as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
- Attention! Please dispose of used unit or batteries in an ecologically safe manner.
- Technical specifications and user manual contents for this product are subject to change without notice.

CAUTION

- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- Battery cannot be subjected to high or low extreme temperatures, low air pressure at high altitude duning use, storage or transportation.
- Replacement of a battery with an in correct type that can result in an explosion or the leakage of flammable liquid or gas.
- Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion.
- Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas.
- A battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.
- An appliance is only suitable for mounting at height ≤ 2m.

OVERVIEW



1. Transmission status LED
2. Sensor metal probes
3. Moisture sensor
4. Wall mounting holder
5. **[CHANNEL]** slide switch to assign the sensor to Channel 1,2,3,4,5,6 or 7
6. **[RESET]** key
7. Battery compartment

DIFFERENCES BETWEEN EU AND US VERSION

Below table show the differences between the Europe(EU), United State(US) and Australia(AU)

	EU version	US version	AU version
Front side rating	868MHz SOIL SENSOR	915MHz SOIL SENSOR	917MHz SOIL SENSOR

GETTING STARTED

1. Remove the battery door.
2. Slide the **[CHANNEL]** slide switch to choose a channel.
3. Insert 2 x AA size batteries into the battery compartment according to the polarity mark on the battery compartment..
4. Close the battery door.
5. After inserting batteries, the transmission status LED will light up 1 sec.

NOTE:

- Ensure to assign different channels of different sensors, in case you need to pair more than one sensors.
- Once the channel is assigned to a Wireless Soil Moisture & Temperature sensor, you can only change it by removing the batteries or resetting the unit.
- Avoid placing the sensor in direct sunlight, rain or snow.

PAIRING THE WIRELESS SENSORS WITH THE CONSOLE

The console will automatically search and connect to your wireless sensor(s). Once your sensor(s) pair up successful, the sensor(s) signal strength indication and weather information will appear on your console display.

NOTE:

During signal transmission, the LED indicator of the sensor will flash.

TEMPERATURE DISPLAY

On the display of the console which the soil sensor is linked to, temperature reading will be displayed.

SOIL MOISTURE DISPLAY

Soil moisture can be clarified into 5 different levels: **Very Dry**, **Dry** , **Moist**, **Wet** and **Very Wet.**

To determine the moisture of soil, the sensor calibrate the moisture into 16 points, and correlate them into percentage value:

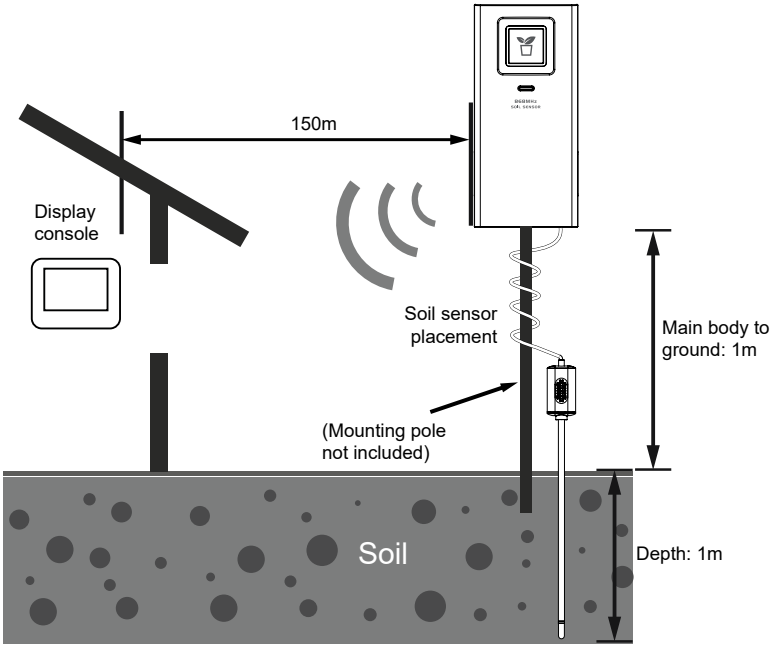
Points	Percentage	Level
1	0%	Very Dry
2	7%	
3	13%	
4	20%	
5	27%	
6	33%	Dry
7	40%	
8	47%	
9	53%	
10	60%	Moist
11	67%	
12	73%	
13	80%	Wet
14	87%	
15	93%	Very Wet
16	99%	

NOTE:

The measurement accuracy of the sensor can be affected by the soil condition. For example, the loose soil may get lower moisture level that compare with the dense soil.

SENSOR PLACEMENT

Select the suitable installation site that insert the sensor probes into the soil around 100mm (4 inch) and sensor should place within 30 meters of the display console to get the best transmission performance.



NOTE:
Signal transmission range of the sensor will be gradually reduced as sensor is inserted deeper into the soil. To achieve best transmission range, install the sensor on the same plain of view as the display console..

RESET THE SENSOR

In case of mal-function, press **[RESET]** button to reset the sensor.

SPECIFICATIONS

Dimensions (W x H x D)	125 x 58 x 19 mm (4.9 x 2.2 x 0.7 in)
Weight	144g (with batteries)
Main power	2 x AA size 1.5V batteries (Lithium battery recommended for low temperature environment)
Weather data	Soil temperature and moisture
RF frequency	868Mhz (EU) , 915Mhz (US), 917Mhz (AU)
RF transmission range	150m (300feet) straight distance
Temperature Accuracy	-5°C ~ -0.1°C ± 2°C (23 ~32°F ± 4°F) 0 ~ 40°C ± 1°C (33 ~ 86°F ± 2°F) 40.1 ~ 50°C ± 2°C (87 ~ 122°F ± 4°F) Below -5°C (23°F) or above 50°C (122°F not guarantee the accuracy)
Moisture Accuracy	0% ~ 99%
Number of channels	7 (CH1 ~ 7)
Transmission interval	60 seconds
Operating temperature range	-20 ~ 60°C (-20 ~ 140°F) not recommend under freeze condition
Operating soil moisture range	0% to 99%

FCC STATEMENT
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.

Warning: Changes or modifications to this unit 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 n a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

" FCC RF Radiation Exposure Statement
Caution: To maintain compliance with the FCC's RF exposure guidelines, place the unit at least 20cm from nearby persons."