SBHseries

DATA SHEET

Description

SOIL MOISTURE SENSOR (SBH UNIT)

➢ 1 input for soil moisture sensor model WATERMARK of IRROMETER (included).
➢ Solar panel integrated.
➢ Only used with HUB architecture.
➢ Integrated antenna.
➢ Very small measures.
➢ Secure communications.
➢ Bidirectional communications.
➢ Easy to install.
➢ Load range from zero. Even with empty batteries, full recharging is possible using the small solar panel. It is not necessary to move the equipment from where it is well installed.
➢ "Sleep" mode to achieve very low consumption. This allows the equipment to be stored for very long periods of time, even if the battery protector has been removed.
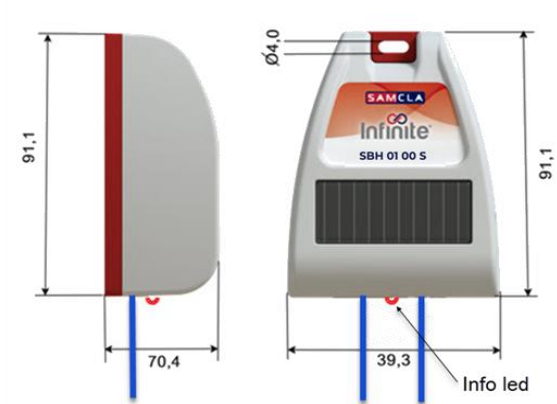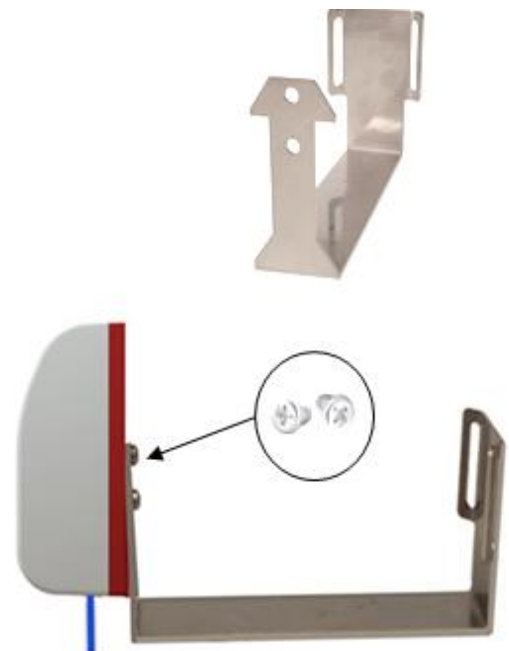
SOIL MOISTURE SENSOR (PROBE)

➢ Watermark 200SS model of IRROMETER. It is a resistive device that responds to changes in soil moisture and measures its water tension.
➢ It adapts to most soils, including clay soils.
➢ Measures between 0 and 199 centibars of water tension in the soil.
➢ Configuration in the SSP platform of the max. and min. in % of desired humidity.

Sensor measurement in centibars (cb)	Equivalence in % moisture	Soil condition
0 - 10 cb	About 95%	Saturated soil
10 - 30 cb	Below 85%	Soil with sufficient moisture. Except those of coarse sand that are already beginning to dry
30 - 60 cb	Below 55%	Normal margin to start irrigation, except in very clayey soils
60 - 80 cb	Below 15%	Normal margin to start irrigation in very clayey soils
+ 80 cb	Close to 0%	Soil drying dangerously

➢ Does not require maintenance, adjustments or calibration.
➢ Robust construction in stainless steel and special plastics.
➢ Supplied with a 1.5m cable.

ACCESSORIES

SBH UNIT [mm]	FIXINGS
WATERMARK SOIL MOISTURE SENSOR	
Length: **83mm** Diameter: **22mm** Weight: **67g**	

REFERENCE

MODEL	REFERENCE	DESCRIPTION
SBH 01 00 S	SBH106B8P	SOIL MOISTURE SENSOR

Technical specifications SBH unit

MECHANICAL SPECIFICATIONS

Enclosure	ABS
Operating temperature range	-15ºC to 55ºC / 5ºF to 131ºF
IP protection	IP66
Weight (approx.)	185g / 6.5oz

ELECTRICAL SPECIFICATIONS

Power supply	Solar panel
Short circuit protection	--
RF range (open area)	1000 m / 3218 ft
RF Band	868 MHz Free SRD band

STATUS LEDS

Info LED	**Red color**	Blinks twice: Restart

SLEEP MODE

- Approach a magnet as shown below and info led will turn on. Maintain the position until the led turns off. Then remove the magnet. Default settings will be reloaded and device will turn to Sleep Mode.

- In order to wake up the device, repeat previous action, but now remove the magnet just the led turns on. Led info will blink twice. Device is ready to install.

Installation of the SBH unit

PRELIMINARY

- We recommend that you use the accessories (screws, etc.) supplied with the equipment, in order to guarantee optimal fixing..
- Install SBS device always facing South if possible, avoid facing North.
- Remove battery protection (plastic tab). If the device has no battery protection because it is in sleep mode, restart the device by using the magnet as shown before.
- It is recommended to choose final emplacement after setting up, using the connectivity test function to ensure that the site where it has been installed is optimum.

SET UP

- Set up can be managed from both, the web application and the Infinite HUB APP. Proceed as shown below, following screen indications in each case.
- Add the new device to the Samcla Smart Platform and choose a location on the map. Only device PSN (290...) is required for this action.
- Connect the new device to the RF network. Choose the parent node (the last REP or the HUB if no REP is required) and click connect button. From now on, the new device is already part of the telemanagement network.
- Click the connect button to connect the new Device.
- From now on, the connectivity test function is available as many times as needed.

FAQ'S

I get "Terminal equipment not responding" error during network connection.
Move new device closer its parent node and try again.

All installation steps have been accomplished successfully, but I get nor RF level neither battery level in the dashboard, even after a connectivity test.

Information will be automatically updated during device next communication.

I am trying to turn the device to the sleep mode, but info led remains blinking instead of remaining on.
Magnet has been removed too fast and the device has turned into service mode. Please wait for around 30 seconds until the led turns off and try again.

Soil moisture sensor installation

PRELIMINARY

It is very important that when installing the sensor on the floor, we avoid leaving air or ground bags excessively compacted around it. Contact with the substrate must be as uniform as possible. To achieve this, it is recommended a simple procedure that eliminates some unwanted situations that could make the readings not entirely correct.

SENSOR AND SOIL PREPARATION

- Immerse the sensor in a container with water all night before installation. In this way it will respond better to the first irrigations.
- Make a hole at least 22cm in diameter at the point where you want to place the sensor on the ground. The depth will be the desired for each case. Try to make the hole 15cm from the dripper (if any) and at least 25cm from another Watermark sensor like the one we are installing.
- Put the extracted soil when making the hole in a jar with water and make a fine and homogeneous mixture.
- Introduce the mixture of soil and water into the hole we made in the ground.
- Insert the sensor into the hole, where it will be embraced by the fine mixture of soil and water. Always place the cables on top and as upright as possible.
- Add the rest of the soil mixed with water to leave the hole where the sensor is installed, completely covered and the cables coming to the surface.

Note: More information of the Watermark Moisture Sensor can be found on the manufacturer's website: www.irrometer.com

SENSOR CONNECTION TO SBH UNIT

The last step is to connect the 2 wires of the sensor to the 2 wires of the SBH unit. This connection has no polarity and it is very important to do it using waterproof connectors such as those used for connected solenoid valves. Remember that when installing such connectors, the wires should not be peeled.

FAQ'S

Once the sensor is installed, connected to the SBH unit and registered on the SSP platform, I have for days the same humidity reading of almost 100%

To see lower humidity levels, the sensor needs to be dry enough. Remember that we have put it very wet (saturated) and perhaps the soil conditions are high humidity. If so, you need to be patient and wait it reacts before taking any more tests.

After days, it still marks the same high humidity of the first day...

Disconnect the cables from the SBH unit and keep them so for a time greater than the sampling time configured in the SSP. After this time, we should obtain a % value close to zero and it would be confirmed that the sensor is working correctly and is probably still saturated.
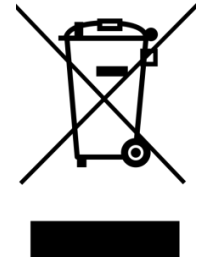
Certificate of Conformity to European Directives

SAMCLA - ESIC, S.L. declares under its sole responsibility that the SBH reference SBH106B8P complies with the standards of the European Directives of "Radio Equipment" (2014/53/EU).

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Waste electrical and electronic equipment

This symbol (right) is shown on this product. It indicates that the product should not be disposed of with regular household waste, but should be disposed of separately. Electrical and electronic equipment can contain materials that are hazardous to the environment and human health and therefore should be disposed of at a designated waste facility or returned to your retailer for the appropriate recycling to take place.

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