

Shambah Assistant

An IoT Soil Testing Device



■ Shambah Assistant



■ This product has stable performance, high sensitivity, fast response, stable output, suitable for all kinds of soil. It is an important tool to observe and study the occurrence, evolution and improvement of saline soil and the dynamics of water and salt.

By measuring the dielectric constant of soil, the true moisture content of soil can be directly and stably reflected. The volume percentage of soil moisture that can be measured is the soil moisture measurement method that conforms to the current international standard. It can be buried in soil for a long time, resistant to long-term electrolysis, corrosion resistance, vacuum sealing, completely waterproof.

■ Suitable for soil moisture monitoring, scientific experiments, water-saving irrigation, greenhouse, flowers and vegetables, grassland and pasture, soil rapid measurement, plant culture, sewage treatment, fine agriculture and other occasions of temperature and humidity, electrical conductivity, PH test.



Device Features



Low threshold, few steps, fast measurement, no reagent, no limit detection times.



The electrode is made of specially treated alloy material, which can withstand strong external impact and is not easy to be damaged.



Completely sealed, resistant to acid and alkali corrosion, can be buried in soil or directly put into water for long-term dynamic detection.



High precision, fast response, good interchangeability, probe insertion design to ensure accurate measurement and reliable performance.

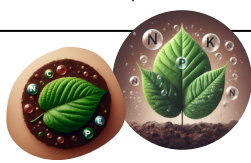


The device can also be used for water and fertilizer integrated solution, as well as other nutrient solution and substrate conductivity.



Device Specifications

Stable time	≤5min	
Electrical conductivity parameter	range	0-20000us/cm
	resolution	1us/cm
	Typical accuracy	0-10000us/cm range is±3%FS; 10000-20000us/cm range is ±5%FS; (Brown soil, 60%,25°C)
Soil moisture parameters	range	0-100%
	resolution	0.1%
	accuracy	0-50% ±2%, @ (brown soil, 30%,25°C) 50-100% ±3%, @ (brown soil, 60%,25°C)
Soil temperature parameter	range	-40-80°C
	resolution	0.1°C
	accuracy	±0.5°C (25°C)
6/5000 Soil PH parameter	range	3-9PH
	resolution	0.1
NPK parameters (Input after measurement by national standard instrument)	range	0-1999 mg/kg(mg/L)
	resolution	1 mg/kg(mg/L)
	Typical accuracy	≤5%
Conductivity temperature compensation	Built-in temperature compensation sensor, Compensation range 0-50°C	
Protection grade	IP68	
Pin insertion material	Special anti-corrosion electrode	
Seal material	Black flame retardant epoxy resin	
Default Cable Length	2 meters, cable length can be customized according to requirements	
size	45*15*123mm	
output	RS485(Modbus protocol)	

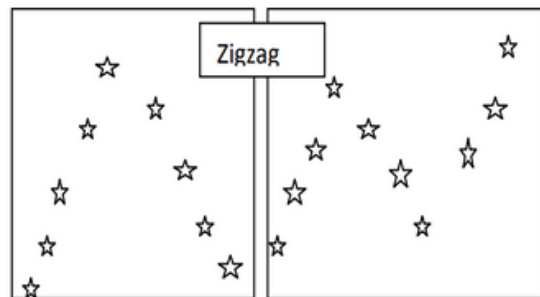
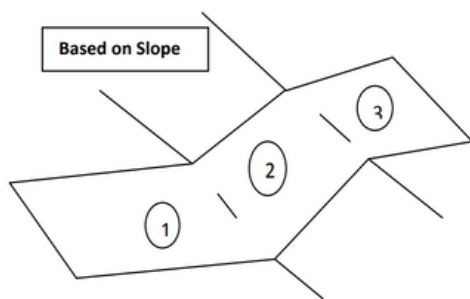


Collecting Soil Samples

Prepare a map of the area to be covered in a survey showing different sampling unit boundaries.

Enter a plan of the number of samples and manner of composite sampling on the map, designating different fields by letters (1 (valley), 2 (slope), 3 (hill top), etc.).

EXAMPLES OF DEMARCATING THE SAMPLING AREA INTO UNIFORM SAMPLING UNITS



Traverse each area separately. Cut a slice of the plough layer at intervals of 15–20 steps or according to the area to be covered. Generally, depending on the size of the field, 10–20 spots must be taken for one composite sample.

Scrape away surface litter to obtain a uniformly thick slice of soil from the surface to the plough depth from each spot.

Make a V-shaped cut with a spade to remove a 1– 2-cm slice of soil. Collect the sample on the blade of the spade and put it in a clean bucket.

Collect samples from all the spots marked for one sampling unit.

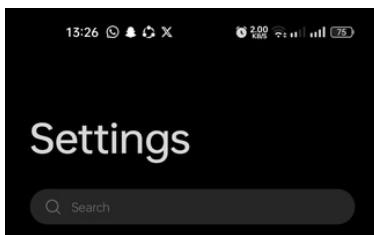
Add water to the sample and create a mud paste ready for soil testing.



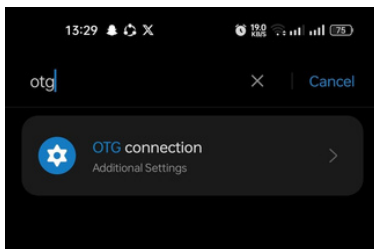
■ Using the Device



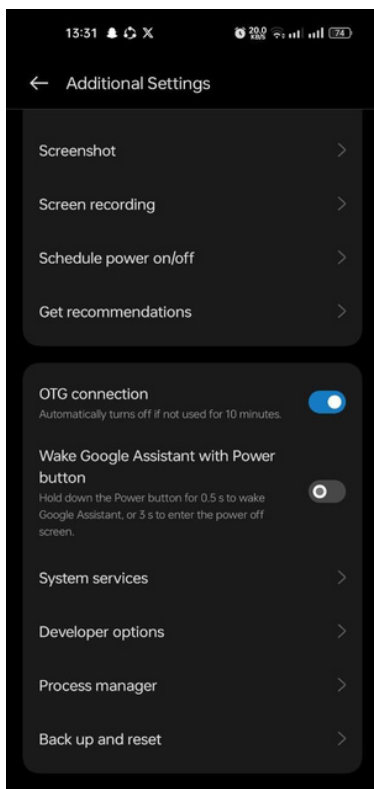
Connect the Device to the phone via the charging port either using USB type B or C.



Open Settings on your device.



Search OTG on the settings search bar



Turn on the OTG connection



Using the Device



Open Shambah Solutions Application



Insert the sensor probe into the soil sample to be measured.



On the application Click **CONNECT** to prompt the device to collect the readings





■ Product warranty

The warranty period of this product is one year. From the date of delivery, within 12 months, the company is responsible for free repair or replacement for failures caused by sensor quality problems (non-human damage). After the warranty period, only the cost fee will be charged.

Thank You!

Hopefully, we can work together and this project will be successful.



**Let's Get
In Touch**

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