RESISTIVE SOIL MOISTURE PROBE

Check for samples: PB-HYDRO-03

FEATURES

- **ABS casing**
- **IP68 waterproof**
- **Epoxy resin for seal up**
- **HI-Q 304 stainless steel for probes**
- **3 Meter long cable**
- θ **3mm * 54mm probes**

DESCRIPTION

PB-HYDRO-03 is designed to specially test the humidity of soil. PB-HYDRO-03 can be used in any environment as the Epoxy resin seals up the ABS case, achieving both water and corrosion proof. HI-Q 304 stainless steel probe prevents the probe from being electrolyzed. The probe comes with a 3 meter long cable for easy probe installation.

The exposed conductive nails allow PB-HYDRO-03 to measure the resistivity of the soil covering the device. Given that the resistive value of the probe depends both, on the type of soil and its current moisture, it is necessary to perform a software calibration for accurate results.

Nevertheless, without any calibration the probe provides the means of getting a qualitative moisture level of the soil.

HOW TO USE

- **Insert the probe into the soil where you want to test the humidity (avoid rough terrains)**
- **Measure the resistor of the 2 wires from the output cable**
- **Depending on the soil moisture of the test environment, do the calibration if its humidity**
- **According to resistor, calculate the humidity of the soil**

SUITABILITY

The probe can be widely be used for different purposes, such as: scientific experiments, irrigation, greenhouses, flowers and plants, grass farms, sewage treatment, food storage and a big variety of other uses where it is desired to know the soil's humidity.

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CALIBRATION

The probe can be calibrated by using dry soil and taking samples while applying water to fill out the following table:

SOIL SAMPLE		SOIL MOISTURE	PROBE RESISTOR
Soil weight after dried out (W_s = 100g)	Water weight W_w (g)	content by mass (W_w/W_s) %	Probe Resistor (Ω)
1000	0	0%	$R0$ = _____ Ω
1000	100	10%	$R1$ = _____ Ω
1000	200	20%	$R2$ = _____ Ω
1000	300	30%	$R3$ = _____ Ω
1000	400	40%	$R4$ = _____ Ω
1000	500	50%	$R5$ = _____ Ω

CHARACTERISTICS

SYMBOL	PARAMETER	MIN	TYP	MAX	UNIT
R_{wet}	Resistance wet		100		Ω
R_{dry}	Resistance dry		10M		Ω

REFERENCES

The next table shows the available references of the PB-HYDRO-03.

Ref.	Name	Description
97004	PB-HYDRO-03	PB-HYDRO-03, soil moisture probe, waterproof

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MECHANICAL DIMENSIONS

All dimensions are in millimeters.

2D VIEW