

EC 10 HS DECAGON PROBE



Precise measurement of soil water content.

Any type of soil

Analog output voltage

Robust and reliable

DESCRIPTION

The DECAGON EC10 HS Moisture Sensor is used to measure the volumetric moisture content of soils and other materials for scientific research and agricultural applications.

It therefore measures volumetric water content via the dielectric constant of the soil using capacitance technology. The sensor uses a frequency of 70 MHz which minimizes salinity and texture effects, making it ideal for standard agricultural and scientific projects.

The high resolution allows daily or hourly monitoring of water inputs into the soil.

CARACTERISTICS

| | |
|---------------|---|
| ACCURACY | Mineral soil: ± 3% VWC, most mineral soils, with electro conductivity <10 dS / m |
| RESOLUTION | From 0 to 57% VWC (Soil water content) - 0.0008 M3 / M3 VWC i.e. 0.08% in mineral soils (from 0 to 50%) - 0.25% rock wool From 0 to 67% VWC in an environment without soil. Operating temperature: -40 ° C to + 50 ° C. |
| OUTPUT SIGNAL | From 0.3V (dry soil) to 1.25V (soil saturated with water) Measurement: 10 ms min |
| POWER SUPPLY | From 3V to 12 mA at 15 V DC, 15mA |
| CABLE LENGTH | 5 meters extendable to 40 meters |
| DIMENSIONS | L x w x H: 16 cm x 3 cm x 0,8 cm |
| WIRES COLOURS | BROWN: + VBAT (Power) BARE WIRE: GND (Ground) ORANGE : Output voltage |

INSTALLATION

The soil adjacent to the sensor surface has the strongest influence on the sensor reading and the soil water content. As a result, any air space or excessive soil compaction can strongly impact the measurement. However, it is important to maximize the contact between the ground and the sensor

Do not install the sensors next to large metal objects, poles or retaining rods, an attenuation of the magnetic field could be observed.

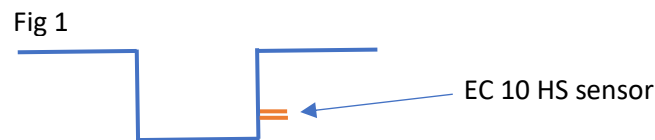
The 10HS sensor should not be installed closer than 5cm from the ground surface because the detection volume of electromagnetic field can be extended and reduce the accuracy.

Likewise, the 10HS sensor should not have any branches, wood, roots or other objects stuck between its pins on the pretext of having an inaccurate reading.

There are 2 ways to install the sensor

Horizontal installation:

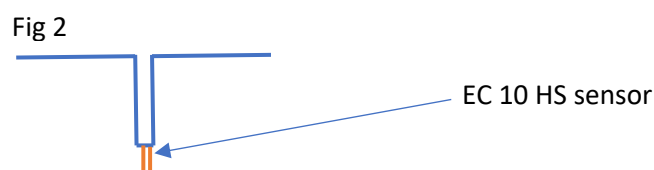
Dig a hole large enough and of the desired depth, respecting a minimum of (> 5cm), insert the sensor horizontally on the vertical face of the hole.



Shave the vertical surface of the floor a little and insert it over the entire surface of the pins. Each pin is sharp for easy driving. Recap the trench, taking care to restore a natural bulk density around the black housing of the sensor.

Vertical installation:

Dig or core a hole 10 Cm wide and the desired depth then insert the sensor in the bottom, in a vertical position



Some people use a piece of PVC where they make a notch to hold the sensor on the end so they can point the sensor into the hole. He then crashes the sensor and remove the piece of PVC.

In all cases, a little water can be used to facilitate insertion.