

Aranet Substrate Sensor (Teros-12)



Ensure your plants get the right amount of water and nutrients using the Aranet substrate sensor to monitor soil moisture, electroconductivity (EC), and temperature.

Applications



The Aranet Soil sensor (Teros-12) is ideal for side mount scenarios

The sensor is battery operated and able to reach a line-of-sight range of 300 meters.

It is compatible with the Aranet Base Station (SEN-ARA-BASE) capable of connecting up to 100 sensors.

There are 4 options available – Indoor 50 or 100 sensors (I50 or I100), and outdoor 50 or 100 sensors (O50 or O100).

Alternatives

Currently there is also the Argus Sola SS Moisture sensor (SEN-SOLA-MS), working with a charger (SEN-SOLA-CHRG), repeater (SEN-SOLA-RPTR), and base station (SEN-SOLA-BASE) for alternative moisture sensor solutions.

The Aranet sensor can also include the Aranet Base Station (SEN-ARA-BASE) for up to 100 sensors.

Features

- **Volumetric Water Content (VWC)** – able to measure water content of the soil for a range of 0 to 100%.
- **Electroconductivity** – measures the soil bulk electroconductivity (EC) from 0 – 20dS/m.
- **Soil Temperature** – the temperature of the soil can be measured from -40C to 60C.
- **Apparent Dielectric Permittivity** – you can measure the soil moisture using apparent dielectric permittivity from 1 – 80.
- **Battery Powered** – powered using 2 AA alkaline or lithium batteries.
- **Range** – capable of reaching a line-of-sight range of 300 to 500 meters.

Specifications

Dimensions	LxWxH: 9.4 cm (3.70 in) x 2.4 cm (0.95 in) x 7.5 cm (2.95 in) Needle Length: 5.5 cm (2.17 in) There are 3 needles per sensor.								
Range	VWC: 0 – 100% ² ADP: 1- 80 BEC: 0 – 20 dS/m Temperature ¹ : -40°C to 60°C (-40°F to 140°F)								
Resolution	VWC: 0.1% ADP: 0.01 BEC: 0.001dS/m Temperature ¹ : 0.1°C (0.1°F)								
Accuracy³	VWC: ±3% ³ ADP: 1 – 40 (±1) BEC: ±8% of reading Temperature ¹ : ±5%°C (±1.0°F)								
Line of Sight Range	300 - 500 meters								
Supported ISM Bands	EU868, US920								
Transmitter Power	14 dBm								
Data Transmission Interval	1, 2, 5, or 10 minutes								
Data Protection	XXTEA encryption								
Compatible Base Stations	Aranet PRO								
Power	Alkaline ⁴ or Lithium ⁵ TX Interval: Battery Lifetime at 20°C (68°F) ⁶ <table border="0"> <tr> <td>1 minutes – 0.9 years</td> <td>1.2 years</td> </tr> <tr> <td>2 minutes – 1.7 years</td> <td>2.3 years</td> </tr> <tr> <td>5 minutes – 3.9 years</td> <td>5.3 years</td> </tr> <tr> <td>10 minutes – 6.6 years</td> <td>9.5 years</td> </tr> </table>	1 minutes – 0.9 years	1.2 years	2 minutes – 1.7 years	2.3 years	5 minutes – 3.9 years	5.3 years	10 minutes – 6.6 years	9.5 years
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Ingress Protection Rating	IP68								
Operating Temperature Range	040°C to 60°C (-40°F to 140°F)								
Weight⁵	32g (11.3oz)								
Included in Box	AA alkaline battery								
Compliance	CE, IC, and FCC								
Substrate Type Recommendations	Potting Soil: Calibrated Peat: Calibrated Perlite: Calibrated Coco: Not calibrated Coco husk: Not calibrated More than 50% bark: Not calibrated Rockwool: Not calibrated Clay: Not calibrated								

1 Temperature measurement may not be accurate if sensor is not fully immersed in the medium of interest, due to longer equilibration time.

2 The VWC range is dependent on the media the sensor is calibrated to. A custom calibration will accommodate the necessary ranges for most substrates.

3 Weight with alkaline Fujitsu Premium LR6G07 AA batteries.

4 Fujitsu Premium LR6G07 AA batteries used for tests and calculations.

5 Energizer Ultimate Lithium L91 AA batteries used for tests and calculations.

6 Battery lifetime data has been obtained by mathematical extrapolation and is provided for descriptive purposes only and is not intended to make or imply any guarantee or warranty.

Additional Information



For more information, please contact Argus.