

# SOIL MOISTURE SENSOR



- ① measures soil and substrate moisture
- ② built-in temperature & EC meter
- ③ up to 10 year battery life
- ④ IP68 casing
- ⑤ data transmission every 1, 2, 5, 10 minutes

battery-powered, wireless soil moisture sensor with built-in temperature and EC meter for effective monitoring of irrigation and nutrient delivery to plants

## Soil Moisture EC and T Sensor Datasheet

|                                       |   |  |
|---------------------------------------|---|--|
| Measurements                          | Soil Moisture and Electrical Conductivity (EC) and Temperature  |  |
| Line of Sight Range                   | 3km / 1.9mi   |  |
| Operating environment                 | Indoor and Outdoor use  |  |
| Transmitter power                     | 14 dBm  |  |
| Frequency                             | Depends on base station instructions  |  |
| Volumetric Water Content (VWC)        | Range   | 0.00–0.70 m <sup>3</sup> /m <sup>3</sup> (Mineral Soil), 0.0–1.0 m <sup>3</sup> /m <sup>3</sup> (Soilless media)                               |
|                                       | Resolution  | 0.001 m <sup>3</sup> /m <sup>3</sup> (0.1%)  |
|                                       | Accuracy*   | ±0.03 m <sup>3</sup> /m <sup>3</sup> typical in mineral soils @ EC < 8 mS/cm<br>±0.01–0.02 m <sup>3</sup> /m <sup>3</sup> in any porous medium |
| Apparent dielectric permittivity      | Range   | 1 (air) - 80 (water)   |
|                                       | Resolution  | 0.01   |
|                                       | Accuracy*   | 1–40, ±1 (unitless)<br>41–80, 15% of measurement   |
| Temperature                           | Range   | –40 to 60 °C   |
|                                       | Resolution  | 0.1 °C   |
|                                       | Accuracy*   | ±1 °C  |
| Bulk Electrical Conductivity          | Range   | 0–20 mS/cm (bulk)  |
|                                       | Resolution  | 0.001 mS/cm  |
|                                       | Accuracy**  | ±5% of measurement (<10 mS/cm)   |
| Data Transmission                     | 1, 2, 5, 10 minutes   |  |
| Data Protection                       | Data encryption   |  |
| Power options                         | 1 AA Alkaline battery (Zn/MnO <sub>2</sub> ) / 1 AA Lithium battery (Li/FeS <sub>2</sub> )  |  |
| Battery life @20°C / 68°F             | Up to 7 years with Alkaline battery / Up to 10 years with Lithium battery   |  |
| Operating temperature for Sensor body | -20°C to 55°C/ -4°F to 131°F with Alkaline battery<br>-40°C to 60°C/ -40°F to 140°F with Lithium battery                                    |  |
| Operating humidity                    | 0% to 100%  |  |
| Dimensions                            | 35mmØ x 120mm / 1.4"Ø x 4.7" Sensor body<br>94mm x 24mm x 75mm (3.7" x 0.95" x 2.95") Probe incl. Needles<br>55mm (2.17") Length of needles |  |
| Weight                                | 320g (11.3oz) w Alkaline battery / 312g (11.0oz) w Lithium battery  |  |
| Construction                          | ASA Plastic (Sensor body)   |  |
| Protection class                      | IP68  |  |
| Marking                               | CE, FCC   |  |
| Compatible base stations              | Aranet PRO (from sw v1.4)   |  |
| Cable length                          | 5m (16.4ft)   |  |
| Included                              | 1 AA Alkaline battery, string   |  |

\* Dependent on the media the sensor is calibrated to. A custom calibration can improve the accuracy.

\*\* For >10 mS/cm, please consult Aranet sales representative.

### Terms of use

The Customer is obliged to guarantee the usage, maintenance, and preservation of the Equipment at their own expense in a way that excludes the Equipment's theft, loss, destruction, harming and/or damaging (including as a result of mechanical damages, moisture, liquid related damages, lightning and/or other similar events).