TEROS-21
SOIL WATER POTENTIAL SENSOR

METER

A true full-range water potential sensor that's low maintenance and low cost

The TEROS-21 water potential sensor is incredibly easy to use. It requires no maintenance, and it's accurate enough for most applications. In fact, the TEROS-21 provides an even more accurate soil moisture picture than measuring water content alone. A water content sensor only shows the percentage of water in the soil, but add a TEROS-21 water potential sensor, and you'll know if that water is available to plants and where it will move. Plus, unlike water content, matric potential isn't dependent on soil type, so you can compare moisture between different sites. It now measures all the way from near saturation to air dry (−5 to −100,000 kPa) making it the world's first true full range water potential sensor.

The only worry-free soil water potential sensor

TEROS 21 is plug and play in a number of ways. First, once it's in the ground, the durable epoxy coating ensures long-lasting usage. Second, no maintenance is involved. That means no refilling. And no worrying about frozen conditions. Lastly, the TEROS-21 water potential sensor is also easy to integrate into systems (SDI-12 compatible) so it can be used with third-party loggers. All this adds up to saving you time and a lot of unnecessary labor.

Features

- Easy to use
- Improved accuracy comes from the six-point factory calibration
- Tough, long-lasting body
- No recalibration
- Low salt sensitivity
- Affordability
- Excellent range (sensitivity from -5 kPa all the way to air dry [-100,000 kPa])
- Onboard temperature measurement
- Plug and play capability
- Use with the ZL6 for remote access to data on the cloud
- SDI-12 compatible

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Specifications

MEASUREMENT SPECIFICATIONS

Dielectric measurement frequency	70 MHz
Water Potential	**Resolution:** 0.1 kPa **Accuracy:** ±(10% of reading + 2 kPa) from −100 to −5 kPa **Note:** TEROS-21 Gen 2 can read up to 0 kPa when on a wetting path. The air entry of the soil limits the performance of the sensor to −5 kPa on the drying curve. **Note:** TEROS 21 is not well calibrated beyond -100 kPa. For more information on using the TEROS 21 beyond this range, see Section 3.3.3 in the user manual **Range:** −5 to −100,000 kPa (1.70 to 6.00 pF)
Temperature	**Range:** -40 to 60°C **Resolution:** 0.1°C **Accuracy:** ±1°C

COMMUNICATION SPECIFICATIONS

Output	RS-232 (TTL) with 3.6 V or SDI-12 communication protocol
Data logger compatibility	METER data loggers (ZL6, EM50/60) or any data acquisition system capable of 3.6-15 VDC power and serial or SDI-12 communication.

PHYSICAL SPECIFICATIONS

Dimensions	**Length:** 9.6 cm **Width:** 3.5 cm **Height:** 1.5 cm
Sensor diameter	3.2 cm
Cable length	5 m (standard) 75 m (maximum custom cable length)
Connector types	3.5-mm stereo plug connector or stripped and tinned wires
Operating Temperature Range	**Minimum :** -40°C **Maximum :** 60°C