

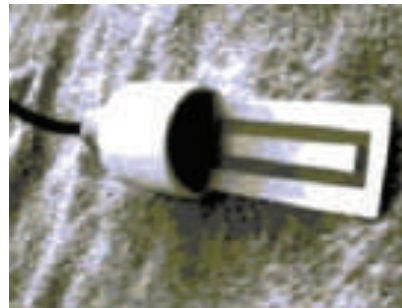


Soil Moisture

S1420

- Range from -10°C to $+55^{\circ}\text{C}$
- +/- 1.5% or +/- 0.2 dielectric accuracy
- Rugged & versatile

This Dielectric Probe is a versatile, rugged, self-contained sensor for the determination of the dielectric constant of a wide variety of materials. The probe applies a high frequency electric field to a sample, and through appropriate circuitry, accurately determines the dielectric constant. The dielectric constant is used to determine soil moisture.



The basic procedure for sensor installation is to make a hole with a 7/8" diameter rod to the desired sensor depth. With coarse or gravelly soils, it is sometimes difficult to get a snug fit between the sensor and the soil. With this situation, making an oversized hole and preparing a "grout" of the soil, for securing the sensor in place, may be necessary. (Specific instructions are included with each sensor.)

Once the sensors are installed, there is no further need for maintenance. With permanent crops, such as trees and vines, the sensors may be left in place all winter. With annual crops, where field operations are required, removal of the sensors prior to harvest is a standard practice. If the sensors are removed, simply clean them off and store in a dry place.



Technical Specifications

S1420

Measurement

Dielectric Constant Range:	1 to 65
Dielectric Constant Accuracy:	+/- 1.5% or +/- 0.2 (whichever is greater), typical
Soil Moisture Range:	From completely dry to fully saturated
Soil Moisture Accuracy:	In typical soils, +/- 0.02 water fraction by volume, with soil specific calibration, +/- 0.005
Temperature:	-10°C to +55°C

Environmental

Operating Temperature:	-10°C to +55°C
Storage Temperature:	-40°C to +70°C
Water Resistance:	Tolerates full immersion
Cable:	UV resistant, direct burial
Ruggedness:	Vibration and shock resistant

PHYSICAL

Size:	13 cm x 4 cm x 4 cm (approx)
Weight:	300 g (approx) (not including cable)
Sensing Volume:	Cylindrical region, 6 cm in diameter, 12 cm length (approx)