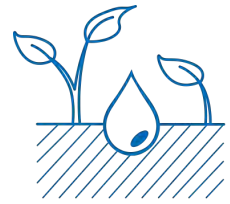




Remote Monitoring for Business



SOIL
MOISTURE

Wireless Soil Moisture Sensor Replacement Lead

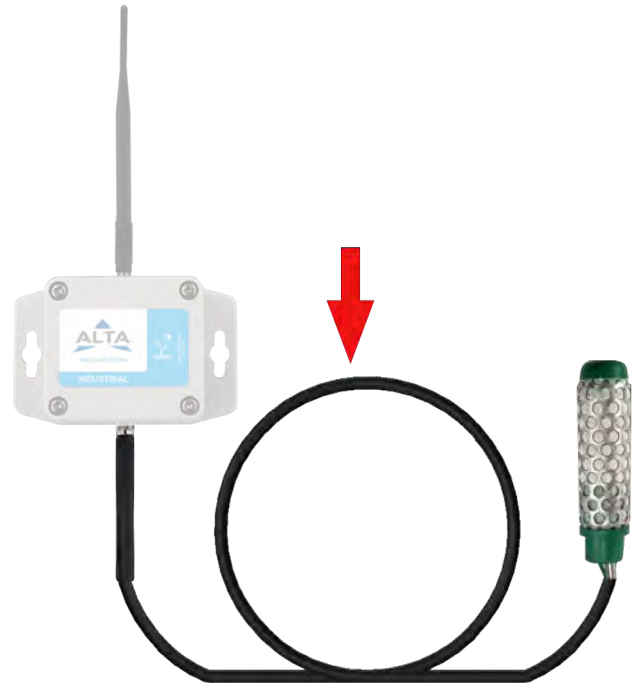
General Description

The Soil Moisture Lead uses a resistive granular matrix element to help the ALTA Soil Moisture Sensor measure the matric water potential (soil moisture tension) in the soil. The lead also includes a temperature element.

Soil Moisture Element: Makes its resistive measurement within a defined and consistent internal matrix material, rather than using the surrounding soil as the measurement medium. This unique feature allows the sensor to have a stable and consistent calibration that does not need to be established for every installation.

Temperature Element: Takes an accurate soil temperature measurement or temperature reading that's used for temperature compensation of the soil moisture measurements. There's no need to worry about getting different moisture readings just because the temperature changes.

Learn more about the ALTA Soil Moisture Sensor.



Lead Specifications

Moisture Sensing Element

Element Type	Resistive element with granular matrix
Range	0.0 to 240.0 centibar or kPa (Water Tension)
Resolution	~0.3 centibar or kPa ¹
Dimensions	Diameter: 0.875 in. (22 mm)
	Length: 3.25 in. (83 mm)
Materials	ABS plastic caps with stainless steel body over a hydrophilic fabric covered granular matrix. (Will not dissolve in soil or be compromised by freezing temperatures)
Response Time	~5 Minutes ²

Temperature Sensing Element

Element Type	Thermistor embedded in sealed metal bullet
Accuracy	+/- 1.0 Celsius
Measurement Range	-40° C to 125° C (-40° F to 257° F)
Resolution	0.1° C
Response Time	Typically less than 15 seconds

Lead Specifications

Cable Physical Specifications

General Composition	Soil moisture and temperature leads coupled together in a single sealed cable wrapped in a braided sleeve. Sleeve ends fixed using adhesive lined heat shrink.
Length	63 in. (160 cm)
Connector End	Keyed M8 6-pin female connector, with M8 female coupling collar.
Cable Sleeve Material	Polyethylene terephthalate (PET)
Overall Cable Operating Temperature	-40° C to 80° C (-40° F to 176° F) ^{3,4}
Weight	4.07 oz. (115 g)

1. The resolution increases as the centibar readings get lower. Resolution at 0 centibar is ~0.05 centibar, at 240 centibar it is ~0.36 centibar. The sensor is limited to 0.1 centibar by the sensor firmware.
2. Response time calculated by measuring time it takes for sensor to go from fully dry to saturated by placing moisture element upright in 1" of water. Actual response times may vary.
3. Heatshrink adhesive melts at ~85° C. Using at temperatures at or above this level may compromise the waterproofing of the cable and allow the heatshrink and sleeve to slip and become loose.
4. The soil moisture element will not work properly while frozen but when thawed the sensor readings will return to normal.



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