

Product Specification

Product: Zulu Soil Profiling Probe
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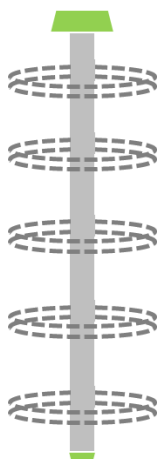


Soil Profiling Probe

Profiling probes measure soil moisture (and often other attributes like temperature and salinity) across a vertical soil profile, typically spanning a range of 30cm to 120cm. Soil profiling probes typically consist of multiple single-point sensors housed within an elongated enclosure, although some feature modular segments which form a single antenna for continuous measurement across the entire length. A soil profiling probe is installed in the soil vertically.

Measuring soil moisture at multiple depths is important for optimizing irrigation, as it helps characterize the penetration of water throughout the root zone.

The chief advantage of using a soil profiling probe is the elimination of the cost of multiple single-point sensors and the need to excavate a large hole in order to bury them at the appropriate depths.



Zulu Soil Profiling Probe

The Zulu Soil Profiling Probe is a capacitance probe that measures soil moisture and soil temperature from up to 6 depths (depending on the length of the probe).

Data collection is dependent on a compatible external logger or remote transmission unit.

Probes are available in either SDI-12 or MODBUS configurations

Technical Data

Measurement	Moisture and Salinity
Measuring range	Dependant of probe length, from 250mm up to 1200mm
Measuring principle	Capacitance
Sensor Spacing	20cm, 10cm on request
Probe Diameter	32mm
Logging	continuous
Response time	less than 1 second
Sensor Resolution	Approximately 13 bits
Temp range	0 – 51°C in steps of 0.2°
Probe material	Outer shell is PVC
Default cable length	5 meters (can be customized)
Installation method	completely buried, inserted into the measured medium
Voltage input	4-12V external power supply required
Power requirement	10uA (0,01mA) during idle; 20mA for 2 seconds during measurement.
Communications	SDI-12 (serial data interface, 1200bd)
	MODBUS, 2400bd

Probe Range

Zulu low definition probes	
Zulu Probe, Moisture/Temp, 600mm, 3 Sensor, SDI-12	ZSM600.3
Zulu Probe, Moisture/Temp, 800mm, 4 Sensor, SDI-12	ZSM900.4
Zulu standard definition probes, 20cm spacing	
Zulu Probe, Moisture/Temp, 200mm, 2 Sensor, SDI-12	MP.200
Zulu Probe, Moisture/Temp, 400mm, 4 Sensor, SDI-12	MP.400
Zulu Probe, Moisture/Temp, 600mm, 6 Sensor, SDI-12	MP.600
Zulu Probe, Moisture/Temp, 800mm, 6 Sensor, SDI-12	MP.800
Zulu Probe, Moisture/Temp, 1000mm, 6 Sensor, SDI-12	MP.1000
Zulu Probe, Moisture/Temp, 1200mm, 6 Sensor, SDI-12	MP.1200
Zulu Probe, Moisture/Temp, 1500mm, 6 Sensor, SDI-12	MP.1500
Zulu high definition probes 10cm spacing	
Zulu Probe, Moisture/Temp, 800mm, 8 Sensor, SDI-20	MP.800.HD
Zulu Probe, Moisture/Temp, 1000mm, 10 Sensor, SDI-21	MP.1000.HD
Zulu Probe, Moisture/Temp, 1200mm, 12 Sensor, SDI-22	MP.1200.HD
Zulu Probe, Moisture/Temp, 1500mm, 15 Sensor, SDI-23	MP.1500.HD

MODbus communications variant is upon request

Compatibility

- Tonick Watering SDI-12 Sensor decoders
- Aquamonix SDI-12 LoRaWAN node
- Aquamonix Web Logger Cellular Node
- Any commercial SDI-12 or MODbus compatible device.

Approvals

- CE (European) marked and compliant
- RoHS (European) compliant & lead free

Certificate of Origin

- Manufactured for Aquamonix in the RSA.

Warranty

- 1-year warranty when installed to Tonick Watering specifications.

Please refer to the Tonick OEM Guide for integration information.

