

GroPoint Profile

Multi-Segment Soil Moisture Profiling Probe

The GroPoint Profile provides effective soil moisture measurement over multiple depths using a single probe. This probe's Time-Domain-Transmission (TDT) technology provides volumetric soil moisture readings (percentage of water in the soil) at multiple depths. The GroPoint Profile can be deployed in irrigation zones to provide an understanding of water movement through the soil by accurately tracking relative changes in soil moisture throughout the soil column.

The sleek, lightweight design is vertically installed quickly with minimal soil disruption using a pilot rod and slide hammer tool. The GroPoint Profile takes average volumetric soil moisture measurements over each segment, with each segment of approximately 6 inches (15 cm). The GroPoint Profile's length options are between 2 and 8 segments.

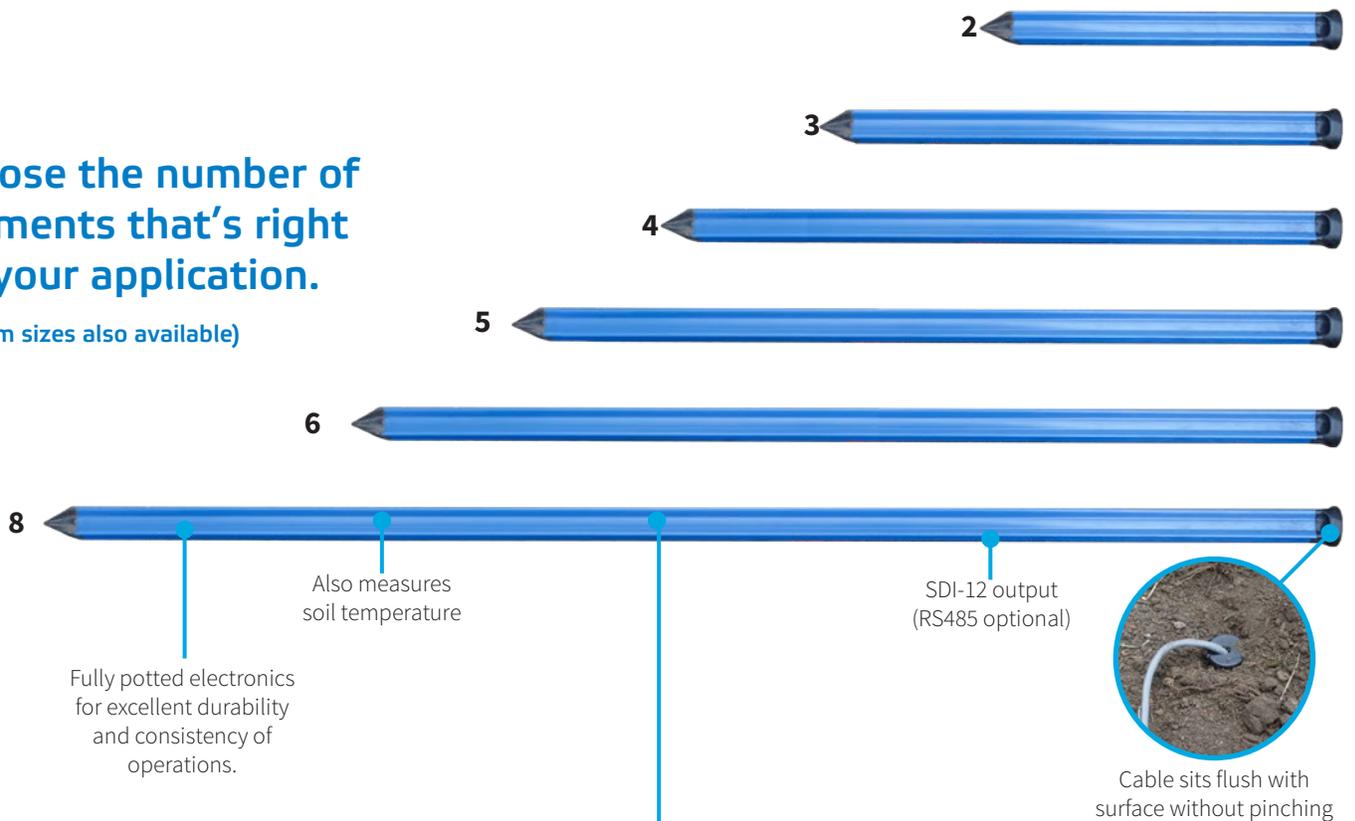


An Accurate and Cost-Effective Soil Profiling Solution

- Measuring soil moisture and temperature at multiple depths with a single probe and with a single cable.
- Installs quickly and easily without excavating.
- One SDI-12 address is used to read all segments, providing for simplified installations.
- Low power requirements—suitable for remote, autonomous applications.
- Excellent long-term stability of measurements.

Choose the number of segments that's right for your application.

(Custom sizes also available)



Uses Time Domain Transmission (TDT) and patented antenna technology

The GroPoint Profile's patented technology employs a unique antenna design that enables accurate and repeatable measurements within a highly cost-efficient electronics and mechanical design. It detects water as much as 5 cm (2") from the surface of the probe fins. Like all dielectric-based sensors, moisture closest to the surface of the probe has more influence on the readings than moisture further away so that soil closely surrounding the sensor will have a greater influence on the soil moisture.

TDT measures the time taken for an electromagnetic wave to propagate (travel) along a given length of a transmission line in the soil. Moisture in the soil changes the soil's dielectric properties, so that the electro-magnetic wave travels at different rates in wet soil compared to dry soil. This allows for the accurate determination of the soil moisture content.

Simplify Measurement of Soil Moisture at Multiple Depths

This **single GroPoint Profile probe** installed without excavation is equivalent to **4 separate probes**. It will measure soil moisture at 4 different depths.

Create a pilot hole the exact size required for the probe using the slide hammer tool attached to a sturdy steel pilot rod. This makes installation quick and easy, and provides minimum soil disruption, further increasing measurement accuracy.



Segment 1
Average volumetric soil moisture content measured over 15cm (5.9")

Segment 2

Segment 3

Segment 4


Analyze water movement through the soil.



TECHNICAL SPECIFICATIONS

MOISTURE

Measurement range	7% to 42% of volumetric moisture content
Output unit	Volumetric percent
Repeatability	< 0.2%

TEMPERATURE

Measurement range	-20°C to +70°C
Storage temperature	-40°C to +85°C
Accuracy	±0.5°C from 0-25°C to 100°C
Sensors	1 thermistor per 2 segments
Output	SDI-12 v.1.3 (RS-485 optional)
Connection	Flying leads (optional 4 pin, IP66/IP68 rated environmental connector)
Input voltage	6 to 14 VDC, max. 18 VDC
Input current	15mA (0.1 mA idle). Max. 100 mA
Current consumption	Quiescent: <0.5mA Active: 15-20 mA (depending on number of segments) for 100 mS

Specifications subject to change.

GroPoint Profile is ideal for a multitude of agricultural applications including vineyards, row crops, and orchards as well as silviculture and research to better manage irrigation practices, increase plant/crop quality and yield, and reduce fertilizer run-off.



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