Stevens GroPoint Profile

STEVENS
MEASUREMENTS TO MIND

Multi-Segment Soil Moisture Profiling Probe

The Stevens GroPoint Profile provides cost-effective measurement of volumetric water content over multiple depths using a single probe, eliminating the cumbersome excavation required for multiple sensors placed at different depths.

The sleek, lightweight design installs quickly with minimal soil disruption using a pilot rod and slide hammer tool. Designed for vertical installation, the sensor takes measurements over multiple soil layers, with each measurement zone (segment) providing the average volumetric soil moisture content over a 15 cm range (approximately 6 inches).

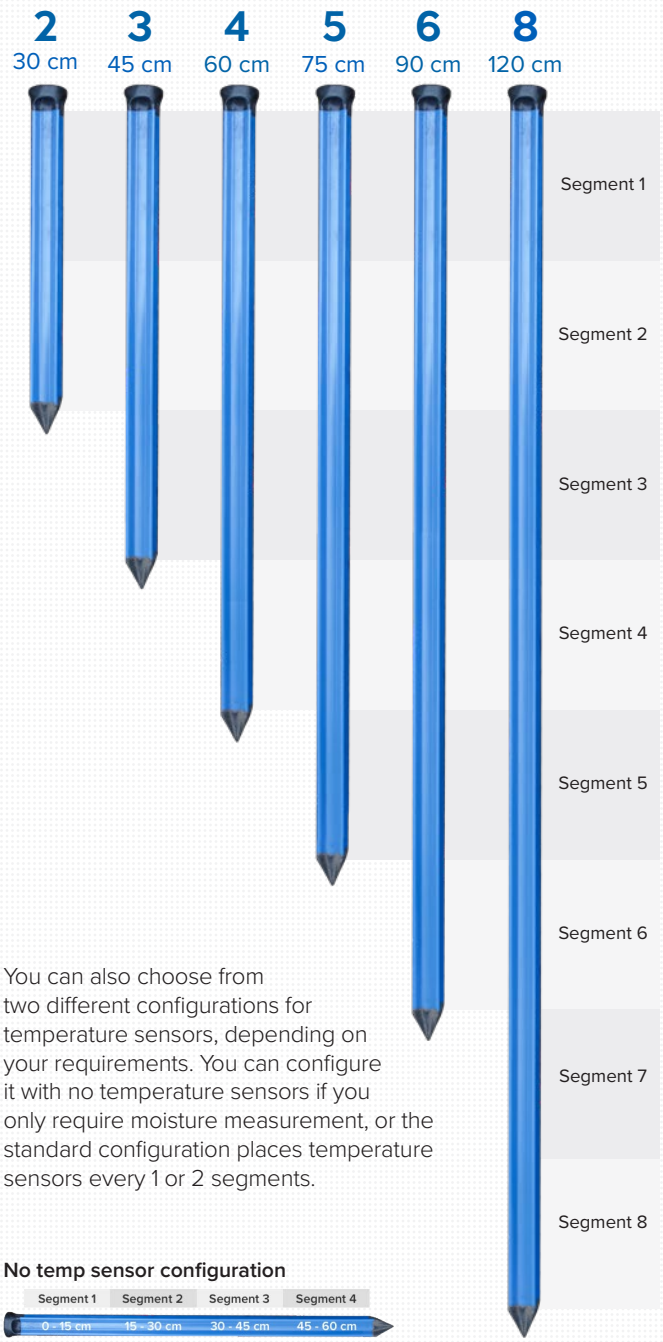
Unlike any other soil profiling probe, GroPoint Profile provides true soil profiling quantification, measuring the average moisture across the entire length of each segment. This unique feature allows measuring the water movement through the soil continuously, rather than just at discrete positions on the probe.

An Accurate and Cost-Effective Soil Profiling Solution

- Eliminates need for multiple sensors and cabling systems.
- Installs quickly and easily without excavating.
- Measures across the entire length of the probe, averaging the soil moisture and temperature in each segment
- One SDI-12 address is used to read all segments, providing for simplified installations. Optional RS-485 output.
- Moisture readings can be user-calibrated with 3rd-order polynomials to meet custom requirements.
- Low power requirements—suitable for remote, autonomous applications.
- Patented TDT^5 technology for scientific-grade accuracy and excellent long-term stability of measurements.
- Fully potted electronics for excellent durability.

The GroPoint Profile is based on the field-proven Time Domain Transmission (TDT) method for reliably measuring changes in soil moisture. Like Time Domain Reflectometry (TDR), TDT also characterizes the time of travel of an electromagnetic signal through soil, but instead of being reflected, the signal propagates around a set path length. The high frequency and helical wave guide provides stability and precision to the measurements.

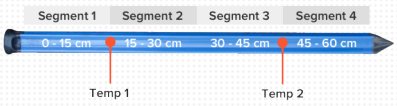
Choose the number of segments that are right for your application.



You can also choose from two different configurations for temperature sensors, depending on your requirements. You can configure it with no temperature sensors if you only require moisture measurement, or the standard configuration places temperature sensors every 1 or 2 segments.

No temp sensor configuration

Standard configuration



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.

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

Segment 2

Segment 3

Segment 4

Analyze water movement through the soil.

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.

Stevens 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.

TECHNICAL SPECIFICATIONS

MOISTURE

Measurement range	8% to 40% of VMC
Accuracy	2% to 5% for most soils, accuracy depends on soil
Repeatability	<0.2%

TEMPERATURE

Measurement range	-20°C to +70°C (-4°F to 158°F)
Accuracy	±0.5°C

ELECTRICAL

Output	SDI-12 V1.3 (RS485 optional)
Connection	Bare wire (optional 4 pin, IP66/IP68 rated environmental connector)
Input voltage	6 to 14 VDC max. 18 VDC
Current consumption	Quiescent: <0.5mA Active: 15-20 mA (depending on number of segments) for 100 mS
Warm-up time on power up	<1 second

ENVIRONMENTAL

Operating temperature	-20°C to 70°C (-4°F to 158°F)
Storage temperature	-40°C to 85°C (-40°F to 185°F)

PHYSICAL

Length	Each segment is approximately 15 cm (5.9”) long. Total length is the number of segments multiplied by 15 cm. For example, a 3-segment probe is about 45cm long.
Probe weight	2 segments: 292 g (10.3 oz.) 3 segments: 351 g (12.4 oz.) 4 segments: 408 g (14.4 oz.) 5 segments: 468 g (16.5 oz.) 6 segments: 526 g (18.6 oz.) 8 segments: 642 g (22.6 oz.)
Cable weight	38 g per m (0.42 oz. per foot)
Standard cable	5 m (16.3 ft.) 4xAWG22 dual-shielded, twisted pair, rated for direct burial
Warranty	1-year limited parts and labor

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