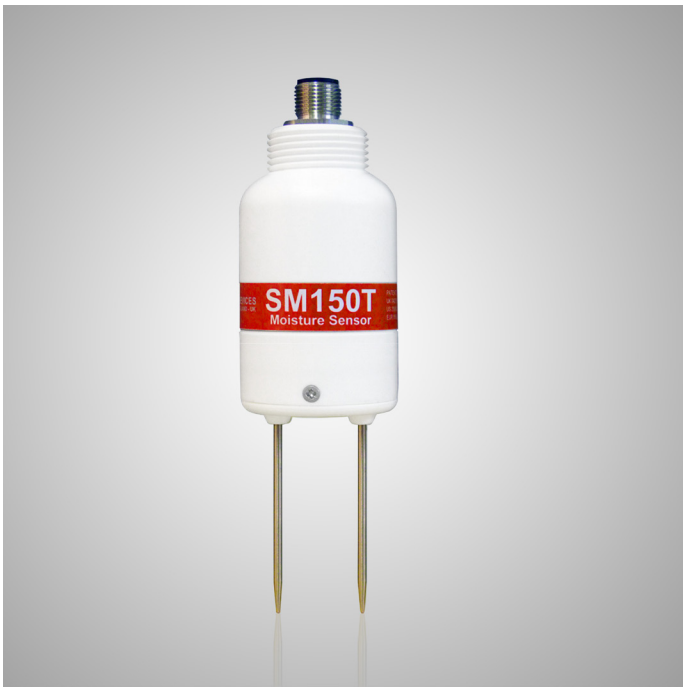
SM150T

Soil Moisture and Temperature Sensor

The SM150T measures soil moisture and temperature with research-grade accuracy.



Soil moisture and temperature

Dependable accuracy ± 3 %

Good temperature and salinity stability

Easy data logger connection (0 - 1 V DC)

Research grade sensor

The market leading SM150T offers outstanding performance in normal and saline soil conditions, and is stable across wide ranges of temperature and salinity. Its construction uses industrial grade connectors and high specification materials throughout to produce a soil moisture sensor of outstanding quality. The built-in temperature sensor simplifies soil temperature measurement and achieves 0.5 °C accuracy.

Ease of use

- Versatile cabling solutions
- Easy installation at depth
- Minimal soil disturbance
- Compact – can be used in plant pots

The SM150T minimizes soil disturbance, preserving the original soil structure around the measurement rods. It is easy to insert and install whether at the soil surface or at depth. The SM150T's circular shape facilitates installation inaugered holes – extension tubes are available.

Calibration

The SM150T is provided with general calibrations for mineral and organic soils. A two-point soil specific calibration can be performed for greater accuracy if required.

Technical specifications

Measurement	volumetric water content and soil temperature
Accuracy	± 0.03 $m^3.m^{-3}$ (3 %) with soil-specific calibration ± 0.5 °C (0 to 40 °C for temperature sensor) ± 0.75 °C (-20 to 60 °C for temperature sensor)
Soil moisture measurement range	full accuracy over 0 to 0.7 $m^3.m^{-3}$ full range 0 to 1.0 $m^3.m^{-3}$
Salinity range	50 to 500 $mS.m^{-1}$ salinity errors < 0.035 $m^3.m^{-3}$ from 0.05 to 0.4 $m^3.m^{-3}$. Can be calibrated up to 2000 $mS.m^{-1}$
Temperature range	full accuracy over 0 to 40 °C

Output	0 to 1.0 V differential corresponding to 0 to ~0.6 $m^3.m^{-3}$ resistance 5.8 Ω to 28 Ω for temperature sensor
Power requirement	5 - 14 V, ~18 mA for 1 s minimum 5 V with 100 m cable
Environmental	IP 68 (-40 to +70 °C)
Sample volume	~55 x 70 mm diameter sample volume is weighted towards soil immediately surrounding the rods
Dimensions and weight	overall 143 x 40 mm diameter rods 51 mm x 2.5 mm diameter weight 0.1 kg (excluding cable)
Sensor calibrations	individual sensors are interchangeable recalibration advised every 3 years (depending on use)
Soil calibrations	generalized mineral and organic soil calibrations are supplied