

ADCON SM1 Soil Moisture Sensor

The SM1 soil moisture probe is an extremely flexible system, offering capacitance based measurement of soil moisture plus temperature monitoring.

Available in a variety of lengths, from 30cm to 150cm, the SM1 features one soil moisture sensor every 10cm. As installation methods both access tube and slurry installation are supported. The sphere of influence of the sensor rings is approx. 10cm in radius around the access tube.

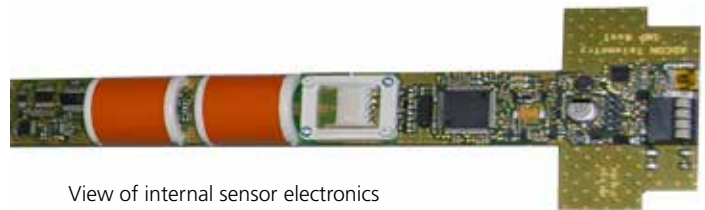
Depending on the length of the sensor up to 5 temperature sensors are available. The 30, 60, 90, 120 and 150cm probes have their first temperature sensor located at 15cm and every additional sensor with a spacing of 30cm, thus at 45, 75, 105 and 135cm respectively.

Communication to the RU is done via an SDI-12 interface. To ensure the sensor's integrity against water ingress an IP-67 rated connector connects the probe to the outside world, using Adcon's standard extension cords. Please order a cable in the required length together with the probe.



Applications

- Irrigation
- Landfills
- Geological observations



View of internal sensor electronics

Technical Data

Access tube	32mm \varnothing	Soil temperature:	
Top cap	87mm \varnothing	Measuring range	-55°C ... +70°C
Protection class	IP-67	Resolution	0,125°C
Temperature range	-55°C ... +70°C	Accuracy	$\pm 0,5^\circ\text{C}$ (0 .. 70°C)
Output signal	SDI-12	Temperature sensors	up to 5: one every 30cm; at 15, 45, 75, 105 and 135cm
Probe material	UV resistant PVC	Available probe lengths	30, 60, 90, 120, 150cm
Connector	7-pin M9 male Binder connector	Ordering:	
Power supply	5,6V .. 12VDC	200.733.800	Adcon SM-1 30cm 3 Sensors
Soil moisture:		200.733.802	Adcon SM-1 60cm 6 Sensors
Measuring range	0 ... 100%	200.733.804	Adcon SM-1 90cm 9 Sensors
Resolution	0,1%	200.733.807	Adcon SM-1 120cm 12 Sensors
Accuracy	$\pm 2\%$	200.733.806	Adcon SM-1 150cm 15 Sensors
Measuring method	capacitance	200.800.010	2m Extension cord 7-pin m/f
Number of sensors	1 sensor every 10cm	200.800.011	4m Extension cord 7-pin m/f
		200.800.012	8m Extension cord 7-pin m/f