

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, starting with 30cm and ending at 150cm, the SM1 features one soil moisture sensor every 10cm. As installation method 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.



SM-1 view of top cap with connector and 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.

All signals are delivered through the SDI-12 protocol. To connect a standard 2, 4 or 8m cable the Probe features a 7-pin Binder jack with IP67 rating.

Applications

- Irrigation
- Landfills
- Geological observations



SM-1: sensor board and head PCB

Technical Data

Diameters	Tube 32mm \varnothing , Top cap 89mm	Number of sensors	1 sensor every 10cm
Probe lengths	30, 60, 90, 120, 150cm	Soil temperature:	
Cable	Binder cable, not included	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	Ordering:	
Connector	7-pin M9 male Binder connector	200.733.800	Adcon SM-1 30cm 3 sensors
Power supply	5,6V .. 12VDC	200.733.802	Adcon SM-1 60cm 6 sensors
Soil moisture:		200.733.804	Adcon SM-1 90cm 9 sensors
Measuring range	0 ... 100%	200.733.806	Adcon SM-1 150cm 15 sensors
Resolution	0,1%	200.733.807	Adcon SM-1 120cm 12 sensors
Accuracy	$\pm 2\%$	200.800.010	2m cable, shielded, PUR 7-pin
Measuring method	capacitance	200.800.011	4m cable, shielded, PUR 7-pin
		200.800.012	8m cable, shielded, PUR 7-pin