



Sub Surface Soil Moisture Probe

The Otto family of soil moisture probes are the first to include on board temperature compensation. The probes may be purchased in either above ground or sub-surface models. Probes are available in lengths from 30cm to 2.0m, with sensor elements at intervals of 10 to 40cm along the probe column

Otto : Unique Temperature Compensation

Each sensor on the probe measures soil moisture and soil temperature. The soil temperature value is then used to apply temperature compensation to the moisture readings. This is important because the dielectric or capacitance properties of soil and water are temperature dependent. For years manufacturers have dismissed temperature induced changes as "diurnal variation", but an increase in the use of probes in dryland farming showed that this was not the case: especially as indicated moisture would continue to rise as the soil warmed and dried. Something which was clearly not true. The temperature compensation in the Otto probes makes sure this effect is removed and you see true moisture changes. The compensation is factory set but can be adjusted by your installer.

Otto : Sub Surface, Maintenance Free

The Sub-Surface version of the Otto soil moisture probe is designed for installation either flush with, or below the soil surface. Unlike the above ground version, the sub-surface model is fully sealed and the internal electronics potted in a resin gel. Sealing the probe in this fashion means that it is unlikely to ever suffer from water ingress and will provide years of trouble free monitoring.



Probe Length and Sensor Spacing

The probes are available in lengths from 30cm to 150cm (to 200cm on special request). The probe electronics are fitted inside the tube and comprise a sensor stack, made up of up to 15 sensors. The sensor PCBs are 10cm long and if fitted end on end, yield a sensor resolution of 10cm. Where full 10cm resolution is not required, spacer boards may be fitted between the sensor PCBs. These are available in lengths of 10, 20 and 30cm, giving users complete flexibility in how many sensors to install.

Installation and Removal

The probes are installed using a slurry technique. First a slightly over-sized hole is drilled into the soil using a 34mm auger. A slurry made up of soil removed from the hole (or from a mix of bentonite and sand) is poured into the hole and the probe pressed pushed down into the slurry. The this layer of slurry ensures optimum soil contact with minimal disturbance to the soil. Both models can be removed using a Probe Removal clamp. To protect against damage, the probe PCB can be withdrawn from the above ground model prior to removal.

Ordering

OT-SS-XX-YY-ZZ	Otto sub-surface soil moisture probe
XX = Probe tube length	e.g. 03 = 30cm, 10 = 100cm, 15 = 150cm
YY = Number of sensors	Min = 3, Max = 15
ZZ = Cable length in metres	Min = 03m, Max = 40m

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