

Continuous Logging Soil Moisture Probe

The Probe

The Continuous Logging Soil Moisture Probe developed by DFM Software Solutions is a multilevel soil moisture content and temperature-logging device.

The probe measures moisture content and temperature at 6 depths in a soil profile, as well as measuring the surface temperature. The readings are taken at hourly intervals, but the user has the option of customizing reading intervals. If left to default, the probe can store up to 4000 readings locally, which equates to roughly 5 and a half months' worth of readings.

The probe guarantees accuracy and reliability as it is temperature compensated, and is not adversely influenced by salinity levels.

It is affordable, easy to use and have been proven to be reliable in the field.

The outer shell of the probe is made of UV stabilized PVC, and the inner shell is a solid resin cast.

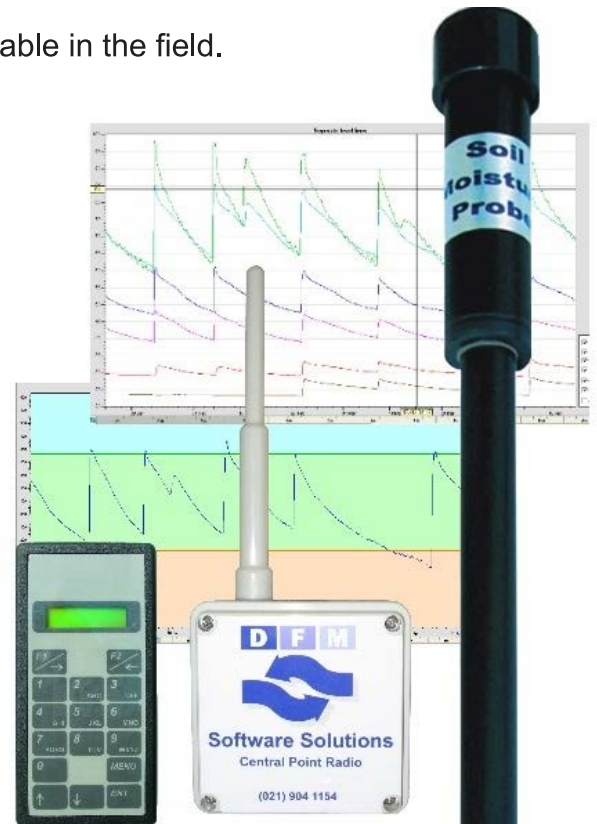
Through continuous soil moisture content logging, farmers are able to prevent over and under watering and unnecessary crop stress. Root development can be promoted and fertilizer uptake can be improved. Ultimately leading to cost savings by preventing unnecessary energy use.

DFM Probe Utilities - Schedule Software

The data collected by the probes is downloaded the Probe Utilities Schedule Software. This is a user-friendly package that provides the user with an abundance of information that can be to schedule effectively and efficiently.

The software is used to interpret the soil moisture content temperature data collected by the probes. With the use of the accurate information, informed irrigation decisions can be made and implemented.

The probe data is visually represented by various graphs such as depth graph, level graph, and sum graphs. The graphs allow the user to see how moisture moves through the profile, each sensor level can be viewed independantly to determine irrigation depth and how long an irrigation wil last as well as when to apply the next irrigation.



Why continuous logging?
Prevents over and under watering
Promotes root development
Creates ideal air-water balance
Prevents unnecessary crop stress
Improves fertilizer uptake
Optimizes salinity management
Saves on energy costs
Facilitates crop manipulation
Manages soil water buffer



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Short Range System

The head of the probe contains the battery and radio/connector. The radio used in short/medium/long range systems is an ultra low power consumption device. If the reading interval of the probe is set to default, the life expectancy of the battery is estimated at one season. Changing the reading interval to a more frequent cycle will shorten the life of the battery.

Data Logger

When using Short - and Medium range systems, readings are downloaded by use of a mobile data logger.

If the reading interval of the probe is set to default, the logger can store data of up to 400 probes, if the user downloads readings on a weekly basis.

The logger also serves as the interface between the user and the probe, it can be used to force readings, show the value of the last reading, change reading intervals, put the probe in "Sleep" mode, etc.

The logger is powered by a 9V battery which is non-rechargeable and easy to replace. The logger puts itself in "Sleep" mode to conserve battery power and has an RS232 interface.

The short range radio probe systems can be upgraded to a Long range system, or a GPRS internet based system, simply by adding data repeaters. The probe does not have to be re-installed or re-programmed to upgrade to long range or GPRS.

Communication Protocol

Short Range	Medium Range	Long Range
3m range*	50m range*	1.2km range*

* All radio systems ranges are estimated and depends on site limitations.

Subsurface and submersible models are also available.



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