Continuous Logging Soil Moisture Probe

Long Range System

Users of the Continuous Logging Probe Long Range System do not have to physically visit each probe to download information. All readings taken by the probe over a period of time are downloaded directly to a computer.

Repeater

Probe readings are sent from the probe to a repeater located at the probe site. The repeater has to be installed within 3m of the probe for it to communicate effectively.

The repeater sends its collected probe data to the Central Point Radio (CPR) at hourly intervals. The battery life is estimated to last a season. The repeater contains an antenna and a stronger radio than the probe, which enables it to send data at a distance of 1.2km*.

The repeater system works as a hop-along system. A repeater further than 1.2km* away from the CPR can send its data to the repeater closest to it. The receiving repeater will send the data to a repeater closest to it, or directly to the CPR if it is in range.

The hop-along sequence is not limited to 1 step, meaning that more than one repeater can be used to carry data from a probe to the CPR if site limitations or distance require it.

Central Point Radio (CPR)

The CPR is a radio server located at the point of data collection. It collects the data from all the nearby repeaters if data is available and stores it locally. The CPR is not PC dependant, meaning that it is not necessary for the CPR to be connected to a computer to collect data. It does need to be connected to one of the following options to be able to download the data:

- Direct to PC via serial cable
- Cell phone modem
- Wi-fi link
- GPRS

* Ranges are estimated and depends on site limitations
The GPRS Probe was designed to send its data to the DFM website from where clients can access the data anywhere in the world, provided you have access to the internet. The data is no longer sent to a logger or a repeater. A good cellphone reception is needed should you wish to use this specific type of probe.

Users can opt for a solar panel repeater box, which has been designed to accommodate Sim Chips; the unit itself is self-sustaining.

Clients are given the option of opting into a year contract whereby DFM will handle the registration of the Sim Chips (in accordance with RICA laws) and will ensure that there is a contractual data bundle available on the probe to be able to send its readings.

Options are as follows:

1. **GPRS Solar Sim Chip:**
   Powered by a rechargeable lead acid battery that is charged by a solar panel and is fitted on the probe head. The sim chip will have a yearly licence fee.

2. **GPRS Solar Sim Card:**
   Powered by a rechargeable lead acid battery that is charged by a solar panel and is fitted on the probe head. Clients provide their own sim cards for the unit and must always have data on the sim card for the probe to work effectively.

3. **GPRS D-cell Sim Chip:**
   Powered by a non-rechargeable D-cell battery. Has a sim chip and will have a yearly licence fee.

4. **GPRS D-cell Sim Card:**
   Powered by a non-rechargeable D-cell battery. Clients provide their own sim cards for the unit and must always have data on the sim card for the probe to work effectively.