

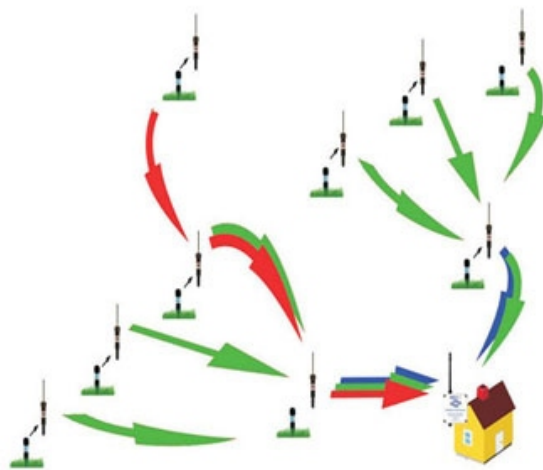
DFM Continuous Logging Probe Long Range System

The Continuous Logging Probe Long Range System enables the user to download probe readings directly to a computer with the use of long range repeaters. The user does not have to physically visit each probe to download information, all readings taken by the probe over a period of time can be downloaded directly to a computer at the users leisure.

Probe readings are sent from the probe to a repeater located at the probe site. The repeater sends the data to a Central Point Server from where it can be downloaded by the user to a computer. The maximum range from a repeater to the Central Point Server is 1.2km*, but data can be collected from probes that are located more than 1.2km* away from the Central Point Server via use of a hop-along repeater system.

Repeater

The probe sends its hourly readings to a repeater located at the probe site. The probe has to be installed within 10m of the repeater for it to communicate effectively. The repeater sends its collected probe information to the Central Point Server (CPS) at hourly intervals. The outer shell of the repeater is made from the same UV stabilized PVC used to manufacture the probe and contains the same type of battery. The battery life estimate is then the same as that of the probe, which is a season. The repeater contains a stronger radio and antenna 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 CPS can send its data to the repeater closest to it. The receiving repeater will then send the received data to a repeater closest to it or directly to the CPS if it is in range. The hop-along sequence is not limited at 1 step, meaning that more than one repeater can be used to carry data from a probe to the CPS if site limitations require it. Repeaters in a long range system are assigned to a group ID to ensure that other data from another long range system nearby does not get picked up.

Central Point Server

The Central Point Server (CPS) is a radio server located at the point of data collection. The CPS collects data from nearby repeaters if there is data available and stores it locally. The CPS is not pc dependant, meaning that it is not necessary for the CPS to be connected to a computer to collect data. It does, however, need to be connected to one of the following options to be able to download the data:

- Direct to pc via serial
- Cell phone modem
- Wi-Fi link
- GPRS

*Ranges are estimated and depends on site limitations

