The DataNet is a 16-bit data logging system with data transmission from units to the central computer utilizing the ZigBee wireless telemetry protocol. ZigBee wireless protocol transmits on a 2.4 GHz license free frequency RF band. Each DataNet unit also serves as a transmission repeater to neighboring units, forming a reliable mesh network of up to 65,000 nodes.

The DNL910 and 920 loggers have 4 inputs for direct measurement and recording of PT-100, thermocouple (J, K, T), voltage, current, frequency, pulse and dry contact. The loggers can run from battery or from AC power.

The DNL804, 808 and 810 Mini DataNet loggers are single and dual channel data monitoring units, reducing potentially redundant costs of the four-channel monitoring system. The 804 measures 4-20 mA, the 808 measures temperature and the 810 measures temperature and humidity. Features include:

- Dual channel internal Temperature and Humidity sensor for cost effective data acquisition
- Also supports external NTC sensor, providing an easily extended solution
- External antenna, increasing transmission distance
- Runs up to 10 months on a single battery

DNR800 and 900

The DNR900 Receiver acts as a bridge between the DataNet network and the PC. It is connected to the PC via USB cable and is used to create the network to which you add your data loggers. The Receiver is externally powered but also includes a rechargeable battery for back up (in case the external power fails).
The DNR900 Repeater is externally powered but also includes a rechargeable battery for back up (in case the external power fails). These units are considered the backbone of the network, as they enhance the network range by receiving and transmitting the data from Repeater to Repeater until the data reaches the designated end unit or the PC.
The DNR800 Repeater works the same way as the DNR900 Repeater, but without a LCD screen and with stronger range.

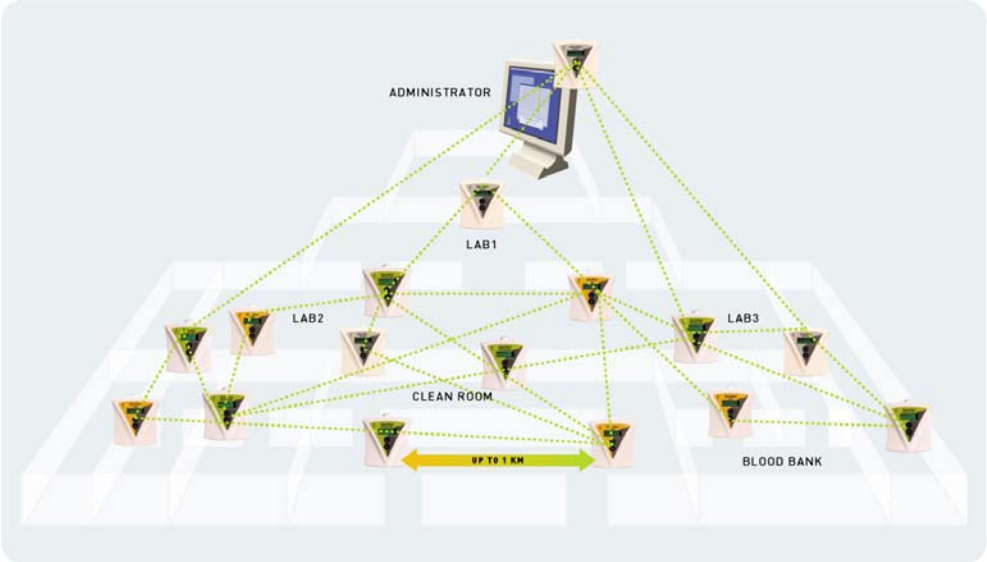
DataNet System

The typical system layout consists of the following items:

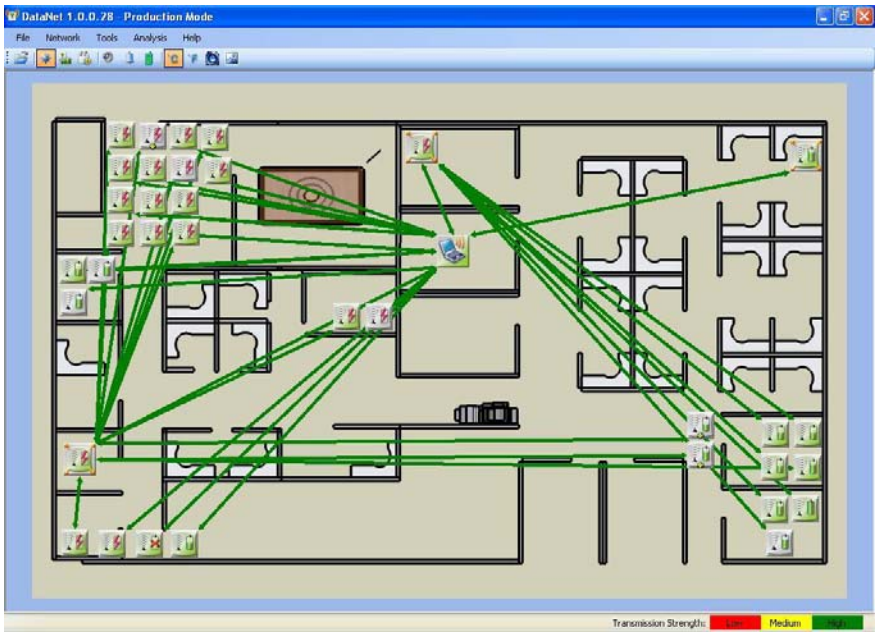
- DataNet software running on PC.
- DNR900Receiver – This unit is connected to the PC via mini USB cable. It forms a network to which the data loggers in the system connect to. The Receiver contains a wireless RF module which communicates with the end units and receives the data, and sends commands to the end units.
- DNR800 Mini Repeater – This unit is deployed in order to enhance the transmission range of the network. It is AC powered and once connected to the DataNet network, becomes the parent unit to other end units which are within range. These end units are then able to transmit their data to the DNR900 Receiver via the Repeater unit.

- DataNet loggers DNL804, DNL808, DNL810, DNL910 and DNL920 – A typical system must contain at least one of the aforementioned data loggers. Each logger is connected to the DataNet network and is user configured with the relevant parameters, including: sampling rate, transmission rate, sensor input, alarm levels, etc. Once configured the loggers are then placed in Run mode and will commence logging and transmitting of the required data to the PC software via the Receiver.

The test system contained each of the DataNet logger models. Sampling rate was once every two seconds, transmission rate once every four seconds.
The loggers were placed several meters from the Receiver to ensure optimal transmission strength.
The loggers were all logging the internal sensors (temperature and humidity) as well as external temperature sensors, all in ambient conditions.



The DataNet hardware runs via the DataNet PC Software.
The software detects the DNR900 Receiver and displays the units on the network. Icons represent each of the network units and the user can display the transmission paths between the units.
The software is mainly used to configure the loggers and download and analyze the data. Other features include logger calibration, firmware updates, and alarm notifications.


DataNet 1.0.0.78 - Production Mode
File
Network
Tools
Analysis
Help
Transmission Strength:
Low
Medium
High