



DataNet Solution

Wireless intelligent logging network

DataNet is a multi-unit data acquisition system. Data transmission from end units to the central computer utilizes the ZigBee wireless telemetry protocol. DataNet data loggers feature 16-bit resolution, with four external channels supporting direct measurement and recording of PT-100, thermocouple, voltage, current, dry contact, frequency and pulse. Internal sensors include temperature and humidity.

ZigBee wireless protocol uses 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 units. The ZigBee key features include:

- Reliable bi-directional transmission ensuring no data loss
- Transmission range can be constantly expanded by adding additional network units
- Minimal costs thanks to wire-free infrastructure
- Portable units facilitating easy deployment in various environments
- Receiver, recognizing up to 8 end units and 16 Repeaters
- Repeaters, recognizing up to 24 end units and 16 Repeaters (simultaneously)

DataNet System Contains:

Temperature data logger with 4 external inputs



RH/Temperature data logger with 4 external inputs



Receiver/Repeater

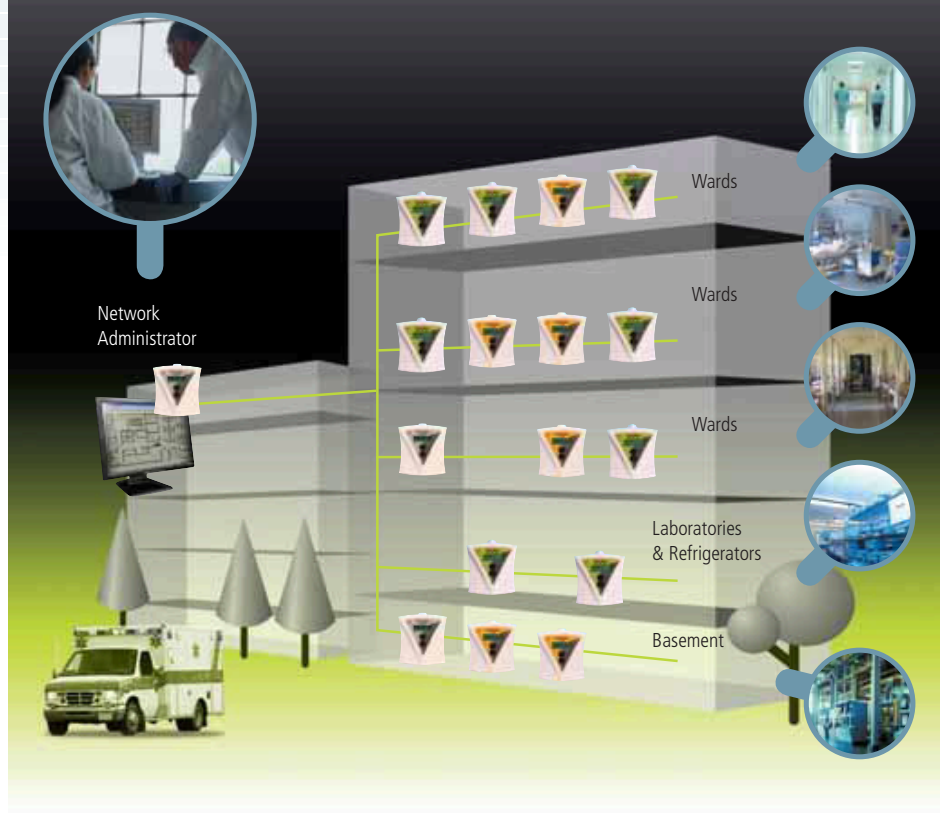


Mini DataNet DNL810 (RH/Temperature) DNL808 (external NTC 10 K Ω)

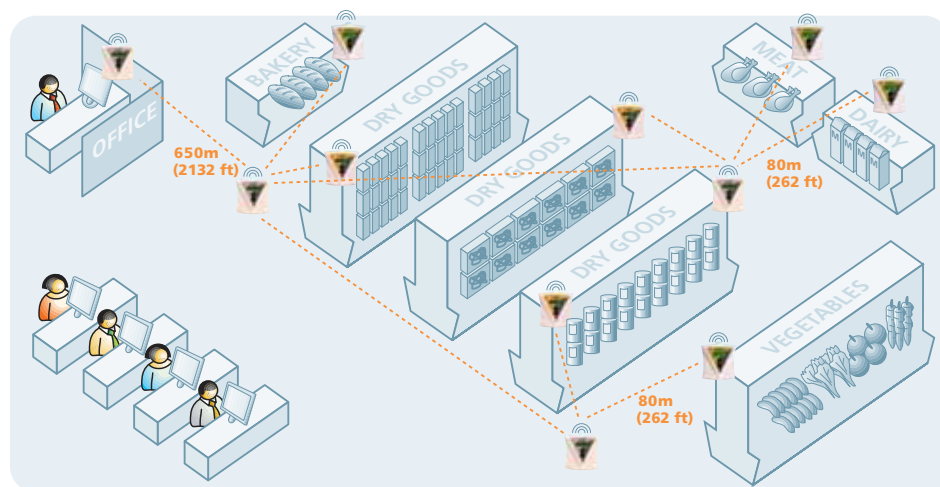


DataNet Infrastructure Network

Hospital Parallel Monitoring Within a Single DataNet Network



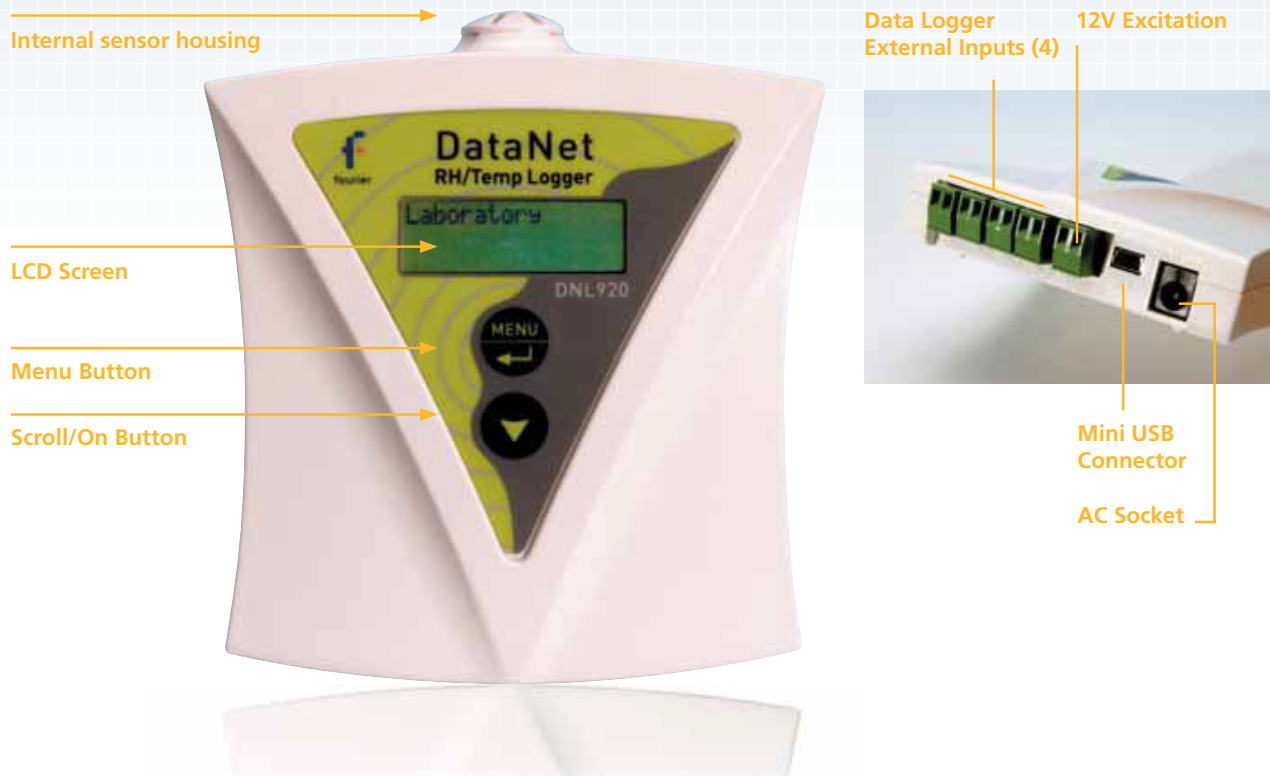
DataNet Network - Supermarket



DataNet Features

DataNet system comprises two models meeting a wide range of industry applications:

- DNL910 logger with four external inputs and one internal Temperature sensor.
Supported external inputs: 4 to 20 mA, 0 to 1 V, 0-50 mV, PT-100 2-wires, Thermocouples (J, K and T), Dry Contact, Pulse Counter and Frequency.
- DNL920 logger with four external inputs and one internal Temperature and Humidity sensor.
Same supported external inputs as DNL910 logger.



DataNet Solution Case Study



Company:

Teva Pharmaceutical Industries Ltd. One of the top 20 Global pharmaceutical companies in the world. Develops and markets branded pharmaceuticals & active ingredients.

Challenge:

- 10 large storage facilities in separate cities with perishable pharmaceuticals.
- Temperature must be measured wirelessly but external RF interference threatened data loss.

Requirements:

- Online multiple point monitoring and alert system.
- Avoid costly infrastructure by using wireless network.

- Maintain reliable RF transmission.

Solution:

- DataNet provides a secured intelligent data logging system.
- Overcomes RF interference, recovering data losses.

Method:

Multiple DataNet units with external PT100 temperature probes monitor ambient temperature every 15 minutes. Repeaters are used to cover distances of 200 to 300m inside the warehouse. Data is exported to Microsoft Excel for further analysis.

Mini DataNet Loggers

Supported by the DataNet wireless ZigBee network

The Mini DataNet, a single and dual channel data monitoring system, reduces potentially redundant costs of the four-channel monitoring system.

- 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 12 months on a single battery

Antenna

DNL810

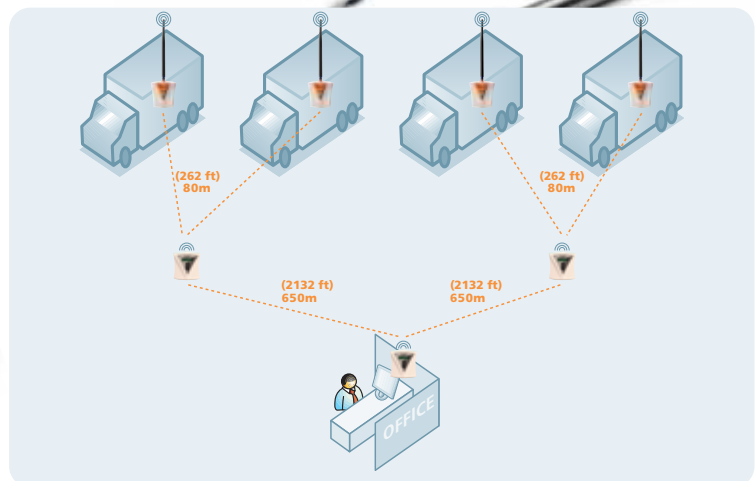
Multi-function Button

Dual-color LED Indicator

Internal Digital RH & Temperature Sensor

DNL808

External NTC sensor connection



Mini DataNet Network

USB DataNet Stand Alone Solution

Broadening the functionality of the DataNet system, the low-cost, stand-alone USB DataNet is an ideal solution for non-wireless applications. Users requiring just 4 external inputs and internal temperature and humidity can still leverage the benefits of the DataNet system. With this simpler and more budget-friendly option, customers only need a single USB DataNet unit and PC software suite to start recording and analyzing data.

The USB DataNet extends the DNL910 and DNL920 to offer both wireless and non-wireless operational modes with full functionality including:

- Manual operation (Run/Stop)
- Long battery life - 6 months between recharges
- Option to include DatPass software meeting 21 CFR Part 11 requirements
- Four alarm levels with unit external visual and audio alarm
- External AC power operation and internal rechargeable batteries
- Periodical download of data
- Real-time operation with live data results appearing on screen
- Firmware updates via the software
- Option to work in parallel to the ZigBee wireless network



DataNet specifications apply but wireless features are not enabled.

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DataNet Software PC Suite

Operating System:
**Windows 2000 SP3/
2003/XP SP2/Vista
Internet Explorer
5.01 or higher
Pentium 800 MHz
or higher
256 MB RAM
250 MB available
disk space**



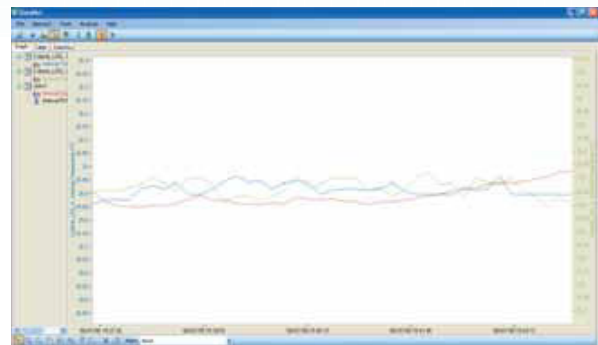
The DataNet PC Suite

Software provides security
for your products with online
monitoring and control of the
entire intelligent DataNet
system.

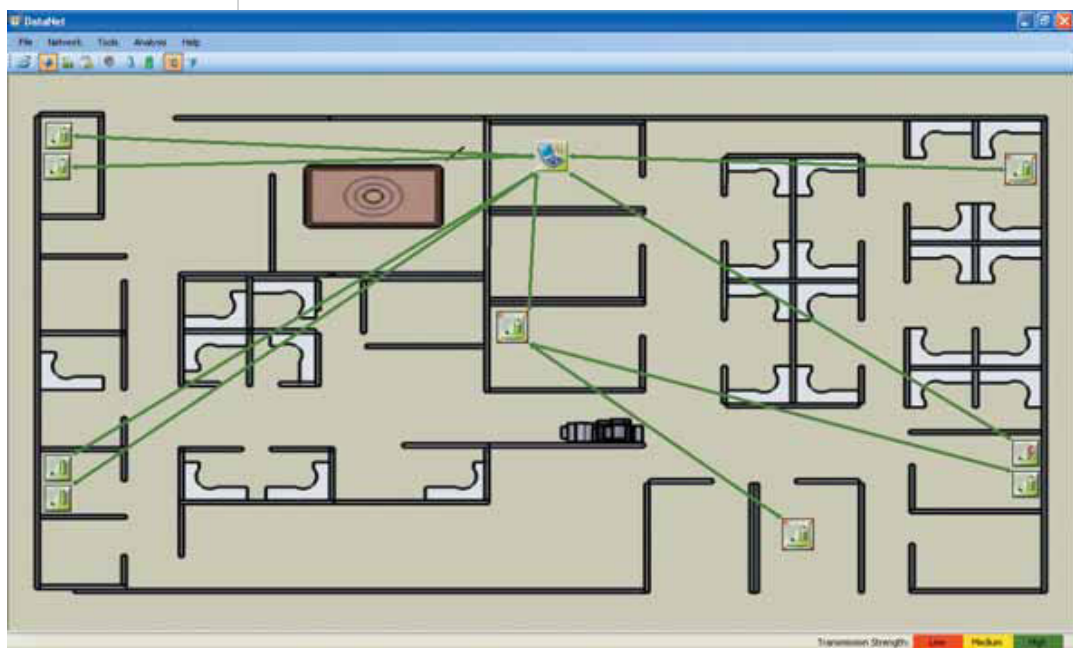
Data View Features

Real-time data in
multiple displays (show
table, graph, Excel)

Station	Status	Distance	Received	Average	Transmitted	Number of Units
Station 1	Normal	10.00	10.00	10.00	10.00	10
Station 2	Normal	20.00	20.00	20.00	20.00	20
Station 3	Normal	30.00	30.00	30.00	30.00	30
Station 4	Normal	40.00	40.00	40.00	40.00	40
Station 5	Normal	50.00	50.00	50.00	50.00	50
Station 6	Normal	60.00	60.00	60.00	60.00	60
Station 7	Normal	70.00	70.00	70.00	70.00	70
Station 8	Normal	80.00	80.00	80.00	80.00	80
Station 9	Normal	90.00	90.00	90.00	90.00	90
Station 10	Normal	100.00	100.00	100.00	100.00	100



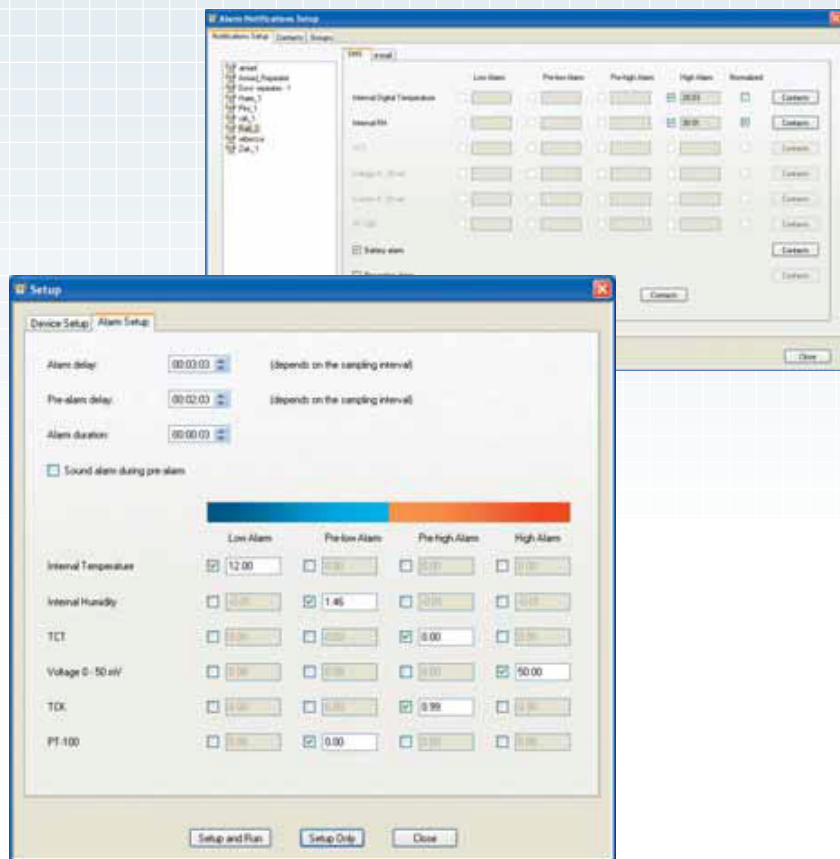
- International date format
- Ability to rename every logger and external input
- Map View displaying unit location, signal path and signal strength to the PC



Alarm Features

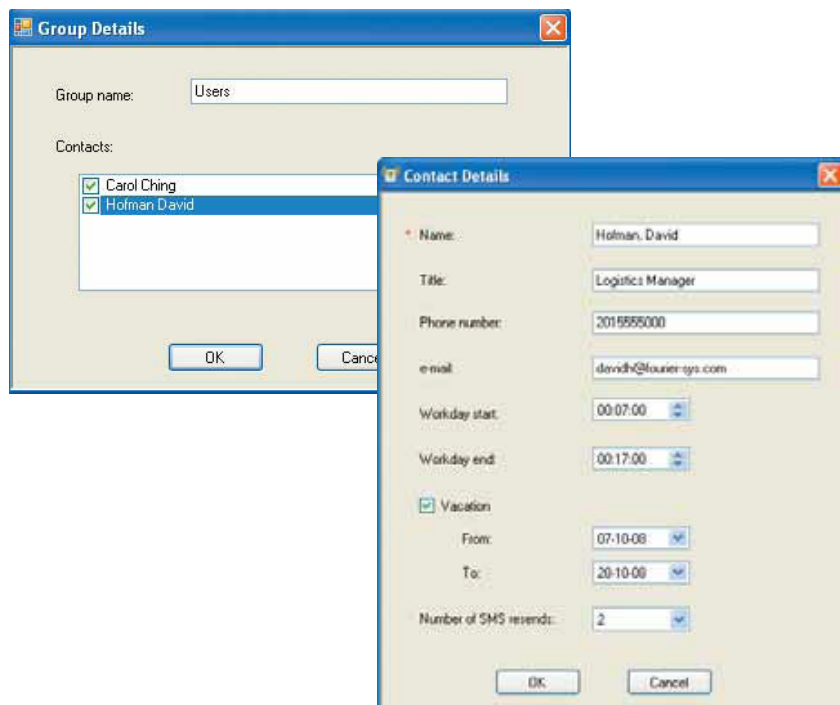
Alarm level setup with email & SMS notifications

Four alarm levels, allowing for programming of 4 separate parameters, with alarm delay and duration



Alarm Notification Setup

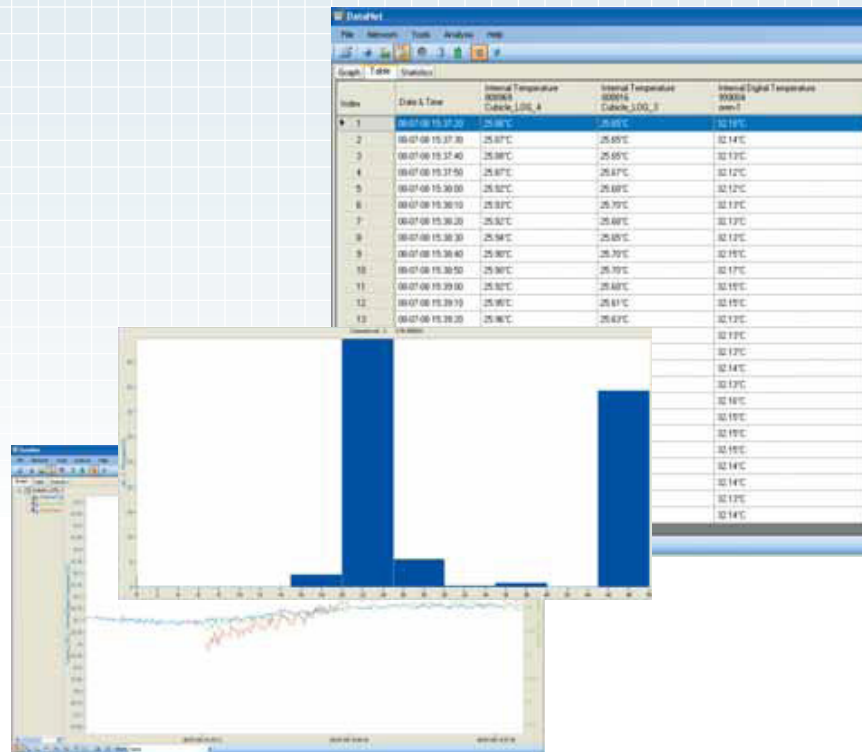
Alarm notifications sent to selected Contacts and Groups during working hours



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Analysis Features

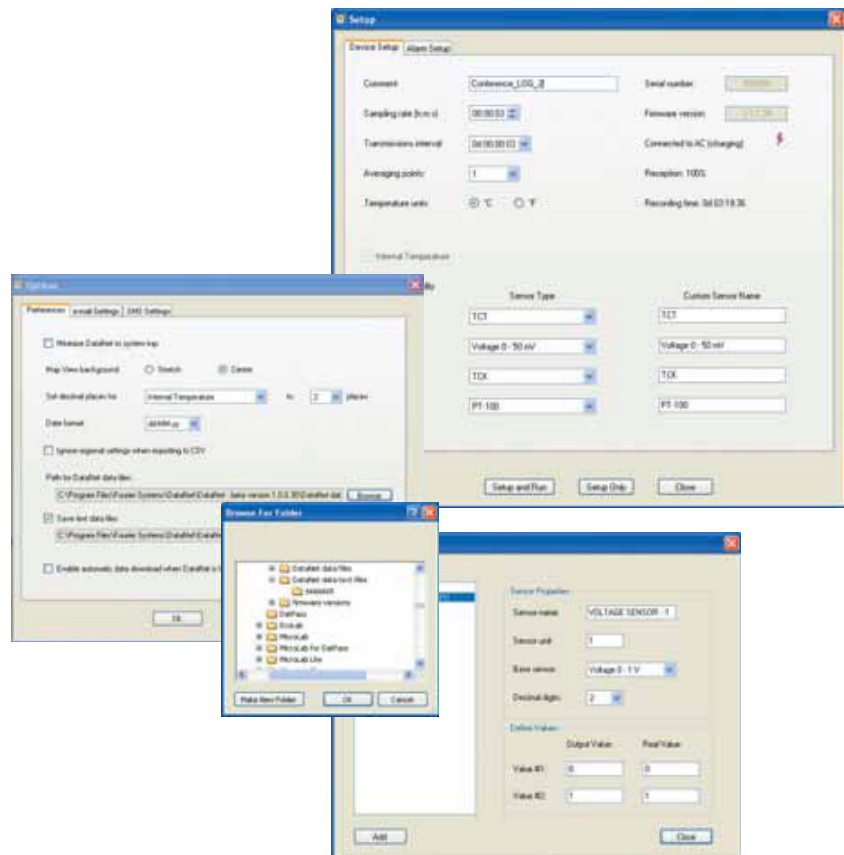
Dew point analysis, FO Pasteurization, histogram, statistics with export to Excel and CSV formats



Setup Features

Logger setup with Celsius or Fahrenheit view

User configurable data file and text file storage path



Ability to define custom sensors based on current, voltage and pulse inputs

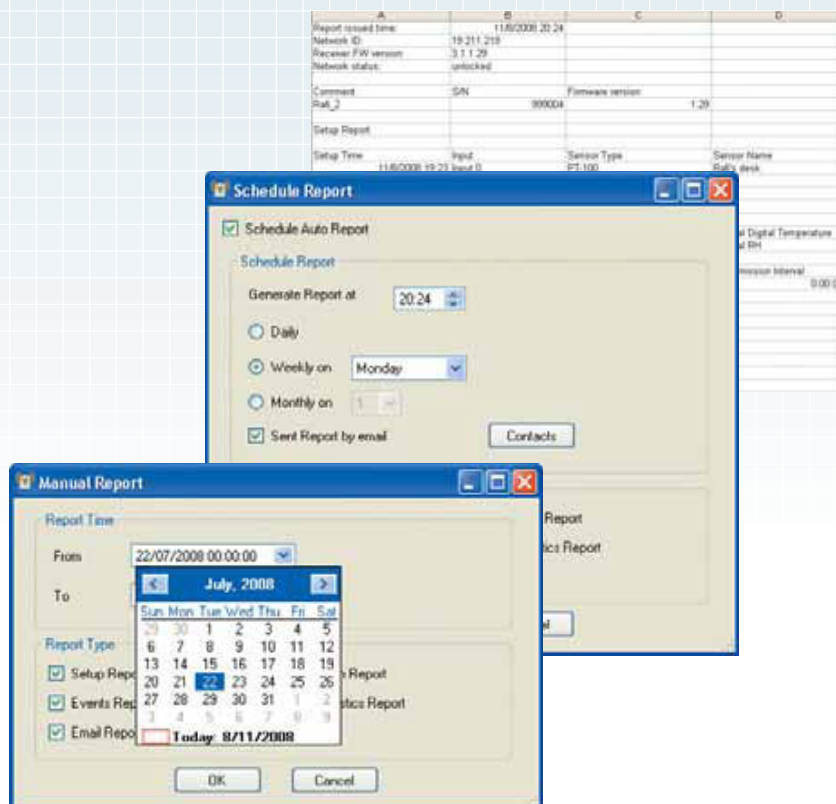
Reporting Features

Individual Report Profile Manager:

- User can define up to 10 report profiles
- Report generated and automatically sent to multiple defined user profiles
- Reports received according to predefined date interval selection
- Configurable report periods (start/end dates)
- Daily, weekly and monthly reports available
- Report file formats available in Excel and PDF

Report Content:

- Alarm and Event log
- Data and Graph (Sensor histogram) Views
- Email and SMS log



Hardware Communication Features

Over-the-air firmware updates and calibration

