



fourtec
FOURIER TECHNOLOGIES

Multi-unit data acquisition,
delivering 24/7 real-time
monitoring for industrial
environments



DataNet is an essential hardware and software solution that can empower any organization to control their network using the ZigBee wireless network.

The DataNet comprehensive real-time data logging solution is directed by event-driven security policies. DataNet delivers a truly worthy data logging solution by leveraging the power of ZigBee wireless, 2.4 GHz telemetry protocol. Supporting up to 65,000 units, with fast, cable-free installation for instant setup.

- Wireless data logging for processing, transportation and storage
- Internal sensors for site-specific humidity/temperature monitoring
- 4 recording inputs measuring 4 to 20 mA, 0 to 1 V, Pulse Counter, PT100 2-wires, NTC, Thermocouple J, K and T, Contact
- API for integrating DataNet hardware with proprietary systems
- Fully reliable real-time wireless monitoring network
- Multiple alarms including SMS to any location
- Up to 65,000 units for long range monitoring
- Worldwide license-free 2.4 GHz band
- Operating keypad and LCD display

www.fourtec.com

INNOVATIVE MONITORING SOLUTIONS

DataNet Solution

WIRELESS INTELLIGENT LOGGING NETWORK



PHARMACEUTICAL
Monitoring environments in labs, fridges, freezers and culture rooms



WAREHOUSING
Chemical, industrial and perishables storage



COLD STORAGE
Optimizing temperature in refrigerated warehousing



HOSPITALS
Medical alert monitoring, sterilization, blood products storage and transport



COLD CHAIN
Ensuring quality products throughout the cold chain process



DataNet Solution

WIRELESS INTELLIGENT LOGGING NETWORK

The DataNet data logging solution comprises of a variety of data loggers that can support up to 6 sensors, including internal temperature and humidity sensors. Additionally, the Mini DataNet loggers provide a cost-effective option, supporting up to two channels per unit.

DataNet multi-unit data acquisition solution is geared toward 24/7 real-time data logging for mission critical organizations. The DataNet's comprehensive online data logging solution is directed by event-driven security policies.

The new, next generation ZigBee wireless network data logging solution

Logging units function in a wireless mesh network configuration, allowing for 65,000 units in each network. This enables real-time monitoring of multiple test points in a single operation.

Internal sensor housing

LCD Screen

Menu Button

Scroll/On Button



Data Logger External Inputs (4)

12V Excitation



Mini USB Connector

AC Socket



The DataNet product range includes single channel data loggers as well as multichannel loggers supporting internal temperature and humidity sensors, as well as 4 external channels for 4 to 20 mA, 0 to 50 mV, 0 to 1 V, PT-100, Thermocouple, Contact, Pulse Counter and Frequency.

DataNet system offers a broad selection of logger models meeting a wide variety of industry applications needs.

- DNL910 and DNL920 – loggers with internal temperature and/or humidity. Supports four external inputs: 4 to 20 mA, 0 to 1 V, 0 to 50 mV, PT-100 2 wires, Thermocouples (J, K and T), Contact, Pulse Counter and Frequency.
- DNL910 PA and DNL920 PA – loggers with integrated power amplifier for extended range. Same supported external and internal sensors as DNL910 and DNL920.
- DNR900 Receiver/Repeater – the heart of the system controls and collects the data from the end units. Also suitable for extending the system range.
- DNR800 Mini Repeater – for extending the system range.
- Mini DataNet – single and dual channel data loggers: DNL804 (External 4 to 20 mA) DNL808 (External NTC 10KΩ), DNL810 (Internal Temp/RH).
- Mini DataNet with extended battery pack – supports up to four batteries for three-year battery life: DNL804-BXT, DNL808-BXT, DNL810-BXT.

DataNet Software - DataSuite

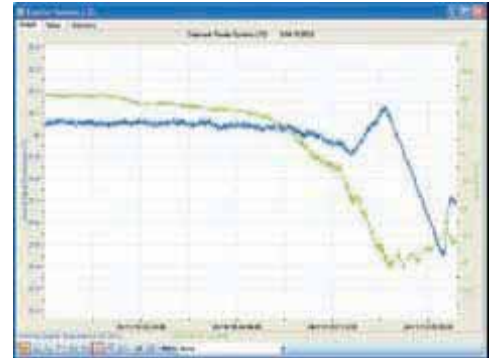


The DataSuite Software provides security for your products with online monitoring and control of the entire intelligent DataNet data logging solution.

Data View Features

Real-time data in multiple displays (Graph, Table, Statistics)

Date	Time	Temperature (°C)	Humidity (%)	Pressure (hPa)	Light (lux)
2012-01-01	00:00	15.0	60	1013	100
2012-01-01	01:00	15.5	62	1013	100
2012-01-01	02:00	16.0	65	1013	100
2012-01-01	03:00	16.5	68	1013	100
2012-01-01	04:00	17.0	70	1013	100
2012-01-01	05:00	17.5	72	1013	100
2012-01-01	06:00	18.0	75	1013	100
2012-01-01	07:00	18.5	78	1013	100
2012-01-01	08:00	19.0	80	1013	100
2012-01-01	09:00	19.5	82	1013	100
2012-01-01	10:00	20.0	85	1013	100
2012-01-01	11:00	20.5	88	1013	100
2012-01-01	12:00	21.0	90	1013	100
2012-01-01	13:00	21.5	92	1013	100
2012-01-01	14:00	22.0	95	1013	100
2012-01-01	15:00	22.5	98	1013	100
2012-01-01	16:00	23.0	100	1013	100
2012-01-01	17:00	23.5	102	1013	100
2012-01-01	18:00	24.0	105	1013	100
2012-01-01	19:00	24.5	108	1013	100
2012-01-01	20:00	25.0	110	1013	100
2012-01-01	21:00	25.5	112	1013	100
2012-01-01	22:00	26.0	115	1013	100
2012-01-01	23:00	26.5	118	1013	100



Supported Operating Systems:
Windows® XP SP3 / Vista / 7 (32 and 64 Bit)

Minimum Hardware Requirements:
Pentium 4, 2 GHz Processor or better,
512 MB RAM, 250 MB available disk space

Map View

- 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

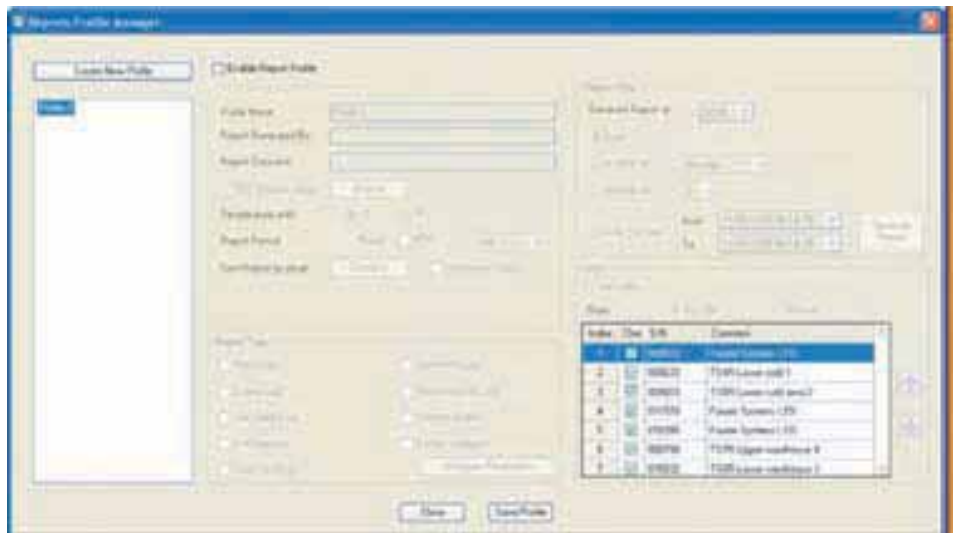
Alarm level setup with email & SMS notifications

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

The image shows two screenshots of the DataSuite software interface. The left screenshot displays the 'Alarm Setup' window, which includes fields for 'Alarm Name', 'Pin Number', and 'Alarm Address'. It also features a color-coded scale for 'Alarm Threshold' with four levels: Low, High, High-High, and High-High-High. The right screenshot shows the 'Alarm Configuration' window, which allows for setting specific alarm parameters such as 'Location', 'Priority', 'Threshold', and 'Delay' for each of the four alarm levels. It includes a table for configuring these parameters and buttons for 'OK', 'Cancel', and 'Apply'.

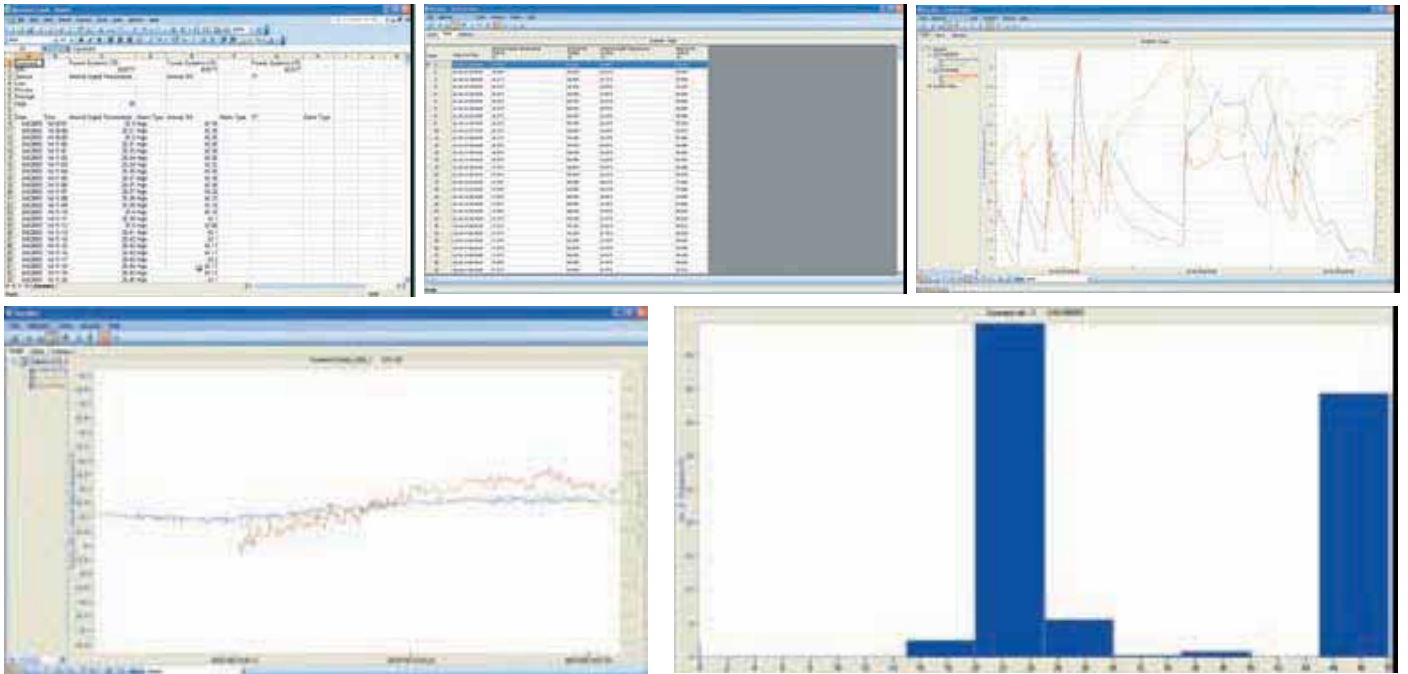
Report Module

The Report module provides the DataNet user with an intuitive interface for creating and generating reports which have many parameters garnered from the DataNet units and software. Each report can be emailed to a selected distribution list, at pre-defined time intervals, in PDF and Excel format.



Analysis Features

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

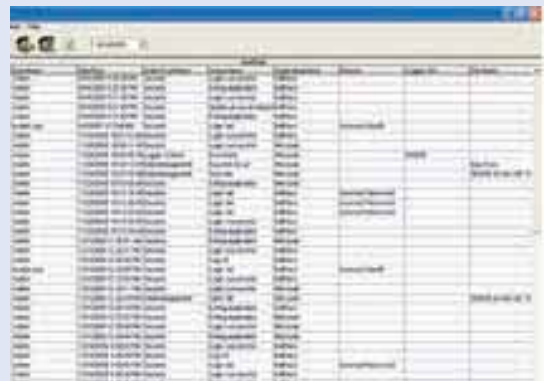


**FDA Title 21 CFR
Part 11 Compliant**



DatPass

DatPass works with DataSuite software and defines the users that can log in, maintaining the passwords and digital signatures needed for electronic records, as well as an Audit Trail of all user activity.



Ordering Information

Ordering Notes: Default power supply for DNL9xx and DNR models is 220 V (European) unless PN indicates UK or USA

Part Number (PN)	Product Description
DATANET DEVICES	
DNR900A	Receiver/Repeater + power supply
DNR900A-UK	Receiver/Repeater + power supply
DNR900A-USA	Receiver/Repeater + power supply
DNL910A	Temperature RF logger with 4 external inputs + power supply + calibration certificate
DNL910A-UK	Temperature RF logger with 4 external inputs + power supply + calibration certificate
DNL910A-USA	Temperature RF logger with 4 external inputs + power supply + calibration certificate
DNL910A-PA	Temperature RF logger with built-in Power Amplifier & 4 external inputs + power supply + calibration certificate
DNL910A-PA-UK	Temperature RF logger with built-in Power Amplifier & 4 external inputs + power supply + calibration certificate
DNL910A-PA-USA	Temperature RF logger with built-in Power Amplifier & 4 external inputs + power supply + calibration certificate
DNL920A	Temperature & Humidity RF logger with 4 external inputs + power supply + calibration certificate
DNL920A-UK	Temperature & Humidity RF logger with 4 external inputs + power supply + calibration certificate
DNL920A-UK	Temperature & Humidity RF logger with 4 external inputs + power supply + calibration certificate
DNL920A-PA	Temperature & Humidity RF logger with built-in Power Amplifier and 4 external inputs + power supply + calibration certificate
DNL920A-PA-UK	Temperature & Humidity RF logger with built-in Power Amplifier and 4 external inputs + power supply + calibration certificate
DNL920A-PA-USA	Temperature and Humidity RF logger with built-in Power Amplifier and 4 external inputs + power supply + calibration certificate
DNR800A	Mini Repeater with extended RF range + power supply
DNR800A-UK	Mini Repeater with extended RF range + power supply
DNR800A-USA	Mini Repeater with extended RF range + power supply
DNL804A	4 to 20 mA RF logger + external antenna + calibration certificate
DNL808A	External NTC 10K Ω RF logger + NTC probe (2.5 m cable)+ external antenna
DNL810A	Temperature and Humidity RF logger + external antenna
DNL804A-BXT	4 to 20 mA RF logger + external antenna + calibration certificate + extended battery pack
DNL808A-BXT	External NTC 10K Ω RF logger + NTC probe (2.5 m cable) + external antenna + extended battery pack
DNL810A-BXT	Temperature and Humidity RF logger + external antenna + extended battery pack
SENSORS	
12753	PT-100 2-wire temperature sensor (2.5 m cable)
12752	PT-100 2-wire temperature sensor 2-wire (4 m cable)
12751	PT-100 2-wire temperature sensor 2-wire (6 m cable)
DT043	Temperature (-40 to 60 C) and Humidity probe (3 m cable)
DT332	Replacement NTC 10K Ω temperature probe for DNL808
ACCESSORIES & SOFTWARE	
12504	Quad Band GSM Modem (for DataNet SMS alerts)
13825	External Siren + Strobe for DataNet alarm notifications
13129	Replacement standard external antenna for Mini DataNet units
13416	External 2.5 m antenna with magnet connector
13330	Mini USB communication cable for DNR900 (3 m cable)
11304	Internal battery pack for DNL9XX loggers
13848	AA 3.6 battery for Mini DataNet External Battery Pack
12928	2/3 AA 3.6 V battery for Mini DataNet logger
DataSuite-DN	DataSuite Trial Installation CD + mini USB cable 3m + single user license
SFTMCL025A	DatPass for DataSuite meeting 21 CFR Part 11 Compliancy. With USB security dongle and mini USB cable.

About fourtec

fourtec – Fourier Technologies Ltd. is a recognized leader in data-logging and monitoring solutions for controlled industrial environments, such as food, pharmaceutical, medical, storage and transportation industries.

Our solutions enable our customers to deliver higher quality products, ensure consumer safety, comply with regulatory requirements and increase profitability. Innovation, expertise and a commitment to quality are the values that drive the development and production of our products.



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SPECIFICATIONS

Length and Temperature specifications are provided in Metric and Celsius units

INPUT TYPES

DNL910, DNL920, DNL910-PA, DNL920-PA

4 to 20 mA

- Range: 4 to 20 mA
- Resolution: 4.76 μ A
- Accuracy: ± 0.5 %
- Loop impedance: 21 Ω

0 to 50 mV

- Range: 0 to 50 mV
- Resolution: 3 μ V
- Accuracy: ± 0.5 %
- Input impedance: 25 M Ω
- Maximum voltage: 3.2 V

0 to 1 V

- Range: 0 to 1 V
- Resolution: 200 μ V
- Accuracy: ± 0.5 %
- Input impedance: 25 M Ω
- Maximum voltage: 3.2 V

Temperature PT-100 (2-wires)

- Range: -200 to 400 $^{\circ}$ C
- Resolution: 0.1 $^{\circ}$ C
- Accuracy: -200 to -60 $^{\circ}$ C ± 0.5 %
60 to 400 $^{\circ}$ C ± 0.5 %
-60 to 60 $^{\circ}$ C ± 0.3 %

Temperature Thermocouple J

- Range: -200 to 1,000 $^{\circ}$ C
- Resolution: 0.1 $^{\circ}$ C
- Accuracy: -200 to -60 $^{\circ}$ C ± 0.5 %
60 to 1,000 $^{\circ}$ C ± 0.5 %
-60 to 60 $^{\circ}$ C ± 0.5 %
- Cold junction compensation error: ± 0.3 %

Temperature Thermocouple K

- Range: -200 to 1,000 $^{\circ}$ C
- Resolution: 0.1 $^{\circ}$ C
- Accuracy: -200 to -60 $^{\circ}$ C ± 0.5 %
60 to 1,000 $^{\circ}$ C ± 0.5 %
-60 to 60 $^{\circ}$ C ± 0.5 %
- Cold junction compensation error: ± 0.3 %

Temperature Thermocouple T

- Range: -200 to 400 $^{\circ}$ C
- Resolution: 0.1 $^{\circ}$ C
- Accuracy: -200 to -60 $^{\circ}$ C ± 0.5 %
60 to 400 $^{\circ}$ C ± 0.5 %
-60 to 60 $^{\circ}$ C ± 0.5 %
- Cold junction compensation error: ± 0.3 %

Contact (for Switch/Door Position)

- Range: Open/Closed

Pulse Counter (input 4 only)

- Zero crossing detector
- Range: 1 to 65,536 counts
- Resolution: 1 count
- Frequency range: 0 to 4,000 Hz
- Input signal: 0 to 3.2 V
- Input impedance: 470 Ω

Frequency (input 4 only)

- Zero crossing detector
- Range: 20 Hz to 4 KHz
- Input signal: 0 to 4,000 Hz
- Input impedance: 470 Ω

Internal Temperature

- Type: DNL910: PT-100
DNL920: Digital
- Range: -20 to 50 $^{\circ}$ C
- Resolution: 0.1 $^{\circ}$ C
- Accuracy: DNL910: ± 0.3 $^{\circ}$ C
DNL920: ± 0.5 $^{\circ}$ C

Internal Humidity (for DNL920)

- Range: 5 to 95 %
- Resolution: 0.5 %
- Accuracy: ± 3 % at 10 to 90 %
 ± 5 % at 5 to 10 %
and 90 to 95 %

DNL804, DNL808 and DNL810

DNL804 External Current Sensor

- Range: 4 to 20 mA
- Resolution: 0.06 $^{\circ}$ C 1.16 μ A
- Accuracy: 0.5 %
- Loop impedance: 21 Ω

DNL808 External Temperature Sensor

- Range: -50 to 150 $^{\circ}$ C
- Resolution: 0.06 $^{\circ}$ C
- Accuracy: -50 to 60 $^{\circ}$ C ± 0.3 %
60 to 150 $^{\circ}$ C ± 0.5 %

DNL810 Internal RH/Temperature Sensors

- Temp range: -20 to 50 $^{\circ}$ C
- Temp resolution: 0.04 $^{\circ}$ C
- Temp accuracy: ± 0.4 $^{\circ}$ C
- Humidity range: 5 to 95 %
- Humidity resolution: 0.5 %
- Humidity accuracy: ± 3 %

OUTPUTS

DNR900, DNL910, DNL920, DNL910-PA, DNL920-PA

External Power Excitation (transducers usage)

- 12 V DC @ 2 A
- Reset fuse overload

Dry Contact Alarm Output

- Open collector
- Close position resistance: 50 Ω
- Max. Load: 50 mA, 3 V DC

DATANET LOGGER SAMPLING FEATURES

- Memory capacity: \sim 59,000 samples
- Sampling rate: One every second to one every two hours
- Sampling resolution: 16-bit
- Channel separation: 80 dB

DATANET RF NETWORK COMMUNICATION

- Frequency: 2.4 GHz
- Network units: 65,000
- Data rate: 250 Kbps
- Full mesh network architecture supported
- 128-bit network security encryption
- Worldwide license-free
- RF Transmission:
 - DNL8xx and DNL9xx: 4 dbm
 - DNR900, DNL9xx-PA: 17 dbm
 - DNR800: 20 dbm

DATANET HARDWARE SPECIFICATIONS

DNR900, DNL910, DNL920 and DNL9XX-PA

Display

- 2-row LCD
- 16 character display

Power Supply

- Internal rechargeable 4.8 V NiMH battery
- Built-in battery charger
- External 12 V DC input

Operating Temperature Range

- -20 to 50 $^{\circ}$ C
- Water and dust proof: IP54

DNR900 PC Communication

- USB 2.0 compliance
- Mini USB type B cable

Casing

- Plastic ABS box
- Dimensions: 97 x 93 x 27 mm
- Weight: 200 gr
- Table and wall mounting

DNL804, DNL808 and DNL810

Power Supply

- Internal, replaceable 2/3 AA lithium battery
- Battery voltage range: 2 to 3.6 V
- Battery life: Up to 10 months depending on sampling rate

Casing

- Plastic ABS box
- Dimensions: 68 x 68.6 x 26.5 mm (without the cradle and the external antenna)
- Weight: Logger: 53 gr; Cradle: 10 gr;
- External Antenna: 17.5 gr
- Table and wall mounting

Operating Temperature Range

- -30 to 75 $^{\circ}$ C
- Water and dust proof: IP54

MINI DATANET EXTENDED BATTERY PACK

DNL804-BXT, DNL808-BXT, DNL810-BXT

Power Supply

- Removable battery pack supporting up to 4 x AA 3.6 V lithium batteries
- Battery life: Up to 3 years depending on sampling rate

Casing

Dimensions

- DNL810-BXT: 10.2 x 8.8 x 5.3 cm (without the external antenna)
- DNL804-BXT and DNL808-BXT: 9 x 8.8 x 5.3 cm (without the external antenna and strain relief add-on)

Weight:

- 137 g not including batteries
- 218 g including four batteries
- External Antenna: 17.5 g
- Wall mounting

Operating Temperature Range

- -30 to 75 $^{\circ}$ C
- Water and dust proof: IP54

GENERAL SPECIFICATIONS

Man Machine Interface

- Full keyboard operation

Standards Compliance

- CE, FCC, IC Canada

GSM MODEM FOR SMS ALERTS

- Quad Band: GSM-850/EGSM-900/DCS-1800 PCS-1900 MHz
- Supports Open AT[®] software platform
- Internal Expansion Socket (AES) interface
- RS232 Serial Interface
- 12 V DC external power supply

DATASUITE SOFTWARE FOR DATANET

- Windows[®] based software
- Data displayed in numeric or graphical display of all inputs
- Online retrieval and display of the collected data in real-time
- Definition of new sensors
- Full logger calibration
- Documentation and filing
- Alarm levels on graphs
- Export to spreadsheets
- Analytical functions, for professional analysis of the collected data
- Manual backup of calibration settings
- Over-the-air firmware update
- Software integration with range of fourtec data loggers

