Datalogger
DL01

Universal data acquisition system

The DL01 unit is a high performance datalogger, designed to operate in a wireless network. The datalogger communicates with one or more measurement nodes, equipped with appropriate sensors. Each device has a radio modem operating according to the ZigBee standard; the communication takes place via a star network (denominated DataZig) in which DL01 is its center. The sensor data are sent from the measurement nodes to the datalogger and recorded on its non-volatile memory. At any time the data can be collected from DL01 to a PC using a standard USB interface.

Depending on the type of measurement, the network can use different types of radio modems (RM01, RM01-P) which are interchangeable and differs only for RF power transmission. Each modem is individually powered by a rechargeable internal battery. The autonomy depends on the sampling frequency of the node and can allow up to several months of continuous operation. Recharging the battery takes place within a couple of hours by placing the radio modem module in any of the slots provided for the data logger (DOCK0, 1, 2); The DL01 unit can simultaneous recharge up to 3 batteries.

Thanks to the wireless communication is possible to perform measurements of various physical quantities providing galvanic isolation and avoiding any issue concerning ground loops.

The sample time of the data transmitted by a measurement node can be selected in a range of 1...65365 s). Each node consists of a radio modem and a signal conditioning device (FE01 or FE02 family) which are connected physically to the measuring sensors.

The data sent from each measurement node are received by DL01 and synchronized to its internal clock with a resolution of 0.1 s.

There are various models of FE01/02; everyone can manage one or more independent channels allowing for the measurement of physical quantities of different kinds.

The datalogger automatically recognizes the type and magnitude of measurement, and it does not require any manual operation. You can add up to 30 measurement nodes to the network.

Key Features:

- Wireless data acquisition
- Easy to use
- Multi-channels recording (up to 120 simultaneous sensors)
- 2MB non-volatile data memory
- 12V or USB power supply
- On-board battery chargers for radio modems
- Standard USB interface

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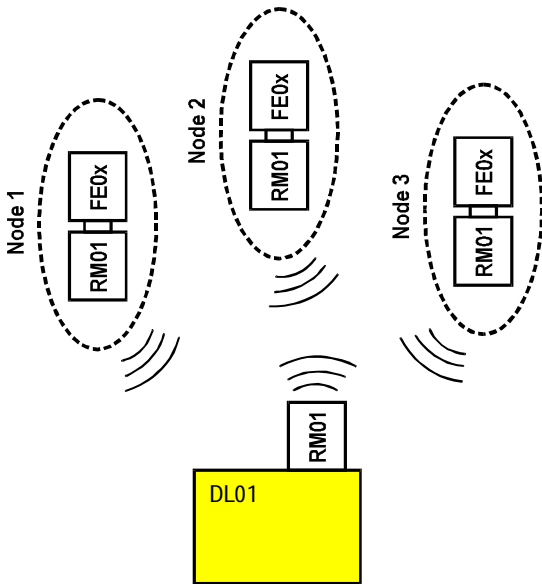
Example of a wireless network composed by 3 measurement nodes

Ordering codes:

Code	Part	Description
9001300	DL01	DL01 datalogger, complete with manual, software and PC interface cable

Technical specifications

MEASUREMENT NODES NUMBER
1...30

NUMBER OF CHANNELS
1...120 (depends on the configuration of the nodes)

DATA MEMORY
2 MB (about 500,000 samples)

DATA RESOLUTION
16/32 bit

CHARGER SLOTS / RADIO MODEM
3 (can be used simultaneously)

POWER SUPPLY EXT (12V ±30%)
12 Vdc / 25mA (typ, no radio modem)
+25 mA (with radio modem)
+180 mA (all chargers on)

POWER SUPPLY USB (5V ±10%)
5 Vdc / 40mA (typ, no radio modem)
+50 mA (with radio modem)
+300 mA (all chargers on)

FEATURES
- Internal clock with battery backup
- Audible beeper for diagnostics and feedbacks
- Simplified management, a single button for all functions
- RF power monitor
- Battery charge monitor

TEMPERATURE RANGE
-10°...60°C working (RH max 85% at 25°C)
-30°...60°C storage

DIMENSIONS
110 mm x 70 mm x 56 mm

WEIGHT
~180 g

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