DataTaker DT85 Series4 Data Loggers
Measurement and Control Instrumentation

Stand alone intelligent data loggers

Robust, universal, intelligent data logger for supporting a wide range of applications

dataTaker

Overview

The DataTaker DT85 series are intelligent data loggers capable of connecting to most arrays of sensors through versatile and analog and digital channels, high-speed counter inputs, phase encoder inputs and programmable serial sensor channels. It features feedback control functions, alarm trigger, automatic data transfer and compatible with various communication devices, making it perfect for stand-alone and remote applications.

The rugged design and wide operating temperature range of the DT85 series provides reliable operations and the dEX software assists with logger configuration, viewing real-time data in charts, and retrieval of historical data for analysis.

Data Logging
Data readout via USB or remote data transmission via Ethernet

Connect Any Sensor
Analog: Voltage, Current, RTD, Thermocouple, Strain Gauge and Vibrating wire
Digital: SDI12, MODBUS, pulses

Technical Support
Supporting you all the way from choosing a logger to your solution

Cloud Enabled
Access your data anywhere, anytime via DataTaker Live

Warranty
3 Years of extended warranty on all the loggers

Environmental – Monitor surface and ground water conditions, changes in atmospheric conditions to forecast weather and the presence of air pollutants.

Industrial – Monitor and control process parameters from temperature profiling to design validation.

Structural & Geotechnical – Monitor and control process parameters from design validation to dam wall monitoring.

DT85 DataTaker

Key Benefits

- **Ease of deployment:** On-site connectivity via USB makes it easy to configure and test the deployed monitoring module
- **Universal:** Connects to any sensor. This universal logger can integrate with any type of sensor. Temperature, voltage, current, 4-20 mA loops, resistance, bridges, strain gauges, frequency, digital, serial and calculated measurements can all be scaled, logged and returned in engineering units or within statistical reporting
- **Robust:** With its solid aluminium case this logger is suitable for harsh environments
- **Cost effective:** Low maintenance product. Minimal attention needed after setup

DT85G

An integrated vibrating wire module features vibrating wire channels which is suitable for land slide prevention, dam wall monitoring, mining exploration, tunnel excavation, concrete curing or any geotechnical application.

DT85C, DT85Cx

The C-Series Logger (DT85C and D85CG) has a slightly higher minimum operating temperature, for applications with a less demanding temperature range. These loggers maintain their respective functionality.

General Specifications

- **Analog input :** Isolated programmable, 48 single-ended, 32 differentials, 16 (3-wire/ 4-wire)
- **Effective resolution :** 18-bit
- **Analog sensors :** Voltage, Current , Thermocouples, RTD's, Thermistors, Monolithic Temp. Sensors, Strain Gauges, Bridge Sensors
- **Analog output :** Isolated programmable 16-bit DAC, 0-10 V or 0-20 mA
- **Maximum sampling :** 40 Hz
- **Excitation output :** 12/ 5 V, selectable max. 150 mA
- **Switching :** Latching Relay max. 30 VDC, 1 A
- **Digital sensors :** Digital I/O, Counters (32 bit, maximum 25 kHz)
- **Communication ports :** RJ45, USB, RS232 (Host), RS232/ RS485/ RS422
- **Communication protocol :** MODBUS RTU (Master/Slave), SDI12, MODBUS TCP/IP, ASCII
- **Internet protocol :** HTTP, FTP, SMTP
- **Power requirement :** 10...30 VDC
- **RTC accuracy :** 1 min/year (0…+40°C), 4 min/year (–40...+70°C: non-C models, 0...+70°C: C models)
- **Operating temperature :** -40...+70°C (non-C models), 85% RH non-condensing
- **Storage :** 128 MB CF (upgradeable to 4GB), 8 GB USB 2.0 flash drive (optional)

Standard logger (DT85)

- **Internal battery :** 6 V @ 4 Ah

Geo Logger (DT85G)

- **Internal battery :** 6 V @ 4 Ah
- **Freq. range :** 500...5 kHz
- **Coil resistance :** 50...200 Ω
- **Stimulation :** Single pulse pack (36 V @ 200 us)

C-Series Logger (DT85C, DT85CG)

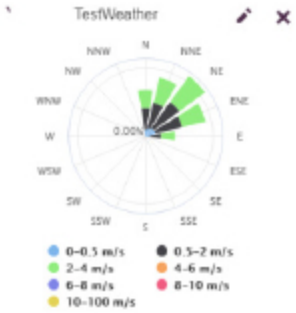
- **Operating temperature:** 0...+70°C, 85% RH non-condensing

dEX 2.0 (Logger Software)

A software with intuitive graphical interface for programming DataTaker that allows you to configure, view real-time data in widgets or charts and retrieve your historical data for analysis.

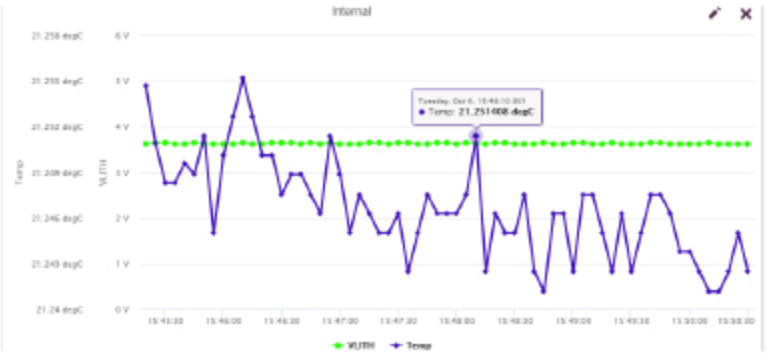
After installation you can run dEX 2.0 and establish connection with your logger through TCP/IP connection either using Ethernet or USB ports.
The software is available cross platform and will work on major operating system such as Windows, iOS and Linux.

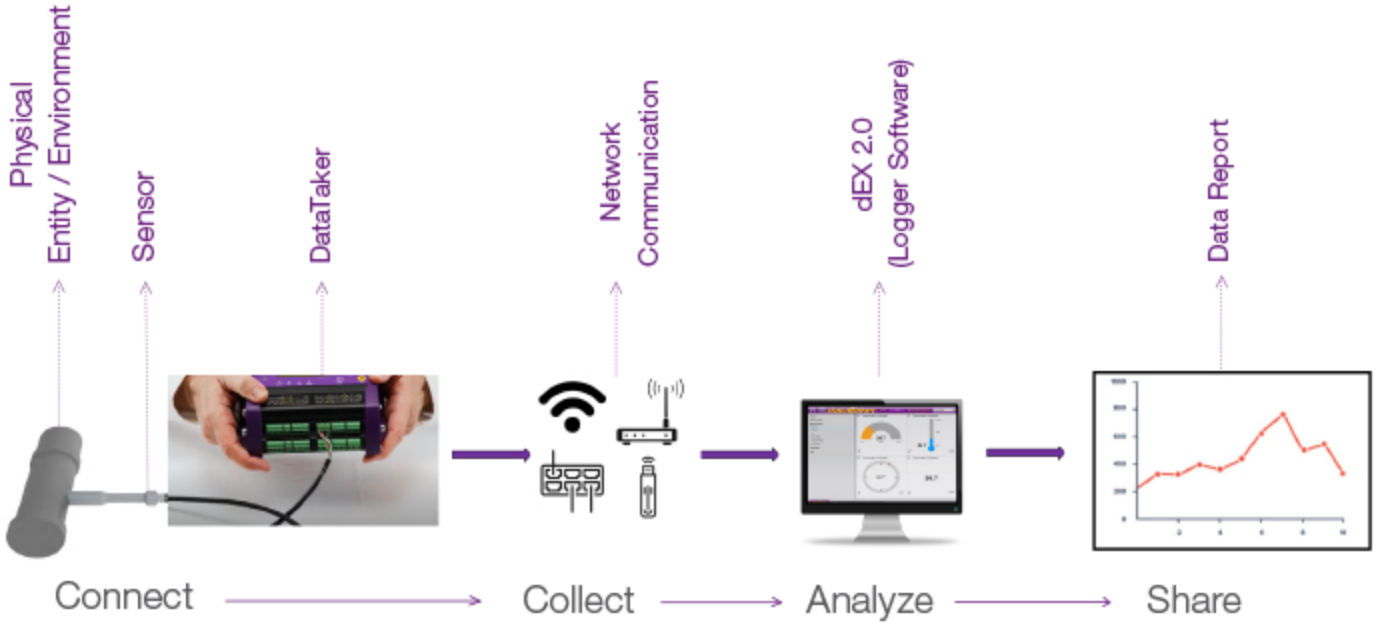
Utilising Angular JS which allows one page application for simplicity, this dEX 2.0 draws a new approach on programming and viewing data like never been before.



Features:

- Compatible to previous dEX program
- Improved UI design with single centralise page which is easier to move between functions.
- Offline configuration (program template creation)
- Improved programming approach on schedule / channel creation
- Re-defining alarm declaration
- Re-defining MODBUS and SDI12 channels creation
- Home functions that target multiple loggers





Technical Specifications

Table 1 Technical specifications

Comparison Table for Dataloggers		
Feature	DT85(C)	DT85(C)G
Analog input channels	16	16
Analog output channels	✓	✓
Vibrating wire strain gauge support	–	✓
CEM20 modules supported	16	16
Digital I/O channels (open-drain outputs)	4	4
Digital I/O channels (logic outputs / SDI-12)	4	4
Relay output-1 latching relay	✓	✓
High speed counter inputs	7	4
Phase encoder inputs	3	2
RS232/422/485 communications port	✓	✓
RS232 host port	✓	✓
USB communications port	✓	✓
Ethernet port	✓	✓
USB memory device port	✓	✓
Unswitched external power output	✓	✓
Switched isolated 5/12V power output	✓	✓
Battery charger for internal/external battery	✓	✓
Internal battery (capacity in Ah)	4.0	4.0
Modbus master function	✓	✓
Modbus slave (TCP/IP)	✓	✓
LCD display & keypad	✓	✓
Status LEDs	4	4

Quality Statement: DataTaker operates a quality management system complying with IS0 9001:2008. It is DataTaker's policy to supply customers with products which are fit for their intended purpose, safe in use, perform reliably to published specification and are backed by a fast and efficient customer support service.

Specifications: DataTaker reserves the right to change product specifications at any time without notice.

Optional Accessories

Increasing the channel capacity of the DataTaker DT85 range is made very easy by adding DataTaker channel expansion modules (CEM20). Each CEM20 adds 20 universal data logging terminals to the DataTaker data logger.

DT85 series can have up to 16 CEM20 which expands the number of channel to 960 single-ended inputs, 640 differential inputs or 320 3 (4)-wire inputs.

Specifications - CEM20

Analog inputs	• 60 single-ended • 40 differential • 20 3-wire/4-wire
Maximum sampling	• 20 Hz
Addressing	• 4-way DIP switches

DataTaker DT85 Series 4 Range		
Dataloggers	**Channels**	**Product Code**
DT85/ DT85C Series 4	16-48 Analog, 12 digital channels	DT4DT85, DT4DT85C
DT85G/ DT85CG Series 4	16-48 Analog (+vibrating wire), 12 digital channels	DT4DT85G, DT4DT85CG

DataTaker Channel Expansion Module		
CEM20 channel expansion module for series 4 DataTaker	20-60 Analog channels	DT4CEM20

Accessories included in data logger: DataTaker resource thumb drive, AC adaptor, screwdriver & USB cable

DataTaker channel expansion module includes: Analog and control cables for connection to the DataTaker data logger.

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