



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 mobile network/ Wi-Fi/ Ethernet.



Connect Any Sensor

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



Notifications

Automatic alarms via SMS



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



DT85W

An integrated Wi-Fi module features a wireless connection to the logger, for connecting the logger to an existing Wi-Fi network. Programming and controlling can be done wirelessly.

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.

DT85M

The DT85M has an integrated modem that provides access to the 3G network of the logger making it perfect for remote applications. DT85M's automatic data delivery feature will schedule your data to be automatically emailed to your inbox every day, week, month or any other time interval as set.

DT85GM

DT85GM has both DT85G and DT85M features combined which will allow geotechnical applications to use on 3G network.

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 V/5 V, selectable max. 150 mA
- **Switching :** Latching Relay max. 30VDC, 1 A
- **Digital sensors :** Digital I/O, Counters (32 bit, maximum 100 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)

- **Operating temperature :** -40...+70°C, 85% RH, non-condensing
- **Storage :** 128 MB CF (upgradeable to 4GB), 8 GB USB flash drive (optional)

Standard logger (DT85)

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

Geo logger (DT85G)

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

Modem logger (DT85M, DT85GM)

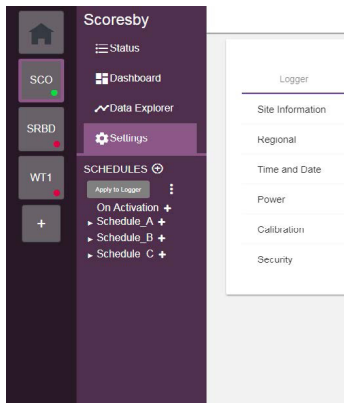
- **SIM interface :** SIM Socket (1.8 V/3 V)
- **Data transfer :** Email or FTP

Wi-Fi logger (DT85W)

- **Internal battery :** 6 V @ 4 Ah
- **Mode :** Access point or Client
- **Security :** OPEN, PSK_WEP, PSK_WPA, PSK_WPA2

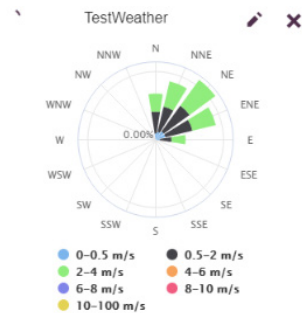
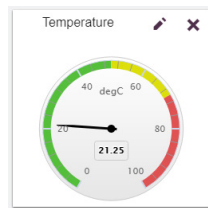
dEX 2.0 (Logger Software)

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.



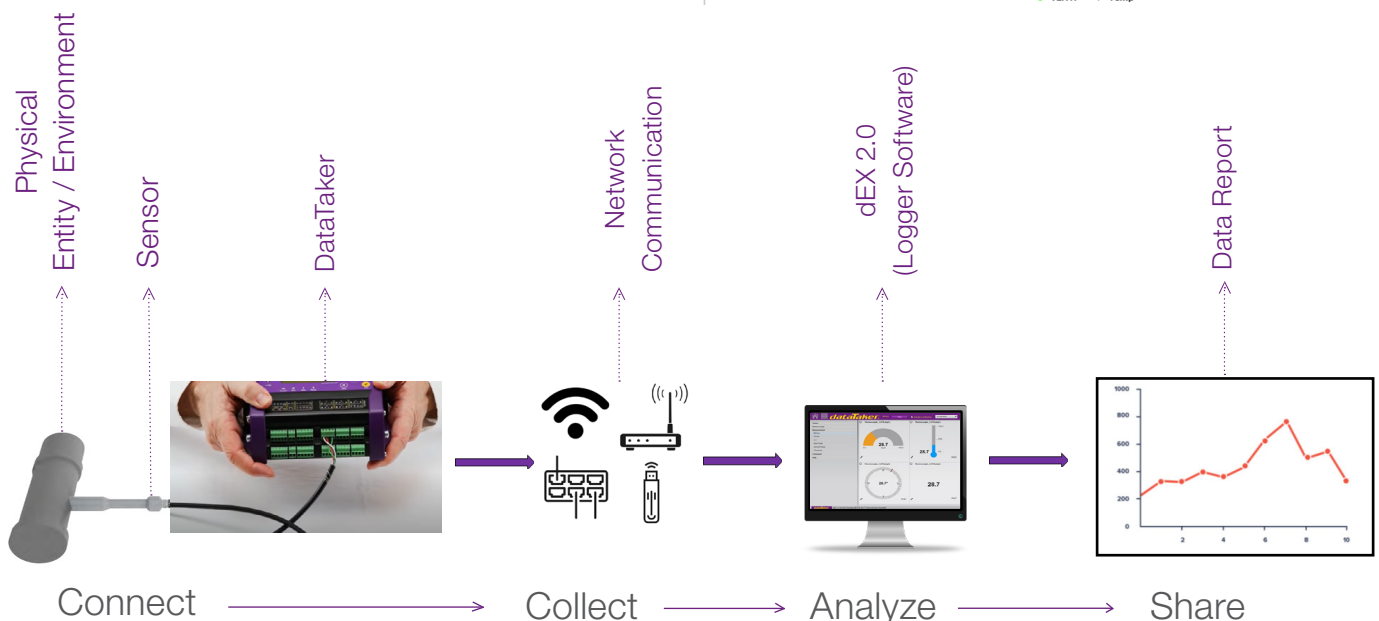
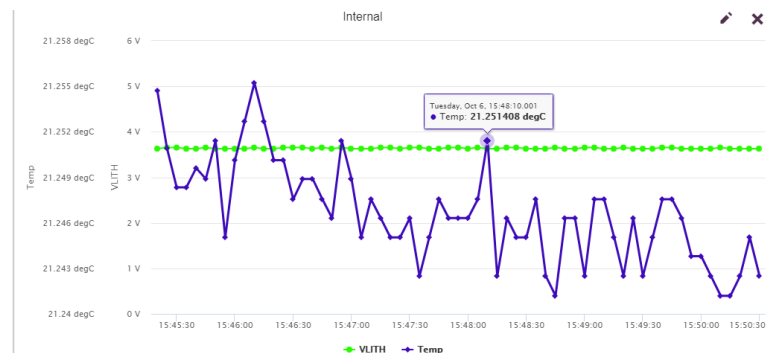
After installation you can run dEX 2.0 and establish connection with your logger through TCP/IP connection either using Ethernet or USB ports. The software is available cross platform and will work on major operating system such as Windows, iOS and Linux.

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	DT85W	DT85M	DT85G	DT85GW	DT85GM
Analog input channels	16	16	16	16	16	16
Analog output channels	✓	✓	✓	✓	✓	✓
Vibrating wire strain gauge support	–	–	–	✓	✓	✓
CEM20 modules supported	16	16	16	16	16	16
Digital I/O channels (open-drain outputs)	4	4	4	4	4	4
Digital I/O channels (logic outputs / SDI-12)	4	4	4	4	4	4
Relay output-1 latching relay	✓	✓	✓	✓	✓	✓
High speed counter inputs	7	7	7	4	4	4
Phase encoder inputs	3	3	3	2	2	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	–	4.0	4.0	–
Modbus master function	✓	✓	✓	✓	✓	✓
Modbus slave (TCP/IP)	✓	✓	✓	✓	✓	✓
LCD display & keypad	✓	✓	✓	✓	✓	✓
Status LEDs	4	4	4	4	4	4
Intergrated Wi-Fi	–	✓	–	–	✓	–
Integrated modem	–	–	✓	–	–	✓

Quality Statement: DataTaker operates a quality management system complying with ISO 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.

Trademarks: DataTaker is a registered trademark.

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
DataTaker DT85 Series 4	16-48 Analog, 12 digital channels	DT4DT85, *DT4DT85-AL
DataTaker DT85W Series 4	5-15 Analog, 12 digital channels, Wi-Fi built-in	DT4DT85W
DataTaker DT85M Series 4	16-48 Analog, 3 digital channels, internal modem	DT4DT85M, *DT4DT85M-AL
DataTaker DT85G Series 4	5-15 Analog (+ vibrating wire), 12 digital channels	DT4DT85G, *DT4DT85G-AL
DataTaker DT85GW Series 4	16-48 Analog (+ vibrating wire), 12 digital channels, Wi-Fi built-in	DT4DT85GW
DataTaker DT85GM Series 4	16-48 Analog (+ vibrating wire), 12 digital channels, internal modem	DT4DT85GM, *DT4DT85GM-AL
DataTaker Channel Expansion Module		
CEM20 channel expansion module for series 4 DataTaker	20-60 Analog channels	DT4CEM20

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

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

*DT4DT85-AL, *DT4DT85G-AL, *DT4DT85M-AL, *DT4DT85GM-AL products are excluded from the above stated standard accessories.

In Australia:

For customer service, call 1300-735-292
To fax an order, use 1800-067-639
To email an order, ordersau@thermofisher.com

In New Zealand:

For customer service, call 0800-933-966
To fax an order, use 0800-329-246
To email an order, ordersnz@thermofisher.com

Find out more at

thermofisher.com/datataker

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