The dataTaker DT82I smart data logger provides an extensive array of features that allow it to be used across a wide variety of applications. The DT82I is a robust, stand alone, low power data logger featuring USB memory stick support, 18 bit resolution, extensive communications capabilities and built-in display.

The dataTaker DT82I's Dual Channel concept allows up to 4 isolated or 6 common referenced analog inputs to be used in many combinations. With support for Modbus for SCADA systems, FTP and Web interface, 12V regulated output to power sensors, the DT82I is a totally self contained solution.

Versatile Measurement
Connect an array of sensors through the versatile analog and digital channels, high-speed counter inputs and programmable serial sensor channels.

Temperature, voltage, current, 4-20mA 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.

Set up sampling, logging, alarm and control tasks to suit your own requirements while interfaces for smart sensors, GPS and other intelligent devices expand the DT82I flexibility.

Superior Data Storage & Communications
With the standard unit able to store up to 10 million data points (expandable) you can log as much or as little as you need. Overwrite or stop logging once allocated memory is full, archive data on alarm event, copy to USB memory or transfer via FTP/ Email, the choice is yours.

Communications features include RS232 and Ethernet, connect to the DT82I locally, remotely through a modem or over the Internet. The web interface allows users to configure the DT82I, access logged data and see current measurements as mimics or in a list using a web browser.

FTP/ Email provides data to your office over the internet or wireless network, without the need for polling or specific host software.
What is dEX?
dEX is an intuitive graphical interface that allows you to configure your data logger, view real-time data in mimics, trend charts or tables and retrieve your historical data for analysis.
dEX runs directly from your web browser and can be accessed either locally or remotely, anywhere that a TCP/IP connection is available including worldwide over the Internet. You can use any of the logger’s built-in communications ports to view dEX including Ethernet, USB and RS-232.

Easy configuration
The dEX configuration editor allows you to view, edit and save logger configurations in an easy-to-use Windows Explorer style user interface.

Real-time monitoring
dEX displays real-time sensor measurements, calculations and diagnostic information using mimics, tables and trend charts.

Data retrieval
dEX allows you to retrieve your data at the click of a mouse button. Just select either All, Range or New Data Only.

• Built-in software – no application to install
• Runs directly from your web browser
• Accessible by Ethernet or USB¹ connection
• Intuitive graphical interface
• Easy-to-use configuration editor
• Access live and historical data
• View data as charts, mimics and tables

¹ USB port equipped models only.
dEX Logger Software

Browser-based solution
dEX comes pre-installed on every logger in the DT80 range\(^2\). The software loads in your web browser so there is no need to install cumbersome applications on your computer. Being browser-based, dEX is cross-platform and will work on all major operating systems including Windows, Mac and Linux. To simplify it even further, dEX starts automatically in your default web browser when you connect to your logger using a USB cable\(^1\).

Data that is compatible with your applications
Logged data is ready to import into common spreadsheet and data processing applications such as Excel for further analysis and reporting. Data can be saved to your computer in comma separated (.CSV) format or our proprietary binary (.DBD) format.

Command window
The command window provides a terminal interface which allows the built-in command language of the logger to be used. Macro buttons allow common commands to be sent on a button press.

Configuration editor
The configuration editor allows you to view, edit and save logger configurations in an easy-to-use Windows Explorer style user interface. Tree view of configuration allows definition of measurement schedules and measurements. Wiring diagrams show available wiring configurations for each sensor type. Configuration can be stored and retrieved on either the logger or a local computer.

Channel list
Displays name, value, units, alarm state, time stamp and logging state for each measurement.

Customisation of the application
The menu options, mimics panels and mimics can be added or removed to suit novice or advanced users. The color and brand name images within dEX can be customised to match corporate requirements or for personal preference. Mimics are organised into panels which can be modified to highlight custom alarm conditions or data grouping. Mimics include dials, bar graphs, thermometers etc. Real-time chart recorder mimic allows you to view trends and historical data over a custom time/date range. Up to 16 mimics can be displayed on up to 5 mimic pages (default is 1 page of 6 mimics).

Minimum system requirements
- Web Browser (tested with): Internet Explorer V7 and above, Firefox, Safari & Google Chrome
- TCP/IP connection
- Adobe flash player 10 or higher
- Screen resolution of 1024 x 768

Chart Recorder Mimic
Real-time trending for sensors, calculations or other data. Supports up-to 5 traces per chart and up-to 2 Y-axes. Backfills with historical data stored in logger.

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\(^2\) dEX operates on all DT80 Series 2, Series 3 and Series 4 except Series 1.
### Analog Channels
2 analog input channels
Each channel is independent and supports: one isolated 3-wire or 4-wire input, or two isolated 2-wire inputs, or three common referenced 2-wire inputs.
The following maximums apply.
- 2-wire with common reference terminal: 6
- 2-wire isolated: 4
- 3- and 4-wire isolated: 2

### Dedicated Counter Inputs
4 high speed inputs
Size: 32 bit Max Count rate: 100 kHz
Input type:
- 2 logic level inputs (max +30V)
- 2 sensitive inputs (100mV) for magnetic pickups (max +10V)

### Serial Channels
Generic Serial Sensor
Flexible options to allow data to be logged from a wide range of smart sensors and data streams.
Available ports: Serial Sensor Port
Host RS232 Port
Baud rate: 300 to 115,200
*If used as a Serial Sensor channel then the Host Port is not available for other communications.

### Calculated Channels
Combine values from analog, digital and serial sensors using expressions involving variables and functions.
Functions: An extensive range of Arithmetic, Trigonometric, Relational, Logical and Statistical functions are available.

### Alarms
Conditions: high, low, within range and outside range
Delay: optional time period for alarm response
Actions: set digital outputs, transmit message, execute any dataTaker command.

### Scheduling of Data Acquisition
Number of schedules: 11
Schedule rates: 10ms to days

### Data Storage
Internal storage capacity: 128MB (approx. 10,000,000 data points)
Larger storage available refer to technical support.

### Analog Outputs
Isolated programmable 16-bit DACs: voltage 0-10V or current 0-24mA

### Analog Sensors
Supports a wide range of sensors including, but not limited to, those listed below:
A wide range of sensor scaling and linearising facilities including polynomials, expressions and functions.

### Thermocouples
Calibration standard: ITS-90

### RTDs
Materials supported: Pt, Ni, Cu
Resistance range: 100 to 1MΩ

### Thermistors
Types: YSI 400x Series, other types*
* Other thermistor types are supported by thermistor scaling and calculated channels.

### Monolithic Temperature Sensors
Types supported: LM34 - 60, AD590, 592, TMPxx, LM135, 235, 335

### Strain Gauge and Bridge Sensors
Configurations: 1, 2, 6, full bridge
Excitation: voltage or current

### Digital Channels
4 bi-directional channels
Input Type: 4 logic level (max 20/30V)
Output Type: 3 with open drain EFT(max: 30V, 100mA) 1 with logic output

### Digital Inputs/Outputs
4 bi-directional channels
Input Type: 4 logic level (max 20/30V)
Output Type: 3 with open drain (max 30Vdc, 1A)

### Counter Channels
Low Speed Counters
4 counters shared with digital inputs.

Low speed counters do not function in sleep mode.
Size: 32 bit Max Count rate: 10 Hz

### System
Display and Keypad
Type: LCD, 2 line by 16 characters, backlight
Display Functions: channel data, alarms, system status.
Keypad: 6 keys for scrolling and function execution.
Status LED: 4 for sample, disk, attention and power.

### Firmware Upgrade
Via: RS232, Ethernet, or USB memory.

### Real Time Clock
Normal resolution: 200 μs
Accuracy: ±1 min/year (-4°C to 40°C), ±4 min/year (-40°C to 70°C)

### Power Supply
External voltage range: 10 to 30Vdc
Internal battery: 6Vdc 1.2Ah lead acid
Peak Power: 12W (12Vdc 1A)

### Average Power Consumption
Using 12Vdc external power source

### Typical Operating Time
From internal 6Vdc, 1.2Ah battery

### Physical and Environment
Construction: Powder coated zinc and anodized aluminum.
Dimensions: 180 x 137 x 65mm
Weight: 1.5kg (4kg shipping)
Temperature range: –40°C to 70°C*
Humidity: 85% RH, non-condensing
Reduced battery life and LCD operation outside range –15°C to 50°C

### Resources
User’s manual from our website www.datataker.com
For full technical specifications download the user’s manual from our website www.datataker.com

### Technical Specifications

For customer service, call +61 3 9757 4477
Email: datataker@thermofisher.com
Visit us online: www.datataker.com

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