dataTaker

DT82E Series 4 Data Logger

Intelligent Data Logging Products

Applications include:

Research & Development	Thermistor Arrays	Machine Down Time
Agricultural Research	Aquaculture	Pressure
Weather Stations	Structural Monitoring	Load Cells
Total Energy Monitoring	Strain Gauges	Flow
Environmental Monitoring	Process Monitoring	Vehicle Testing
Temperature Profiling	Fault Identification	GPS

***FREE** Software & Technical Support

- Dual Channel Isolation Technology
- Up to 6 Analog (± 50V) sensor inputs
- 8 flexible digital terminals
- 1 Serial 'Smart Sensor' port
- SDI-12 (multiple networks)
- Programmable Analogue Output
- Modbus for SCADA connection
- Web & FTP client / server
- USB memory for easy data and program transfer

Warranty: *All dataTaker Data Loggers are covered by a 3 year warranty on workmanship and parts. For further information on the dataTaker range, or for useful downloads, visit the dataTaker web site at www.datataker.com or contact your nearest dataTaker office or distributor.*

Quality Statement: *dataTaker operates a Quality Management System complying with IS09001:2008.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.*

Designed and Manufactured in Australia.

**Our ability to provide free software and support is dependent on applicable export control laws (including those of the United States) and the export policy from time to time of Thermo Fisher Scientific Inc.*

The Smarter Solution

The dataTaker DT82E smart data logger provides an extensive array of features that allow it to be used across a wide variety of applications. The DT82E 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 DT82E's Dual Channel concept allows up to 4 isolated or 6 common referenced analog inputs to be used in many combinations. With support for 1 SDI-12 sensor networks, Modbus for SCADA systems, FTP and Web interface, 12V regulated output to power sensors, the DT82E is a totally self contained solution.

Versatile Measurement

Connect an array of sensors through the versatile analog and digital channels, high-speed counter inputs, phase encoder 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 DT82E 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 DT82E locally, remotely through a modem or over the Internet. The web interface allows users to configure the DT82E, 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.

Technical Specifications

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

Fundamental Input Ranges
The fundamental inputs that the DT82E can measure are voltage, current, resistance and frequency. All other measurements are derived from these.

Sampling
Integrates over 50/60Hz line period for accuracy and noise rejection
Maximum sample speed: 40Hz
Effective resolution: 18 bits
Linearity: 0.01%
Common mode rejection: >90dB
Line series mode rejection: >35dB

Inputs
Inter-Channel Isolation: 100V (relay switching)
Analog Section Isolation: 100V (opto-isolated)
Input impedance: 160KΩ, >100MΩ
Common mode range: ±3.5V or ±55V (attentuator on/ off)

Sensor Excitation (Supply)
Analog channels:

- selectable 2µA, 213µA or 2.5mA precision current source
- 4.5V voltage source
- switched external supply

General Purpose: Switchable 12V/5V regulated supply for powering sensors & accessories (max 150mA).

Analog Output
Isolated programmable 16-bit DAC: 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
Types: B, C, D, E, G, J, K, N, R, S, T
Calibration standard: ITS-90

RTDs
Materials supported: Pt, Ni, Cu
Resistance range: 10Ω to 1MΩ

Thermistors
Types: YSI 400xx Series, other types*
Resistance range: up to1MΩ
* 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: ¼, ½, & full bridge
Excitation: voltage or current

4-20mA Current Loop
Internal 100Ω shunt or external shunt resistor

Digital Channels

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

Relay Output
1 latching relay, contacts (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

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

SDI-12
1 SDI-12 inputs, shared with digital channels. Each input can support multiple SDI-12 sensors.

Generic Serial Sensor
Flexible options to allow data to be logged from a wide range of smart sensors and data streams.
Available ports: 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

Condition: 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 Store
Capacity: 128MB (approx 10,000,000 data points)
Larger storage available refer to technical support.
Removable USB store device (optional accessory)
Types: compatible with USB 1.1 or USB 2.0 drives, e.g. Flash drive.
Capacity: approx. 90,000 data points per megabyte.

Communication Interfaces

Ethernet Port
Interface: 10BaseT (10Mbps)
Protocol: TCP/IP, Modbus Slave

Host RS232 Port

- Speed: 300 to 115,200 baud (57,600 default)
- Flow Control: Hardware (RTS/CTS), Software (XON/XOFF), None
- Handshake lines: DCD, DSR, DTR, RTS, CTS
- Modem support: auto-answer and dial out
- Protocols: ASCII Command, TCP/IP (PPP), Modbus Slave, Serial Sensor

Network (TCP/IP) Services
Uses Ethernet and/or Host RS232 (PPP) ports

Command Interface
Access the ASCII command interface of the DT82E via TCP/IP

Web Server
Access current data and status from any web browser. Custom pages can be defined. Download data in CSV format. Command interface window. Define mimic displays.

Modbus Server (slave)
Access current data and status from any Modbus client (e.g. SCADA system)

FTP Server
Access logged data from any FTP client or web browser

FTP Client
Automatically upload logged data direct to an FTP server

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 LEDs: 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 (0°C to 40°C),
±4 min/year (-40°C to 70°C)

Power Supply
External voltage range: 10 to 30Vdc
Peak Power: 12W (12Vdc 1A)

Average power Consumption
Using 12Vdc external power source

Sampling Speed	Average Power
1 second	1350 mW
5 seconds	500 mW
30 seconds	135 mW
5 minutes	70 mW
1 hour	60 mW

Physical and Environment

Construction: Powder coated zinc and anodized aluminum.
Dimensions: 180 x 137 x 65mm
Weight: 900g (3kg shipping)
Temperature range:–45°C to 70°C*
Humidity: 85% RH, non-condensing
*reduced battery life and LCD operation outside range –15°C to 50°C

Accessories Included

Resource CD: includes software, video training and user manual.
Comms cable: USB cable
Line adaptor: 110/240Vac to 15Vdc, 800mA

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DT82EM Series 4 Data Logger

Intelligent Data Logging Products

Applications include:

Research & Development	Thermistor Arrays	Machine Down Time
Agricultural Research	Aquaculture	Pressure
Weather Stations	Structural Monitoring	Load Cells
Total Energy Monitoring	Strain Gauges	Flow
Environmental Monitoring	Process Monitoring	Vehicle Testing
Temperature Profiling	Fault Identification	GPS

***FREE** Software & Technical Support

- Dual Channel Isolation Technology
- Up to 6 Analog (± 50V) sensor inputs
- 8 flexible digital terminals
- SDI-12 (multiple networks)
- Programmable Analog Output
- Integrated cellular modem
- Automatic data transfer via email or FTP
- Modbus for SCADA connection
- Web & FTP client / server
- USB memory for easy data and program transfer

Warranty: *All dataTaker Data Loggers are covered by a 3 year warranty on workmanship and parts. For further information on the dataTaker range, or for useful downloads, visit the dataTaker web site at www.datataker.com or contact your nearest dataTaker office or distributor.*

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Versatile Measurement

Connect an array of sensors through the versatile analog and digital channels, high-speed counter inputs, phase encoder 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 DT82EM flexibility.

Designed For Remote Applications

The dataTaker DT82EM intelligent data logger is a fully featured low-powered logging platform with an integrated cellular modem, making it perfect for remote applications. The rugged design and wide operating temperature range of the DT82EM provides reliable operation in virtually any environment.

The DT82EM's perfect balance of performance with low-power also allows you to use a smaller solar panel without compromising on functionality.

Automatic Data Delivery

Forget travelling long distances to get your data. Utilise the DT82EM's automatic data delivery features to schedule your data to be automatically emailed to your inbox every day, week, month or other time interval.

More sophisticated systems can make use of the automatic data delivery features to send logged data to an FTP server. Alarm conditions can also trigger data delivery in addition to sending alarm messages to multiple email addresses or mobile phones.

Easy To Configure

The DT82EM is configured directly in your web browser using dataTaker's dEX graphical interface. dEX takes you through the configuration of your logger, showing you wiring diagrams and allowing you to decide – in as much or as little detail – how you want the system to work, suiting both novice or advanced users.

Using the internal modem you can even re-configure your system remotely over the internet if required.

Technical Specifications

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

Fundamental Input Ranges
The fundamental inputs that the DT82EM can measure are voltage, current, resistance and frequency. All other measurements are derived from these.

Sampling
Integrates over 50/60Hz line period for accuracy and noise rejection
Maximum sample speed: 40Hz
Effective resolution: 18 bits
Linearity: 0.01%
Common mode rejection: >90dB
Line series mode rejection: >35dB

Inputs
Inter-Channel Isolation: 100V (relay switching)
Analog Section Isolation: 100V (opto-isolated)
Input impedance: 160KΩ, >100MΩ
Common mode range: ±3.5V or ±55V (attentuator on/ off)

Sensor Excitation (Supply)
Analog channels:

- selectable 2µA, 213µA or 2.5mA precision current source
- 4.5V voltage source
- switched external supply

General Purpose: Switchable 12V/5V regulated supply for powering sensors & accessories (max 150mA).

Analog Output
Isolated programmable 16-bit DAC: 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
Types: B, C, D, E, G, J, K, N, R, S, T
Calibration standard: ITS-90

RTDs
Materials supported: Pt, Ni, Cu
Resistance range: 10Ω to 1MΩ

Thermistors
Types: YSI 400xx Series, other types*
Resistance range: up to1MΩ
* 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: ¼, ½, & full bridge
Excitation: voltage or current

4-20mA Current Loop
Internal 100Ω shunt or external shunt resistor

Digital Channels

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

Relay Output
1 latching relay, contacts (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

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

SDI-12
1 SDI-12 inputs, shared with digital channels. Each input can support multiple SDI-12 sensors.

Generic Serial Sensor
Flexible options to allow data to be logged from a wide range of smart sensors and data streams.
Available ports: 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

Condition: 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 Store
Capacity: 128MB (approx 10,000,000 data points)
Larger storage available refer to technical support.
Removable USB store device (optional accessory)
Types: compatible with USB 1.1 or USB 2.0 drives, e.g. Flash drive.
Capacity: approx. 90,000 data points per megabyte.

Communication Interfaces

Ethernet Port
Interface: 10BaseT (10Mbps)
Protocol: TCP/IP, Modbus Slave

Network (TCP/IP) Services

Uses Ethernet and/or Host RS232 (PPP) ports

Command Interface
Access the ASCII command interface of the DT82EM via TCP/IP

Web Server
Access current data and status from any web browser. Custom pages can be defined. Download data in CSV format. Command interface window. Define mimic displays.

Modbus Server (slave)
Access current data and status from any Modbus client (e.g. SCADA system)

FTP Server
Access logged data from any FTP client or web browser

FTP Client
Automatically upload logged data direct to an FTP server

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 LEDs: 4 for sample, disk, attention and power.

Firmware Upgrade
Via: Ethernet or USB memory.

Real Time Clock
Normal resolution: 200 µs
Accuracy: ±1 min/year (0°C to 40°C),
±4 min/year (-40°C to 70°C)

Power Supply
External voltage range: 10 to 30Vdc
Peak Power: 12W (12Vdc 1A)

Average power Consumption
Using 12Vdc external power source

Sampling Speed	Average Power
1 second	1350 mW
5 seconds	500 mW
30 seconds	135 mW
5 minutes	70 mW
1 hour	60 mW

Integrated Cellular Modem

Features
Alarms: Send email or SMS messages
Data: Send data to an email address or FTP server
Remote access: Connect to dEX or Command interface
SIM interface: SIM Socket (1.8V/3V)

Networks and Frequencies
Interfaces: EDGE, GPRS, GSM, WCDMA, HSUPA, HSDPA
EDGE/GPRS/GSM Freq: 850/900/1800/1900 MHz
WCDMA/HSUPA/HSDPA Freq: 850/1900/2100 MHz

Physical and Environment

Construction: Powder coated zinc and anodized aluminum.
Dimensions: 180 x 137 x 65mm
Weight: 900g (3kg shipping)
Temperature range:–45°C to 70°C*
Humidity: 85% RH, non-condensing
*reduced battery life and LCD operation outside range –15°C to 50°C

Accessories Included

Resource CD: includes software, video training and user manual.
Comms cable: USB cable
Line adaptor: 110/240Vac to 15Vdc, 800mA

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DT82I Series 4 Data Logger

Intelligent Data Logging Products

Applications include:

Research & Development	Thermistor Arrays	Machine Down Time
Agricultural Research	Aquaculture	Pressure
Weather Stations	Structural Monitoring	Load Cells
Total Energy Monitoring	Strain Gauges	Flow
Environmental Monitoring	Process Monitoring	Vehicle Testing
Temperature Profiling	Fault Identification	GPS

***FREE** Software & Technical Support

- Dual Channel Isolation Technology
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- 2 Serial 'Smart Sensor' ports
- Programmable Analog Output
- Modbus for SCADA connection
- Web & FTP client / server
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The Smarter Solution

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.

Technical Specifications

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

Fundamental Input Ranges
The fundamental inputs that the DT82I can measure are voltage, current, resistance and frequency. All other measurements are derived from these.

Sampling
Integrates over 50/60Hz line period for accuracy and noise rejection
Maximum sample speed: 40Hz
Effective resolution: 18 bits
Linearity: 0.01%
Common mode rejection: >90dB
Line series mode rejection: >35dB

Inputs
Inter-Channel Isolation: 100V (relay switching)
Analog Section Isolation: 100V (opto-isolated)
Input impedance: 160KΩ, >100MΩ
Common mode range: ±3.5V or ±55V (attentuator on/ off)

Sensor Excitation (Supply)
Analog channels:

- selectable 2µA, 213µA or 2.5mA precision current source
- 4.5V voltage source
- switched external supply

General Purpose: Switchable 12V/5V regulated supply for powering sensors & accessories (max 300mA).

Analog Output
Isolated programmable 16-bit DAC: 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
Types: B, C, D, E, G, J, K, N, R, S, T
Calibration standard: ITS-90

RTDs
Materials supported: Pt, Ni, Cu
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4-20mA Current Loop
Internal 100Ω shunt or external shunt resistor

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Digital Input/Outputs
4 bi-directional channels
Input Type: 4 logic level (max 20/30V)
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Relay Output
1 latching relay, contacts (max: 30Vdc, 1A)

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4 counters shared with digital inputs.
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Size: 32 bit Max Count rate: 10 Hz

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 (RS232, RS422, RS485)
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

Condition: 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 Store
Capacity: 128MB (approx 10,000,000 data points)
Larger storage available refer to technical support.
Removable USB store device (optional accessory)
Types: compatible with USB 1.1 or USB 2.0 drives, e.g. Flash drive.
Capacity: approx. 90,000 data points per megabyte.

Communication Interfaces

Ethernet Port
Interface: 10BaseT (10Mbps)
Protocol: TCP/IP, Modbus (Master & Slave)

Host RS232 Port

- Speed: 300 to 115,200 baud (57,600 default)
- Flow Control: Hardware (RTS/CTS), Software (XON/XOFF), None
- Handshake lines: DCD, DSR, DTR, RTS, CTS
- Modem support: auto-answer and dial out
- Protocols: ASCII Command, TCP/IP (PPP), Modbus (Master & Slave), Serial Sensor

Serial Sensor Port

- Interface: RS232, RS422, RS485
- Speed: 300 to 57,600 baud
- Flow Control: Hardware (RTS/CTS), Software (XON/XOFF), None
- Protocols: Modbus (Master & Slave), Serial Sensor

Network (TCP/IP) Services

Uses Ethernet and/or Host RS232 (PPP) ports

Command Interface
Access the ASCII command interface of the DT82I via TCP/IP
Web Server
Access current data and status from any web browser. Custom pages can be defined. Download data in CSV format. Command interface window. Define mimic displays.
Modbus Server (slave)
Access current data and status from any Modbus client (e.g. SCADA system)
Modbus Client (master)
Read/write data from modbus sensors and devices including PLC's, dataTaker loggers, modbus displays etc.
FTP Server
Access logged data from any FTP client or web browser
FTP Client
Automatically upload logged data direct to an FTP server

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 LEDs: 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 (0°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

Sampling Speed	Average Power
1 second	1350 mW
5 seconds	500 mW
30 seconds	135 mW
5 minutes	70 mW
1 hour	60 mW

Typical Operating Time
From internal 6Vdc, 1.2Ah battery

Sampling Speed	Operating Tme
1 second	6.5 hours
5 seconds	1 day
1 minute	10 days
1 hour	3.5 months

Physical and Environment

Construction: Powder coated zinc and anodized aluminum.
Dimensions: 180 x 137 x 65mm
Weight: 1.5kg (4kg shipping)
Temperature range:–45°C to 70°C*
Humidity: 85% RH, non-condensing
*reduced battery life and LCD operation outside range –15°C to 50°C

Accessories Included

Resource CD: includes software, video training and user manual.
Comms cable: USB cable
Line adaptor: 110/240Vac to 15Vdc, 800mA

dEX Logger Software

- Built-in software – no application to install
- Runs directly from your web browser
- Accessible by Ethernet or USB[1] connection
- Intuitive graphical interface
- Easy-to-use configuration editor
- Access live and historical data
- View data as charts, mimics and tables

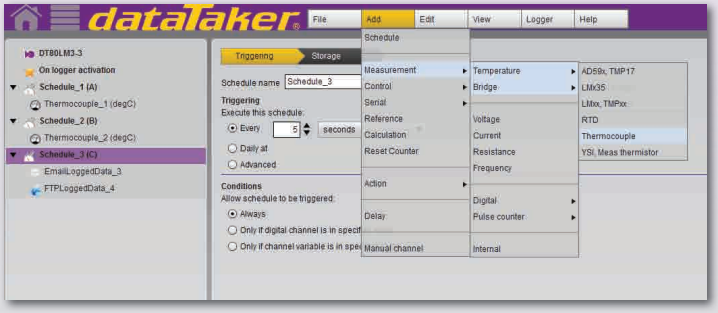
What is dEX?

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.

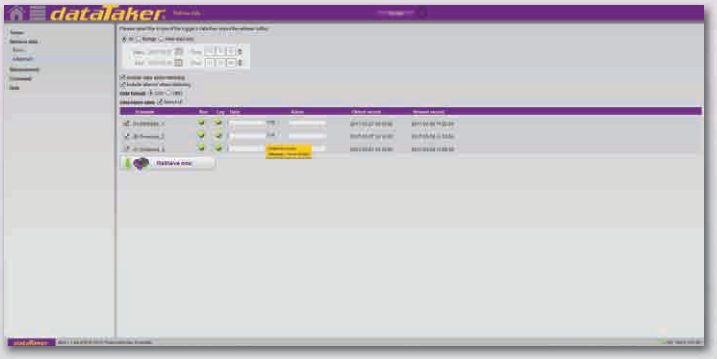


Real-time monitoring

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.



[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 applicatons

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.

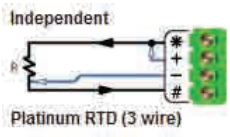
Command window

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.

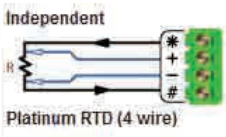
Configuration editor

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.



Platinum RTD (3 wire)



Platinum RTD (4 wire)

Channel list

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

Name	Input	Run	Log	Alarm	Value	Units	Timestamp
Thermocouple_1	1TK	✓	✓		30.725632	degC	2017-03-29 12:14:10.203
Thermocouple_6	3TK	✓	✓	🔔	31.486366	degC	2017-03-29 12:14:10.241
Internal_7	REFT	✓	✓		33.993843	degC	2017-03-29 12:14:10.280
Thermocouple_2	3TK	✓	✓	🔔	31.493584	degC	2017-03-29 12:14:10.422
Thermocouple_5	3TK	✓	✓		31.49563	degC	2017-03-29 12:14:10.557

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.

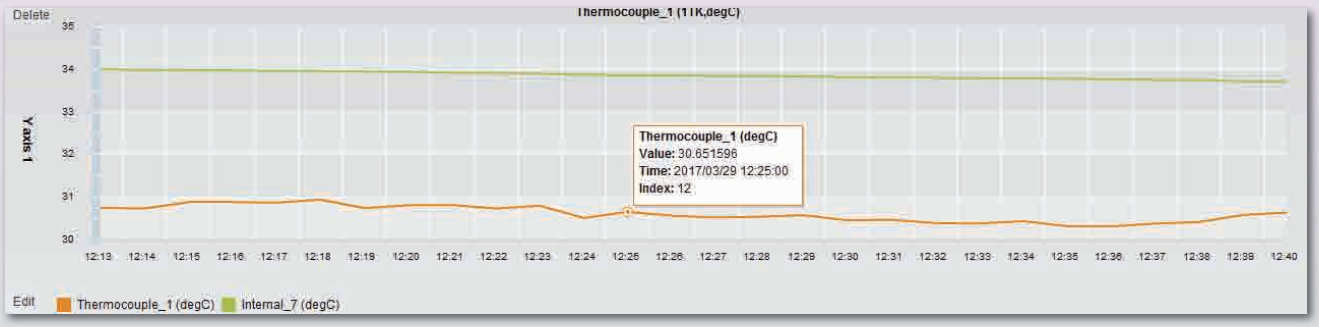
Mimics are organised into panels which can be modified to highlight custom alarm conditions or data grouping. Mimics include dials, bar graphs, thermometers etc. Real-time chart recorder mimic allows you to view trends and historical data over a custom time/date range. Up to 16 mimics can be displayed 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.



[2] dEX operates on all DT80 Series 2, Series 3 and Series 4 except Series 1.