DT53

Data Logger

dataTaker®

Data Acquisition and Data Logging Systems

Specifications

- **Low Power, Event & Pulse Data Logger**
- **7 Digital Channels**
- **Up to 166,500 Data Points**
- **Embedded Program Option For OEM Use**
- **Stand Alone & Real Time Data Acquisition**
- **Remote Monitoring & Control**
- **Removable Screw Terminals**

The *dataTaker DT53*
General Purpose Digital Unit

The *dataTaker DT53* is a general purpose logger suitable for end user or OEM use. The *DT53* features 4 digital channels for event, state, counting and outputs, plus 3 high speed counters inputs for rates up to 1kHz. Data logging speed is up to 100 samples per second.

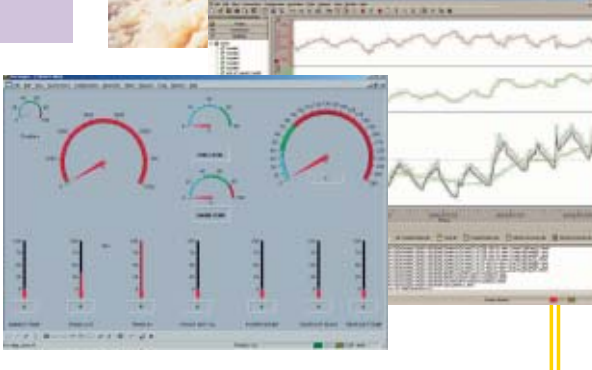
Data can be conveniently and securely stored in battery backed RAM. Alarms may be set for all channels. The *DT53*'s rugged steel construction makes the unit suitable for harsh environments. Datataker can supply the *DT53* to OEM customers with your Logo or prefered colours.

Applications include:

- Water Flow and Metering
- Utility Monitoring
- Event Profiling
- Tipping Bucket Rain Gauge
- Product Testing
- Wind Speed
- Process & Machine Monitoring
- Fault Finding
- Flow Profiling
- Production Downtime Moitoring
- Research and Development

The *dataTaker* Windows Based Software

Datataker produces a number of software packages including simple text based and graphical ('drag and drop') solutions for programming and management of the dataTaker range. Presentation of data can be by these standard packages or by using 3rd party software such as spreadsheets. DeLogger™ Pro 4 is our advanced package for remote and/or automated use of the dataTaker range.



Digital Channels

Number of Channels
Bi-directional channels: 4
Dedicated counter channels: 3

Digital Input
Number: 4, shared with bi-directional channels
Input Type: logic level (protected with pull-up)

Counter Channels
Number: 4 low speed (10Hz) shared with bi-directional channels
3 high speed (1kHz, sleep mode) with switchable internal clocking options
Size: 16 bit (65535 counts)

Digital Output
Number: 4, shared with bi-directional channels
Output type: open-collector npn transistor
Rating: +30V, 100mA

Sensor Excitation
DC Voltage: 5V at 100mA (max.) switched

Sampling
Maximum sample speed: 100Hz

Calculation Channels

Any expression involving variables and functions including: sin(), cos(), tan(), asin(), acos(), atan(), abs(), sqrt(), average, maximum, minimum, time of max., time of min., variance, integral, histogram

Sensors - Comments
A wide range of sensor scaling and linearising facilities are provided including polynomials, expressions and functions

Scheduling of Data Acquisition

Number of schedules: 4 acquisition schedules
1 immediate schedule
1 alarm schedule
1 statistical Schedule
Scan triggers: time base or digital event
Conditional scanning: while digital input high
Time based scheduling: from seconds to months in increments of 1 second, 1 minute, 1 hour and 1 day
Maximum scheduled rate: 1 second or as fast as possible, typically 100 samples per second
Dynamic scan time base change: yes
Maximum number of channel entries: 110

Alarms

Condition: high, low, within range and outside range
Delay: optional time period for alarm response
Actions: set digital outputs, execute any *dataTaker* commands. Alarms can be combined in a logical fashion

Data Storage

Internal
Type: battery backed SRAM
Capacity: 166,500 data points

Download Data Format
Format: ASCII floating point, fixed point or exponential formats
Compatibility: spreadsheets, word processors, graphing packages, statistical programs and SCADA software

Serial Interface (RS232)

The DT53 is programmed and data extracted via the RS232 serial interface
Speed: 300 to 9600 baud (9600 default)
Handshake: XON and XOFF
Wake from sleep: yes
Isolation: 500V
Compatibility: computers, modems, satellite-modems, radio-modems and printers

System

Processor type: Z180, 18 MHz
Program storage: FLASH
Data storage: SRAM, battery backed
Indicator LED: sampling

Real Time Clock
For time stamping of data, scheduling and timers
Normal resolution: 1 second
Accuracy: 2 seconds per day (25°C)

Power Supply
Voltage range: 11 to 24Vdc or 9 to 18Vac
External battery input: 6V lead acid

Power Consumption
In normal mode: 1W (2W with ext. battery charging)
Sleeping: 2mW (350µA from 6V battery)
Typical low power operation: 20mW

Internal Backup Battery
For real time clock and internal data storage backup
Type: 3V 1/2AA Lithium

Physical and Environment

Construction: Powder coated fabricated steel
Dimensions: 260 x 110 x 55mm
Weight: 1.5kg (2.5kg shipping)
Environment temperature range: – 45°C to 70°C
Humidity: 85%, non-condensing

Accessories Included

Comms cable: for PC
Software: Resource CD which includes DeLogger, DeTransfer, DePlot applications
Manuals: "Getting Started with dataTaker"
"User's Manual"
Line adaptor: 110/240Vac, 500mA

Optional Accessories

External Battery (Recommended)
An external battery can be connected for stand alone data logging. The battery can be re-charged by the DT53 when main supply is restored/applied. (See power supply above)
Chemistry: lead acid gel cell
Voltage: 6V
Maximum charge current: 200mA
Temperature compensation charging: –10°C to +70°C
Operating time with 4AHr battery:
Normal: approx. 24 hours
Low power: approx. 12 months

External Battery
Capacity: 1.2AHr (GC-1.2) or 4AHr (GC-4) for mounting external to the DT53

Internal Battery
0.5AHr (Lead Acid) - factory fitted

Portable Carrying Case (PE500)
Capacity: 1 DT53 unit + battery
Environmental protection: IP66

DeLogger™4 Pro
Graphical programming and supervision software. Supports a large network of DT50, DT500 and DT800 range units connected via modem. Features include comprehensive plotting, reporting, mimics, database, web publishing and other powerful capabilities.

Warranty

The dataTaker DT53 is 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 dealer.

dataTaker®

Australia Only

Your local dealer

J & S Instruments, Inc.
3071 State Route 72 South
Springfield, OH 45505-0145
Phone: (888) LOG-DATA
Fax: (937) 323-9588
Contact: Jay Abbey
sales@jsinstruments.com

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