dataTaker ®

Data Acquisition and Data Logging Systems

www.datataker.com

dataTaker DT1000 ~ DT4000 Range

- **Palm-Sized and Self Powered Convenience**
- **Ease of Operation**
- **Simple yet Powerful Software**
- **Reliable and Secure Performance**
- **Ten Year Battery Life**
- **Industry Leading Precision and Accuracy**

Datataker's Extensive Range

Datataker's extensive range of data acquisition and data logging systems are stand alone or real time units, enabling users to log a diverse range of events and measurements. With data loggers in use in over 50 countries, the *dataTaker* range is used for a diverse range of applications in science, aerospace, mining, manufacturing, petro-chemical, meteorology, utilities, transportation, research and development and agriforestry.

The *dataTaker* Precision Palm-Sized Range

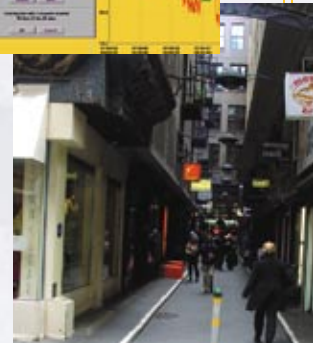The *dataTaker* range of Precision Palm-Sized data loggers consists of four models, each with several variants:

- *DT1000* Temperature Loggers - Thermistor: 1 or 2 Channels
- *DT1700* Temperature Loggers - Thermocouple: 1, 2 or 4 Channels
- *DT2000* Temperature and Humidity Loggers: 2 Channels
- *DT4000* Voltage or 4-20mA Loggers: 1, 2 or 4 Channels

The *dataTaker* Palm-Sized range is self-powered with a battery life of up to 10 years. All data is stored in non-volatile EEROM memory so that your data is secure.

Simple yet Powerful Windows Software

The Windows based software is powerful yet easy-to-use. Set-up is simply a matter of completing a series of dialogue boxes. Once data is gathered, detailed charts, graphs and print outs can be produced with only a few key strokes. The graphing facilities enables users to "zoom" in on areas of interest, as well as overlay data for comparisons.

Applications

Applications for the *dataTaker* Palm-Sized Series include:

- Process Verification and Trouble Shooting
- Oven Temperature Profiling
- Monitoring of Perishable Goods
- Research and Development
- Health and Safety Compliance
- Food Storage Monitoring and Control
- Ultra Low Temperature Measurements
- Monitoring in Pharmaceutical Production
- Quality Compliance
- Blood and Organ Storage Monitoring

For your unique application contact your nearest Datataker office or local dealer.

DT1000 ~ DT4000 Range

Common Specifications

Size: 71 x 53 x 18mm
Weight: 60gm
Enclosure: injection-molded beige ABS Plastic
Mounting: magnetic strips, Velcro
Operating range: –40°C to 80°C and 0 to 95% RH
Power source: internal lithium battery, 3.6V
Battery life: 10 year life at 15 minute sampling interval
A/D conversion: 12-bit (one part in 4,096)
Memory: non-volatile EEROM
Data capacity: 70,000 samples
Sample rate 10s to once per day
Memory retention: >20 yrs without power
Clock accuracy: ±1 minute per month (–40°C to 80°C)
PC interface: serial port, half-duplex, 19,200 baud
EMC: meets FCC Part 15 for digital devices, meets
   CE requirements for radiated emissions, ESD and
   susceptibility
PC software: Spectrum for Windows Software
Data inputs: refer to individual model specifications

Spectrum for Windows Software

Support software for the *DT1000 - DT4000* Series of data
loggers. **Not included with data loggers.**

PC-SFW-IC: Spectrum for Windows Software with
   comms. cable and electronic manual
Functions: set loggers scan interval and start time,
   download data from logger,
   plot data,
   overlay plots for comparison tabulate data
Compatibility: windows 95,98, NT and 2000

DT1000 Temperature Data Loggers

Temperature data loggers using thermistor temperature
sensors over –40°C to +80°C or –40°C to +150°C for the
external sensor

Channels: one internal temperature, one external
   temperature
Internal sensor: precision calibrated NTC thermistor
   –40°C to +80°C
External sensor: general purpose temperature probe:
   –40°C to +150°C range, flat ended aluminium tip 3m
   (10ft) leads
Resolution: ±0.05°C at 25°C
Response time: <1 min. in slowly moving air
Accuracy: ±0.25°C at 25°C
   ±0.15°C at 25°C (XP Versions)
   ±0.5°C at –40°C (LT Versions)
DT1000: two channels temperature logger
   (100kΩ thermistor)

DT1700 Temperature Data Loggers

For use with J, K, T, E, R and S thermocouples

Thermocouple - Wide Range

(–100°C to +1370°C with ±1.3°C accuracy @ 25°C)

DT1700-20W: two channels - one thermocouple input
   plus ambient temperature
DT1700-30W: three channels - two thermocouple input
   plus ambient temperature
DT1700-50W: five channels - four thermocouple input
   plus ambient temperature

Thermocouple - Narrow Range

(–200°C to +240°C with ±0.35°C @ 25°C accuracy)
DT1700-20N: two channels - one thermocouple input
   plus ambient temperature
DT1700-30N: three channels - two thermocouple input
   plus ambient temperature
DT1700-50N: five channels - four thermocouple input
   plus ambient temperature

Internal Ambient Sensor (Reference)

Sensor: precision calibrated NTC thermistor
Accuracy: ±0.25°C at 25°C
Resolution: ±0.05°C at 25°C
This sensor is used as the cold junction reference
   temperature sensor for thermocouple correction

DT2000 Temperature and Humidity Data Loggers

Resolution: ±0.05%RH
Repeatability: 0 to 75%RH: 0.5%
Stability and drift: ±1%RH (typ.) at 50%RH in 5yrs
Hysteresis: ±0.8% of span (max.)
DT2000: temperature and humidity logger (2%RH
   Accuracy)

Internal Ambient Temperature Sensor

Sensor: precision calibrated NTC thermistor
Response time: <1 minute in slowly moving air
Accuracy: ±0.25°C at 25°C, 0.5°C over 30°C to 50°C
Resolution: 0.05°C at 25°C, 0.2°C over –30°C to 50°C

Internal Relative Humidity Sensor

Sensor: temperature compensated capacitive polymer-
   base monolithic integrated circuit
Range: 0 to 100%RH
Accuracy:
   DT2000: ±2%RH (over 10 to 90%RH at 25°C)

DT4000 Voltage and Current Data Loggers

Number of Channels

DT4000: five, two switchable 0–1V or 1–10V, two 4–
   20mA (one with XPS), one internal ambient temperature
DT4000-101: one switchable 0–1V or 0–10V
DT4000-1CW: one 4–20mA with XPS
DT4000-411: four: two 0–10V and two switchable 0–1V
   or 0–10V
DT4000-4CW: four 4–20mA with XPS switch on two
   channels

Internal Ambient Temperature Sensor

Sensor: precision-calibrated NTC thermistor
Accuracy: 0.5°C over –30°C to 50°C
Resolution: 0.2°C over –30°C to 50°C

Analog Voltage Inputs

Input ranges: 0–1V, resolution 0.24mV
   0–1V, resolution 0.24 mV
   0–10V, switchable, resolution 2.4mV
   0–10V, resolution 2.4mV
Input impedance: >1MΩ
Overload protection: ±30V, reverse polarity protected

Current Loop Inputs

Range: 0–22mA
Input impedance: 50Ω
Overload protection: 60mA max, reverse protected

XPS Excitation Power-Saver Switch

The XPS Excitation Power-Saver Switch is an internal
software-controlled switch in certain *DT4000*-Series models
that controls loop power for circuits containing one or more
4–20mA transducers. The switch works by opening the
measurement circuit in between readings then closing just
prior to each reading to conserve power in battery operated
systems.

Optional Accessories

Oven Temperature Profiling Enclosures

Provide protection for the Palm-Sized data loggers in high
temperature environments.

Spectrum for Windows Software

Simple but powerful software that allows you to setup your
Palm-Sized *dataTaker*, then to download and plot your
data.

Warranty

The *dataTaker DT1000 - DT4000* range is covered
by a 1 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.

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