

# micro-dl™

*For all your FDA Shipments*

Micro-dl is a revolutionary programmable data logger for displaying/recording temperatures for shipping and storage applications. Now all of your critical biologics, cancer drugs and vaccines can be immediately temperature qualified with our display technologies. Small, yet so powerful, this investigative temperature-collecting device is your answer for regulatory compliance.

Our display technologies can now help you verify that internal temperatures of your packaged contents meets specifications prior to shipments. Research laboratories and physicians can now immediately validate temperature information for clinical studies and patient administration. Alarm conditions can be programmed for start/delay, high/low, continuous or cumulative time settings over alarm conditions. Push the start button to view critical temperature information upon arrivals.

Pressing the start button will display the following information: current temperature, elapsed time in days, MKT(mean kinetic temperature), high temperature, low temperature, alarm time over high temperature, alarm time over low temperature and alarm conditions.

The micro-dl is a state of the art, water resistant data logger with non-volatile memory for data retention. For a complete analytical solution, simply download all of its information to your PC.

**Temperature Range**

-40 C to 72 C

**Temperature Accuracy (NIST traceable)**

+ -0.2 C at zero degree

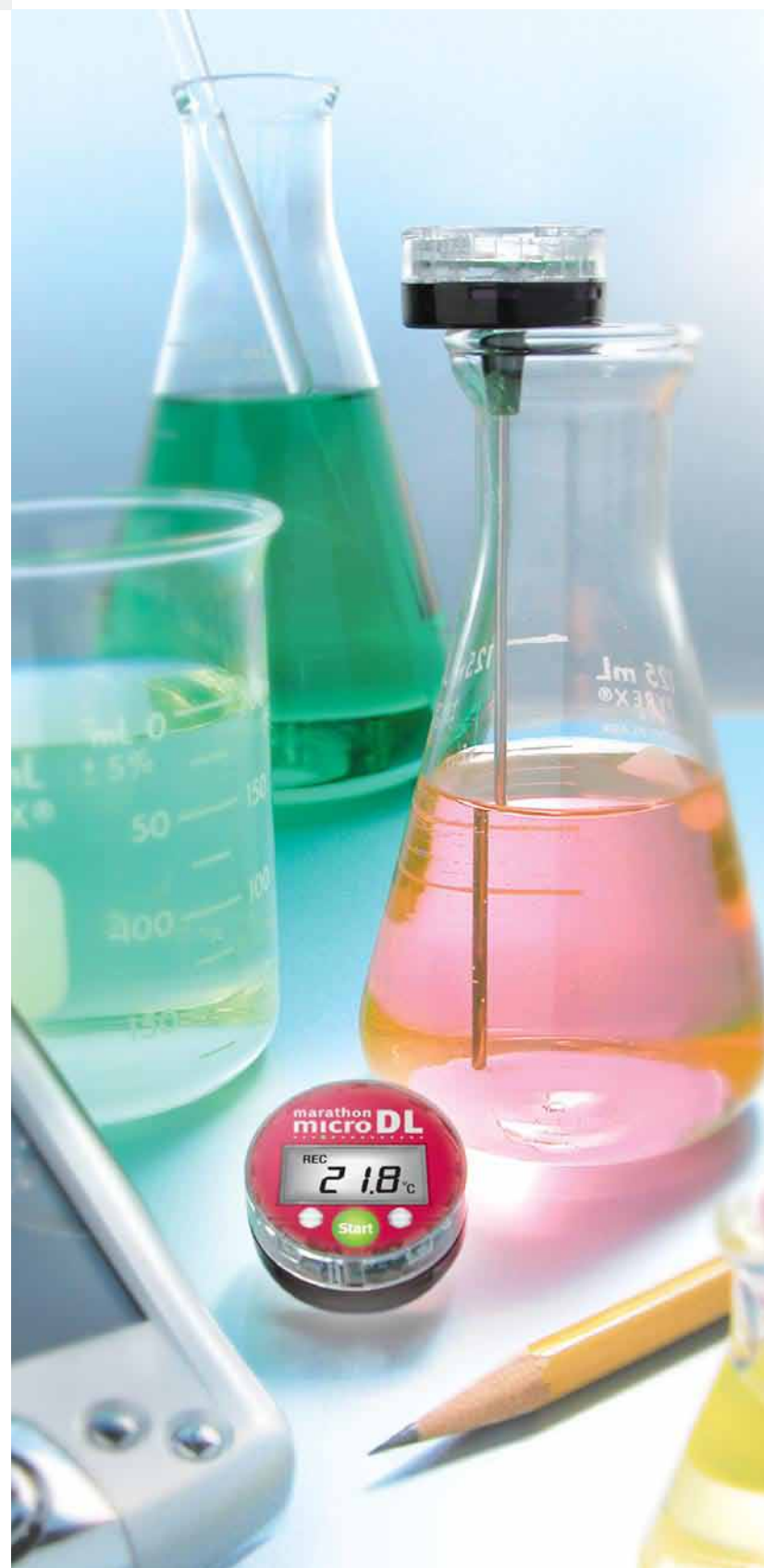
+ - 1.0 C at extremes

**Measurement intervals**

2 seconds to 11 hours

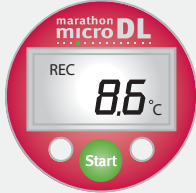
**Number of measurements**

7,855 samples

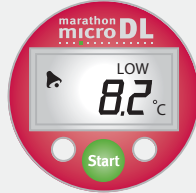


## Display Examples

Press the Start button to see the following information displayed each time the start button is depressed.:



1. REC – 8.6 C shows current temperature



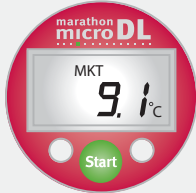
5. LOW – 8.2 C shows low temperature



2. RUN – 59 D shows elapsed time in days



6. HI HR – 0.3 shows alarm time hours over high threshold



3. MKT – 9.1 C shows mean kinetic temperature



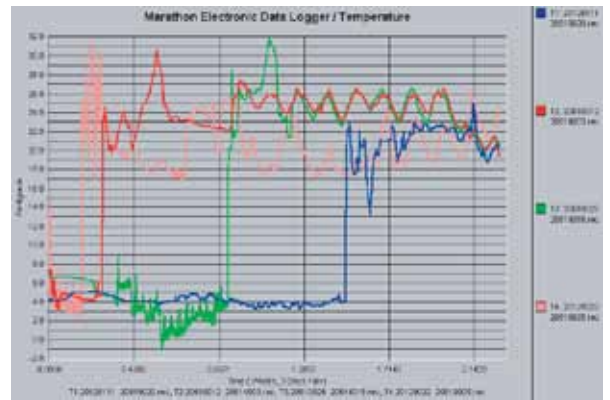
7. LOW HR – 1.1 shows alarm time hours over low threshold



4. HI – 15.2 C shows alarm has occurred and high temperature



8. 14.9 C Push once again to bring back to current temperature



Sample Graph with temperature profiles

## Specifications

### Operating Range:

-40 C to + 72 C  
-40 F to + 160 F

### Accuracy:

0.2 C at zero degrees  
+ - 1.0 C at the extremes.

### Size:

Ht. 1.4 CM 0.5 Inches  
Diameter 2.8 CM 1.009 inches

### Weight:

1.85 ounces, 52.5 grams

### Power source:

One 3 volt lithium coin cell. 3 year shelf life.

### Temperature Sensor:

Precision thermistor NIST traceable

### High and Low Alarm limits:

Alarm indicator set by temperature and time

### Measurement interval:

2 seconds to 11 minutes

### Water resistance – splash proof:

### Memory:

EEPROM 8K 7,855 samples

### Computer Interface:

USB serial cable IR detectors

### Options:

Removable back for easy battery replacement and use of external probes.