

MARATHON PRODUCTS

# microDL™

*For all your FDA shipments*



The microDL is a revolutionary multi-use programmable data logger for displaying and 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.

With optional memory sizes of 4K, 8K, 32K and 64K, and accuracy and resolution of 0.2°C, our digital display technology gives you on-the-spot verification that the internal temperatures of your packaged contents meets specifications prior to shipment. 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 over alarm. Push the start button to view critical temperature information anytime.

Press the start button to 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 below low temperature and alarm conditions.

The microDL 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 data to your PC with the proprietary microDL USB Reader and Marathon's easy-to-use MDAS-Pro software. Compatible with Microsoft Windows 2000, XP, Vista and Windows 7. 21CFR compliant software is available with full database capabilities.

#### Temperature Range

mDL4	-10°C to 72°C
mDL8	-30°C to 72°C
mDL32	-40°C to 72°C
mDL64	-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 months

#### Number of measurements

3,600 to 63,710 samples



MARATHON  
PRODUCTS, INC.

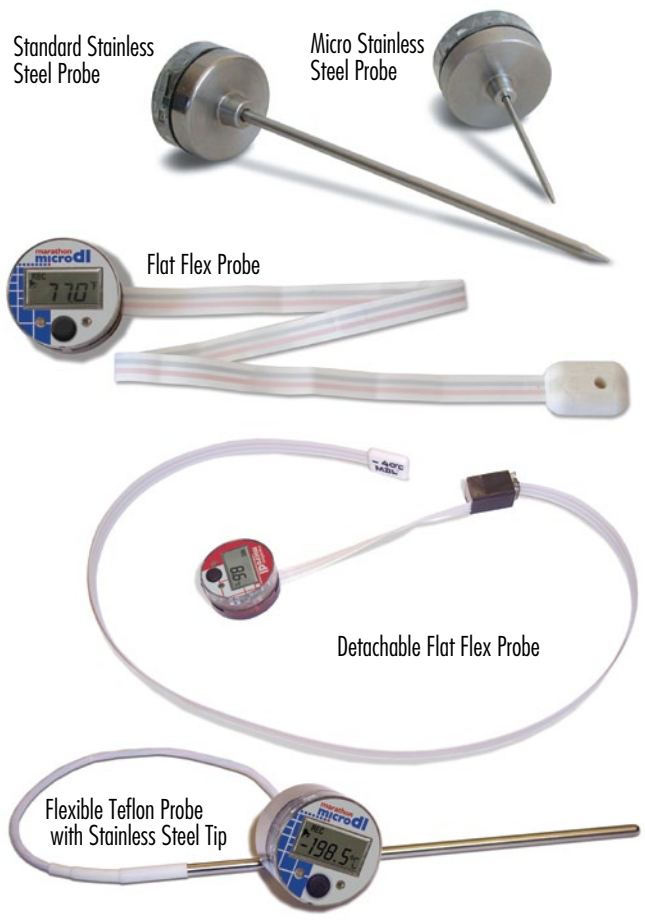
*Don't ship without us!®*

# microDL Specifications

Measurement Intervals	User programmable from 2 seconds to months
Power Source	(2) 3 volt lithium coin cells. 10 year shelf life with approx. 3 year continuous operating mode.
Alarm Limits	High & Low Alarms set by temperature and time
Size	Diameter: 2.86 cm (1.25 in.), Height: 1.4 cm (0.5 in.)
Water Resistant - Splash Proof	
Reader Station	USB 1.1 Port Interface
Software Compatibility	Windows 2000, XP, Vista, & 7

Model number	mdl4	mdl8	mdl32	mdl64
EEPROM Memory	4K	8K	32K	64K (variable)
Temperature Range				
Low / High	-10C / 72C 14F / 161F	-30C / 72C -22F / 161F	-40C / 72C -40F / 161F	-40C / 72C -40F / 161F
Temperature Accuracy				
At zero	0.5C / 1.0F	0.2C / 0.4F	0.2C / 0.4F	0.2C / 0.4F
Extremes	1.0C / 2.0F	0.5C / 1.0F	0.5C / 1.0F	0.5C / 1.0F
Features				
Stainless steel backs	No	Yes	Yes	Yes
Variable memory	No	No	No	Yes
Continuous memory	No	No	Yes	Yes
Weight	8 g (0.3 oz.)	17 g (0.6 oz.)	17 g (0.6 oz.)	17 g (0.6 oz.)
Mean Kinetic Temp.	No	No	Yes	Yes
Warranty	60 days	12 months	12 months	24 months

# Probe Options



<b>Standard Stainless Steel Probe</b>	
Length	15.24 cm (6 in.) or custom lengths
Diameter	3.49 mm (0.136 in.)
<b>Micro Stainless Steel Probe</b>	
Length	7.06 cm (2.78 in.) or custom lengths
Diameter	1.8 mm (0.07 in.)
<b>Flat Flex Probe</b>	
Length	61 cm (24 in.) or custom lengths
Width	0.76 cm (0.3 in.)
<b>Detachable Flat Flex Probe</b>	
Length	Custom Lengths
Width	0.76 cm (0.3 in.)
<b>Flexible Teflon Probe with Stainless Steel Tip</b>	
Total Length	50.8 cm (20 in.) or custom lengths
Stainless Steel Tip	15.24 cm (6 in.)
Diameter	3.49 mm (0.136 in.)

## DISPLAY EXAMPLES

Press the Start button to see the following information display with each press:

<b>1. REC: 8.6°C</b> shows recording and current temperature	<b>2. RUN: 11 D</b> shows elapsed time in days	<b>3. MKT: 9.1°C</b> shows mean kinetic temperature (available on silver model only)	<b>4. HI: 15.2°C</b> shows alarm has occurred and high temperature
<b>5. LOW: 8.2°C</b> shows alarm has occurred and low temperature	<b>6. HI HR: 0.3</b> shows alarm time hours over high threshold	<b>7. LOW HR: 1.1</b> shows alarm time hours over low threshold	<b>8. REC: 8.6°C</b> Push to return to current temperature

Also available in ultra low temperature (-80C) and cryogenic (-200C) configurations.

For more information about the microDL family and MDAS-Pro software please contact Marathon Products.

**Please call 1-510-562-6450 x607**  
for more information or to place an order.

[www.marathonproducts.com](http://www.marathonproducts.com)

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