Global Laboratory Catalog

MARATHON
PRODUCTS, INC. ®
TEMPERATURE MEASUREMENT
& CALIBRATION SPECIALISTS

2016

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Marathon Products, Inc.

Marathon Products is a leader in sensor-based data-capture analytic devices that measure temperature, humidity, CO_2 and vibration. Our intelligent sensors, used for shipping, storage or stationary applications can provide precision real-time data capture, globally, for all of life's essentials.

For 25 years now we have been designing state-of-the-art data collecting solutions for cryogenics to high-temperature applications. Our continuing growth is fueled by superior product design, innovative technology and an uncompromising commitment to customer service.

Today our valued customers/partners include research organizations, governmental laboratories, blood banks, IVF clinics, chemical,semiconductor manufacturers, healthcare delivery systems, food and logistic transportation companies.

Features of our USB LCD devices include:

- Cloud-enabled sensors for temperature, RH, CO_2 and vibration.
- RoHS and Reach-certified components
- CE-conformed designs.
- Traceability using our stringent internal standards and certified NIST instruments.
- 100% testing before delivery to customers.
- Marathon is ISO 9001-2008 BSi-certified and our manufacturing partners are qualified for ISO-9001-2008 by TUV.

Thank you for your continued confidence and trust in our products and services.

Jon Nakagawa,
President, CPA, CEO

MARATHON PRODUCTS

EDL-WiFi Temp/RH™

WiFi Temperature and Humidity Monitoring for Hospitals, Laboratories and Research Organizations.

Use our WiFi-enabled EDL-WiFi Temp/RH data loggers to enjoy real-time temperature & humidity data collection and monitoring at anytime, from anywhere in the world over a local network or via an internet connection. Leverage your existing WiFi network with the built-in WiFi 802.11 b/g/n connectivity to avoid expensive installation costs for managing temperature data. Marathon's Ethernet enabled loggers will allow you to wirelessly monitor multiple floors, buildings, rooms and locations simultaneously. Secure wireless encryption with WPA-PSK and WPA2-PSK. WiFi radio approval with FCC (USA), IC (Canada), CE/ETSI (Europe), C-TICK (Australia) and Telec (Japan).

Our advanced software can be programmed by the user to detect high and low temperature, and high and low humidity excursions. Also, detect power outages, trigger audible and visible alarms, and send alert notifications via cell phone and/or e-mail for facilities management control.
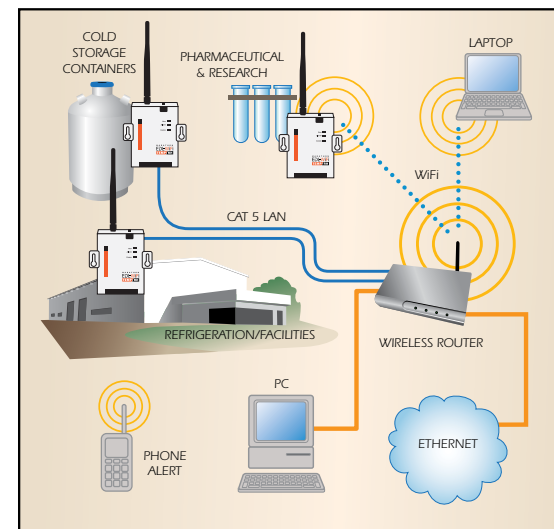
Marathon's 21 CFR: Part 11 compliant software, with secure supervisory controls, will allow database creations for

BENEFITS:

- Alarm notifications via email, phone, pager or SMS
- WiFi 802.11 b/g/n Connectivity
- Multiple Alarm options: local and remote
- Sensors: -40° C to +125° C, and 0% to 100% RH
- Precision temperature and RH data capture
- Powerful software with real-time display
- Audit Trails for Regulatory Control
- 32K Standard to 64K EEPROM memory options
- Power outage detection capabilities

products, part numbers, dates, locations, identification numbers, statistical analysis, and more.

In the lab, our NIST-calibrated and traceable thermistor probes have been tested sterile and can be used in incubators. In hospitals, clinics, pharmacies and blood banks, the EDL-WiFi Temp/RH is perfect for quality assurance and quality control, monitoring low temperature freezers, blood storage, vaccines and biologics via state-of-the-art high-performance temperature sensors and data logging.

SKU#7022: EDL-WiFi Temp/RH SPECIFICATIONS

Memory:	32k Standard to 64 EEPROM memory options.
Temperature Range:	-40°C to 125°C / -40°F to 257°F
Temperature Accuracy:	±0.2° C
Relative Humidity Accuracy:	±1.8% RH
Measurement Intervals:	2 second increments up to 4 hours (or 365 days recording duration)
Range:	Worldwide access via the internet.
Alarm programming:	High and low alarm limits set by temperature or humidity and time.
Alarm Modes:	Continuous or cumulative with LED Indicators.
Alarm Notifications:	Alert notification to cell phone, pager and on desktop screen.
Alarm Reset:	Push button—manually or by software.
Power Source:	Requires 110 AC power. AC adaptor for wireless connectivity and user replaceable internal 3V lithium battery for data logging function. Battery backup—Failsafe prevents data loss.
Software Required:	MaxiThermal
Accessories:	Optional flat cable probes and external audible alarm boxes.
Shelf Life:	3 years of continuous use data logging.
Physical properties:	
Width	7.9 cm / 3.11 inch
Height	9.2 cm / 3.60 inch
Depth	2.8 cm / 1.11 inch
Weight:	230 grams / 8 oz.
Certifications:	CE Marking

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

CERTIFIED SAFE STORAGE

MARATHON PRODUCTS

The EDL-4S™

For All Your Laboratory, Cold Room and Environmental Monitoring.

Now obtain Temperature, RH, CO_2 and Vibration profiles in a compact low-cost 4-channel LCD data logger! Use either as a stand-alone device, or as a Wireless Data logger when connected to our separate WiFi Reader Station. The Reader Station may be battery powered or AC powered, your choice. This device is perfect for mapping your warehouse, refrigerators or monitoring industrial machinery during shipment or stationary applications.

- Temperature Sensor: RTD -200°C to +380°C, accuracy ±0.2°C

- Relative Humidity Sensor: Capacitive humidity readings 0% RH to 100% RH.

- CO2 Sensor: Infrared 0 to 30,000 PPM accuracy ± 30 PPM ±5%

WiFi and 4G Capability

The EDL-4S can be remotely monitored via a WiFi when attached to the separate WiFi Cellular Reader Station. The device also connects directly to the computer via a USB port for settings.

Statistics and mathematical functions:

In addition to temperature and humidity, this compact 4 channel LCD data logger calculates min/max. over alarm conditions and much more.

HIGHLIGHTS:

- Temperature sensors: RTD -200 C to +380 C
- Relative Humidity Sensor: 0% to 100 % RH
- CO2 Sensor: Infrared 0 to 30,000 PPM
- Vibration sensors: Mems sampling rate 1 to 400 Hz
- 32 K memory storage per channel for single data sensor probe on 4 channels.
- Precision data capture
- Alert notifications by email or SMS
- Custom 1 meter probes standard
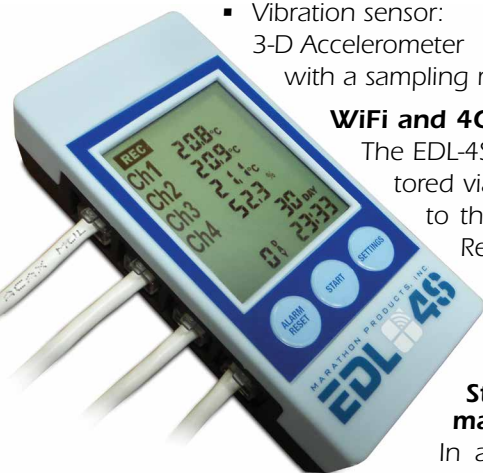- Sensor recalibration firmware

Alarms and battery backup

Alarm settings can be set up quickly in the MaxiThermal WiFi software based on temperature and RH. Likewise, alarm settings can be set up to trigger email notifications. This device contains one AA lithium battery for ample power. The WiFi reader is powered by four AA batteries or with an AC/DC adapter.

Large, easy-to-read display

The EDL-4S is the ideal instrument for documenting, controlling, and managing critical environmental conditions graphically, statistically and in real time. View high/low data and all alarm conditions in real time on the LCD display.

SKU# 7050: EDL-4S SPECIFICATIONS

Memory:	128k data memory for 4 sensors, Automatic data memory size adjustment
4 Digital sensor options:	RTD, Humidity, CO2, Vibration
Temperature Range:	-200°C to +380°C / -328°F to +716°F
Temperature Accuracy:	±0.2°C at room, 1.5°C at extremes.
Temperature Resolution:	0.1°C / .18°F
Humidity:	0% to 100% RH
C02 Sensor:	Infrared 0 to 30,000 PPM. Accuracy ± 30 PPM ±5 %
Vibration:	Up to 16G and 400 hertz sampling
Recording Rate (sec.):	Set by user
Alarm Programming:	High and low alarm limits set by temperature, humidity, and time
Alarm Modes:	Time Over Alarm (TOA) displays for each channel
Alarm Notifications:	Alert notification to e-mail, phone, pager and SMS
Interface:	RJ11 interface for 4 sensors
Communication:	USB 2.0 with mini USB-B connector Optional WiFi via Reader Station
Power Source:	1- LiSoCl2 3.6V 1.2 Ah for logger 4- LiSoCl2 3.6V 2.4Ah or 1120V/220V AC adaptor for WiFi Reader
Software Required:	MaxiThermal WiFi
Accessories:	Optional cable probes up to 30 meters for RTD
Physical Properties	Operating range: 0°C to 50°C,
Storage range:	-20°C to +85°C
Display:	FSTN segment LCD
Viewing area:	60 x 40 mm
Width	5.0 cm / 1.96 in.
Height	10.5 cm / 4.13 in.
Depth	2.5 cm / .98 in.
Weight:	300 grams / 10.58 oz.

CERTIFIED SAFE STORAGE

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

MARATHON PRODUCTS

MaxiLog™

Our Multi-use Temperature Logger with Real-Time LCD Display for Instant TOA (Time Over Alarm) Conditions.

MaxiLog is the revolutionary, multi-use, user programmable, electronic temperature data recorder specifically designed for measuring temperatures during the transportation of refrigerated vaccines, biological material, chemicals, pharmaceuticals, and for documenting the transportation of perishable commodities. The real-time LCD screen provides instant TOA (Time Over Alarm) notification.

The MaxiLog is NIST-traceable and available with Certificates of Temperature Conformance. The MaxiLog is also available in a pre-programmed single-use model.

Functions include:

▪ Internal Thermistor: accurately records time and temperatures for user selectable readings in Celsius or Fahrenheit.

▪ LCD display: Shows High and Low Alarm Limits, Current Temperature, Run Time and TOA (Time Over Alarm) in Days, Hours and Minutes.

Small Form Factor: The internal software records the following: time mechanism, start time, sampling intervals, end description for special instructions, alarm values, recording status, measurement data, software version, serial and tracking number, model type, and after the fact report generation options.

Visual Alarms: All our data loggers can be programmed with alarm limits. Should the temperature reach levels outside these limits, the LDC will display an alarm icon. To start the recorder, simply press the start button!

Temperature Range
▪ -35°C to +50°C (-31°F to +122°F)

Temperature Accuracy
▪ ±0.2°C (±0.4°F) from 0° to 10° C (30° to 50° F); ±1.0°C (±1.8°F) at extremes

Measurement Intervals
▪ 2 seconds to months

Number of Measurements
▪ 8K memory (7,680 data pts.)

USB Interface: To download recorded information, simply plug the USB Cradle into the standard USB port of your PC.

Computer Ready: MaxiThermal software is used to read the logger. It runs on Windows 2000, XP, Vista, 7 and 8. The MaxiThermal software and USB Cradle are available as separate accessory items.

Serialization: This recorder is programmed at the factory with a unique serial number for positive tracking.

Waterproof: The product package is hermetically sealed to an IP66 rating.

Recyclable: Single-Use MaxiLog units are designed for single use, and we encourage recycling. Please call Marathon Products for complete disposal or recycling instructions.

Minimum Order Quantity: Single-Use MaxiLog units are sold in minimum lot quantities of 25 units. Your order is shipped on the same day if the order is placed before 2 p.m. PST.

SKU# 7026/7029: MAXILOG DATA LOGGER SPECIFICATIONS

Memory:	EEPROM, 8k Storage
Temperature Range:	-35°C to +50°C (-31°F to +122°F)
Temperature Accuracy:	±0.2°C at 0° to 10°C, ±1.0°C at extremes (±0.36°F at 32° to 50° F, ±1.8°F at extremes)
Measurement Intervals:	Pre-programmed from 1 minute to hours depending on model type (duration). For example: 4 days = 0 min. 45 sec. 7 days = 1 min. 18 sec. 16 days = 2 min. 58 sec. 30 days = 5 min. 33 sec. 60 days = 11 min. 6 sec. 90 days = 16 min. 39 sec. 365 days = 1 hr. 7 min. 30 sec.
Temperature Sensor:	NIST-traceable Precision SMT Thermistor
Indicators:	LCD Display. Start/Stop and Alarm
High and low alarm limits:	Alarm set by temperature and time
Computer Interface:	Optional USB Cradle
Software Required:	MaxiThermal
Firmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Software Required:	MaxiThermal
Power Source:	Lithium Battery (2 year operating, 3 year shelf life)
Size:	Length 5.5 cm (2.2 in.) Width 2.7 cm (1.0 in.) Depth 1.4 cm (0.55 in.)
Weight:	19 g (2.0 oz.)

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

SAFE CERTIFIED SHIPPING

USB Cradle/Reader Station SKU#7024

MARATHON PRODUCTS

MaxiLog-RTD™ &
MaxiLog-LN2™

Our Multi-use Data Logger with Real-Time LCD Display and Built-in Probe for Standard or Very Low Temperatures.

MaxiLog is the revolutionary, multi-use, user programmable, electronic temperature data recorder specifically designed for measuring temperatures during the transportation of refrigerated vaccines, biological material, chemicals, pharmaceuticals, and for documenting the transportation of perishable commodities. The real-time LCD screen provides instant TOA (Time Over Alarm) notification. The MaxiLog is NIST-traceable and available with Certificates of Temperature Conformance.

Functions include:

- Accurate RTD sensor probe: records time and temperatures for user selectable readings in Celsius or Fahrenheit.

- LCD display: Shows High and Low Alarm Limits, Current Temperature, Run Time and TOA (Time Over Alarm) in Days, Hours and Minutes.

Small Form Factor: The internal software records the following: time mechanism, start time, sampling intervals, end description for special instructions, alarm values, recording status, measurement data, software version, serial and tracking number, model type, and after the fact report generation options.

Visual Alarms: All our data loggers can be programmed with alarm limits. Should the temperature reach levels outside these limits, the LDC will display an alarm icon. To start the recorder, simply press the start button!

**USB Interface:** To download recorded information, simply plug the USB Cradle into the standard USB port of your PC.

Temperature Range
Maxilog-RTD:
- -40°C to +85°C (-40°F to +185°F)

Maxilog-LN2:
- -200°C to +40°C (-328°F to +104°F)

Temperature Accuracy
- ±0.5°C (±1.0°F) from 0° to 10° C (30° to 50° F); ±2.0°C (±3.6°F) at extremes

Measurement Intervals
- 2 seconds to months

Number of Measurements
- 8K memory (7,680 data pts.)

USB Cradle/Reader Station SKU#7024

SKU# 7040 Maxilog-RTD & SKU# 7041 Maxilog-LN2 SPECIFICATIONS

Memory:	EEPROM, 8k Storage (7,680 data points)
Temperature Range:	MAXILOG-RTD: -40°C to +85°C (-40°F to +185°F) MAXILOG-LN2: -200°C to +40°C (-328°F to +104°F)
Temperature Sensor:	PT-1000 probe
Temperature Accuracy:	±0.5°C at 0° to 10°C, ±2.0°C at extremes (±0.9°F at 32° to 50° F, ±3.6°F at extremes)
Probe	Length: 12.7 cm (5.0") Cable & Probe Length: 58.4 cm (23.0")
Temperature Resolution:	0.1°C
Measurement Intervals:	Pre-programmed from 5 seconds to months depending on model type (duration). For example: 4 days = 0 min. 45 sec. 7 days = 1 min. 18 sec. 16 days = 2 min. 58 sec. 30 days = 5 min. 33 sec. 60 days = 11 min. 6 sec. 90 days = 16 min. 39 sec. 365 days = 1 hr. 7 min. 30 sec.
High & low alarm limits:	Alarm icon displayed on LCD screen
Computer Interface:	USB Cradle
Firmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Power Source:	CR2032 battery
Current Consumption:	Measurement interval 5s : 30 uA Measurement interval 45s : 20 uA
Size:	Length 5.0 cm (1.97 in.) Width 2.7 cm (1.06 in.) Depth .8 cm (0.31 in.)
Weight:	30 g (1.05 oz.)
Warranty:	6 months
CE Certified:	Yes
Software Required:	MaxiThermal2
Accessories:	USB Cradle

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

connector

±407   ±50   50   27

probe sheath

3.5 Ø   127   ±584
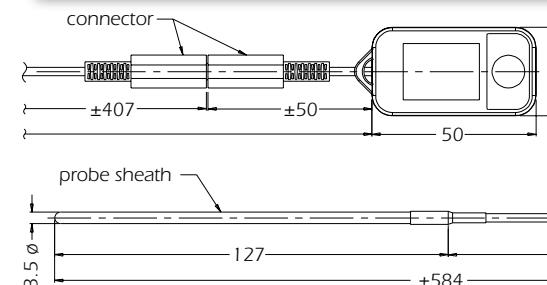
All measurements in millimeters.

MARATHON PRODUCTS

EDL-XYZ™ Data Loggers

Digital Temperature, RH and Vibration Recorder with Large, Easy-to-Read Display

The EDL-XYZ multi-use data logger can be used to monitor fragile goods during shipment. It contains a temperature sensor, a high accuracy humidity sensor and a 3-D accelerometer. The latter controls the motion and vibration of a truck during shipment. It can also be used for monitoring machinery wear, vibration, impact and shock for all applications.

FEATURES:

- High accuracy thermistor for temperature measurement.
- High accuracy humidity sensor.
- 3-D accelerometer for motion and vibration detection.
- Alarm for out of limits operation for all sensors.
- Recording time updated on LCD display.

Temperature Range
-29°C to 72°C
-20°F to 160°F

Humidity Range
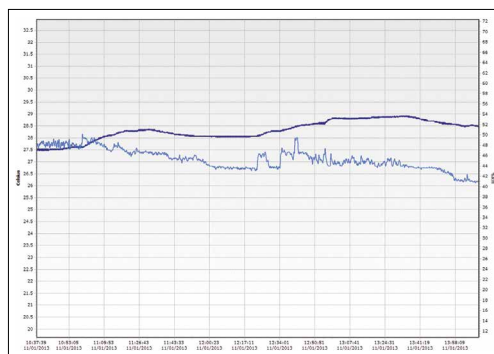0% to 100%

3-D Accelerometer Range:
±2G; ±4G; ±8G; ±16G
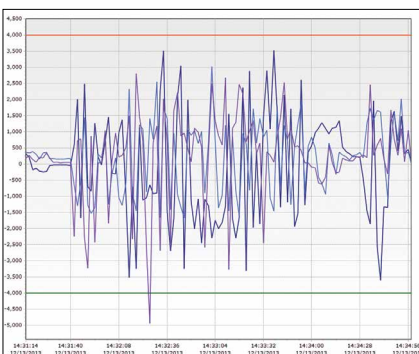Sampling rate: 10 to 50 Hz

Memory EEPROM, Storage
Temperature: 8k
Humidity: 8k
Vibration: 42k

Optional Accessories:
20" external probe

- Flexible recording interval time for temperature and humidity.
- Recording time automatically fixed by firmware for motion and vibration.
- Non-volatile memory for data saving.
- Trigger threshold set by user for vibration data saving.
- MaxiThermal vibration software for logger parameters setting and monitoring results.
- LCD display for temperature, humidity, and 3 axis vibration.

Applications:
- Vibration, shock, impact monitoring and data logging.
- Monitoring the transport conditions for fragile goods.
- Monitoring machinery wear.

SKU# 7015 EDL-XYZ DATA LOGGER SPECIFICATIONS

Memory EEPROM, Storage:	Temperature: 8k, Humidity: 8k, Vibration: 42k
Temperature Range:	-29°C to +72°C / -20°F to +160°F
Temperature Accuracy:	±0.2°C from 10° to 30°C / ±0.5°C at extremes ±0.4°F from 50° to 86°F / ±0.9°F at extremes
Thermal Sensor:	Wired Chip in Glass Thermistor
Temperature Resolution:	0.2° C at center / 0.4° at center F
Measurement Intervals:	Programmable from 2 seconds to months.

Examples:

	Temp/RH - 8K	Vibration - 42K
4 days	0 min. 43 sec.	0 min. 8 sec.
7 Days	1 min. 15 sec.	0 min. 14 sec.
16 Days	2 min. 50 sec.	0 min. 32 sec.
30 Days	5 min. 18 sec.	1 min. 0 sec.
60 Days	10 min. 36 sec.	1 min. 59 sec.
90 Days	15 min. 54 sec.	2 min. 59 sec.
365 Days	1 hr. 4 min. 28 sec.	12 min. 2 sec.

Humidity Range:	0% to 100%
Humidity Accuracy:	±3% RH from 25% to 75%, ±5% RH at extremes
Humidity Sensor:	Capacitive Cell
3-D Accelerometer	Range: ±2G; ±4G; ±8G; ±16G Sampling rate: 10 to 50 Hz
	Accuracy: ±0.05G for 0 to 16G Resolution: ±0.01G for 0 to 16G
High and Low Alarm Limits:	LED display set for temperature, humidity and vibration
Computer Interface:	Mini USB Connector
IFirmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Software Required:	MaxiThermal
Optional Accessories:	20" external probe. Mounting bracket.
Power Source:	One CR2477 Lithium Battery with a 1 year operating life and a 5 year shelf life.

Size:	Length 9.0 cm / 3.5 in.	Width 5 cm / 1.96 in.	Depth 2.8 cm / 1.1 in.

Weight:	90 grams / 2.6 oz.
Warranty:	12 months

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

Temperature & Humidity Recording Graph

Vibration Recording Graph

Optional external probe SKU# 7033

Optional bracket SKU# 7003

SAFE CERTIFIED SHIPPING

MARATHON PRODUCTS

The EDL-RTD2™

Digital Dual Sensor Thermal Temperature Data Logger for industrial and remote monitoring of refrigerated, ambient and high temperature applications
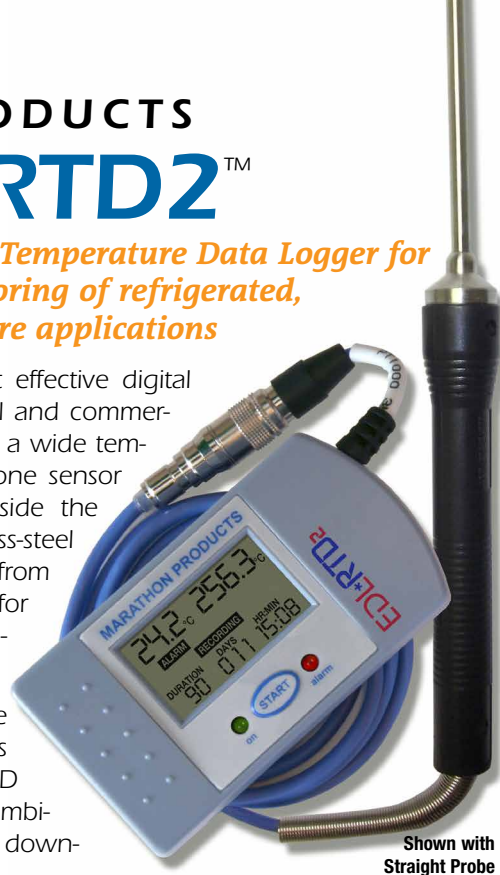
The EDL-RTD2 is a reliable and cost effective digital temperature recorder for all industrial and commercial applications requiring monitoring a wide temperature range. The EDL-RTD2 has one sensor for ambient range temperatures inside the case, and one external RTD stainless-steel probe that monitors temperatures from -29°C (-20°F) up to +380°C (+716°F) for applications such as warmers, incubators and ovens.

These high-precision laboratory-grade products will operate up to 3 years without a battery change. The LCD display provides real time viewing of ambient and remote temperature prior to downloading to a computer.

The internal software is user programmable and provides the following features: start time delay, sampling intervals, high and low alarm window values, recording status, and measurement data.

All our data loggers have the ability to program alarm limits. Should the temperature reach levels outside these limits, the onboard red LED will light until reset by the user. Operation is as easy as pressing the START button on the recorder.

In conjunction with our MaxiThermal software, you can document your high-temperature uses for your GxP and FDA regulated environment. To download recorded information, simply plug the unit into a PC using a standard USB connector. The USB cable

and PC software are available as accessory items.

Serialization: the recorder is programmed at the factory with a unique serial number for positive tracking.

Waterproof enclosure: the product package is hermetically sealed to an IP66 rating.

Calibration: EDL-RTD2 is a laboratory grade multi-use logger with internal NTC and external RTD probe for precision temperature capture. Multi point calibration certificates can be provided for additional costs.

Shown with Straight Probe

Temperature Range
Internal Sensor:
-29°C to 72°C
External probe:
-29°C to 380°C

Temperature Accuracy
(NIST-traceable)
±0.2°C at center of range
±0.5°C at extremes

Memory
64k

Measurement intervals
2 seconds to months

Number of measurements
approx. 64,000 samples

With Angled Probe SKU# 7013

Optional bracket SKU# 7003

SKU# 7012 EDL-RTD2 SPECIFICATIONS

Internal Sensor:	Wired chip in glass thermistor
Operating Range	-29°C to +72°C / -20°F to +161°F
Accuracy:	±0.2°C from 2° to 10°C / ±0.5°C at extremes
(NIST-traceable)	±0.4°F from 32° to 50°C / ±0.9°F at extremes
External Probe:	RTD Stainless Steel Tip =12 cm / 4.72 in.; Flexible Teflon-coated Cable = 51 cm / 20 in.
Operating Range:	-29°C to +380°C / -20°F to +716°F
Accuracy:	±0.2°C at 0° to 30°C / ±1.0°C at extremes
(NIST-traceable)	±0.36°F at 32° to 86°F / ±.18°F at extremes
Memory EEPROM, Storage:	64k memory (32k per sensor).
No. of Measurements:	Approximately 64,000.
Measurement Intervals	Programmable from 2 secs per reading.
Examples:	4 days = 0 min. 06 sec.
	7 days = 0 min. 10 sec.
	16 days = 0 min. 22 sec.
	30 days = 0 min. 40 sec.
	60 days = 1 min. 20 sec.
	90 days = 1 min. 59 sec.
	365 days = 8 min. 02 sec.
Computer Interface:	USB port
Power Source:	One CR2477 Lithium coin cell battery with a 3 year operating life and a 5 year shelf life.
Size:	Length Width Depth
	9.0 cm / 3.5 in. 5.0 cm / 2 in. 2.8 cm / 1.1 in.
Weight:	95 grams / 3.3 oz.
Waterproof	Yes
Firmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Software Required:	MaxiThermal Software 21CFR Part 11 Compliant Software
Optional Accessories:	Standard Probe, 3 meter cable with stainless steel tips. Custom probes available up to 10 meters. NIST Certificate + 1, 2 or 3 Point Calibration Mounting bracket
Warranty	3 Months
CE Certified	Yes

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

MARATHON PRODUCTS

The EDL-LN2™

Digital Dual Sensor Thermal Temperature Data Logger for cryogenic industrial and remote monitoring applications.

The EDL-LN2 is a reliable and cost-effective digital temperature recorder for all industrial and commercial applications. The EDL-LN2 has one sensor for ambient range temperatures inside the case, and one external RTD stainless-steel probe that monitors temperatures from -200°C (-328°F) up to +72°C (+161.6°F), ideal for monitoring all of your cryogenic stem cells and biologic materials.

These high-precision laboratory-grade products will operate up to 3 years without a battery change. The LCD display provides real time viewing of ambient and remote temperature prior to downloading to a computer.

The internal software is user programmable and provides the following features: start time delay, sampling intervals, high and low alarm window values, recording status, and measurement data.

All our data loggers have the ability to program alarm limits. Should the temperature reach levels outside these limits, the onboard red LED will light until reset by the user. Operation is as easy as pressing the START button on the recorder.

In conjunction with our MaxiThermal software, you can document your monitoring for your GxP and FDA regulated environment. To download recorded information, simply plug the unit into a PC using a standard USB connector. The USB cable and PC software are available as accessory items.

Serialization: the recorder is programmed at the factory with a unique serial number for positive tracking.

Waterproof enclosure: the product package is hermetically sealed to an IP66 rating.

Calibration: EDL-LN2 is a laboratory grade multi-use logger with internal NTC and external RTD probe for precision temperature capture. Multi point calibration certificates can be provided for additional costs.

Temperature Range
Internal Sensor:
-29°C to 72°C
External probe:
-200°C to 72°C

Temperature Accuracy
(NIST-traceable)
±0.5°C at center of range
±2.0°C at extremes

Memory
64k

Measurement intervals
2 seconds to months

Number of measurements
approx. 64,000 samples

Standard Probe
SKU# 8105
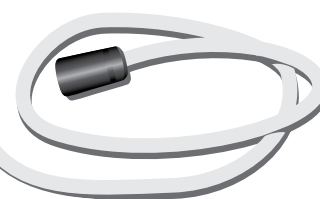
Optional bracket
SKU# 7003

SKU# 7011 EDL-LN2 SPECIFICATIONS

Memory EEPROM, Storage:	64k memory (32k per sensor)
No. of Measurements:	Approximately 64,000.
Internal Sensor:	Wired chip in glass thermistor
Operating Range	-29°C to +72°C / -20°F to +161°F
Accuracy:	±0.5°C from 0° to 10°C / ±2.0°C at extremes
(NIST-traceable)	±0.9°F from 32° to 50°F / ±3.6°F at extremes
External Probe:	RTD Stainless Steel Tip =12.7 cm / 5 in.; Flexible Teflon-coated Cable = 58.4 cm / 23 in.
Operating Range:	-200°C to +72°C / -328°F to +161.6°F
Accuracy:	±0.5°C at 0° to 30°C / ±1.0°C at extremes
(NIST-traceable)	±0.9°F at 32° to 50°F / ±3.6°F at extremes
Measurement Intervals	Programmable from 2 secs per reading.
Examples:	4 days = 0 min. 06 sec.
	7 days = 0 min. 10 sec.
	16 days = 0 min. 22 sec.
	30 days = 0 min. 40 sec.
	60 days = 1 min. 20 sec.
	90 days = 1 min. 59 sec.
	365 days = 8 min. 02 sec.
High & Low Alarm Limits:	Alarm icon on display and LED light
Computer Interface:	USB port
Waterproof	Yes
Power Source:	One CR2477 Lithium coin cell battery with a 3 year operating life and a 5 year shelf life.
Size:	Length 9.0 cm / 3.5 in. Width 5.0 cm / 2 in. Depth 2.8 cm / 1.1 in.
Weight:	95 grams / 3.3 oz.
Warranty	6 Months
CE Certified	Yes
Tracibility & Calibration:	NIST Certificate + 1, 2 or 3 Point Calibration upon request.
Accessories:	Mounting bracket
Software Required:	MaxiThermal Software 21CFR Part 11 Compliant Software

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

MARATHON PRODUCTS

2C\TEMP-RH™
Data Loggers

Get Waterproof Temperature & Humidity with Digital Display and USB Connectivity.

The 2C\TEMP-RH multi-use data logger is a cost-effective solution for temperature monitoring of refrigerated vaccines, biological material, chemicals, pharmaceuticals and documenting the transportation of fruits and vegetables.

The 2C\TEMP-RH is our top-of-the-line data logger with dual 8k memory banks for temperature and humidity, 0.2°C midpoint temperature accuracy and resolution, and 3% midpoint humidity accuracy. This is a must have device if you work in a laboratory or metrology department.

Functions include: The convenient palm-sized design has a digital display that provides real-time viewing of all temperature and humidity information including min./max. temperature and current humidity values. One quick look provides instant product acceptance or "quarantine" decisions. The internal thermistor accurately records time and temperatures for user-selectable readings in Celsius, or Fahrenheit. The internal software is user programmable and provides the following features: start time delay, sampling intervals, high and low alarm values, recording status, and measurement data.

Visual Alarms: All our data loggers have the ability to program alarm limits. Should the temperature reach levels outside these limits, the onboard red LED will light until reset by the user.

Computer Ready: Marathon's easy-to-use MaxiThermal software is available for Microsoft Windows 2000, XP, Vista & 7. Simply plug the unit into a standard USB port on your PC. The MaxiThermal software and USB cable are available as separate accessory items.

Temperature Range
-29° C to +72° C
-20° F to +160° F

Temperature Accuracy
(NIST-traceable)
±0.2°C from 0° to 10°C
±0.5°C at extremes

Memory EEPROM, Storage
2 banks of 8k memory
(7680 data points)

Humidity Range
0% to 100%

Humidity Accuracy
(NIST-traceable)
±3% from 25% to 75%
±5% at extremes

SKU# 7001 2C\TEMP-RH DATA LOGGER SPECIFICATIONS

Memory EEPROM, Storage:	16k memory (8k per sensor)
Temperature Range:	-29° C to +72° C / -20° F to +160° F
Temperature Accuracy:	±0.2°C from 0° to 10°C / ±0.5°C at extremes ±0.36°F from 32° to 50°F / ±0.9°F at extremes
Humidity Range:	0% to 100%
Humidity Accuracy:	±3% from 25% to 75%, ±5% at extremes
Temperature Resolution:	0.2°C / 0.4°F
Measurement Intervals:	Programmable from 2 seconds to months. Examples: 4 days = 0 min. 43 sec. 7 days = 1 min. 15 sec. 16 days = 2 min. 50 sec. 30 days = 5 min. 18 sec. 60 days = 10 min. 36 sec. 90 days = 15 min. 54 sec. 365 days = 1 hr. 4 min. 28 sec.
Temperature Sensor:	NIST-traceable Precision Thermistor
High and Low Alarm Limits:	LED indicator and audible alarm set by temperature and time
Internal Clock Accuracy:	Better than 2 minutes per month
Computer Interface:	Mini USB Connector
IFirmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Software Required:	MaxiThermal
Power Source:	One Lithium Battery with a 1 year operating life and a 3 year shelf life.
Size:	Length Width Depth 9.0 cm / 3.5 in. 5 cm / 1.96 in. 2.8 cm / 1.1 in.
Weight:	85 grams / 3.0 oz.
Warranty:	12 months
CE Certified:	CE Marking File

SAFE CERTIFIED SHIPPING

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

**Optional bracket SKU# 7003**

MARATHON PRODUCTS

2c\temp-LCD™
Data Loggers

Our Multi-use Temperature Logger with Real-Time LCD Display for Instant Acceptance or Quarantine Decisions.

WATERPROOF

2c\temp-LCD is the revolutionary, multi-use, user programmable, electronic temperature data recorder specifically designed for measuring temperatures during the transportation of refrigerated vaccines, biological material, chemicals, pharmaceuticals, and for documenting the transportation of perishable commodities. The 2c\temp-LCD is NIST-traceable and comes with a Certificate of Conformance.
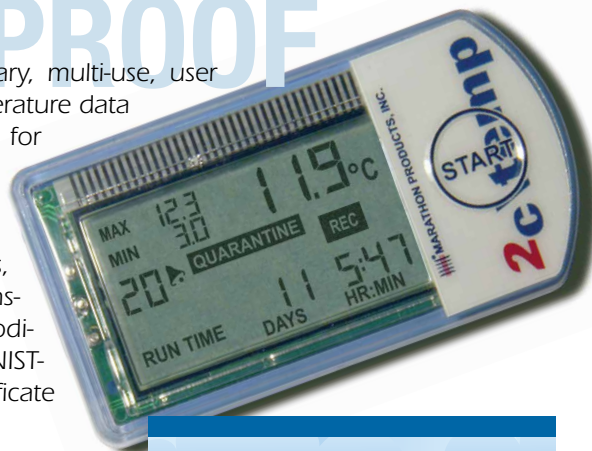
Functions include:

- Internal Thermistor: accurately records time and temperatures for user selectable readings in Celsius or Fahrenheit.
- LCD display: Shows Current temperature, Max Temperature, Minimum Temperature, Run Time, Alarm Status, and Recording.

Small Form Factor: 2c\temp-LCD has an extended battery life and can endure rough handling. The internal software records the following: time mechanism, start time, sampling intervals, end description for special instructions, alarm values, recording status, measurement data, software version, serial and tracking number, model type and after the fact report generation options.

Cloud Computing

Temperature Logger Management

TRACEABILITY, HACCP COMPLIANCE

Marathon's Temperature data logger customers can share data and access their temperature and RH files remotely, anywhere, at anytime via the Internet.

Our cloud-based software provides compliance with HACCP rules and regulations for all of your perishable shipments.

Visual Alarms: All our data loggers can be programmed with alarm limits. Should the temperature reach levels outside these limits, the LDC will display "ALARM." To start the recorder, simply press the start button!

USB Interface: To download recorded information, simply plug the optional USB Cradle into the standard USB port of your PC.

SAFE CERTIFIED SHIPPING

USB Cable
SKU# 9046

Reader Station
SKU# 7005

SKU# 7004 2c\temp-LCD DATA LOGGER SPECIFICATIONS

Memory:	EEPROM, 8k Storage
Temperature Range:	-35°C to +50°C / -31°F to +122°F
Temperature Accuracy:	±0.2°C at 0° to 10°C / ±1.0°C at extremes ±0.36°F at 32° to 50° F / ±1.8°F at extremes
Measurement Intervals: For example:	User programmed from 2 seconds to months. 4 days = 0 min. 45 sec. 7 days = 1 min. 18 sec. 16 days = 2 min. 58 sec. 30 days = 5 min. 33 sec. 60 days = 11 min. 6 sec. 90 days = 16 min. 39 sec. 365 days = 1 hr. 4 min. 39 sec.
Temperature Sensor:	NIST-traceable Precision SMT Thermistor
Indicators:	Start/Stop and Alarm
High and low alarm limits:	LCD display. ALARM set by temperature and time.
Computer Interface:	Optional USB Cradle
Firmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Software Required:	MaxiThermal
Power Source:	Lithium Battery (1 year operating, 3 year shelf life)
Size:	Length Width Depth 6.5 cm / 2.56 in. 3.4 cm / 1.3 in. 0.9 cm / 0.35 in.
Weight:	56.7 grams / 2.0 oz.
Options:	MaxiThermal software USB cradle
Serialization:	This recorder is programmed at the factory with a unique serial number for positive tracking.
Waterproof Enclosure:	The product package is hermetically sealed to an IP66 rating.

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

MARATHON PRODUCTS

# 2c\temp-USB™
Data Loggers

Waterproof Temperature Data logger with USB Connectivity!

The 2c\temp-USB multi-use data logger is a cost-effective solution for temperature monitoring of refrigerated vaccines, biological material, chemicals, pharmaceuticals and documenting the transportation of fruits and vegetables. Its convenient palm-sized design lets it fit into tight quarters.

It is a mid-range data logger with a generous 16k memory and a 3 year battery life. With increased accuracy over the 2c\temp and echo, this is an excellent general purpose data logger.

Functions include: The internal thermistor accurately records time and temperatures for user-selectable readings in Celsius or Fahrenheit. The internal software is user programmable and provides the following features: start time delay, sampling intervals, high and low alarm values, recording status, and measurement data.

Visual alarms: It features the ability to program alarm limits. Should the temperature reach levels outside these limits, the on-board red LED will light until reset by the user. Operation is as easy as pressing the START button on the recorder.
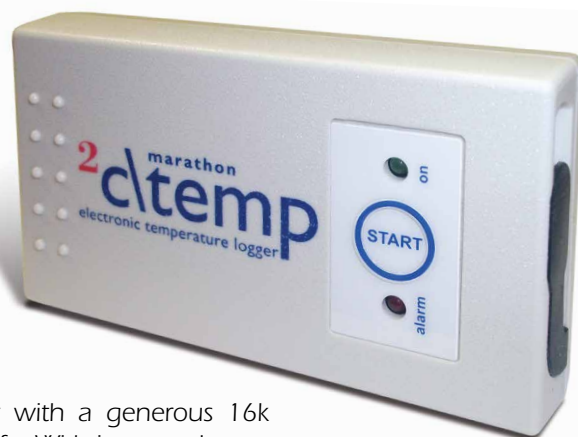
Temperature Range
-29° C to +72° C
-20° F to +160° F

Temperature Accuracy
(NIST-traceable)
±0.5°C at 20°
±1.0°C at extremes

Measurement intervals
2 seconds to weeks

Memory EEPROM, Storage
16k memory,
(15,360 data points)

Computer ready: MaxiThermal software is used to read the logger. It runs on Windows 2000, XP, Vista, & 7. To download recorded information, simply plug the unit into the standard USB port of your PC. The MaxiThermal software and USB cable are available as separate accessory items.

SKU# 7006 2c\temp-USB DATA LOGGER SPECIFICATIONS

Memory:	EEPROM, 16k Storage (15,360 data points)
Temperature Range:	-29° C to +72° C / -20° F to +160° F
Temperature Accuracy:	±0.5°C at 20°C / ±1.0°C at extremes ±0.9°F at 68°F / ±1.8°F at extremes
Temperature Resolution:	0.2°C / 0.4°F
Measurement Intervals:	Programmable from 2 seconds to weeks. Examples: 4 days = 0 min. 22 sec. 7 days = 0 min. 38 sec. 16 days = 1 min. 25 sec. 30 days = 2 min. 39 sec. 60 days = 5 min. 19 sec. 90 days = 7 min. 58 sec. 365 days = 32 min. 20 sec.
Temperature Sensor:	NIST-traceable Precision Thermistor
High and Low Alarm Limits:	LED indicator alarm set by temperature and time
Internal Clock Accuracy:	Better than 2 minutes per month
Computer Interface:	Mini USB Connector
IFirmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Software Required:	MaxiThermal
Power Source:	Two 3.6 Volt Lithium Battery with a 3 year battery life and 5 year shelf life. Battery is rated at six months, if used continuously at -29°C

Size:	Length	Width	Depth
	9.0 cm / 3.5 in.	5.0 cm / 2 in.	2.0 cm / 0.8 in.

Weight:	106 grams / 3.7 oz.
Warranty:	12 months
CE Certified:	CE Marking File

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

3C\TEMP-USB™ & 3C\TEMP-RH™

Our Multi-use Temperature and Humidity Logger with Real-Time LCD Display for Instant Acceptance or Quarantine Decisions.

3c\temp-USB & 3C\TEMP-RH are revolutionary, multi-use, user programmable, electronic temperature data recorders specifically designed for measuring temperatures during the transportation of refrigerated vaccines, biological material, chemicals, pharmaceuticals, and for documenting the transportation of perishable commodities. They are NIST-Traceable and come with Certificates of Conformance.

Functions include:

- Internal Thermistor: accurately records time and temperatures for user selectable readings in Celsius or Fahrenheit.

- LCD display: Real-time viewing of Current temperature, Max /Min Temperature, Run Time, Alarm Status, and Recording.

- The C\TEMP-RH also records relative humitiy values.

Small Form Factor: These units have an extended battery life and can endure rough handling. The internal software records the following: time mechanism, start time, sampling intervals, end description for special instructions, alarm values, recording status, measurement data, software version, serial and tracking

Temperature Range
-29° C to +72° C
-20° F to +160° F

Temperature Accuracy
(NIST traceable)
±0.5°C from 0° to 10°C
±1.0°C at extremes

EEPROM Memory
8k per sensor

### Humidity Range
0% to 100%

Humidity Accuracy
(NIST tracable)
±3% from 0% to 80%
±5% from 80% to 100%

number, model type and after the fact report generation options.

Visual Alarms: All our data loggers can be programmed with alarm limits. Should the temperature reach levels outside these limits, the LDC (change to LCD) will display "ALARM." To start the recorder, simply press the start button!

Computer Ready: Marathon's easy-to-use MaxiThermal2 software is available for Microsoft Windows XP, 7, 8, 8.1 & 10. Simply plug the unit into a standard USB port on your PC. The MaxiThermal2 software and USB cable are available separately.

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance
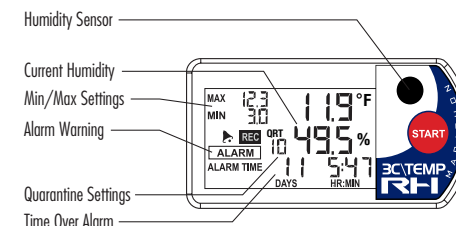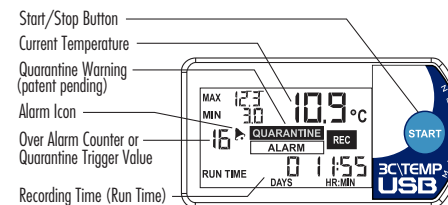
SKU# 7060 3C\TEMP-USB & SKU# 7061 3C\TEMP-RH SPECIFICATIONS

Memory EEPROM, Storage:	3C\TEMP-USB: 8k Temperature 3C\TEMP-RH: 8k Temperature, 8K RH
Temperature Range:	-29° C to +72° C / -20° F to +160° F
Temperature Accuracy:	±0.5° C from 0° C to 10° C, ±1° C at extemes ±1.0° F from 32° F to 50° F, ±1.8° F at extremes
Temperature Resolution	0.1° C / 0.18° F
Temperature Sensor:	3C\TEMP-USB: Wired chip in glass thermistor 3C\TEMP-RH: MEMS
Humidity - 3C\TEMP-RH only:	
Humidity sensor	CAPACITIVE MEMS
Humidity range	0 to 100%
Humidity accuracy	±3% from 0 to 80%, ±5% from 80 to 100%
Humidity resolution	0.1%
Measurement Intervals: For example:	User programmable from 2 seconds to months. 4 days = 0 min. 45 sec. 7 days = 1 min. 18 sec. 16 days = 2 min. 58 sec. 30 days = 5 min. 33 sec. 60 days = 11 min. 6 sec. 90 days = 16 min. 39 sec. 365 days = 1 hr. 4 min. 39 sec.
High and low alarm limits:	LED indicator
Computer Interface:	Mini USB connector
Internal Firmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Power Source:	CR2450 Battery
Battery Life:	3C\TEMP-USB: 3 years, 3C\TEMP-RH: 2 years
Warranty:	12 months
Size:	Length 6.5 cm (2.5 in.) Width 3.4 cm (1.3 in.) Depth 0.9 cm (0.35 in.)
Weight:	33 g (1.16 oz.)
Software Required:	MaxiThermal2
Options:	USB Cable
Waterproof Enclosure:	The 3C\TEMP-USB is hermetically sealed to an IP66 rating.

Start/Stop Button
Current Temperature
Quarantine Warning (patent pending)
Alarm Icon
Over Alarm Counter or Quarantine Trigger Value
Recording Time (Run Time)

Humidity Sensor
Current Humidity
Min/Max Settings
Alarm Warning
Quarantine Settings
Time Over Alarm

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 0.2C, 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 conditions. Push the start button to view critical temperature information upon arrival.

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB and Regulatory Compliance

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 below low temperature and alarm conditions.

Red micro-DL™
Plastic or 404 Stainless Steel back.
Memory capacity from 4k to 8k

Silver micro-DL
Increased memory from 32k to 64k. 404 Stainless Steel back.

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 MDAS-Pro software. Marathon's easy-to-use software is available for PCs running Microsoft Windows 2000, XP, Vista and Windows 7. 21CFR compliant software is available with full database capabilities

microDL SPECIFICATIONS

Measurement Intervals	User programmable from 2 seconds to months
Power Source	Two 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:	1.25 in. / 25.20 cm
Height:	0.75 in. / 1.25 cm
Water Resistant - Splash Proof	
Reader Station	USB 1.1 Port Interface
Software Required:	MDAS
Flat Flex	
Length	20 in. / 50.6 cm, or custom lengths
Width	0.3 in. / 0.76 cm

SKU# 8060

Polyester Film-Flat Flex Probe

SAFE CERTIFIED SHIPPING

Model number	Red mdl4 SKU# 8040	Red mdl8 SKU# 8057	Silver mdl32 SKU# 8033	Silver mdl64 SKU# 8049
EEPROM Memory	4K	8K	32K	64K (var.)
Temperature Range				
Low to High (C)	-10°C to 72°C	-30°C to 72°C	-40°C to 72°C	-40°C to 72°C
Low to High (F)	14°F to 161°F	-22°F to 161°F	-40°F to 161°F	-40°F to 161°F
Temperature Accuracy				
At zero	0.5°C / 1.0°F	0.2°C / 0.4°F	0.2°C / 0.4°F	0.2°C / 0.4°F
Extremes	1.0°C / 2.0°F	0.5°C / 1.0°F	0.5°C / 1.0°F	0.5°C / 1.0°F
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

MARATHON PRODUCTS

microDL-80C™

Record and Log Ultra-low Temperatures in Shipments, Refrigerators or Freezers

Our multi-use microDL-80C digital display technology now operates at ultra-low temperatures of -80C (-112F). The compact, coin-sized unit with the external thermistor probe can now help you verify that internal temperatures of your dry ice packages meet specifications prior to acceptance of your shipment. Simply push the start button to view critical temperature information upon arrivals. With optional memory sizes of 8k, 32k and 64k, accuracy and resolution of 0.2C , and a one meter long flexible ribbon probe this product is the answer for data logging ultra low temperature freezers or dry ice shipments.

Flexible - Pressing the button will display the following visual information: whether or not the logger is Recording, the 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. Customizable settings include: Delay to Start, Stop, Elapsed Time as well as customizable sampling time intervals. Also available: User Descriptions for initialization and for downloading the data.

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB and Regulatory Compliance

Visual Alarms - All our data loggers have the ability to program alarm limits. Should the temperature reach levels outside these limits, the digital display will show a notice until reset by the user.

Computer Ready - You can download the recording to your PC and plot the data, at any time. Our proprietary microDL USB Reader is needed to download temperature information to a computer. Marathon's easy-to-use MDAS-Pro software is available for PCs running Microsoft Windows 2000, XP, Vista and Windows 7. 21CFR compliant software is available with full database capabilities

microDL SPECIFICATIONS

Measurement Intervals	User programmable from 2 seconds to months
Power Source	Two 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:	1.25 in. / 25.20 cm
Height:	0.75 in. / 1.25 cm
Water Resistant - Splash Proof	
Reader Station	USB 1.1 Port Interface
Software Required:	MDAS
Flat Flex	
Length	20 in. / 50.6 cm, or custom lengths
Width	0.3 in. / 0.76 cm

SKU# 8051
Polyester Film-Flat Flex Probe

Model number	mdl8 SKU# 8058	mdl32 SKU# 8035	mdl64 SKU# 8051
EEPROM Memory	8K	32K	64K (variable)
Temperature Range			
Low to High	-80°C to 30°C	-80°C to 30°C	-80°C to 30°C
Low to High	-112°F to 86°F	-112°F to 86°F	-112°F to 86°F
Temperature Accuracy			
At zero	0.2°C / 0.4°F	0.2°C / 0.4°F	0.2°C / 0.4°F
Extremes	0.5°C / 1.0°F	0.5°C / 1.0°F	0.5°C / 1.0°F
Features			
Stainless steel backs	Yes	Yes	Yes
Variable memory	No	No	Yes
Continuous memory	Yes	Yes	Yes
Weight	17 g / 0.6 oz.	17 g / 0.6 oz.	17 g / 0.6 oz.
Mean Kinetic Temperature	Yes	Yes	Yes
Warranty	12 months	12 months	24 months

SAFE CERTIFIED SHIPPING

MARATHON PRODUCTS

edl-CO2™

Extreme low temperature
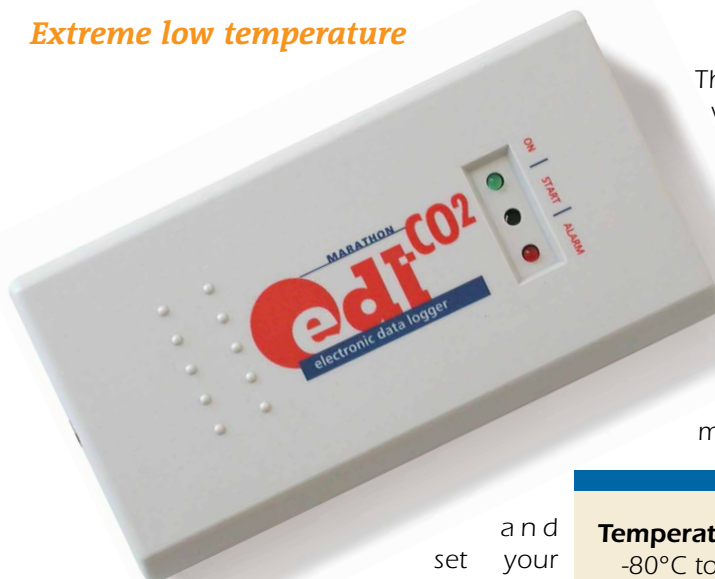
The edl-CO2 is the world's first compact multi-use programmable data logger capable of operating at -81C while in direct contact with "dry ice" for extended environmental monitoring. Program

and set your data logger for up to 6 months and monitor critical applications requiring low temperature environments. Laboratory freezers, blood banks and research laboratories can now benefit from our advanced circuits and latest software enabling technologies.

The internal software provides the following features: start time, stop time, intervals, zoom, statistical analysis, descriptions for special instructions, measurement data and after the fact report generation options. User selectable features also include language conversions from English to: Japanese, French, German, Spanish, and Portuguese.

To start the recorder, simply press the start button!

Temperature Range
-80°C to 30°C
(-112°F to 86°F)

Temperature Accuracy
(NIST traceable)
±0.2°C at zero degrees
±2.5°C at extremes

Measurement intervals
2 seconds to months

Number of measurements
7,600 samples

SKU# 8021 edl-CO2 SPECIFICATIONS

Memory EEPROM:	8k
Temperature Range:	-80°C to 30°C / -113°F to 86°F
Temperature Accuracy:	
At zero:	±0.5°C / ±0.9°F
At -80°C (-113°F):	±2.0°C / ±3.6°F
At +30°C (+86°F):	±1.0°C / ±1.8°F
Measurement Interval:	Programmable from 2 seconds to months
Temperature Sensor:	NIST-traceable Precision Thermistor
Alarm Limits:	LED indicator. High and Low Alarm set by temperature and time
Internal Clock Accuracy:	Better than 2 minutes per month
Indicators:	Power and Alarm
Computer Interface:	Serial Port RS232 Cable, USB Converter
Firmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Software Required:	MDAS
Power Source:	Two AA 3.6 Volt Lithium Batteries. 2 Year Shelf Life – Battery is rated at six months, if used continuously at -80°C
Physical properties	
Width	2.65 inch / 6.73 cm
Length	5.06 inch / 12.85 cm
Depth	0.66 inch / 1.69 cm
Weight	3.7 oz. / 106 grams
Accessories:	External Probes

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB and Regulatory Compliance
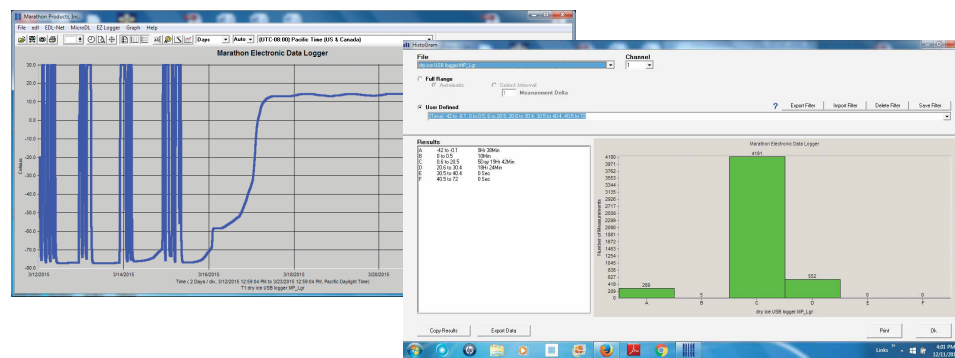
MARATHON PRODUCTS

c\temp-LCD™
Data Loggers

Our Single-use Temperature Logger with Real-Time LCD Display for Instant Acceptance or Quarantine Decisions.

WATERPROOF

c\temp-LCD is the revolutionary, single-use, pre-programmed, electronic temperature data recorder specifically designed for measuring temperatures dur-ing the transportation of refrig-erated vaccines, biological mate-rial, chemicals, pharmaceuticals, and for documenting the trans-portation of perishable commodi-ties. The c\temp-LCD is NIST-traceable and comes with a Certificate of Conformance.
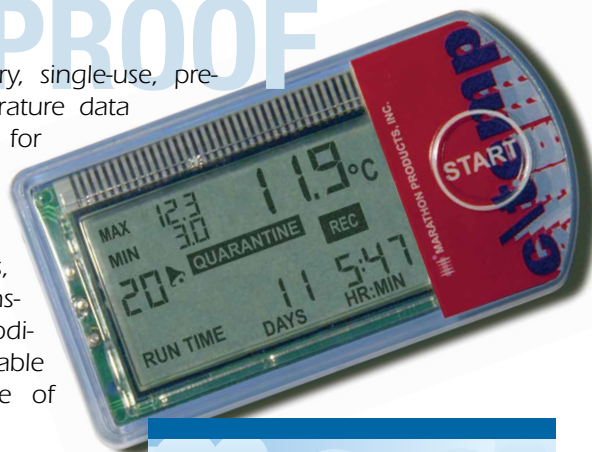
Functions include:

- Internal Thermistor: accurately records time and temperatures for user selectable readings in Celsius or Fahrenheit.
- LCD display: Shows Current temperature, Max Temperature, Minimum Temperature, Run Time, Alarm Status, and Recording.

Small Form Factor: c\temp-LCD has an extended battery life and can endure rough handling. The internal software records the following: time mechanism, start time, sam-pling intervals, end description for special instructions, alarm values, recording status, measurement data, software version, serial and tracking number, model type and after the fact report generation options.

Cloud Computing

Temperature Logger Management

TRACEABILITY, HACCP COMPLIANCE

Marathon's Temperature data logger customers can share data and access their tempera-ture and RH files remotely, any-where, at anytime via the Internet.

Our cloud-based software pro-vides compliance with HACCP rules and regulations for all of your perishable shipments.

Visual Alarms: All our data loggers can be programmed with alarm limits. Should the temperature reach lev-els outside these limits, the LDC will display "ALARM." To start the recorder, simply press the start button!

USB Interface: To download recorded information, simply plug the optional USB Cradle into the stan-dard USB port of your PC.

SAFE CERTIFIED SHIPPING

USB Cable SKU# 9046

Reader Station SKU# 7005

SKU# 7007 c\temp-LCD DATA LOGGER SPECIFICATIONS

Memory:	EEPROM, 8k Storage (7,680 data points)
Temperature Range:	-35°C to +50°C / -31°F to +122°F
Temperature Accuracy:	±0.2°C at 0° to 10°C / ±1.0°C at extremes ±0.36°F at 32° to 50° F / ±1.8°F at extremes
Measurement Intervals: For example:	Pre-programmed from 2 seconds to months. 4 days = 0 min. 45 sec. 7 days = 1 min. 18 sec. 16 days = 2 min. 58 sec. 30 days = 5 min. 33 sec. 60 days = 11 min. 6 sec. 90 days = 16 min. 39 sec. 365 days = 1 hr. 4 min. 39 sec.
Temperature Sensor:	NIST-traceable Precision SMT Thermistor
Indicators:	LCD Display. Start/Stop and Alarm
High and low alarm limits:	ALARM set by temperature and time.
Computer Interface:	USB Cradle
IFirmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Software Required:	MaxiThermal
Power Source:	Lithium Battery (1 year operating, 3 year shelf life)
Size:	Length Width Depth 6.5 cm / 2.56 in. 3.4 cm / 1.3 in. 0.9 cm / 0.35 in.
Weight:	56.7 grams / 2.0 oz.
Quantity:	Minimum 20 units. Your order is shipped on the same day if the order is placed before 2 p.m. PST.
Options:	MaxiThermal software USB cradle
Serialization:	This recorder is programmed at the factory with a unique serial number for positive tracking.
Waterproof Enclosure:	The product package is hermetically sealed to an IP66 rating.

Recyclable: c\temp-LCD recorders are designed for single use, and we encourage recycling. Please call Marathon Products for complete disposal or recycling instructions.

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

MARATHON PRODUCTS

c\temp-USB™
Data Logger

The Waterproof Single-use Solution with USB Connectivity.

c\temp-USB is the revolutionary single-use pre-programmed electronic temperature recorder developed by Marathon Products. It is specifically designed for measuring temperatures during the transportation of refrigerated vaccines, biological material, chemicals, pharmaceuticals, and documenting the transportation of fruits and vegetables.

Functions include: The internal thermistor accurately records time and temperatures for user selectable readings in Celsius or Fahrenheit. The larger format c\temp-USB has an extended battery life, is waterproof and can endure rough handling. The internal software records the following: time measurements, start time, intervals, end description for special instructions, alarm values, recording status, measurement data, software version, serial and tracking number, model type and after the fact report generation options.

Visual alarms: All our data loggers can be programmed with alarm limits. Should the temperature reach levels outside these limits, the onboard red LED will light until reset by the user. To start the recorder, simply press the START button!

Computer ready: MaxiThermal software is used to read the logger. It runs on Windows 2000, XP, Vista, & 7. To download recorded information, simply plug the unit into the standard USB port of your PC. The MaxiThermal software and USB cable are available as separate accessory items.

Temperature Range
-29°C to 72°C / -20°F to 160°F

Temperature Accuracy
±0.2°C from 0° to 10° C
±0.5°C at extremes

±0.4°F from 32° to 50° F
±0.9°F at extremes

Measurement Intervals
Pre-programmed from 1 minute to hours depending on model type (duration).

Number of Measurements
8K memory (7680 data pts.)

SKU# 7009 c\temp-USB SPECIFICATIONS

Memory:	EEPROM, 8k Storage (7,680 data points)
Temperature Range:	-29°C to 72°C / -20°F to 160°F
Temperature Accuracy:	±0.2°C at 0° to 10°C / ±0.5°C at extremes ±0.36°F at 32° to 50° F / ±0.9°F at extremes
Measurement Intervals:	Pre-programmed from 1 minute to hours depending on model type (duration) 4 days = 0 min. 43 sec. 7 days = 1 min. 15 sec. 16 days = 2 min. 50 sec. 30 days = 5 min. 19 sec. 60 days = 10 min. 38 sec. 90 days = 15 min. 57 sec. 365 days = 1 hr. 4 min. 39 sec.
Temperature Sensor:	NIST-traceable Precision Thermistor
Indicators:	Start/Stop and Alarm
Alarm Limits:	LED indicator alarm set by temperature and time.
Computer Interface:	mini USB connector
Firmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Software Required:	MaxiThermal
Power Source:	Lithium Battery (2 Year Shelf Life)
Size:	Length Width Depth 13.0 cm / 5.1 in. 6.8 cm / 2.7 in. 2.0 cm / 0.8 in.
Weight:	71 grams / 2.5 oz.
Quantity:	Minimum 20 units. Your order is shipped on the same day if the order is placed before 2 p.m. PST.

Recyclable: c\temp-USB recorders are designed for single use, and we encourage recycling. Please call Marathon Products for complete disposal or recycling instructions.

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance

SAFE CERTIFIED SHIPPING

MARATHON PRODUCTS

c\temp-USB -80C™
Data Loggers

The Single-use Solution with USB Connectivity.

Our new compact c\temp-USB -80C dry ice data logger now comes with USB built-in so that downloading data is fast! Connect with a mini USB cable found any-where and obtain real time and or stored -80C readings immediately. Our time-tested dry ice log-gers, used by Fortune 500 Companies globally, for dry ice shipments NOW comes with USB connectivity. Now connect immediately to your PC with this new USB enablement without having to worry about bringing the data logger to room temperatures. You asked and we have complied! This new product is IP66 rated for moisture prevention commonly associated with dry ice shipments.

Designed for measuring temperatures dur-ing the transportation of biologics, vaccines, chemicals, pharmaceuticals and ultra frozen products—this new product will surely satis-fy your critical dry ice shipments.

The internal software provides the following features: time mechanism, start time, inter-vals, end descriptions details for special instructions, alarm values, recording status, measurement data, software version, serial numbers, model type and after the fact report generation options.

Temperature Range
-80C to +30C
(-113F to +86F)

Temperature Accuracy
±0.2°C (±0.4°F)
at 0° to 10°C
(32 to 50°F);
±2.0°C (±1.8°F)
at extremes

Measurement Intervals
Pre-programmed from
2 seconds.

EEPROM Memory
8k

MDAS Software includes language con-version on the fly from English to: Spanish, German, Portuguese, Japanese, and French.

To Start the recorder, simply press the START Button!

SKU# 7042 c\temp-USB -80C DATA LOGGER SPECIFICATIONS

Memory EEPROM, Storage:	8k, approximately 8,000 measurements
Temperature Range:	-80C to +30C (-113F to +86F)
Temperature Accuracy:	±0.2°C at 0 to 10°C, ±2.0°C at extremes
Temperature Resolution	0.5°C (0.9°F)
Measurement Intervals: For example:	Programmable from 2 seconds per reading.
	4 days = 0 min. 43 sec.
	7 days = 1 min. 15 sec.
	16 days = 2 min. 50 sec.
	30 days = 5 min. 19 sec.
	60 days = 10 min. 38 sec.
Temperature Sensor:	Precision NTC thermistor
Indicators:	Start/Stop and Alarm
High and low alarm limits:	LED indicator alarm set by temperature and time
Computer Interface:	USB Mini B port
Firmware Provides:	Internal Clock, Start time, Interval, User description, Alarm values, Recording status, Measurement data, Firmware version, Serial number, Model type.
Software Required:	MDAS
Power Source:	One 3.6 Volt Lithium battery with 1 year operating life, 3 years shelf life.)
Size:	9 cm(l) x 5 cm(w) x 2.8 cm (h) / 3.5 in.(l) x 1.96 in (w) x .1.1 in.(h)
Weight:	85 g (3.0 oz.)
Probes	No
Accessories:	NIST Certificate = no charge Optional NIST Certificate + 1, 2 or 3 Point Calibration Available
Warranty	3 Months

SAFE CERTIFIED SHIPPING

For FDA, GxP, JCAHO, CAP, HFAP, CARF, CHAP, ACHC, URAC, HQAA, AABB, HACCP and Regulatory Compliance
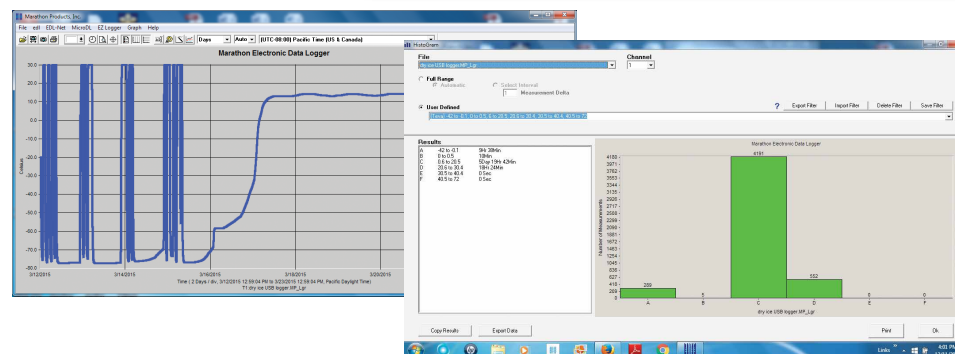
MARATHON PRODUCTS

MaxiThermal™ On-Line Software

NO LIMITS — Any File. Any Location. Any Time. Any Users.

CLOUD-BASED DATA LOGGER ACCESS with 21CFR:11 Compliant Database

MaxiThermal On-Line Enterprise SaaS is the ideal solution for managing and analyzing data from multiple data loggers with multi-user access from multiple locations, for all your clinical shipments. CLOUD-BASED ACCESS OR ON YOUR SERVER, it is easy to find and sort all your data files using our File Management Software.

Features:

Location Independence: Data logger files sourced anywhere can be centrally stored, managed and monitored.

Flexible Hosting Options: From single Windows PC to multiple servers in multiple locations; local in-house servers to cloud-based services.

Web-based Software with Dashboard Control: Means hassle-free deployment for access by an unlimited number of users with a standard web browser. An intuitive and interactive

Secure Login
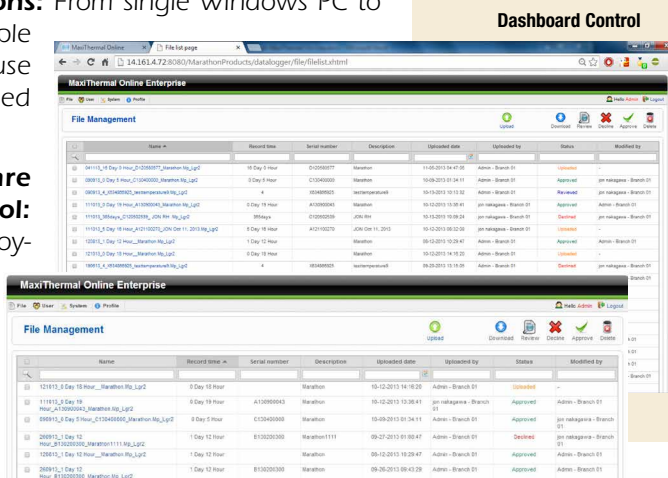
Dashboard Control

dashboard makes it easy to view, manage, save and retrieve multiple data files with ease.

Concurrent & Secure Access: Enable multiple users to simultaneously perform analytics and administration functions while constraining actions based on permissions.

Audit Trail: Individual actions and exceptions are logged to the database for accountability and traceability.

Bulk Administration: Multiple logger data files can be managed effortlessly from a single web page.

Historical Analytics: View aggregated logger data for any period in the past in graphical or tabular formats.

Multiple Sensor Inputs & Attribute Filters: Data files from different sensors are stored and managed in a central file database. Temperature, CO_2, Humidity, Vibration Monitoring, (Electrical Power Consumption, N_2, and O_2 are Pending). A single click is all it takes to filter for specific status & conditions, e.g. Alarms.

Support for all popular browsers: Flexible, intuitive interface ensures that MaxiThermal-Online will work the same way regardless of your business browser standard.
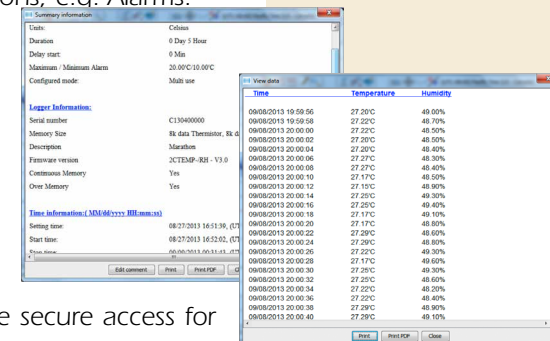
Print Logger Reports & Data: Centralized storage with remote secure access for all loggers' data files.

Marathon Products MaxiThermal-Online, a flexible, easy-to-use solution.
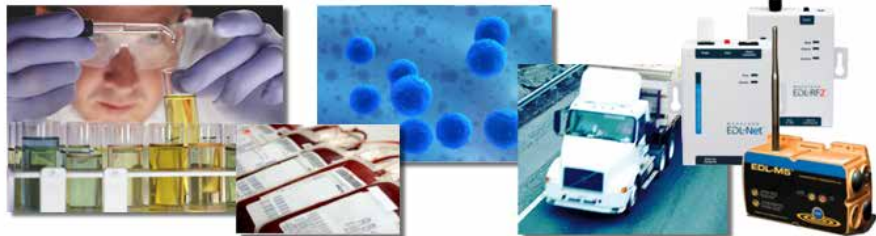
SKU# 7002
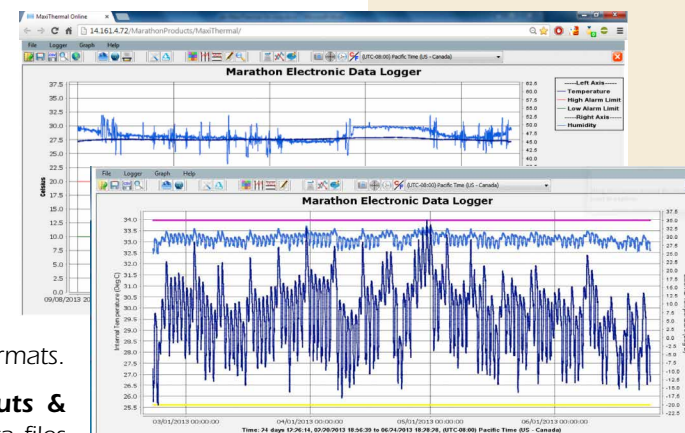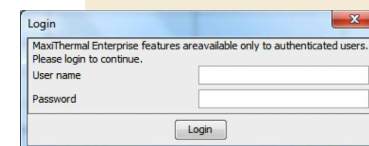
Export to Microsoft Excel for further analysis and reporting.

Print Logger Report & Data

MARATHON PRODUCTS
LoggerPulse™ Software

Any File. Any Location. Any Time. Any Users.

Our enterprise software is the ideal solution for managing and analyzing data from multiple data loggers from multiple locations.

Location Independence: Data loggers located anywhere can be centrally managed and monitored.

Flexible Hosting Options: From single Windows PC to multiple servers in multiple locations; local in-house servers to cloud-based services.

Web-base Software: Means hassle-free deployment for access by an unlimited number of users with a standard web browser.

Dashboard Control: An intuitive and interactive dashboard makes it easy to view status, manage, and program multiple loggers with ease.

Alarm Notifications: Highly customizable alarm notifications ensure that the right people are alerted when loggers detect a problem. Alarm notifications can be sent as a phone call to land lines and mobile phones, as email to regular email accounts or to mobile phones as text messages.

21CFR COMPLIANT
- Controls for closed and open systems
- Electronic audit trails for regulatory compliance.
- Electronic audit trails for regulatory compliance.

Dashboard Control

Real-time Analytics: Multiple users can concurrently monitor data streamed in real-time from any number of loggers.

Real-time Data: Logger data can be displayed individually or aggregated.

Bulk Administration: Programming, starting and stopping hundreds of loggers can be done effortlessly from a single web page.

Concurrent & Secure Access: Enable multiple users to simultaneously perform analytics and administration functions while constraining actions based on permissions.

Real-Time Analytics

Audit Trail: Individual actions and exceptions are logged to the database for accountability and traceability. User notes are incorporated for explanation and follow up.

Historical Analytics: View aggregated logger data for any period in the past in graphical or tabular formats. Export to Microsoft Excel for further analysis and reporting.

Attribute Filters: A single click is all it takes to filter for specific status and conditions, e.g. Alarms.
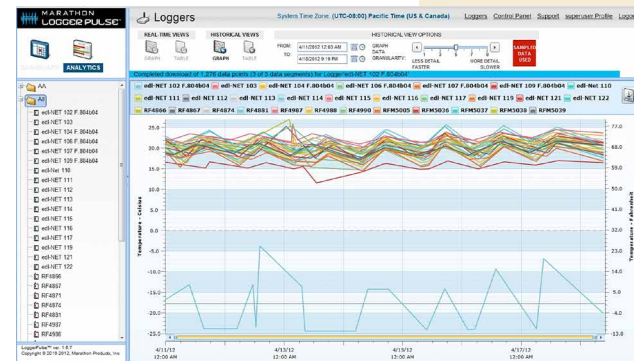
Multi-Sensor Inputs: Temperature, Humidity, Vibration Monitoring, Electrical Power Consumption, CO_2, N_2, O_2 (Pending).

Historical Analytics

Support for all popular browsers: Flexible, intuitive interface ensures that LoggerPulse will work the same way regardless of your business browser standard.

SKU# 8025, 8026
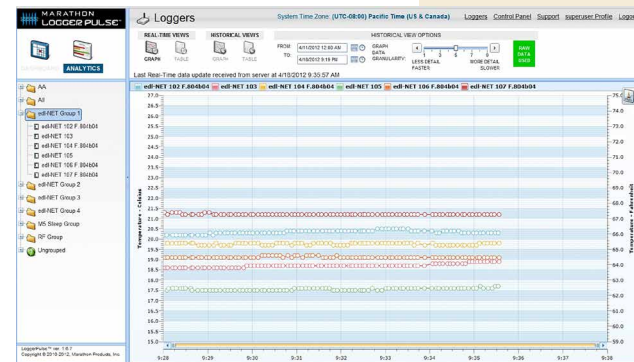
Notes

Celsius	Fahren.	Celsius	Fahren.	Celsius	Fahren.	Celsius	Fahren.	Celsius	Fahren.	Celsius	Fahren.
-200.00	-328.00	-145.00	-229.00	-90.000	-130.00	-35.00	-31.00	20.00	68.0	75.00	167.00
-199.00	-326.20	-144.00	-227.20	-89.000	-128.20	-34.00	-29.20	21.00	69.8	76.00	168.80
-198.00	-324.40	-143.00	-225.40	-88.000	-126.40	-33.00	-27.40	22.00	71.6	77.00	170.60
-197.00	-322.60	-142.00	-223.60	-87.000	-124.60	-32.00	-25.60	23.00	73.4	78.00	172.40
-196.00	-320.80	-141.00	-221.80	-86.000	-122.80	-31.00	-23.80	24.00	75.2	79.00	174.20
-195.00	-319.00	-140.00	-220.00	-85.000	-121.00	-30.00	-22.00	25.00	77.0	80.000	176.00
-194.00	-317.20	-139.00	-218.20	-84.000	-119.20	-29.00	-20.20	26.00	78.8	81.000	177.80
-193.00	-315.40	-138.00	-216.40	-83.000	-117.40	-28.00	-18.40	27.00	80.6	82.000	179.60
-192.00	-313.60	-137.00	-214.60	-82.000	-115.60	-27.00	-16.60	28.00	82.4	83.000	181.40
-191.00	-311.80	-136.00	-212.80	-81.000	-113.80	-26.00	-14.80	29.00	84.2	84.000	183.20
-190.00	-310.00	-135.00	-211.00	-80.00	-112.00	-25.00	-13.00	30.00	86.00	85.000	185.00
-189.00	-308.20	-134.00	-209.20	-79.00	-110.20	-24.00	-11.20	31.00	87.80	86.000	186.80
-188.00	-306.40	-133.00	-207.40	-78.00	-108.40	-23.00	-9.40	32.00	89.60	87.000	188.60
-187.00	-304.60	-132.00	-205.60	-77.00	-106.60	-22.00	-7.60	33.00	91.40	88.000	190.40
-186.00	-302.80	-131.00	-203.80	-76.00	-104.80	-21.00	-5.80	34.00	93.20	89.000	192.20
-185.00	-301.00	-130.00	-202.00	-75.00	-103.00	-20.00	-4.00	35.00	95.00	90.000	194.00
-184.00	-299.20	-129.00	-200.20	-74.00	-101.20	-19.00	-2.20	36.00	96.80	91.000	195.80
-183.00	-297.40	-128.00	-198.40	-73.00	-99.40	-18.00	-0.40	37.00	98.60	92.000	197.60
-182.00	-295.60	-127.00	-196.60	-72.00	-97.60	-17.00	1.40	38.00	100.40	93.000	199.40
-181.00	-293.80	-126.00	-194.80	-71.00	-95.80	-16.00	3.20	39.00	102.20	94.00	201.20
-180.00	-292.00	-125.00	-193.00	-70.00	-94.00	-15.00	5.00	40.00	104.00	95.000	203.00
-179.00	-290.20	-124.00	-191.20	-69.00	-92.20	-14.00	6.80	41.00	105.80	96.000	204.80
-178.00	-288.40	-123.00	-189.40	-68.00	-90.40	-13.00	8.60	42.00	107.60	97.000	206.60
-177.00	-286.60	-122.00	-187.60	-67.00	-88.60	-12.00	10.40	43.00	109.40	98.000	208.40
-176.00	-284.80	-121.00	-185.80	-66.00	-86.80	-11.00	12.20	44.00	111.20	99.000	210.20
-175.00	-283.00	-120.00	-184.00	-65.00	-85.00	-10.00	14.00	45.00	113.00	100.00	212.00
-174.00	-281.20	-119.00	-182.20	-64.00	-83.20	-9.00	15.80	46.00	114.80	101.00	213.80
-173.00	-279.40	-118.00	-180.40	-63.00	-81.40	-8.00	17.60	47.00	116.60	102.00	215.60
-172.00	-277.60	-117.00	-178.60	-62.00	-79.60	-7.00	19.40	48.00	118.40	103.00	217.40
-171.00	-275.80	-116.00	-176.80	-61.00	-77.80	-6.00	21.20	49.00	120.20	104.00	219.20
-170.00	-274.00	-115.00	-175.00	-60.00	-76.00	-5.00	23.00	50.00	122.00	105.00	221.00
-169.00	-272.20	-114.00	-173.20	-59.00	-74.20	-4.00	24.80	51.00	123.80	106.00	222.80
-168.00	-270.40	-113.00	-171.40	-58.00	-72.40	-3.00	26.60	52.00	125.60	107.00	224.60
-167.00	-268.60	-112.00	-169.60	-57.00	-70.60	-2.00	28.40	53.00	127.40	108.00	226.40
-166.00	-266.80	-111.00	-167.80	-56.00	-68.80	-1.00	30.20	54.00	129.20	109.00	228.20
-165.00	-265.00	-110.00	-166.00	-55.00	-67.00	0.00	32.0	55.00	131.00	110.00	230.00
-164.00	-263.20	-109.00	-164.20	-54.00	-65.20	1.00	33.8	56.00	132.80	111.00	231.80
-163.00	-261.40	-108.00	-162.40	-53.00	-63.40	2.00	35.6	57.00	134.60	112.00	233.60
-162.00	-259.60	-107.00	-160.60	-52.00	-61.60	3.00	37.4	58.00	136.40	113.00	235.40
-161.00	-257.80	-106.00	-158.80	-51.00	-59.80	4.00	39.2	59.00	138.20	114.00	237.20
-160.00	-256.00	-105.00	-157.00	-50.00	-58.00	5.00	41.0	60.00	140.00	115.00	239.00
-159.00	-254.20	-104.00	-155.20	-49.00	-56.20	6.00	42.8	61.00	141.80	116.00	240.80
-158.00	-252.40	-103.00	-153.40	-48.00	-54.40	7.00	44.6	62.00	143.60	117.00	242.60
-157.00	-250.60	-102.00	-151.60	-47.00	-52.60	8.00	46.4	63.00	145.40	118.00	244.40
-156.00	-248.80	-101.00	-149.80	-46.00	-50.80	9.00	48.2	64.00	147.20	119.00	246.20
-155.00	-247.00	-100.00	-148.00	-45.00	-49.00	10.00	50.0	65.00	149.00	120.00	248.00
-154.00	-245.20	-99.000	-146.20	-44.00	-47.20	11.00	51.8	66.00	150.80	121.00	249.80
-153.00	-243.40	-98.000	-144.40	-43.00	-45.40	12.00	53.6	67.00	152.60	122.00	251.60
-152.00	-241.60	-97.000	-142.60	-42.00	-43.60	13.00	55.4	68.00	154.40	123.00	253.40
-151.00	-239.80	-96.000	-140.80	-41.00	-41.80	14.00	57.2	69.00	156.20	124.00	255.20
-150.00	-238.00	-95.000	-139.00	-40.00	-40.00	15.00	59.0	70.00	158.00	125.00	257.00
-149.00	-236.20	-94.000	-137.20	-39.00	-38.20	16.00	60.8	71.00	159.80	126.00	258.80
-148.00	-234.40	-93.000	-135.40	-38.00	-36.40	17.00	62.6	72.00	161.60	127.00	260.60
-147.00	-232.60	-92.000	-133.60	-37.00	-34.60	18.00	64.4	73.00	163.40	128.00	262.40
-146.00	-230.80	-91.000	-131.80	-36.00	-32.80	19.00	66.2	74.00	165.20	129.00	264.20

The equation for converting Fahrenheit to Celsius is: C = (F - 32) * 5 / 9, F = (C * 9 / 5) + 32

*Don't ship
without us!*®

MARATHON
PRODUCTS, INC.