



# MONARCH INSTRUMENT

*Instruction Manual*

## ***Track-It™* Extreme Temperature Data Logger**



**CE NIST**

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## SAFEGUARD AND PRECAUTIONS



1. Read and follow all instructions in this manual carefully, and retain this manual for future reference.
2. Do not open the unit in a high humidity environment; it will cause condensation inside the unit.
3. Do not operate this device in flammable or explosive atmospheres.
4. This device has no power switch. It will be in operation as soon as power is connected or battery is inserted.
5. Do not use this instrument in any manner inconsistent with these operating instructions or under any conditions that exceed the environmental specifications stated.
6. There are no user serviceable parts in this instrument. Refer service to a qualified technician.
7. The Logger may be hot when handling; use safety precautions.
8. Bending the flexible probes too many times or too sharp of a bend radius will damage/break the flexible probe.



**In order to comply with EU Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE):** This product may contain material which could be hazardous to human health and the environment. **DO NOT**  **DISPOSE** of this product as unsorted municipal waste. This product needs to be **RECYCLED** in accordance with local regulations; contact your local authorities for more information. This product may be returnable to your distributor for recycling; contact the distributor for details.

Monarch Instrument's Limited Warranty applies.  
See [www.monarchinstrument.com](http://www.monarchinstrument.com) for details.

Warranty Registration and Extended Warranty Coverage information is available online at [www.monarchinstrument.com](http://www.monarchinstrument.com).

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Track-It is a trademark of Monarch Instrument.

Excel is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.

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## 1.0 INTRODUCTION

The Extreme Temperature Logger series consists of a self-contained environmentally sealed (IP68) 316L stainless steel enclosure with one or two temperature channels using probes of various configurations. The loggers are designed to measure temperatures from -50° to +150°C (-58° to 302°F). The entire unit may be placed in the temperature environment. The flexible probe is capable of measuring temperatures from -70° to +300°C (-94° to +572°F). (Probe only).



**CAUTION: Bending the flexible probe too many times or too sharp of a bend radius will damage/break the flexible probe.**

The units are programmed via software running on a Windows PC. Communications is via a USB-A to Mini USB cable from PC to the Reader that the logger is inserted into. ([See section 3.0 for more on the Reader.](#))



*Extreme Logger Reader*

Once programmed, the logger will record temperature from once every 2 seconds to once every 24 hours. Advanced temperature compensated RTD technology allows for extremely accurate measurement with the entire logger in the temperature environment.

Note: The Logger system and software meets the FDA Regulation 21 CFR Part 11 Requirements for Electronic Records, Electronic Signatures, and complies with DIN ISO 17665 for moist heat (saturated steam) sterilization of medical products.

## 2.0 GETTING STARTED

### 2.1 Install USB Driver and Track-It™ Software



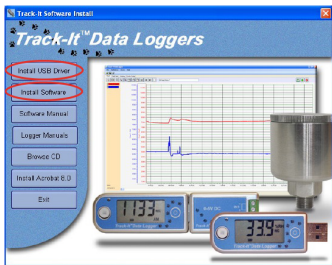
**CAUTION: Do NOT plug the Reader into the USB port until AFTER the USB driver and Track-It Software have been installed.**

## Download Track-It Software from the link below:

[https://www.monarchserver.com/Files/Software/Track-It\\_Software.zip](https://www.monarchserver.com/Files/Software/Track-It_Software.zip)

Unzip the file to a local directory on your PC. Double-click **CD\_Start.exe**. This will launch the Track-it Data Loggers installation screen as shown at the right.

▷ Click **Install USB Driver** and follow the prompts. Click **Continue Anyway** if you see the message about software installation.




*Track-it Software's installation screen*


▷ Click **Install Software** and follow the instructions to complete the installation. The software is now ready for use.

Logger and software manuals may also be accessed from the installation screen.

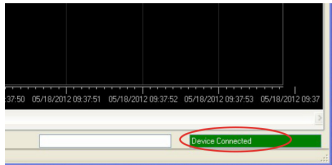
## 2.2 Connect Reader and Start Track-It Software

Connect Reader to PC USB port with the supplied cable.

If the *Found New Hardware Wizard*  appears, follow the prompts to complete the installation.

▷ Insert the Track-It logger into the Reader. Start the Track-It Software by double-clicking the Track-It icon  on your PC desktop or from the Start menu.

If the USB driver installed properly, you will see *Device Connected* displayed in the lower right-hand corner of the Track-It Software window.



## 2.3 Configure Logger


▷ Select the **Device Setup** tab. The software will automatically retrieve and display the data logger configuration.


▷ Review default factory configuration settings and make any necessary changes, i.e. sample rates, triggers, alarms, etc. Be sure that the time and date are properly set.

▷ Click **Send Config** under the Device Configuration section of the window.

Your data logger is now operational!

## 3.0 LOGGER READER

 **CAUTION: The logger may be hot. DO NOT INSERT into the Reader while hot.**

 **CAUTION: Whenever the software is communicating with the logger, the READY LED will light amber. DO NOT remove the logger when this LED is amber.**

To configure or read data from the logger, you will need the Extreme Logger Reader. This connects to your PC via a USB A-Male to Mini USB cable. The Reader can be powered via the USB plug or through the DC Power socket (use a 9-volt, center positive power supply.)

▷ Plug the Reader into the PC; the ON LED will light (Figure 1 below).

▷ Insert the logger into the base; the READY LED will light green (Figure 2 below).

▷ Run the Track-It Software.



## 4.0 REPLACING THE BATTERY

To replace the battery, the top or “lid” of the logger enclosure needs to be unscrewed (Figure 3) from the bottom. There are two flats on the “lid” to facilitate the use of a wrench. Once exposed, the battery may be removed and replaced. Note the positive terminal when replacing (Figure 4).

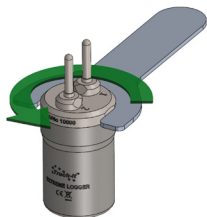


Figure 3: Unscrew lid counterclockwise

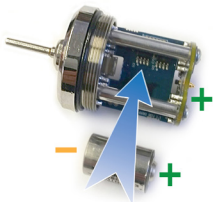


Figure 4: Battery polarity



Figure 5: LED blinking 2X

**⚠ Use only a 3B5700 ½ AA Lithium Sulfuryl Chloride 3.9V 800mAh High Temperature (150°C) battery. (Monarch PN: 5396-9934 or similar)**

If the new battery has been inserted correctly, the LED on the opposite side of the board will blink twice within 5 seconds (Figure 5). Replace the bottom; be sure to tighten completely to ensure a good seal. The O-ring should not create a gap between the top and the bottom.



Inserted

Not tight enough

Good Seal

Figure 6: Proper sealing of the housing

## 5.0 SPECIFICATIONS\*

### Measurement:

<b>Temp. Range (fixed probe)</b>	-58° to 302°F (-50° to +150°C)
<b>Accuracy</b>	±0.2°F from -22° to 302°F (±0.1°C from -30° to +150°C)
	±0.4°F from -58° to -22°F (±0.2°C from -50° to -30°C)
<b>Temp. Range (flexible probe)</b>	-94° to 572°F (-70° to +300°C) probe only
<b>Accuracy</b>	±0.2°F from -22° to 302°F (±0.1°C from -30° to +150°C)
	±0.5°F from -22° to 572°F (±25°C from -70° to +300°C)

### General:

<b>Sample Rate</b>	User-configurable, 1 sample every 2 seconds to 1 every 24 hours
<b>No. of Samples</b>	30,000 stored in non-volatile memory
<b>Record of Trigger</b>	Two independent triggers Multiple trigger modes: Instantaneous, On Alarm, Time and Date (start and stop)
<b>Record Mode</b>	Fill to end of memory or cyclic, number of samples and time duration
<b>Alarms</b>	2 user-programmable alarms (High or Low)
<b>Real-Time Clock</b>	Accuracy ± 1 minute/year at 77°F (25°C)
<b>Communication</b>	Reader with USB connection; no need to open Logger to read data or program
<b>Compliance</b>	CE compliant; Low Voltage Directive (LVD) 2014/35/EU Electromagnetic Compatibility Directive (EMC) 2014/30/EU Restriction of Hazardous Substances (RoHS 3) Directive 2015/863/EU
<b>Software</b>	Track-It Software — program device, view data (historic or real-time), plot data, export to Excel™ FDA Regulation 21CFR Part 11 compliant



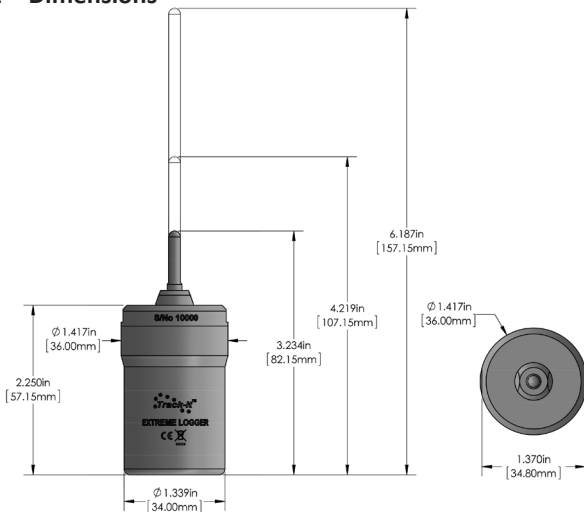
## 5.0 SPECIFICATIONS\* *continued*

### Environmental:

Temp. Range	-58° to 302°F (-50° to +150°C)
Humidity	0 to 100% condensing
Pressure	0 to 9 bar (0 to 130 psi)
Submersion	IP68 – 1.5m (~ 5 ft.) of static water indefinitely
Battery	3B5700 ½ AA lithium sulfuryl chloride 3.9V 800 mAh rated 150°C; field replaceable (Monarch PN: 5396-9934) Life: up to 2 years typical @ 1 minute sample rate (@20°C)
Enclosure	Material: 316L stainless steel Dimensions w/out probe: 1.43" (dia.) x 2.30"/(3.6 cm (dia.) x 5.5 cm)
Probe Lengths	1", 2", and 4" (3.6 cm, 5 cm, and 10 cm) Flexible: 22" (56 cm)

\*Specifications are subject to change without notice.

## 5.1 Dimensions



## 6.0 ACCESSORIES

### Extreme Logger Reader



PN: 5396-9930

### Spanner Wrench



PN: 5396-9933

### Extreme Logger Battery *includes replacement o-ring*



PN: 5396-9934

### Replacement O-Ring Seals *set of 3*



PN: 5396-9931

### 3 Ft. USB Extension Cable



PN: 5396-9901

### Mini USB Cable



PN: 5396-9911

### Track-It Software on CD



PN: 5396-9902

### Kit Case for Track-It Data Logger



PN: 5396-9918

[For details, see Accessories webpage.](#)

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## *The Professional's Choice*

*Monarch Instrument is committed to excellence and quality in manufacturing, sales, and service.*



*Portable  
Tachometers*



*Track-It™ Data Loggers*



*Panel Tachometers*



*Fixed Mounted  
Strobes*



*Portable Strobes*



*Frequency  
Converters*



*Speed Sensors*



*DataChart™ Paperless  
Recorders*



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