



MONARCH INSTRUMENT
Instruction Manual

CE

Track-It™ Data Loggers



**Extreme Temperature
(XT) Data Logger**

NIST
CALIBRATION



Safeguards 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.

 **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.

Warranty Registration and Extended Warranty coverage available online

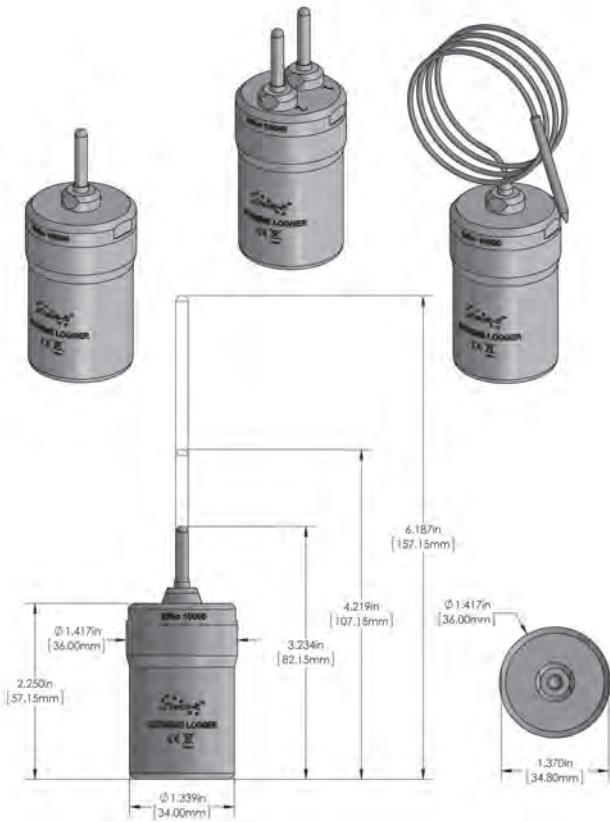
Extreme Temperature (XT) Data Logger

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1.0 INTRODUCTION

The Extreme Temperature (XT) 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 $+150^{\circ}\text{C}$ (-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 $+300^{\circ}\text{C}$ (-94° to $+572^{\circ}\text{F}$). (Probe only).

The units are programmed via software running on a Windows PC. Communications is via a USB-A to MiniB cable from PC to the READER that the logger is inserted into. See section 3.0 for more on the 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.

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

IMPORTANT: Do NOT plug the READER into the USB port until AFTER the USB Driver and Track-It Software have been installed.



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

2. 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 READER. Start the Track-It Software by double-clicking the Track-It icon (shown right) 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.

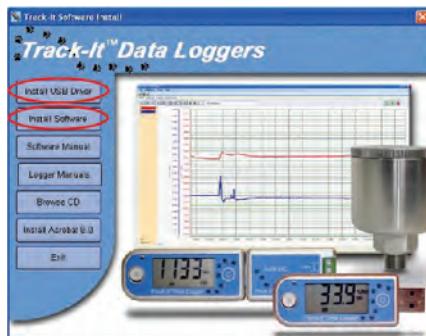


2.3 Configure Logger

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—sample rates, triggers, alarms, etc. Be sure that the time and date is set properly.

Click the “**Send Config**” button 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 READER WHILE HOT.**

To configure or read data from the logger you will need the logger READER. This connects to your PC via a USB A-Male to Mini-B cable (Fig 2). The reader is powered via the USB plug, however you can also power the READER through the DC Power socket. (Fig 3) Use a 9-volt, center positive, power supply. Monarch part # 6280-022.



Figure 2
Monarch Part Number 5396-9911



Figure 3

Plug the READER into the PC. The “ON” LED will light (Fig 4). Insert the logger into the base - the “READY” LED will light green (Fig 5). Run the “Track-It™ Software”. Whenever the software is communicating with the logger the READY LED will light amber. **Do not remove the logger when this LED is amber.**



Figure 4—Data Logger Reader Base



Figure 5

4.0 REPLACING THE BATTERY

To replace the battery the top or "lid" of the logger enclosure needs to be unscrewed (Fig 6) from the bottom. There are two flats on the "lid" to facilitate the use of a wrench. Once the battery is exposed it may be removed and replaced. Note the positive terminal when replacing (Fig 7).



Figure 6-Counterclockwise



Figure 7-Battery Polarity



Figure 8-LED Blinking

Use only a 3B5700 ½ AA Lithium Sulfuryl Chloride 3.9V 800mAh High Temperature (150°C) battery. Monarch Part No 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 (Fig 8). Replace the bottom and be sure to tighten it completely to ensure a good seal. The O-ring should not create a gap between the top and the bottom.



Figure 9-Good Seal

5.0 SPECIFICATIONS

Measurement

Temperature Range (fixed probe):

-50° to +150°C (-58° to 302°F)
±0.1°C from -30° to +150°C (±0.2°F from -22 to 302°F)
±0.2°C from -50°C to -30 (±0.4°F from -58°F to -22°F)

Temperature Range (flexible probe):

-70° to +300°C (-94° to 572°F) **(Probe ONLY)**
±0.1°C from -30° to +150°C (±0.2°F from -22° to 302°F)
±25°C from -70° to +300°C (±0.5°F from -22° to 572°F)

Environmental

Temperature Range:

-50° to +150°C (-58 to 302°F)
0 to 100% condensing
0 to 9 bar (0 to 130 psi)
IP68 – 1.5m (~ 5 feet) of static water indefinitely
3B5700 ½ AA Lithium Sulfuryl Chloride 3.9V 800 mAh rated 150°C. Field Replaceable Monarch P/N 5396-9934

Life: Up to 2 years typical @ 1 minute sample rate (@20°C)

Material: 316L stainless Steel.

Dimensions: 3.6cm (dia.) x 5.5cm / 1.43" (dia.) x 2.30" (Excl. probes)

Probe Lengths: 2.5cm, 5cm, 10cm, 56cm flexible.
1", 2", 4", 22" Flexible.

General

Sample Rate:

User configured, 1 sample every 2 seconds to 1 every 24 hours

30,000 stored in non-volatile memory.

No. of Samples:

Two independent triggers. Multiple trigger modes:

Instantaneous, on alarm, time and date (start and stop).

Record Trigger:

SPECIFICATIONS *continued*

Record Mode:	Fill to end of memory or cyclic, number of samples and time duration.
Alarms:	2 user programmable alarms. High or Low.
Real Time Clock:	Accuracy: ± 1 minute/year at 25°C (77°F)
Communication:	READER with USB connection. No need to open Logger to read data or program.
Calibration:	NIST Traceable calibration
Compliance:	CE compliant. Low Voltage Directive (LVD) 2014/35/EU Electromagnetic Compatibility Directive (EMC) 2014/30/EU Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU
Software:	Track-It™ Software —Program device, view data (historic or real time), plot data, export to Excel™. FDA Regulation 21CFR Part 11 compliant

Product specifications subject to change without notice.

6.0 ACCESSORIES

Replacement Battery & O-ring	PN: 5396-9934
Replacement O-rings	PN: 5396-9931
USB 2.0 cable	PN: 5396-9911
USB Extension Cable	PN: 5396-9901
Track-It Software CD	PN: 5396-9902
Housing Silicon Gripper	PN: 5396-9932
Wrench	PN: 5396-9933
Reader	PN: 5396-9930



PN: 5396-9934



PN: 5396-9931



PN: 5396-9911



PN: 5396-9901



PN: 5396-9902



PN: 5396-9933

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