

iMINI LCD

SINGLE USE TEMPERATURE DATA LOGGER

User Guide

Rev2.1



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1. Introduction

Cryopak Verification Technologies, Inc. offers new and advanced, temperature data loggers.

New iMINI LCD is now available for single use temperature data monitoring solutions. iMINI LCD data logger offers,

• Multi-function display
• START & STOP button
• Waterproof pouch with IP rating IP67
• Economical single use data logger
• Report output in .pdf, .csv & .txt format (with ConsolePlus software)
• Slightly larger than credit card; lays flat (refer to dimensions)
• Durable lightweight; weighs less than 23 grams
• Easy programming with Console Plus software or pre-programmed
• Pre-programmed to customer specifications
• High accuracy
• Large memory capacity 8K (7808 records)
• 21 CFR compliance (when used with UAP ¹ enabled ConsolePlus)
• Compact profile
• 4 alarm thresholds

The new iMINI LCD is now available for storage and transit temperature monitoring solutions. It is completely food safe with IP rating 67. The iMINI LCD is an internal temperature sensor data logger with four alarm conditions, start and stop buttons, and much more...

2. Safety Instructions



Under no circumstances should heavy force be applied to your iMINI LCD logger. Applying heavy force to any part of your iMINI LCD could result in logger malfunction, LCD damage and/or injury.



Your iMINI LCD logger should only be operated within the parameters specified in the technical data discussed within this user manual. A failure to follow these instructions could result in you iMINI LCD logger malfunctioning and cause permanent damage to the unit.

¹User Admin Package



iMINI LCD loggers are vulnerable to damage when contact with water takes place. Please do not puncture or tear the plastic sleeve before placing your iMINI LCD logger in such conditions. Ensure to verify that there is no damage to sleeve before using.



Your iMINI LCD logger is not to be subjected to a naked flame. Exposures to such conditions may damage the logger or possibly cause an explosion of the battery.



Do not operate your iMINI LCD logger with a low battery.



Do not attempt to repair or modify any part of this logger. Such actions will result in a loss of warranty. All repairs are to be made by an official Cryopak Verification Technology service center.



The iMINI LCD logger has a one trip warranty. For more information refer page 14.



Battery life depends greatly on the temperature environment and recording frequency of your iMINI LCD logger.

3. Product Code

The product code for CVT products is represented in a modular fashion to allow distributors and customers the possibility of easily recognizing and ordering a variety of different products.

⚠ Note: For ease of communication, the dashes within the product code may be omitted.

Format:

[XX] - [YY] - [T] - [M] - [Options] (Example: ML-ST-S-8-L)

[XX] - [YY] - [T] - [M] - [Options] - [P / T] (Example: ML-ST-S-8-L-P)

✚ The initial letters “**XX**” indicates product family as detailed below:

ML	New generation CRYOPAK iMINI LCD SINGLE USE Intelligent MINI Temperature Data Logger with LCD
----	---

✚ The field “**YY**” represents the sensor combination code with following options:

ST	Single Trip logger (Internal Temperature Sensor only)
----	---

✚ The next field “**T**” identifies the temperature measurement range:

S	Internal Temperature Sensor with measuring range -40°C to +80°C
---	---

✚ “**M**” identifies the Memory capacity of the logger. The following options are available:

8	8K memory, iMINI LCD can store 7,808 data points
---	--

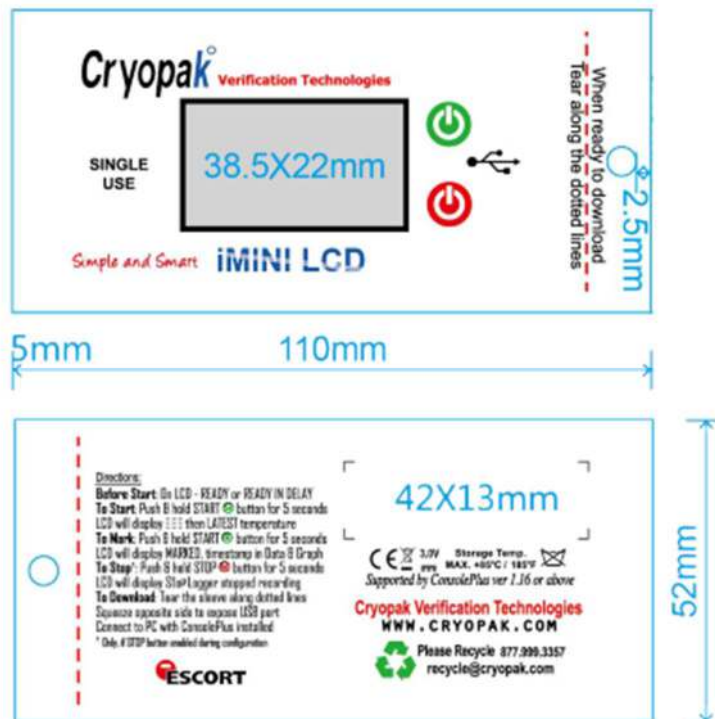
✚ **“Options”** identifies if the logger has additional options

L	Data logger with an LCD display
---	---------------------------------

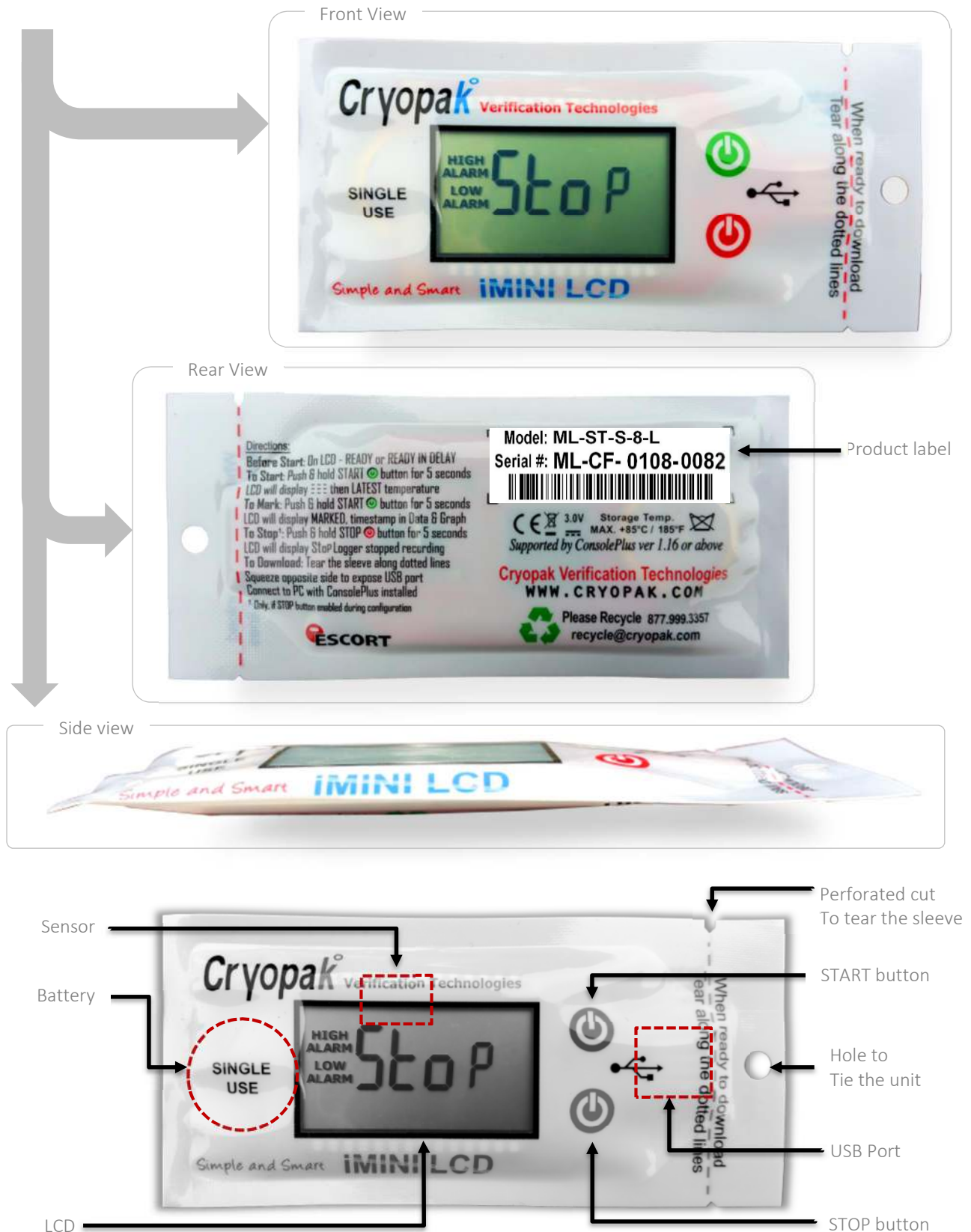
✚ **“P”** identifies if the logger has additional options

P	Pharma compliant (Title 21 CFR Part 11)
T	NIST Traceable calibration certificate at 3 set points -20°C, 25°C & 60°C

4. Size / Dimensions



5. Images



6. Specifications

Description	Specifications
Product Code	ML-ST-S-8-L ML-ST-S-8-L-P (Pharma compliant) 21CFR part 11
Memory Options	8K, 7808 readings
Program Interval	5 seconds to 17 hours
Time Accuracy	±1 hour per year
Sensors	Internal
Temperature Range	-40 °C to +80 °C (-40 °F to +176 °F)
Temperature Accuracy	±0.5 °C (-40 °C to -10 °C), ±1 °F (-40 °F to +14 °F); ±0.3 °C (-10 °C to +80 °C), ±0.6 °F (+14 °F to +176 °F)
Resolution	0.1 °C (0.1 °F)
Sensor Response Time	T90 of 5 minutes in moving air
File Format	PDF, CSV, TXT & CVT
Alarm Thresholds	4 thresholds; 2 Red LEDs, 2 Blue LEDs
Alarm Configuration	HIGH HIGH, HIGH, LOW & LOW LOW
Bookmark	Yes
Preprogram Option	Factory programmed
Start Option	Push button and/or timer
Auto Restart	N/A
Start Delay	Yes, 1 minute to 99 days
Stop Option	Yes, STOP button (can be disabled)
Size	68mmx37mmx5mm (without sleeve) 81mmx52mmx5mm (with sleeve)
Weight	23 g
Case Material	Plastic sleeve
Battery	3.0V
IP Rating	IP 67
Warranty	1 Trip
Calibration	A 3 point NIST traceable calibration certificate is available as a pdf download with the ML-ST-S-8-L-P product
Accuracy Certificate	A mass certificate is available upon request for the ML-ST-S-8-L
Other Certification	ISO9001:2008, CE, RoHS
Shelf Life	1 Year
Interface	USB
Software	ConsolePlus
Default File Format	CVT (data can be exported as PDF, CSV, TXT with ConsolePlus)
Security	N/A

7. Display

The iMINI LCD data logger has a multifunction LCD display with a refresh rate per second. Below is the list of displayed text on the LCD and the functions:

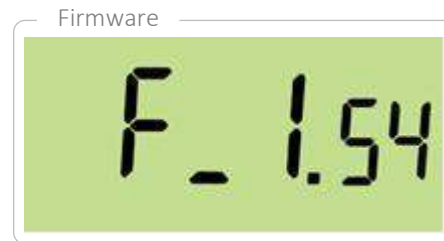


7.1. Hardware Firmware info.

Firmware & information

The iMINI LCD data logger is also capable of displaying firmware version, memory size and number of activated sensors, by simply pressing the STOP button for 3-5 seconds, when it is not logging.

- The iMINI LCD will cycle firmware version first. In this case, the firmware version is 1.54.



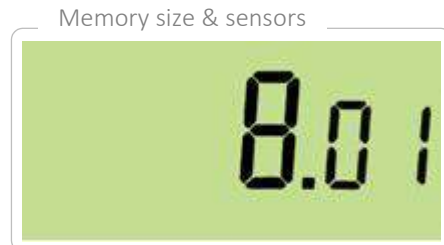
Important Note:

The firmware version of iMINI LCD data logger is being updated regularly for features; your device may have a different one.

- Then, memory size & No. of active sensors.

Value before the decimal point denotes memory size of iMINI LCD (8K)

Value after decimal point means number of active sensors; in this case there is one active sensor on the iMINI LCD



7.2. Start/ Stop

Start/Stop depends on how the loggers has been configured:

Configured?	LCD display Before start	Action required	After Start LCD display
With delay	READY	Push & hold START button 3-5 sec.	3 broken lines, then IN DELAY text on screen. When delay time is met, latest temperature on display & text LATEST flashing
Without Delay	READY	Push & hold START button 3-5 sec.	3 broken lines, then latest temperature on display & text LATEST flashing
With Timer start	READY IN DELAY	iMINI LCD starts automatically with timer	When start time is met, latest temperature on display & text LATEST flashing
With delay & Timer start	READY IN DELAY	Auto-start: iMINI LCD starts automatically with timer	When start time is met, latest temperature on display & text LATEST flashing
		Manual start: Push & hold START button 3-5 sec.	3 broken lines, then IN DELAY text on screen. When delay time is met, latest temperature on display & text LATEST flashing

Without delay & Timer start	READY IN DELAY	Auto-start: iMINI LCD starts automatically with timer	When start time is met, latest temperature on display & text LATEST flashing
		Manual start: Push & hold START button 3-5 sec.	3 broken lines, then latest temperature on display & text LATEST flashing

7.3. Bookmark

To place a bookmark in the iMINI LCD logger when recording, press & hold START button for 3-5 seconds. The text **MARKED**, along with the temperature, will be displayed. Upon download, the marked readings will have a '*' symbol and on the graph, a star icon will be placed. There is no limit on bookmarked readings.

7.4. Other LCD functions

Before Program (when purchased un-programmed units): LCD will display: **STOP**

Before Program (when purchased pre-programmed units): LCD will display: **READY**

To view highest, lowest & average temperature:

Press START button quickly, once -

LCD will cycle through **HIGHEST**, **LOWEST** & **AVERAGE** temperature




To view time out of specification:

Press START button quickly, twice -

LCD will cycle through time above & below specification, display will show text **ABOVE** & **BELOW** with the information of duration in minutes.



7.5. Information on the iMINI LCD display

LCD display	Occurrence	Description
READY	Constant	iMINI LCD is programmed and READY to start with START button
READY IN DELAY	Constant	iMINI LCD is programmed with delay and will start after designated delay when push START button is detected
IN DELAY	Constant	iMINI LCD is programmed with Date/Time, will start recording when date/time is met
STOP	Constant	iMINI LCD is not logging or has finished the last trip
	Constant	Battery icon will appear when battery is low

HIGH ALARM	Constant	Temperature went above HIGH alarm conditions
HIGH ALARM	Text Flashing	Temperature went above HIGH HIGH alarm conditions
LOW ALARM	Constant	Temperature went below LOW alarm conditions
LOW ALARM	Text Flashing	Temperature went below LOW LOW alarm conditions
LATEST	Text Flashing	iMINI LCD is logging
MARKED	Flash Once	A bookmark is placed (by pressing START button when logging for 3-5 seconds)
HIGHEST LOWEST AVERAGE	*Constant	Highest, Lowest & Average temperature of the entire trip will cycle on display when START button is pressed once
HOURS		When START button is pressed twice to display time above/below specifications
<input type="checkbox"/> C	*Constant	Celsius
<input type="checkbox"/> F	*Constant	Fahrenheit

* Text or symbol display next to occurrence

8. Software & Software dependencies



All new products, including iMINI LCD from Cryopak Verification Technologies, will be supported by ConsolePlus. The software has built-in auto update feature; user will be prompted to upgrade when new release is available.

Setup file can be downloaded from <http://72.55.148.15/CVT/ConsolePlusSetup.zip>
For installation and program/download information refer to ConsolePlus user Manual.

Software dependencies

ConsolePlus can be installed on the following platforms:

- Windows XP
- Windows Vista
- Windows 7
- Windows 8 & 8.1
- Windows 10



Important Note:

To view or save pdf manually or automatically any pdf viewer application (for example Adobe reader (latest Version) must be installed on the computer.

9. Pre-program form

10. Quick Guide

 <p>iMINI LCD Pre-programmed</p> <p>LCD display showing: "READY"</p>	 <p>Press & Hold START Button For 3 to 5 seconds</p>
 <p>Three Broken lines Appear</p> <p>iMINI LCD starting</p>	 <p>LATEST Temp Displayed On LCD</p> <p>When logging</p>
 <p>Press & Hold STOP Button For 3 to 5 seconds To manually stop (if stop button enabled during programming)</p>	 <p>Based on Configuration Or If Manually Stopped</p> <p>STOP text on LCD</p> <p>Alarm status is constantly displayed on LCD</p>
 <p>Tear off The sleeve Across The dotted Lines</p>	 <p>Using thumb Push Left side, Sliding the Board along Revealing the USB port</p>
<p>Connect USB port of iMINI LCD temp data logger to computer running ConsolePlus software</p> <p>To download, view and analyze the data & To export in various formats (PDF, CSV and TXT)</p>	

11. Alarm Settings Options

HH (HIGH HIGH) enable

Triggers an alarm when the temperature is greater than the HIGH HIGH specification that has been recorded. The text 'HIGH ALARM' will start blinking on LCD.

H (HIGH) enable

Triggers an alarm when the temperature is greater than the HIGH specification that has been recorded. The text 'HIGH ALARM' will be displayed on LCD (not blinking)

L (LOW) enable

Triggers an alarm when the temperature is lower than the LOW specification that has been recorded. The text 'LOW ALARM' will be displayed on LCD (not blinking)

LL (LOW LOW) enable

Triggers raise an alarm when the temperature is lower than the LOW LOW specification that has been recorded. The text 'LOW ALARM' will start blinking on LCD.

Consecutive delay before alarm (1 to 254)

A preset alarm will trigger when conditions goes out of specification: 'consecutive alarm delay' has been met. For example if the value is set '5' in this field, as soon as 5 consecutive readings are out of specification, logger will trigger an alarm, if the consecutive readings are 4 or less, there will be no alarm.

Total delay before alarm (1 to 254)

The preset alarm will trigger when conditions goes out of specification: when 'total alarm delay' has been met. For example if the value is set '5' in this field, as soon as 5 readings (in any order) are out of specification, the logger will trigger an alarm. For example, if 2 readings were above or below spec and then readings come within the specifications followed by another 3 readings being out of specification then, once the total of 5 readings are above or below spec, there will be an alarm.

12. Download, Save and Export Data

ConsolePlus must be installed on computer. Under the options, select auto download, auto save and desired file format to save the data automatically. When the iMINI LCD will be connected to the computer the data will be downloaded and saved automatically as selected in options.

For more information download ConsolePlus user manual.

Data from multiple loggers can be multi-linked by first reading or by date and time for evaluation. Multi-linked files, data can be exported in CSV and TXT format, by manually selecting the option 'save as', when the files are multi-linked.

13. Warranty information

(Clause from CVT Terms & Conditions)

9.1 CVT's warranties in respect of the Products are:

- (a) The warranties and conditions implied by the Uniform Commercial Code Article 2, Part 3 312(Warranty of Title and Against Infringement), 313-2(b) (sale by description) and 314-2, 315 (merchantable quality); or
- (b) A specific warranty or Product specification included in the Order Confirmation or on the CVT website www.cryopak.com.

9.2 The warranty in subclause 9.1 is to the exclusion of all other warranties, conditions and liabilities wherever expressed or implied and whether arising in contract, court or by statute or otherwise.

9.3 No representation in relation to the Products shall be binding on CVT unless in writing and signed by CVT or one of its Directors, or included in either of the warranties detailed in clause 9.1.

9.4 CVT will not be liable for any personal injury, property damage, consequential or contingent loss or damage caused through the negligence or otherwise of CVT, its servants or agents or rising out of the goods being defective or otherwise not in accordance with any warranty given.

10. Specific Warranty Provisions

10.1 Warranty is understood as "return to base". You will be responsible for freight/taxes and duties back to CVT; CVT will pay the return freight back to You.

10.2 Product Warranty is twenty four months on all products, except for the Single Trip loggers where the warranty term is limited to a single trip to be performed within the 24 month period. This does not include batteries.

10.3 The warranty does not cover:

- (a) RH calibration later than 1 year after production, or if the unit has been subject to environmental conditions outside those specified.
- (b) Willful damage, mistreatment, misuse or abuse of the goods.
- (c) Loss or damage caused by ingress of moisture unless ordered with immersion rating;
- (d) Batteries
- (e) Circumstances where the unit has been modified from CVT specifications.
- (f) Exposure of the logger to temperatures outside the specified storage temperature, or operating temperature.
- (g) Exposure to environmental conditions outside the specified conditions.
- (h) Circumstances where the printed circuit board has been removed or tampered with.

10.4 In the case of a warranty claim CVT will repair the Product or, at its option supply an equivalent replacement.

10.5 In some circumstances, where a specific return is authorized, CVT, may permit the use of its Federal Express account number for returning Product. Such permission is valid ONLY for that authorized shipment. CVT will not accept any freight charges for goods that have been returned without its express permission.

10.6 You may return Product to CVT for accuracy testing, if there are reasonable doubts as to the Products overall accuracy.

10.7 If a Product is returned within the warranty period, a Traceability Certification will be performed. Should the logger read within the specifications, a Traceability Certificate will be issued and You will be charged with the cost and the cost of return freight. If the logger does not pass the certification, ie: the logger is at fault, the logger will be replaced or repaired. The new or repaired logger will be issued with a Traceability Certificate free of charge.

10.8 If the Product is returned outside the warranty period, a Traceability Certificate will be issued and charged regardless of the outcome of the test.

10.9 CVT will not pay for any performance tests undertaken by any outside organization, without prior approval

14. Recycling of electronic devices

Some parts in products from Cryopak Verification Technologies consist of recyclable materials, but others should not be disposed of in household waste. To avoid pollution, we kindly ask you to adhere to national policies and regulations concerning waste disposal and recycling. iMINI LCD data loggers must be returned to your distributor for disposal (European Standard EN 50419:2005).

15. Contact details

If you require further information regarding CRYOPAK Verification Technologies, Inc. products please contact us at:

USA



Mailing Address: PO Box 309, Buchanan, VA 24066
Office: 120 Parkway Drive, Buchanan, VA 24066
Phone: +1-540-254-1433
+1-732-346-9200 Ext. 150
Fax: +1-540-254-2433
Email: techsupport@cryopak.com

CANADA



Phone: +1-514-324-4720
+1-514-773-5966
Fax: +1-514-324-9623
Email: support@cryopak.com

FRANCE



Address: TCP Cryopak France
1 Rue Berthelot
Z.I. La Maine
76150 Maromme
Phone: +33 2 32 82 59 65
Email: techsupport@cryopak.com

You can find additional information regarding all of our products on our website:

www.cryopak.com
<http://www.cryopak.com/en/verification-products/>

