ESCORT iMINI CRYOPAK iMINI

User Guide

Ver. 1.2

Contents

1. Introduction

ESCORT Verification Technologies offers new and advanced, temperature and / or humidity data loggers

ESCORT'S new iMINI is now available for both temperature and humidity data monitoring solutions. iMINI data logger offers multi-function display, user replaceable battery, large memory options to choose from, start & stop button and much more…

Table below defines the available range of iMINI products

Product code	Description	Type	Total Sensors	Sensor Location	Sensor Type
MX-IN-S-8-L	Temperature	Multi-use	1	Internal	NTC
MX-ST-S-8-L	Temperature	Single Use	1	Internal	NTC
MX-OE-S-8-L	Temperature	Multi-use	1	External	NTC
MX-1E-S-8-L	Temperature	Multi-use	2	One Internal & One External	NTC
MX-2E-S-8-L	Temperature	Multi-use	2	Both External	NTC
MX-HS-S-8-L	Temperature & Humidity	Multi-use	2	Both Internal	Digital sensor
MX-HE-S-8-L	Temperature & Humidity	Multi-use	3	Two Internal & One External	Digital sensor & NTC

Special Note:
All iMINI products are available in different memory sizes **8K, 16K, 32K, 64K** and **128K**

2. Safety instructions

In no circumstance should heavy force be applied to your iMINI logger. Applying heavy force to any part of your iMINI could result in logger malfunction and/or injury.

Your iMINI 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 logger malfunctioning and cause permanent damage to the unit.

Certain models of iMINI loggers are vulnerable to damage when contact with water takes place. Please check your iMINI loggers IP rating before placing your iMINI logger in such conditions.

Your iMINI logger is not to be subjected to a naked flame. Exposures to such conditions may result in damage to your iMINI logger, and result in an explosion of the battery.

Never operate your iMINI logger with a low battery. It is recommended that you replace the battery as soon as the battery low symbol is indicated on your iMINI logger's display.

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 ESCORT Verification Technology service.

For iMINI loggers which operate external sensors, it is important to keep the sensor tip clean to ensure that the data collected is accurate.

In order to keep your iMINI loggers recordings accurate, we recommend that you perform annual calibration of this device.

If an iMINI Humidity logger's humidity sensor comes into direct contact with moisture it will not perform accurately.

Once your logger's case has been opened and the warranty seal is broken your iMINI logger is no longer covered by warranty.

Battery life depends greatly on the quality of battery fitted, the temperature your iMINI logger is operated at and the recording frequency your iMINI logger is logging at.

Do not use batteries other than those specified in the user manual. A failure to use the correct battery could result in poor performance and/or logger malfunction.

3. Product code

The product code for EVT/CVT products is represented in a modular fashion for ease of recognizing and ordering a variety of different products.

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

The product codes of iMINI Data Loggers have the following format:

[XX] - [YY] - [T] - [M] - [Options] (e.g. MX-IN-S-8-L)

The initial letters **'XX'** indicates product family as detailed below,

MX	iMINI ESCORT iMINI (Yellow case)	New generation intelligent MINI

The field **'YY'** represents the sensor combination code with following options,

IN	Logger with one internal temperature sensor
ST	Single trip logger with internal temperature sensor
OE	Logger with no internal and one external temperature sensor (1Meter length)
1E	Logger with one internal and one external temperature sensor (1Meter length)
2E	Logger with two external temperature sensors (1Meter length each)
HS	Logger with one internal temperature sensor and one internal humidity sensor
HE	Logger with one internal temperature sensor, one internal humidity sensor & one external temperature sensor (1Meter length)

The next field, **T,** identifies the temperature measurement range.

Code	Sensor location		Temperature range
S	internal	external	-40°C to +80°C

'M' identifies the Memory capacity of the logger. Following options are available:

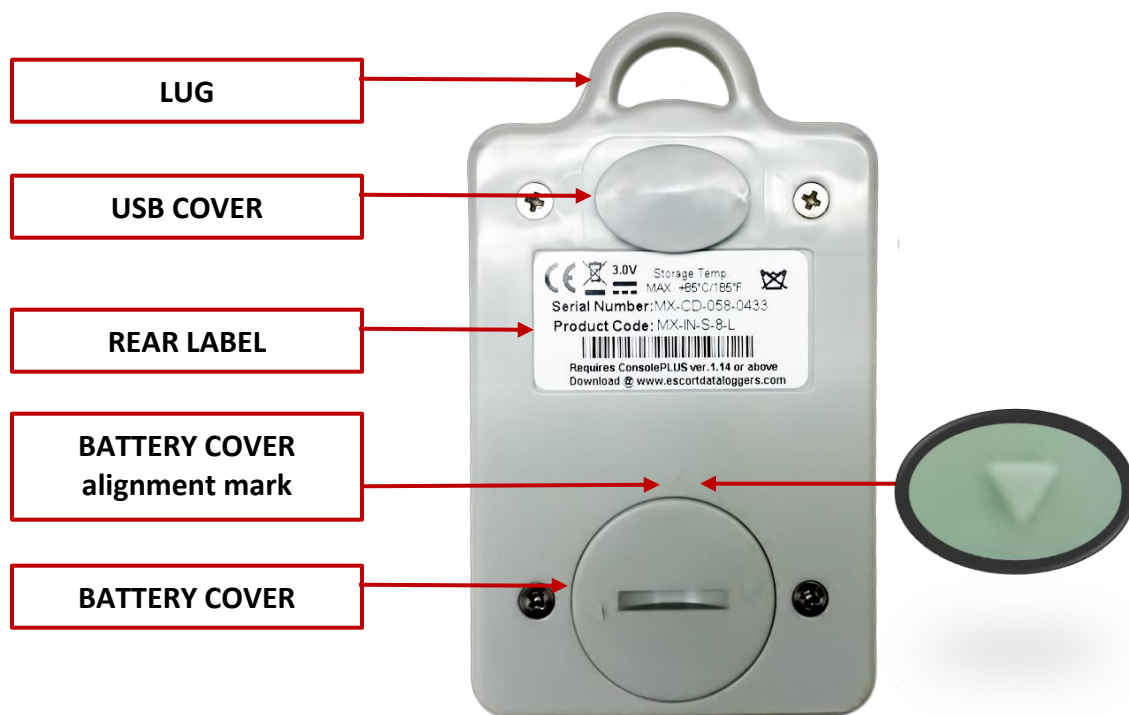| 8	8K memory	Logger can store 7,806 data points
16	16K memory	Logger can store 15,998 data points
32	32K memory	Logger can store 32,832 data points
64	64K memory	Logger can store 65,150 data points
128	128K memory	Logger can store 130,686 data points

Note: Multiple sensors reduce each sensor's capacity. Data is divided equally between all active sensors

The Specification Sheets detail in more depth which logger models are available with which memory options for each model. All iMINI data loggers are fitted with LED's and LCD display

4. iMINI features

- Multiple temperature and/or humidity sensor configurations available (see product codes).

- Rear label specifying product code and serial number plus bar coded serial number according to EAN 128.

- Lug to fix logger on wall or other surface as required.

- Display showing last temperature measurement taken and alarm status (High Alarm / Low Alarm), or status of the logger. Optional statistics (e.g. highest, lowest, and average) can be chosen during logger programming. Display also capable of displaying Firmware version, Memory size and number of active sensors (by brief pressing of STOP button)

- Optional start delay for climate acclamation

- Logging interval range - 5 second - 17 hours

- User replaceable battery. To replace the battery, simply use a coin to remove the battery cover from rear and pry out the battery carefully. It is recommended to use PANASONIC brand 3V battery

Note: Stored readings cannot be lost by removing the battery. However it is recommended to replace the battery when it is not logging. More frequent use will require a shorter span between battery changes.

5. Software

All new products from EVT/CVT will be supported by *ConsolePlus*. Software has built-in auto update feature, user will be prompted to upgrade when new release is available.

Setup file can be downloaded from www.escortdataloggers.com
For installation and program/download information refer to *ConsolePlus* user Manual

6. Software dependencies

ConsolePlus can be installed on following platforms
- Windows XP
- Windows 7
- Windows 8

Adobe reader (latest Version) must be installed on the computer; otherwise user may encounter an error
- In PDF generation
- Print
- Print preview
- Software crash

7. Accessories / Connection

For all **iMINI** data loggers **Type A to Mini-B USB cable** is required to connect data logger to the workstation

- ConsolePlus will auto detect the logger (no need to select COM port)
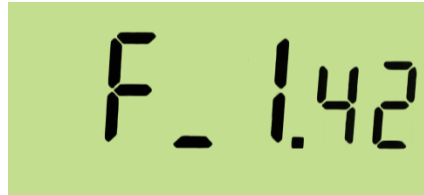
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8. iMINI display

- iMINI data logger has a Multifunction LCD display with a refresh rate per second

READY		iMINI is programmed and READY to start with START button
READY IN DELAY		iMINI is programmed with delay and will start after designated delay when push START button is detected
IN DELAY		iMINI is programmed with Date/Time, will start recording when date/time is met
STOPPED		iMINI is not logging or has finished the last trip
▰▱		Battery icon will appear when battery is low
HIGH ALARM		Temperature went above HIGH alarm conditions
HIGH ALARM	Flashing	Temperature went above HIGH HIGH alarm conditions
LOW ALARM		Temperature went below LOW alarm conditions
LOW ALARM	Flashing	Temperature went below LOW LOW alarm conditions
LATEST	Flashing	iMINI is logging
MARKED	Once	A bookmark is placed (by pressing START button when logging for 3-5 seconds)
HIGHEST LOWEST AVERAGE		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
°C		Celsius
°F		Fahrenheit
H		Humidity

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

- iMINI will cycle firmware version first, in this case firmware version is 1.42

  Note: firmware version is being updated regularly; your device may have a different one

- Then Memory size & No. of active sensors

  Value before the decimal point denotes memory size of iMINI; in this case it is 128K

  Value after decimal point means number of active sensors; in this case there are three active sensors on iMINI

- iMINI with three sensors (MX-HE-S-8-L), **external sensor** is displayed as

9. LEDs

iMINI has four LEDs, two red LEDs and two blue LEDs. These LEDs will function during program, download and when any of four alarms are triggered.
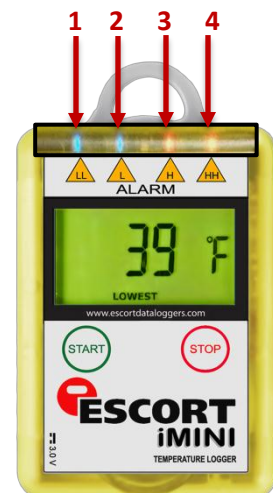
During Alarm

iMINI supports four alarm conditions, if the temperature goes out of specification, respective LEDs will start flashing during logging and will remain until the logger is reprogrammed

- LOW LOW   LL   Blue LED **1**
- LOW   L   Blue LED **2**
- HIGH   H   Red LED **3**
- HIGH HIGH   HH   Red LED **4**

During program /download

LED 2 (L) & 3 (H) will turn on continuously during program or download

10. Changing your iMINI's battery

You have the ability to change your iMINI's battery, but once opened your loggers IP rating becomes void and will not be covered under warranty. To replace your logger's battery, please follow the following steps:

1. Purchase a PANASONIC coin battery CR2450 3.0V (can be purchased through your EVT/CVT distributor or local electronics store).

2. Remove battery cover located on the rear of your iMINI logger with the help of a coin, turning it counter-clockwise

3. Pry out the battery carefully from battery compartment

4. Short the battery terminals with the help of screwdriver or with tweezers for 30 seconds

5. Insert new battery in the compartment ensuring correct direction Positive terminal of the battery is always on top side and negative at bottom

6. Replace the battery cover by matching two marks, one on the rear of the iMINI and other on the battery cover and turning it clockwise.

11. Warranty information

9.1 EVT'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 EVT website www.escortdataloggers.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 EVT unless in writing
and signed by EVT or one of its Directors, or included in either of the warranties
detailed in clause 9.1.

9.4 EVT will not be liable for any personal injury, property damage, consequential or
contingent loss or damage caused through the negligence or otherwise of EVT, 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 EVT; EVT 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 EVT 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 EVT will repair the Product or, at its option supply an equivalent replacement.

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

10.6 You may return Product to EVT 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 EVT will not pay for any performance tests undertaken by any outside organization, without prior approval

Recycling of electronic devices

Some parts in products from ESCORT 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 data loggers must be returned to your distributor for disposal (European Standard EN 50419:2005).