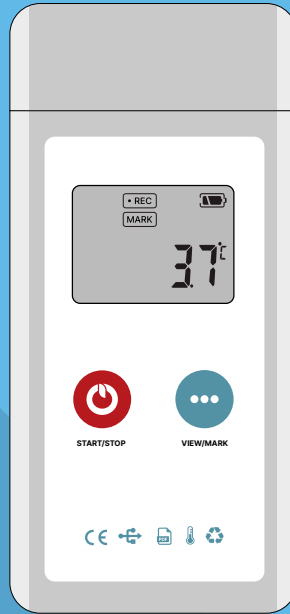


Dry.Ice MU™

Multi Use USB Data
Logger for Temperature
& Humidity measurement
and recording



from **-90° ~ +70°**
from **0% to 100% RH**

**PHARMACEUTICALS
AND MEDICAL DEVICES**



**FRESH
AND FROZEN FOOD**



COLD CHAIN LOGISTICS



**CUT FLOWERS
AND FRESH PLANTS**



FEATURES

- **Can be placed directly into dry ice**
- Automatic **.PDF and .CSV** reports
- Data safety & stable performance
- Unique design, prevents accidental stop
- Robust, stable, **easy-to-use (USB port)**
- **Secure and certificated**
- **Large LCD screen** complete with information:
 DEVICE STATUS (READY, START DELAY, RECORDING, STOP)
 TEMPERATURE STATISTICS (CURRENT/MAX/MIN/AVG/MKT)
 DURATION TIME HAS BEEN RECORDED
 MARK RECORDS – BATTERY POWER
 OK (✓) – ALARM (X)

Built-in USB



Directly plug into PC,
no cable required

IP67 Protection class



Food-safe and
water-proof
packaging

Automatic PDF generation



No software
required

Qualified for air transport use



Complies to RTCA/DO-160G
environmental conditions,
qualified for air transport
also in enabled mode

Unique identification



S/N unique
identification
barcode on double
stickers

Swiss quality



A Swiss quality
concept



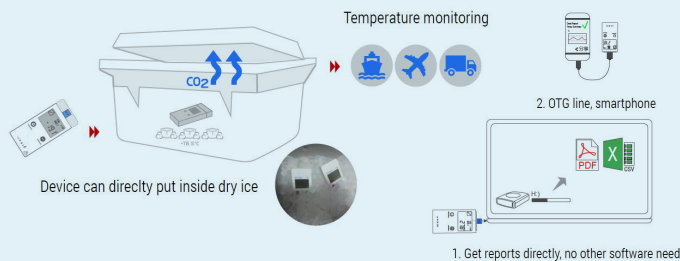
NIST



1. TECHNICAL SPECIFICATIONS

MODEL	DRY ICE
TYPE	Multi Use
SENSOR	RTD (Internal)
TEMPERATURE RANGE	- 90 °C ~ + 70 °C (-130°F ~ +158°F)
ACCURACY	±0.5 °C / ± 0.9 °F
RESOLUTION	0.1 °C / °F
CAPACITY	16000 data points
OPERATING LIFE/BATTERY	1 year for normal operation; 60days continues exposure to dry ice temperature (logging interval >=5mins); Two(2) 3.6V lithium batteries
SHELF-LIFE	18 months
START-DELAY	Standard: 10mins Start-delay; 30Days / 5mins Inverval
LOG DURATION/INTERVAL	Alarm limits: -80 °C ~ -20 °C; 5mins Alarm-delay (continuous)
ALARM LIMITS	(Other options on request)
LCD DISPLAY	Ok, Alarm, Device Status, Temperature, Duration, Mark records, Battery
CALIBRATION	6-Points Manufacturer Certificate of Calibration
CERTIFICATION	CE、RoHS、DO160、IATA PI970 II
CONNECTION	USB 2.0
WATERPROOF	IP64
DATA REPORTS /LANGUAGE	PDF & CSV (English)
DIMENSION	106*51*18mm
WEIGHT	Approx 75g

2. DRY ICE APPLICATION



DRY ICE is a **Multi Use** dry ice temperature data logger. It can be placed and exposed directly in a dry ice environment. The shipment team simply presses the button to start the logger, and the receiving team easily connects the logger to a USB port, PC or smartphone to generate logged data reports.

This process is automatic, easy and convenient. The unique button design prevents accidental stops during transit and ensures a complete report for every temperature monitoring task. An LCD screen allows you to directly check the temperature statistics, such as alarm or not, running status, Current/MAX/MIN/AVG temperature, logging duration, mark information.

3. DRY ICE DATA REPORTS

DRY ICE automatically generates data reports, making reviews easy and efficient. **PDF and .CSV (excel)** reports offer a comprehensive reading experience for multipurpose data handling.

Data Report

Device Information

Logging Summary

Alarm Info

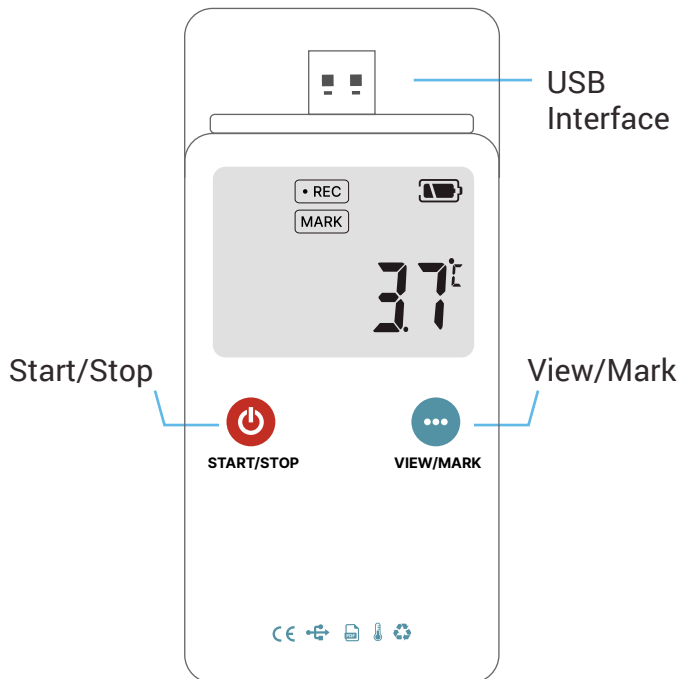
Temperature Graph

Every single data points

CSV Report (Excel)

First Page

Other pages



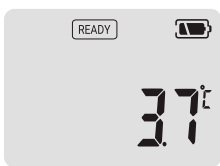
Large LCD screen with all the information:

- **DEVICE STATUS**
(READY, START DELAY, RECORDING, STOP)
- **TEMPERATURE STATISTICS**
(CURRENT/MAX/MIN/AVG/MKT)
- **DURATION TIME HAS BEEN RECORDED**
- **MARK RECORDS**
- **BATTERY POWER**
- **OK (✓)**
- **ALARM (X)**

DRY ICE USER GUIDE




DRY ICE (multi) series can monitor accurately the temperature for different applications which support a minimum temperature of -35°C,-50°C,-100°C,-200°C respectively. Without installing any additional software, end-user can quickly acquire detailed data reports in both PDF and CSV formats.

1 INSPECTING THE LOGGER



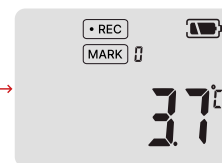
Single press any button on the display to activate the device. "READY" indicates that the logger is ready to start.

The battery indicates the power level of the logger:

- ✓  Full power signifies a more reliable usage of the device.
- ✗  Low power, not suggested for use. The device may possibly stop during monitoring.
- ✗  Empty power, cannot be started.

2 START THE LOGGER

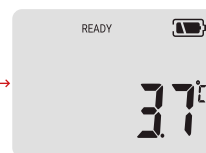
OPTION 1 → START RECORDING NOW!



Press the "START/-STOP" button for more than 4 seconds: the LCD display will show "REC" directly,

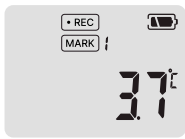
which means that the logger has successfully started and is recording.

OPTION 2 → TO PROGRAM A START-DELAY



Start-delay signifies the period of time that the device has been activated, but is not currently recording. When a Start/ Delay has been programmed, the device will start recording automatically at the selected time. In other words, when you see the clock flashing or "REC", it means that it has started recording successfully. Press and hold the "START/STOP" button for more than 4 sec. Until the "CLOCK" icon appears then release the button within 2 secs. When you see the clock flashing, it indicates that it has started successfully. After the delay ends, the device will start recording automatically and the LCD screen will display "REC".

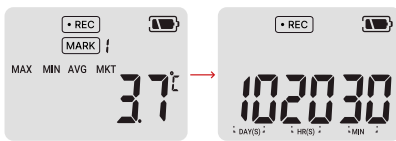
3 MARK AND VIEW IN TRANSIT



Our data loggers provide the option that users can double press the "VIEW/MARK" button at any time during the logger recording period to mark an event; the mark will show in the report, the number beside it will indicate the times of the marked

events, for a maximum of 8 times. This optional function is mostly used to document important events or when urgent matters occur.

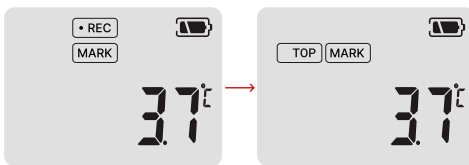
Single-press "VIEW/MARK" button to check the time that the logger has been recording and the MIN/MAX/AVG/MKT to check the temperatures logged since the recording has started. (single-press shows in turn)



This example shows: the logger has been recording: 10 DAYS – 20HRS – 30MINS

4 STOP THE LOGGER

Press and hold the "START/STOP" button for more than 4 sec until the "CLOCK" icon appears, then release the button within 2 sec. The LCD will show "STOP" which indicates that the logger has been stopped successfully.



HI: if the logger is not stopped manually, the device will continue to record the data until it is plugged into a USB port on a PC or until the programmed trip length is reached.

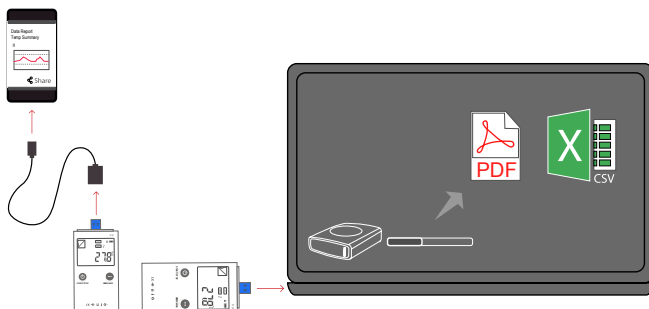
To start or stop the device: press and hold the "START/STOP" button for more than 4 sec until the "CLOCK" icon appears, then release the button within 2 sec. When the clock icon disappears, it means the action has been cancelled.

5 GET THE REPORT

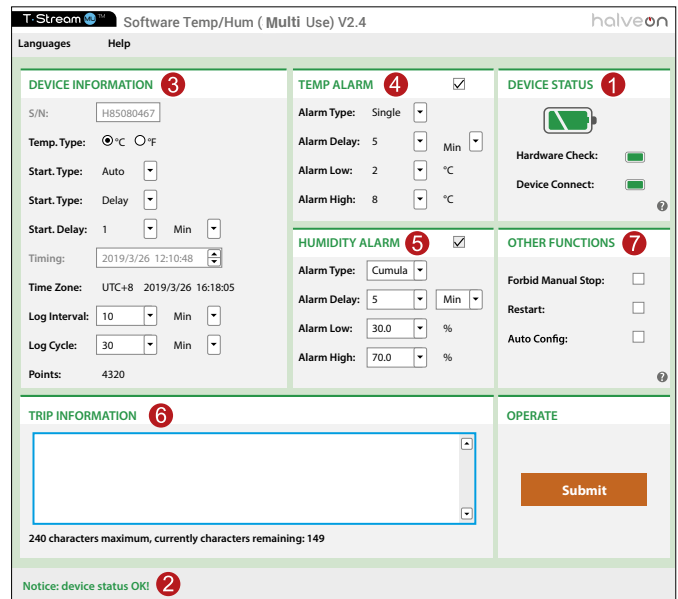
Connect the unit to a USB port and the LCD will show the percentage of progress in the data generated report. Once the progress reaches 100% the file generating process is complete, then a pop up will automatically appear on the flash disk with data reports.

Also via an OTG, a line user could acquire the reports through an android smartphone.

DO NOT REMOVE THE LOGGER FROM THE USB PORT WHILE THE FILES ARE GENERATING.



6 SOFTWARE



6.1 DEVICE EXAMINATIONS 1 2

The innovative Software inspecting function could effectively ensure the safe use of the device after configuration. "Double click" the Software icon and then connect the device to your computer, the software will automatically examine the device including battery power, hardware, and connection status.

A Red light means ERROR; a Green light means OK to start the configuration.

HI: Sometimes due to an older PC, USB port, or if the USB is not connected correctly, data from reports could be missing. If this happens, please double check the PC USB port or try another port.

6.2 DEVICE EXAMINATIONS 3 4

- a) START TYPE
 - MANUAL: after configured successfully, the device needs to be started manually by pressing the START button.
 - AUTO: after configured successfully, the device will auto-execute.
- b) START MODE
 - DELAY: after the delay period has passed, the device will start recording automatically (if no need delay, select 0 min).
 - TIMING: the logger will auto-start at the chosen pre-set time.
 - TEMPERATURE: the logger will auto-start recording, once it has reached the selected temperature range
- c) TEMP ALARM
 - Select a temperature range, alarm type and delay time for the alarm settings.




HI: the temp alarm will not sound when the temperature has exceeded the temperature range, the alarm instead is indicated on the LCD screen and in the reports. If this is not necessary, then un-select the function so as not to show the alarm information.

6.3 OTHER FUNCTIONS 5 6

a) TRIP INFORMATION

Type all necessary information in area 5, the info will be visible on the generated reports. The info could be: customer, location, order number etc.

b) MANUAL STOP LOCK

After selected, user cannot stop the device manually. After selecting this function, the lock icon  will appear on the LCD screen display.



c) RESTART

When selected, user will not need to configure the logger each time or for each trip. To restart the logger, simply follow the same starting procedure.

Note: the original data will be formatted once the 'restart' function has been selected. Please retrieve your data before restarting the logger.

d) AUTO CONFIGURATION

When user needs to configure many units at one time, after the pre-sets have been selected, simply choose the function 'Auto-Configure' and the software will configure the units automatically.

7 TECHNICAL SPECIFICATIONS

MODEL	-35°C-multi	-50°C-multi	-100°C-multi	-200°C-multi
TYPE	Multi-use			
SENSORS	NTC	External RTD (1m or longer on request)		
RANGE	-35°C~+70°C (-31°F~+158°F)	-50°C~+80°C (-58°F~+176°F)	-100°C~+80°C (-148°F~+176°F)	-200°C~+80°C (-328°F~+176°F)
ACCURACY	±0.3°C(±0.54°F)	±0.3°C(±0.54°F)	-100°C~+80°C ±0.5°C(±0.9°F)	-100°C~+80°C ±0.5°C(±0.9°F) Rest ±1.0°C(±1.8°F)
RESOLUTION	0.1			
CAPACITY	16000 points			
BATTERY	3.6v Li			
BATTERY LIFE	2-3 years or longer			
CALIBRATION	Factory Calibration and NIST CNAS			
CERTIFICATION	CE, RoHS, DO160, IATA PI970 II			
WARRANTY	1 year			
SIZE	106*51*18mm			
WEIGHT	65g	82g (including external probe)		
WATER-PROOF	IP65			
CONNECTION	USB 2.0			
SOFTWARE	Software			

8 IMPORTANT NOTES

USAGE

- The temperature range is for the external sensor and the minimum hardware temperature is -35 °c. Using out of range will damage the device.
- Please do not disconnect the logger while the reports are generating.
- Please store at room temperature to ensure the long-term effectiveness of the logger.
- The shelf life of the logger might be reduced if used out of its temperature range.
- Please recycle or dispose of the logger under local laws and regulations

BATTERY

- Do not expose devices or batteries to fire or extreme temperatures, this could lead to explosions and may cause injuries.
- Do not short-circuit or reload batteries: hidden safety risk.
- Batteries are to be kept away from children.

SECURITY NOTE

- Do not put device in microwaves, there is an explosion risk.
- X-ray exposure can damage the logger.

LIABILITY

The manufacturer shall not be held liable:

- If the device was used beyond the manufacturer's given limitations.
- For any claims due to the improper storage and use of the device.
- For any problems with the cooling unit.
- For the lousy quality of the monitored goods, if any.
- For incorrect readings, if the device was used with activated low battery sign.

ATTENTION: the loggers monitor temperature exposure and not product quality. Its purpose is to signal if product quality evaluation/testing is required.