USER GUIDE

USRID-16

LogTag

Distributed by AKRIBIS

USRID-16

Single-use USB PDF Temperature Recorder with Display

Product User Guide

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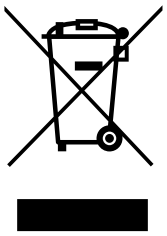
Safety Information



The USRID-16 USB temperature logger contains a non-replaceable Lithium Battery. When the battery indicates "LOW", the logger should be replaced, and the battery recycled or disposed of according to your local regulations.

Do not expose the logger to extreme temperatures as it may lead to the destruction of the battery and may cause injuries.

Keep out of the reach of children.

Liability

LogTag Recorders' standard warranty terms apply. A copy can be requested by emailing support@logtagrecorders.com. In addition, LogTag Recorders shall not be held liable:

- if the device was used beyond LogTag Recorders' stated limitations
- for any claims due to the improper storage and use of the device
- for any problems with refrigeration units
- for the bad quality of the monitored goods, if any
- for incorrect readings if the device was used with a low battery
- for consequential loss

Battery Life

The main battery in the USRID-16 is designed to power the device for up to 6 months of operation, provided:

- the device was not stored for more than 12 months prior to activation
- the recording interval is not shorter than 5 minutes
- the device is stored and operated according to LogTag Recorders' recommendations

⚠ The USRID-16 is unable to record readings when connected to USB. You cannot use a USB power supply to power the device!

Disclaimer

The USRID-16 monitors temperature exposure and not the quality of the goods it accompanies. Its purpose is to signal if product quality evaluation/testing is required.

Typographical Conventions

Text **in this font** refers to buttons on the USRID-16.

Text in this font refers to option settings, dialogue boxes or actions to be taken in LogTag® Analyzer.

Text in this font describes features of the product.

This text describes certain aspects of the product, where incorrect use of a feature may lead to inadvertent loss of data.

This text contains important information for the correct operation of your USRID-16.

This text contains information that explains some aspects of a feature in more detail.

This text contains tips that help you get the best out of your USRID-16 logger

Introduction

LogTag's USRID-16 is a fully configurable, single-use USB PDF temperature logger with a built-in display, that can create temperature reports without the need to install proprietary software or hardware at the destination. Minimum and maximum trip temperatures can be reviewed directly on the display without the need for a PC. The logger can be configured using LogTag® Analyzer, and is then placed with the goods to be monitored. At the destination the USRID-16 can be plugged straight into a computer's USB port and generates a PDF file, which can be accessed using PDF software such as Acrobat Reader.

Required Equipment

- LogTag® USRID-16 Single-use USB PDF Temperature Recorder with Display. (It is recommended that you connect each USRID-16 via a permanently plugged in USB extension cable to protect your computer's USB socket).
- For configuration - a PC running Windows 10 or later and LogTag® Analyzer installed.
- For downloading - a PC running Windows 10 or later with PDF reader software installed.

Features

The USRID-16 Single-use USB PDF temperature logger features the familiar LogTag case layout with an additional USB plug at the bottom.

Case

- Mounting lug for secure fastening of logger to fixtures
- USB plug with potective cap - shields USB connector from moisture and dirt
- Temperature sensor located inside case
- Durable polycarbonate case, IP64

Buttons

- **START/Mark** button; used to start the unit or place an inspection mark in the data listing
- **STOP/Review** button; used to stop the unit and to review data recorded during the trip.

Display

- Shows last recorded temperature and information about alerts
- Allows reviewing minimum and maximum trip temperatures

PDF

The USRID-16 will generate a detailed PDF report when plugged into a USB port of a PC. The PDF report shows a summary of the trip, presents the data in chart and list format. A CSV file of the data list is also available.

Software Requirements

Software requirements vary depending on the type of file you want the USRID-16 to generate when plugged into a USB port.

- If you wish to ***configure*** USRID-16 products you will need to download the LogTag® Analyzer software from LogTag®'s web site at https://logtagrecorders.com/software/lta3/download/. Follow the instruction to install and start the software.
- If you only plan on ***evaluating data***, plug the USRID-16 into a computer's USB port. Depending on the settings made during configuration, a number of files will be generated[1] and made available to you in a new drive:
  - A PDF file; you can open the file directly from the logger's USB memory storage with Acrobat Reader 4.0 or later, or any other compatible PDF reader software of your choice[2]
  - A CSV file; this file can be imported into a spreadsheet program such as Microsoft Excel
  - An LTD file; LTD files are LogTag® Analyzer's native, encrypted data files. You can open this file in LogTag® Analyzer, where you can analyze data in detail, generate report files or combine data from multiple recorders for comparison
- You can also ***download*** data directly into LogTag® Analyzer without accessing the logger's USB memory storage.

1 Depending on the configuration, the USRID-16 may produce all, some or none of the files.
2 PDF files generated by any USB logger can be opened directly in LogTag® Analyzer.

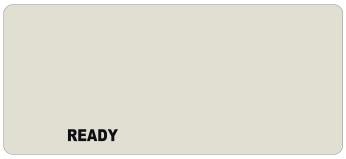
Configuring the USRID-16 for logging

You can purchase USRID-16 loggers pre-configured (ready to start) or unconfigured.

You can check if your logger is already configured or not by briefly pressing the **STOP/Review** button.

The logger is already configured to start

If your logger is configured to start it will show either:



if the logger was pre-configured for a push-button start, or

if the logger was pre-configured for a Date/Time start.

If you have one of these loggers you can skip the configuration process.

The logger is not configured

If you received your USRID-16 unconfigured, it will be hibernated (i.e. in a state of low power consumption) and show:

followed by

and then

In this case, you must set it up with the parameters required for:

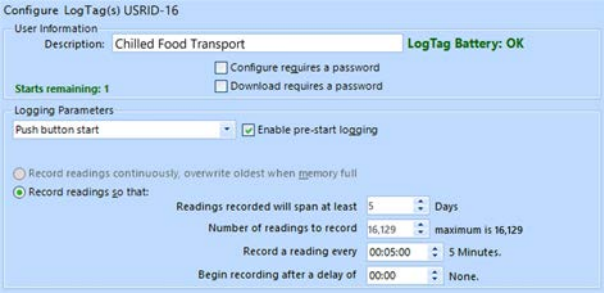
- starting and recording temperature values
- triggering alarms
- printing the PDF

This is done using LogTag® Analyzer software, which can also be used for downloading and analyzing data.

- Start the LogTag® Analyzer software.
- Remove the protective cap from the logger's USB socket and plug the Micro USB end of the cable into the socket. Plug the other end of the cable into a USB socket on your computer and wait for the drivers to be installed[3].
- From the menu click **LogTag - Configure**; LogTag® Analyzer will display the configuration options for connected loggers.

Standard Configuration Options

The standard configuration options are very similar to those of other LogTag® logger products and include settings such as User ID, start method, pre-start recording, logging interval and duration, start delay, and password.



For detailed information about each parameter please read the section about **Configuring a LogTag® for logging** in LogTag® Analyzer's User Guide or press F1 for help.

3 You can configure more than one USRID-16 at the same time, however it is practical to limit the number of units to about 6, using a powered USB hub.

Configuring Alarms

LogTag® Analyzer allows 2 different alarm trigger conditions when configuring a USRID-16 for recording.

Each alarm trigger condition consists of a threshold temperature value, an activation type (which can be instant, consecutive or accumulative[4]) and a delay time, if it is not an instant alarm.

If an alarm trigger condition requires readings to exceed an upper threshold temperature it is called an ***upper alarm***. If an alarm trigger condition requires readings to go below lower thresholds it is called a ***lower alarm***.

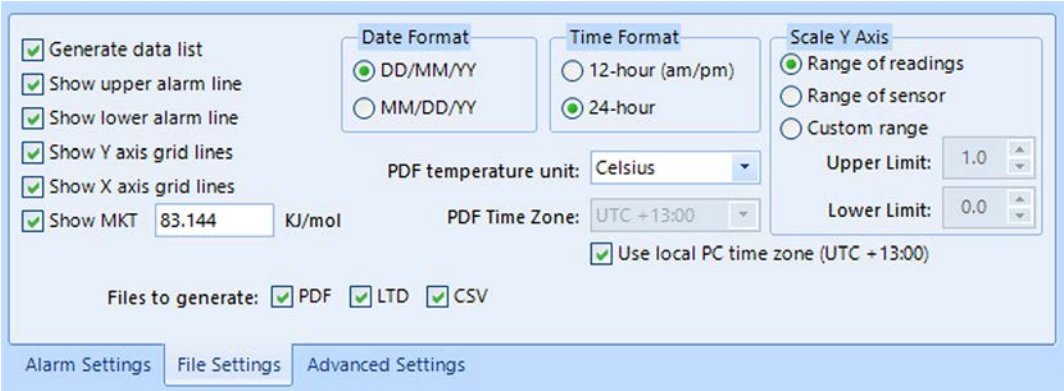
An alarm event is generated, when either of the entered alarm conditions is triggered, and the red Alert LED will blink.

The USRID-16 has an upper and a lower alarm, which can be configured and enabled independently from each other.

Figure 1: *Representation in LogTag® Analyzer*

File Settings

Select the **File Settings** tab for the settings that decide which files are generated when the USRID-16 is plugged into a computer's USB port, and what information these files contain.



Select as many file formats as you wish to generate.

4
- Instant = one temperature reading is above (below) the threshold
- Consecutive = temperature readings are above (below) the threshold for the time defined in the activation delay without interruption
- Accumulative = temperature readings are above (below) the threshold for the total time defined in the activation delay time, but may not necessarily be sequential.

Parameters that influence the appearance of all files are:

- setting of the temperature units used in the files

> ⚠ The temperature unit for the PDF file is also used for the units shown on the display.

- date and time format
- time zone and MKT values

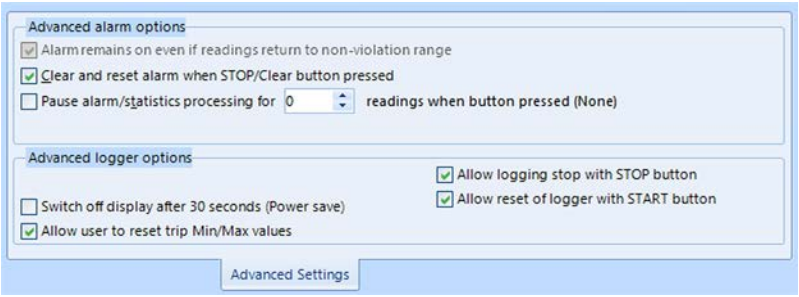
Parameters specifically influencing the appearance of the PDF file are:

- scaling parameters for the chart
- showing or hiding gridlines
- showing or hiding alarm threshold lines
- creation of the data list

For detailed information about each parameter please read the section about **Configuring a LogTag® for logging** in LogTag® Analyzer's User Guide or press F1 for help.

Advanced Settings

Select the **Advanced Settings** tab for additional configuration settings. These settings decide how some of the elements are displayed on the unit's own display and also set other options specific to the USRID-16.



Parameters that influence the appearance of the display are

- Pause alarm/statistics processing (see Paused Readings on page 20)
- Switch off display after 30 seconds (Power save, see Power Save on page 21)

Parameters influencing specific behaviour of the USRID-16 are

- clear and reset alarm when the **START/Mark** button is pressed
- leaving the alarm turned on, even if readings return to the normal temperature range again
- allowing the user to stop the logger with the **START/Mark** button
- allowing the user to reset the logger with the **START/Mark** button
- Enabling the buzzer for the audible alarm

For detailed information about each parameter please read the section about **Configuring a LogTag® for logging** in LogTag® Analyzer's User Guide or press F1 for help.

Finalizing the configuration

Click **Configure** to upload the configuration data to the USRID-16.

When the configuration is complete, unplug the USRID-16 from the USB socket and replace the protective cap.

If you wish to configure more USRID-16 units with the same configuration, insert the next loggers into USB sockets, wait until they are ready for configuration and click **Repeat Configure**. Alternatively, you can use the **Profile** function to configure multiple units with the same settings.

You can upload the configuration to a USRID-16 logger as often as required, however once started the unit cannot be configured again.

USRID-16 Start Options

During configuration with LogTag® Analyzer you can decide when the USRID-16 starts taking temperature readings:

Push button start

The logger will start taking temperature readings as soon as you have pressed the **START/Mark** button (see Starting the Logger on page 17).

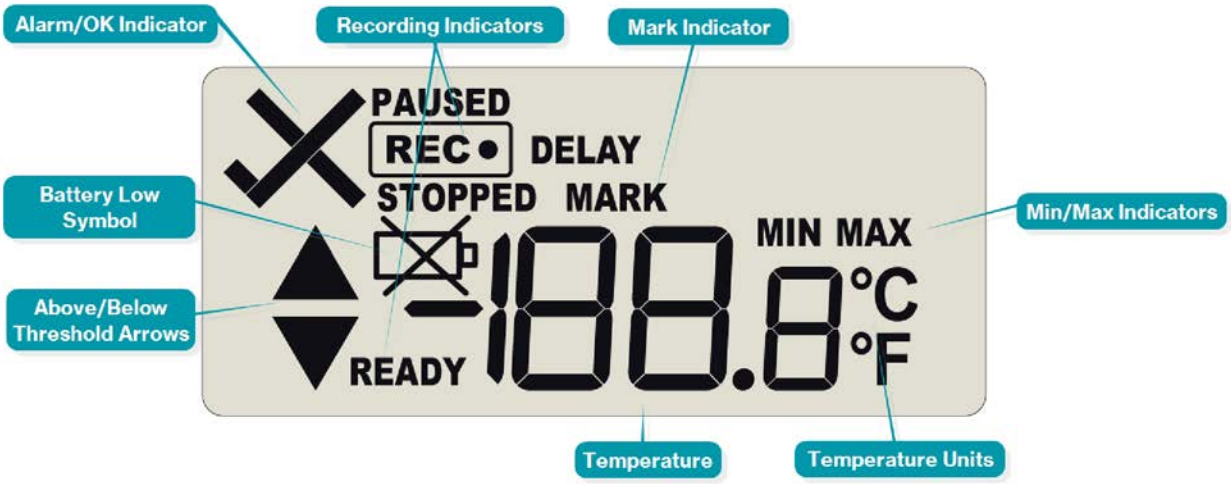
When you choose the push button start option, you can **Enable pre-start logging** (or disable it) and also **Begin recording after a delay**:

- If you select pre-start readings, the USRID-16 starts recording as soon as it is and will continue to do so until you start the unit. No alarms are processed while pre-start readings are being taken, pre-start readings will not appear in the PDF file after the logger was started, and no PDF file will be generated if only pre-start readings are present in the logger. Using pre-start readings is a good way to avoid data loss if you forget to start the unit, as you can still access the data using LogTag® Analyzer.
- If you configure the USRID-16 to start after a delay period, the logger will not immediately record temperature readings after you have pressed **START/Mark**, but start a countdown timer instead, and record readings only after the timer has ended. The value for the timer is set during configuration. If pre-start readings are enabled, these will continue to be recorded during the delay period.

Date/Time start

The logger will start taking temperature readings at the date and time you specified during configuration (local time). You cannot combine a date/time start with pre-start readings or the start delay function.

Display Overview



ALARM/OK indicator

The ✕ symbol is shown as soon as the USRID-16 has registered an alarm event. While there are no alarms, the ✓ symbol is shown.

Recording indicators

The recording indicators show what the USRID-16 is currently recording.

- If **READY** is shown, the USRID-16 is ready to be started with the **START/Mark** button. Depending on the configuration it may already record pre-start readings.
- If the word **DELAY** is shown, together with the letters St, the logger has been started with a start delay.
- If REC● is shown, the USRID-16 is recording temperature at the sample interval defined during configuration.
- If REC● is shown together with the word **PAUSED**, the product is also recording, but the recorded values are not taken into account when calculating alarm events and durations.
- If the word **STOPPED** is shown, the USRID-16 has finished recording temperature data.

Mark indicator

The word **MARK** is shown when the next temperature reading is identified with an inspection mark in the recorded data.

MIN/MAX indicator

The word **MAX** is shown when the temperature on the display represents the maximum recorded temperature for the current trip. The word **MIN** is shown when the temperature on the display represents the minumum recorded temperature for the current trip.

Temperature Units

Depending on the selected PDF temperature units, this shows either °F or °C.

Temperature Value

This shows the most recently recorded temperature while the USRID-16 is recording. Once the logger has stopped, nothing will be displayed. During review, this will show minimum or maximum temperatures.

The letters bt appear in place of the temperature if new firmware is being uploaded to the device.

The word USb appears when the unit is plugged into a USB port.

The word dtSt appears in place of the temperature value if the logger is configured for a date/time start, and the start time has not yet passed.

Above/Below Threshold Arrows

The up-arrow ▲ is shown when the temperature displayed (i.e. last recorded) is above the specified upper temperature threshold. The down-arrow ▼ is shown when the temperature displayed is below the specified lower temperature threshold.

Battery Low

The battery low symbol will appear if the USRID-16's battery is low. If the symbol is not shown while the display is turned on, the battery is still OK.

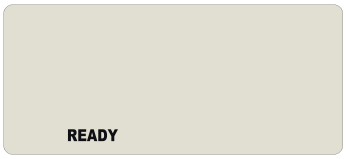
Operating the Logger

The following sections show how to operate the product, and what information you can expect to see on the display.

After the Logger is configured

Push Button Start

After configuration with LogTag® Analyzer for a push button start the word **READY** is shown.



At this stage, you won't be able to determine which additional configuration options have been set, such as start delay or pre-start readings.

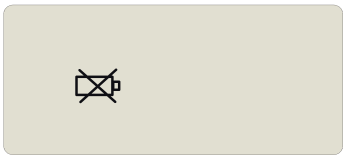
Date and Time Start

The logger can also be configured to start at a specific time and date. You will see the letters dtS.

Pre-start readings and start delay options are not available for a date/time start.

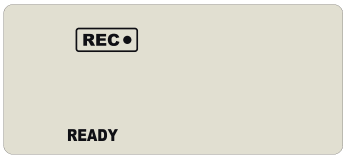
Low Battery

If at any time during the operation the logger has a low battery, the low battery symbol is shown.



Starting the Logger

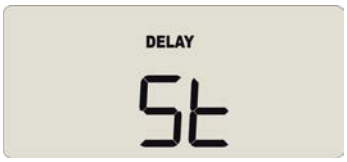
Push button start



Press and hold the **START/Mark** button until the REC symbol**STARTING** is shown. The USRID-16 now records temperature data. This start option works very similar to LogTag®'s LED products.

Push Button Start with Start Delay

If the logger was configured for push button start with a start delay, the word **DELAY** and the letters St are shown instead of the REC symbol.



Each time a user presses the **START/Mark** button during the start delay phase, the start delay value is reset to its originally configured value.

Automatic date/time start

If you configured the USRID-16 for a date/time start, it will record temperature values as soon as the entered date and time have passed.

If the logger is still plugged into a USB port when the start time passes, the recorded readings will show USB Paused on the PDF and in the software's reports.

During Recording

During normal operation the display shows the most recently recorded temperature. A tick symbol ✓ is shown as long as no alarm event has occured.

Temperatures can be shown in Celsius (as above) or Fahrenheit (as below).

> ⚠ The temperature unit on the display is the same as used for the PDF and CSV files. It is set during configuration.

Readings above or below alarm thresholds

If the most recently recorded temperature is above or below one of the alarm thresholds, an alarm marker will be shown on the display.

The ▲ symbol will be shown when the most recent temperature recorded is above the upper alarm threshold, the ▼ symbol when it is below the lower alarm threshold.

> ⚠ The presence of an alarm marker on the display does NOT indicate an alarm event. It only shows that the most recent temperature recorded was above or below the corresponding alarm threshold value. If an alarm marker is shown, but the display still shows a tick, a delayed alarm is configured.

In this example, the most recently recorded temperature is above the upper alarm threshold and no alarm was triggered:

An alarm was triggered

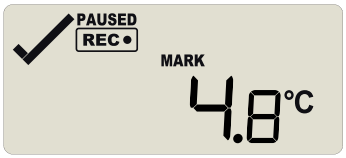
If an alarm event occurred, the alarm indicator ✕ is displayed in the upper left corner of the display.

Marking a reading with an inspection mark

When you press the **START/Mark** button while the USRID-16 is recording, the next reading taken will be identified in the downloaded data and on the PDF report with an inspection mark.

The **MARK** symbol appears and remains shown until the next reading is taken.

If the Paused Readings function is enabled, you will also see the **PAUSED** symbol.



Reviewing Min/Max values

At any time you can review the recorded minimum and maximum temperatures by briefly pressing the **STOP/Review** button. You can do this while the logger is still taking temperature readings, or when it has already stopped, but not when it is plugged into a USB port.

After each subsequent press of the **STOP/Review** button, the next review screen is shown.

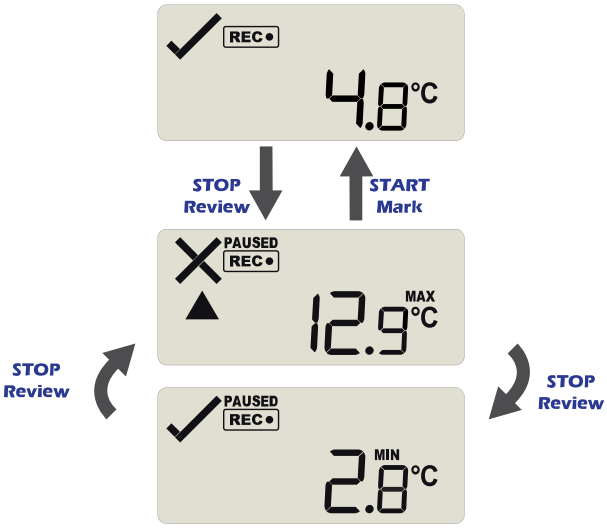


Figure 2: Review cycle

You can exit the review screens at any time by pressing **START/Mark button** or by waiting 30 seconds without pressing any button.

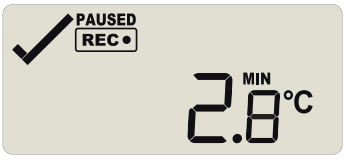
The standard recording screen will be shown.

After the first button press, the highest recorded temperature during the trip so far is shown, indicated by **MAX**. If this temperature was above or below one of the alarm thresholds, the corresponding alarm threshold arrow is also shown.

The cross is shown if this caused an alarm.

The example screen shows:

- The highest recorded temperature was 12.9 °C, which was above the allowed threshold, shown by the upper alarm threshold arrow.
- The duration above the threshold was longer than the allowed time, so an alarm was generated as a result, indicated by the cross.



Pressing **STOP/Review** for a second time will show the lowest recorded temperature during the trip so far, indicated by **MIN**. If this temperature was above or below one of the alarm thresholds, the corresponding alarm threshold arrow is also shown.

The cross is shown if this caused an alarm.

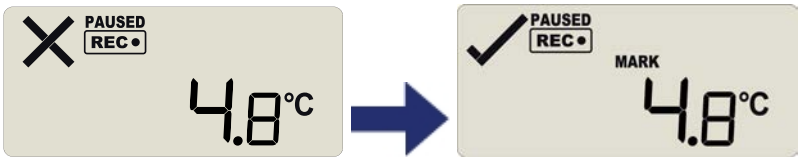
The example screen shows:

- The minimum temperature recorded was 2.8 °C, which was within the allowed thresholds.
- No alarm threshold arrow or duration are shown.
- The tick is shown, as no alarm was triggered.

> ⚠ The highest temperature value shown can still be below the lower alarm threshold. Thus, a lower alarm threshold arrow can still show for the highest temperature. Similarly, this applies in reverse to the lowest temperature.

Clearing an Alarm

A USRID-16 can be configured so you can clear an alarm from the display. To do this, press and hold the **STOP/Review** button.



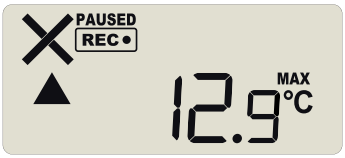
After 2 seconds the alarm will be cleared and the ✕ will change to a ✓. If you keep holding the button for a further 2 seconds, the ✕ will show again and the alarm will not be cleared.

An inspection mark will be recorded against the next temperature reading taken, whether you clear the alarm or not.

> ⚠ An alarm cannot be cleared once the USRID-16 has stopped recording. Alarms resulting from an accumulation of readings can also not be cleared.

Paused Readings

During configuration of the USRID-16 you can set the option to ignore up to 15 readings for alarm and statistics calculations after either button is pressed. The readings are still shown on the graph and in the data listing, but they are labelled as paused, and their value is ignored when determining alarm trigger conditions, minimum/maximum values and other statistical calculations.



It allows the logger to acclimatize to the environment again, before further readings are processed.

After a button press the display shows **PAUSED** next to the symbol. **PAUSED** will turn off as soon as the last ignored reading has been recorded.

The option is set in the Advanced Settings tab during configuration with LogTag® Analyzer and is expressed in number of readings after the last button press.

Paused readings are specially marked in the graph and data listings.

> How long **PAUSED** is displayed depends on when between readings you press the button. It will show longer, if the button is pressed just after the logger takes a reading, but shorter if you press the button just before. For example, if you configure a logging interval of 10 minutes and 2 paused readings, the time **PAUSED** is shown could be as short as 10 minutes, but as long as 20 minutes.

Power Save

When Power Save is enabled, the display will automatically switch off if none of the buttons have been pressed for 30 seconds.

This function is appropriate in applications where you don't need to look at the display frequently, such as in transit monitoring applications, as the logger uses less battery power when the display is not turned on.

Pressing any button will re-activate the display.

Power save is enabled or disabled when configuring the USRID-16 via LogTag® Analyzer in the Advanced Settings tab.

Battery Low while recording

If the battery is low while the USRID-16 is still recording, the battery low symbol is shown in addition to any other currently displayed information.

Stopping the USRID-16

Automatically

The USRID-16 automatically stops recording temperature when the maximum number of readings specified during configuration has been reached. Your unit can also be set up to

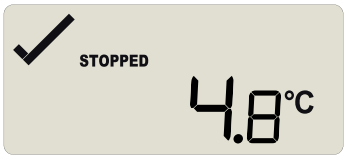
stop when it is inserted into a USB socket. This option needs to be set up at the factory and cannot be changed during configuration with LogTag® Analyzer. Your distributor can supply more information about this option.

Manually

You can configure a USRID-16 so it can be stopped with the **STOP/Review** button. This feature is useful when you take the logger out of a shipment and don't want to falsify the statistics with readings taken after the shipment completion. The stop function is enabled in the Advanced Options dialogue during configuration.

Press and hold the **STOP/Review** button. The **STOPPED** symbol shows in addition to for 2 seconds.

The symbol turns off after 2 seconds. If you release the button during this time, the logger stops taking temperature readings.



If the button is released while REC is still on, or you wait until it **STOPPED** disappears, the display shows REC again, and the logger continues to record data. In this case an inspection mark will be recorded in the data against the next temperature reading. The **MARK** symbol will show, and the **PAUSED** symbol also shows if this feature is enabled.

> ⚠ Unlike many other LogTag® products with display, the alarm does **not** have to be cleared before the logger can be stopped.

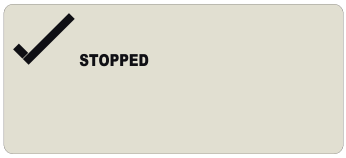
Logger has stopped

Once the logger has stopped, the display will show:

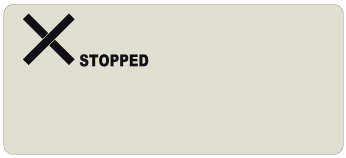
- The **STOPPED** symbol
- The OK indicator (✓)if no alarm was recorded
- The alarm indicator (✕) if an alarm was recorded during the trip that has not been cleared
- The battery low symbol (), if the battery is low.

The logger does not show a temperature reading.

The logger has stopped, and no alarms were recorded during the trip.



Here, the logger has stopped, and an upper alarm was recorded during the trip.



Plugging the USRID-16 into a USB port

As soon as you plug the USRID-16 into a USB port, the word USb appears and remains permanently on until all files have been generated.

During the file generation a small dot will also blink.

What happens on your computer depends on the operating system of the computer, the settings made during configuration and whether or not LogTag® Analyzer is running.

Microsoft Windows

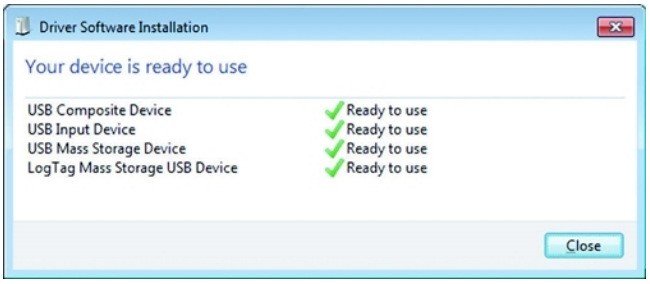
Up to four drivers will now be installed, depending on the USRID-16's configuration.

All drivers are part of the operating system and will typically not require administrator privileges for your computer.

1. Mass Storage Device
2. LogTag Mass Storage USB Device

   These two devices are required so you can access the data files in the same way as a USB memory stick. These drivers will not be installed if the USRID-16 does not generate files.
3. USB Input Device (HID)

   This device is used for communication to LogTag® Analyzer and its driver will always be installed, even if LogTag® Analyzer is not present on the computer.
4. USB Composite Device



If you have configured the USRID-16 to generate files, these will be created every time you plug the logger into the USB port.

Once finished, USb will blink every second to indicate these files can now be accessed.

> ⚠ While a USRID-16 is plugged into USB, no temperaturereadings are taken. The graph will display a gap and the data list will show --- followed by the # symbol.

Accessing the files

If the logger was configured to generate files, a new drive letter or mounted device will appear. The device name will be created from the serial number of the USRID-16. You can access the files by browsing to the newly created drive and double-clicking the PDF, CSV or LTD files. For PDF files you need Adobe Acrobat Reader or a similar PDF viewer. To open the LTD file you need to install the free LogTag® Analyzer software. CSV files can be opened with a text editor, or imported into a spreadsheet program such as Microsoft® Excel.

> ⚠ If a logger has only taken pre-start readings, PDF and CSV files will not be available.

> ⚠ To retain the logger-generated files please copy them to a permanent storage location on your computer, such as the **Documents** folder (they are not automatically copied).
> The data on the logger are retained, so each time you plug the USRID-16 back into the computer the files are re-generated. Once the battery is exhausted, the real time clock on the unit stops and dates and times for the retained data may no longer be accurate.

Interpreting the Data

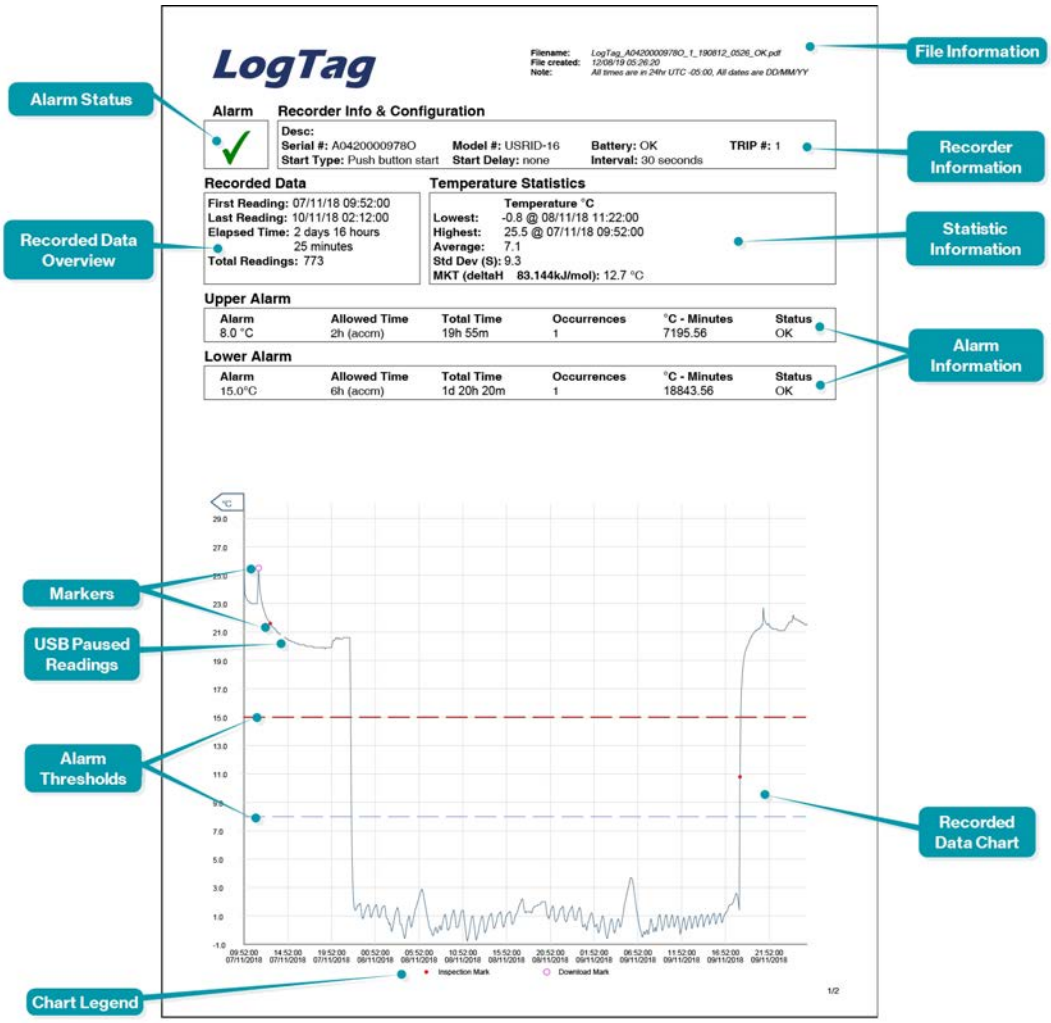


Figure 3: Sample report page

Data Evaluation - Report

Alarm Status

This shows at a glance if the USRID-16 recorded alarm conditions during the trip (showing a red ✗) or if no alarms were recorded (green ✓).

Recorded Data Overview

This section shows at what time the logger started to record data, when it finished, how many readings were recorded and how long that took.

Markers

The chart will show marks where the USRID-16 has been downloaded (o) or where an inspection mark has been placed with the **START/Mark** or **STOP/Review** button (•). It also shows Paused marks (•) where a button press has prevented readings from being used for statistics and alarm calculations.

USB Paused Readings

USB loggers cannot take a reading while plugged into a USB port. A gap is shown in the graph or list where the USRID-16 was plugged in at the time it would otherwise have taken a reading.

Legend

Shows the symbols for **download marks**, **inspections marks** and **paused marks** if they appear in the readings.

Logger Statistics Overview

This sections gives a brief overview of the temperature data collected during the trip. It shows minimum and maximum values, when these occured and also shows average, standard deviation and MKT values.

Recorded Data Chart

The chart shows a graphical representation of the data during the trip. As part of the USRID-16 configuration process you set the parameters that influence how the chart is presented.

File Information

This section shows general information about the PDF file, such as generation time, date and time formats used in the chart and the data list as well as the file name, which is compiled from information about the data it contains:

LogTag_[serial_number]_[trip number]_[file creation date]_file creation time]_[OK or ALM].pdf

Other files that may be generated have the extensions *.csv and *.ltd.

Logger Information and Configuration

This sections shows general information such as serial and model numbers, trip number, battery status and description. It shows how the logger was started, if a start delay was active and the interval used for taking readings.

Temperature Alarms

This section summarizes the alarm trigger conditions and occurences during the trip, including:

- direction (whether it is an upper or lower alarm)
- alarm threshold temperature value
- any delay value for consecutive or accumulative alarms
- the total time above or below a threshold
- how often an alarm occurred
- whether or not an alarm was generated for this alarm trigger

Up to 2 alarms will be shown here, as configured with LogTag® Analyzer.

Alarm Thresholds

The alarm thresholds are shown with red and blue dashed lines (---- for upper, ---- for lower) so you can see at a glance where temperatures went outside these limits.

Data Evaluation - Data List

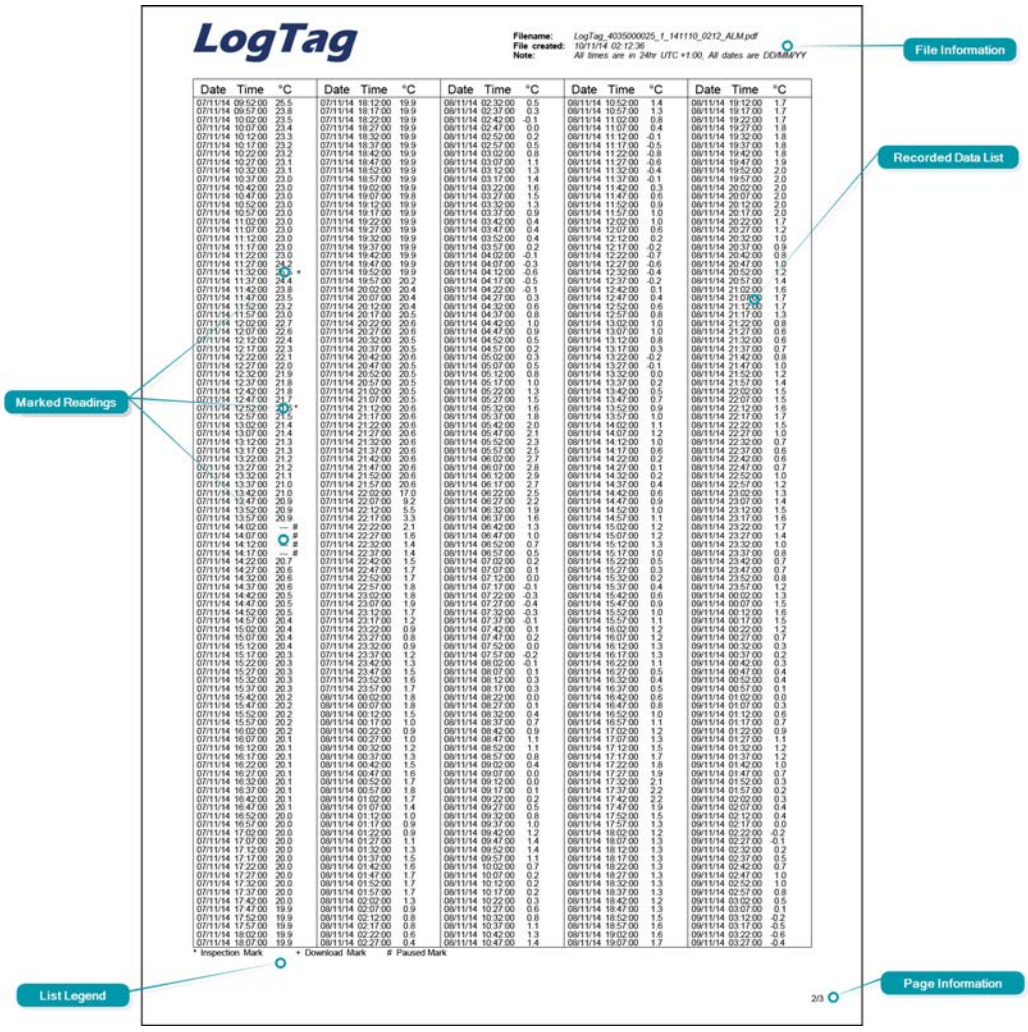


Figure 4: Sample Data List

File Information

This section shows general information about the PDF file, such as generation time, date and time formats used in the chart and the data list as well as the file name, which is compiled from information about the data it contains:

LogTag_[serial_number]_[trip number]_[file creation date]_file creation time]_[OK or ALM].pdf

Other files that may be generated have the extensions *.csv and *.ltd.

Recorded Data list

The Data list shows a single row for each recorded reading, along with the date, time and temperature values, plus any special events that were recorded against this reading.

Page information

The curent page number and the total number of pages appear on every page.

Marked readings

In the data list readings are marked after the temperature value:

- with a + symbol where the USRID-16 has been downloaded with LogTag® Analyzer
- with a * symbol where an inspection mark has been placed with the **START/Mark** button
- with a $ symbol where readings were paused as a result of a button press
- with a # symbol where the logger was plugged into a USB port at the time it would otherwise have taken a reading

USB Paused Readings

USB loggers cannot take a reading while plugged into a USB port. A gap is shown in the graph or list where the USRID-16 was plugged in at the time it would otherwise have taken a reading.

Legend

Shows the symbols for download marks, inspections marks and paused marks if they appear in the readings.

Tips and Tricks

Configuration

When configuring a USB logger, allow enough time for the unit to acclimatise to the target environment, particularly if you have configured an upper alarm. This can be best achieved with a start delay, or a date/time start if you know when the shipment takes place.

Make sure you remove your USRID-16 from the USB socket when you use a date/time start, so it starts at the time you want, rather than when unplugged from the port.

During the trip

Always replace the USB protective cap before placing the USRID-16 with the goods. While recording, make sure the USRID-16's USB plug points downward. The protection rating can only be achieved when used in this orientation. For applications requiring a higher IP rating the unit should be used in the protective case, available as an accessory.

Technical Specifications

Model Number	USRID-16
Temperature Sensor Measurement Range	-30 °C to +60 °C (-22 °F to +140 °F)
Operating Temperature Range	-30 °C to +65 °C (-22 °F to +149 °F)
Storage Temperature Range	0 °C to +40 °C (32 °F to +104 °F)
Ambient humidity range during transport and use	0 to 95%RH
Rated Temperature Resolution	0.1 °C (0.1 °F) across entire range
Rated Temperature Accuracy	• Better than ±0.5 °C (±0.9 °F) for -20 °C to +40 °C (-4 °F to 104 °F) • Better than ±0.7 °C (±1.3 °F) for -30 °C to -20 °C (-22 °F to -4 °F) • Better than ±0.7 °C (±1.3 °F) for +40 °C to +60 °C (104 °F to 140 °F)
Sensor Type	Precision thermistor
Sensor Reaction Time	Typically less than 7 minutes (T90) in moving air (1m/s), method as detailed in EN12830:2018.
Clock accuracy	Quartz crystal-locked real time clock, rated accuracy ±25ppm @ 25 °C (equiv to 2.5 seconds/day) Rated temperature coefficient is -0.034±0.006ppm/°C (i.e. typically +/-0.00294seconds/day/°C)
Recording Capacity	16,129 real time temperature values, giving • 112 days @ 10min logging or • 168 days @ 15min logging.
Statistics memory	Statistics memory for displaying trip Max/Min values
Memory type	Non volatile
Sampling Interval	Configurable from 30 seconds to 18 hours.
Start options	• Push button start with optional configurable start delay from 1 minute to 72 hours • Date/time start
Alarm functions	• one configurable upper alarms • one configurable lower alarms • OK tick and Alarm cross on display, linked to alarms
Vibration	Withstands vibration specification as detailed in EN12830:2018
Shock	• Withstands shock specification as detailed in EN12830:2018 • Withstands 5 drops from 1m onto smooth concrete floor without loss of function or calibration
EMC compliance	• EC EMC directives (EN 61000-6-1:2005 & EN 61000-6-3:2006) • Includes electrostatic discharge as prescribed in EN 61000-4-2 • Complies with FCC Part 15 Subparts A and B
Environmental	IEC 60529: IP64 with USB cap fitted Fits into IP67 Protective Enclosure 200-000020
Case Material	Polycarbonate
Power source	CR2032 3V Li-MnO_2 coin cell, non-rechargeable
Battery life	Typically 6 months of operation with normal use (6 minute logging, statistics reviewed on the display no more than once daily for no longer than 30 seconds each time, download data monthly) provided recorder is kept within the storage temperature range when not in use.
Size	93mm(H) x 54.5mm (W) x 8.6mm (T) including USB cap
Weight	39g
Calibration	Factory calibration using instruments traceable to an ISO/IEC 17025 accredited testing laboratory
PDF features	• compliant with standard 1.6 and later • Single page report with trip and alarm summary • Multi page report with list of readings including date/time
Download time	• Typically with full memory (16,129 readings) less than 30 seconds from time of insertion to availability of PDF report. • Typically less than 10 seconds from time of insertion to availability of LTD file in LogTag® Analyzer (if configured)
Software requirements	• LogTag® Analyzer version 3.1r7 or later to configure and download • PDF reader software to access onboard PDF files
USB compatibility	USB 2.0, type A plug
Accessories	• Wall holder 200-000010 • IP67 Protective Enclosure 200-000020 • Replacement protective cap 200-000425