



## UTRED30-16

30-day  
Temperature  
Recorder with  
Display

### Product User Guide

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## Safety Information

The UTRED30-16 PDF USB temperature logger contains two "AAA" non-rechargeable batteries. These batteries can be replaced as detailed in [Replacing the AAA batteries](#).

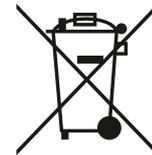
The logger also contains a non-rechargeable backup battery (LiMnO<sub>2</sub> CR2032 coin cell).

When this battery indicates "LOW" () it can be replaced by a qualified technician. Please contact your distributor for further information and also refer to the section about [Powering the UTRED30-16 on page 17](#).

Keep out of the reach of children!

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

Empty batteries should be recycled or disposed of according to your local regulations.



## Liability

LogTag Recorders' standard warranty terms apply. A copy can be requested by emailing [support@logtagrecorders.com](mailto: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 batteries in the UTRED30-16 are designed to power the device for up to 12 months, provided:

- fresh batteries from a reputable manufacturer are used
- the device is not downloaded excessively (more than once a week)
- data are reviewed on the display no more than once daily for 30 seconds
- the recording interval is not shorter than 5 minutes
- a strong wireless signal is available where the UTRED30-16 is deployed
- the acoustic alarm is not active over long periods
- the device is stored and operated according to LogTag Recorders' recommendations

Please refer to [Powering the UTRED30-16 on page 17](#) for more information.

## Disclaimer

The UTRED30-16 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 UTRED30-16.

Text *in this font* refers to option settings, dialogue boxes or actions to be taken in LogTag<sup>®</sup> Analyzer.

Text **in this font** describes features of the product.

## Introduction

The LogTag® UTRED30-16 temperature logger features a data logging memory storing up to 16129 temperature readings and a separate statistical memory, storing maximum and minimum reading as well as alarm duration for each of the last 30 days.

During recording the display shows...

- ... the current temperature (of the most recent reading)
- ... the alarm status (within or outside the acceptance range)
- ... an alarm trigger summary of up to the last 30 days (today and 29 days previous)
- ... the current time and battery status.

Alarm events can be triggered when a number of readings are outside pre-set temperature thresholds, and a "day alarm indicator" appears on the display.

Logged temperature data can be viewed on any PC by plugging the unit into a computer's USB port via a micro-USB cable. A PDF file is generated, which can be accessed using PDF software such as Acrobat Reader. The UTRED30-16 can also be downloaded to the free companion software LogTag® Analyzer, where you can display data in chart, list or summary formats. The software also allows electronic archiving and exporting or transmitting data in support of sophisticated data management systems.

## Features

The UTRED30-16 temperature logger features a large display and USB connectivity with a familiar LogTag® feel.



## Case

- Mounting lug for secure fastening of logger to fixtures
- Micro-USB socket with attached protective cap
- Gold-plated, high-quality temperature sensor socket
- Robust polycarbonate case, IP51
- 2 user replaceable AAA batteries, accessible via a compartment at the rear of the product

## Buttons

- **START/CLEAR/STOP** button (⏻); can be used to start and stop the unit. An active alarm is cleared using this button. It is also used to exit the statistics review.
- **REVIEW/MARK** button (⏮); can be used to enter the statistics review and to scroll through the statistical data directly on the display. It is also used to place an inspection mark in the data listing and to reset the min/max display.
- **Fn** button (⏪); the UTRED30-16 currently does not use this button.

## Display and LED

The extra large display shows current, minimum and maximum temperatures and if alarm events have occurred for the current day and up to 29 days in the past. Details of any alarm event can be checked by inspecting the statistics history on the logger's display or in more detail via LogTag<sup>®</sup> Analyzer. In addition, a red Alarm LED shows if an alarm event has occurred.

## Sensors

The UTRED30-16 will accept any sensor from the ST100 product range, up to 3m length.

## Power Supply

The same USB socket that is used for communication is also used for providing power to the UTRED30-16, using an external 5V USB power supply. The AAA batteries maintain all functionality when USB power is not connected. A long-life CR2032 lithium backup battery maintains essential functions if the AAA batteries are empty and external power is not supplied.

## PDF

The UTRED30-16 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 and also includes a day summary page, showing an overview of the statistics collected. A CSV file of the data list is also available.

## What You Need

### Required Items

In addition to your LogTag® UTRED30-16 temperature logger you will need the following:

- a Micro-USB to USB-A cable to connect the UTRED30-16 to your PC
- an external probe. You can use any probe of the ST100 series
- for configuration - a PC running Windows 7 or later and LogTag® Analyzer version 3 installed
- 2 x AAA batteries



For optimum performance we recommend Lithium Iron Disulphide batteries, such as Energizer® Ultimate Lithium™ Batteries, or similar batteries from other reputable manufacturers.

- A small Phillips screwdriver to open the battery compartment

### Optional Items

In addition to the above, following items are useful accessories:

- a 5V/5W USB power supply, if you wish to power the unit permanently via the USB socket.
- a wallmount bracket, which can be used, for example, to attach the UTRED30-16 to the side of a fridge



- a Glycol buffer, which simulates environmental behaviour of a vaccine vial



## Preparing a UTRED30-16 for first use

Before your UTRED30-16 can record temperature data you need to perform a few setup steps.

### In the office

These steps are completed in your office, using a PC connected to the internet.

- [install the batteries](#) into the unit
- download and install the latest version of LogTag<sup>®</sup> Analyzer 3. You can do this from the [LogTag Recorders Software Download page](#)
- [configure](#) the unit using LogTag<sup>®</sup> Analyzer

### On-site

Once you have completed this process you can take the logger to the location where it will be installed and

- [connect a sensor](#) and place the unit, preferably using a wall mount bracket
- [start the logger](#)

## Inserting the Batteries

The UTRED30-16 operates with two AAA batteries.

1. Remove the screw from the rear compartment lid.



2. Remove the lid, exposing the battery compartment.



3. Insert the AAA batteries in the correct orientation, as shown. The polarity is marked inside the battery compartment.



4. Replace the rear cover and the screw.
5. Press any button to turn on the display.

## Configuring the UTRED30-16 for logging

Before a UTRED30-16 logger can be used, it must be configured with the parameters required for

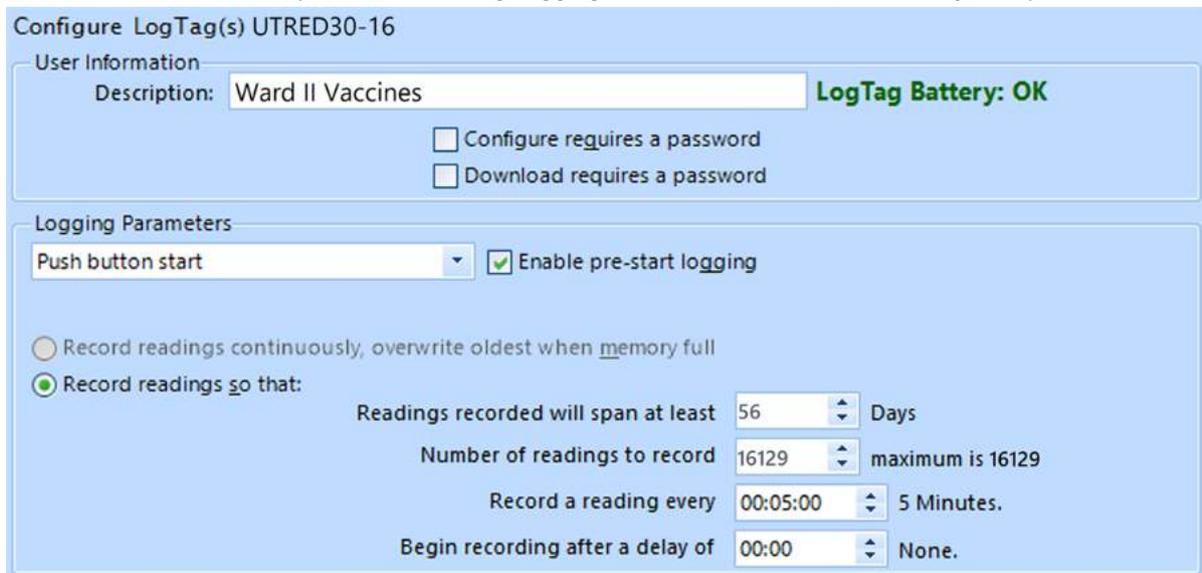
- starting and recording temperature values
- triggering alarms

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

- Start the LogTag<sup>®</sup> 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<sup>1</sup>.
- From the menu click **LogTag - Configure**; LogTag<sup>®</sup> Analyzer will display the configuration options for connected loggers.

### Standard Configuration Settings

The standard configuration is similar to those of other LogTag<sup>®</sup> logger products and includes settings such as User ID, start method, pre-start recording, logging interval and duration, start delay, and password.



Adjust the settings as required. For detailed information about each parameter please read the section about **Configuring a LogTag<sup>®</sup> for logging** in LogTag<sup>®</sup> Analyzer's User Guide or press F1 for help.

### UTRED30-16 Start Options

During configuration with LogTag<sup>®</sup> Analyzer you can decide when the UTRED30-16 starts taking temperature readings:

#### Push button start

The logger will start taking temperature readings as soon as you have pressed the **START/CLEAR/STOP** button (see [Starting the Logger on page 20](#)).

When you choose the push button start option, you can select to record **Pre-start readings** or **Begin recording after a delay**:

- If you select **pre-start readings**, the UTRED30-16 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, and no PDF file will be generated. 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<sup>®</sup> Analyzer.

<sup>1</sup> You can configure more than one UTRED30-16 at the same time, however it is practical to limit the number of units to about 6, using a powered USB hub.

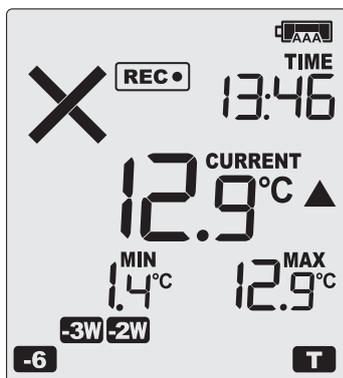
- If you configure the UTRED30-16 to start after a delay period, the logger will not immediately record temperature readings after you have pressed **START/CLEAR/STOP**, but start a countdown timer instead, and record readings only after the timer has ended. The value for the timer is set during configuration. If enabled, it will continue to take pre-start readings.

**Date/Time start**

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

**Alarm Configuration Options**

The UTRED30-16 can display an alarm if either of the configured alarm trigger conditions have been met. This is indicated on the display by showing the Alarm Indicator (X) and the Day Alarm Marker for today (T). Additionally, the red LED will blink every 4 seconds.

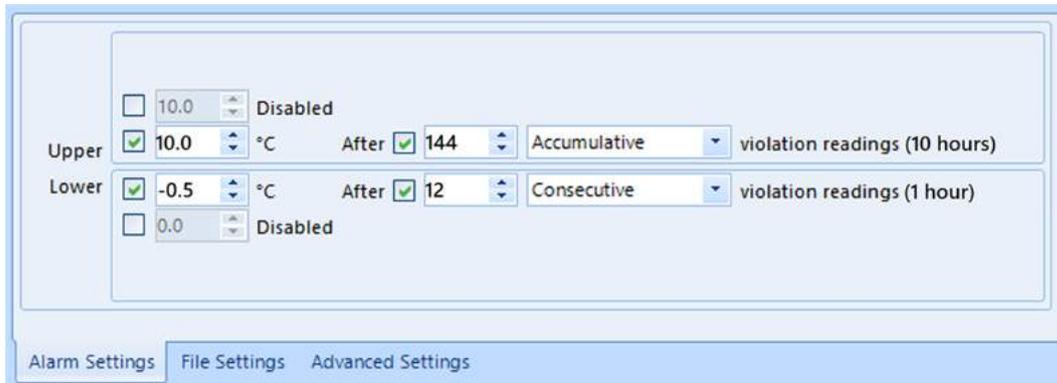


Each alarm trigger condition consists of a threshold temperature value, an activation type (which can be instant, consecutive or accumulative<sup>2</sup>) and a delay time, if it is not an instant alarm. If an alarm trigger condition requires readings to exceed an upper threshold temperature it is called an **upper alarm**. If an alarm trigger condition requires readings to go below a lower threshold it is called a **lower alarm**.

All alarm trigger conditions are configured in the Alarm Settings tab during configuration of the logger with LogTag<sup>®</sup> Analyzer.

The screen shows an example where:

- the upper alarm is triggered when the temperature is 10.0 °C or above for an accumulative time of 10 hours.
- the lower alarm is triggered when the temperature is -0.5 °C or below continuously for 1 hour.



<sup>2</sup>

- 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

Once an alarm has triggered, the alarm indicator (✕) remains shown until the alarm is cleared (see [Clearing an Alarm on page 24](#)) or the unit is reconfigured. The day alarm marker (T) remains shown until midnight, then it turns off and the marker for the previous day is shown (-1) to indicate the alarm was registered against what is now the previous day. When midnight passes next, this marker will move to and so on.



**A note on alarm re-triggering:** As soon as an alarm is triggered, the corresponding delay time (but not any others) resets to zero and alarm processing starts again. The alarm processing for all other alarm delays is not affected. Therefore, accumulative or consecutive alarms will re-trigger, if the alarm conditions are met again, and the Alarm Indicator (✕) and the Day Alarm Marker (T) will be shown, even if any previous alarm was cleared. **Clearing an Alarm does not reset any of the delay values.**

## File Settings

Select the **File Settings** tab for the settings that decide which files are generated when the UTRED30-16 is plugged into a computer's USB port, and what information these files contain.

Select as many file formats as you wish to generate.

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

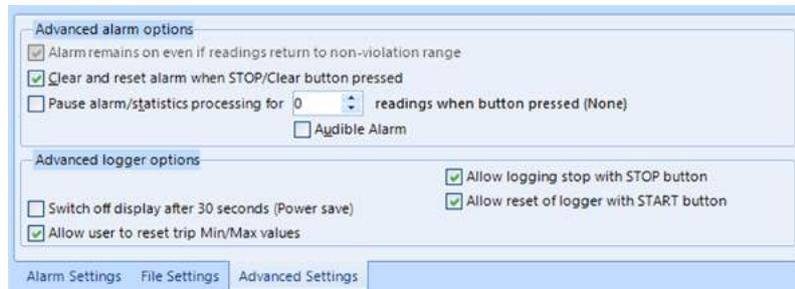
Parameters specifically influencing the appearance of the PDF file are:

- 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 UTRED30-16.



Parameters that influence the appearance of the display are

- Pause alarm/statistics processing (see [Paused Readings on page 25](#))
- Switch off display after 30 seconds (Power save, see [Power Save on page 26](#))
- Allowing a user to reset the trip's minimum and maximum values on the display during recording

Parameters influencing specific behaviour of the UTRED30-16 are

- clear and reset alarm when the **START/CLEAR/STOP** 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/CLEAR/STOP** button
- allowing the user to reset the logger with the **START/CLEAR/STOP** 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 UTRED30-16.

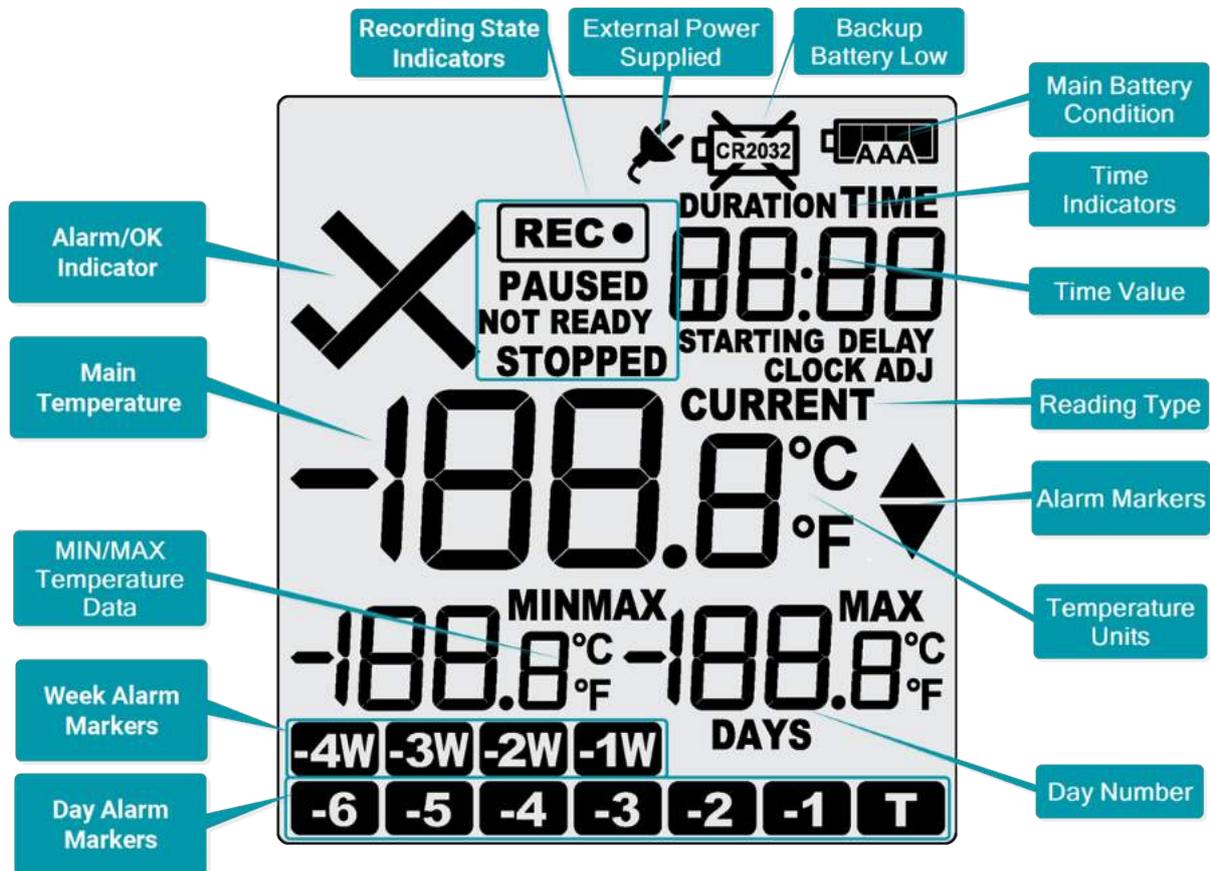
When the configuration is complete, unplug the UTRED30-16 from the USB socket and replace the protective cap.

If you wish to configure more UTRED30-16 units with the same configuration, insert the next loggers into the USB socket, 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 UTRED30-16 logger as often as required.

## Display Overview

Following picture shows the display with all segments turned on.



### Day Alarm Markers

One rows of 7 markers, named *Today* (**T**) to *Day -6* (**-6**). A marker is on, if an alarm event occurred on that day.

### Week Alarm Markers

One row of 4 markers, named last week (**-1W**) to 4 weeks ago (**-4W**). A marker is on, if alarm event occurred during that week.

### MIN/MAX Temperature Data

These two temperatures represent the minimum and maximum since the recording started, or since the values were last manually cleared.

### Main Temperature Data

This shows the last recorded temperature while the UTRED30-16 is recording . Once the logger has stopped, nothing will be displayed.

### Backup Battery Low

A battery test is performed every 24 hours. The battery low symbol  will appear if the UTRED30-16's backup battery is low and requires changing. Please discuss this with your distributor, as the battery needs to be changed by a qualified technician.

### Main Battery Condition

A battery test is performed hourly. Depending on the condition of the battery, all, some or none of the 4 bars will show. See [Powering the UTRED30-16 on page 17](#) for details.

### ALARM/OK Indicator

**X** is shown as soon as the UTRED30-16 has registered an alarm event. If no alarms have been registered, or if an existing alarm has been cleared, **✓** is shown.

### Recording State Indicators

The recording state indicators show if the UTRED30-16 is currently recording data:

- If the **READY** symbol is shown, the UTRED30-16 is ready to be started. Depending on the configuration it may already record pre-start readings.
- If the **STARTING** symbol is shown, the logger has been configured with a start delay. The word **DELAY** is also shown, together with the time in hours and minutes until the start.
- If the **REC** symbol is shown, the UTRED30-16 is recording temperatures at the sample interval defined during configuration with LogTag<sup>®</sup> Analyzer.
- If **REC** is shown together with the word **PAUSED**, the product is recording, but the recorded values are not taken into account when calculating alarm events and durations.
- If the word **STOPPED** is shown, the UTRED30-16 has finished recording temperature data.

### Time Value and Time Indicators

The time value display is used to show one of the following:

- a clock with the current time
- time remaining to start of logging with a delayed start
- duration, for example of an alarm

The time indicators identify, which of those is displayed:

- If the word **TIME** is shown, the time value represents the current time in hours and minutes (24-hour format).
- If the word **DELAY** is shown, the time value represents a start delay in hours and minutes.
- If the word **DURATION** is shown, the time value represents the length of time in hours and minutes an alarm threshold was exceeded, for example the time above the upper alarm threshold.

The word **dt5t** appears in place of a time value if the logger is configured for a date/time start, and the start time has not yet passed.

### Reading Type

The word **CURRENT** is shown when the temperature on the display represents the last recorded temperature.

The word **MAX** is shown in Review mode, when the temperature on the display represents the maximum recorded temperature for the day displayed.

The word **MIN** is shown in Review mode, when the temperature on the display represents the minimum recorded temperature for the day displayed.

**MIN** and **MAX** are also shown next to the minimum and maximum values during recording, if these are enabled.

### Alarm Threshold Markers

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.

### Temperature Units

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

## Powering the UTRED30-16

The UTRED30-16 can be supplied from one of two power sources:

- via two AAA batteries

The batteries have a life span of approx. 6 to 12 months, depending on the quality of the battery, log interval, frequency of reviewing data on the display and how often an alarm sounds.



The batteries inside the unit will not be charged when external power is supplied.

A 4-bar battery indicator shows an approximate remaining battery capacity. If the batteries are full, this symbol will be shown:



When the batteries are empty, this symbol will be shown, and the batteries require replacement.



Please always replace both batteries with fresh ones at the same time. Replacing only one of the batteries with a partially charged battery will drain the internal backup battery.



It is possible to use rechargeable AAA cells, however, please note that due to the different voltage the battery indicator will not show the correct remaining percentage, and the internal backup battery may drain faster. Rechargeable cells will deplete faster than Alkaline or Lithium batteries.

- via a commercially available 5V USB power supply (5W).

When supplied externally, the power symbol shows on the display.



Supplying the unit with external power allows you to use the internal AAA batteries as a backup should external power be unavailable.

When you remove the external USB power the display briefly turns off.



Some low-quality USB power supplies are unable to deliver sufficiently stable power to the UTRED30-16. Please use a power supply from a reputable source that carries a UL or CE marking.

If the logger detects an unstable power source, the power symbol  will flash and the buzzer will sound.

In this case, the logger will not be powered by the external supply, but remain powered by the AAA batteries instead. Please remove the supply and replace it with one of better quality.

## Low power operation

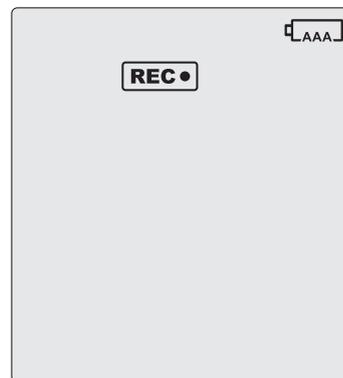
The UTRED30-16 enters low power operation when no external power is supplied, and the AAA batteries are empty.

In low power mode...

- ... the audible alarm will sound only once, then be silent
- ... the display turns off after 30 seconds of inactivity, regardless of the setting made in LogTag<sup>®</sup> Analyzer.
- ... reviewing the data is not possible (however a mark will still be placed if the review button is pressed)
- ... the unit cannot be started via push button start, however, a recording in progress can be stopped, and a scheduled date/time start will proceed.
- ... Min/Max values cannot be cleared

On pressing any button, following is shown on the display:

- The Recording state indicators show if the unit is recording, stopped, ready or configured for a delayed start
- The Main Battery Empty symbol is shown



The internal secondary backup battery will power the logger's essential functions:

- the internal clock still runs
- temperature values are being recorded at the configured intervals
- the red alert indicator will blink if an alarm is triggered
- a scheduled recording will still start.

At this time the batteries must be replaced, or external power provided, to activate the suspended functions.



After battery replacement the display may be blank. To activate it, simply press one of the buttons.



The internal secondary backup battery (CR2032 LiMnO<sub>2</sub> coin cell) should be replaced immediately when its low battery symbol appears. This can be done by a qualified technician.

Failing to replace the battery can result in loss of configuration information and loss of recorded data.



## Audible Alarm

The UTRED30-16 is fitted with a buzzer. You can choose to activate the buzzer when an alarm event has been registered to provide extra feedback. This is enabled or disabled in the [Advanced Settings](#) when configuring the logger with LogTag<sup>®</sup> Analyzer.



Please note, that continual activation of the audible alarm will reduce the working life of the battery. When an alarm event is triggered, the alarm should be cleared as soon as possible.

The alarm will sound once every four seconds for the first 24 hours. To preserve battery life, the interval at which the alarm sounds will increase to 8 seconds when the clock passes midnight after the initial 24 hour period (i.e. the alarm will sound every 4 seconds between 24 and 48 hours, depending on when during the day the alarm was first triggered). When the clock passes midnight again, the interval changes to 12 seconds. It will remain at 12 seconds until the alarm is cleared, the unit stops or is re-configured.



Note: The interval will increase, even if the alarm is re-triggered!  
Please see more information about re-triggering alarms in [Alarm Re-triggering on page 12](#)



The buzzer will temporarily turn off when you are reviewing data.

## Real Time Clock

The time shown on the recording display is linked to the logger's internal real time clock.

A day change occurs when the display time rolls through midnight (i.e. 00:00), which triggers the statistical data to be finalized for the day, and a new day to be started when the next reading is taken.

Each time the logger is configured with LogTag<sup>®</sup> Analyzer the display clock value is set to the PC's current local time (or timezone).



Note that the logger's internal real time clock value is only updated when the recorder is configured with LogTag<sup>®</sup> Analyzer. This prevents the data logging becoming discontinuous, which would be the case if the real time clock were to be changed together with the display clock.

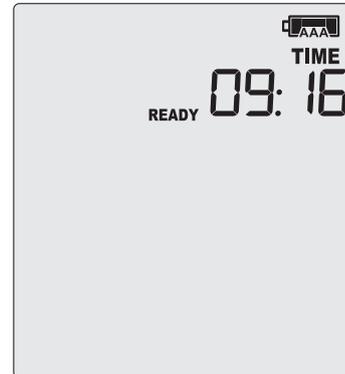
LogTag<sup>®</sup> Analyzer can display the logged readings in a number of different time zones, regardless of where it was configured. Please note, however, that the PDF's time zone has to be set at configuration and cannot be changed after the logger has been downloaded.

## Starting the Logger

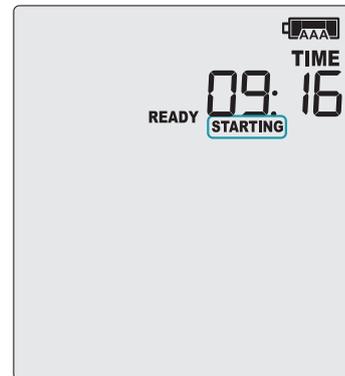
### Push button start

After configuration for a push button start the current time and **READY** are shown, together with the Operating Battery Status symbol.

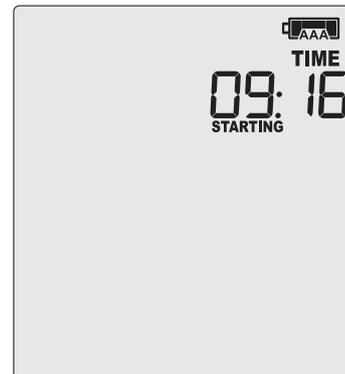
The power symbol is shown when the unit is connected to a USB power supply.



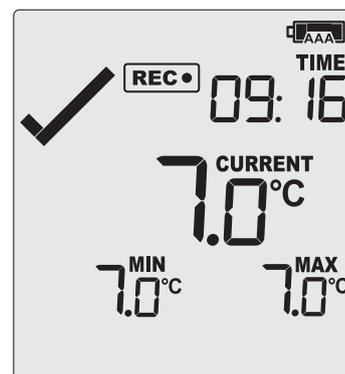
Press the **START/CLEAR/STOP** button. **STARTING** is briefly shown in addition to **READY**.



Then **READY** disappears.



Once **READY** disappears, release the button within two seconds. **STARTING** will now disappear, and the **REC•** symbol will be shown. The UTRED30-16 now records temperature data.



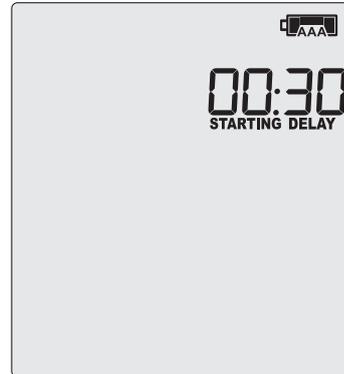
The logger will *not* start if you...

- ... release the button before **READY** disappears
- ... keep holding the button for more than 2 seconds after **READY** disappears.
- ... The backup battery is critically low and the logger is not connected to power.

## Push Button Start with Start Delay

If the logger has been configured for a push button start with a start delay, the word **STARTING DELAY** is shown instead of the **REC** symbol.

The delay time is shown in hours and minutes. The time counts down and the UTRED30-16 starts recording when it reaches **0:00**.



The timer can be cancelled and the logger reset to **READY**. While **STARTING** and **DELAY** are shown, press and hold the **START/CLEAR/STOP** button. **STOPPED** will now show. Release the button when **STARTING** disappears.

**STOPPED** and **DELAY** will both disappear, and **READY** will show, together with the current time, and the logger can now be started again as normal.

The UTRED30-16 will *not* be reset if you ...

- ... release the button before **STARTING** disappears, or
- ... if you keep holding the button until **STOPPED** disappears.



## Automatic date/time start

If you configured the UTRED30-16 for a date/time start, it will start recording temperature values as soon as the entered start time is reached. Until then the logger will display the screen on the right.

Once the configured start time is reached, the logger shows the normal recording display.



The UTRED30-16 will perform a [Connection Test](#) as soon as the recording has started. To check the connection before the start time is reached, you can initiate the connection test yourself. Please refer to [Testing your wireless and network connection \(on page 1\)](#).



Hibernating the logger using LogTag<sup>®</sup> Analyzer will abort any previously configured Date/Time start.

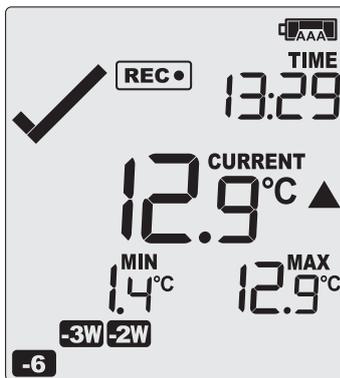
## During Recording

During normal operation the display shows the most recently recorded temperature. This temperature is updated at the same rate as the logging interval. The current time is also displayed (in 24 hour format). A tick symbol ✓ is shown as long as no alarm event has occurred. If an alarm event is registered, a cross symbol ✗ is shown instead of the tick.

At the bottom of the display you can see an alarm day summary, where any days on which an alarm was recorded are highlighted.

Following are some sample display screens:

At 1:29 pm:



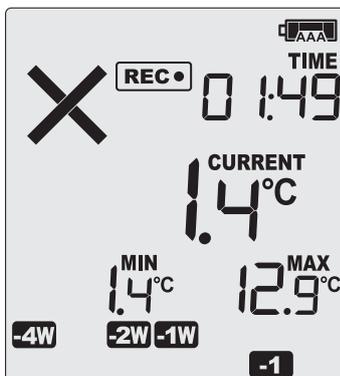
- Alarm events were recorded 6, 18, 19 & 27 days ago. The following symbols show on the display:
  - **-6** for the alarm that occurred 6 days ago
  - **-2W** for the alarms that occurred 18 and 19 days ago
  - **-3W** for the alarm that occurred 27 days ago
- These alarms were cleared by an inspector, as the display currently shows .
- The current temperature is over the upper alarm threshold, as indicated by the upper alarm marker (▲).
- The duration of this temperature excursion has not yet triggered an alarm.

At 1:49pm (20 minutes later)



- The temperature has remained above the upper alarm threshold and has now triggered an alarm event.
- The alarm symbol ✗ is shown to indicate an alarm event occurred
- The day marker for the current day (**T**) is shown.

At 1:49am on the next day the display shows the following:



- The temperature has returned to within the accepted range (none of the alarm threshold markers are visible), but the alarm remains present, as it has not been inspected and cleared.
- The day summary has shifted by 1 day as the display time has passed through midnight (00:00). This means some of the week symbols have also changed. The following symbols show on the display:
  - **-1** for the alarm that shifted from today to yesterday. The today symbol no longer shows.
  - **-1W** for the alarm that shifted from 6 days ago to 7 days ago.
  - **-2W** for the alarms that shifted from 18 and 19 days ago to 19 and 20 days ago
  - **-4W** for the alarm that shifted from 27 to 28 days ago. The symbol for 3 weeks ago no longer shows, as none of the alarms occurred three weeks ago.

## Day Alarm Matrix Display while recording

During normal recording, symbols marked with ● are shown if an alarm occurred on that day.

	-6	-5	-4	-3	-2	-1	T	-4W	-3W	-2W	-1W
Today							●				
Day -1						●					
Day -2					●						
Day -3				●							
Day -4			●								
Day -5		●									
Day -6	●										
Day -7 (-1 week)											●
Day -8 (-1 week and 1 day)											●
Day -9 (-1 week and 2 days)											●
Day -10 (-1 week and 3 days)											●
Day -11 (-1 week and 4 days)											●
Day -12 (-1 week and 5 days)											●
Day -13 (-1 week and 6 days)											●
Day -14 (-2 weeks)										●	
Day -15 (-2 weeks and 1 day)										●	
Day -16 (-2 weeks and 2 days)										●	
Day -17 (-2 weeks and 3 days)										●	
Day -18 (-2 weeks and 4 days)										●	
Day -19 (-2 weeks and 5 days)										●	
Day -20 (-2 weeks and 6 days)										●	
Day -21 (-3 weeks)									●		
Day -22 (-3 weeks and 1 day)									●		
Day -23 (-3 weeks and 2 days)									●		
Day -24 (-3 weeks and 3 days)									●		
Day -25 (-3 weeks and 4 days)									●		
Day -26 (-3 weeks and 5 days)									●		
Day -27 (-3 weeks and 6 days)									●		
Day -28 (-4 weeks)								●			
Day -29 (-4 weeks and 1 day)								●			

## Marking a reading with an inspection mark

When you press the button, the next reading taken by the UTRED30-16 will be identified in the downloaded data with an inspection mark.

## Clearing an Alarm

During configuration with LogTag<sup>®</sup> Analyzer you can allow a user to clear an alarm on the display. This is a useful function for an inspector, so repeated alarms can be recognized easier.

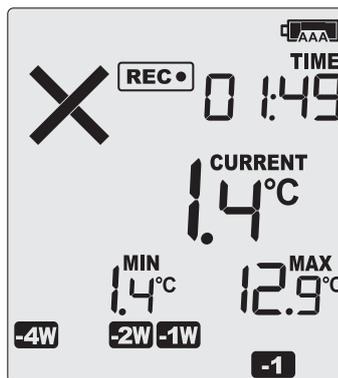
This display screen shows an existing alarm that occurred yesterday, but has not yet been cleared.

To clear an alarm, press and hold the **START/CLEAR/STOP** button.

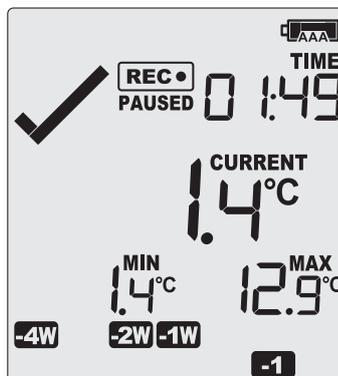
After approx. 2 seconds the cross **X** will be replaced with the tick **✓**. Release the button when the tick appears. The normal recording display is shown.

The alarm will **not** be cleared if you:

- release the button before the **✓** appears



In this example the paused function was activated, and the paused symbol is shown on the display. For more information about paused readings please see the section about [Paused Readings on the next page](#).



A mark will be placed in the readings when you clear an alarm.



Note: Only the Alarm Indicator (X) can be cleared! The day alarm marker (-1 in the above example) remains shown, as it is part of the statistic summary. Clearing an alarm also does not reset any of the delay values. Please see [Alarm Configuration](#) for additional information.

## Paused Readings

During configuration of the UTRED30-16 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.



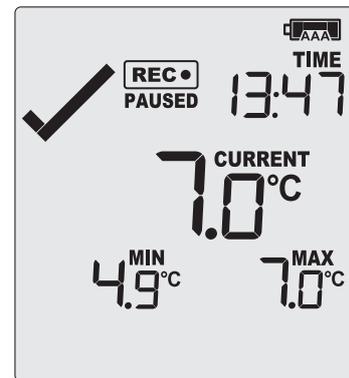
This function is useful, for example, when you need to temporarily remove the sensor from the monitored location to inspect goods, but you do not wish to trigger an alarm as a result of you handling the sensor.

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 **REC** 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<sup>®</sup> 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.

## Sensor is disconnected

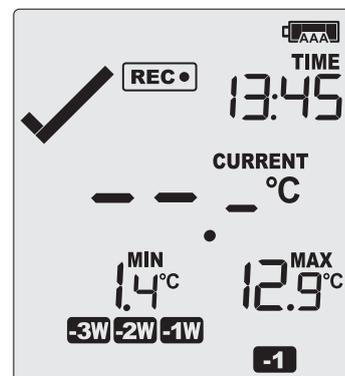
The display shows **--.-** instead of a temperature value if the external sensor of the UTRED30-16 is disconnected. This function is useful if the sensor is permanently mounted, but you wish to take the UTRED30-16 to a computer for downloading its data.

Any values recorded during this time will not be taken into account when calculating statistics values or alarms.

If, for example, the temperature was above 10 °C for 12 hours (which would normally trigger an alarm event), but the sensor was disconnected for 3 hours during this time, no alarm would be generated.

When evaluating data, any readings taken while the sensor is disconnected are shown as **--.-** in the data list. The chart in LogTag<sup>®</sup> Analyzer will show a gap during this period. Minimum and Maximum values shown on the display will remain visible and will not be updated until the sensor is plugged back in.

If the sensor was disconnected for a complete day, the minimum and maximum statistics for that day will show **--.-** on the display and **--.-** in the list.



## 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 UTRED30-16 via LogTag<sup>®</sup> Analyzer in the [Advanced Settings](#) tab.



Note: The display will turn off, even if there is a pending alarm! The Red Alert LED will still blink.

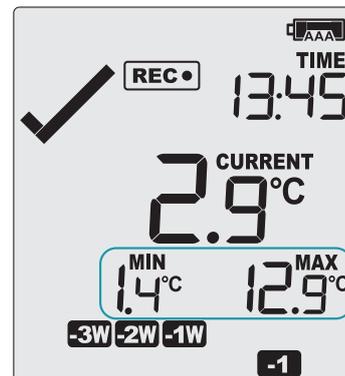


In [Low power](#) operation, power save will be active regardless of the settings made in LogTag<sup>®</sup> Analyzer.

## Clearing the Min/Max Values

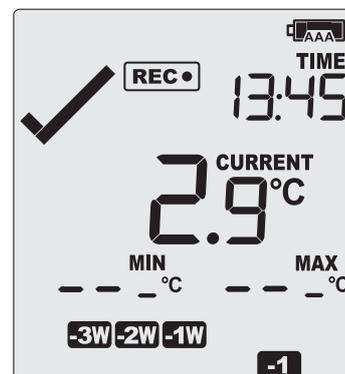
The UTRED30-16 tracks the minimum and maximum temperatures since it started logging and displays them below the last recorded temperature.

These values can be reset any time while the unit is recording, but not once the unit has been stopped.



To reset the values, follow this procedure:

- Press and hold the **REVIEW/MARK** button.
- After 1 second the number values alternate with dashes, after 4 seconds, the dashes remain on.
- Release the buttons within 2 seconds. The values will be reset and the dashes remain on screen.
- If you keep holding the button beyond the 2 seconds, the currently stored min/max values will be retained.
- Releasing the button within the 4 second period after the initial press switches to the first review screen.



The logger will now track new min/max values. A min/max reset mark will be recorded in the logged data. As soon as the next reading is taken, both minimum and maximum values will be shown again.

You will be able to see on the PDF and in the summary in LogTag<sup>®</sup> Analyzer when the min/max values were cleared, but you will not be able to review previous min/max values on screen once they have been cleared.

## Reviewing Day Statistics on the Display

The review of the day statistics history is accessed by pressing the **REVIEW/MARK** button .

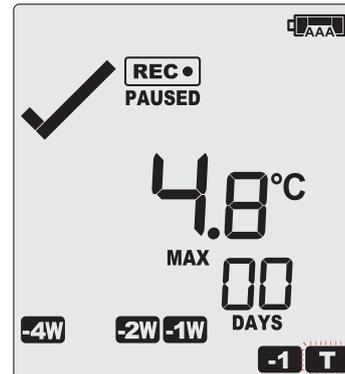
You can review the data regardless of whether the logger is still logging data, or has already been stopped.

Following are some sample display screens you might see during a statistics review. All display screens are based on the alarm settings made in [Alarm Configuration Options on page 11](#):

### Today's data

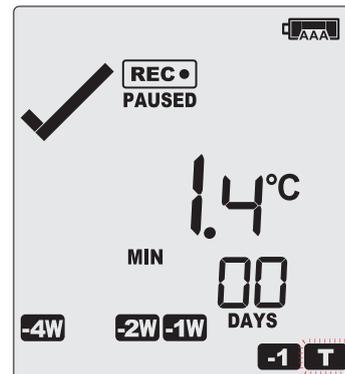
Pressing the  button displays the current day's maximum statistic:

- The Today marker **T** flashes to indicate that today's data are being displayed.
- Today, no temperature values were recorded above the upper alarm threshold, and no alarm event was generated.
- The maximum temperature recorded today was 4.8 °C.
- The paused function is enabled.



Pressing the  button again displays the current day's minimum statistic:

- **T** still flashes, as the same day's data (today) are being displayed.
- Today, no temperature values were recorded below the lower alarm threshold, and no alarm event was generated.
- The minimum temperature recorded today was 1.4 °C.



### Yesterday's data

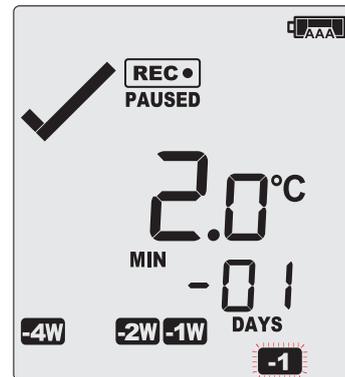
Pressing the  button now displays yesterday's maximum statistic:

- The -1 marker **-1** flashes to indicate that yesterday's data are being displayed.
- Yesterday, recordings above the upper threshold were recorded, indicated by the upper alarm threshold marker **▲**.
- The duration value shows the amount of time recorded above the limit yesterday, which was 12 hours 30 minutes.
- An alarm was triggered, indicated by the **x**, as this duration was longer than the allowed time above the threshold.
- The maximum temperature recorded yesterday was 12.9 °C.



Pressing the  button now displays yesterday's minimum statistic:

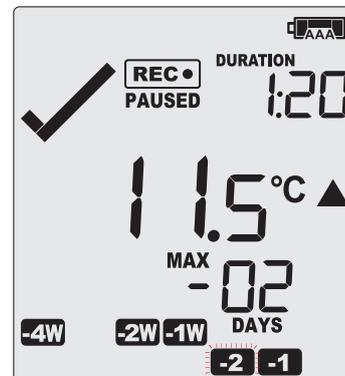
- **-1** flashes, as we are still looking at yesterday's data.
- Yesterday, no temperature values were recorded below the lower alarm threshold. The alarm for the day **-1** was generated by the upper alarm, not by the lower alarm, so a ✓ is displayed in the minimum statistics.
- The minimum temperature recorded yesterday was 2.0 °C.



### Data from the day before yesterday

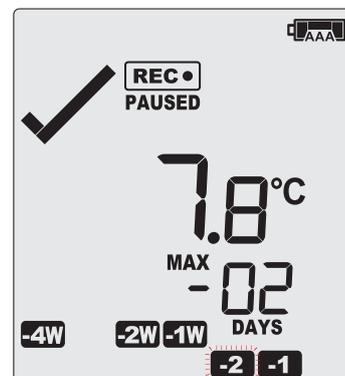
Pressing the  button now displays the maximum statistic from two days ago:

- The **-2** flashes to indicate that the data being displayed are from two days ago.
- Two days ago recordings above the upper threshold were recorded, indicated by the upper alarm threshold marker.
- The duration was 1 hour 20 minutes, which was shorter than the allowed period, so no alarm event was generated.
- The maximum temperature recorded on the day before yesterday was 11.5 °C.



Pressing the  button now displays the minimum statistic from two days ago:

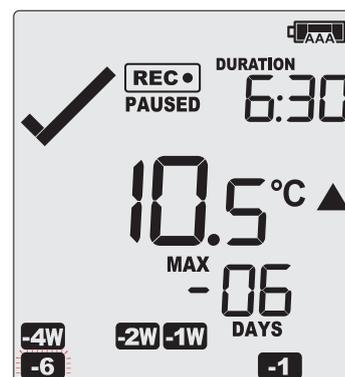
- **-2** flashes, as we are still looking at the data from 2 days ago.
- Yesterday, no temperature values were recorded below the lower alarm threshold, and no alarm event was generated.
- The minimum temperature recorded on the day before yesterday was 7.8 °C.



### Data from 6 days ago

After pressing the  button for a few times (skipping days -3 to -5) the maximum statistic from six days ago is displayed:

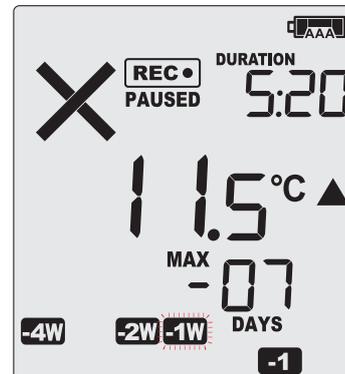
- The **-6** flashes to indicate that the data being displayed are from seven days ago.
- Six days ago recordings above the upper threshold were recorded, indicated by the upper alarm threshold marker.
- The duration was 6 hour 30 minutes, which was shorter than the allowed period, so no alarm event was generated.
- The maximum temperature recorded six days ago was 10.5 °C.



## Data from 7 days ago

After pressing the  button twice (skipping the minimum statistics for day -6) the maximum statistic from seven days ago is displayed:

- The **-1W** flashes to indicate that the data being displayed are from seven days ago.
- Seven days ago recordings above the upper threshold were recorded, indicated by the upper alarm threshold marker.
- The duration was 5 hour 30 minutes.
- An alarm event was generated **X**. Neither duration from day -6 nor -7 by itself would cause an alarm event, however the combined duration is 10 hours 50 minutes, which is more than the allowed 10 accumulative hours.
- The maximum temperature recorded eight days ago was 11.5 °C.



Tip: Pressing and holding the  button will get you back to the previous screen, rather than advancing one screen.

## Day Alarm Matrix Display while reviewing

During review, symbols marked with ● are shown to indicate for which day review data are being displayed on screen.

	-6	-5	-4	-3	-2	-1	T	-4W	-3W	-2W	-1W
Today							●				
Day -1						●					
Day -2					●						
Day -3				●							
Day -4			●								
Day -5		●									
Day -6	●										
Day -7 (-1 week)											●
Day -8 (-1 week and 1 day)						●					●
Day -9 (-1 week and 2 days)					●						●
Day -10 (-1 week and 3 dasy)				●							●
Day -11 (-1 week and 4 days)			●								●
Day -12 (-1 week and 5 days)		●									●
Day -13 (-1 week and 6 days)	●										●
Day -14 (-2 weeks)										●	
Day -15 (-2 weeks and 1 day)						●				●	
Day -16 (-2 weeks and 2 days)					●					●	
Day -17 (-2 weeks and 3 days)				●						●	
Day -18 (-2 weeks and 4 days)			●							●	
Day -19 (-2 weeks and 5 days)		●								●	
Day -20 (-2 weeks and 6 days)	●									●	
Day -21 (-3 weeks)									●		
Day -22 (-3 weeks and 1 day)						●			●		
Day -23 (-3 weeks and 2 days)					●				●		
Day -24 (-3 weeks and 3 days)				●					●		
Day -25 (-3 weeks and 4 days)			●						●		
Day -26 (-3 weeks and 5 days)		●							●		
Day -27 (-3 weeks and 6 days)	●								●		
Day -28 (-4 weeks)								●			
Day -29 (-4 weeks and 1 day)						●		●			

## Stopping the UTRED30-16

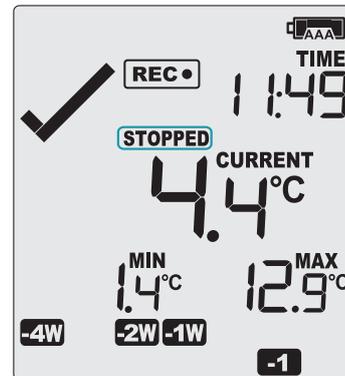
### Automatically

The UTRED30-16 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 automatically when it is downloaded. This option needs to be set up at the factory and cannot be changed during configuration with LogTag<sup>®</sup> Analyzer. Your distributor can supply more information about this option.

### Manually

You can configure a UTRED30-16 so it can be stopped with the **START/CLEAR/STOP** 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 Settings tab during configuration. When enabled, following will stop the unit:

Press and hold the **START/CLEAR/STOP** button. **STOPPED** is shown in addition to the **REC•** symbol.



Keep holding the button until the **REC•** symbol disappears, then release the button within 2 seconds.

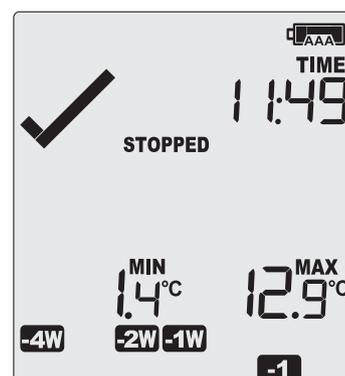
**STOPPED** is shown permanently on the display and the logger will no longer take readings.



The last recorded temperature is now no longer shown, but minimum and maximum trip values remain.

The logger will *not* stop if you:

- release the button before the **REC•** symbol disappears
- keep holding the button after **STOPPED** remains permanently on until the **REC•** symbol reappears





Once the logger has stopped, the last alarm status before the logger stopped will continue to be indicated with a cross or a tick symbol on the display, but the audible alarm and the alarm LED will turn off (see exception [below](#)).



If an ALARM is present (x) and the Clear alarm by pressing STOP button function is enabled, you will need to clear the alarm first before you can stop the logger. Please see [Clearing an Alarm](#) for more information. In this case, a tick will be shown for the alarm status once the logger has stopped.

## Plugging the UTRED30-16 into a USB port

What happens when you plug your UTRED30-16 into a USB port depends on the operating system of the computer, the settings made during configuration and whether or not LogTag<sup>®</sup> Analyzer is running.

### Microsoft Windows

Up to four drivers will now be installed, depending on the UTRED30-16's configuration.

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



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

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 UTRED30-16 does not generate files.

3. USB Input Device (HID) Driver

This device is used for communication to LogTag<sup>®</sup> Analyzer and its driver will always be installed, even if LogTag<sup>®</sup> Analyzer is not present on the computer.

4. USB Composite Device Driver

This driver signals that multiple devices are involved when plugging in a UTRED30-16.

If you have configured the UTRED30-16 to **generate files**, these will be created every time you plug the logger into the USB port. While the file creation takes place, the display shows **busy** instead of the current time.

Once the files are generated, a new drive or mounted device will appear. The device name will be created from the serial number of the UTRED30-16.

If you have disabled file generation during configuration, no drive will appear.



USB communication can interfere with temperature measurement. While a UTRED30-16 is plugged into a PC's USB port, occasionally a scheduled temperature reading is not taken. The graph will display a gap and the data list will show — followed by the # symbol. This does not apply when the logger is connected to a USB power supply.

## macOS, OSX and Linux

Typically in these operating systems a new drive will be mounted, from which you can open the PDF file. You will not be able to configure the UTRED30-16 using either of these operating systems, unless you use virtualization software such as VMWare Fusion, Parallel Desktop or Virtualbox to create a hosted Windows environment. You need to discuss these options with your network administrator.

## 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 UTRED30-16. 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<sup>®</sup> Analyzer software. CSV files can be opened with a text editor, or imported into a spreadsheet program such as Microsoft<sup>®</sup> Excel.

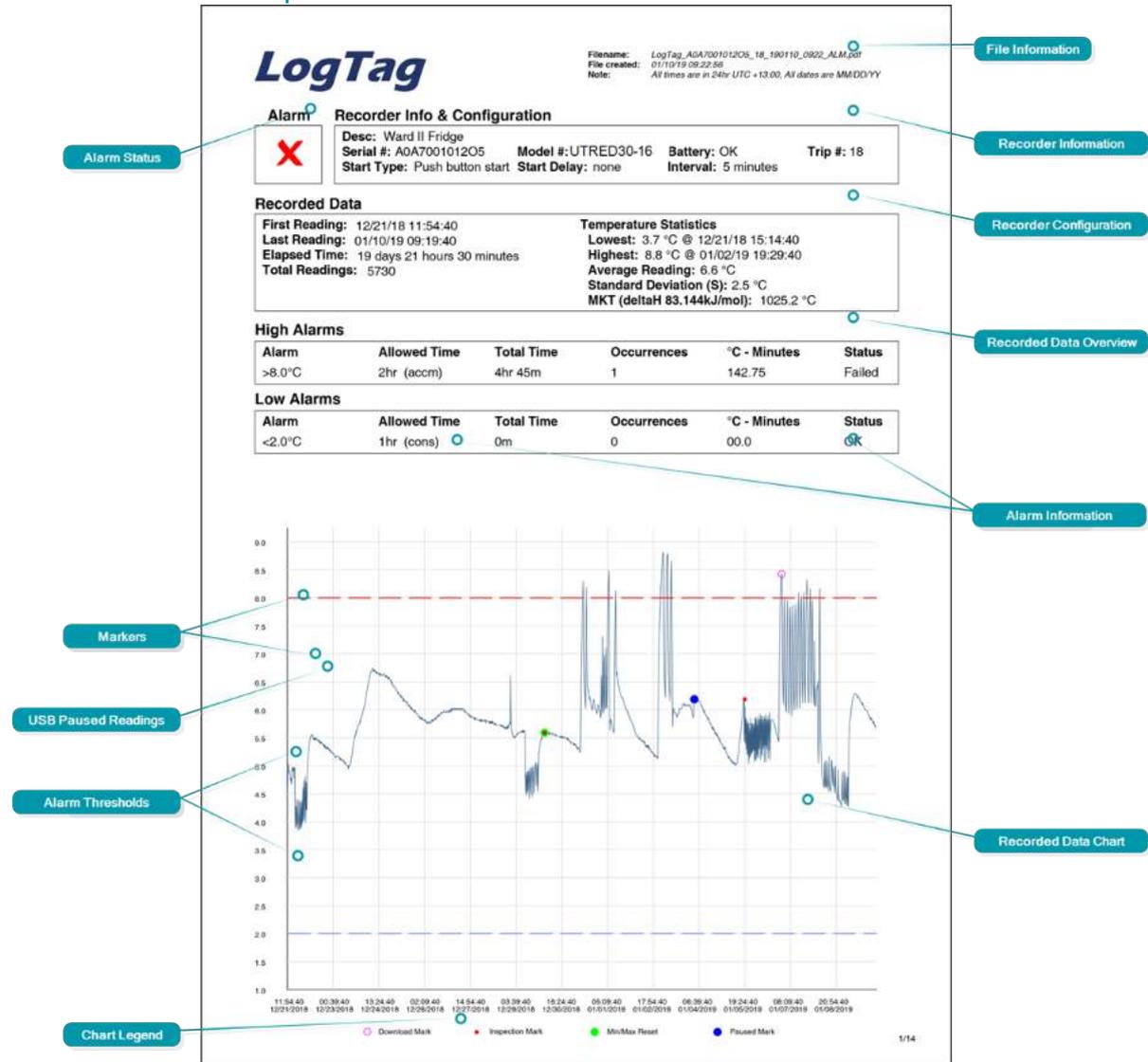
The file names contain information about the recorded data, which is detailed in [Interpreting the Data](#). If a logger has only taken pre-start readings, PDF and CSV files will not be created.



To retain the logger's 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 UTRED30-16 back into the computer the files are re-generated, until the device is re-configured.

## Interpreting the Data

### Data Evaluation - Report



#### Alarm Status

This shows at a glance if the UTRED30-16 recorded alarm conditions during the trip (showing a red **X**) or if no alarms were recorded (green **✓**).

#### File Information

This section shows general information about the PDF file, such as generation time, date and time formats and 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**

#### Logger Information and Configuration

These sections show general information about the logger 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.

### Recorded Data Information

This block contains information about the data recorded during the trip. It shows the time covered by the recording and statistical data of the trip. You can see the conditions for which each alarm was to be triggered, and how often such a condition occurred.

### Upper and Lower Alarm Information

These two sections summarize the alarm occurrences during the trip, including statistical data.

### Recorded Data Chart

The chart shows a graphical representation of the data during the trip. As part of the UTRED30-16 configuration process you set the parameters that influence how the chart is presented.

### Markers

The chart will show marks where the UTRED30-16 has been downloaded (○) or where an inspection mark has been placed with the **START/CLEAR/STOP** or **REVIEW/MARK** button (•). It also shows Paused marks (◐) where a button press has prevented readings from being used for statistics and alarm calculations. A green circle (●) will be shown where the Min/Max values have been manually cleared.

### USB Paused Readings

A gap is shown in the graph where the UTRED30-16 was plugged into a USB port at the time it would otherwise have taken a reading.

### 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.

### Chart Legend

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

### Data Evaluation - Data List

LogTag

Filename: LogTag\_A0A70010120G\_16\_180110\_0022\_ALM.pdf

File created: 01/10/19 09:22:58

Note: All times are in 24hr UTC +1.00. All dates are MM/DDMM/YY

File Information

Date	Time	°C	Date	Time	°C									
12/21/18	08:52:00	25.5	12/21/18	18:12:00	19.9	12/22/18	02:32:00	0.5	12/22/18	10:57:00	1.3	12/22/18	19:12:00	1.7
12/21/18	09:57:00	23.8	12/21/18	18:17:00	19.9	12/22/18	02:37:00	0.3	12/22/18	10:57:00	1.3	12/22/18	19:17:00	1.7
12/21/18	10:02:00	23.5	12/21/18	18:22:00	19.9	12/22/18	02:42:00	-0.1	12/22/18	11:02:00	0.8	12/22/18	19:22:00	1.7
12/21/18	10:07:00	23.4	12/21/18	18:27:00	19.9	12/22/18	02:47:00	0.0	12/22/18	11:07:00	0.4	12/22/18	19:27:00	1.8
12/21/18	10:12:00	23.3	12/21/18	18:32:00	19.9	12/22/18	02:52:00	0.2	12/22/18	11:12:00	-0.1	12/22/18	19:32:00	1.8
12/21/18	10:17:00	23.2	12/21/18	18:37:00	19.9	12/22/18	02:57:00	0.5	12/22/18	11:17:00	-0.5	12/22/18	19:37:00	1.8
12/21/18	10:22:00	23.2	12/21/18	18:42:00	19.9	12/22/18	03:02:00	0.8	12/22/18	11:22:00	0.8	12/22/18	19:42:00	1.8
12/21/18	10:27:00	23.1	12/21/18	18:47:00	19.8	12/22/18	03:07:00	1.1	12/22/18	11:27:00	-0.5	12/22/18	19:47:00	1.9
12/21/18	10:32:00	23.1	12/21/18	18:52:00	19.8	12/22/18	03:12:00	1.3	12/22/18	11:32:00	-0.4	12/22/18	19:52:00	2.0
12/21/18	10:37:00	23.0	12/21/18	18:57:00	19.8	12/22/18	03:17:00	1.4	12/22/18	11:37:00	-0.1	12/22/18	19:57:00	2.0
12/21/18	10:42:00	23.0	12/21/18	19:02:00	19.9	12/22/18	03:22:00	1.6	12/22/18	11:42:00	0.3	12/22/18	20:02:00	2.0
12/21/18	10:47:00	23.0	12/21/18	19:07:00	19.8	12/22/18	03:27:00	1.5	12/22/18	11:47:00	0.6	12/22/18	20:07:00	2.0
12/21/18	10:52:00	23.0	12/21/18	19:12:00	19.8	12/22/18	03:32:00	1.3	12/22/18	11:52:00	0.9	12/22/18	20:12:00	2.0
12/21/18	10:57:00	23.0	12/21/18	19:17:00	19.8	12/22/18	03:37:00	0.9	12/22/18	11:57:00	1.0	12/22/18	20:17:00	2.0
12/21/18	11:02:00	23.0	12/21/18	19:22:00	19.9	12/22/18	03:42:00	0.4	12/22/18	12:02:00	0.6	12/22/18	20:22:00	1.7
12/21/18	11:07:00	23.0	12/21/18	19:27:00	19.9	12/22/18	03:47:00	0.4	12/22/18	12:07:00	0.8	12/22/18	20:27:00	1.2
12/21/18	11:12:00	23.0	12/21/18	19:32:00	19.9	12/22/18	03:52:00	0.4	12/22/18	12:12:00	0.2	12/22/18	20:32:00	1.0
12/21/18	11:17:00	23.0	12/21/18	19:37:00	19.8	12/22/18	03:57:00	0.2	12/22/18	12:17:00	-0.2	12/22/18	20:37:00	0.9
12/21/18	11:22:00	23.0	12/21/18	19:42:00	19.9	12/22/18	04:02:00	-0.1	12/22/18	12:22:00	0.7	12/22/18	20:42:00	0.8
12/21/18	11:27:00	24.2	12/21/18	19:47:00	19.9	12/22/18	04:07:00	-0.3	12/22/18	12:27:00	-0.8	12/22/18	20:47:00	1.0
12/21/18	11:32:00	25.5	12/21/18	19:52:00	19.9	12/22/18	04:12:00	-0.6	12/22/18	12:32:00	-0.4	12/22/18	20:52:00	1.2
12/21/18	11:37:00	24.4	12/21/18	19:57:00	20.2	12/22/18	04:17:00	-0.5	12/22/18	12:37:00	-0.2	12/22/18	20:57:00	1.4
12/21/18	11:42:00	23.8	12/21/18	20:02:00	20.4	12/22/18	04:22:00	-0.1	12/22/18	12:42:00	0.1	12/22/18	21:02:00	1.6
12/21/18	11:47:00	23.5	12/21/18	20:07:00	20.4	12/22/18	04:27:00	0.3	12/22/18	12:47:00	0.4	12/22/18	21:07:00	1.7
12/21/18	11:52:00	23.2	12/21/18	20:12:00	20.4	12/22/18	04:32:00	0.6	12/22/18	12:52:00	0.6	12/22/18	21:12:00	1.7
12/21/18	11:57:00	23.0	12/21/18	20:17:00	20.5	12/22/18	04:37:00	0.8	12/22/18	12:57:00	0.8	12/22/18	21:17:00	1.3
12/21/18	12:02:00	22.7	12/21/18	20:22:00	20.6	12/22/18	04:42:00	0.9	12/22/18	13:02:00	1.0	12/22/18	21:22:00	0.8
12/21/18	12:07:00	22.6	12/21/18	20:27:00	20.6	12/22/18	04:47:00	0.9	12/22/18	13:07:00	1.0	12/22/18	21:27:00	0.6
12/21/18	12:12:00	22.4	12/21/18	20:32:00	20.5	12/22/18	04:52:00	0.5	12/22/18	13:12:00	0.8	12/22/18	21:32:00	0.6
12/21/18	12:17:00	22.3	12/21/18	20:37:00	20.5	12/22/18	04:57:00	0.2	12/22/18	13:17:00	0.3	12/22/18	21:37:00	0.7
12/21/18	12:22:00	22.1	12/21/18	20:42:00	20.6	12/22/18	05:02:00	0.3	12/22/18	13:22:00	0.2	12/22/18	21:42:00	0.8
12/21/18	12:27:00	21.8	12/21/18	20:47:00	20.6	12/22/18	05:07:00	0.5	12/22/18	13:27:00	0.5	12/22/18	21:47:00	1.0
12/21/18	12:32:00	21.9	12/21/18	20:52:00	20.5	12/22/18	05:12:00	0.8	12/22/18	13:32:00	0.0	12/22/18	21:52:00	1.2
12/21/18	12:37:00	21.8	12/21/18	20:57:00	20.5	12/22/18	05:17:00	1.0	12/22/18	13:37:00	0.2	12/22/18	21:57:00	1.4
12/21/18	12:42:00	21.8	12/21/18	21:02:00	20.5	12/22/18	05:22:00	1.3	12/22/18	13:42:00	0.5	12/22/18	22:02:00	1.5
12/21/18	12:47:00	21.7	12/21/18	21:07:00	20.5	12/22/18	05:27:00	1.5	12/22/18	13:47:00	0.7	12/22/18	22:07:00	1.5
12/21/18	12:52:00	21.6	12/21/18	21:12:00	20.6	12/22/18	05:32:00	1.6	12/22/18	13:52:00	0.6	12/22/18	22:12:00	1.6
12/21/18	12:57:00	21.5	12/21/18	21:17:00	20.6	12/22/18	05:37:00	1.8	12/22/18	13:57:00	1.0	12/22/18	22:17:00	1.7
12/21/18	13:02:00	21.4	12/21/18	21:22:00	20.6	12/22/18	05:42:00	2.0	12/22/18	14:02:00	1.1	12/22/18	22:22:00	1.5
12/21/18	13:07:00	21.4	12/21/18	21:27:00	20.6	12/22/18	05:47:00	2.1	12/22/18	14:07:00	1.2	12/22/18	22:27:00	1.0
12/21/18	13:12:00	21.3	12/21/18	21:32:00	20.6	12/22/18	05:52:00	2.3	12/22/18	14:12:00	1.0	12/22/18	22:32:00	0.7
12/21/18	13:17:00	21.2	12/21/18	21:37:00	20.6	12/22/18	05:57:00	2.5	12/22/18	14:17:00	0.7	12/22/18	22:37:00	0.6
12/21/18	13:22:00	21.2	12/21/18	21:42:00	20.6	12/22/18	06:02:00	2.7	12/22/18	14:22:00	0.2	12/22/18	22:42:00	0.6
12/21/18	13:27:00	21.2	12/21/18	21:47:00	20.6	12/22/18	06:07:00	2.8	12/22/18	14:27:00	0.1	12/22/18	22:47:00	0.7
12/21/18	13:32:00	21.1	12/21/18	21:52:00	20.6	12/22/18	06:12:00	2.9	12/22/18	14:32:00	0.2	12/22/18	22:52:00	1.0
12/21/18	13:37:00	21.0	12/21/18	21:57:00	20.6	12/22/18	06:17:00	2.7	12/22/18	14:37:00	0.4	12/22/18	22:57:00	1.2
12/21/18	13:42:00	20.9	12/21/18	22:02:00	20.7	12/22/18	06:22:00	2.5	12/22/18	14:42:00	0.6	12/22/18	23:02:00	1.3
12/21/18	13:47:00	20.9	12/21/18	22:07:00	20.7	12/22/18	06:27:00	2.2	12/22/18	14:47:00	0.9	12/22/18	23:07:00	1.4
12/21/18	13:52:00	20.9	12/21/18	22:12:00	20.6	12/22/18	06:32:00	1.9	12/22/18	14:52:00	1.0	12/22/18	23:12:00	1.5
12/21/18	13:57:00	20.9	12/21/18	22:17:00	20.6	12/22/18	06:37:00	1.6	12/22/18	14:57:00	0.1	12/22/18	23:17:00	1.6
12/21/18	14:02:00	20.8	12/21/18	22:22:00	20.6	12/22/18	06:42:00	1.3	12/22/18	15:02:00	1.2	12/22/18	23:22:00	1.7
12/21/18	14:07:00	20.8	12/21/18	22:27:00	20.6	12/22/18	06:47:00	1.0	12/22/18	15:07:00	1.2	12/22/18	23:27:00	1.4
12/21/18	14:12:00	20.7	12/21/18	22:32:00	20.6	12/22/18	06:52:00	0.7	12/22/18	15:12:00	1.3	12/22/18	23:32:00	1.0
12/21/18	14:17:00	20.7	12/21/18	22:37:00	20.6	12/22/18	06:57:00	0.5	12/22/18	15:17:00	1.0	12/22/18	23:37:00	0.8
12/21/18	14:22:00	20.7	12/21/18	22:42:00	20.6	12/22/18	07:02:00	0.2	12/22/18	15:22:00	0.5	12/22/18	23:42:00	0.7
12/21/18	14:27:00	20.6	12/21/18	22:47:00	20.6	12/22/18	07:07:00	0.1	12/22/18	15:27:00	0.1	12/22/18	23:47:00	0.7
12/21/18	14:32:00	20.6	12/21/18	22:52:00	20.6	12/22/18	07:12:00	0.0	12/22/18	15:32:00	0.2	12/22/18	23:52:00	0.8
12/21/18	14:37:00	20.6	12/21/18	22:57:00	20.6	12/22/18	07:17:00	-0.1	12/22/18	15:37:00	0.4	12/22/18	23:57:00	1.2
12/21/18	14:42:00	20.5	12/21/18	23:02:00	20.6	12/22/18	07:22:00	-0.3	12/22/18	15:42:00	0.6	12/22/18	00:02:00	1.5
12/21/18	14:47:00	20.5	12/21/18	23:07:00	20.6	12/22/18	07:27:00	-0.4	12/22/18	15:47:00	0.9	12/22/18	00:07:00	1.5
12/21/18	14:52:00	20.5	12/21/18	23:12:00	20.6	12/22/18	07:32:00	-0.3	12/22/18	15:52:00	1.0	12/22/18	00:12:00	1.6
12/21/18	14:57:00	20.4	12/21/18	23:17:00	20.6	12/22/18	07:37:00	-0.1	12/22/18	15:57:00	1.1	12/22/18	00:17:00	1.5
12/21/18	15:02:00	20.4	12/21/18	23:22:00	20.6	12/22/18	07:42:00	0.1	12/22/18	16:02:00	1.2	12/22/18	00:22:00	2.2
12/21/18	15:07:00	20.4	12/21/18	23:27:00	20.6	12/22/18	07:47:00	0.2	12/22/18	16:07:00	1.3	12/22/18	00:27:00	0.7
12/21/18	15:12:00	20.4	12/21/18	23:32:00	20.6	12/22/18	07:52:00	0.0	12/22/18	16:12:00	1.3	12/22/18	00:32:00	0.3
12/21/18	15:17:00	20.3	12/21/18	23:37:00	20.6	12/22/18	07:57:00	-0.2	12/22/18	16:17:00	1.3	12/22/18	00:37:00	0.2
12/21/18	15:22:00	20.3	12/21/18	23:42:00	20.6	12/22/18	08:02:00	-0.1	12/22/18					

### Marked Readings

In the data list readings are marked with a special character after the temperature value.

Symbol	Meaning
+	The UTRED30-16 was downloaded with LogTag <sup>®</sup> Analyzer between this reading and the one before.
*	An inspection mark was placed with the <b>START/CLEAR/STOP</b> button between this reading and the one before.
\$	The readings were paused as a result of a button press, if the <b>Paused</b> function was enabled.
#	The logger was communicating via USB and could not take a reading at the required time.
%	The min/max readings were reset between this reading and the one before.
\$	The reading was paused.

### List Legend

Shows the symbols for **download marks**, **inspections marks**, **paused**, **USB paused** and **Min/Max reset** if such readings appear in the data.

### Page Information

Current page number and total number of pages appear on every page.

## Data Evaluation - Day Summary

**LogTag**

Filename: LogTag\_A0A700101203\_16\_180110\_0022\_ALM.pdf  
 File created: 01/10/19 09:22:56  
 Note: All times are in 24hr UTC +1:00. All dates are MM/DD/YY

**Day Summary** File Information

Serial #: A0A1000054DH    Model #: UTRED30-16    Battery: OK  
 Desc: Ward II Fridge

Day	Date	Alarm	Max(°C)	Upper Duration	Min(°C)	Lower Duration	Inspection	Notes/Sign.
0	01/10/2019		7.9		4.6		AM/PM	
-1	01/09/2019		7.8		4.5		AM/PM	
-2	01/08/2019		6.7		3.4		AM/PM	
-3	01/07/2019	●	8.3 ▲	4hr 45min	4.2		AM/PM	
-4	01/06/2019		6.6		5.1		AM/PM	
-5	01/05/2019		6.6		5.1		AM/PM	
-6	01/04/2019		8.1 ▲		4.6		AM/PM	
-7	01/03/2019		8.7 ▲		4.6		AM/PM	
-8	01/02/2019		7.7		4.7		AM	
-9	01/01/2019		7.8		5.2		AM/PM	
-10	12/31/2018		6.4		4.8		PM	
-11	12/30/2018		6.4		5.5		AM/PM	
-12	12/29/2018		6.5		4.9		AM/PM	
-13	12/28/2018		6.0		4.7		AM/PM	
-14	12/27/2018		6.3		3.9		AM/PM	
-15	12/26/2018		5.5		4.3		PM	
-16	12/25/2018		4.5		3.6		AM/PM	
-17	12/24/2018		6.8		5.1		AM/PM	
-18	12/23/2018		6.5		6.2		AM/PM	
-19	12/22/2018		2.2		0.7 ▼		AM/PM	
-20	12/21/2018		5.6		3.4		AM/PM	

Summary Listing      Inspection Status

14/14

### File Information

The information from the report page is repeated here.

### Day Summary

The Day summary shows a single row for each day for which data were recorded. Each row contains:

- minimum and maximum for the day
- whether or not an alarm was recorded for that day
- if the minimum and maximum temperatures were above or below the thresholds
- how long temperatures were outside the specifications (even if no alarm was recorded)
- if the logger was inspected in the morning and in the afternoon

### Page Information

Current page number and total number of pages appear on every page.

## Resetting the Logger

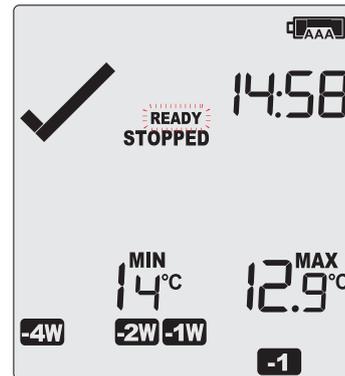
You can reset a logger back to its original **READY** state. Once reset, recording can be [started again](#).



When performing this procedure all recordings and statistics stored in the logger are deleted and cannot be recovered. Please ensure your data have been saved!  
All settings in the logger, including Wireless and Network settings, are retained.

For this process to work, the logger must be **STOPPED**.

- Press and hold the **START/CLEAR/STOP** button. The **READY** symbol will flash.
- When the **READY** symbol remains permanently on, release the button within 2 seconds. The **STOPPED** symbol will turn off and the logger is now ready to be started again.



The ability to reset a logger is enabled or disabled in the [Advanced Settings](#) tab when configuring the UTRED30-16 via LogTag<sup>®</sup> Analyzer.

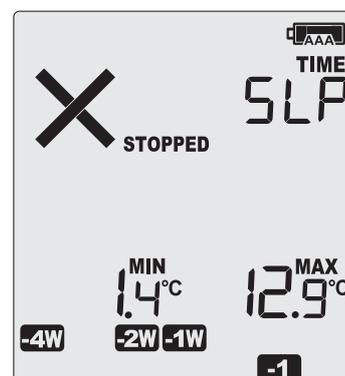
## Hibernating a UTRED30-16

When hibernated, the logger's power consumption is near zero. Hibernating a logger is useful for conserving battery life when the logger is not used for extended periods.

If you hibernate the logger for longer than a week, please remove the AAA batteries from the logger to avoid them leaking.

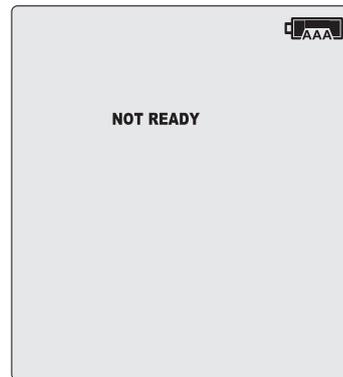
UTRED30-16 loggers are placed into Hibernation using LogTag<sup>®</sup> Analyzer by clicking **Hibernate** on the **LogTag** menu.

Initially, the display shows **SLP** on the display until you remove the logger from the USB port.



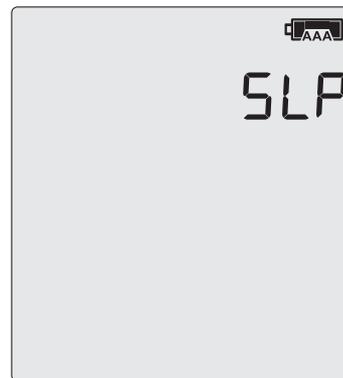
A hibernated logger has no active display, however a button press will wake the logger up briefly. The display will show:

- the text **NOT READY**
- the battery capacity of the AAA batteries (if the batteries have been removed, the empty symbol  will be shown)



After a few seconds **SLP** will be shown on the display, and the display will turn off.

The logger reverts to being hibernated.



A hibernated logger cannot be reactivated via the buttons - it must be reconfigured with LogTag<sup>®</sup> Analyzer.

## Replacing the Batteries

When the display shows that the battery is almost empty () new batteries should be fitted. Open the case as described in [Inserting the Batteries on page 9](#). Remove the old batteries and complete the remainder of the procedure.

# Technical Specifications

## Model Number

UTRED30-16

## Temperature Sensor Measurement Range

-40 °C to +99 °C (-40 °F to +210 °F)

## Logger Operating Temperature Range

-30 °C to +60 °C (-22 °F to +140 °F)

## Storage Temperature Range

-10 °C to +40 °C (14 °F to +104 °F)

## Ambient humidity range during transport and use

0 to 95%RH

## Rated Temperature Resolution

- 0.1 °C (0.2 °F) for measurements -40 °C to +50 °C (-40 °F to +122 °F)
- 0.2 °C (0.4 °F) for measurements +50 °C to +70 °C (+122 °F to +158 °F)
- 0.3 °C (0.5 °F) for measurements +70 °C to +80 °C (+158 °F to +176 °F)
- 0.4 °C to 0.6 °C (0.7 °F to 1 °F) for measurements +80 °C to +99 °C (+176 °F to +210 °F)

## Rated Temperature Accuracy

- Better than ±0.8 °C (±1.4 °F) for -40 °C to -20 °C (-40 °F to -4 °F), typically ±0.5 °C (0.9 °F)
- Better than ±0.5 °C (±0.9 °F) for -20 °C to +40 °C (-4 °F to +104 °F), typically ±0.3 °C (0.6 °F)
- Better than ±0.8 °C (±1.4 °F) for +40 °C to +70 °C (+104 °F to +158 °F), typically ±0.7 °C (1.3 °F)
- Better than ±1.2 °C (±2.2 °F) for +70 °C to +99 °C (+158 °F to +210 °F), typically ±1 °C (1.8 °F)

## Sensor Compatibility

All ST100 precision thermistor external probes can be interchangeably connected to the UTRED30-16. Please refer to the dedicated sensor page on the LogTag Recorders website.

## Sensor Type

Precision Thermistor

## 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

16129 real time temperature values, giving

- 66 days @ 6 minute logging interval or
- 110 days @ 10 minute logging interval
- 165 days @ 15 minute logging interval.

Supports continuous logging ("wrap-around") or specific recording period.

## Statistics memory

for displaying statistics on LCD

- Max/Min values for the past 30 days
- Alarm duration values for the past 30 days.
- AM/PM Inspections for the past 30 days.

## Memory type

Non volatile

## Sampling Interval

Configurable from 30 seconds to 18 hours.

## Start options

Supports continuous logging ("wrap-around") or specific recording period.

- Push button start with optional configurable start delay from 1 minute to 72 hours
- Date/time start up to 180 days in the future

## Alarm functions

- three configurable upper alarms
- three configurable lower alarms
- X indicator on display, linked to alarms
- Audible alarm

## Vibration

Withstands vibration specification as detailed in EN12830:1999

## Shock

- Withstands shock specification as detailed in EN12830:1999
- Withstands 5 drops from 1m onto smooth concrete floor without loss of function or calibration

## Compliance

- EC EMC directive EN 55024:2010 (Immunity)
- EC EMC directive EN 55032:2015 (Emission)
- 47 CFR Part 15 Subpart B (unintentional radiator) as a Class A digital device as defined in section §15.101
- RoHS2 Directive 2011/65/EU

## Environmental

IP51 when vertically mounted

## Case Material

Polycarbonate with ABS clear window

## Power source

2 x 1.5V AAA alkaline batteries

1 x 5V power input from commercial 5V USB power supply with Micro-USB plug (optional)

1 x CR2032 3V Li-MnO<sub>2</sub> backup battery, non-user replaceable, non-rechargeable

## Battery life

AAA batteries

up to 12 month if unit is operated without power supply, provided that a normal use pattern is followed (6 minute logging, statistics reviewed on the display no more than once daily for no longer than 30 seconds each time, download data monthly) and the unit is kept within the storage temperature range.

CR2032 - up to 10 years, provided the unit is operated permanently from AAA batteries or external power.

The audible alarm reduces battery life.

## Size

123 mm(H) x 63mm (W) x 12.5mm (T) (excluding probe)

## Weight

80g (excluding probe and AAA batteries)

## Calibration

Factory Accuracy Certificate, 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
- Single page day summary with Min/Max report
- Multi page report with list of readings including date/time

## USB compatibility

USB 2.0, Micro-USB plug

## Download time

- Typically with full memory (16129 readings) less than 10 seconds, depending on computer or readout device used
- Typically with full memory (16129 readings) less than 30 seconds from time of insertion to availability of PDF report.

## Software requirements

- LogTag<sup>®</sup> Analyzer version 3.1 or later to configure and download
- PDF reader software to access onboard PDF files

## Standard Accessories

- USB cable

## Optional Accessories

- 5V/5W power supply
- Wallmount bracket
- Glycol buffer
- ST100 sensor

<sup>1</sup> Values above 199.9 °F cannot be shown on the display. The values will, however, be recorded and shown in LogTag<sup>®</sup> Analyzer and in the PDF