



Fridge-tag® 2|2E

用户指南

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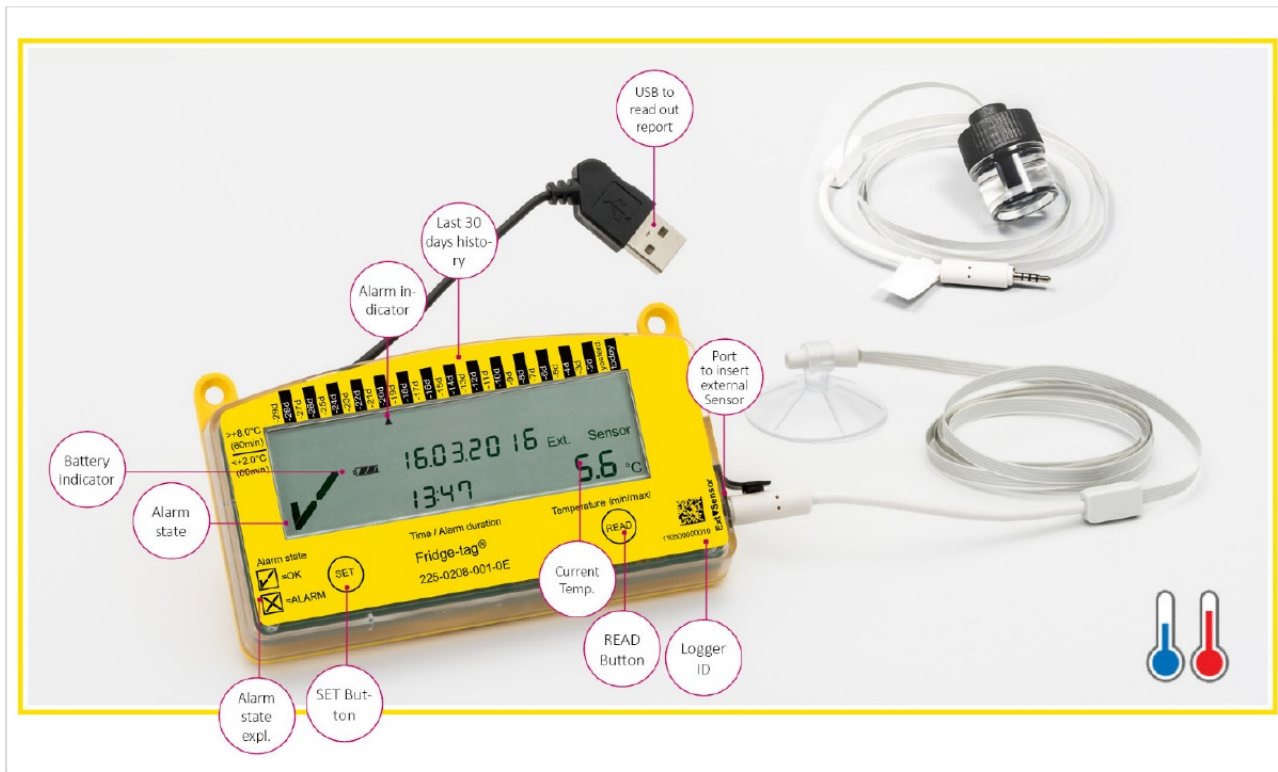
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Overview

This section provides an overview of Fridge-tag 2 and Fridge-tag 2E monitors.



Fridge-tag 2

The Intelligent Solution

The Fridge-tag 2 measures the ambient temperature every minute and immediately issues an alert when your alarm limit is exceeded.

- Robust housing design
- Easily readable display

WHO PQS E006/020

Fridge-tag 2 E

The Extended Solution

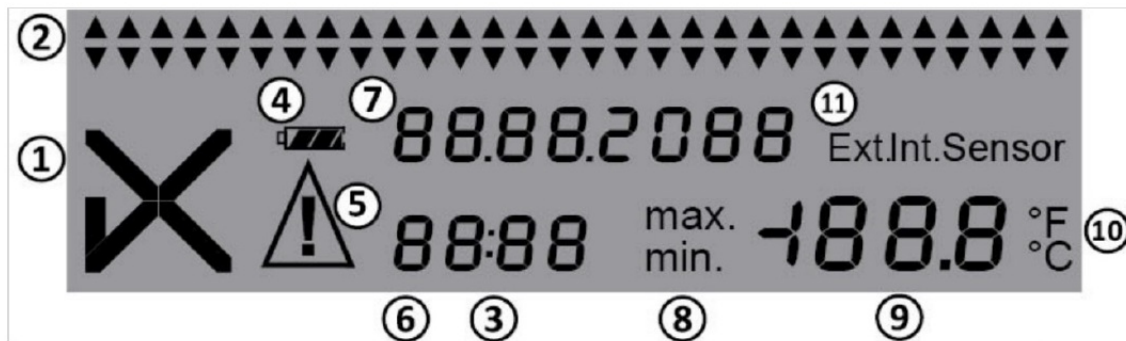
The Fridge-tag 2 E measures the ambient temperature every minute and immediately issues an alert when your alarm limit is exceeded.

- Extended lifetime up to 5 years
- Robust housing design

- 易于阅读的显示屏

世界卫生组织 PQS E006/040

Display Explanations

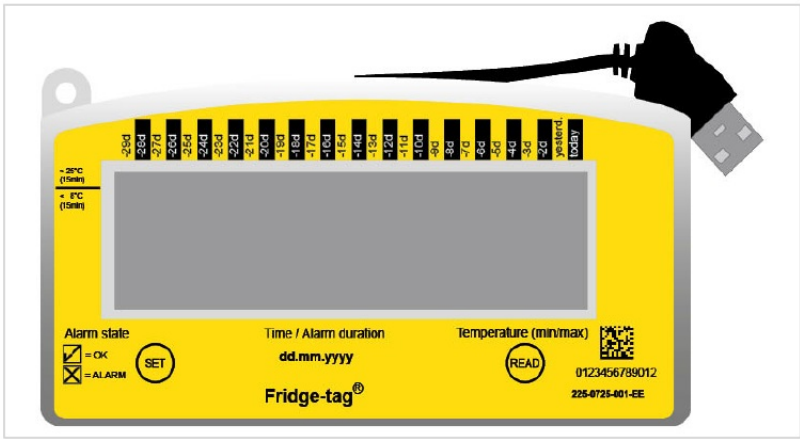


1. ✓ (OK symbol) or ✕ (alarm symbol)
 2. Daily HIGH/LOW alarm indicators ▲ ▼ (showing the history of the last 30 days)
 3. Power indicator (colon is flashing)
 4. Battery indicator (indicates the remaining capacity of the battery)
 5. Additional warning symbol ⚠
 6. Time, duration and text display
 7. Date and text display
 8. Display of measured minimum/maximum temperature
 9. Temperature display
 10. Display of the temperature measurement unit (°F/°C)
 11. Display of the activated sensor: Int. = internal sensor
- Ext. = external sensor (cable with temperature sensor)

Note: All illustrations in the User Manual refer to the Fridge-tag with internal sensor. Differences between internal and external sensors are additionally described.

State of Delivery / Sleep Mode

The Fridge-tag is shipped in sleep mode.

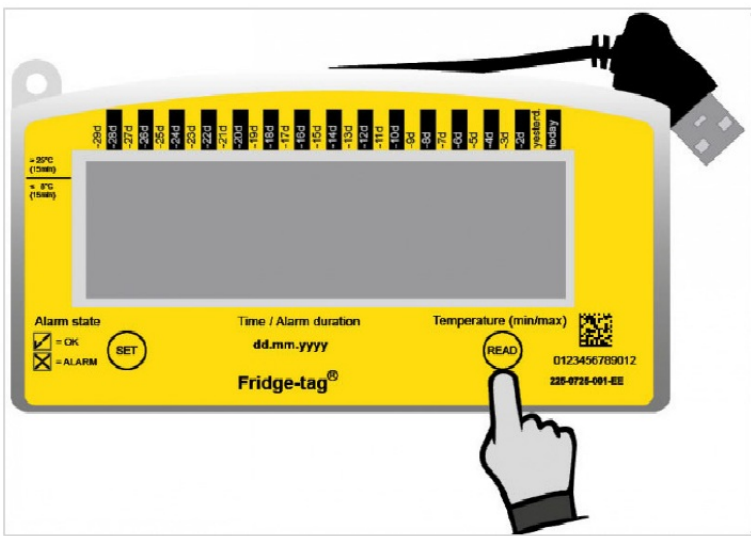


The display (LCD) is blank.

Read out information prior to activation (in sleep mode)

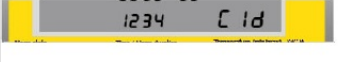
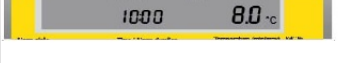
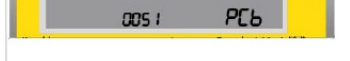
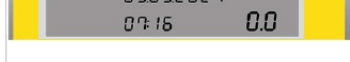
The following page shows which information will be indicated on the screen upon successive READ button pressings while in sleep mode.

Note: After approx. 60 seconds without pressing any button on the Fridge-tag the devices goes back into sleep mode; the display is blank again.



Press repeatedly **READ** to gather information.

After 1st pressing of READ	The display shows a test pattern with all segments lit up. It displays '88882088' and '8888' with a temperature reading of '-188.8'.	Display test: all segments activated
----------------------------	--	---

第二次按下后显示日期和生产测试		
读的		结果：2018 年 2 月 16 日/通过（质量检查通过）
第三次按下后 显示当前温度和哪个温度		
READ 传感器被激活（内部/外部）。		如果没有外部传感器，显示屏将显示 —.° C 连接。
第四次按下后 显示配置 ID（例如 1234）		
读的		
第 5 次按下后 指示上限警报设置。		
读的		示例显示持续时间和温度限制： 10 小时，>+8° C，高
按第六次后 指示下限警报设置。示例显示		
读取持续时间和温度限制：1 小时，		
		<-0.5° C，低
第 7 次按下设备序列号后		
读		
第 8 次按下 PCB 编号后（制造商信息）		
读		
第 9 次按下电池电源后：		
读		3 条 = 满 (>70%) 2 条 = 半满 (>30–70%) 1 bar = 低 (0–30%)* **设备应 更换。
按 10 次后禁用用户时钟调整。		
读的		欲了解更多信息，请参阅激活 工艺部分。
按第 11 次后，显示屏再次变为空白。		
读的		

Placing the Fridge-Tag

This section describes how to place a fridge-tag with an internal and external sensor.

With an Internal Sensor

The activated Fridge-tag must be placed immediately after activation in its predetermined location. It is recommended and important to place the device in the center of the refrigerator for an optimal temperature observation.

Please do not place the device into a freezer as the screen will freeze and the battery will lose power prematurely.

With an External Sensor

Two hours before activating the Fridge-tag the external sensor must be placed in its predetermined location. It is recommended and important to place the external sensor in the center of the refrigerator for an optimal temperature observation and to avoid any incorrect measurements when starting the device.

For the right positioning of the external sensor within the fridge, please follow the instructions of WHO, CDC or any other governmental requirements of your country.

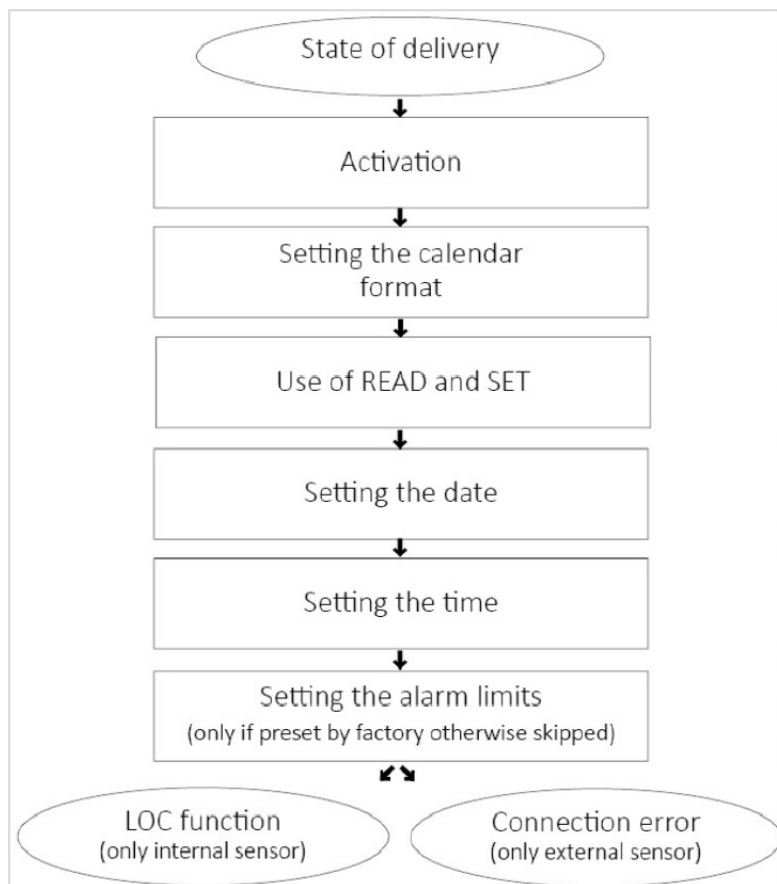


- External Sensor
- Flat cable
- Fridge-tag

Activation Process

This section describes activation process.

Overview

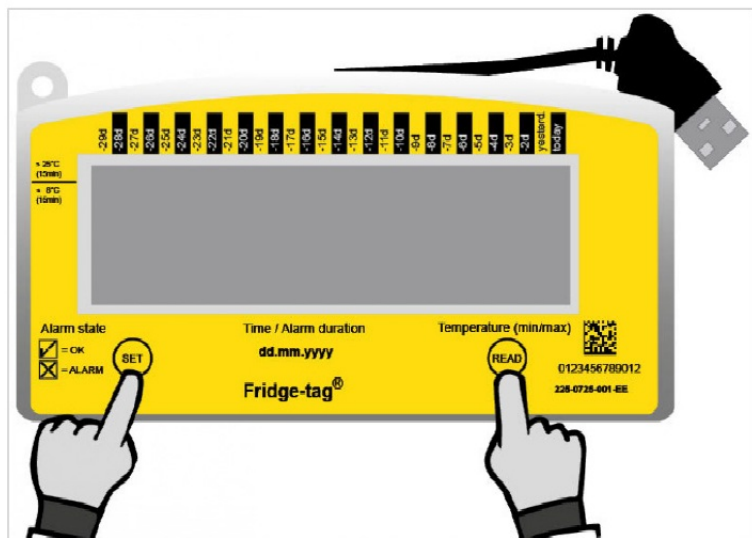


Note: As long as the activation process has not been completed, after approx. 60 seconds without any button operation, the device will go back into sleep mode. The activation has to start from the beginning.

If you want to read or change settings (e.g. change °F to °C) after the activation has been completed, proceed as described in the [Read and Change Settings](#) section.

Device Activation

To activate the device press, the **SET** and the **READ** button simultaneously during at least 3 seconds:



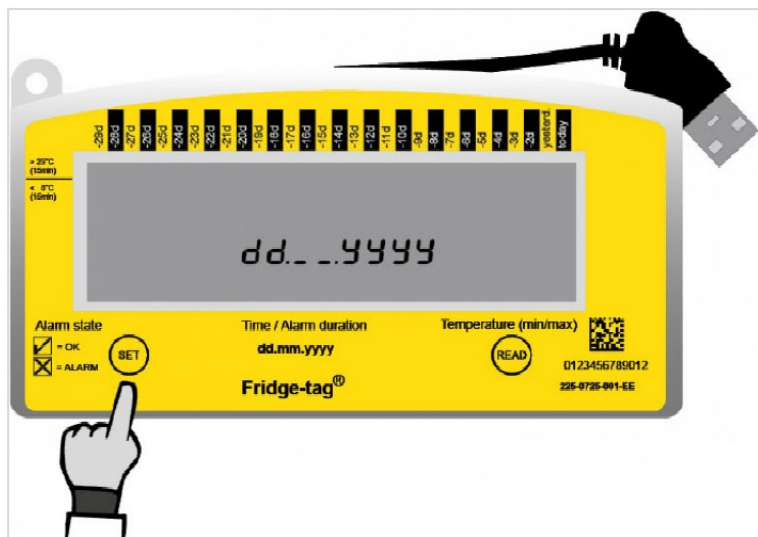
Note: Once the device is activated, it cannot be stopped anymore.

Activation has been successful when the following indication appears on the screen:



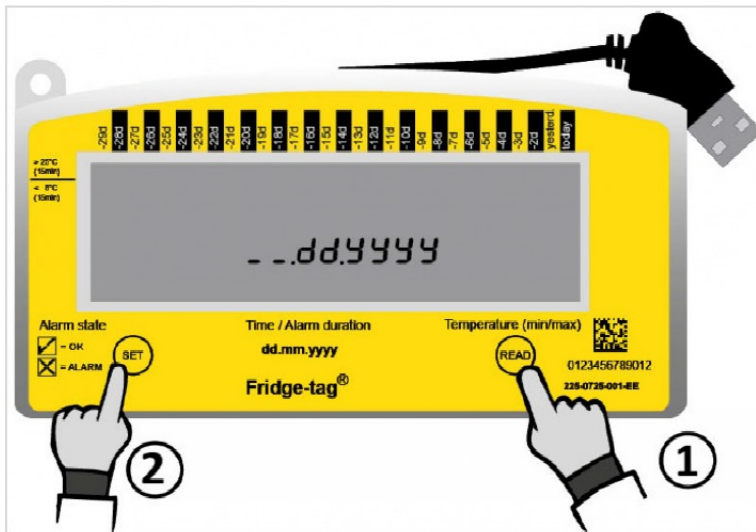
Setting the Calendar Format

Option 1: dd.mm.yyyy Format



Press **SET** to save the calendar format.

Option 2: mm.dd.yyyy Format



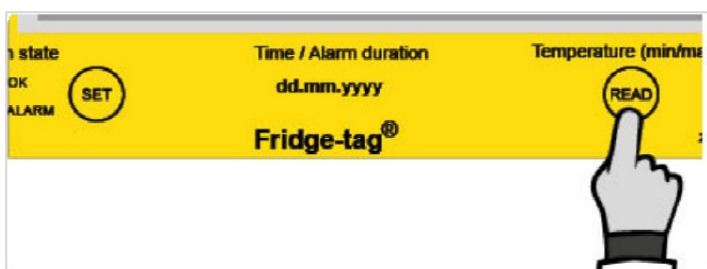
1. Press **READ** to change the calendar format.
2. Then press **SET** to save the calendar format.

After setting the calendar format, the first digit of the date will start flashing.

Using the READ and the SET buttons

READ button

The **READ** button is used to adjust the numbers. Each time you press the **READ** button, the number in the flashing digit will increase by 1. If you press **READ** more than necessary, continue pressing the **READ** button until you obtain the desired number.



Press **READ** to adjust the number

SET button

The **SET** button is used to save the number. After pressing the **SET** button, the next digit will start flashing.



按 SET 确认。

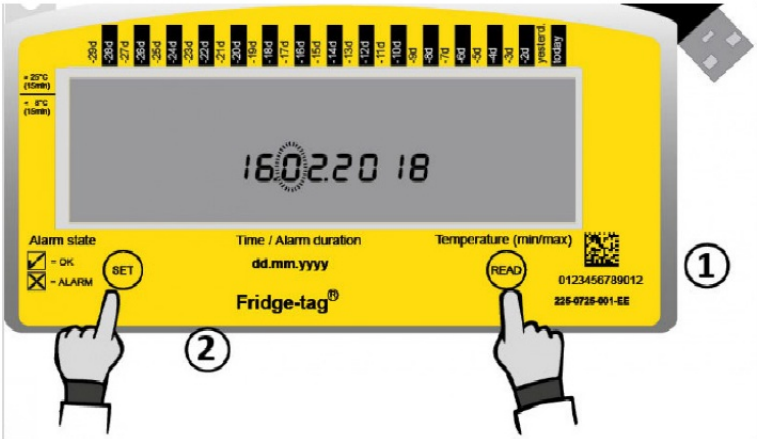
注意：如果错误地按下了 SET，请继续按照设置说明进行操作。阅读与改变设置部分描述了如何纠正错误。

设置日期

以下示例显示如何将日期设置为：2018 年 2 月 16 日 (16.02.2018) (欧洲) 格式。

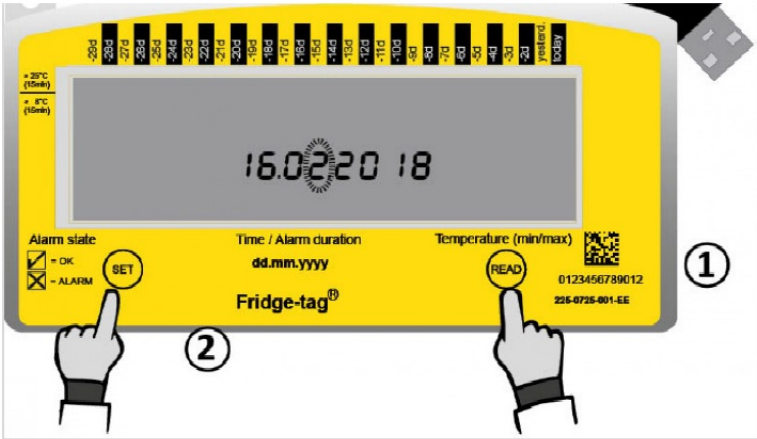
第一次按READ直到“1” 数字显示为第一个数字。 闪烁。		按 SET 保存。
第二次按 READ 直到“6” 数字显示为第二个数字。 闪烁。		按 SET 保存。

第三次按READ直到 “0”
数字显示为第三位数字。
闪烁。



按 SET 保存。

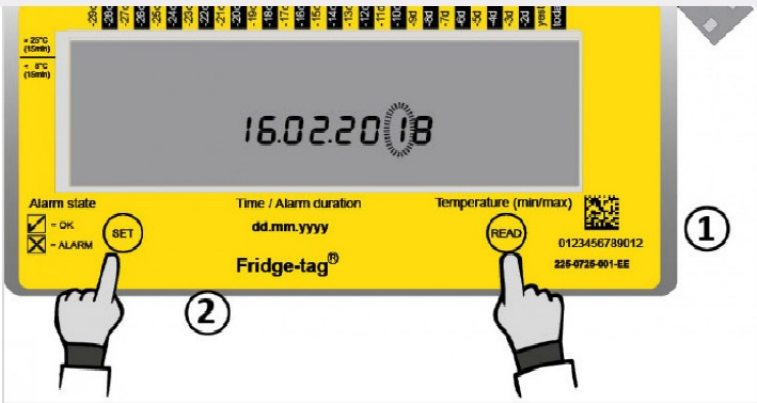
第四次按READ直到 “2”
数字显示为第四位数字。
闪烁。



按 SET 保存。

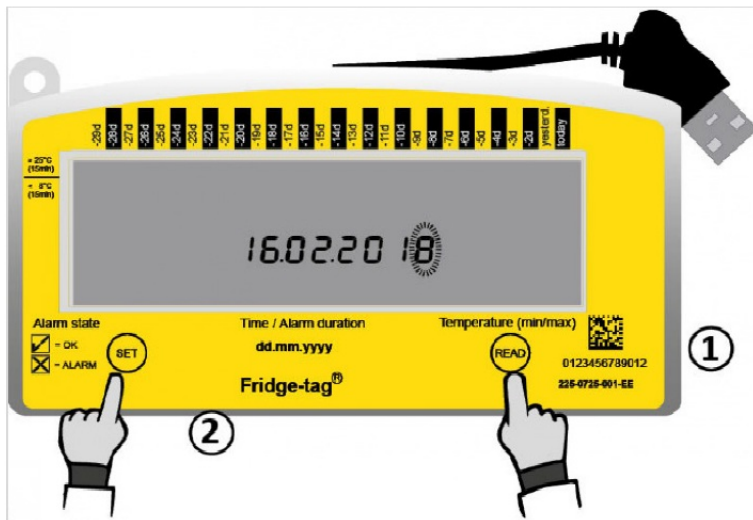
注：第五项和第五项
第六位数字已设置
自动地。

第 7 个按 READ 直到 “1”
数字显示为第七个
闪烁。数字。



按 SET 保存。

The 8th digit is flashing.



Press **READ** until "8" appears as the eighth digit.
Press **SET** to save.

The date is now set to: 16.02.2018.

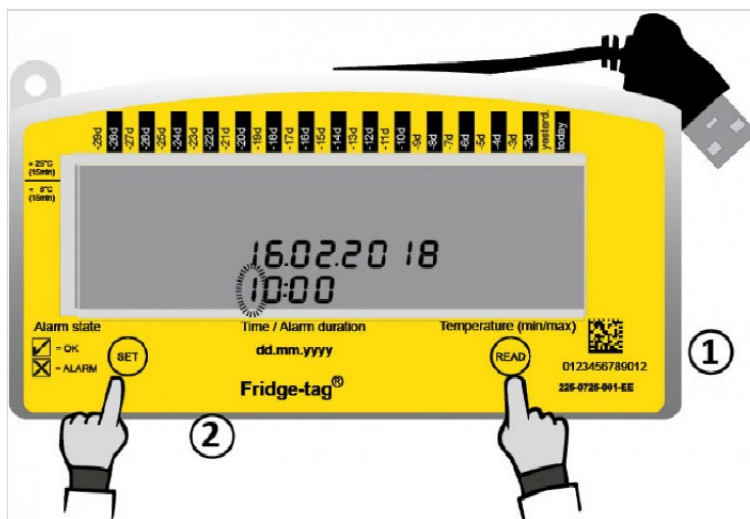
Note: After setting the date, the first digit of the time will start flashing.

Setting the Time

This example shows how to set the time to 13:47.

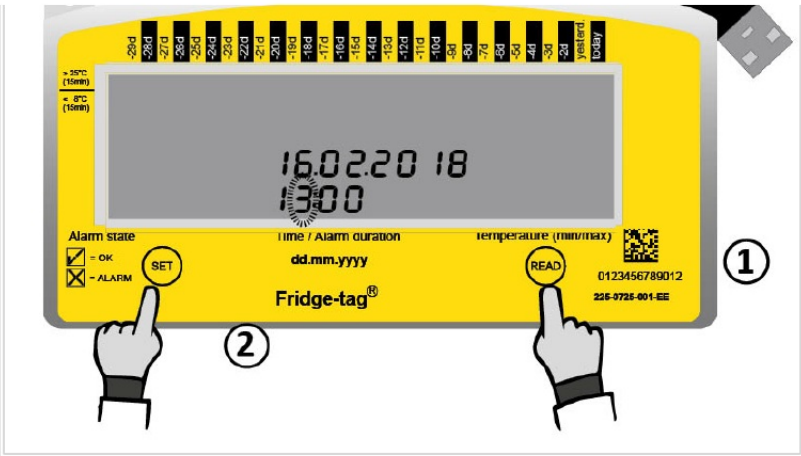
Note: The clock operates a 24-hour clock (e.g. 1:47 pm = 13:47).

The 1st digit is flashing:



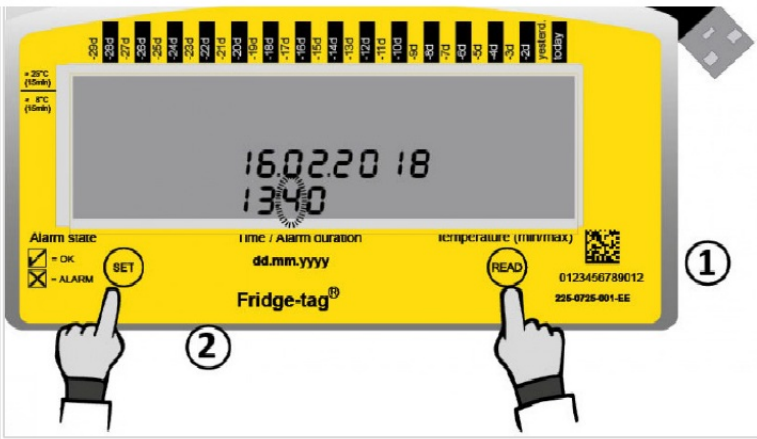
- Press **READ** until "1" appears as the first digit.
- Press **SET** to save.

第二个 • 按 READ 直到 “3”
数字显示为第二个
闪烁。



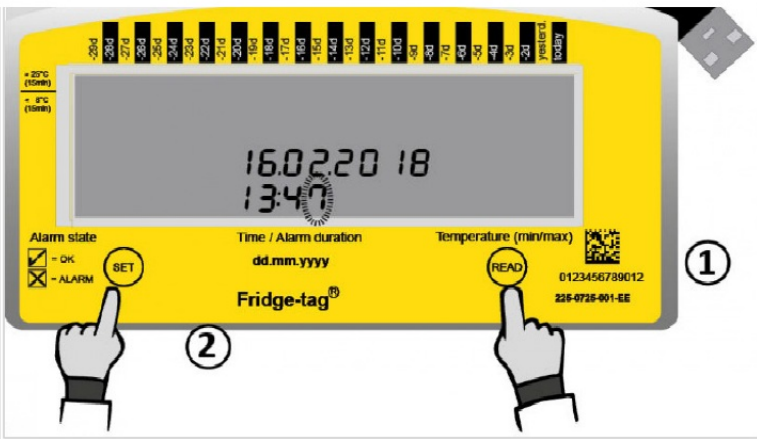
数字。
• 按SET 保存。

• 第三次按READ 直到 “4”
数字显示为第三个
闪烁。



数字。
• 按SET 保存。

第四个 • 按 READ 直到 “7”
数字显示为第四个
闪烁。



数字。
• 按SET 保存。

现在时间设置为 13:47。

注意：如果设备配置了自编报警限值，请继续执行以下操作
设置报警限值（如果工厂预设）部分中的说明。

As soon as the last digit of the time setting is confirmed, the activation is completed.

Internal sensor: Now place the Fridge-tag according to the [Placing the Fridge-Tag](#) section.

External sensor: Connect the device with the external sensor. During max. 1 minute after activation no temperature is displayed on the screen.

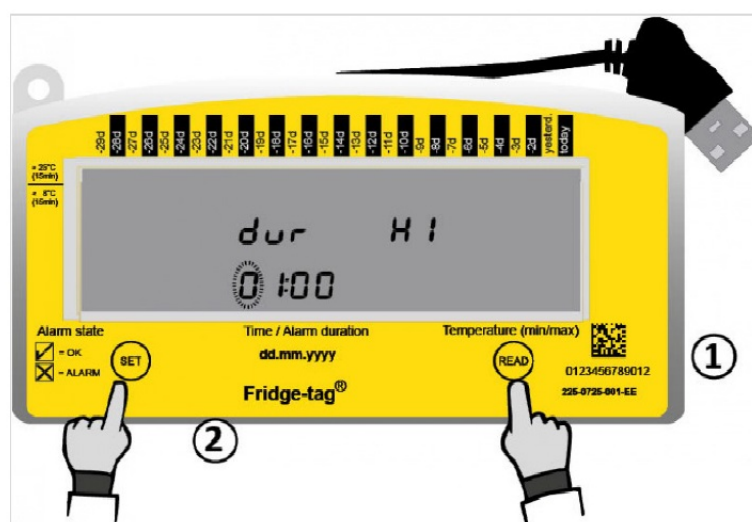
Setting the Alarm Limits (if preset by factory)

This adjustment is done in 4 steps:

1. Setting the duration of the upper alarm limit
2. Setting the temperature of the upper alarm limit
3. Setting the duration to the lower alarm limit
4. Setting the temperature of the lower alarm limit

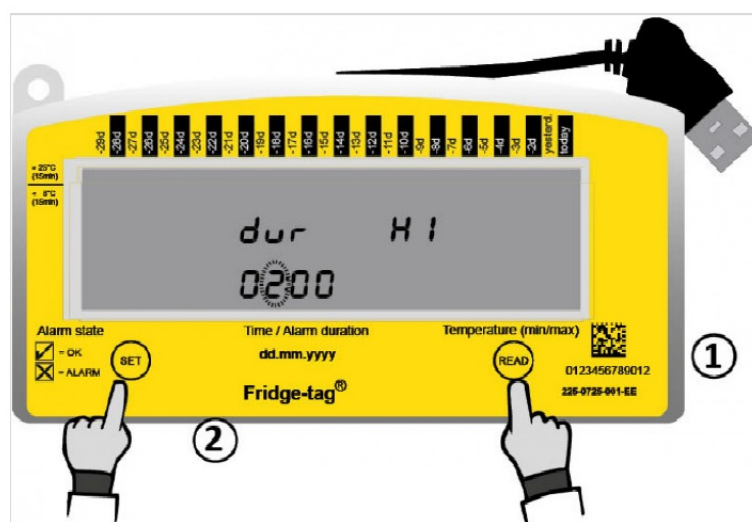
Steps 1 and 3, and steps 2 and 4 are completed in the same manner, respectively

The 1st digit of the duration of the alarm limit is flashing.

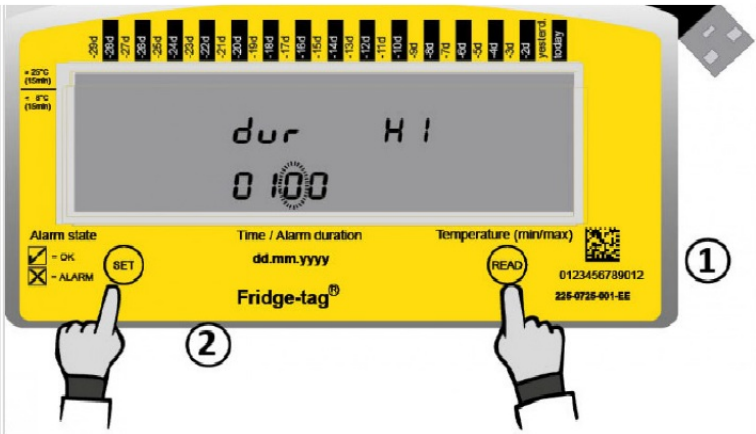
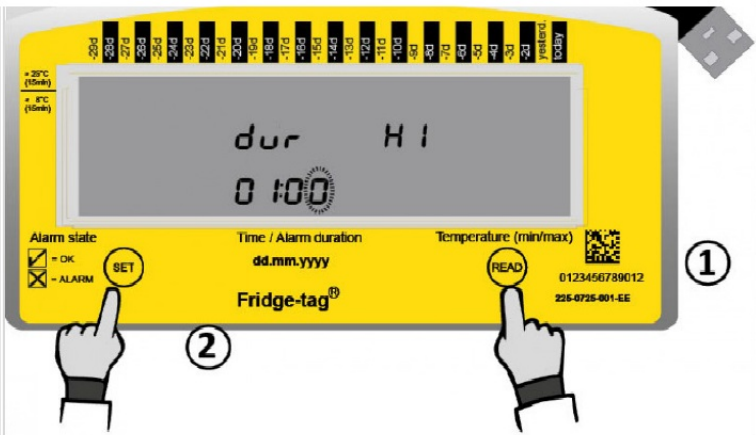


- Press **READ** to adjust the number.
- Press **SET** to confirm the number.

The 2nd digit of the duration of the alarm limit is flashing.



- Press **READ** to adjust the number.
- Press **SET** to confirm the number.

按 READ 键的第三位数字 警报的持续时间来调整 极限闪烁。		数字。 按 SET 按钮 确认 数字。
按 READ 的第 4 位数字 警报的持续时间来调整 极限闪烁。		数字。 按 SET 按钮 确认 数字。

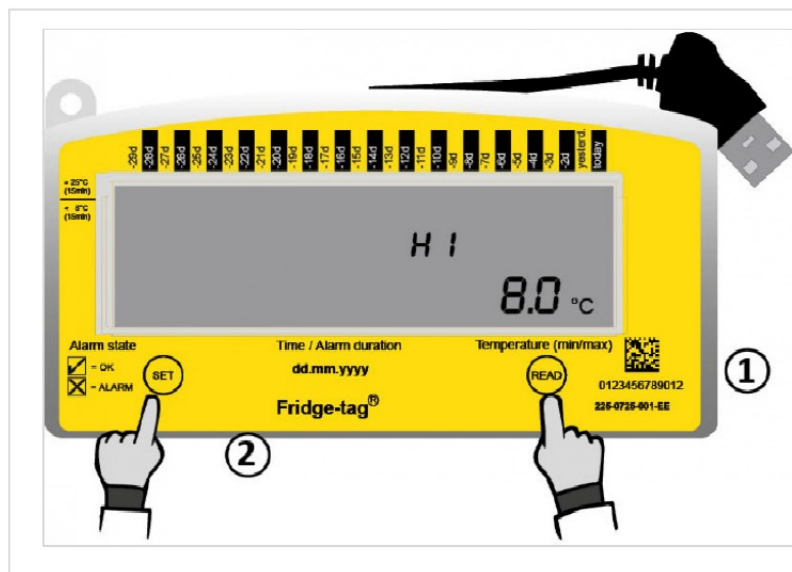
警报限制的持续时间现已设置。

- 内部传感器：报警温度限值必须不低于 -20° C (-4° F) 且不高
于 +50° C (+122° F)。
- 外部传感器：报警温度限值不得低于 -35° C (-31° F) 且不得高
于 +55° C (+131° F)。

首先，您必须选择所需的温度限制范围。你有选择
负温度和正温度之间。如果华氏度为正限制，您可以
进一步选择限制是否等于或高于 +100° F。这个选择是通过反复进行的
按 READ 直到显示所需的范围。

注意：温度测量单位 (° C/° F) 只有在设备启动后才能更改
在菜单中激活。了解更多信息请阅读和更改设置部分。

按照说明设置 0° C/0° F 和 +50° C/+122° F 之间的正温度限制
(内部传感器) 或 0° C/0° F 和 +55° C/+131° F (外部传感器)



按 READ 直到显示屏显示 no 闪烁的标志。

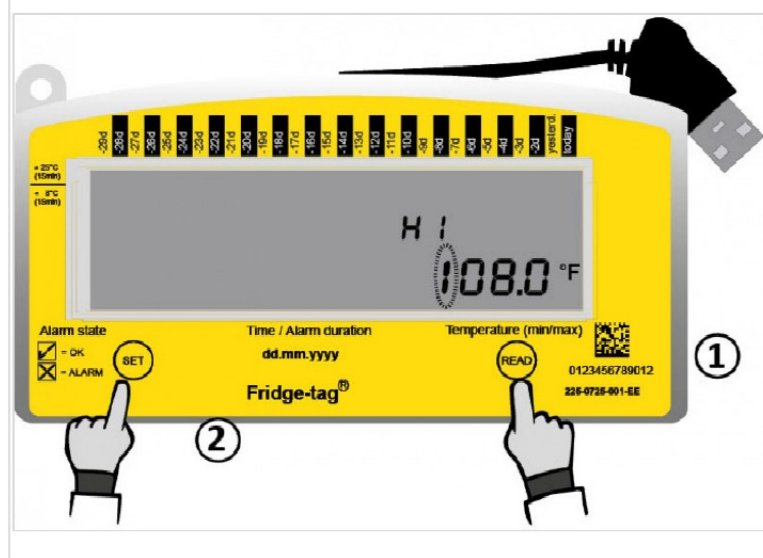
按 SET 调整之间的限制
0° C/0° F 和

+50° C/+122° F。

现在可以设置下一个数字。按 READ 直至到达所需的数字。然后按SET键确认一下。然后下一个数字将开始闪烁。继续直到报警温度的所有数字已设置。

设置 +100° F 或更高的华氏温度限制

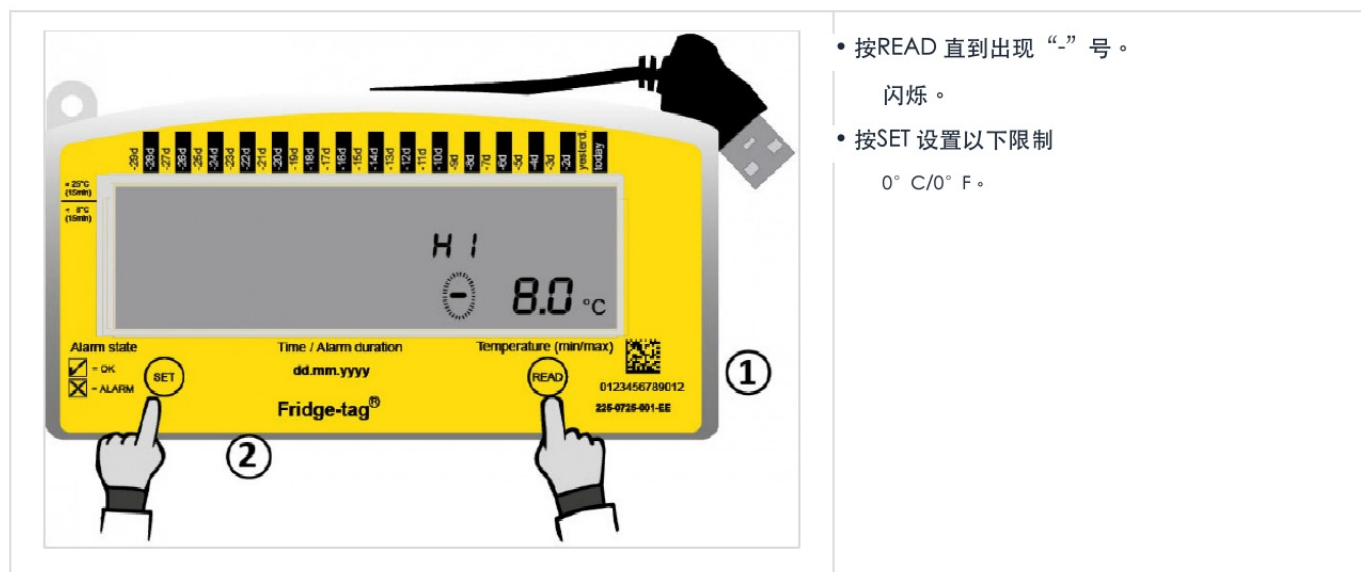
注：最高摄氏温度为+50° C（内部传感器）和+55° C（外部传感器传感器）。此选项仅适用于华氏温度。



- 按 READ 直到出现前导 “1” 显示屏上闪烁。
- 按 SET 调整限值等于或高于 +100° F。

温度的下一个数字开始闪烁。继续直到报警温度的所有数字已设定限制。

设置低于 0° C/0° F 的负温度限制



1. 按“READ”（读取）直至到达所需的号码。
2. 然后按SET键确认。然后下一个数字将开始闪烁。
3. 继续操作，直至警报温度限值的所有数字均已设置。

一旦设置了报警上限的参数，报警持续时间的第一位数字
报警下限将开始闪烁。

4. 按照与设置报警上限相同的方式进行操作。

- 一旦确认了警报下限的最后一位数字，就会激活

已完成内部传感器：现在根据放置冰箱标签部分放置冰箱标签。

- 外部传感器：将设备与外部传感器连接。

注意：如果无法确认所需的温度限制，请检查是否设置了温度
在允许的工作温度范围内。

LOC function (internal sensor only)

The Fridge-tag does not measure temperatures under the following circumstances:

- During the activation process of the device
- While pressing buttons (**READ** or **SET**)
- While the Fridge-tag is connected to a PC / Mac

After these actions have been completed, the Fridge-tag will not record temperatures for a period of 10 minutes (factory preset). In the display the symbol "LOC" displays. This function prevents false recordings of data which could be caused by heat while holding the device in the hands. Additionally, it allows an adaptation to the environmental temperature before normal recording continues.

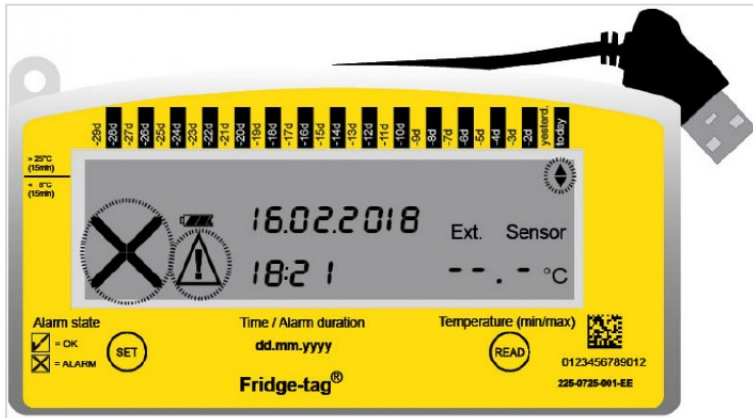


- Even in LOC mode the user can press the **READ** button to retrieve historical information, change any setting or download a report to a computer. The whole LOC period will start again after the last button operation.
- If an action is interrupted, the device will start the LOC function approximately 30 seconds after last button operation.

Connection error (external sensor only)

After 10 minutes (factory preset) without a connection between the device and the external sensor **the whole display starts blinking**. Pressing **READ** will stop the display from blinking.

Display status: external sensor error



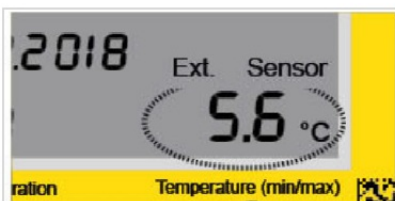
How to fix the connection error

Please check the following two points:

- Is the external sensors properly connected with the device?
- Does the external sensor cable have any defects?

Note: As soon as the error(s) have been cleared, the measuring will continue. During max. 1 minute after the connection no temperature is displayed on the screen.

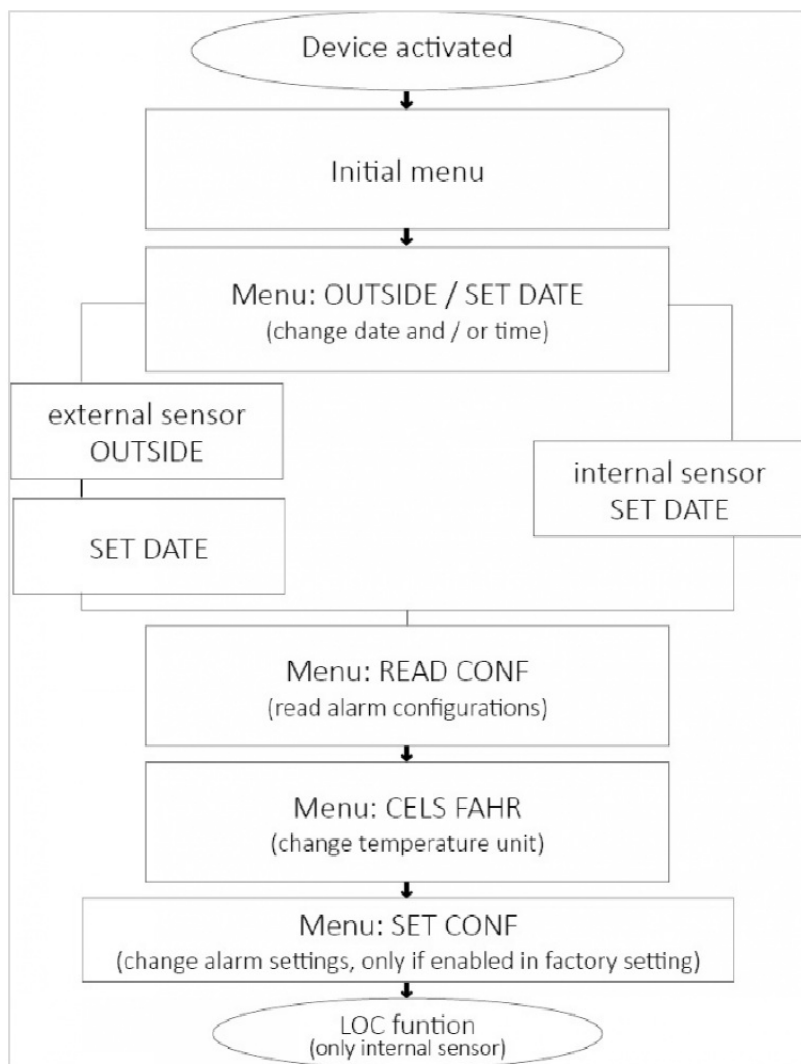
Fix the connection error before stopping the warning. Otherwise, new temperature records will not be captured.



During a connection error no data will be recorded.

Read and Change Settings

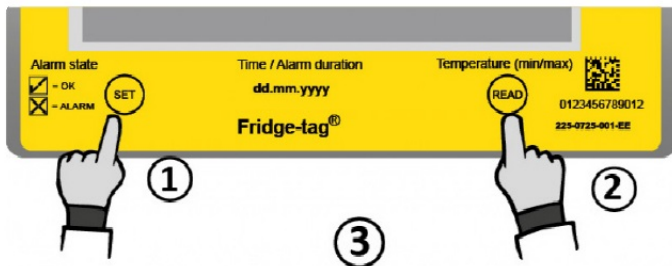
Overview: menu



Note: If you scroll through the menu and you reach the LOC function (internal sensor) or the display of the measuring mode (external sensor) again you need to restart from the beginning by accessing the menu. In order to adjust more than one setting (e.g. time & Celsius to Fahrenheit) you must complete each change and return to menu mode for the 2nd change.

Initial menu (read and change settings)

To change the date format, the date, the time, the temperature measurement unit or the alarm settings or to read the preset alarm limits please proceed as follows:



1. Press and hold **SET** ...
2. ... then press **READ** shortly ...
3. ... then release both buttons simultaneously.

- **SET DATE** (internal sensor) is now displayed on the screen.
- **OUTSIDE** (external sensor) is now displayed on the screen.

You entered the menu mode and may choose which entry to see or change.

- **OUTSIDE** (external sensor):
 - first screen shows the temperature measured with the internal sensor of the Fridge-tag (normal ambient temperature).
 - Press **READ** once to get to **SET DATE**.

Follow the instructions to access menus:

- **SET DATE** (internal sensor): Configuration with internal sensor,
- **SET DATE** is directly shown.
 - **SET DATE**: change date and/or time settings
 - **READ CONF**: read the alarm settings
 - **CELS FAHR**: change the temperature unit
 - **SET CONF**: change the alarm settings (only if enabled in factory setting)
- Use the **READ** button to scroll through the menu.
- Use the **SET** button to access the corresponding menu.

Access the menu "SET DATE"

- **External sensor**: The display shows **OUTSIDE**.
 - Press **READ** until the display shows **SET DATE**.
- **Internal sensor**: The display shows the menu **SET DATE**.
 - Press **SET** to access the menu to adjust the date format, date or time settings.
 - Follow the steps in the [Setting the Date](#) section.

注意：更改时间或日期不会影响报警记录。用户可以更新日期、时间或根据需要经常使用温度单位。一旦激活，设备就无法关闭。任何之后更改，冰箱标签在出于安全原因修改后（例如，更改 9 月 15 日触发锁定（9 月 16 日上午 00:01 至 9 月 17 日上午 00:01））。

访问菜单“阅读配置”

显示屏显示 SET DATE（内部传感器）、OUTSIDE（外部传感器）。

- 按READ 直到显示屏显示READ CONF。
- 按SET 访问菜单以读取当前警报配置。首先是显示出现检查。
- 重复按READ 可滚动浏览预设警报参数。

访问菜单“CELS FAHR”

显示屏显示设置日期。

- 按READ 直至显示屏显示CELS FAHR。
- 按SET 访问菜单以更改温度测量单位。
- 要更改测量单位（摄氏度/华氏度），请按 READ 直至显示屏显示所需的符号（° C/° F）。
- 按SET 确认测量单位。

访问“设置配置” * 菜单

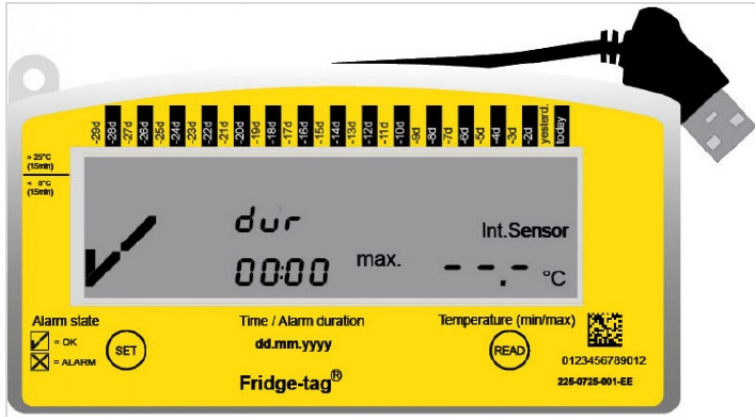
显示屏显示设置日期：

- 按READ 直至显示屏显示SET CONF。
- 按SET 访问菜单以更改警报配置。
- 要更改警报限制（持续时间或温度），请按照以下说明进行操作设置警报限制（如果工厂预设）部分。

*只有使用此功能编程的设备才能更改报警限值。

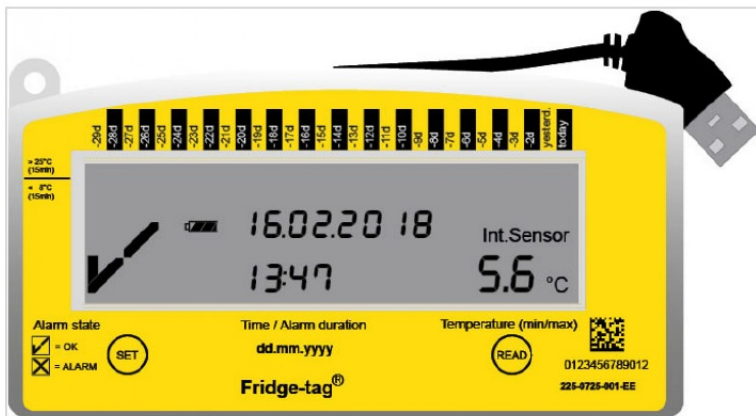
Screen Displays During Measurement Mode

Indication for max. 1 minute after completing the activation or after connecting the device with the external sensor. For a maximum of 1 minute no temperature is displayed on the screen, indicated by —.-



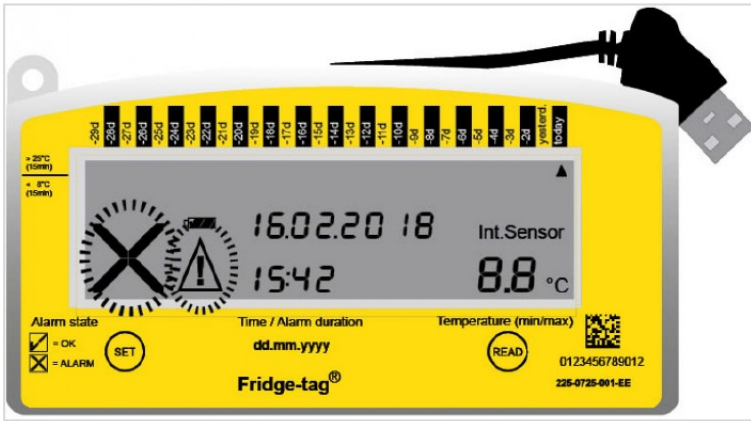
Example OK display – during measurement

- Once the device is fully activated the OK symbol ✓ , the current temperature reading, the time and the date will be displayed on the screen.
- The Fridge-tag will also indicate whether the measuring is made with an internal sensor or an external sensor.
- The OK symbol ✓ is shown during normal operation as long as no alarms have been recorded. The temperature and time conditions were within the preset alarm limits.



Example Alarm Display – During Measurement

If the preset alarm limits are exceeded, the following information will be displayed on the screen:



- (OK 符号) 将替换为 (报警符号)
- 上部显示区域将显示一个附加警报指示器，以显示哪个警报已超出限制以及在哪一天。
- 除警报符号外，旁边还会出现警告符号。

Alarm Trigger Function

Single-event alarm triggering

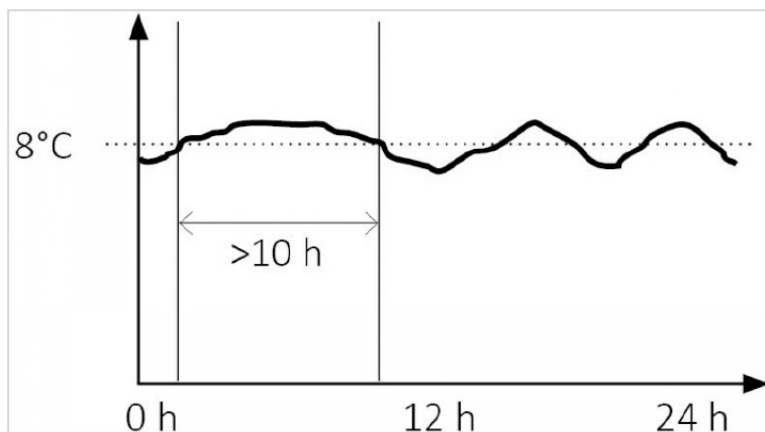
The upper or lower alarm triggering is done with a single-event alarm algorithm. Any kind of alarm is triggered if the temperature is continuously out of the preset alarm limits for longer than the preset alarm trigger time.

Upper alarm triggering

Setting upper limit: Temperature $>8.0^{\circ}\text{C}$, duration >10 hours

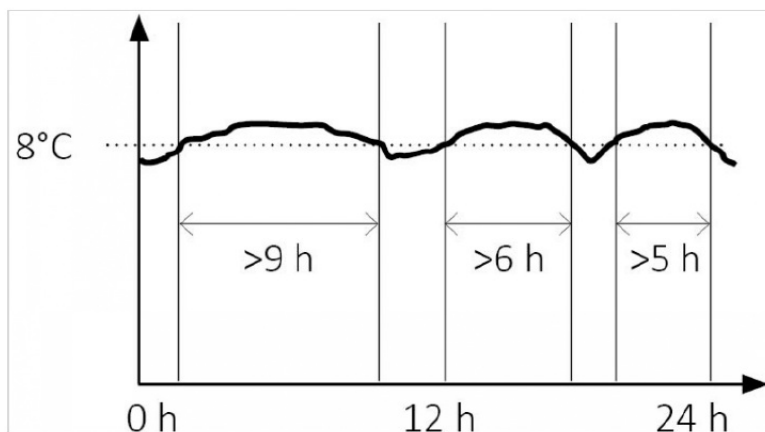
For the upper alarm to be triggered the temperature needs to be continuously above 8°C for more than 10 hours.

Alarm triggered: alarm symbol ✕ and warning symbol ⚠ displayed.



In the example below the sum* of the daily upper temperature deviation is about 20 hours. No alarm will be triggered! The temperature was not continuously out of the preset alarm limits for more than 10 hours in one row.

No Alarm triggered: OK symbol ✓ on the display.



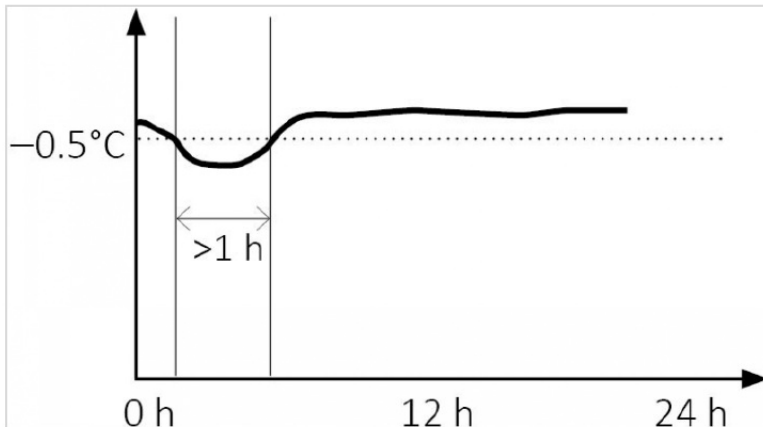
*The sum of the deviations is visible in the daily statistics in the column “Cumulative daily time above the limit.”

Lower alarm triggering

Setting lower limit: Temperature $< -0.5^{\circ}\text{C}$, duration > 1 hour

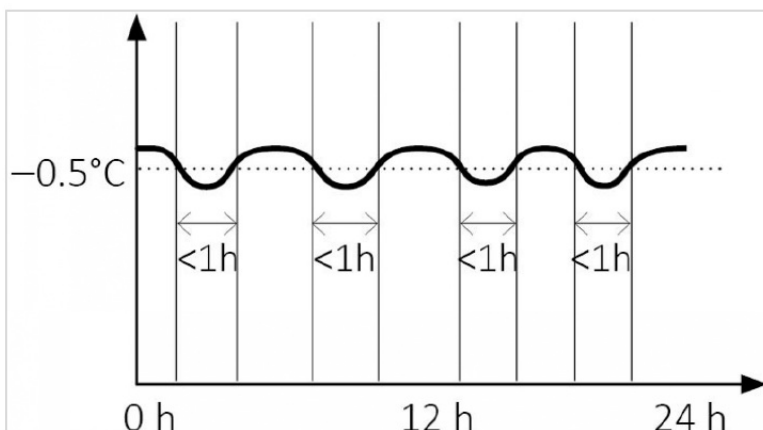
For a lower alarm to be triggered the temperature needs to be continuously below -0.5°C for more than 1 hour.

Alarm triggered: alarm symbol **✗** and warning symbol **⚠** displayed.



In the example below multiple low temperature deviations* are occurring. No alarm will be triggered. Each temperature deviation was less than 1 hour out of the preset alarm limits.

No Alarm triggered: OK symbol **✓** on the display.

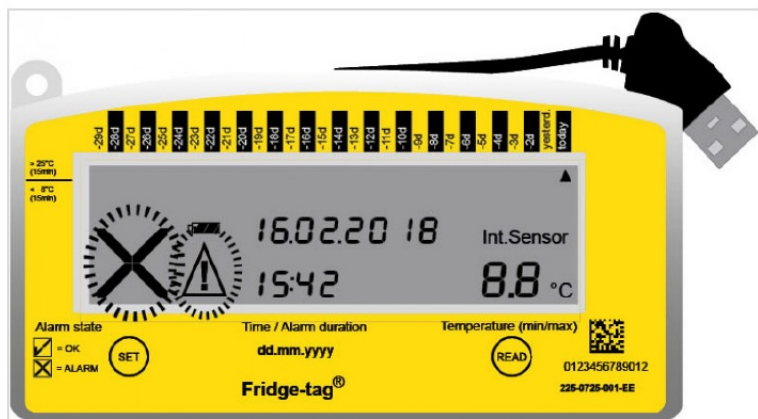


*The sum of the deviations is visible in the daily statistics in the column “Cumulative daily time below the limit.”

Alarm Display and Confirmation options

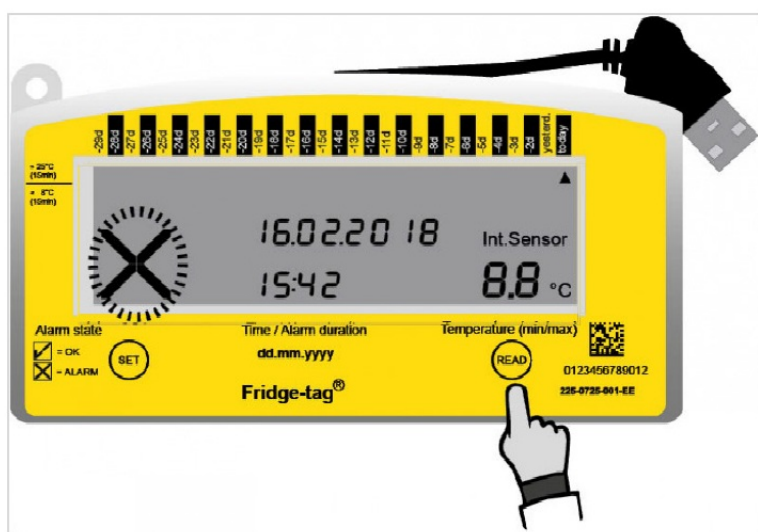
Option 1: Alarm indication “all alarms”

With this option, alarms will be visible on the display with an alarm symbol **✗** for 30 days:



通过按下 READ 按钮，相应警报的警告符号将被禁用。

报警符号无法取消或重置。



笔记：

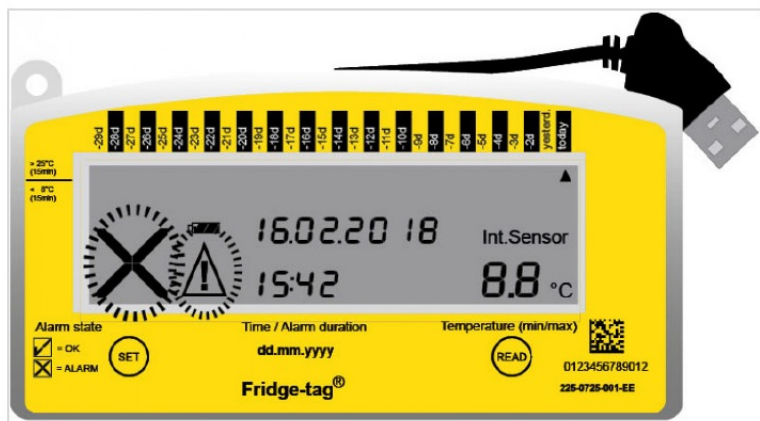
- 在此模式下，每天只会触发一个上限警报和一个下限警报。
- 警报符号将在显示屏上显示30天。
- 可以通过确认读数中的所有现有警报来停用警告符号模式。

选项2：报警指示“未确认报警”

警报会显示警报符号，直到所有警报（30天历史记录中）均被清除。

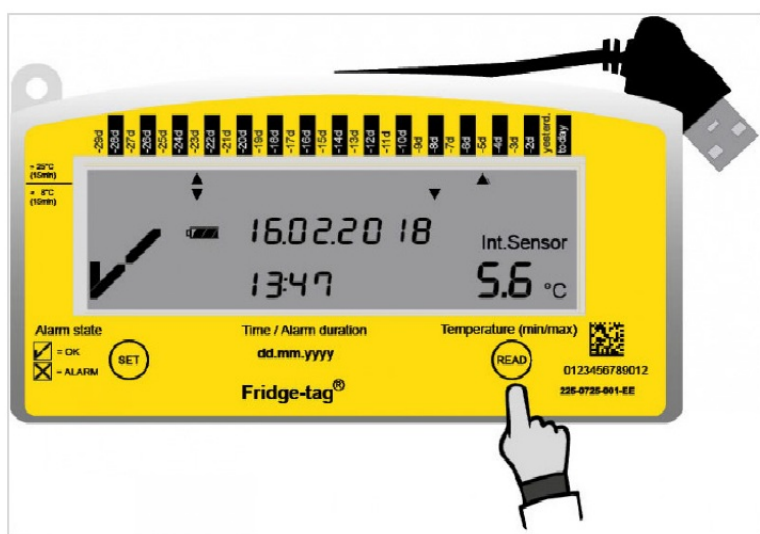
按 READ 按钮确认已解决。然后显示屏将显示 OK 符号

✓ 直到触发新的警报。



通过按下 READ 按钮，相应警报的警告符号将被禁用。

警告符号消失，OK 符号将再次显示。



当前触发的当天闹钟的确认选项

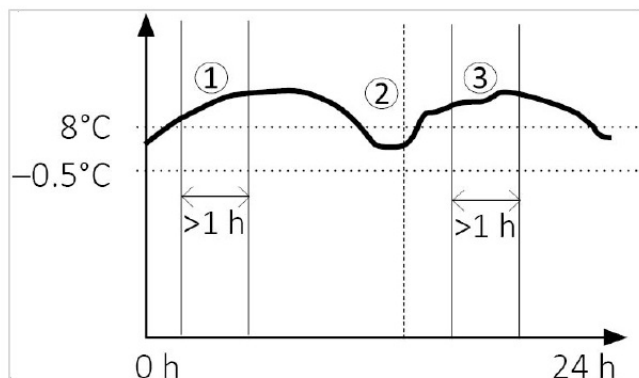
1. 设备在设定的报警限值内

按下 READ 按钮，警报符号和警告符号将立即出现

消失。一旦再次超出设定的报警限值，就会触发新的警报。

设置：温度上限 $>8.0^{\circ}\text{C}$ ，持续时间 >1 小时，温度下限 $<-0.5^{\circ}\text{C}$

时长 1 小时



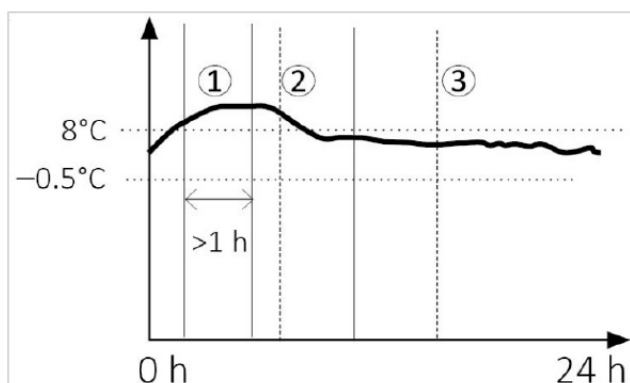
- Alarm triggered: alarm symbol ✕ and warning symbol ⚠ on display
- Alarm confirmed within the set temperature limits: OK symbol ✓ on display
- Alarm triggered: alarm symbol ✕ on warning symbol ⚠ on display.

2. Device is outside the set alarm limits

If the **READ** button is pressed still during a temperature violation the alarm symbol ✕ and the warning symbol ⚠ will stay on the display for the corresponding alarm.

Settings: upper temperature limit Temperature $>8.0^{\circ}\text{C}$ and duration $>1\text{-hour}$, lower temperature limit

$<-0.5^{\circ}\text{C}$ and duration 1 hour



- Alarm triggered: alarm symbol ✕ and warning symbol ⚠ on display.
- Alarm confirmed when the temperature exceeds the set temperature limits: alarm symbol ✕ and warning symbol ⚠ remain on display.
- Temperature is back within the alarm limits. Now the alarm can be successfully confirmed. OK symbol ✓ on display.

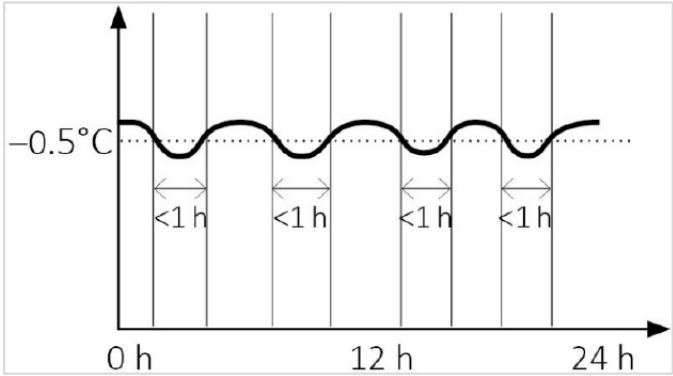
Note: How the alarm symbol ✕ and the warning symbol ⚠ react is specified during configuration of the device in the factory settings.

Cumulative Daily Time Above/Below the Limit

The alarm trigger algorithm is based on a single event, although the Fridge-tag is measuring on a daily basis the individual total time above or below the temperature limits. This measurement is not used for any alarm condition. These recordings are only available in the generated PDF/ASCII files.

Note: It could be that the total cumulative time above/below the temperature limits is longer than the configured single-event alarm time without any alarm triggering.

Example setup: lower temperature limit $<-0.5^{\circ}\text{C}$, duration $>1\text{ hour}$



在上面的示例中，暴露时间少于 1 小时的多个低温偏差发生。每天累计时间低于限制时间加起来约3.5小时，但不会发出警报触发。同样的行为也适用于上限警报。

Reading History / Readout Mode

The information of the temperature deviations can either be viewed for the past 30 days directly on the device or for 60 days in the generated files (PDF / ASCII).

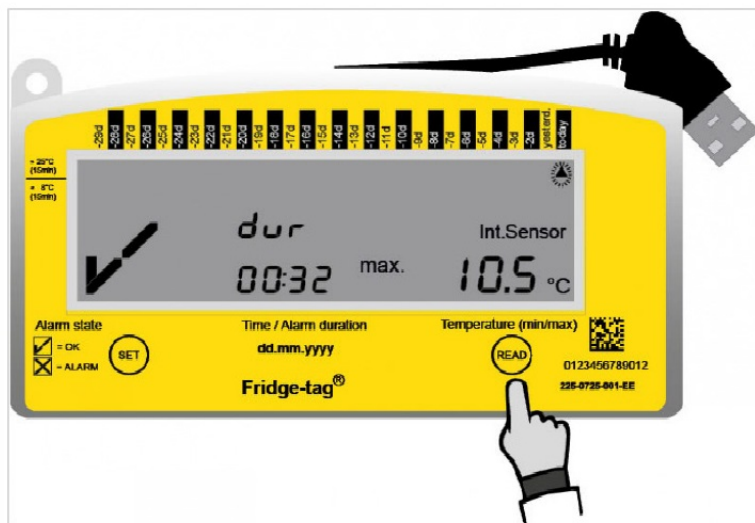
Note: The external sensor of the Fridge-tag can remain at its location for the readout process. Please consider that a connection error may occur after more than 10 minutes without connection between the device and the sensor.

Option 1: Read From Device (30-Day History)

Example of an OK display during readout of the history

1. Press **READ** once

The following information is indicated on the screen:



- The OK symbol ✓
- The corresponding flashing arrow ▲ (example: high arrow "today")
- Highest recorded temperature (example: +10.5°C)
- Duration of the exceedance of the preset high limit temperature (example 00:32; hh:min)

2. Press **READ** a second time

屏幕上显示以下信息：



- OK 符号
- 相应的闪烁箭头（例如：“今天”的低箭头）
- 最低记录温度（示例：+2.9° C)
- 超过预设低温限值的持续时间（例如00:00；hh:min)

注意：在读数模式下，闪烁的箭头显示您所在的日期（30 天历史记录）并显示当天的最高和最低测量温度。如果有限制已超过，还会显示持续时间。

注意：重复按“READ”按钮可每天读出过去 30 天的详细信息。

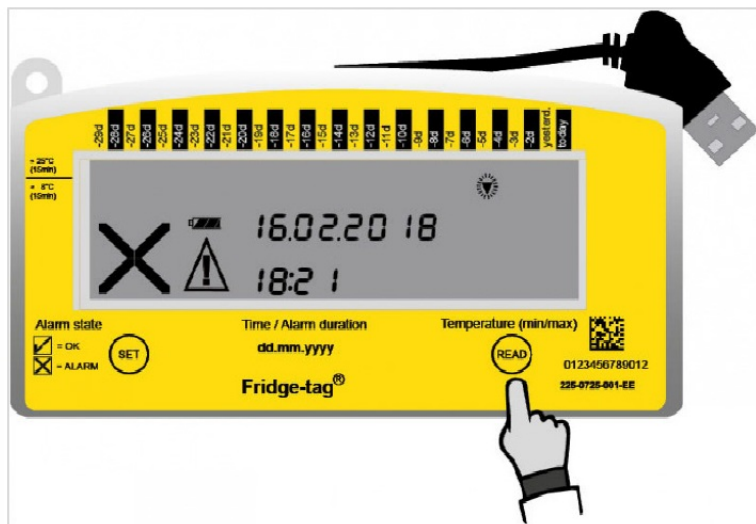
当您到达警报事件时，冰箱标签屏幕上的指示会有所不同
比 OK 显示。

读取历史记录时的警报显示示例

第一次显示“下限警报事件”

按一次“阅读”

屏幕上显示以下信息：

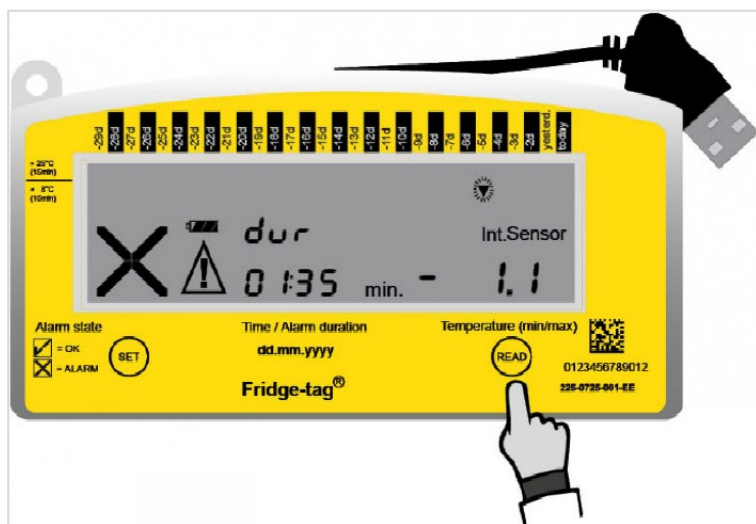


- 警报和警告符号
- 相应的报警指示灯（报警下限）
- 闹钟日期（例如：5 天前：-5d）
- 警报的日期（例如：2018 年 2 月 16 日）
- 闹钟的时间（例如：18:21）

第二次显示“下限警报事件”

再按一次“阅读”

屏幕上显示以下附加信息：



- 最低记录温度（例如：-1.1° C）
- 超过预设低温阈值之前经过的时间（例如，01:35；时：分）。
- 本例中使用内部传感器记录温度

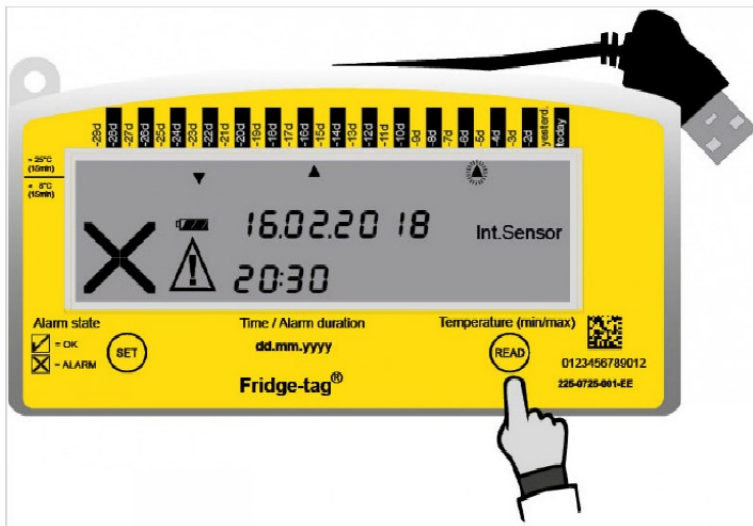
Option 2: Read Alarms on the Device (Alarm Super Jump Function)

Press the **READ** button for at least 3 seconds.

1st display of the latest alarm event

Press **READ** for 3 seconds

The following information is indicated on the screen:

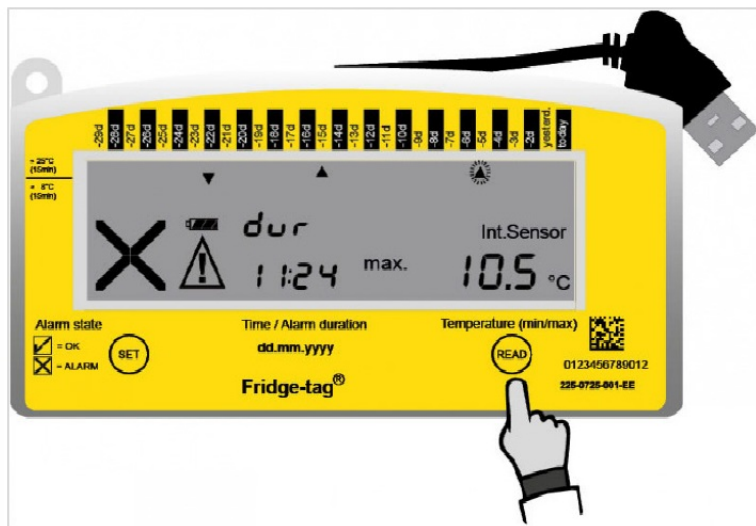


- The alarm symbol **X** and the warning symbol **⚠**
- The corresponding alarm indicator **▲** (higher alarm limit)
- Day of alarm (example: 5 days ago: -5d)
- The date of the alarm (example: 16.02.2018)
- The time of excursion (example: 20:30)

2nd display of the latest alarm event

Press **READ** again

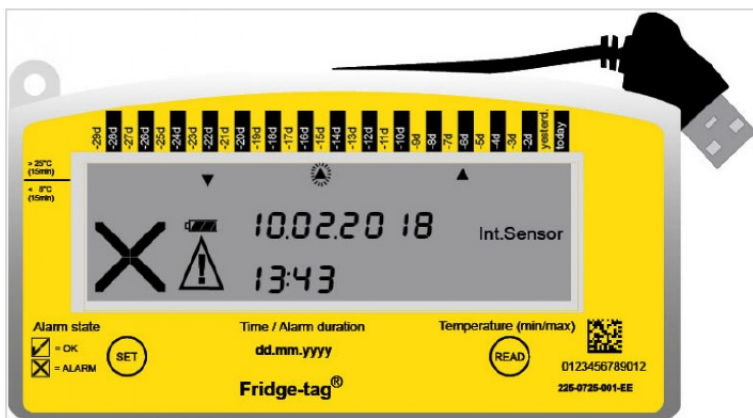
The following additional information is indicated on the screen:



- Highest recorded temperature (example: +10.5°C)
- The duration of the exceedance of the preset high temperature limit (example: 11:24; hh:mm.)
- Temperature recording in this example with internal sensor

Note: Press the **READ** button again for at least 3 seconds and the next alarm event will appear on the screen.

Display of the next alarm event

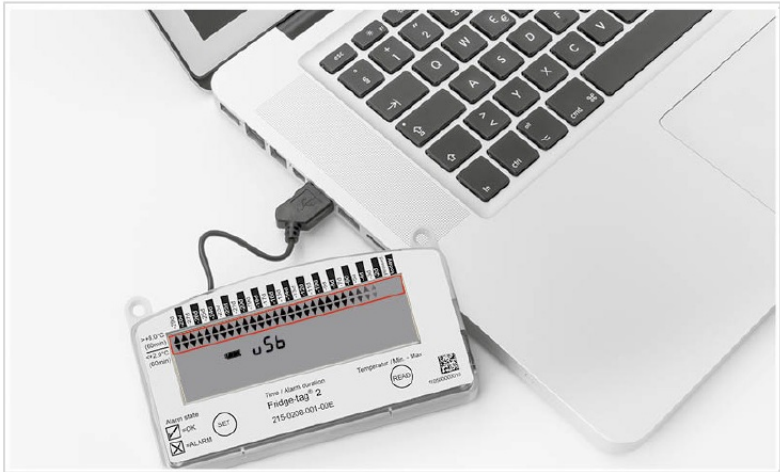


- Press the **READ** button again for 3 seconds to jump to the next alarm event. And so on.
- Pressing **SET** in the "Read out Mode" brings you back to the "Measurement Mode".

Option 3: Read Data from the Files Generated by the Fridge-Tag

Plug the Fridge-tag into any computer via USB interface. Make sure the device is plugged in properly.

Note: Disconnect the external sensor from the device first.

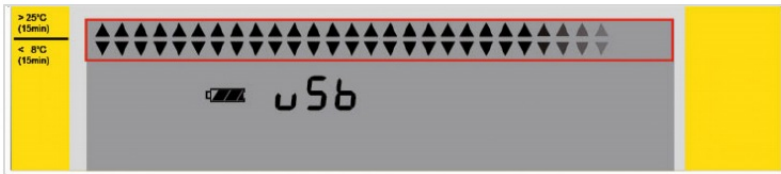


冰箱标签现在将生成过去 30、60 天的 PDF 和 ASCII 报告（出厂预设）。
此过程最多可能需要 30 秒。

选择冰箱标签生成的适当文件。

Fridge-tag 的 USB 连接

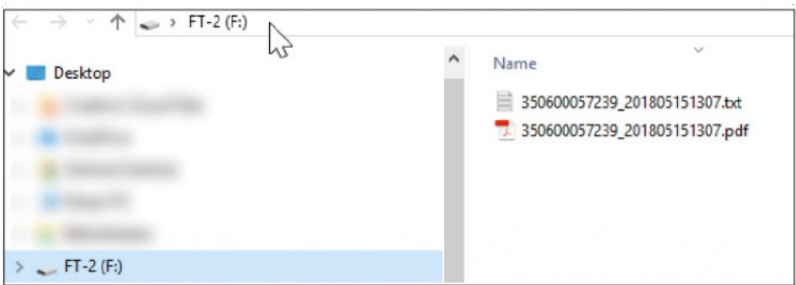
上部显示区域中连续出现的箭头表示设备正在处理。



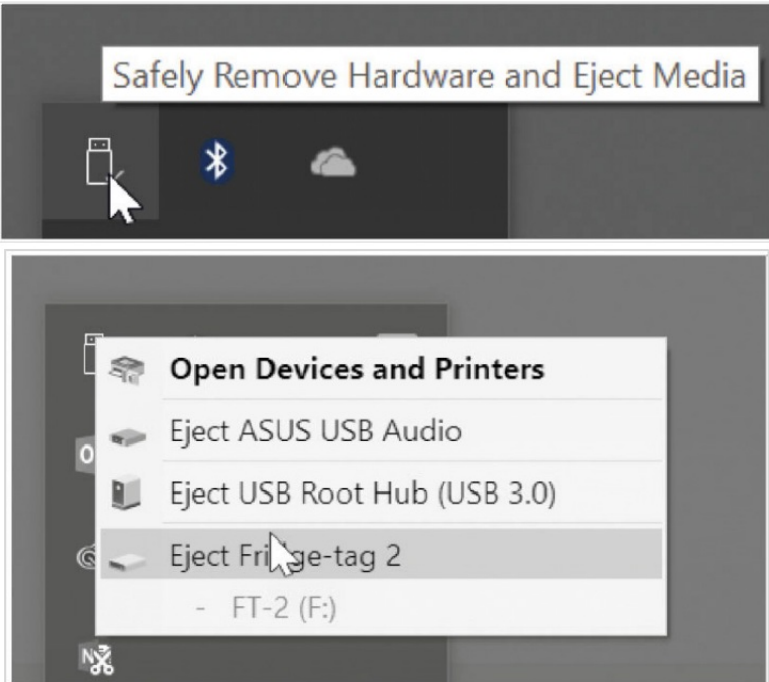
注意：在显示屏上出现 OK 符号之前，不得中断此过程。这
下面的示例表明 ASCII 和 PDF 文件的创建已成功
完全的。



该设备显示在您的资源管理器中。打开设备生成的所需文件。



注意：要正确断开设备，请始终使用“安全删除”功能
PC/Mac 上的硬件”。

	• Right-click the icon “Safely Remove Hardware and Eject Media” in the Windows taskbar (lower right corner). • Choose the corresponding device to remove.
	Do not disconnect the device before you receive the depicted message, otherwise the device can be damaged.

Note: For this process no additional software is necessary.

PDF Report Explanation

Sample of a PDF file generated by a Fridge-tag with external sensor

1 PDF document of the Fridge-tag

2 Identification number: 510500000006
 Date and time of report creation: 12/10/2017 20:37h
 Activation date: 01/05/2018 13:40h

3 Upper alarm limit: Above +8.0°C for 1min
 Lower alarm limit: Below +2.0°C for 1min

4 Measurement interval:¹⁾ 1min (fixed)
 Logging interval: 5min

5 Low battery since: 12/25/2017

6 Test String 1
 Test String 2
 Test String 3

7

No.	Date (MM/dd/yyyy)	Events ²⁾	Average temp.	Lower alarm limit				Upper alarm limit				Ext. sensor connection error			Signature / notes Action taken	
				Status	Min. temp.	Cumulative daily time below the limit	Alarm trigger time	Status	Max. temp.	Cumulative daily time above the limit	Alarm trigger time	Status	Duration	Alarm trigger time		
1	Today		+1.6°C	ALARM!	-1.0°C	11h 4min	00:00h	In progress	+5.8°C	0min			In progress	23h 50min	08:27h	
2	01/05/2018		+1.5°C	ALARM!	-0.8°C	17h 29min	00:00h	ok	+5.7°C	0min			ok	0min		
3	01/04/2018		+1.5°C	ALARM!	-1.0°C	15h 1min	00:26h	ok	+4.5°C	0min			ok	0min		
4	01/03/2018		+2.0°C	ALARM!	-0.7°C	16h 0min	00:00h	ok	+6.4°C	0min			ok	0min		
5	01/02/2018		+1.7°C	ALARM!	-1.1°C	14h 54min	00:00h	ok	+7.5°C	0min			ok	0min		
6	01/01/2018		+2.3°C	ALARM!	-0.7°C	9h 35min	06:19h	ok	+5.5°C	0min			ok	0min		
7	12/31/2017		+0.5°C	ALARM!	-5.3°C	9h 24min	00:00h	ok	+5.3°C	0min			ok	0min		
8	12/30/2017		-1.7°C	ALARM!	-5.1°C	22h 46min	00:01h	ok	+2.5°C	0min			ok	0min		
9	12/29/2017		+0.6°C	ALARM!	-4.2°C	13h 22min	00:00h	ALARM!	+8.5°C	14min	13:49h		ok	0min		
10	12/28/2017		-0.3°C	ALARM!	-3.4°C	20h 1min	00:00h	ok	+5.0°C	0min			ok	0min		
11	12/27/2017		+0.0°C	ALARM!	-2.9°C	18h 42min	00:00h	ok	+5.9°C	0min			ok	0min		
12	12/26/2017		+0.0°C	ALARM!	-2.2°C	16h 47min	00:00h	ok	+6.4°C	0min			ok	0min		
13	12/25/2017		+2.3°C	ALARM!	-0.5°C	13h 19min	02:26h	ALARM!	+6.3°C	24min	12:51h		ok	0min		
14	12/24/2017		+2.4°C	ALARM!	-1.2°C	11h 14min	00:00h	ALARM!	+6.6°C	30min	10:50h		ok	0min		
15	12/23/2017		+3.3°C	ALARM!	-1.3°C	10h 34min	00:00h	ALARM!	+11.0°C	2h 55min	12:05h		ok	0min		
16	12/22/2017		+3.3°C	ALARM!	-0.5°C	7h 25min	06:37h	ALARM!	+8.2°C	13min	12:53h		ok	0min		
17	12/21/2017		+5.0°C	ALARM!	+1.7°C	38min	22:41h	ALARM!	+6.3°C	32min	09:30h		ok	0min		
18	12/20/2017		+3.1°C	ALARM!	+0.3°C	10h 32min	00:00h	ALARM!	+10.2°C	2h 35min	11:27h		ok	0min		
19	12/19/2017		+4.0°C	ALARM!	+0.7°C	7h 33min	05:38h	ALARM!	+9.3°C	3h 4min	10:20h		ok	0min		
20	12/18/2017		+5.4°C	ALARM!	+0.4°C	4h 9min	00:00h	ALARM!	+10.8°C	4h 54min	10:03h		ok	0min		
21	12/17/2017		+4.6°C	ALARM!	+1.1°C	3h 18min	18:54h	ALARM!	+8.8°C	1h 38min	11:57h		ok	0min		
22	12/16/2017		+5.3°C	ALARM!	+1.6°C	3min	00:11h	ALARM!	+9.0°C	1h 14min	11:43h		ok	0min		
23	12/15/2017		+0.5°C	ALARM!	-2.8°C	14h 59min	00:00h	ok	+5.1°C	0min			ok	0min		
24	12/14/2017		-1.2°C	ALARM!	-4.1°C	20h 57min	00:01h	ok	+4.1°C	0min			ok	0min		
25	12/13/2017		-2.1°C	ALARM!	-5.7°C	21h 53min	00:00h	ok	+3.1°C	0min			ok	0min		
26	12/12/2017		+0.3°C	ALARM!	-4.5°C	18h 1min	00:00h	ok	+5.1°C	0min			ok	0min		
27	12/11/2017		-0.5°C	ALARM!	-1.7°C	5h 34min	18:27h	ok	+1.4°C	0min			ALARM!	19h 28min	00:00h	
28	12/10/2017		+25.5°C	ok	+25.3°C	0min		ALARM!	+27.5°C	2h 28min	13:42h		ALARM!	6h	19:18h	

8 ¹⁾ Sampling and data analysis every minute
²⁾ t = time / date changed, a = alarm configuration changed, hh:mm = status checked

Date and place: _____ **9** Signature: _____

- Document title and device type
- Device ID and self-explaining information
- Alarm settings
- Measuring and logging interval
- Event and alarm table (latest info in line 1, top line)
- Up to 3 user-definable strings (max. 30 characters each). Factory presetting
- Placeholder for notes

- Note 1: Reference for measurement interval,
- Note 2: Legend for events column (hh:mm → 1 time stamp/half day)

- Placeholder for date and signature
- Battery warning with timestamp

Temperature Record Duration (Optional Factory Setting)

Selectable record duration: 30, 60 days.

Note: File names on the Fridge-tag are write protected. The names may only be changed after downloading the files onto a computer. Changing is either possible directly on unopened files or via open and save commands with Adobe Reader. Using other programs may cause loss of the digital signature.

Date:	Date of measurement
Event: t	Time/date changed

事件：警报配置已更改	
事件：	
时:分	时间戳：状态已检查
平均的 温度。	平均气温
状态：在 进步	“今天”的数据收集尚未完成
状态：正常	过去30天内没有触发警报。（尚未触发警报 因为数据是在设备上读出的。*）
状态：已触发警报（带表示相应的详细信息 警报警报尚未读出。*）	
状态：已触发警报（无表示对应的详细信息 报警报警已在设备上读出。*）	
分钟。温度。最低记录温度	
暨。 期间	每日累计时间低于/高于限制
警报 触发时间	触发警报的时间
最大限度。温度。最高记录温度	
持续时间 外部传感器连接错误的持续时间	

*有关更多信息，请访问“警报触发功能”部分。

验证流程

此过程验证 Fridge-tag 创建的文件（PDF 和 ASCII）是否真实且具有没有被操纵或意外改变。

注意：请确保您的计算机上已经安装了最新版本的“JAVA Runtime”
电脑。

1. 从我们的网站下载 Sensitech Verifier 软件：<https://sensitech.info/Verifier>
2. 打开软件。将出现以下窗口：



3. 单击“打开文件”

4. 选择您要验证的文件。

a) 直接从连接到计算机的 Fridge-tag 中选择文件。

b) 从计算机上保存文件的位置选择文件。

当文件正确且处于原始状态时，将出现以下窗口：



如果文件已更改，则会出现错误消息。



对 PDF 和 ASCII 文件执行相同的操作。将出现相同的确定或错误消息。

Explanations of terms

Readout mode

In order to avoid incorrect data, the Fridge-tag does not measure the temperature while settings are changed or during Readout mode (e.g. changing time, date and during reading of history). The Fridge-tag will fall back into normal operation after approx. 60 seconds without pressing any buttons. The LOC function will be activated (internal sensor).

External sensor

After 10 minutes (factory preset) without connection between external sensor and device the entire display starts flashing.

HI or LO indicator

If the Fridge-tag measures temperatures above +55°C or below -40°C, it shows HI or LO on the screen. The regular measurements and monitoring of alarm limits will continue as usual. As soon as the temperature is between +55°C and -40°C numbers will be displayed again.

Expire code explanation

Learn more about your Fridge-tag  www.berlinger.com/support/fridge-tag	Production date
	Quality control passed
	Expiry date (Estimated battery-life-time)
Date of activation / location	

Production Date:	Feb., 2019 (example)
Quality control:	Passed
Expiry Date:	Aug., 2022 (example) estimated Battery-life-time
Date of activation:	Write the date of activation in this field.

Important Information

Liability

The manufacturer shall not be held liable:

- If the device was used beyond the manufacturer's given limitations.
- For any claims due to the improper storage or use of the device.
- For any problems with the temperature-controlling and/or -cooling unit.
- For the quality of any monitored goods.
- For incorrect readings if the device was used beyond its expiry date.

Warranty: 2 years from date of delivery.

Battery

The Fridge-tag contains a CR Lithium battery. Please pay strict attention to the following points:

- The housing of the Fridge-tag must never be opened nor destroyed.
- Never expose the Fridge-tag to high temperatures (fire, oven, microwaves, etc.). It may cause injuries.
- Always keep the Fridge-tag out of the reach of children.
- The battery complies with IATA DGR Packing Instruction 970-Section II and is therefore not considered as dangerous good.
- Dispose or recycle the Fridge-tag in accordance with the WEEE 2012/19/EU guidelines or your local regulations. The device may also be returned to the manufacturer for proper recycling.

Useful life

The Fridge-tag 2 can be used up to 3 1/2 years after production date (1/2 year storage / 3 years useful life), the Fridge-tag 2 E can be used up to 5 1/2 years after production date (1/2 year storage / 5 years useful life), on the condition that:

- The buttons are not pressed for very long time.

Note: Avoid jamming the device between the goods to be monitored in a shipment.

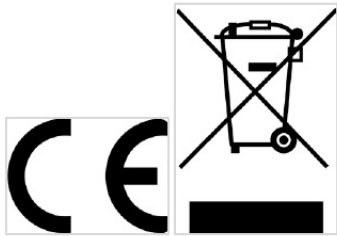
Storage and operation of the device remains inside the recommendations of the manufacturer. Especially temperatures below 0°C or +32°F could have a negative influence on the operating lifetime of the battery.

The end of the lifetime of the battery is indicated by the battery indicator on the display (see Display Explanations section).

Attention

The Fridge-tag measures the ambient temperature and not the quality of the monitored goods. Its purpose is to signal if product quality evaluation is required.

Regulatory certification



FAQ / Glossary

Frequently Asked Questions (FAQ)

For technical problems or questions, please visit the Sensitech Support Center: Fridge-tag 2x Family.

Glossary of Symbols

Symbol	Description
	OK symbol
	alarm symbol
	LOW alarm indicator
	HIGH alarm indicator
	warning symbol

The warning box includes important information or warnings.