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1) Display explanations

1. OK (√) or ALARM (X) indicator
2. Daily HIGH/LOW alarm indicator (showing history of the last 30 days)
3. Power on indicator (double point is flashing)
4. Battery power
   This icon indicates the remaining capacity of the battery
5. Additional warning symbol
6. Time, duration and text indicator
7. Datum- und Textanzeige
8. Indicator of measured minimum/maximum temperature
9. Temperature display
10. Indicator of the temperature measurement unit (°F/°C)
11. Indicator of activated sensor:
    Int. = internal sensor (inside the Fridge-tag® 3)
    Ext. = external sensor (cable with temperature sensor)
12. signal (2G) 3G
13. SIM card
14. Data transfer
2) State of delivery/Sleep Mode

Fridge-tag® 3 ext. sensor is shipped in its so-called „Sleep Mode“.

The display (LCD) is blank.

3) Quality check prior to activation (in Sleep Mode)

The following chart shows which information will be indicated on the LCD screen upon successive READ button pressing while in Sleep Mode.

After approx. 60 seconds without any button pressing the Fridge-tag® 3 ext. sensor goes back into Sleep Mode; the display is blank again.
**Pressing the READ-button**

1st press of READ:

![Display test: all segments activated]

2nd press of READ:

![Indication of date and production test result: 17. September 2016/PASS]

3rd press of READ:

![Indication of the GPRS configuration Status: (✓) configured (✗) not configured]

4th press of READ:

![Indication of the current temperature and which sensor is activated (--.-°C if ext. sensor is not connected)]

5th press of READ:

![Indication of configuration ID number (e.g. 1234)]

6th press of READ:

![*Indication of upper alarm settings. Example shows duration and temperature limits: 10 hours, >+8°C, high]

7th press of READ:

![*Indication lower alarm settings. Example shows duration and temperature limits: 60 min., <-0.5°C, low]

8th press of READ:

![Serial number of the device]

9th press of READ:

![PCb number (manufacturer information only)]

10th press of READ:

![Battery power:
3 bar = full (>70%)
2 bar = half-full (30-70%)
1 bar = low (0-30%), device should be recharged immediately.
The display is blank again.]

11th press of READ:

*(only indicated if factory preset, otherwise skipped)*
4) Inserting the SIM card

**Note:** for server version, please ensure that the Logistimo Server has been set up, before carrying out the next steps.

SIM card specifications SMS Version

<table>
<thead>
<tr>
<th>Dimension:</th>
<th>Mini(classic) SIM, 25 mm, 15 mm, 0,76 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone number::</td>
<td>when SIM card included, watch sticker on the back</td>
</tr>
<tr>
<td>PIN-Code:</td>
<td>when SIM card included, no code is necessary.</td>
</tr>
</tbody>
</table>

**4.1 Installation of the SIM card**

Only necessary if the SIM card is not included.

Remove the SIM card cover with a screwdriver. (Screwdriver is not included.)

Slide the metal frame upwards in the direction indicated by the arrow.

Lift SIM card insert tray.
Insert SIM card as shown in fig. 4.1.4. The diagonal edge of the SIM card must be located on the front right if device is placed as shown on fig. 4.1.5

SIM card insert with properly inserted SIM card.

**SIM card chip (contacts) facing downwards.**

Press the SIM card insert tray down, hold and slide* the metal frame forwards to lock the SIM card insert tray. See fig. 4.1.6

*Slide the metal frame in the arrow direction.

The SIM card is locked correctly when the SIM card insert tray can no longer be opened.

Then close the SIM card cover with the screwdriver. See fig. 4.1.1
4.2 Enter the SIM card pin code
(only required if the SIM card is locked with a PIN code (secret number).)

Once the new SIM card is inserted, the following display appears.

![Fig. 4.2.1](image1)

Enter the first digit of the PIN code. Digit 1 flashes and is ready for input. The PIN code is always 4 digits long.

The digits are changed by pressing the READ button. The SET button confirms the input, the flashing display moves to the next digit.

![Fig. 4.2.2](image2)

As soon as all 4 digits have been set and match the PIN from the mobile provider, press the SET and READ buttons simultaneously to save the password.

![Fig. 4.2.3](image3)

**Attention:** The SIM card will be locked after three (3) incorrect PIN entries. The SIM card can only be unlocked with a cellphonene using a matching PUK code. The SIM card cannot be unlocked with the Fridge-tag® 3.
5) Automatic initial device configuration (only with server version)

Make sure that the GPRS signal strength is displayed in the top right. The GPrS ConF display flashes while the configurations files are downloading. This process can take several minutes.

**Note:** Without Signal reception no configuration takes place.

After successful configuration, the display shows an OK symbol for 30 seconds then the display goes blank and the screen is left empty. The initial configuration is complete.

Error 3 appears if an error occurs during configuration. Pressing the SET button for 3 seconds restarts the configuration.
6) Placing the sensor of the Fridge-tag® 3

Fridge-tag® 3 with an external sensor

Two hours before activating the Fridge-tag® 3 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 a perfect temperature observation.

For the right positioning of the ext. sensor within the fridge, please follow the instructions of WHO, CDC or any other governmental requirements of your country (for more information visit www.berlinger.com).

![Diagram of Fridge-tag® 3 with external sensor](image)

**Fig. 6.1.1**

- ③ External Sensor
- ② Flat cable
- ① Device Fridge-tag® 3
7) Activation process

7.1) Overview sequences of activation

NOTE: If 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 starts 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 chapter „Read and Change settings/How to correct setting mistakes“
### 7.2) Activation of the device

To activate the device press the SET and the READ button simultaneously for more than 3 seconds.

Successful activation is visible when the following screen appears:

![Activation Screen](image)

### 7.3) Setting the calendar format

#### 7.3.1. Option 1: Setting the date format to: dd.mm.yyyy

Press SET to save the calendar format.
7.3.2. Option 2: Setting the date format to: mm.dd.yyyy

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

Press READ to change the calendar format

Then press SET to save the calendar format

7.4) Instruction for the use of the READ and the SET button

The READ button is used to adjust the number. Each time you press the READ button, 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

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

Press SET to confirm

Note: If SET is pressed mistakenly, continue with the set up. Instructions for changing the mistake are described in chapter „Read and change settings/How to correct setting mistakes,”
7.5) Setting the date

The following example shows how to set the date to: 16th Feb. 2017 (16.02.2017) in Europe format

The first digit is flashing:

Press SET to save

The second digit is flashing:

Press SET to save

Press READ until „1“ appears as the first digit

Press READ until „6“ appears as the second digit
The third digit is flashing:

Press SET to save

Press READ until „0“ appears as the third digit

The fourth digit is flashing:

Press SET to save

Press READ until „2“ appears as the fourth digit

**Note**: The fifth and sixth digit is set automatically.

The seventh digit is flashing:

Press SET to save

Press READ until „1“ appears as the seventh digit
Press SET to save

Press READ until „7“ appears as the eighth digit

The date is now set to: 16.02.2017

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

7.6) Setting the time
This example shows how to set the time to: 13:47

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

The first digit is flashing:
The time is now set to: **13:47**

If you want to read or change settings (e.g. change °F to °C) after the activation has been completed, proceed as described in chapter „Read and Change settings/How to correct setting mistakes“.
7.7) Connection error

After 10 minutes without a connection between the device and the sensor, the following alarm will be shown on the display.

Please check the following two points:

1. If the sensor of the **Fridge-tag® 3** is properly connected with the device. Be sure to firmly press and twist the connector until you hear it „click“ into place.

2. If the sensor cable of the **Fridge-tag® 3** has any defects.

As soon as one of the above mentioned errors have been fixed, the display shows current temperature again, the measuring will now continue.

**Note:** During max. 1 minute after the connection no temperature is displayed on the screen.
8) Read and change settings/
How to correct setting mistakes

8.1) Overview menu

NOTE:
If you scroll through the menu and you reach the display of the measuring mode again you need to restart from the beginning by accessing the menu.
In order to adjust more than one setting (e.g. time & °C/°F) you must complete each change and return to menu mode for the 2nd change.
8.2) Entry Menu

To change the date format, date, time and the temperature measurement unit or alarm settings or to READ the pre-SET alarm limits please proceed as follows:

Press SET und READ Button simultaneously,
then release both buttons at the same time.

„OUT SIDE“ is now displayed on the screen.
You have now entered the change mode, you may

choose now which item you want to change.
You can access the following 4 menus:

OUT SIDE - first screen, shows the temperature measured with the int. sensor of the Fridge-tag® 3
(ambient temperature)

1. SET DATE - change date and/or time settings
2. READ CONF - read the alarm settings
3. CELS FAHR - change to Celsius or Fahrenheit
4. SET CONN - De-/Activate Flight Mode

Use the READ button to scroll through the menu.
Use the SET button to access the corresponding menu.

8.2.1) Access the menu „SET DATE“

The display shows the menu „OUT SIDE“. Press READ until the display shows „SET DATE“. Now you can adjust the date format, date or time settings. Then follow the steps as described in chapter „Setting the date and time“.
Information:

- Time and date adjustments have no effect on the alarm records.
- Once the device is activated, it cannot be stopped anymore.
- The number of time adjustments during the same day (until midnight) is unlimited.

Note: After the adjustment has been done, the Fridge-tag® 3 ext. sensor will be locked for 24 hours after the clock passes midnight and through the entire next day. (e.g. changes on the 16th Sep., device locked from 00:01 am on the 17th until 00.01 am on the 18th). This is for security reasons.

---

8.2.2) Access the menu „READ CONF“
The display shows the menu „OUT SIDE“. Press READ until the display shows „READ CONF“. Then Press SET to access the menu to read the current alarm configurations. First the display check appears. Then continuously press READ to scroll through the pre-set alarm parameters.

---

8.2.3) Access the menu „CELS FAHR“
The display shows the menu „OUT SIDE“. Press READ until the display shows „CELS FAHR“. Then Press SET to access the menu to change the temperature measurement unit. To change the measurement unit (Celsius/Fahrenheit) press READ until the display shows the desired sign (°C/°F). Press SET to confirm the measurement unit.

---

8.2.4) Open the „SET CONN“ menu
The display shows „OUT SIDE“. Press READ until the display shows „SET CONN“. Press SET to get to the flight mode status menu (active/inactive). To change the flight mode (active/inactive), press READ until the desired unit active/inactive appears on the display and then press SET to confirm this.
9) Readout and settings options via SMS
Only possible with SMS option (chapter 9.1-9.8)

9.1. Status query
Sending a SMS to device with the content status triggers a response with the status OK or ALARM and the current temperature.

![Conversation with +31 123456789 Thu., 09:26](status)

Fridge-tag® 3 is in the ALARM state, the current temperature is 1.5°C.

Fig. 9.1.1

9.2 Assigning administrator rights:
Set admin rights: the actual administrator sends a SMS with the content admin=+41761234567 (example mobile number of new Administrator) followed by a space and pswd=1234 (example Password) to the device.

![Conversation with +31 123456789 Thu., 09:26](admin=+41761234567 pswd=1234)

The change of the Admin state, will be confirmed by the device with „SUCCESSFUL“

Fig. 9.2.1

Note: Only administrators have the right to set new alarm settings and add new recipients for alarm notifications.

![Conversation with +31 123456789 Thu., 09:26](admin=+41761234567 pswd=1234)

Error Message when entering a wrong Password
MSG ERROR="PROHIBITED, PWD"

Fig. 9.2.2
9.3 Changing alarm limits via SMS

Commands for setting alarm limits:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Status (on/off)</th>
<th>°C (00.0)</th>
<th>Duration in minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>aulimit=on,25.0,60</td>
<td>Upper alarm limit “on”</td>
<td>Temperature limit “25.0”</td>
<td>Time alarm “60”</td>
</tr>
<tr>
<td>allimit=on,15.0,60</td>
<td>Lower alarm limit “on”</td>
<td>Temperature limit “15.0”</td>
<td>Time alarm “60”</td>
</tr>
<tr>
<td>wulimit=off,0.0,0</td>
<td>Upper warning limit “off”</td>
<td>Temperature limit “0.0”</td>
<td>Time alarm “0”</td>
</tr>
<tr>
<td>wllimit=off,0.0,0</td>
<td>Lower warning limit “off”</td>
<td>Temperature limit “0.0”</td>
<td>Time alarm “0”</td>
</tr>
</tbody>
</table>

Successful changes to the alarm limits are acknowledged as SUCCESSFUL by Fridge-tag® 3.

9.4 Adding alarm recipients

Admin sends a SMS with the command subscribe=+41761234567 (mobile number of a new recipient to the device). The device confirms with SUCCESSFUL.

A total of 5 different alarm recipients can be assigned. **Note**: A separate SMS must be sent for each alarm recipient.
9.5 Delete alarm recipients

Admin sends a SMS with the command `unsubscribe=+41761234567` (example mobile number of the removing recipient) to the device. The device confirms with `SUCCESSFUL`.

![Conversation with +31 123456789 Thu., 09:26](Fig. 9.5.1)

![Conversation with +31 123456789 Thu., 09:26](Fig. 9.6.1)

### 9.6 Example of an alarm notification

**Example fig. 9.6.1**

| Identification number: | DID=11070000003 |
| Alarm Status: | Uper Alarm=Alarm |
| Date: | 2017-03-23 |
| Time: | 09:43 |
| Temperature measured at alarm event: | 30.1°C |

![Conversation with +31 123456789 Thu., 09:26](Fig. 9.7.1)

### 9.7 Confirmation of alarm status

Confirmation of the alarm status on **Fridge-tag® 3** sends a confirmation SMS from the device. The alarm has been confirmed on the device directly by the user, the temperature at the time of confirmation is 21.3°C.

**Note:** Every registered recipient gets the confirmation.
9.8 Weak battery ALARM status

If the battery capacity falls below a value of 30%, Fridge-tag® 3 sends an SMS alarm.

**Note:** Connect device to power source and charge immediately. As soon as the device is charging, an SMS is sent for confirmation with the message „Charging“.

9.9. SMS Commands and Error Messages

**Uppercase/lowercase:** SMS Commands are not case-sensitive.

**Typing errors:** If there is a typing error in the command input, the Fridge-tag® 3 does not send a confirmation SMS. The command is not executed. The SMS with the correctly written command must be typed and sent again.

10.) Setting the alarm limits via Logistimo

https://web.logistimo.com/v2/index.html#/
11) Display indication during measurement mode

For max. 1 minute after completing the settings or after connecting the device with the sensor, the following display will appear.

During a maximum of 1 minute no current temperature is displayed on the screen, indicated by (--.-).

Example of 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® 3 with external sensor will also indicate that the measuring is made with an external sensor.

A (√) (OK symbol) is indicated during normal operation as long as no alarms have been recorded. The temperature and time conditions were within the preset alarm parameters.

Example of ALARM Display - during measurement

If the temperature and time conditions are outside the preset alarm parameters the following will be displayed on the screen (Fig. 11.1.3.)

- The (√) OK symbol will be replaced by (X)
- The additional arrow will be indicated in the upper display area to show which ALARM limit has been violated and on which day.
- In addition to the (X) (ALARM symbol) the warning symbol (!) will appear beside the (X).

12) Warning symbol

Option 1: The warning symbol will remain visible until the user reads the details of the triggered alarm/s from the display. After that it will disappear. ALARM indications cannot be cancelled nor reset.

Option 2: The warning and ALARM symbol (X) will remain visible until the user reads the details of the triggered alarm/s from the display. After that both symbols will disappear and the display will go back to the OK Symbol (✓).

Note: How the ALARM symbol (X) and the warning symbol react is specified in the configuration of the device and cannot be changed.

13) Reading the History

The information of the temperature excursions can either be viewed directly on the device for the past 30 days or on the generated files (PDF/ASCII) for 30 or 60 days, depending upon how the device is configured.

Note: The external sensor of the Fridge-tag® 3 can remain at its location for the READ out process. Please consider, that a connection error will occur if the sensor is disconnected from the Fridge-tag® 3. This alarm can be cleared - see how in chapter 7.7.
13.1) Option 1: 

**READ out day-per-day directly on the device** (30 day history)

Example of an OK display - during read out of the history

The following information is indicated on the screen:

- **The OK symbol**
- **The corresponding arrow** (Example: high arrow of „today“)
- **Highest recorded temperature** (example: **+10.5°C**)
- **The time duration out of the preset temperature high limit** (example **00:32**; h: min).

---

Press **READ** once

**Fig. 13.1.1**

- **The OK symbol**
- **The corresponding arrow** (example: **low** arrow of „today“)
- **Lowest recorded temperature** (example: **+2.9°C**)
- **The time duration out of the preset temperature low limit** (example **00:00**; h: min).

---

Press **READ** a second time

**Fig. 13.1.2**
**Note:** Continue repetitively pressing the READ button to READ out day per day the details of the past 30 days.

**Information:** When you reach the 1\textsuperscript{st} ALARM event, the indication on the screen of the **Fridge-tag\textsuperscript{®} 3** ext. sensor will be different to the indication of an OK display.

---

**Example of an ALARM display - during reading out of the history**

**1\textsuperscript{st} displayed screen of a lower ALARM event (Low limit)**

![Example screen](image)

Press READ once

The following information is indicated on the screen:

- **The ALARM symbol**
- **The corresponding arrow:** Lower ALARM limit
- **Day of Alarm:** 3 days ago (-3d)
- **The date of excursion:** 19.02.2017
- **The time of excursion:** 18:21
**2nd displayed screen of a lower ALARM event (Low limit)**

Fig. 13.1.4

Press READ a second time

The following additional information is indicated on the screen:

- Lowest recorded temperature: -1.1°C
- The time duration out of the preset temperature low limit: 01:35; h:min
- Temperature recording with: external sensor

---

### 13.2) Option 2:

**READ out only alarms on the screen**

(Alarm-Super-Jump function, 30 day history)

If you like to READ out only the ALARMS directly on the device, press and hold the READ button for at least **3 seconds**. This process will also stop the device from beeping, except the temperature is still out of the allowed temperature range.

**1st displayed screen of the latest ALARM event:**

Fig. 13.2.1

Press READ for 3 seconds
The following information will be indicated on the screen:

- The **ALARM** symbol
- The corresponding arrow: **Upper ALARM limit**
- Day of Alarm: 3 days ago (-3d)
- Date of excursion: 20.02.2017
- Time of excursion: 20:30

2\textsuperscript{nd} displayed screen of the latest ALARM event

![Diagram of ALARM symbol and temperature duration]

Then press **READ** again

The following additional information is indicated on the screen:

- Highest recorded temperature of the current day (example: \(+10.5\)^\circ\text{C}\))
- The time duration out of the preset temperature high/low limit (example 11:24; h:min).
- Temperature recording with: **external sensor**

Information:
Press and hold the **READ** button again for at least 3 seconds and the next Alarm event will appear on the screen.
Audio ALARM  
(optional factory setting)

In case of an upper or lower temperature excursion, 3 audible ALARM signals will be triggered immediately (500ms ON/500ms OFF), thereafter as following:

- During 10 minutes → Every minute 1 ALARM -signal
- During 50 minutes → Every 10 minutes 1 ALARM -signal
- During 11 hours → Every hour 1 ALARM -signal

Acknowledge audible ALARM: Press the READ button, if the temperature is in the allowed temperature range.

13.3) Option 3:  
Read out data from the files generated by the Fridge-tag 3 ext. sensor with a computer

Plug the Fridge-tag® 3 into any computer via USB Interface. Make sure the device is plugged in properly.

Wait sufficient time for the device to generate the ASCII and PDF files (depending on the programming, this process may take a couple of minutes). You can see that the device is working from the continuously appearing arrows in the upper display area.
For a proper USB-port disconnection of the device, please always use the “safely remove hardware” function your PC/Mac.

Right mouse click on the icon  . Eject (choose the right device to remove).

Do not disconnect the device before you receive the following message, otherwise this could damage the device!
**Example of a PDF rapport**

**PDF document of the Fridge-tag® 3 GSM**

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Events</th>
<th>Average temp</th>
<th>Lower alarm limit</th>
<th>Upper alarm limit</th>
<th>Ext sensor connection error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Today</td>
<td></td>
<td></td>
<td>19.4°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>14.02.2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>13.02.2017</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>16</td>
<td>28.01.2017</td>
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<tr>
<td>17</td>
<td>27.01.2017</td>
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<td>18</td>
<td>26.01.2017</td>
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<td>14.01.2017</td>
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</tr>
</tbody>
</table>

1 Sampling and data analysis every minute
2 Time data changed, alarm configuration changed, status code changed
13.4) Temperature record duration  
( optional factory setting)  
Selectable record duration: 30, 60 days

**Information:** File names on the Fridge-tag® 3 ext. sensor are write protected. The names may only be changed after downloading onto a computer. Changing is either possible directly on unopened files or via open and save commands with the Adobe Reader. Using other programs may cause loss of the digital signature.

**Explanation of PDF report:** (only 30 days)

<table>
<thead>
<tr>
<th>Date</th>
<th>Date of measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event: t</td>
<td>Time/date changed</td>
</tr>
<tr>
<td>Event: a</td>
<td>Alarm configuration changed</td>
</tr>
<tr>
<td>Event: hh:mm</td>
<td>Time stamp: status checked</td>
</tr>
<tr>
<td>Average temp.</td>
<td>Average temperature</td>
</tr>
<tr>
<td>Status: in progress</td>
<td>The data collection of „Today“ is not yet complete</td>
</tr>
<tr>
<td>Status: OK</td>
<td>No alarm has been triggered the past 30 days (No alarm has yet been triggered since the last data read out on the device.*)</td>
</tr>
<tr>
<td>Status: ALARM!</td>
<td>Alarm(s) have been triggered (With „!“ means that the details of the corresponding alarm have not been read out yet*)</td>
</tr>
<tr>
<td>Status: ALARM</td>
<td>Alarm(s) have been triggered (Without „!“ means that the details of the corresponding alarm have already been read out on the device*)</td>
</tr>
<tr>
<td>Min. temp.</td>
<td>Lowest recorded temperature</td>
</tr>
<tr>
<td>Cum. duration</td>
<td>Cumulative daily time outside of the alarm limits</td>
</tr>
<tr>
<td>out of range</td>
<td></td>
</tr>
<tr>
<td>Alarm trigger time</td>
<td>Time at which the alarm was triggered</td>
</tr>
<tr>
<td>Max. temp.</td>
<td>Highest recorded temperature</td>
</tr>
<tr>
<td>Duration</td>
<td>Duration of an external sensor connection error</td>
</tr>
</tbody>
</table>

* For more information go to chapter 12 „Warning symbol“
13.5) Verification process

This process is to verify if the files (PDF and ASCII-file) created by the **Fridge-tag® 3** ext. sensor are authentic and have not been manipulated or accidently changed (meets the strict FDA CFR 21 Part 11 requirements).

**1st step:**
Download the software „Verifier“ from our website: www.berlinger.com

**2nd step:**
Open the software. The following window will appear:

**3rd step:**
Click on „Open file“

**4th step:**
Select the file you would like to verify.

**Option 1:**
Select the files directly from the **Fridge-tag® 3** ext. sensor which is connected to your computer.

**Option 2:**
Select the files from the place where you saved them on your computer.

When the file is correct and in its original condition, the following window will appear:

In case the file has been manipulated an „error message“ will appear.

Proceed the same way with the PDF or the .txt-file. The same OK or ERROR messages will appear.
14) Explanations of terms
Read out mode
In order to avoid incorrect data, the Fridge-tag® 3 ext. sensor does not collect any readings while in the Adjustment or Read-out mode (e.g. changing time, date and during reading of history). The Fridge-tag® 3 ext. sensor will fall back into normal operation after approx. 60 seconds without pressing any buttons. After 10 minutes (factory preset) without a connection between the sensor and the device, an alarm will be shown on the display.

HI or LO indicator (with an external sensor)
If the Fridge-tag® 3 ext. sensor measures temperatures above +55 °C or below -40 °C, it shows „HI“ and „LO“ on the screen and also in its extreme temperature memory. 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.

15) Expire code explanation
Sample: exp 2016-07
The sample shows the expiry date of the Fridge-tag® 3 ext. sensor as July 2016 (2016-07).

More information about the Fridge-tag® 3 ext. sensor can be found in the sales brochure and on our website: www.berlinger.com

16) Technical specifications
Storage condition (inactive) 0 °C to +30 °C
Operating temperature (ext. sensor) -40 °C to +60 °C
Accuracy of temperature measurement (ext. sensor) +/- 0.8 °C (-40 °C to -30 °C)
 +/- 0.5 °C (-30 °C to +40 °C)
 +/- 0.8 °C (+40 °C to +60 °C)
Accuracy of time measurement +/- 30 minutes/year
Temperature measurement interval every minute (5,10,15 Min. programmable)
Operating lifetime up to 3 years (check battery indicator)
Protection class IP50
17) 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 and use of the device.
• for any problems with the temperature controlling and/or cooling unit.
• for the bad 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® 3 ext. sensor contains a CR Lithium battery. Please pay strict attention to the following points.
• The housing of the Fridge-tag® 3 ext. sensor must never be opened nor destroyed.
• Never expose the Fridge-tag® 3 ext. sensor to temperatures above the allowed range (fire, stove, oven, micro waves, etc.). It may cause injuries.
• Always keep the Fridge-tag® 3 ext. sensor out of the reach of Children.
• The battery complies with IATA DGR Packaging Instruction 970 Section 2 and is therefore not considered as dangerous good.
• Dispose or recycle the Fridge-tag® 3 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 devices can be used up to 3 1/2 years after production date (1/2 year storage/3 years useful life) on the condition that:
  • The buttons are not pressed for very long time, e.g. if jammed between the goods in a shipment.
  • Storage and operation of the device should remain inside the recommendations of the manufacturer, especially temperatures below 0 °C or +32 °F could have a negative influence for the operating lifetime of the battery.
  • The end of the useful life is indicated by the low battery indicator on the display (go to page 5 „display explanation“).

Attention:
• The Fridge-tag® 3 ext. sensor monitors temperature exposure and not the product quality. Its purpose is to signal if product quality evaluation or testing is required.