

**OPERATION MANUAL
ENGLISH**

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**MODE D'EMPLOI
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**MANUAL DE INSTRUCCIONES
ESPAÑOL**

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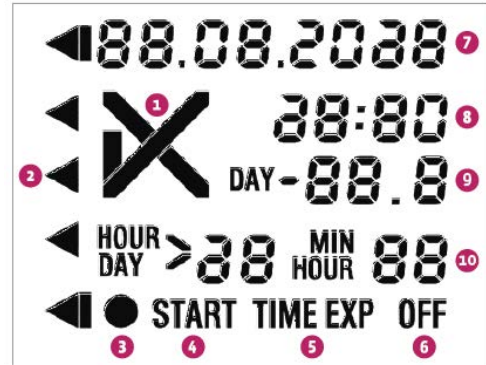
The Q-tag® CLm

Q-tag® CLm reliably and precisely monitors temperatures. It indicates the current date and time and provides a visual indication of alarms on the display. Details about alarm events may be obtained upon pressing the INFO-button.



Display explanation

- ❶ OK (✓) **or** Alarm (X) indicator
- ❷ Individual Alarm indicators: arrows (◀) and bars (■)
- ❸ Operating indicator (running indicator)
- ❹ START indicator (start date and time)
- ❺ Time Expired indicator (displays when allowed recording time exceeded, optional)
- ❻ OFF indicator (stop date and time **or** Sleep Mode)
- ❼ Date display
- ❽ Time display
- ❾ Temperature display **or** number of transport days
- ❿ Duration display (DAY/HOUR and HOUR/MIN)



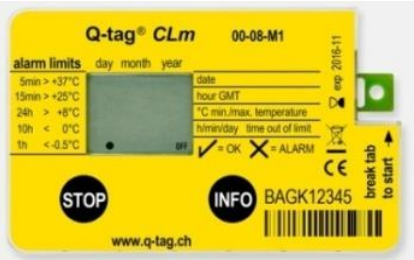
Alarm explanation

- ◀ (◀) 1st single event alarm "high" (■) 2nd single event alarm "high"*
- ◀ (◀) Cumulative alarm "high 2"
- ◀ (◀) Cumulative alarm "high 1"
- ◀ (◀) Cumulative alarm "low"
- ◀ (◀) 1st single event alarm "low" (■) 2nd single event alarm "low"*


* Second single event alarm will be indicated only after the 1st single event has already been triggered. Between the 1st and 2nd single event alarm the temperature needs to go back into the allowed temperature range.

Operating instruction

1) State of delivery / Sleep Mode

<p>Display Sleep Mode</p> 	<p>Q-tag® CLm is shipped in its so-called "Sleep Mode". This will be observed by the constantly activated "OFF" indicator and the flashing dot (running indicator) in the LCD display.</p>
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2) Gathering information prior to device activation (in Sleep Mode)


	<p>Diverse information can be read out by pressing the INFO-button. The following chart shows which information is indicated on the LCD screen upon successive pressing the INFO-button while in Sleep Mode:</p>
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Pressing the INFO-button	Displayed information
1 st	Current time, date and ambient temperature
2 nd	Display test: all segments activated
3 rd *	Temperature and time limit SL (Single event Low; lowest alarm arrow)
4 th *	Temperature and time limit AL (Cumulative event Low; 2 nd lowest arrow)
5 th *	Temperature and time limit AH1 (Cumulative event High 1; middle arrow)
6 th *	Temperature and time limit AH2 (Cumulative event High 2; 2 nd uppermost arrow)
7 th *	Temperature and time limit SH (Single event High; uppermost arrow)
8 th	LCD position 9: Allowed measurement time exceeded* with indicator TIME EXP*; LCD position 10: Start delay

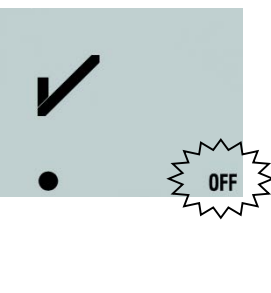
***(only indicated if factory preset, otherwise skipped)**

3) Activation of the Q-tag® CLm

Please always verify the expiry date prior to using any device (see: Expiry Code Explanation).

 <p>The image shows the Q-tag CLm device with a yellow background. It displays 'alarm limits' for 5min, 15min, 24h, 10h, and 1h. A green checkmark is visible in the 'OK' field, and a green dot is in the 'ALARM' field. A green tab is being broken off. The device also shows 'hour GMT', '°C min./max. temperature', and 'time out of limit'. Buttons for 'STOP' and 'INFO' are visible, along with a barcode and the ID 'BAGK12345'.</p>	<p>The device is activated by breaking off its green start tab.</p> <p>The active recording is shown by <input checked="" type="checkbox"/> (OK symbol) and the flashing dot on the LCD.</p>
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4) Start delay time (optional)

 <p>The image shows a close-up of the LCD display. It features a large checkmark and a small black dot. A starburst graphic contains the word 'OFF', indicating a start delay.</p>	<p>If a start delay has been factory preset, the Q-tag® CLm starts recording the temperature after the completion of the start delay time.</p> <p>The delay is displayed by the flashing "OFF" indicator.</p> <p>Note: To avoid accidental deactivation of the device, the stop function is locked during the start delay time.</p>
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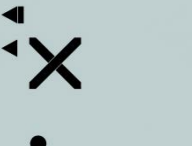

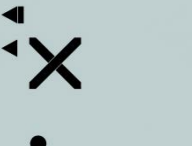

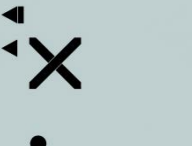
5) Temperature recording

Placing the Q-tag® CLm

The activated monitor must be placed immediately in its predetermined location. It is recommended to place the device as close to the supervised goods as possible. This is an important prerequisite to ensure the temperatures observed by the device are as close to the product temperature as possible.

Note: It is recommended to "precondition" the device for about 30 minutes to the desired mean temperature before use, especially if no start delay time has been programmed. This is to insure against false readings during start up.

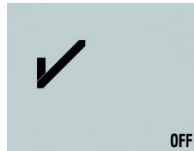
6) Display indication during temperature recording

<p>Display examples of temperature recording:</p> <table> <tr> <td data-bbox="119 1780 335 1892">OK Display</td> <td data-bbox="406 1780 614 1892">ALARM Display</td> </tr> <tr> <td data-bbox="119 1892 335 2060">  </td> <td data-bbox="406 1892 614 2060">  </td> </tr> </table>	OK Display	ALARM Display			<p>A <input checked="" type="checkbox"/> (OK symbol) is indicated during normal operation as long as no alarms have been recorded.</p> <p>This <input checked="" type="checkbox"/> (OK symbol) will be replaced by <input checked="" type="checkbox"/> (Alarm symbol) as soon as any alarm has been triggered. Additional arrows are shown in the left display area to indicate which limit has been violated.</p>
OK Display	ALARM Display				
					

7) End of temperature recording / Stop Mode



Display recording has been stopped:
Example shows OK display

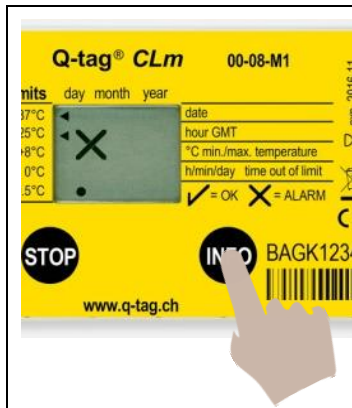


The Q-tag[®] CLm may be stopped if the recording shall be finished, e.g. if a shipment has reached its final destination. To do so, the STOP-button shall be pressed for at least 2 seconds.

The display indicates "OFF" and the flashing dot disappears.

All other indicators such as (OK symbol) or (Alarm symbol) and individual alarm arrows remain stable for at least 3 months.

8) Gathering information after activation of the device or in Stop Mode



Important note for reading information from activated devices:

To avoid misreading the Q-tag[®] CLm interrupts its recording if and as soon as the INFO-button is pressed (e.g. caused by hand temperature). Reading and recording will automatically resume after 14 minutes without any button pressing. The chart below explains the information indicated on the LCD screen upon successive INFO-button pressing after activation or in STOP Mode:

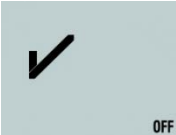

Pressing the INFO-button	Displayed information
1 st	Current time, date and ambient temperature
2 nd	Min. Temp. observed with time and date stamp of occurrence
3 rd	Max. Temp. observed with time and date stamp of occurrence
4 th *	Time and date of occurrence of 1 st Single event alarm low, (SL, lowest alarm arrow)
5 th *	Time and date of occurrence of 2 nd Single event alarm low, (SL, lowest alarm arrow)
6 th *	Total duration of temperature recorded in range Single event low, (SL, lowest alarm arrow)

7th*	Total duration recorded in range cumulative low (AL, 2 nd lowest alarm arrow); time and date of occurrence in case an alarm has been triggered
8th*	Total duration recorded in range cumulative high 1 (AH1, middle alarm arrow); time and date of occurrence in case an alarm has been triggered
9th*	Total duration recorded in range cumulative high 2 (AH2, 2 nd uppermost alarm arrow); time and date of occurrence in case an alarm has been triggered
10th*	Time and date of occurrence of 1 st Single event alarm high, (SH, uppermost alarm arrow)
11th*	Time and date of occurrence of 2 nd Single event alarm high, (SH, uppermost alarm arrow)
12th*	Total duration recorded in range Single-event high, (SH, uppermost alarm arrow)
13th	Start time and date (device activation)
14th	Stop time and date (device deactivation)

***(only indicated if alarm limit preset and range violations occurred, otherwise skipped)**

Reading the display after the device has been stopped

Display examples and more information can be found in the sales brochure:
www.berlinger.ch

<p>OK display</p>  <p>ALARM display</p> 	<p>OK display</p> <p>The monitored goods have not been exposed to temperature and time conditions outside the preset alarm parameters.</p> <p>ALARM display</p> <p>The monitored goods have been exposed to temperature and time conditions outside the preset alarm parameters. The ALARM indication cannot be cancelled nor reset.</p>
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Explanation of terms

a. Sleep Mode / State of delivery

This is the state of delivery of the device. It is the lowest current consumption state of the Q-tag® CLm. The device is not activated and no data is recorded. (see also point: State of delivery / Sleep Mode).

b. Measurement Mode / Recording of temperature

After breaking the green start tab, the device starts recording and analyzing the temperature. (see also point: display indication during temperature recording).

c. Start delay time (optional)

The start delay is an optional functionality. If a start delay has been factory preset, the Q-tag® CLm starts recording the temperature after the completion of the start delay time. (For more information see also point: start delay, optional).

d. End of temperature recording / Stop Mode

No more measurements are taken after pressing the STOP-button for more than 2 seconds. (For more information see also point: End of temperature recording / Stop Mode).

e. Single Event Alarm

These alarms are triggered if the corresponding temperature limit has been violated for longer than the allowed time **in one go**.

f. Cumulative Alarm

These alarms are triggered if the corresponding temperature limit has been violated for longer than the allowed **total time** (all violations summed up).

g. Total duration in measurement range

This is the summarized time (single or cumulative) the temperature was recorded in an individual alarm range, e.g. in single event high.

h. Running indicator

The dot on the display flashes as long as the device remains in Sleep Mode or is activated. It will disappear when the device is deactivated by pressing the STOP-button for more than 2 seconds.

i. Time Expired Indicator (optional)

A maximum allowed recording time can be factory preset upon customer requirements. If the device is not manually deactivated by its STOP-button before the preset recording time has been exceeded, the violation will be

shown on the display by indicating "TIME EXP" and a ☒ (ALARM symbol).

Display shows:

Time Expired, device has been stopped, with additional alarms.



Technical specifications

Storage condition (inactive)	0 °C to +30 °C
Operating temperature	-30 °C to +55 °C
Display visible	-10 °C to +55 °C
Accuracy of temperature measurement	+/- 0.8 °C (-30 °C to -20 °C) +/- 0.5 °C (-20 °C to +40 °C) +/- 0.8 °C (+40 °C to +55 °C)
Accuracy of time measurement	+/- 30 minutes/year
Temperature measurement interval	every minute
Operating lifetime and shelf life	Up to 5 years – expiry date printed on label
Protection class	IP64

Expiry Code Explanation

Sample: exp 2016-01

The sample shows the expiry date of the Q-tag[®] CLm as January 2016 (2016-01)

Important information

Activation / Manipulation

The Q-tag[®] CLm is activated by breaking off the green START-tab. To avoid manipulation this activation process cannot be reversed. If a device has been started by mistake it must be replaced.

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.

Battery

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

- The housing of the Q-tag® CLm must never be opened nor destroyed.
- Do never expose the Q-tag® CLm to temperatures above the allowed range (fire, oven, micro waves, etc.). It may cause injuries.
- Always keep the Q-tag® CLm out of the reach of children.
- The battery complies with **IATA DGR Packaging Instruction 970 Section II** and is therefore not considered as dangerous good.
- Dispose or recycle the Q-tag® CLm 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.
- The end of the battery life is indicated by the expiry date printed on the label. Accuracy and proper function of the device cannot be assured beyond this date.

Useful life

The devices can be used up to 5 years after production date (expiry date printed on label) 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 remains inside the recommendations of the manufacturer, especially very low temperatures shall be avoided.

Attention

The Q-tag® CLm monitors temperature exposure and not the product quality. Its purpose is to signal if product quality evaluation or testing is required.

Subject to change. Please note that all information in this document is correct at the time of publication. Due to our policy of continuous product development, we reserve the right to change this information without prior notice.

Sales:



Manufacturer:



Berlinger & Co. AG
Mitteldorfstrasse 2
9608 Ganterschwil
Switzerland

Tel. +41 71 982 88 11
Fax +41 71 982 88 39
info@berlinger.com
www.berlinger.com

Q-tag AG
Mitteldorfstrasse 2
9608 Ganterschwil
Switzerland

Tel. +41 71 982 88 11
Fax +41 71 982 88 39
www.q-tag.com