USER MANUAL

Q-tag CLm doc
Q-tag CLm doc L
Q-tag CLm doc LR
Q-tag CLm doc D
Q-tag CLm doc Ice
Q-tag CLm doc Ice R

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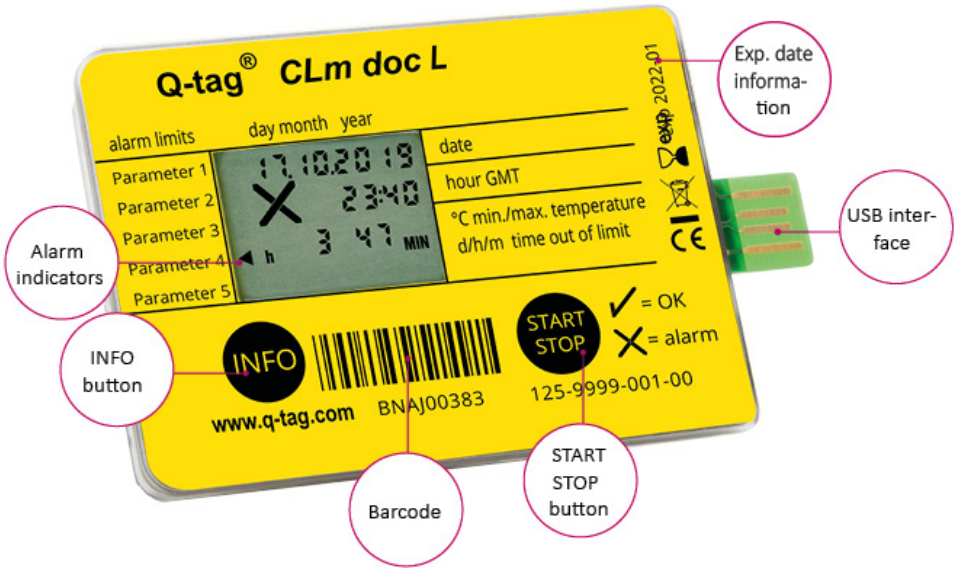
User Manual Q-tag CLm doc devices

3 — Last update: 20 December 2022

Table of Contents

1. Introduction

Q-tag CLm doc family

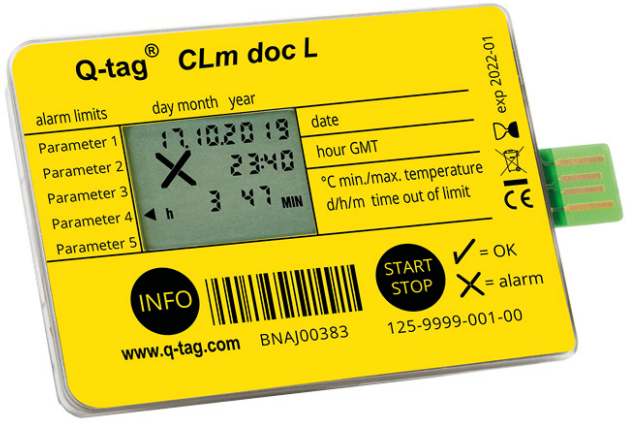


The Q-tag CLm doc family monitors reliably and precisely preset temperature profiles. It indicates the current date and time and provides a visual indication of ALARMS on the display. Details about ALARM events may be obtained upon pressing the INFO-button and/or via a downloaded report achieved through the USB connection with a computer.

berlinger verifier	**Data control with Berlinger Verifier** The data of each CLm doc device can be verified with Berlinger Verifier.
berlinger smartview®	**Data management with Berlinger SmartView** Thanks to Berlinger SmartView, the collected temperature data from Q-tag CLm doc devices can be analyzed easily and indepth for significant workflow improvements!

Table of Contents

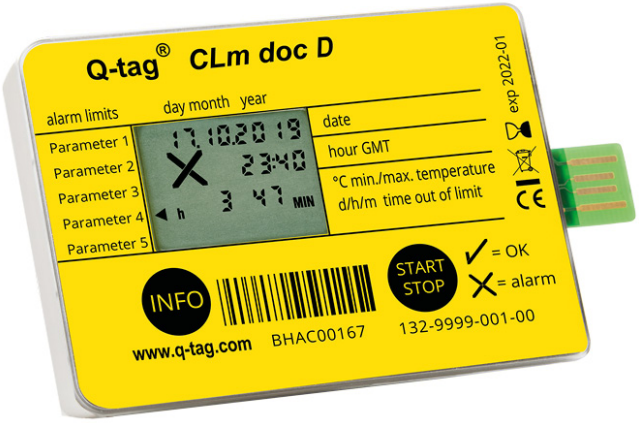
1.1. Product Overview



Q-tag CLm doc L

The durable one
To monitor your transport and storage
single-use data logger with 38,000 log points

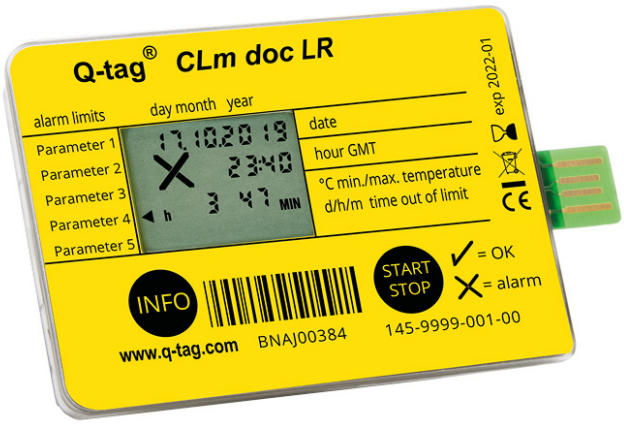
Technical information
Device information



Q-tag CLm doc D

The cool one
To monitor your dry ice packages
single-use data logger with 38,000 log points

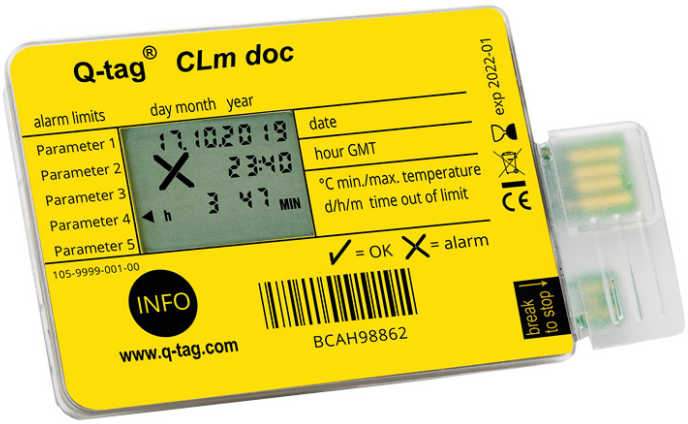
Technical information
Device information



Q-tag CLm doc LR

The profitable one
To monitor your transport
reusable data logger with 38,000 log points

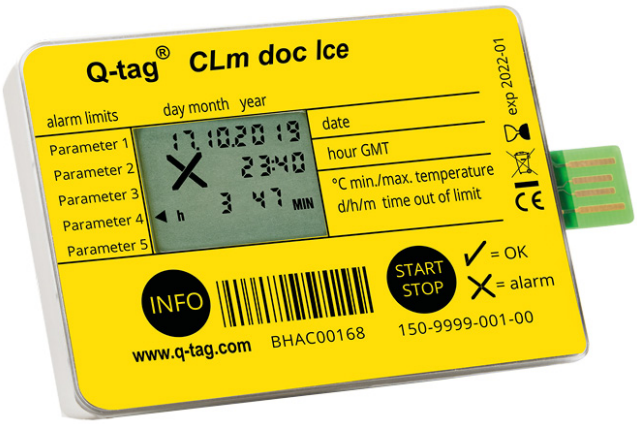
Technical information
Device information



Q-tag CLm doc

The clever one
To monitor your passive cold transport
single-use data logger

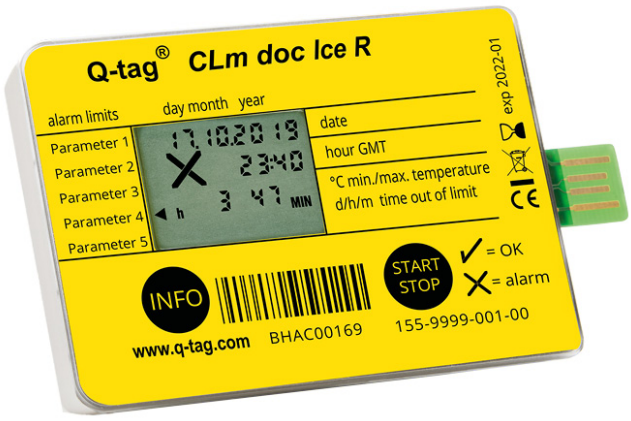
Technical information
Device information



Q-tag CLm Ice

The frosty one
To monitor your frozen packages
single-use data logger with 38,000 log points

Technical information
Device information



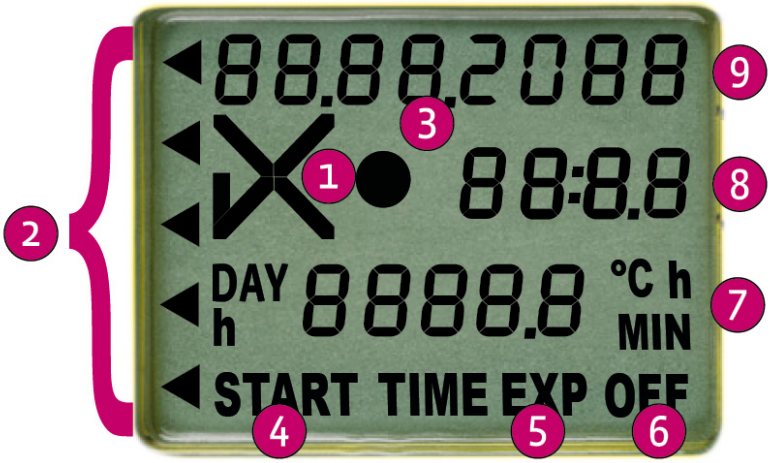
Q-tag CLm Ice R

The restartable chilly one
To monitor your frozen packages
reusable data logger with 38,000 log points

Technical information
Device information

1.2. Display explanations

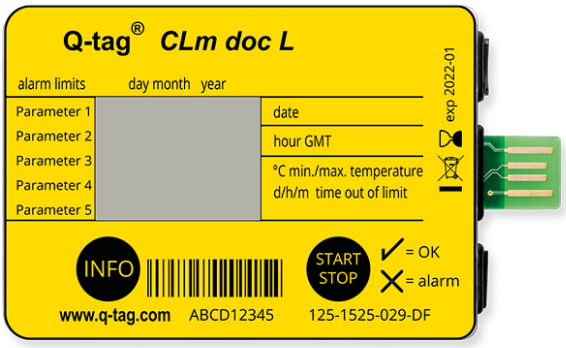
The Q-tag CLm doc family monitors reliably and precisely preset temperature profiles. It indicates the current date and time and provides a visual indication of ALARMS on the display. Details about ALARM events may be obtained upon pressing the INFO-button and/or via a downloaded report achieved through the USB connection with a computer.



1. OK (✓) or ALARM (✕) indicator
2. Individual ALARM indicators ◀
3. Operating indicator (running indicator) ●
4. START indicator (device started)
5. TIME EXP: time expired indicator (allowed recording time exceeded, optional)
   EXP OFF: device expired
6. OFF indicator (device stopped)
7. Duration display (DAY/h or h/MIN) and temperature display
8. Time display (duration and temperature display in sleep mode)
9. Date display (details of ALARM settings in sleep mode)

1.3. State of delivery / sleep mode

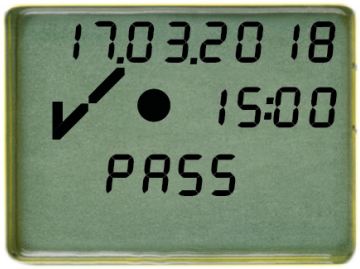
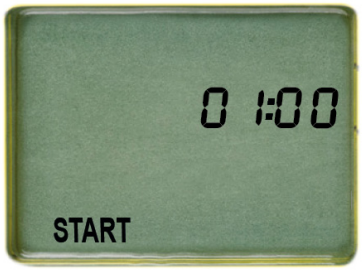
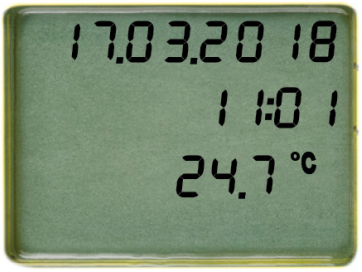
Q-tag CLm doc devices will be shipped in the “sleep mode”.

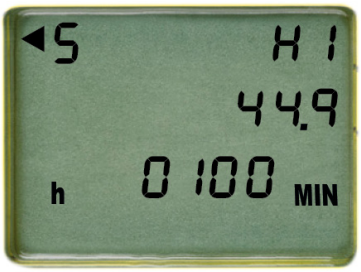
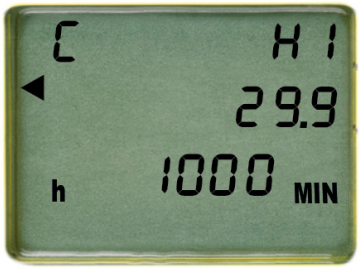
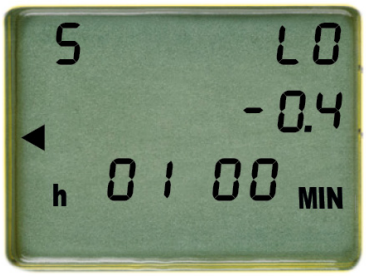
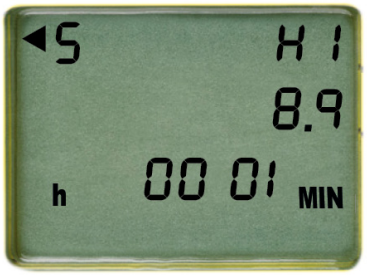


In this mode the display is blank. This is the state of delivery of the device. The device is not activated, and no data is recorded.

1.4. Gathering information prior to device activation (in sleep mode)

Diverse information can be read out after the INFO button has been pressed 3 times in one second. After 1 minute the device goes back into sleep mode; the display is blank again. (The date format is dd/mm/yyyy.)

1st display:		all segments activated
2nd display:		date and time of production test results
3rd display:		start delay time
4th display:		current date, time and ambient temperature

5th display:		temperature, time limits and ALARM type S: single event HI: high limit Time: h 01 00 MIN Explanation: Alarm occurs if the limit of 44.9°C is exceeded for 1 hour continuously.
6th display: *		temperature, time limits and ALARM type C: cumulative event HI: high limit Time: h 10 00 MIN Explanation: Alarm occurs if the limit of 29.9°C is exceeded 10 hours in total (sum of Hi Range violation).
7th display: *		temperature, time limits and ALARM type S: single event LO: low limit –0.4°C Time: h 01 00 MIN Explanation: Alarm occurs if the limit of –0.4°C is undercut by 1 hour continuously.
8th display: *		temperature, time limits and ALARM type C: cumulative event LO: low limit –0.4°C Time: h 01 40 MIN Explanation: Alarm occurs if the limit of –1.4°C is undercut by 1 h 40 min. (sum of LO range violation).
9th display: *		temperature, time limits and ALARM type S: single event HI: high limit Time: h 00 01 MIN Explanation: Alarm occurs if the limit of 8.9°C exceeds 1 minute continuously.

10th display:		time expiry (max. running time in days) Explanation: TIME EXP appears on the display after 20 days of operation.

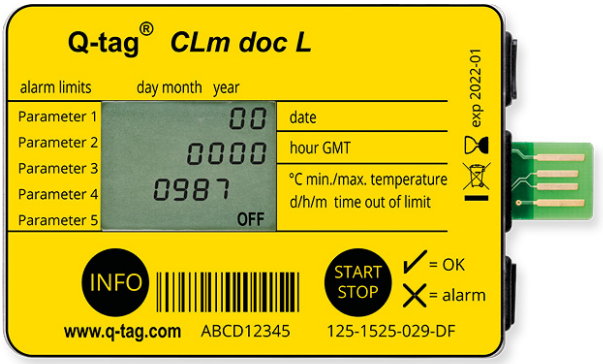
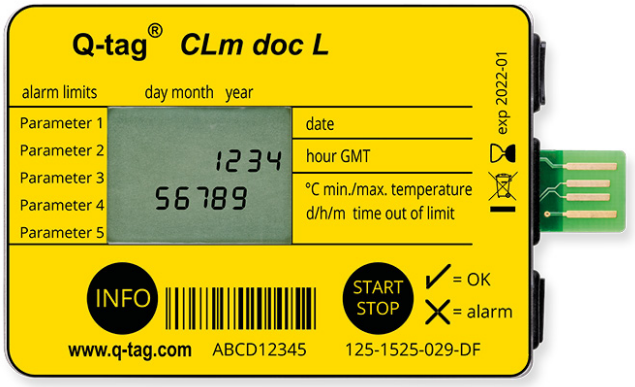
*(only indicated if factory-preset, otherwise skipped)

2. Start it

Table of Contents

2.1. Reading out CID / serial number

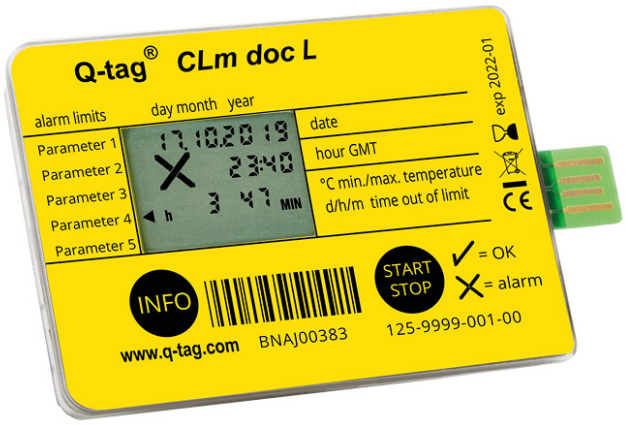
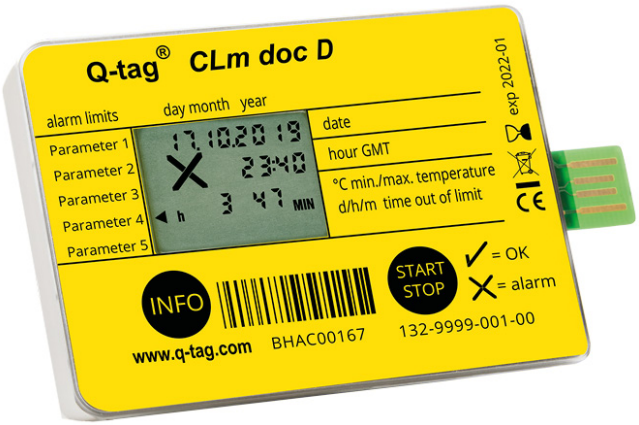
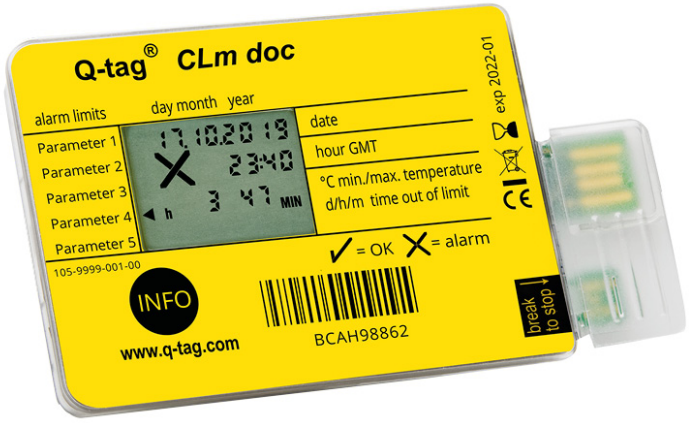
Before activation press and hold the INFO button until the display starts up. The CID number (cofiguration ID) is shown for 10 seconds, after that the serial number is displayed for 10 seconds. Then the display goes back into sleep mode.

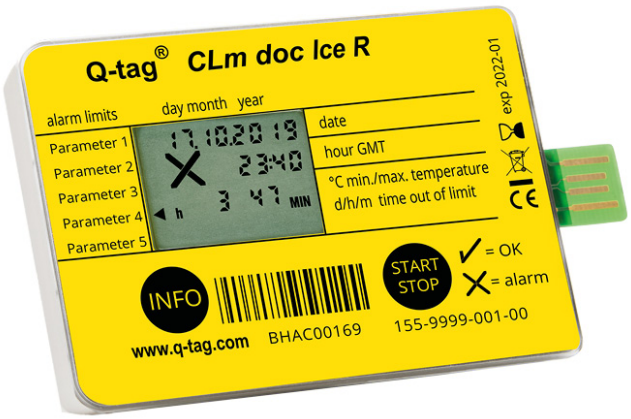
	CID (Configuration Identification Number)
	Serial number

After activation (start logging) both numbers cannot be read out through the device anymore. After stopping, the CID and serial number can be read out through the PDF file with a computer.

2.2. Activation of a Q-tag CLm doc family device

Q-tag CLm doc devices can be started as follows:

Q-tag CLm doc L	To initiate a shipment, press and hold the START/ STOP button until the display starts up. Active recording is shown by the ✓ (OK symbol) or ✕ (ALARM symbol) and the flashing dot on the LCD.	
Q-tag CLm doc D & CLm doc Ice	To initiate a shipment, press and hold the START/ STOP button until the display starts up. Active recording is shown by the ✓ (OK symbol) or ✕ (ALARM symbol) and the flashing dot on the LCD.	
Q-tag CLm doc	To initiate a shipment, break the respective tab. Active recording is shown by the ✓ (OK symbol) or ✕ (ALARM symbol) and the flashing dot on the LCD.	

Q-tag CLm doc LR & CLm doc Ice R	Option 1: To initiate a shipment, press and hold the START/STOP button until the display starts up. Option 2: After reactivation with the software easy go and disconnecting the device from the USB interface Option 3: After preconfigured autostart date and time **Important:** Before reactivation of a Q-tag CLm doc LR or Q-tag CLm doc Ice R device you must connect the device to a USB port, please read out the recorded data, otherwise the recorded data will be lost! Active recording is shown by the ✓ (OK symbol) or ✕ (ALARM symbol) and the flashing dot on the LCD.	

Expiry date: Please always verify the expiry date prior to using any device.
Expiry date explanation: Example exp 2020-01: In this example the expiry date of the device is January 2020 or 365 days after first use.

Q-tag easy go software

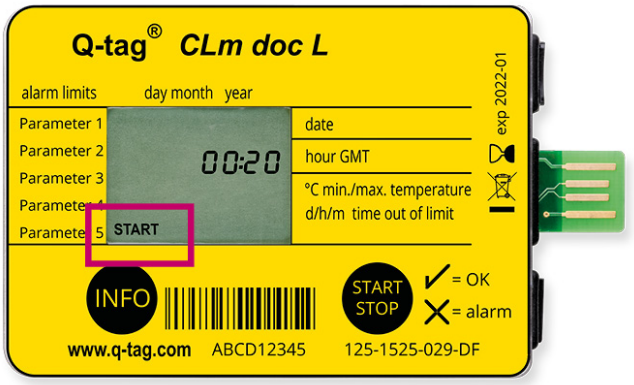
Reconfiguration and backup
The Q-tag easy go software is used to activate and reconfigure Q-tag CLm doc LR and Q-tag CLm doc Ice R devices as well as to safeguard the collected data.

Contact us to get the software: info@berlinger.com
More information: www.berlinger.com/easygo

3. Send it

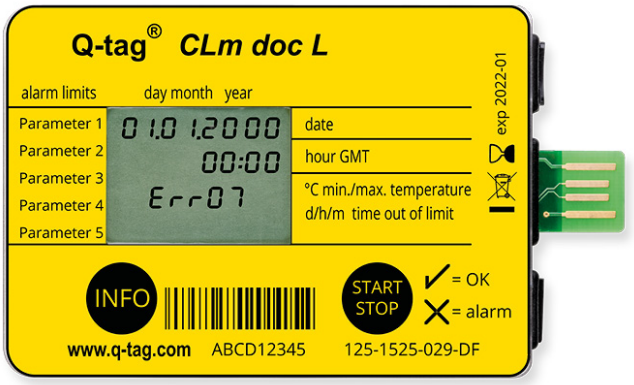
Table of Contents

3.1. Start delay (optional)



If a start delay has been preset, the device starts recording the temperature after the completion of the start delay time. The start delay time is displayed by the flashing START and the remaining time of the countdown.
Stopping the device during the start period is not possible.

3.2. Error messages



An error message can only occur before or during the device activation. If an error message like in the example occurs, do not use the device in any case!
(Possible error notifications: Err01-Err17)

Please contact the Berlinger support team immediately.
E-mail: support@berlinger.com

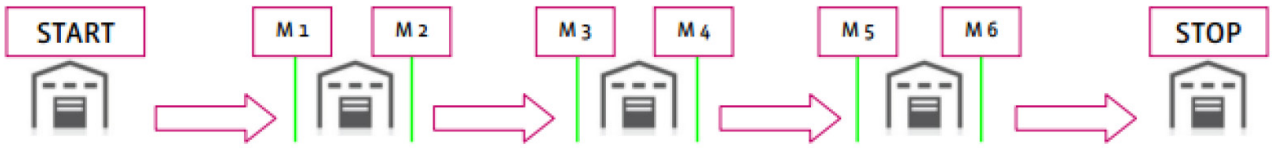
For any other purposes please contact our sales team.
E-mail: info@berlinger.com, phone: +41 71 982 88 11

3.3. Temperature recording / Placing the device

The activated monitor must be placed immediately in its predetermined location. As described in the SOP, or otherwise 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.

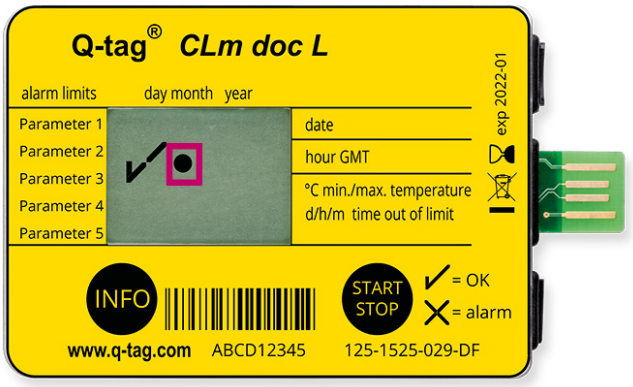
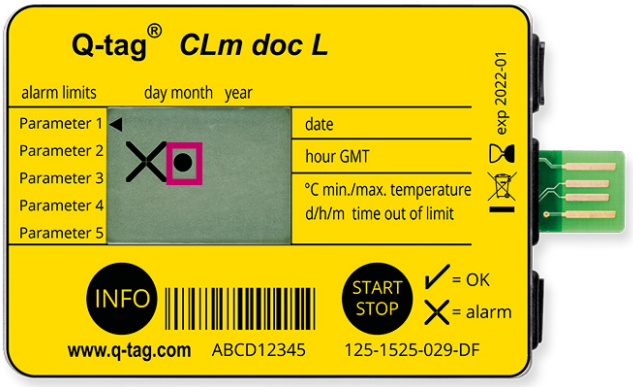
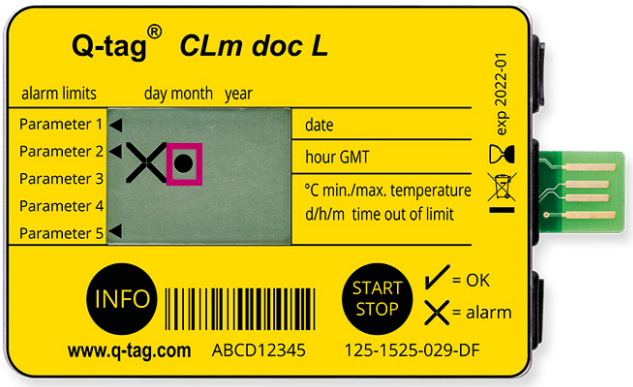
Important: It is recommended to “precondition” the device to the desired mean temperature for about 30 minutes before use, especially if no start delay time has been programmed. This is to ensure against false readings during start-up.

3.4. Add a marker



In order to mark a special event like a start of a destination “A” or an arrival of a destination “B” with a time stamp (M1, M2, etc.) on the PDF, press the INFO button 3 times in a row. When setting the first marker “1” will be shown at the display for 3 seconds, after that the information disappears. For the next marker “2” is shown on the screen and so on and so forth. Up to 255 markers can be set per run.

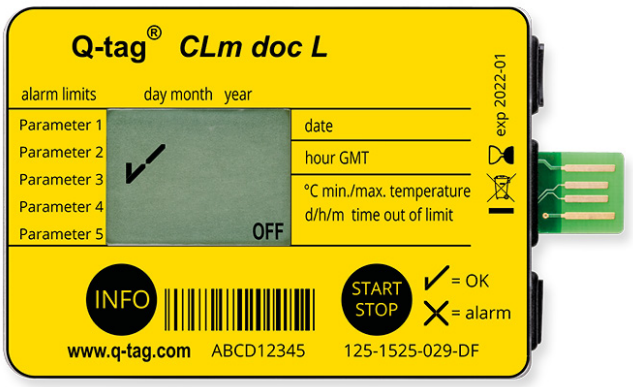
3.5. Display indication during temperature recording

A ✓ (OK symbol) is indicated during normal operation as long as no ALARM have been recorded.	
This ✓ (OK symbol) will be replaced by a ✕ (ALARM symbol) as soon as any ALARM has been triggered. (1 violation)	
Additional arrows are shown in the left display area to indicate which limit has been violated. The operating indicator is flashing. (3 violations)	

4. Stop it

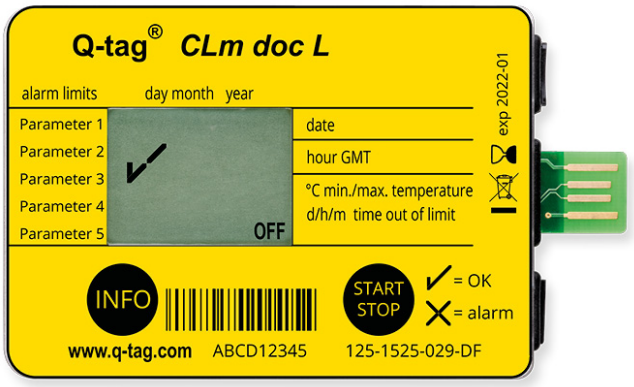
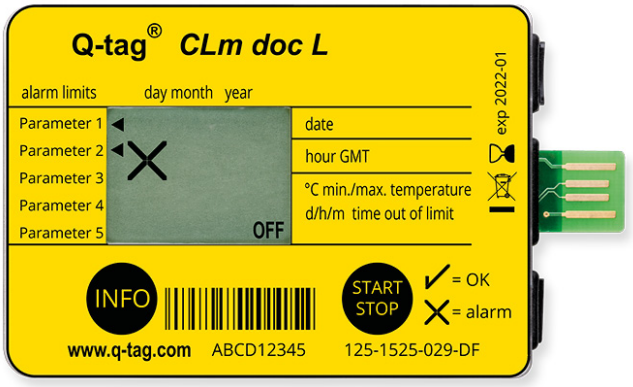
Table of Contents

4.1. End of temperature recording / STOP mode

The device may be stopped if the recording shall be finished, e.g. if a shipment has reached its final destination. To do so press and hold the START/STOP button until OFF appears on the buttom right corner of the display. The dot will disappear.	
For the **Q-tag CLm doc** only the plastic USB cover has to be pushed down and up in order to break off the STOP tab. The display indicates “OFF” and the flashing dot disappears.	

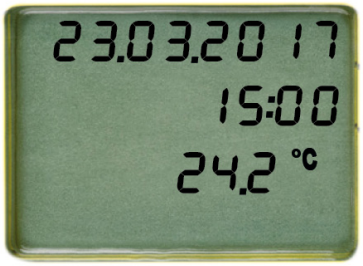
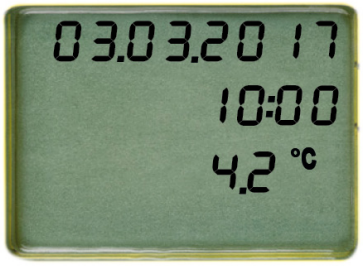
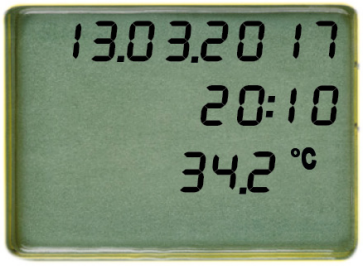
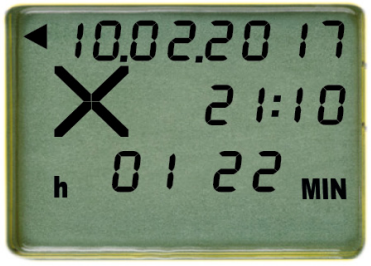
Important: All other indicators such as ✓ (OK symbol) or ✕ (ALARM symbol) and individual ALARM arrows remain stable for at least 3 months after recoding has been stopped.

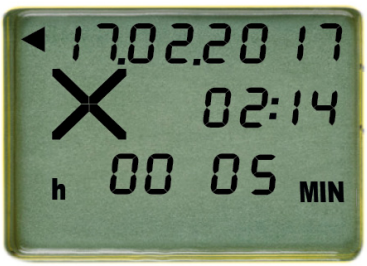
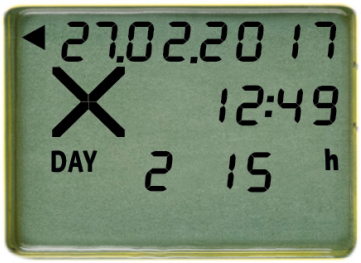
4.2. Reading the display after the device has been stopped

OK display The monitored goods have not been exposed to temperature and time conditions outside the preset ALARM parameters.	
ALARM display The monitored goods have been exposed to temperature and time conditions outside the preset ALARM parameters. **Important:** The ALARM indication cannot be cancelled nor reset.	

4.3. Gathering information after activation of the device or in STOP mode

The information indicated on the LCD screen upon successive pressing of the INFO button after activation or in STOP mode is explained below. (The date format is dd/mm/yyyy.)

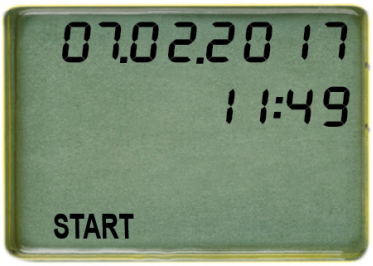
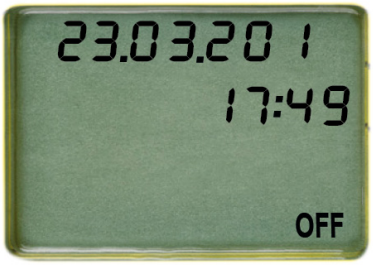
1.	Current date, time and ambient temperature	
2.	Temperature minimum with date and time of occurrence	
3.	Temperature maximum with date and time of occurrence	
4.*	Date, time and duration of 1st ALARM type	

5.**	Date, time and duration of 2nd occurrence of 1st ALARM (max. 3 single events)	
6.**	Date, time and duration of 3rd occurrence of 1st ALARM (max. 3 single events)	

The information will be the same as from point 4. to 6. refering to your individual alarm settings.

7.*	Date, time and duration of 2nd ALARM
8.**	Date, time and duration of 2nd occurrence of 2nd ALARM (max. 3 single events)
9.**	Date, time and duration of 3rd occurrence of 2nd ALARM (max. 3 single events)
10.*	Date, time and duration of 3rd ALARM
11.**	Date, time and duration of 2nd occurrence of 3rd ALARM (max. 3 single events)
12.**	Date, time and duration of 3rd occurrence of 3rd ALARM (max. 3 single events)
13.*	Date, time and duration of 4th ALARM
14.**	Date, time and duration of 2nd occurrence of 4th ALARM (max. 3 single events)
15.**	Date, time and duration of 3rd occurrence of 4th ALARM (max. 3 single events)
16.*	Date, time and duration of 5th ALARM
17.**	Date, time and duration of 2nd occurrence of 5th ALARM (max. 3 single events)
18.**	Date, time and duration of 3rd occurrence of 5th ALARM (max. 3 single events)

19.	Transport time	

20.	Start date and time (device activation)	
21.	Off date and time (device activation)	

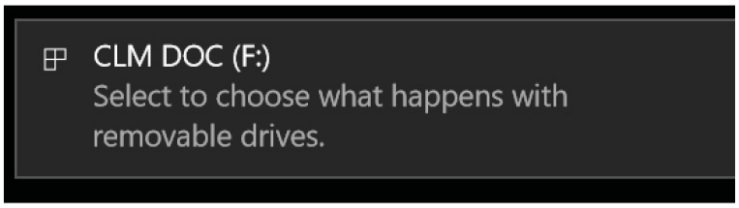
*(only indicated if ALARM limit preset and range violations occurred, otherwise skipped)
**(only indicated if ALARM limit preset as single-event type and range violations occurred, otherwise skipped)

5. Read out

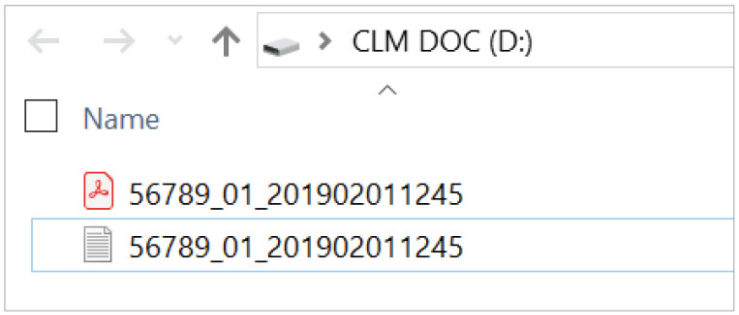
Table of Contents

5.1. Connecting the device with a computer

Plug in the device into any computer via USB interface. Make sure the device is plugged in properly. The following window will appear.



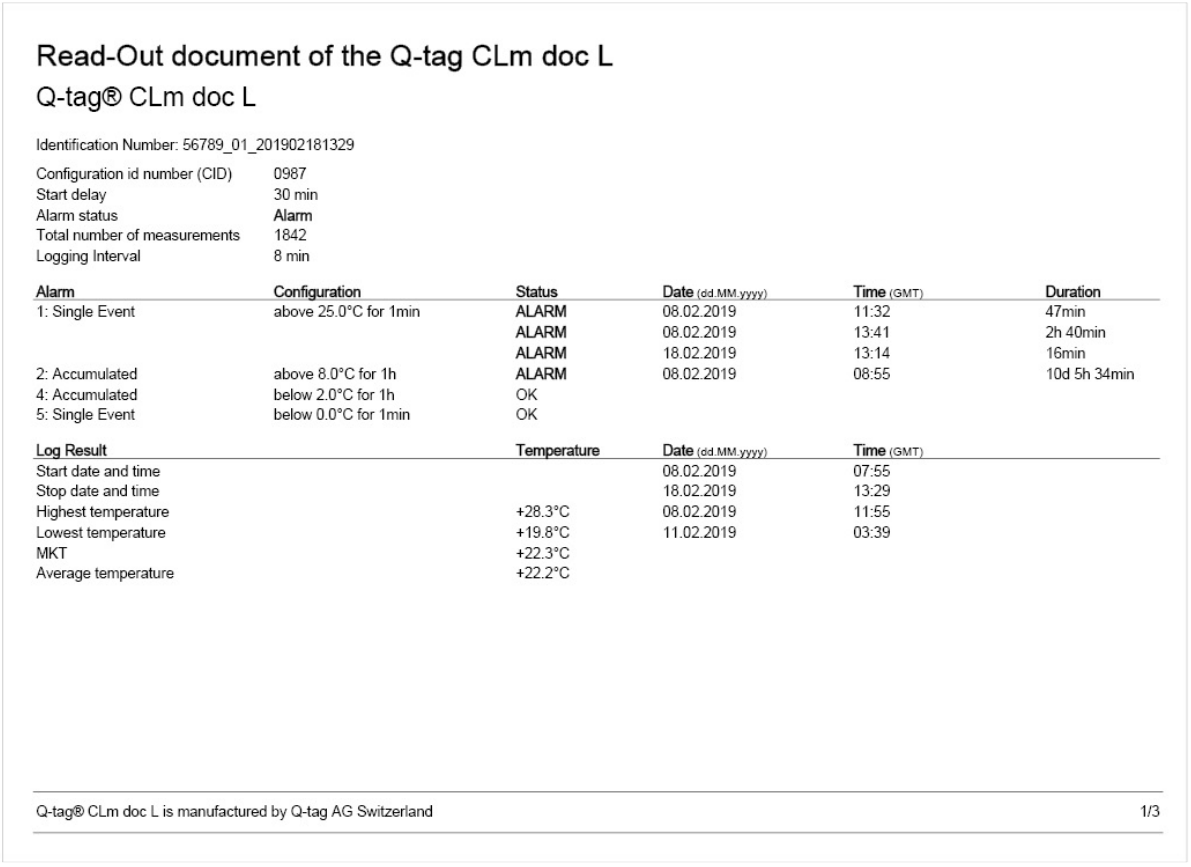
Wait sufficient time for the device to generate the ASCII and PDF files (approx. 10 seconds). Double-click the Q-tag CLm doc device (like any external file/drive). Save the PDF and text file on your computer and open the PDF file to see a summary of data and graph or open the text file to view individual temperature recordings (raw data).



Note: For this process no additional software is necessary.

5.1.1. PDF file – sample of a PDF file generated by a Q-tag CLm doc L

Page 1: Information overview



Read-Out document of the Q-tag CLm doc L

Q-tag® CLm doc L

Identification Number: 56789_01_201902181329

Configuration id number (CID)	0987
Start delay	30 min
Alarm status	**Alarm**
Total number of measurements	1842
Logging Interval	8 min

Alarm	Configuration	Status	Date (dd.MM.yyyy)	Time (GMT)	Duration
1: Single Event	above 25.0°C for 1min	**ALARM**	08.02.2019	11:32	47min
		ALARM	08.02.2019	13:41	2h 40min
		ALARM	18.02.2019	13:14	16min
2: Accumulated	above 8.0°C for 1h	**ALARM**	08.02.2019	08:55	10d 5h 34min
4: Accumulated	below 2.0°C for 1h	OK			
5: Single Event	below 0.0°C for 1min	OK			

Log Result	Temperature	Date (dd.MM.yyyy)	Time (GMT)
Start date and time		08.02.2019	07:55
Stop date and time		18.02.2019	13:29
Highest temperature	+28.3°C	08.02.2019	11:55
Lowest temperature	+19.8°C	11.02.2019	03:39
MKT	+22.3°C		
Average temperature	+22.2°C		

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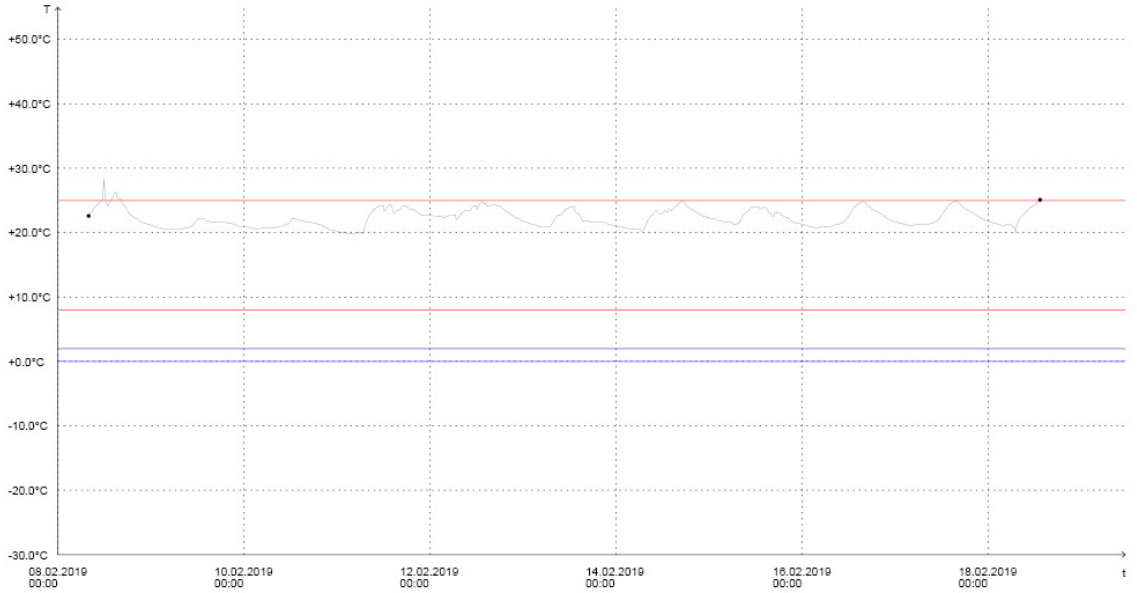
Page 2: Temperature graph

Read-Out document of the Q-tag CLm doc L

Identification Number: 56789_01_201902181329



Q-tag® CLm doc L is manufactured by Q-tag AG Switzerland 2/3

Page 3: Marker information

Read-Out document of the Q-tag CLm doc L

Q-tag® CLm doc L

Identification Number: 56789_01_201902181329

Marker	Temperature	Date (dd.MM.yyyy)	Time (GMT)	Timedifference to last Marker
M1	+24°C	11.02.2019	06:42	...
M2	+24.4°C	11.02.2019	07:58	1h 16 min

Q-tag® CLm doc L is manufactured by Q-tag AG Switzerland 3/3

5.1.2. Sample of an ASCII file generated by a Q-tag CLm doc L

Sample of an ASCII file

Data control with Berlinger Verifier

The data of each Q-tag CLm doc device can be verified with Berlinger Verifier.

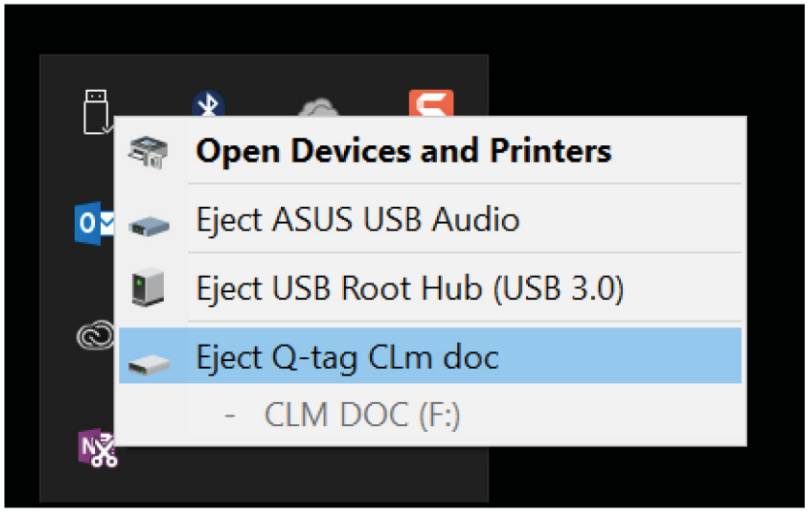
Contact us to get the software: info@berlinger.com

More information: www.berlinger.com/verifier


berlinger
verifier
scure data
authenticated
easy
PDF document of the Fridge-tag® 3

5.2. Remove device from USB port

For a proper USB port disconnection of the device, please always use the “safely remove hardware” function on your PC/Mac.



Do not disconnect the device before you receive the following message:
Hardware can be removed now. The device “CLM DOC (D:) can be removed from the computer now.”

6. 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.

Battery

The devices of the Q-tag CLm doc family contain a lithium battery. Please pay strict attention to the following points:

- The housing of a Q-tag CLm doc family device must never be opened nor destroyed.
- Do never expose a device of the Q-tag CLm doc family to temperatures above the allowed range (fire, oven, microwaves, etc.). It may cause injuries.
- Always keep a device from the Q-tag CLm doc family 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 device from the Q-tag CLm doc family 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

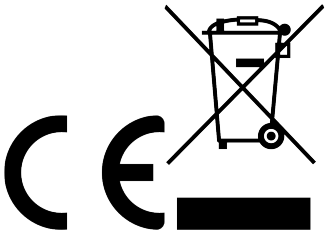
- The devices can be used XXX days, but not longer than 365 days. It depends on the device type (see technical specifications) and on the condition that:
- The buttons are not pressed for a very long time, e.g. if jammed between the goods in a shipment.
- Storage and operation of the device should remain inside the recommendations of the manufacturer, especially temperatures below 0°C or 32°F could have a negative influence on the operating lifetime of the battery.

Attention

All devices of the Q-tag CLm doc family monitor temperature exposures 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.

Regulatory certification



Manufactured by:

	Berlinger & Co. AG Mitteldorfstrasse 2 9608 Ganterschwil SWITZERLAND

7. Q-tag CLm doc L User Guide Videos

Visit our website under www.berlinger.com/videos or subscribe to our YouTube Channel Berlinger & Co. AG for streaming our user guide videos online.

8. Firmware

Device	Firmware
CLm doc	4.8.02
CLm doc L	4.8.02
CLm doc LR	4.8.02
CLm doc D	4.8.02
CLm doc Ice	4.8.02
CLm doc Ice R	4.8.02

9. FAQ / Glossary

Frequently Asked Questions (FAQ)

For technical problems or questions, please visit the Berlinger Support Center: FAQ – Q-tag CLm doc Family

Glossary of Terms

Abbreviation	Title	Description
SOP	Standard Operating Procedure	Standard Operating Procedure (short SOP) is a binding textual description of the processes of procedures including the examination of results and their documentation.