



Temp-/ Smart-/ CryoBeacon - Intelligent and simple data monitoring



Operating manual

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Thank you for choosing Temp-/ Smart-/ CryoBeacon!

In order to ensure a quick commissioning, it is necessary for you to thoroughly read and follow the subsequent notes and descriptions.

1.1 Identification of manufacturer

Name of manufacturer:	Tec4med Lifescience GmbH
Street:	Otto-Hesse-Straße 19 T9
City:	64293 Darmstadt
Telephone:	+49 (0) 6151 - 360 37 00
E-mail:	info@tec4med.com
Website:	www.tec4med.com





DANGER!

This symbol signifies **imminent danger** for the **life and health** of persons.



WARNING!

This symbol signifies **potential risks** to **property** and/or the **environment**.



FACTS!

This symbol indicates **important facts** and especially **useful** items of **information**.



Tips for saving energy.



No spray water.



Electronic equipment may not be disposed of with household waste.



Environmentally hazardous.

3.1 Purpose of the operating manual

This operating manual contains important information for safe, correct and economical operation of the device. Observing the instructions will help to avoid dangers, reduce repair and increase the reliability and prolong the service life of the device.

Please keep the manual for future use.

The latest version of this operating manual can be downloaded at any time. Use the following link to access the latest version:
www.tec4med.com/tec4medservice

3.2 Liability and warranty coverage

All information in this manual is provided to the best of our knowledge, on the basis of our experience and findings to date.

The original version of this manual was drawn up in the German language and its technical correctness checked by our company. The translation into the customer's national language/the contractual language has been carried out by a recognised translation agency.

This manual has been drafted with the utmost care. Should you nevertheless establish any gaps and/or errors, please notify us at the abovestated address. Your suggestions for improvements will assist us in designing a user-friendly manual.

3.3 Copyright

All rights are expressly reserved. This manual may not be duplicated or its contents divulged to third parties in any form whatsoever without our written consent.



A basic prerequisite for safe handling and trouble-free operation of this device is acquaintance with the basic safety instructions. It is not permitted to use the device for a purpose other than that stipulated by the manufacturer.

Never open the housing of the device.

Repair work on the device may only be carried out by Tec4med LifeScience GmbH or by authorised workshops.

Defective parts or components must only be replaced by parts approved by Tec4med LifeScience GmbH.

- If the unit shows visible damage, it must not be put into operation.
- If any connecting cable of this unit is damaged, it must be replaced by the manufacturer.
- Repairs to this unit may only be carried out by qualified personnel.
- The RJ45 connector only works with proprietary probes provided or approved by Tec4med. It does not support any standard.
- Exchanging the battery may only be carried out by Tec4med staff.



5.1 Functional description

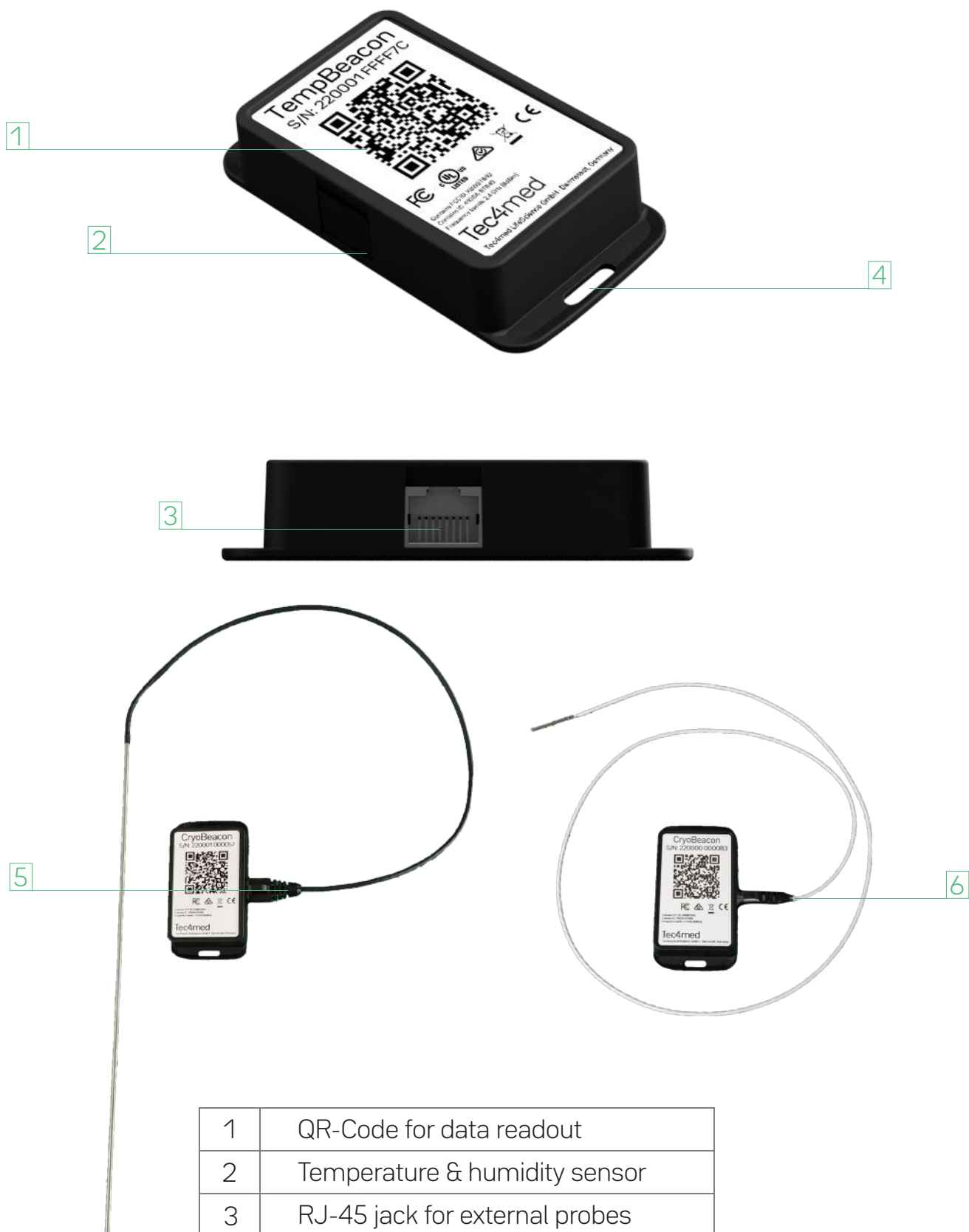
The TempBeacon is a temperature and humidity sensor and logger. The SmartBeacon is a temperature, humidity and shock sensor and logger with a connector for external digital probes. The CryoBeacon is a temperature and humidity sensor and logger with a connector for external analogue probes.

The Tec4med beacon family is used to measure temperature, humidity and optionally shock values, as well as parameters being measured by the external probe, and to record these data internally. The data can be read-out via Bluetooth Low Energy (BLE). External devices to support data readout are the SmartHub, SmartHub (Alkaline), SmartLock or any Android- or iOS-based SmartPhone in combination with the Tec4App.

The beacon family is used to measure either shipment parameters of e.g. parcels, pallets or containers during transit, or to measure stationary parameters of e.g. cold rooms, refrigerators, warehouses or storage areas. It can also be used to measure loading areas of vehicles, such as cars, transporters and trucks.



5.2 Design and components



1	QR-Code for data readout
2	Temperature & humidity sensor
3	RJ-45 jack for external probes
4	Mounting holes
5	Dry-Ice (DI) probe [optional]
6	LN2 probe [optional]

6 Operation

Before operating, make sure that the the unit is dry and the battery charge is >20%.

- If the unit shows visible damage, it must not be put into operation.
- Do not place the unit near naked flames or other heat sources (heating, strong sunlight, gas oven, heater, etc.).
- Make sure that the temperature/humidity sensor and its membrane are not covered.
- Do not immerse the unit in water.
- Avoid throwing or skidding the unit or applying excessive external forces.
- If no external probe is connected, use the RJ-45 cover to protect the connector.
- Do not mount the unit higher than 2m above ground.
- Operate, store and distribute the device in the following ambient conditions only: min. -30°C/-22°F; max. +60°C/140°F



Warning!



Danger!



Warning!

6.1 Tips for saving energy

- Do not initiate a BLE data read-out more than necessary.
- The operation of the unit in low temperatures may decrease the battery runtime.



6.2 Connecting Beacons

Make sure that only external probes approved by Tec4med are connected to the unit.

- Remove the RJ45 protection cover by pulling slightly with the nail of your finger.
- Plug in the external probe until a clicking sound occurs.
- Pull slightly to make sure that the probe properly latched into the RJ45 connector.
- **Note:** The pin of the connector must point upwards.

After connecting an external Pt-100 temperature probe, the CryoBeacon records both its internal temperature as well as the temperature of the probe. If no probe is connected, the CryoBeacon only records its internal temperature.



Warning!



7 Cleaning and care

Always disconnect the unit from external probes and insert the RJ45 protection before cleaning.

Never clean the unit under running water or in rinse water. Do not use strong cleaning agents or hard objects for cleaning, as these can damage the device.

- Clean the outside of the unit occasionally with a damp cloth.
- Make sure that the RJ45 jack of the unit is free of dust and impurities so that the external probe can properly be inserted into the connector.



Warning!



Warning!

8 Troubleshooting and disposal

For the use of the Beacon family with the Tec4App, please read information at QuickStartGuide_Tec4App.

For the use of the Beacon family with the Tec4Cloud, please read information at QuickStartGuide_Tec4Cloud.

For the use of the Beacon family with the SmartHub, SmartHub (Alkaline) and SmartLock, please read information at Manual_ENG_SmartHub and Manual_ENG_SmartLock.

The manuals and QuickStartGuides can be downloaded at the following link: <https://www.tec4med.com/tec4medservice>

Electronic equipment may not be disposed of with household waste!

The batteries are part of the GRS-battery system and can be returned at any GRS collecting point globally. Returning the batteries is free of charge! For more information visit: www.grs-batterien.com/

For more information about the web-interface and dashboard visit www.tec4med.com or ask for a manual at help@tec4med.com.

Caution – The battery used in this device may present a risk of fire or chemical burn if mistreated. Do not disassemble, heat above the maximum temperature limit of 60° C / 140° F, or incinerate. Use of other battery may present a risk of fire or explosion.

The device and all its accessories must be disposed professionally by the manufacturer. Please also contact the manufacturer in the case of disruptions and emergencies.

Tel.: +49 (0)6151 – 360 37 00

Email: help@tec4med.com

Return to:

TEC4MED LifeScience GmbH, Otto-Hesse-Str. 19, T9,
64293 Darmstadt



TempBeacon

S/N: 220001 FFFF7C



Contains FCC ID: X8WBT840
Contains IC: 4100A-BT840
Frequency bands: 2.4 GHz (8dBm)

Tec4med

Tec4med LifeScience GmbH · Darmstadt, Germany

SmartBeacon

S/N: 220001 FFFF7C



Contains FCC ID: X8WBT840
Contains IC: 4100A-BT840
Frequency bands: 2.4 GHz (8dBm)

Tec4med

Tec4med LifeScience GmbH · Darmstadt, Germany

CryoBeacon

S/N: 220001 FFFF7C



Contains FCC ID: X8WBT840
Contains IC: 4100A-BT840
Frequency bands: 2.4 GHz (8dBm)

Tec4med

Tec4med LifeScience GmbH · Darmstadt, Germany

EU Declaration of Conformity

We,
the company
Tec4med Lifescience GmbH
Otto-Hesse-Straße 19 | T9
64293 Darmstadt
Germany

declare in sole responsibility that the products:

Description: TempBeacon, SmartBeacons, CryoBeacon
Serial-number: UDI 220000000000 to UDI 220000000018F
Serial-number: UDI 220001000000 to UDI 2200010000063

to which this declaration refers, complies with the following directives and standards
or other normative documents:

2014/35/EU Low voltage
2014/30/EU Electromagnetic compatibility
2014/53/EU Radio equipment
2011/65/EU RoHS

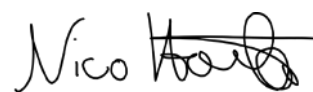
EN 62368-1:2018	ETSI EN 301 489-1 V2 1.1 [additionally covering V1.9.2]
EN 55032: 2015	ETSI EN 301 489-17 V3.1.1
EN 61000-3-2:2014	ETSI EN 300 328 V2.2.2
EN 61000-3-3:2013	ICES-003 Issue 6
EN 55035:2017	RTCA/DO-160G, Section 21, Category H
EN 62479: 2011	

Details of the signatory

Last name: Höler
First name: Nico
Position: Managing Director

Germany, Darmstadt, 2021-09-16

Place, Date



Signature