

# B-Type Device Manual



Temperature

NETWORK

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Movement

Vibration

Humidity

Intrusion detect



Find out more about the B-Type.



Introduction



Device Components



Mount Device



Activate Device



Unmount and Deactivate Device



Return Device



B-Type Technical Details



General Safety Precautions

# Introduction

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These are the main characteristics of B-Type:

- 1 The B-Type is a real-time **tracking** device.
- 2 The B-Type is a **leased** device and must be returned. If you cannot return the device, a loss fee will be charged.
- 3 The B-Type can be used for **land transports**. It provides accurate tracking and is ideal for use cases with high security requirements.

# Device Components

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Check out all B-Type components on the graphic below:





## ON/OFF Status LED

### Yellow light

The light will flash in yellow every 3 seconds while the device is active.

### Red light

When you press the MODE button for 4 seconds, the device is turned off. This is indicated by a red light. Additionally, the light will flash in red when the device is charged, and charging level is below 10%.



## Door Sensor (laser)

The laser measures the distance to the door.

If the distance between the device and the door changes during the trip (because the door has been opened), the device detects this and sends an "open door" alert.



## USB Charging Port

The B-Type has a USB-C charging port.



## Non-cuttable Strap

The non-cuttable strap guarantees a secure connection of the communication module and the sensor module.



## Battery Indicator LEDs

The LEDs will flash in green while the device is charging and will show solid green when the device is fully charged.

The charging level of the battery can be read from the LEDs:

- 4 LED = 95% or more
- 3 LED = 75% -94%
- 2 LED = 50% - 74%
- 1 LED = 25% - 49%
- 0 LED = 25% or less



## MODE button

Press this button to turn the device on. The status LED will now flash in yellow every 3 seconds.

To turn the device off, press the MODE button for 4 seconds. The status LED below the button will show a red light.



## Sensors

- light
- temperature
- humidity
- shock
- vibration
- tilt



## Communication Module

The sensor module collects measurements and transfers them to the communication module.

The communication module sends measurements to the IoT platform

# Mount Device

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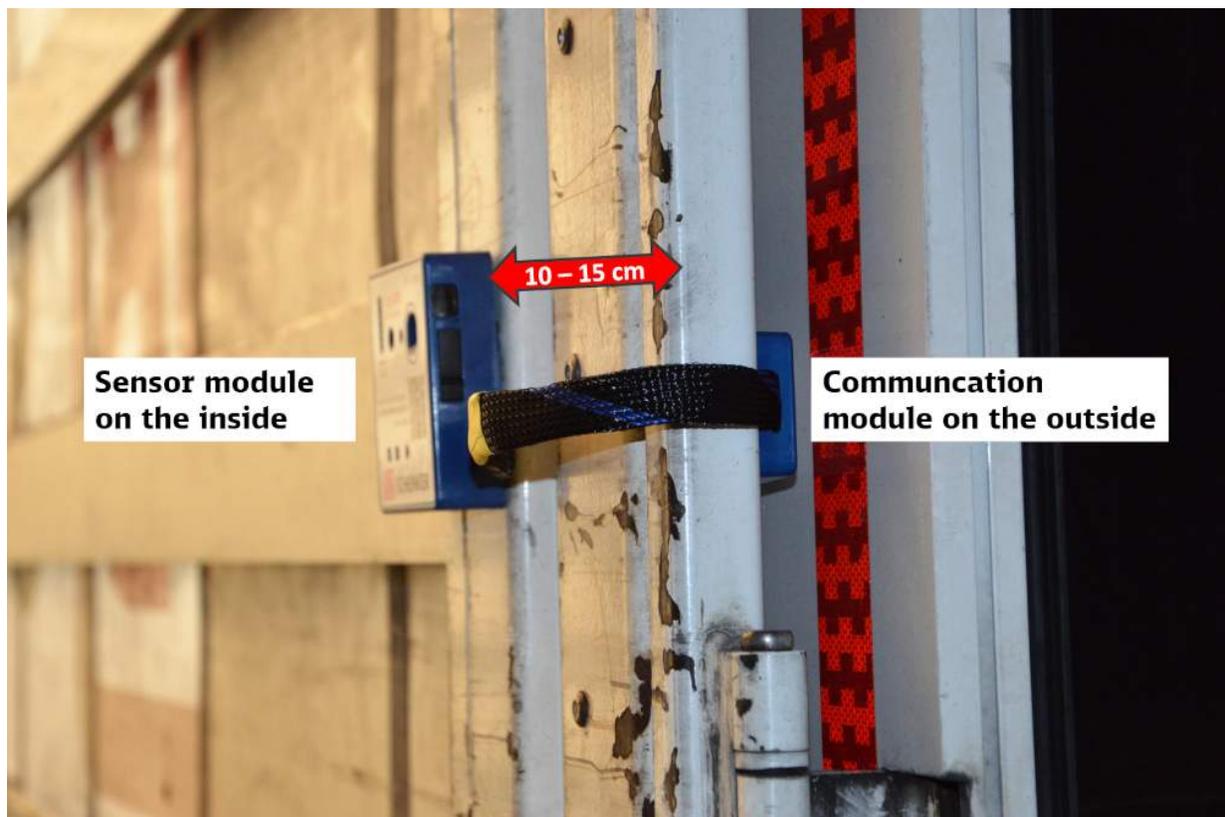
There are two ways how you can mount the device on a truck, trailer, or any other container type:

1

Mount the Sensor Module **on the right wall near the door (10 - 15 cm distance)**.

2

Attach the Communication Module to the outside wall.



**Correct mounting on magnetic surfaces**

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## **Correct mounting**

The device is attached to the truck, trailer, or other cargo carrier using magnets. It is recommended to mount it on an even magnetic surface (i.e. steel).

## **Mounting the device on non-magnetic surfaces**

If the surface on which you want to mount the modules is not magnetic, you can also use tape to mount the device. **Make sure not to cover the door sensor with tape.**

If you want to make sure that humidity, temperature and light are measured correctly, make sure that these sensors are not covered by tape.

## Typical errors when mounting the B-Type

There are some typical sources of errors that may occur when mounting the B-Type. These errors are shown in the tabs below. Make sure to avoid these errors.

### Too far from door —

If the distance between the sensor module and the door of the trailer or container is too big, the "Door Open" alert might be triggering for the entire journey.

The sensor module must be mounted at a distance of 10 - 15 cm from the door.

### Too close to door —

In this example **the sensor module has been mounted too close to the door.**

The sensor module must be placed so that the **laser is at 10 - 15 cm distance to the door.**



## Laser points to barrier —

In this example **the sensor module has been mounted in a way that the laser is pointing at a barrier, not at the container door.**

As a result, the laser will never detect any door openings: the laser will assume that the barrier is a closed door.



## Fixation not strong enough —

If the device moves during shipment this may trigger a false door opening alert.

Make sure that device is installed reliably on the wall and / or door so that it cannot move during shipment.

## Mounted on door —

The device must always be mounted on the right wall of the container or trailer. Do not mount it on the door of the container.



### **Not vertically mounted** —

The Sensor Module of the B-Type must be mounted vertically (as shown in the pictures of this chapter), in parallel to the edge of the door. The bottom edge must have a 90° angle to the door / wall.

If you mount the Sensor Module in any other way, this will result in wrong measurements of the Tilt Sensor.

# Activate Device

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- 1 Briefly push the MODE button with a pen (see picture below).
- 2 The ON/OFF status LED will now flash yellow every 3 seconds.
- 3 The device will start beeping for 60 seconds and initiate calibration of the door sensor.
- 4 Close the door within these 60 seconds.
- 5 After 60 seconds the device will make a triple beep and complete the calibration of the door sensor to the position of the door.



**Make sure that the door is closed within 60 seconds after activating the device.**

**If the door is not closed within 60 seconds, the door sensor may calibrate to the wrong object. As a result of this the door alert may be permanently triggered during the whole trip.**



If there is no flashing when you click the MODE button, although the battery is fully charged, then contact [connect2track@dbschenker.com](mailto:connect2track@dbschenker.com) for help.

## How does the door sensor work and what happens during activation?

The door sensor will only work if there is no light intrusion to the container: it will not work if the roof is translucent.

During the 60 seconds of calibration the door sensor will measure the distance between the device and the container door. The distance measured during the 60 seconds calibration period will be taken as the "door is closed" value. As long as the measured distance does not change from this value, the system will assume that the door is closed.

When you open the door this will cause a change in the distance measured by the door sensor. The system will now assume that the door is open and show a "door open" alert.

# Unmount and Deactivate Device

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The shipper must inform the person in charge at the destination, where the tracking device is fixed and make sure that this person removes and deactivates the device.

## Unmount the Device

- 1 Open the truck / trailer door.
- 2 Pull the device from the truck / trailer wall. In general, the device is fastened by magnets only. In some cases, the devices is taped to the container wall.

## Deactivate the Device

- 1 Push the MODE button with a pen (see picture below) and hold it for 4 seconds until the ON/OFF Status LED shows a red light.
- 2 The ON/OFF Status LED will flash in red and will then switch off.



To view your data, visit the IoT Platform in eSchenker. There you can see the progress of your shipments and the telemetry data.

# Return Device

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In case the device is not needed anymore and you want to return the device, please follow the steps below:

1

Pack the devices according to the packaging instructions below.

2

Send an email to [connect2track@dbschenker.com](mailto:connect2track@dbschenker.com) with information about

- pick-up address
- contact person
- type of returning devices
- total number of returning devices
- serial number of returning devices (starts with SXXJ)
- dimensions of return package (length x width x height)
- weight of return package

3

We will send you all relevant labels and documents, i.e.

- shipping labels
- commercial documents (you must print 3 copies of the commercial invoice)
- if needed, battery declaration (IATA permitted)

4

Make sure to attach all shipment documents (see picture below) and the return label to the package.

5

Contact your local parcel service provider (for example UPS) in order to arrange a pick-up.



## Packing Instructions

When you pack the devices, observe the following rules:

- Make sure **all devices are deactivated** (see previous chapter).
- **Fix devices in their position:** do not leave any empty spaces in which the devices could move.
- **Use sufficient padding:** use stuffing paper or bubble wrap to protect the devices.
- If you place devices on top of each other, place a sufficient layer of stuffing paper or bubble wrap between the layers.

- **If you ship more than 15 devices, use double corrugated board for packing:** single corrugated board does not guarantee safety during longer transport distances. You can ship up to 30 devices together.
- **If you ship more than 30 devices, pack the devices in 4-6 packs individually** (single corrugated board is sufficient for that) and then in an outer packaging (double corrugated board). If this is not possible, divide the devices into smaller shipments and pack as described in the previous point. **You can ship a maximum of 35 devices together.**
- After you have packed the devices, **place one printout of the shipping documents on the outside of the box:** Documentation should contain proforma-invoice, packing list and certificate of origin and UN3481-sticker with the telephone number of the sender. **Place a copy of the shipping documents inside the box.**

# B-Type Technical Details

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<b>Sensors</b>	<ul style="list-style-type: none"><li>• Light</li><li>• Temperature<ul style="list-style-type: none"><li>◦ Operating range: -30°C to 65°C</li><li>◦ Accuracy:<ul style="list-style-type: none"><li>±0.3°C (25°C to 45°C)</li><li>±1.0°C (0°C to 65°C)</li><li>±2.0°C (-30°C to 65°C)</li></ul></li></ul></li><li>• Humidity</li><li>• Shock</li><li>• Vibration</li><li>• Tilt</li><li>• Door sensor</li></ul>
<b>Battery &amp; Charging</b>	<ul style="list-style-type: none"><li>• Lithium Ion</li><li>• 24 days battery life at 1 hour communication frequency (adjustable)</li><li>• Rechargeable with USB-C</li></ul>

<b>Cellular Connectivity</b>	<ul style="list-style-type: none"><li>• 4G/3G/2G</li><li>• GPRS</li><li>• EDGE</li></ul>
<b>Dimensions &amp; Weight</b>	<ul style="list-style-type: none"><li>• Sensor module: 101 x 92 x 28 mm</li><li>• Communication module: 72 x 50 x 16 mm</li><li>• 410 g</li></ul>
<b>IP Rating</b>	<ul style="list-style-type: none"><li>• 65</li></ul>
<b>Certifications</b>	<ul style="list-style-type: none"><li>• CE</li><li>• FCC</li><li>• UN38.3</li></ul>

# General Safety Precautions

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## Do Not Operate Where Prohibited

Do not allow the device to operate where wireless phone use is prohibited or where doing so may cause interference or danger. Examples include, but are not limited to, operation in hospitals and near blasting sites.

## Interference

Like all wireless devices, this device may encounter interference that may affect its performance.

## Qualified Service

This device contains no parts that can be replaced or serviced by the user. Do not open it under any circumstance.

If a device does not function, contact [connect2track@dbschenker.com](mailto:connect2track@dbschenker.com) regarding repair or replacement.