MUTELCOR

LoRa Service Call Button

MTC-XX-SCB01

Quick Start Guide

Thank you for choosing Mutelcor GmbH.
We are proud to be part of your project.

1. Need Help?

For any other query related to our product, please contact the local distributor or Mutelcor at support@mutelcor.com

2. Manufacturer

Mutelcor GmbH: An der Bastei 42a, 47259 Duisburg, Germany
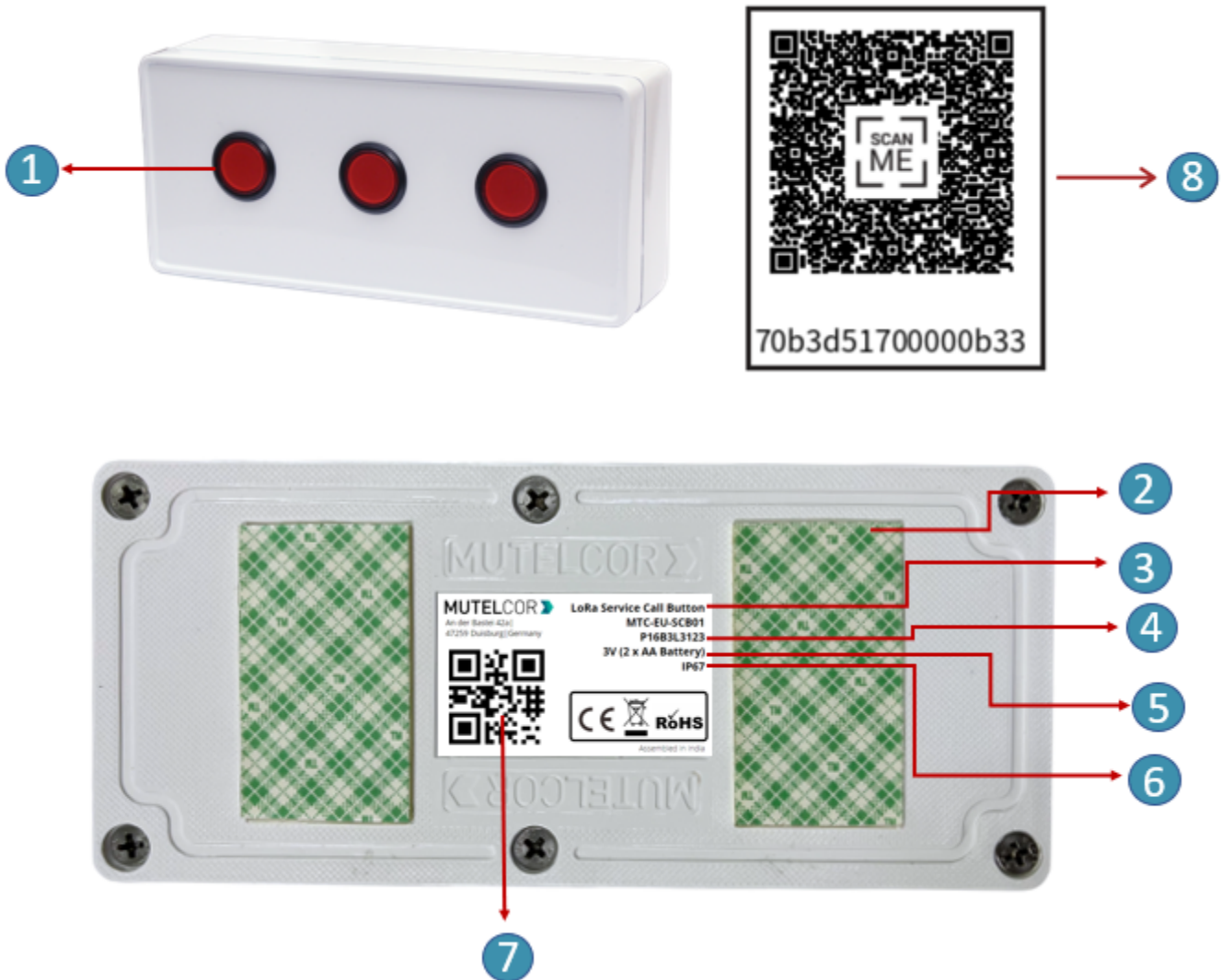
Office: +49 203 72996070, Fax: +49 203 72996071, Web: www.mutelcor.com

3. Safety

Read the instructions carefully before device installation, operation and maintenance

1	Maintenance and repair must be carried out by qualified personnel authorized by reseller
2	Keep the device away from any hot surface.

4. Product Description

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At a Glance

No.	Description	No.	Description
1	Service Call Buttons	5	Voltage
2	Double Sided Tape	6	Ingress Protection
3	Model Name	7	DevEUI QR code
4	Module ID	8	Device info Access Sticker (optional)

5. Opening and closing the Device

For reset or replacing the batteries, opening of the enclosure is needed.
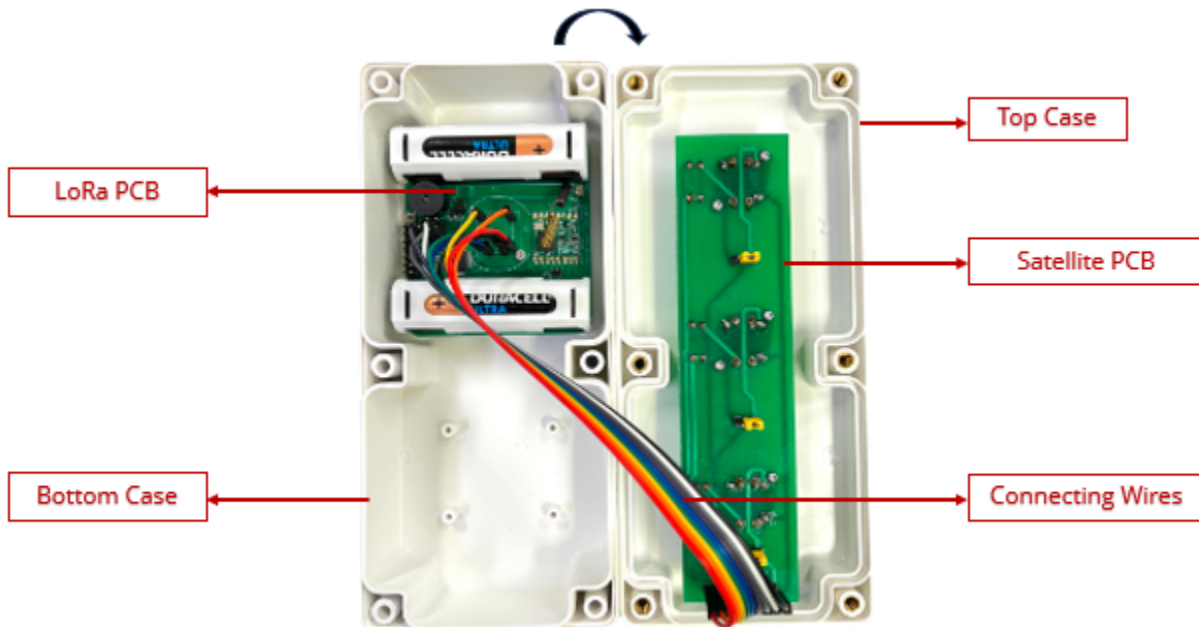

Fig 5.1

Fig 5.2

For opening the enclosure please follow the steps described below:
1. Unscrew the six screws on the bottom of the enclosure as shown in Fig 5.1
2. Gently separate the top and bottom case
3. On the PCB, replace the batteries or reset the device as explained in section 9 (Resetting the Device) or section 6 (Insertion & Replacement of Batteries)
4. Gently close the top and bottom of the enclosure together. Connecting wires must go across the enclosure as shown in Fig. 5.2. Tighten all the six screws

6. Insertion & Replacement of Batteries

i	• Open the device for replacing the batteries • Always wear gloves or keep your hands dry while handling the PCB • Do not touch the circuitry part of the PCB with bare hands • Do not use sharp objects to remove the batteries

For replacing the battery please follow the steps described below:

1. Open the device (for details please refer to section 5 "Opening and Closing the Device")
2. The PCB is attached to the bottom of the case. To insert the batteries, **lift up two white battery caps** from battery holders of PCB , as shown in fig 6.1
3. White Battery Caps are provided to secure batteries in the battery holders to avoid battery pop-out and disconnection.
4. Insert 2 AA-Alkaline Batteries and make sure the positive (+) and negative (-) ends of batteries are facing in the correct terminals
5. After insertion of Batteries, cover the battery holders by using **white battery caps** as shown in fig 6.2
6. Once the batteries are inserted, close the top & bottom cases of enclosure as described in the instructions in section 5 "Opening and Closing the Device"
7. To replace the batteries: follow step 1 and 2 of section 6 "Insertion & Replacement of Batteries". Hold the LoRa PCB and carefully and remove the batteries from the holders and follow step 5, 6 and 7 of Section 6 for "Insertion & Replacement of Batteries".

Lifting of Battery Cap

Fig. 6.1

Battery holder covered with Battery Caps

Fig. 6.2

The replacement of the batteries will trigger the device to register to the LoRaWAN network. Upon successful registration, the device will trigger 3 short beeps (chirps) in rapid succession. This implies that the device is activated in a LoRa network successfully and will send heartbeats and alarms via LoRa.

Note: If rejoining of the device fails, one can manually reset the device as described in section 9 "Resetting the Device"

7. Activation of the Device

(i)	• Device must be provisioned in the LoRa network before activation, as otherwise it will continuously send join requests towards the network, which may result in quicker battery discharge • Remove Battery insulating Pull Tags for activation • Device is for indoor application only

The device will automatically try to register to a LoRaWAN network upon insertion or replacement of batteries. Upon successful registration to the network, the device will trigger 3 short beeps (chirps) in rapid succession. This implies that the device is activated in a LoRa network and will send heartbeats and alarms via LoRa.

If the button is pressed, it raises a buzzer for a few seconds and the LED starts flashing. The device sends an alarm message to the LoRa network.

Using the 3 different buttons, different services can be notified. The payload of the LoRa message indicates which button was pressed and, if the Mutelcor Backend is used, different Dashboards can be triggered depending on the button pressed.

Every time a button is pressed, the following happens by default:
• The buzzer sounds for 30 seconds. The sound toggles every 0.25 seconds
• The LED starts blinking for 30 seconds. The flash toggles every 0.25 seconds
• An Alarm message is sent via LoRa, followed by 2 retries to ensure successful transmission of the Alarm. Each retry is sent after 10 seconds and at a different frequency channel

For all details on the payload sent on LoRa, changing values via OTAA, provisioning of the device in a LoRa network, please contact the local distributor or Mutelcor GmbH at support@mutelcor.com

QR code sticker: All devices are QR-Ready. If requested, we can activate this feature to allow reading the current battery status by simply scanning a QR code. To activate the service, please contact your local distributor or Mutelcor GmbH at support@mutelcor.com

Note: If the buzzer in the device continuously gives a beep every 8-seconds, then there is a software error. When this happens the device must be returned for repair. Please immediately contact your reseller or Mutelcor GmbH at support@mutelcor.com

8. Mounting of Device

⚠️	The device should be mounted on clean and non flammable solid surface
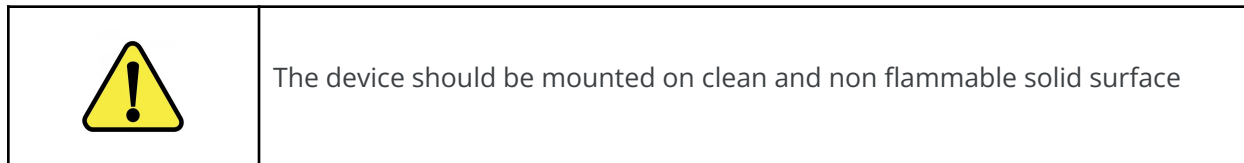
To ensure best product performance and prevent malfunctioning, avoid the following :

- Areas that are susceptible to vibration
- Areas near the high-voltage cables
- Near heating appliances and hot surfaces

Device Mounting can be done by following two options :

Option A : Paste the device directly with the provided **3M double-sided Tape** on the back of the device as shown in Fig 8.1 below
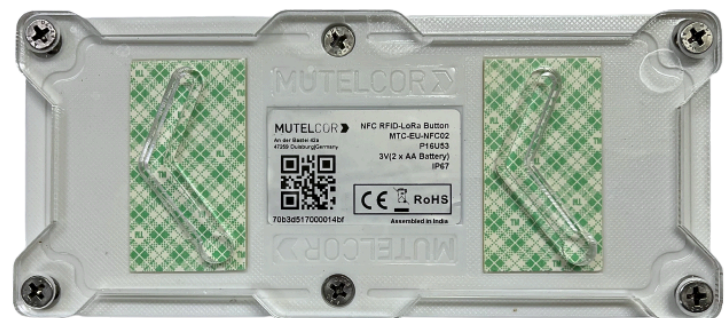
Option B : Use of Transparent PC (Polycarbonate) **Mounting Plate**:

> Follow the instructions given in the document "Mounting Plate MTC-SCB" sent separately by email.

Mounting with 3M Double sided tape

Fig. 8.1

Transparent PC Mounting Plate

Fig. 8.2

9. Resetting the Device

(i)	• Open the device for resetting • Always wear gloves or keep your hands dry while handling the PCB • Do not touch the circuitry part of the PCB with bare hands • Do not use sharp objects to press the reset button

Resetting the device may be needed, e.g. to re-register the device into the LoRa network.
For resetting please follow the steps described below.

1. Open the device. For details please refer to section 5 "Opening and Closing the Device"
2. Position and hold the PCB as shown in Fig 9.1
3. **Ensure** 2 AA-Alkaline Batteries are inserted in the battery holders
4. On the PCB, carefully observe a small reset button as shown in Fig 9.1
5. Press (do not hold) the button shortly for a second

The reset will trigger the device to re-register to a LoRaWAN network. Upon successful registration, the device will trigger 3 short beeps (chirps) in rapid succession. This implies that the device is activated in a LoRa network and will send heartbeats and alarms via LoRa.
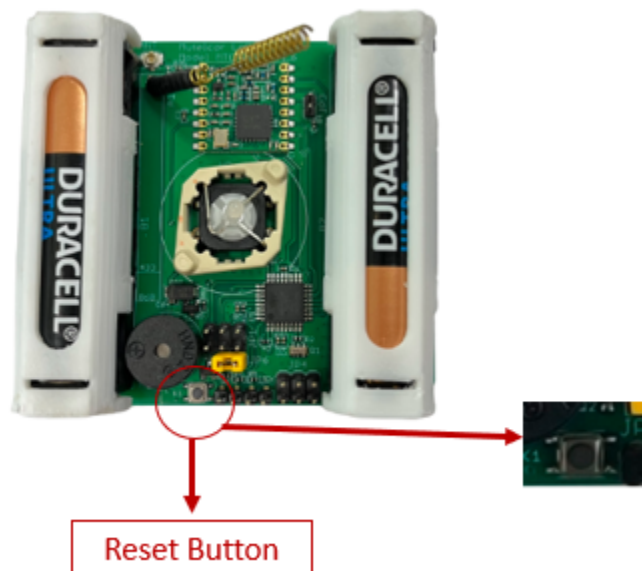

Reset Button

Fig 9.1

10. Technical Specifications

Model Name	LoRa Service Call Button		**Enclosure Size**	180 x 80 x 48 mm
Module ID	P16B3L3123		**Net Weight**	350g
Model No	MTC-XX-SCB01		**Battery life**	5 Years
Model No. (XX) LoRa Frequency	EU: EU 863-870 IN: IN865-867 US: US 902-928 AU: AU915-928 AS: AS923-1 KR: KR920-923 IL: AS923-4 OTAA and ADR supported		**Voltage**	3V (2 x AA-Alkaline Battery)
LoRaWAN Version	MAC V1.0.3		**Operating Temperature**	-18°C to +55°C
Transmission Power	Max 25mW (14 dBm)		**Ingress Protection**	IP40

11. Declaration of Conformity

Hereby, Mutelcor GmbH, declares that the Product is in conformity with the essential requirements of Article 3.1 (a) the protection of health, 3.1 (b) an adequate level of electromagnetic compatibility and 3.2 effective use of the spectrum of 2014/53/EU.

The CE mark appears due to the issued declaration of conformity under responsibility of Mutelcor GmbH as manufacturer, who declares that the used radio equipment is in compliance with relevant EC Directives. For any further information, please contact Mutelcor GmbH at support@mutelcor.com

In Europe, the Sensor also complies with EN62479 and ERC requirements regarding duty cycle and maximum EIRP.

12. Product complies and Directives

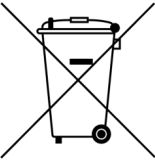RoHS   CE   ETA   **Equipment Type Approval (INDIA)**
Issue by Wireless Planning and Coordination (WPC)
DEPARTMENT OF TELECOMMUNICATIONS

13. Disposal / Recycling

	• Do not dispose of the product with household waste. For proper disposal, contact a waste disposal company • Discharge batteries store in a plastic or cardboard container that doesn't conduct electricity in case there is a spark • Search the area for recycling centers that accept single-use batteries using Earth911's Recycling Search. • **WEEE-Reg.-Nr.: DE 71445608**

14. Warranty

Contact your reseller for warranty

WARRANTY	LoRa Service call button is not warranted by Mutelcor GmbH in case the enclosure is modified, broken, painted, branded out, outlined for any reason

The forgoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Mutelcor GmbH be liable for any consequential, special or incidental damages.

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Mutelcor GmbH

We stay at your disposal for any help on your project requirements.

Mutelcor GmbH Team