



## **LoRa Panic Button with Confirmation**

MTC-XX-PB01 / MTC-XX-PB02

### 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](mailto:support@mutelcor.com).

## 2. Manufacturer

Mutelcor GmbH: An der Bastei 42a, 47259 Duisburg, Germany

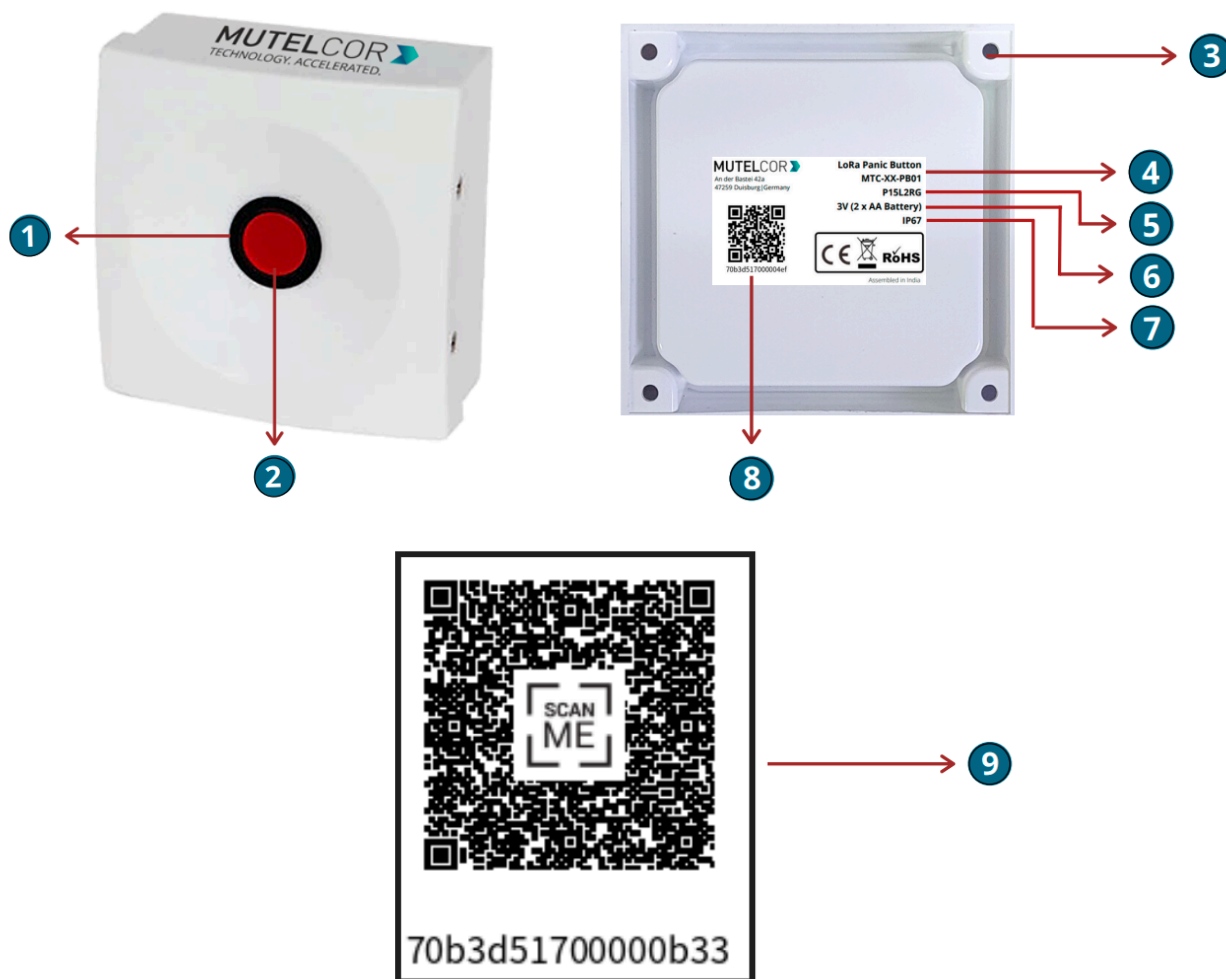
Office: +49 203 72996070, Fax: +49 203 72996071, Web: [www.mutelcor.com](http://www.mutelcor.com)

## 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 the reseller.
2	Keep the device away from any hot surface.


## 4. Product Description



### At a Glance

No.	Description	No.	Description
1	Push Button	6	Voltage
2	LED	7	Ingress Protection
3	Holes for Wall Mount	8	DevEUI with QR code
4	Model Name	9	Device info Access Sticker (optional)
5	Module ID		

## 5. Opening and Closing the Device

	<ul style="list-style-type: none"><li>• Always wear gloves or keep your hands dry while handling the PCB</li><li>• Do not touch the circuitry part of the PCB with bare hands</li><li>• Be careful not to break the button slots when de-attaching the PCB</li></ul>
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For reset or replacing the batteries, opening of the enclosure is needed.



**Fig 5.1**

For opening the enclosure please follow the steps described below:

1. Unscrew the four screws on the two sides of the device
2. Gently separate the top and bottom case
3. Carefully de-attach the PCB from the top case of the enclosure by gently pulling it out from the button slots. PCB should be moved back and forth carefully, so that it detaches from the button slots. Be careful not to break button slots. See Fig 5.1.
4. After performing the tasks, gently and carefully attach the PCB back to the button slots
5. Gently close the top and bottom of the enclosure together and tighten all the four screws

## 6. Insertion and Replacement of Batteries



- 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. Carefully de-attach the PCB from the top case of the enclosure by gently pulling it out from the button slots. PCB should be moved back and forth carefully, so that it detaches from the button slots. Be careful not to break button slots. See Fig 5.1.
3. To insert the batteries, **lift up two white battery caps** from battery holders of PCB , as shown in **Fig. 6.1**
4. White Battery Caps are provided to secure batteries in the battery holders to avoid battery pop-out and disconnection.
5. Insert 2 AA-Alkaline Batteries and make sure that the positive (+) and negative (-) ends of batteries are facing in the correct terminals.
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 and replacement of batteries”. Hold the LoRa PCB and carefully remove the batteries from the holders and follow step 5, 6 and 7 of Section 6 “Insertion and Replacement of Batteries”.



Fig. 6.1

The replacement of the batteries will trigger the device to register to the LoRaWAN network. When inserting the batteries, the LED shortly flashes once. The device confirms a successful registration on the LoRa Network by rapidly flashing the LED 3 times. 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 10 “Resetting of Device”

## 7. Activating the Device



- 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

The device will automatically try to register on a LoRaWAN network upon insertion/replacement of batteries. When inserting the batteries, the LED shortly flashes once. The device confirms a successful registration on the LoRa Network by rapidly flashing the LED 3 times. 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.

Every time button is pressed, following happens by default:

- The red LED starts flashing for 40 seconds. The flash toggles every 0.25 seconds (with Alarm Confirmation active)
- The Buzzer starts beeping for 5 seconds and the red LED starts flashing for 10 seconds (with Alarm Confirmation inactive)
- Alarm message sent via LoRa is repeated three extra times. Each repeat is sent after 10 seconds and at a different frequency channel. As soon as the Alarm Confirmation is received, the retries are also stopped (with Alarm Confirmation active)
- Alarm message sent via LoRa is repeated two extra times. Each repeat is sent after 10 seconds and at a different frequency channel (with Alarm Confirmation inactive)

### **Alarm Confirmation Feature (Optional)**

Panic Button can be configured in case Confirmation feature is supported by both the LoRa Network Server and the Application Backend:


- To show whether an alarm message has been received by the application backend or not. In this case, successful transmission is indicated by a 1 second beep and the green LED constantly on for 2.5 seconds (only for MTC-XX-PB02) by default.
- To show whether no alarm message has been confirmed by the application backend after a configured timeout. This is indicated by the LED rapidly flashing and the buzzer rapidly toggling for 5 seconds by default.

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](mailto:support@mutelcor.com)

**Note:** If the buzzer in the device continuously beeps in every 8-second interval, 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](mailto: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. Please contact us for activation of this service. Please contact the local distributor or Mutelcor GmbH at [support@mutelcor.com](mailto:support@mutelcor.com)

## 8. Mounting

	Device should be mounted on clean non flammable solid surface
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To ensure best product performance and preventing from malfunctioning, avoid the followings :

- Areas that are susceptible to vibration.
- Areas near the high-voltage cables.

The device may be mounted on the wall. Four screws (not included) are needed. Mounting information is depicted in the following Fig 8.1.

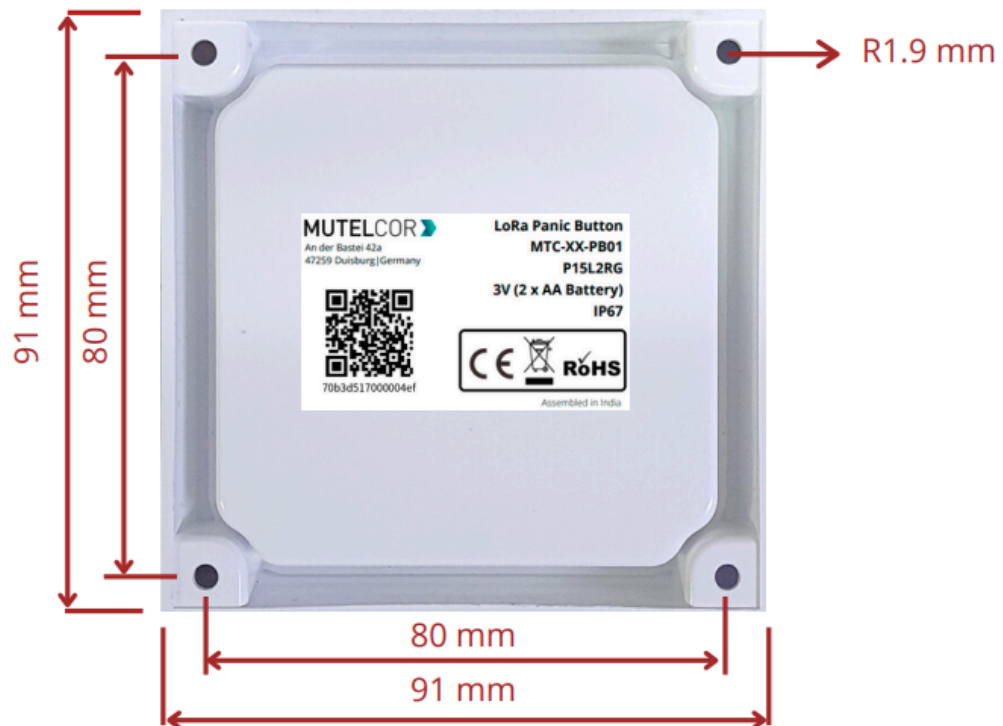


Fig 8.1



## 9. Resetting the Device



- 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 LED will flash rapidly 3 times. This implies that the device is activated in a LoRa network and will send heartbeats and alarms via LoRa.

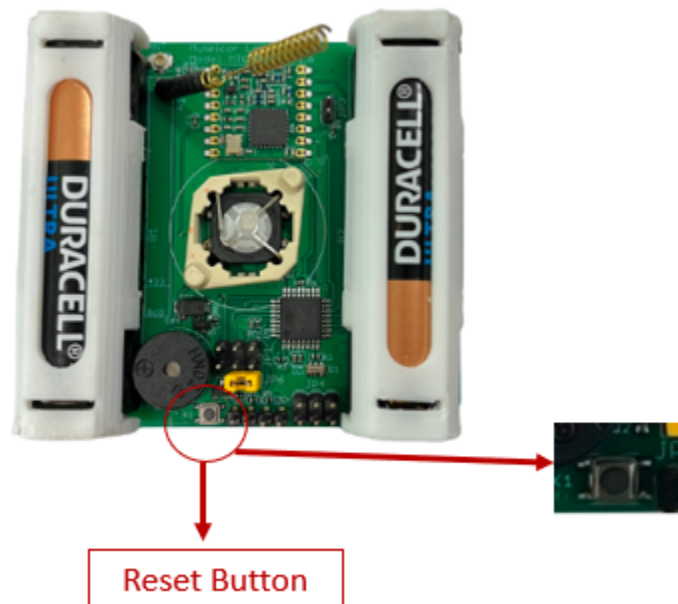


Fig 9.1

## 10. Technical Specifications

<b>Model Name</b>	LoRa Panic Button	<b>Enclosure Size</b>	95 x 95 x 40 mm
<b>Module ID</b>	P16L2RG	<b>Net Weight</b>	190 g
<b>Model No</b>	MTC-XX-PB01 (2-color LED with red lens) MTC-XX-PB02 (3-color LED with white lens)	<b>Battery life</b>	5 Years
<b>LoRa Frequency</b>	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	<b>Voltage</b>	3V (2 x AA-Alkaline Battery)
<b>LoRaWAN Version</b>	MAC V1.0.3	<b>Operating Temperature</b>	-18°C to +55°C
<b>Transmission Power</b>	Max 25mW (14 dBm)	<b>Ingress Protection</b>	IP67

## 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 the 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](mailto:support@mutelcor.com)

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

## 12. Disposal / Recycling

	<ul style="list-style-type: none"> <li>• Do not dispose of the product with household waste. For proper disposal, contact a waste disposal company</li> <li>• Discharge batteries store in a plastic or cardboard container that doesn't conduct electricity in case there is a spark</li> <li>• Search the area for recycling centers that accept single-use batteries using Earth911's Recycling Search.</li> <li>• <b>WEEE-Reg.-Nr.: DE71445608</b></li> </ul>
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## 13. Product complies and Directives




ETA



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

## 14. Warranty

Contact your reseller for warranty

	<p>LoRa Panic Button is not warranted by Mutelcor GmbH in case the enclosure is modified, broken, painted, branded out, outlined for any reason</p>
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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 Team



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