



## **LoRa Air Quality Button**

MTC-XX-AQ01 / MTC-XX-AQ02 / MTC-XX-AQ03 / MTC-XX-AQ04

### 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

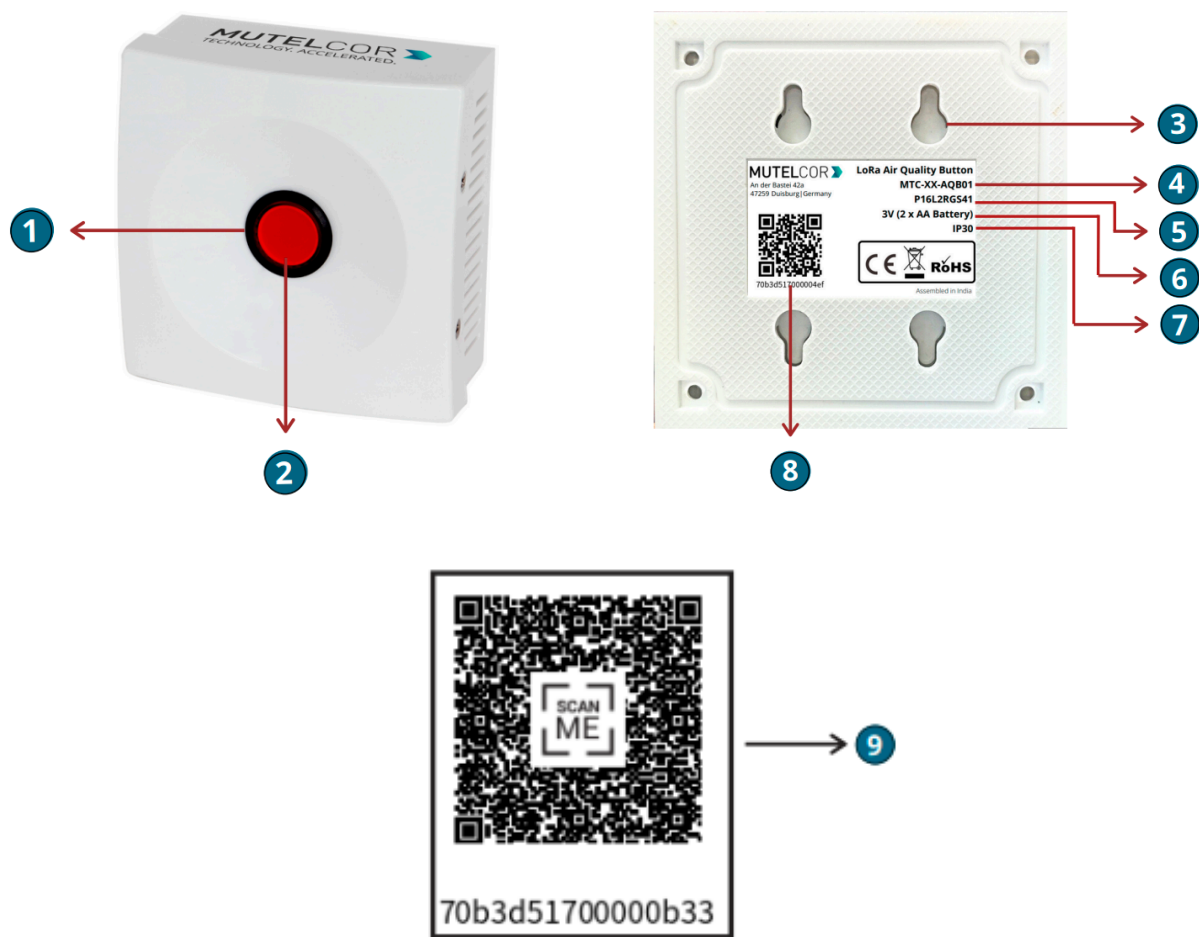
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## 3. Safety

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



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 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. 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 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 activation. 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

Every time button is pressed, following happens by default:

- The buzzer sounds for 5 seconds. The sound toggles every 0.25 seconds
- The LED starts blinking for 10 seconds. The flash toggles every 0.25 seconds
- Alarm message sent via LoRa is repeated two extra times. Each repeat is sent after 10 seconds and at a different frequency channel


In addition to the Panic Button functionality, the device will also send measurements of temperature and humidity every 15 minutes.

On customer request, it is also possible to configure thresholds for temperature and humidity. Whenever a threshold is crossed, immediately a LoRa message containing the measured temperature and humidity is sent. In addition, it is possible to indicate the threshold reached locally using the LED and / or buzzer of the device. This feature is disabled by default unless requested by the customer as the thresholds need to be discussed dependent on the use case. It is also possible to enable that feature after the device was already installed using LoRa OTA commands.

**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

	<p>The device should be mounted on clean non flammable solid surface</p> <p>The device may only be used in an indoor environment</p> <p>It's recommended to install the device at least 1.5m from the ground</p>
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Avoid the following areas to ensure best product performance and preventing malfunctioning:

- Areas that are susceptible to vibration
- Near heating appliances
- Near air-conditions
- Areas near the high-voltage cables

The device may be mounted on the wall using two oblong holes

Only two screws (not included) are needed, all mounting information is depicted

(Reference dimension: mm )

Recommended screw size : M3.5 x 20

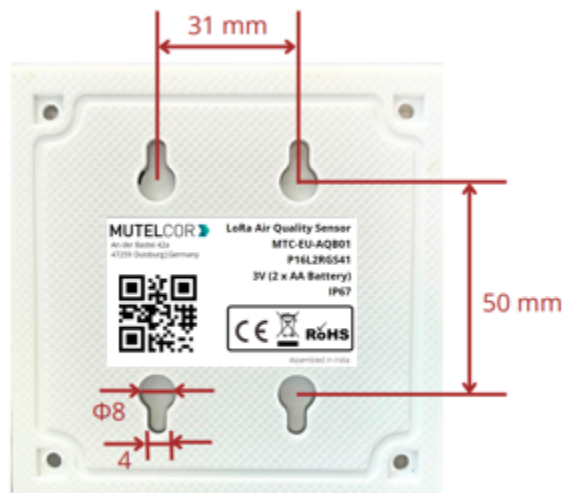


Fig 8.1



## 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 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.

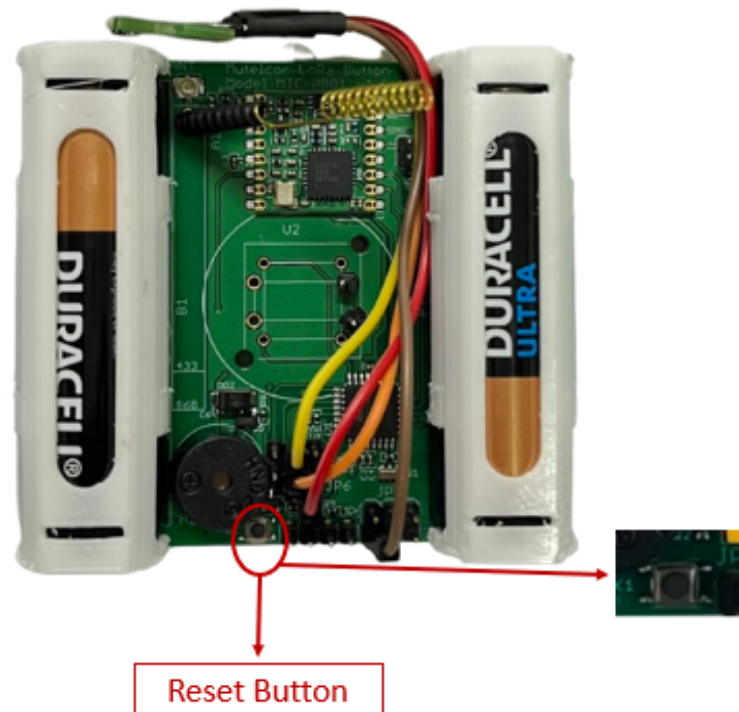


Fig 9.1

## 10. Technical Specifications

<b>Model Name</b>	LoRa Air Quality Button	<b>Enclosure Size</b>	95 x 95 x 40 mm
<b>Module ID</b>	P16L2RG	<b>Net Weight</b>	186 g
<b>Model No</b>	MTC-AQB01 - Red Lens with 2-Color LED, IP30 MTC-AQB02 - White Lens with 3-Color LED, IP30 MTC-AQB03 - Red Lens with 2-Color LED, IP54 MTC-AQB04 - White Lens with 3-Color LED, IP54	<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>	IP30 / IP44


## 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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