



Man In Cold Room Alarm

E6600

USER MANUAL

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Specifications

| | |
|----------------------------|--|
| Applications | Commercial and industrial refrigeration |
| Mains Power Supply | 230 VAC 50 Hz |
| Mains power consumption | 25 mA |
| Battery buffer | 12 VDC NiMH 1500 mAh Recharge time approx 30h |
| Mains operation | No time restrictions |
| Autonomous operation | > 10h |
| Acoustic alarm | Piezoelectric type, > 95 dB at 1m |
| Visual alarm | 12 VDC LED, color RED |
| Alarm indication frequency | 1 Hz |
| Status indication | Mains powered Battery powered Battery charging Battery failure / Disconnected Alarm active |
| Digital interface | Optional RS-485 module |
| Communication protocol | Optional Modbus RTU through RS-485 module |
| Relays | 2 SPDT relays |

| | |
|----------------------|---|
| | <p>Relays de-energized during alarm state^[1]</p> <p>3 A 250 VAC / 30 VDC</p> |
| Main enclosure | <p>Black ABS, UV resistant</p> <p>IP rating: IP43</p> |
| Emergency pushbutton | <p>Red LED, 12 VDC</p> <p>NC contact</p> <p>IP rating: IP65</p> |
| Dimensions | <p>Main enclosure: H190 × W140 × D70 mm</p> <p>Emergency push button: H75 × W75 × D80 mm</p> |
| Weight | <p>Main enclosure: 1 kg</p> <p>Emergency pushbutton: 170 g</p> |
| Operating conditions | <p>Main enclosure: 0...45 °C</p> <p>Emergency pushbutton: -25...+70 °C, down to -40 °C on request</p> |

[1] Relays can be ordered energized during alarm state. This lowers operation time on battery power.

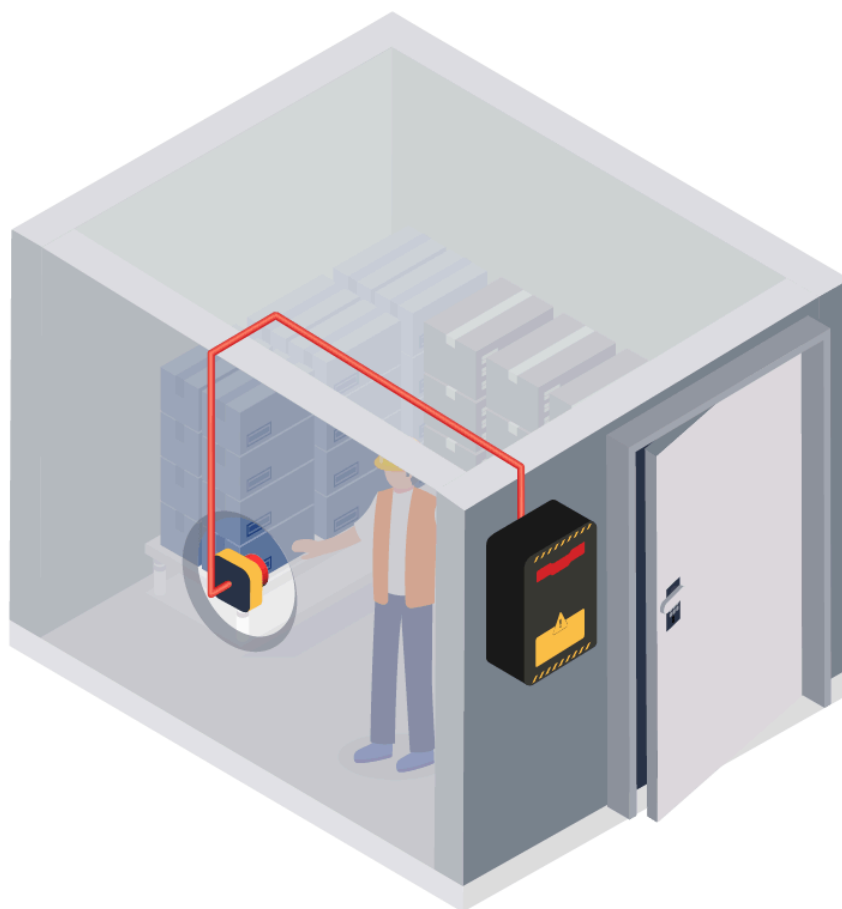
Product Description

The E6600 Man In Cold Room system allows a person trapped in a cold room to activate an alarm outside the room, requesting help. The system has a battery backup, providing the safety function even in case of a temporary mains power failure. Compliant to EN 378-1:2016+A1:2021 Annex D, applicable to cold rooms at negative temperatures and with a volume greater than 10 m³.

The system consists of 2 components:

- Main enclosure installed outside the cold room
Houses the alarm features, power connections, backup battery and relays to control additional devices during alarm an alarm state
- Emergency pushbutton installed inside the cold room
Provides a NC contact to detect the button press and a permanently lit LED to illuminate the button even in dark areas. The pushbutton is of a locking, twist-to-release type.

In case of missing or broken wiring, the alarm is activated.



Functionality

The system's main function is to indicate when the emergency button has been pressed, this is defined as the alarm state. In the alarm state, the main enclosure flashes a red LED strip and creates an audible signal. The flashing and signal occur at 1 Hz 50% duty cycle. The alarm state is activated by either pressing the emergency button or test button on the main board.

The system has a battery backup that allows for mains-free operation for at least 10 hours consecutively from a full charge.

There are multiple indication LEDs on the front cover of the enclosure. Green LEDs indicate nominal operation, while red LEDs indicate failures or alarm.

Green LEDs:

- Mains powered
- Battery charging

Red LEDs:

- Battery powered - mains failure
- Battery fail - battery missing or battery voltage below operating threshold
- Alarm

Optionally, the device can be used in Modbus systems. Modbus features include alarm test capability, alarm status and device power source signals.

Safety requirements

Always adhere to the safety provisions applicable in the country of use.

Do not perform any maintenance operation with the power on. Do not let water or foreign objects inside the device.

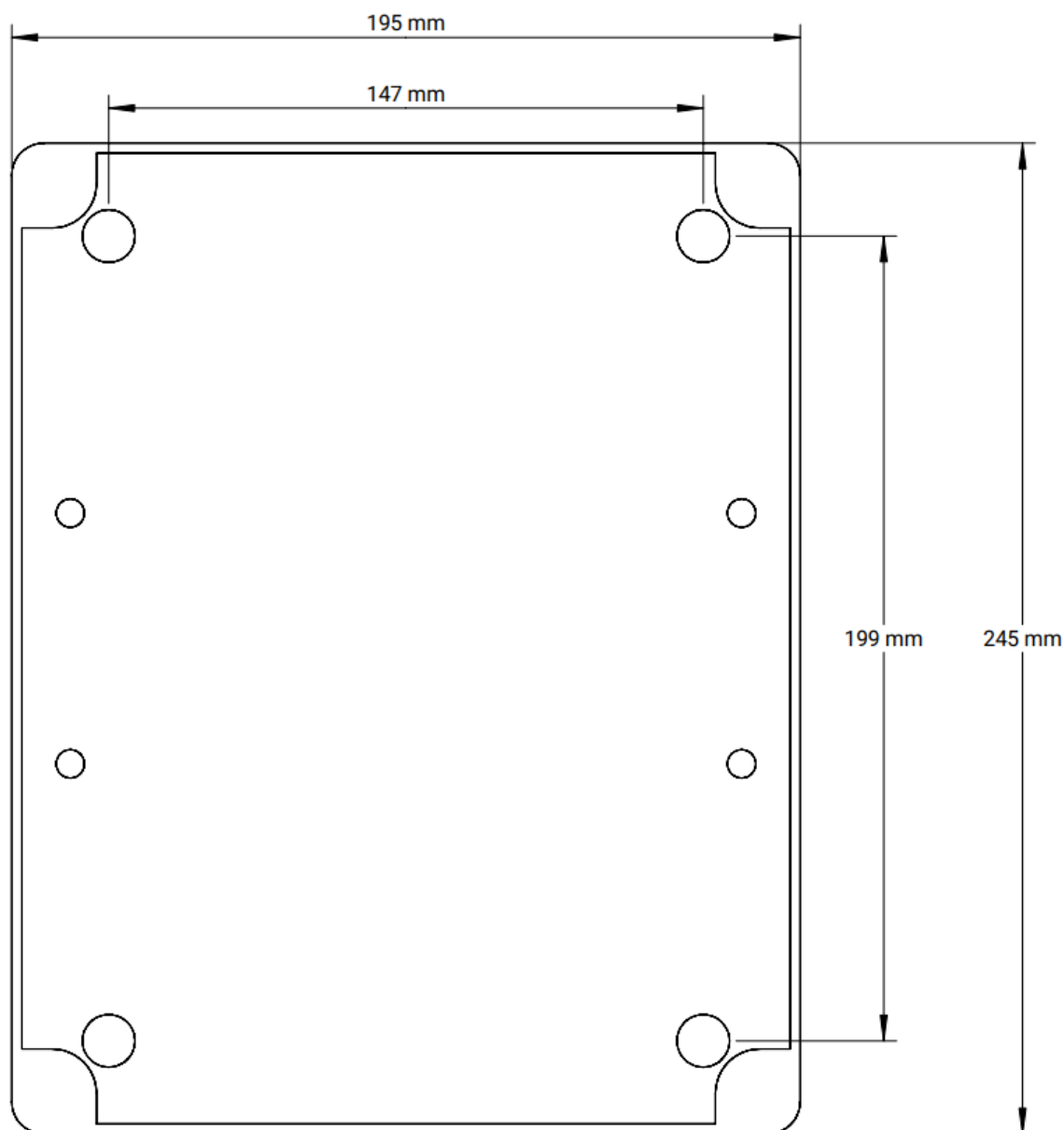
Operating conditions

The main enclosure is to be installed outside the cold room. The operating temperature for the main enclosure is 0...+45 °C.

The emergency pushbutton is to be installed inside the cold room. The operating temperature for the pushbutton is -25...+70 °C, down to -40 °C on request.

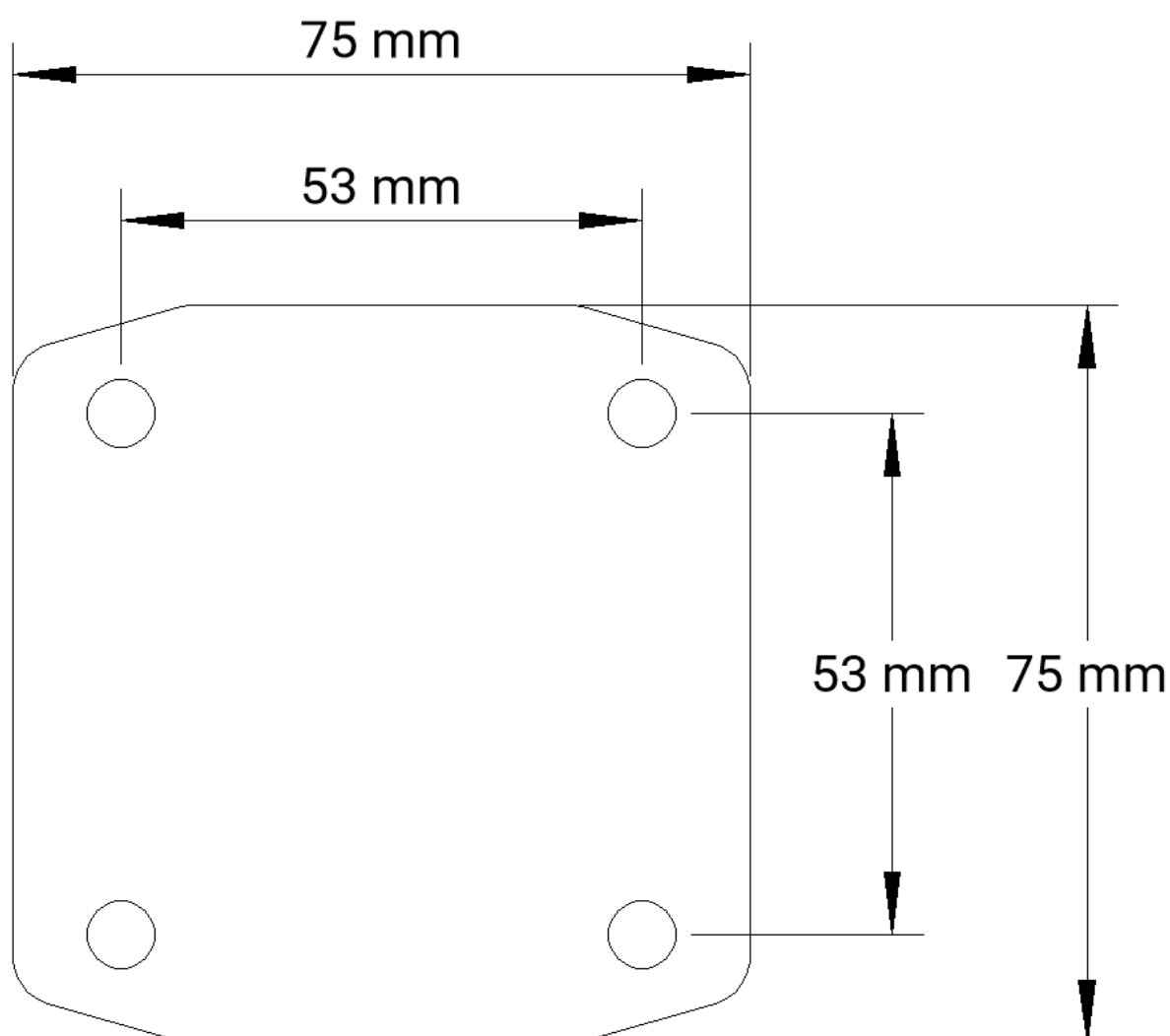
Mounting dimensions

Main Enclosure



Use M5 screws of appropriate length to fix the enclosure to the mounting surface.

Emergency Pushbutton



Use M4 screws for fixing the button to the installation surface.

Installation, Connections and Operation

Main Enclosure

1. Unscrew the 4 screws in the corners.

NB! The front panel has wiring attached to it, carefully take off the front panel.

2. Use the four holes in the back of the enclosure to fix the enclosure to the wall.
3. Make all electrical connections, see section “Electrical Connections”
4. Close the front panel

Emergency Pushbutton

1. Unscrew the 4 screws that hold the top cover of the pushbutton in place
2. Use the four wider-diameter holes in the bottom half of the enclosure and appropriate screws to fix the enclosure on the wall. Position the enclosure in an easily accessible and visible location.
3. Make all electrical connections, see section “Electrical Connections”
4. Re-install the top cover of the enclosure using the included screws.

Operation

The system works from mains power and has a battery backup in case of power failure. The battery is shipped in a discharged state and will take approximately 30h to fully charge.

To trigger the alarm, press the illuminated pushbutton inside the cold room, which will activate the visual and acoustic alarms outside, in the main enclosure. To reset the alarm, twist the pushbutton clock-wise to release the button.

If the alarm is triggered without the pushbutton being pressed, it is likely that there is a problem with the wiring. Check the common and switch wiring to the button.

Periodically check that the battery backup is working as expected.

Installation Validation

Install the device according to the instructions and carry out wiring as per the Electrical Connections section. Upon completion of the wiring, it is recommended to validate the functionality of the device before installing the main enclosure cover. The battery is shipped in a discharged state, but should have sufficient charge to carry out this validation.

Follow the steps to validate functionality:

1. Switch both power switches to the "OFF" position.
2. Disconnect the battery.
3. Switch the "MAIN PWR" power switch to the "ON" position.
4. The alarm should be off and the front panel LED indicators should indicate that the device is powered on and a battery failure has been detected.
5. Press the on-board test button or the emergency button to enter the alarm state. The visual and acoustic alerts should be enabled. After confirmation, the alarm state can be removed by releasing the test button or twisting the emergency button.
6. Connect the battery. The battery fail indicator shall turn off.
7. Switch the "BAT" power switch to the "ON" position. The battery charging indicator shall turn on.
8. Switch the "MAIN PWR" power switch to the "OFF" position. The main power and battery charging indicators shall turn off and the battery-powered indicator should turn on.
9. Switch the "MAIN PWR" power switch to the "ON" position, the base functionality of the system has been validated.

Electrical Connections

In the figure below are the electrical connections for the main enclosure. During installation, keep the BAT PWR and MAIN PWR in the OFF positions. Verify that the alarm LED and buzzer and status LEDs connections have not come loose during shipping or removal of the top cover.

Connect the mains power live and neutral to the "L" and "N" pins of the "230VAC" marked connector respectively.

Connect the battery to "BATTERY CONN". The connector is keyed.

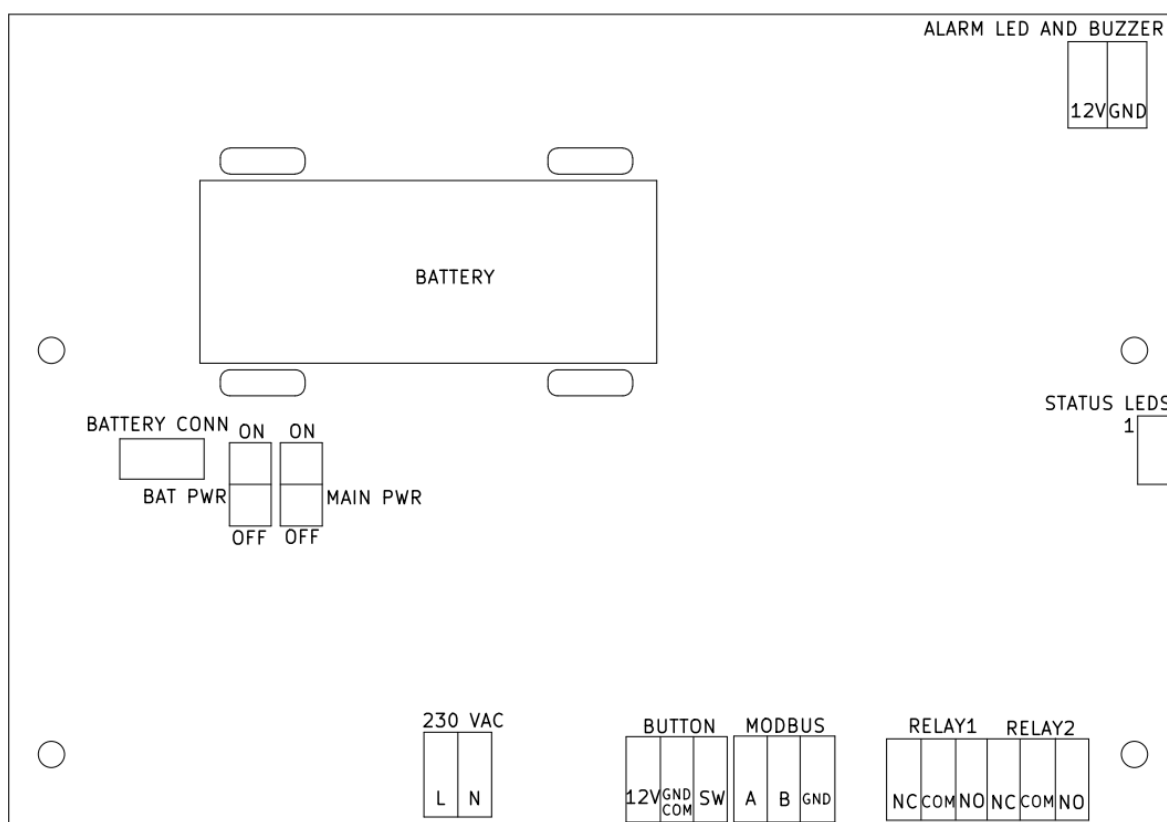
Connect the button 12V connection to the emergency push button LED anode(+), the cathode(-) to GND/COM.

Maximum recommended distance between emergency push button and alarm unit should not exceed 320 meters. At least 26 AWG pure copper cable must be used.

Longer distance on request.

Connect the button "SW" connection to one side of the NC contact of the button, connect the other side to GND/COM.

Connect Modbus and relays as needed.



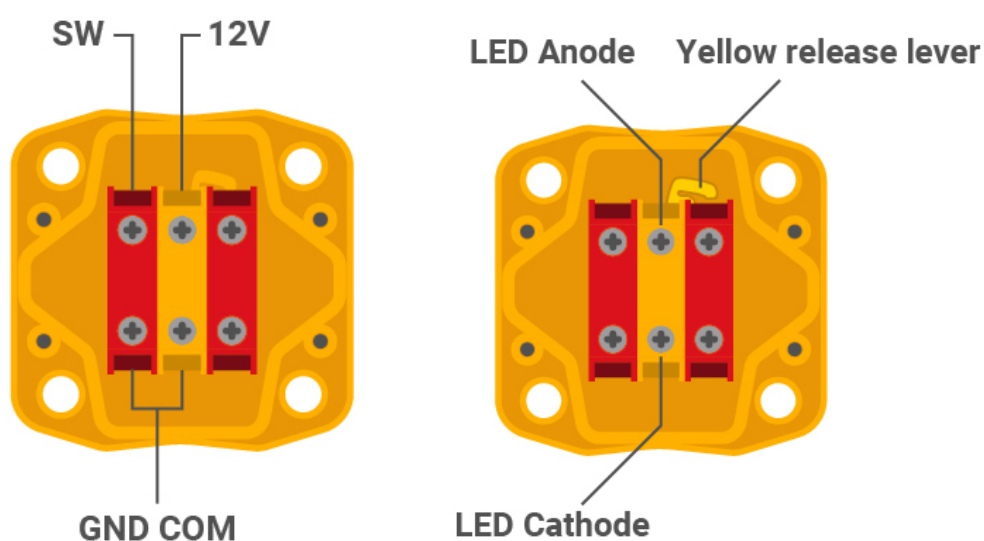
Connector placement on the main board

For the external button connections, connect the 12V to the yellow terminal's contact on the side which has the yellow release lever(see pictures below).

Connect the SW contact from the main enclosure to the red NC terminal, next to the 12V connection.

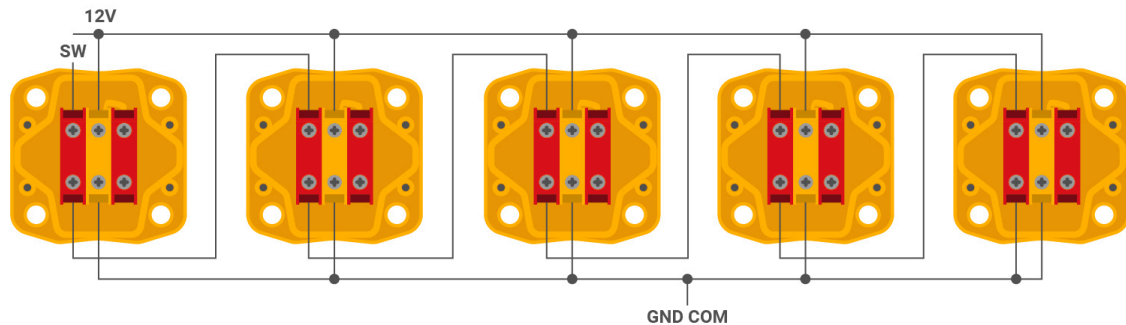
Connect the GND/COM from the main enclosure to the other side of the terminals, bridging them together.

An additional red NC contact is provided, which can be used for other purposes like alarm signals.



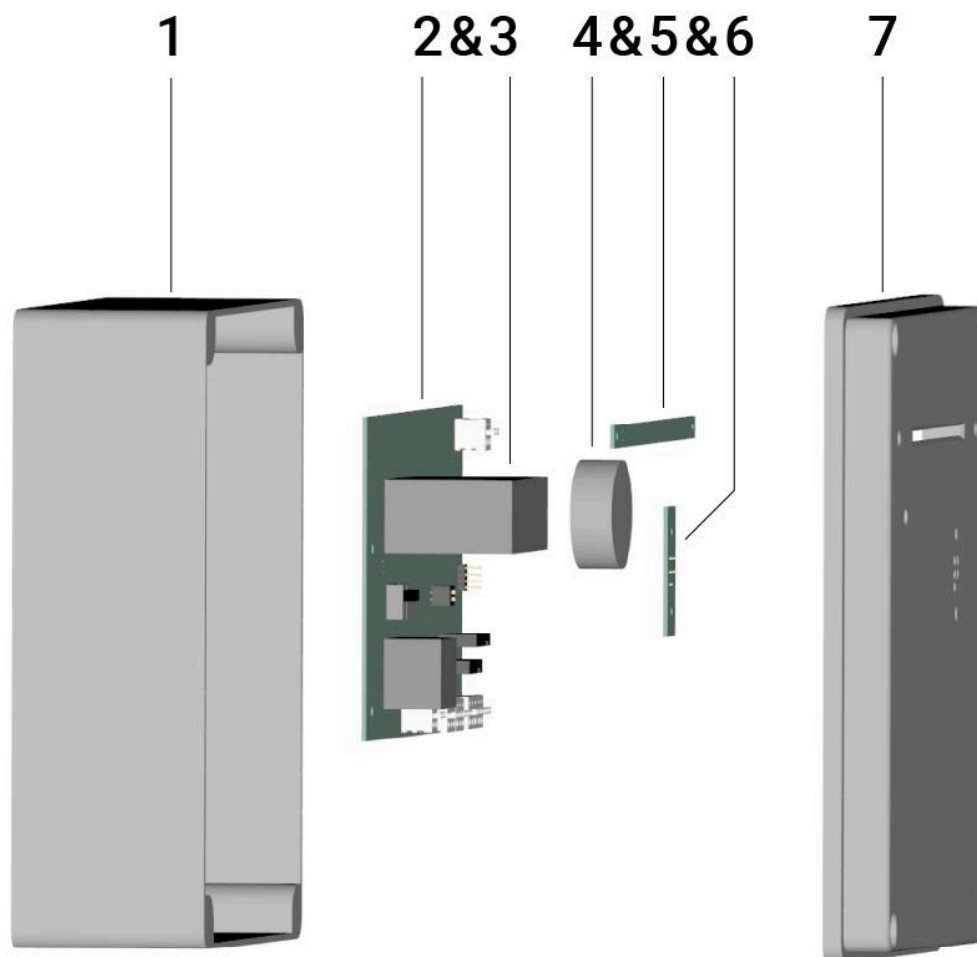
Connection schema for the emergency pushbutton

To connect multiple buttons, the LEDs shall be connected in parallel and the switch contacts shall be connected in series. Connecting more than 5 buttons will negatively affect battery life.



Connection schema for multiple pushbuttons.

Exploded diagram



| Item no. | Description |
|----------|---------------------------|
| 1 | Enclosure base |
| 2 | Electronics PCB |
| 3 | Battery |
| 4 | Piezoelectric buzzer |
| 5 | Visual alarm light module |
| 6 | Front panel indicators |
| 7 | Enclosure front panel |

Delivery set

- E6600 MICR device
- Emergency pushbutton with LED and NC contact
- Battery

NOTE: The battery is shipped in a discharged state. It must be charged after installation to achieve intended autonomous operation duration.

Warranty

This product is warranted to be free from defects in material and workmanship for a period of one year from the date of the original sale. During this warranty period, the Manufacturer will, at its option, either repair or replace a product that proves to be defective. This warranty is void if the product has been operated in conditions outside ranges specified by the Manufacturer or damaged by customer error or negligence or if there has been an unauthorised modification.

Manufacturer contacts

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