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Version 2.0

Four Button Remote Installation Guide

1 Introduction

This document is applicable to the Four Button Remote Control Unit (FBR). The FBR forms part of the MiX 2000/4000 range of products. The FBR communicates with the mobile host (MiX 2000 or MiX 4000) via a bi-directional RF link.

1.1 Features

The Four Button Remote (FBR) comprises of:

a. Blue Button: Road Side Assist
b. Red Button: Panic

(Buttons 3 and 4 are for future use)

The FBR is enclosed in a sturdy plastic case, secured by 4 screws, which provides an ingress protection of IP50.
A LED provides feedback on button presses and acknowledgements from the system. The coin cell battery is replaceable by the customer.

1.2 Part Numbers

P/N	Model No	Name
P0064MT	FBR	Four-Button Remote Control Unit: 434MHz

1.3 Technical

The FBR MK1 contains a 3.0V (220 mAh) Lithium Manganese Dioxide non-chargeable coin cell battery. These batteries can be replaced by the user.

2 Environmental Requirements

The safe operating temperature for FBR MK1 is between -20 and 60 °C. Although it can endure temperatures up to 85 °C, **it is not advisable to leave the FBR in the sun** as it contains a battery.

Do not immerse the device in water as the housing is not guaranteed to be waterproof. Should the unit accidentally be exposed to water, remove the battery and allow the FBR to dry out. If wet, replace the battery as described in section 6.1.

The FBR MK1 was designed to endure standard transport vibration and shock and it can endure a limited number of drops (1 m height).

3 Installation

3.1 Installation Requirements

The system should only be installed by a suitably qualified vehicle technician with a basic knowledge of the operation of telematics equipment.

It is only compatible with the next generation MiX 2000 / MiX 4000 product series.

3.2 Installation Steps

Step	Action	Software Tools
1	Install host (MiX 2000/MiX 4000) as per Installation Manual.	Refer to host Installation Manual
2	Remove the spare serial number labels. Attach one label to the contract and the other label to the customer copy of the contract.	N/A
3	Notify the MiX Telematics monitoring centre to pair the FBR with the unit.	N/A
4	Ensure that the FBR is within 10 m from the vehicle, and then press the button for at least 1 s until the LED illuminates. The LED will flash twice, 2 short (< 1 s) flashes to acknowledge that the device is paired correctly.	None
5	Test the Installation.	See section 4

3.3 Verification

After the installation, verify that no interference is caused to the vehicle's electrical system. Check dashboard warning lights and error messages. Should any error conditions exist, remove the FBR and contact Powerfleet for assistance.

3.4 LED Flash Codes

The LED provides an indicator on the battery life of the FBR.

State	LED Flash sequence	Remark
Healthy Battery	LED lights up while a button is pushed down. If the host acknowledges the FBR it will flash twice.	Battery voltage healthy.

In the case of a low battery the customer will be contacted and recommended to replace the battery.

4 Test the Installation

4.1 Panic button

In order to register an urgent request for help in an event of **an emergency (panic)**, press the "**RED**" button for at least 1 second. Confirm that the LED flashed to acknowledge the event.

4.2 Roadside Assist button

In order to register a "**Roadside Assist**" request for help in an event of a break down (e.g. flat tyre), press the "**BLUE**" button for at least 1 second. Confirm that the LED flashed to acknowledge the event.

5 Troubleshooting

Supporting Documentation can be found on the https://knowledge.powerfleet.com/hc/en-us

Symptom	Probable Cause	Action
LED does not light up when the alarm button is pressed or the FBR is not functional	Battery is flat or incorrectly inserted.	Verify that the battery is inserted correctly (as per markings) Verify that the battery voltage is > 2.8 V

6 Maintenance

6.1 Replacing the Battery

1. Replace the battery when the LED starts flashing slowly (low battery indication).
   Recommended replacement: Panasonic CR2032 or Murata CR2032X Lithium Manganese Dioxide batteries (3.0V, 190 mAh/220 mAh).
2. **Important:** To avoid Electro Static Discharge (ESD), first touch a grounded metal surface to avoid possible ESD damage to the electronic circuit.
3. To replace the battery, use a suitable **pozi** screw driver as indicated below (unscrew the screws and remove the lid).
4. Once the top part of the lid is removed, do not remove the PCB from the top part of the enclosure. It is not necessary to remove the keyring. Fold the unit open to expose the PCB.
5. **Do not remove** the screw that secures the PCB as indicated by the arrow below:

6. Remove the battery, using a **non-conductive** instrument.
7. Replace the battery (polarity indicated on battery holder, "+" side away from printed circuit board (PCB))
8. If it is a healthy battery and it is inserted with the correct polarity, the LED will flash a few times. If not, ensure the battery is healthy and inserted correctly.
9. Replace the top part of the enclosure.
10. Replace the lid and fasten the screws using a suitable **pozi** screw driver. **Be careful not to over torque the screws. If too much torque is applied, the screw thread may be damaged.**

7 Technical Description

Battery Voltage Range	2.2 – 3.0V DC.
Battery Current	Sleep: <4 µA @ 3.0V Tx: ~35mA @ 3.0V
Reverse voltage Protection	Yes

RF Transceiver	Operating frequency: 434MHz RF Transmit Power: <10.0mW (into antenna)
Battery Backup Life	>2 Years (typical at 20°C)
Dimensions	Approximately: 63.3 x 38.1 x 15.2 mm
Weight	~ 23g

8 Technical Specifications

ENVIRONMENT	
Temperature	-20 to 60°C
IP Rating	IP50 (IEC 60529)
Shock	Mil-Std-810F: 30g Pulse duration 11mS
Vibration	ISO 16750-3:2007(e): 9h 3 axes, Vertical 2.13grms, Longitudinal 1.18grms, Lateral 1.31grms
Free Fall	DIN EN 60068-2-32 (limited number of drops from a height of 1m)
EMC DIRECTIVES	
Test standards	SANS 62 368-1:2020/IEC 62368-1:2018 ETSI 301 489-1 : V2.2.3 (2019-11) ETSI EN 301 489-3 : V2.3.2 (2023-01) ETSI EN 300 220-2 : V3.1.1 (2017-02)

9 Type Approvals

ICASA	**TA-2025/4714**