



Quality Care Through Innovative Solutions

miPos2 Repeater

Installation and Operation Manual

1 Overview

The miPosition BTLE Repeater offers advanced functionality for determining the location of a Pendant or Asset Tag within a range of 15 meters (45 feet) with a linear RSSI reading for determining distance from Repeater. A Three Radio arrays - Bluetooth for miPosition - LR 2.4Ghz for Emergency TX/RX - LoRa 915MHz for Gateway Communications TX/RX. Also support up to 48 hours of battery backup in the event of loss of main power.

Part #	Check-In	Location	Wearable
miPos2 Repeater	60 minutes	North America	Pendant & Tag

Note: For UL 2560 installations, refer to the *miPosition Gateway Installation Instructions*

1.a miAlert Contact Information



www.mialert.com

Toll Free: 855-382-8999

Email: support@mialert.com

27 Armthorpe Rd, Brampton, L6T 5M4

If you have any problems with this procedure, contact miAlert technical services:

- Email: support@mialert.com
- Toll Free: 855-382-8999

1.b Maximum Number of Repeaters for a UL 2560 Installation

To achieve the 99.99% alarm message reliability required for UL 2560 compliance, system installations must operate within the following limits for end device and repeater counts.

End Devices	Maximum Repeaters
128	256
256	512
512	1028
1028	1028

1.c Repeater Components

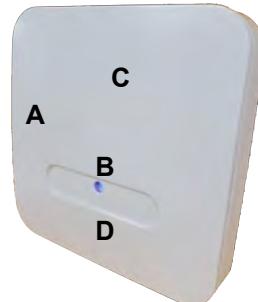


Figure 1

A Repeater Tamper Switch

B LED status for Alarm condition and signaling

C Installation configuration and Firmware update button when cover is removed

D Battery slots for housing two 3.6VDC batteries to provide up to 48 Hrs of back-up

2.a Installation and Startup a Installation Notes

- These products are designed to be maintained by certified technicians.
- Products are intended for indoor use, if installing them outdoors they must be housed in a water resistant plastic enclosure.
- Repeater can be powered by 12-24VDC local or centralized power supply, centralized power is recommended if installation requires more than 48 of battery back-up.
- Repeater is shipped with two 3.6VDC custom lithium AA cell not installed. Battery are for battery back-up use only.
- All products should be manually tested monthly. "Test the Transmitter/Receiver section".

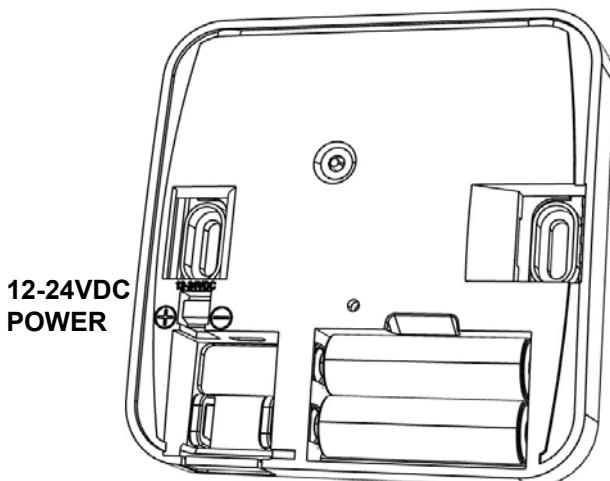


Figure 2

TWO 3.6 VDC
CUSTOM
BATTERIES

2.b Mounting Instructions

- These products are designed to be installed by certified technicians.
- Remove cover by using a flat tool to unlock right side tab.
- Using two screws not provided mount Repeater to wall or ceiling surface

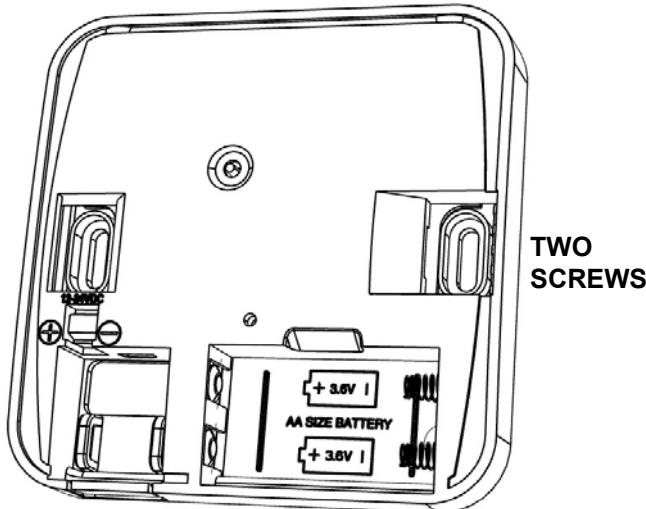


Figure 3

2.c Powering Repeater

- Connect appropriate 12-24VDC power, local or centralized power supply, centralized power is recommended if installation requires more than 48 of battery back-up.
- Repeater is shipped with two 3.6VDC custom lithium AA cell not installed. Battery are for battery back-up use only.

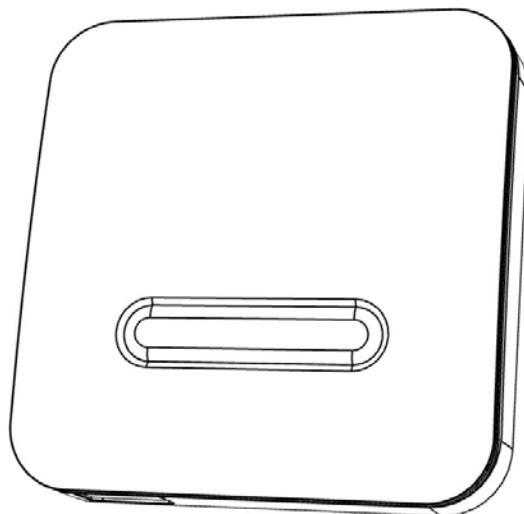


Figure 5

2.d Re-Installing Tamper Cover

- Connect appropriate 12-24VDC power, local or centralized power supply, centralized power is recommended if installation requires more than 48 of battery back-up.
- Repeater is shipped with two 3.6VDC custom lithium AA cell not installed. Battery are for battery back-up use only.

3 Custom 3.6v AA Battery Installation / Replacement

Remove cover by using a flat tool to unlock right side tab, this will automatically send Tamper Alarm condition to server. Install or replace with miAlert 3.6VDC certified batteries only.

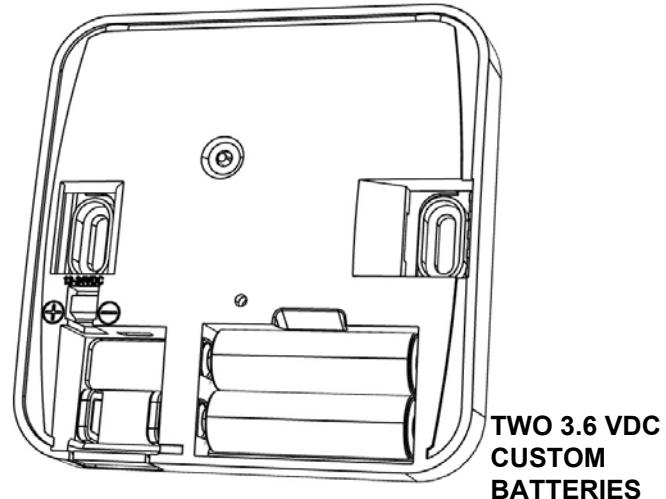


Figure 5

3 Test Repeater for the Pendant TX/RX

3.a Broadcast Alarm to Server via Gateway

To send an alarm: Press Pendant button for at least one second, Repeater will receive Alarm signal and will broadcast this information to Gateway. Server will acknowledge receipt and send back via Repeater this the acknowledgement to Pendant.

- When activated, the pendant LED will be red to indicate Alarm being sent
- The Pendant will receive an acknowledgment from Repeater and will blink red Pendant LED for 2 msec. every 3 sec.

3.b Repeater miPosition & Check-in Heartbeat

When the Pendant is moving the accelerometer will enable the Pendant to look for new Repeater, once the Pendant comes into range of a new Repeater it will signal via BTLE radio its ID and RSSI.

The Pendant also sends a check-in message to the Repeater every 60 minutes for the purposes of supervision via the BTLE radio. The Pendant must be registered and supervised, the Pendant should be tested after registration to ensure operation. The Repeater will send the Pendant an acknowledgment signal to confirm check-in supervision has been received.

- When activated, the pendant LED will be red to indicate Alarm being sent
- The Pendant will receive an acknowledgment from Repeater and will blink red Pendant LED for 2 msec. every 3 sec.

Caution: The Pendant must have a supervision window of no more than 12 hours to avoid not discovering a missing device within 24 hours.

4 Device LED Indicators

LED Pattern	Red	Blue	Status
1	OFF	ON	Normal standby working state
2	LED on for short burst 50ms	OFF	Send Ack to Pendant/Device for miPositon or Heartbeat
3	OFF	ON	Repeater Receive Pendant/Device Alarm or Heartbeat
4	OFF	Blinks 500ms and off every 1sec	Alarm received from Pendant/Device but no Ack from Gateway

Note: Users that have achieved certification and will install UL 2560 certified systems are responsible for labeling all fundamental devices with the UL 2560 system certification mark. Use compatible Repeater and appropriate Gateway for UL 2560 installations.

Note: miAlert supports recycling and reuse whenever possible. Please recycle these parts using a certified electronics recycler.

Note: For UL 2560 installations, miAlert repeaters must have 20 minute check-in times. miAlert transmitters must have a minimum of 60 minute check-in times.

Note: In a UL 2560 installation the miAlert Pendants must be used to complete emergency call systems for assisted living and independent living facilities.

For UL 2560 certified system installations, the following miAlert devices are approved for installation within maximum system configuration limits defined in section 1.b of this document:

Battery Handling

If you are installing the custom 3.6VDC batteries, keep the batteries from coming into contact with each other to prevent discharge.

Repeater Shipping

Both lithium-ion and lithium-metal battery types are subject to transportation regulations such as International Air Transport Association (IATA), International Maritime Dangerous Goods (IMDG), US Department of Transportation (DOT) and UN Recommendation on the Transport of Dangerous Goods.

To prevent accidental alarm activation due to air pressure changes, miAlert recommends that you avoid shipping the devices by air with the custom 3.6VDC lithium battery installed in the device.

When disposing of this electronic device or depleted custom 3.6VDC lithium battery, please do so in accordance with federal, state and local regulations.

5 Specifications

Dimensions: 112mm x 112mm x 22mm.

Weight: 200g with battery inserted.

Operating temperature: 32 to 140°F (0 to 60°C).

Battery type for Back-up: Custom AA 3.6VDC.

Power requirement: 12-24VDC, 200mA.

Storage requirement: Ambient conditions of 69 to 73°F (20.5 to 22.8°C).

UL certification for UL 2560

FCC RF Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.

FCC Part 15 and Industry Canada Compliance

This device complies with part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Note: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

5.a Medical Device Interference

Under FDA and FCC guidelines, the responsibility for verifying continuous and safe operation of medical devices such as pacemakers and implanted defibrillators in the presence of electromagnetic interference (EMI) rests with the manufacturer of the medical device. As such, miAlert does not have the authority or specific device knowledge to conduct or interpret formal tests on their behalf.

miAlert transmitter devices comply with Part 15 of the FCC Rules and Industry Canada license-exempt RSS standards.

If you have any concerns about the use of miAlert transmitter devices in the presence of medical devices used by a particular resident or patient, we recommend that you consult with their physician. Another potential source for answers is the medical device manufacturer, who can provide more information as to their compliance with federal guidelines and how they have addressed EMI risk.

5.b Radiation Exposure Limits

This equipment complies with ISED RSS-102 radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme avec ISED RSS-102 des limites d'exposition aux rayonnements définies pour un environnement non contrôlé. Les utilisateurs finaux doivent suivre le fonctionnement spécifiqueinstructions pour satisfaire la conformité à l'exposition RF. Cet émetteur doit pas être colocalisé ou fonctionner conjointement avec une autre antenne ou émetteur.