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miALERT miPos2 Repeater User Manual

miPos2 Repeater
Installation and Operation Manual

Contents

Overview

The imposition 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 the distance from the Repeater. A Three Radio arrays – Bluetooth for imposition – 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 imposition Gateway Installation Instructions

1.a miller Contact Information

miALERT
Quality Care Through Innovative Solutions

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Toll-Free: 855-382-8999
Email: **support@mialert.com**
27 Armthorpe Rd, Brampton, L6T 5M4

If you have any problems with this procedure, contact miller 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

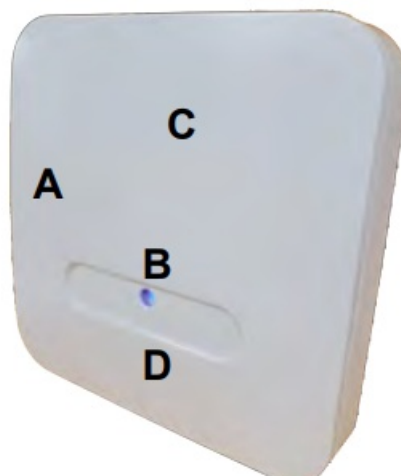## 1.c Repeater Components

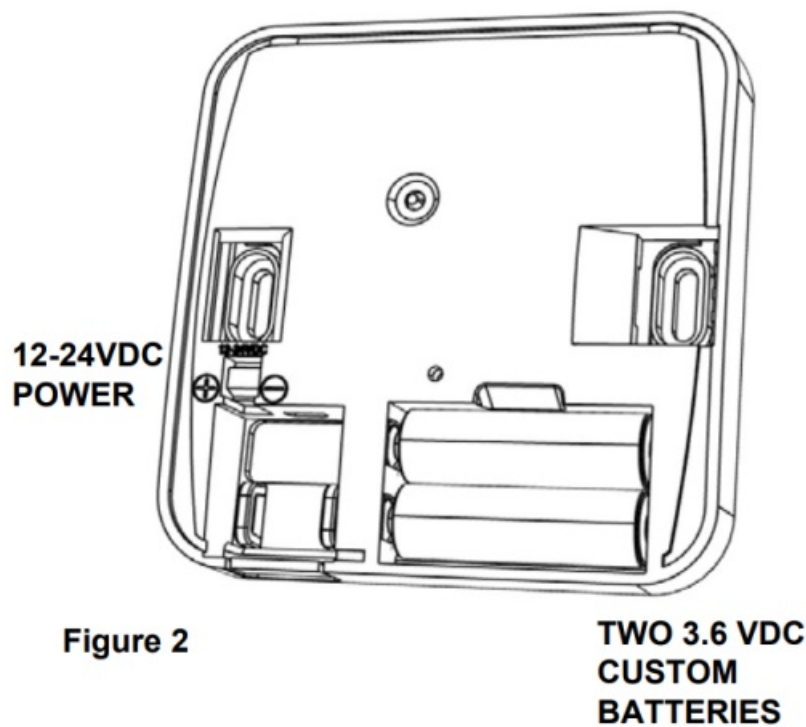Figure 1

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

Installation and Startup an 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.
- The repeater can be powered by the 12-24VDC local or centralized power supply, centralized power is recommended if installation requires more than 48 of battery back-up.
- The repeater is shipped with two 3.6VDC custom lithium AA cells not installed. Battery is for battery backup use only.
- All products should be manually tested monthly. "Test the Transmitter/Receiver section".

12-24VDC POWER

Figure 2

TWO 3.6 VDC CUSTOM BATTERIES

Mounting Instructions

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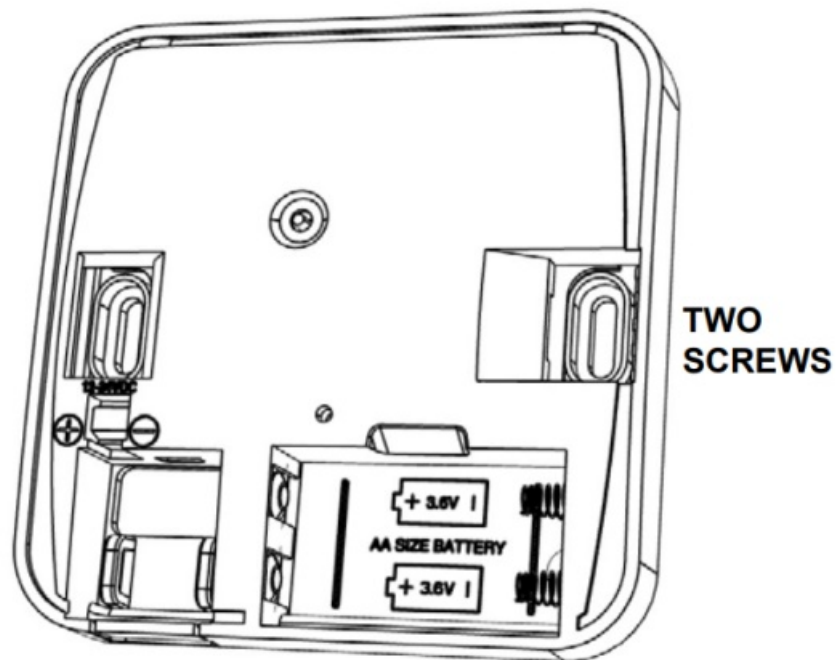- Using two screws not provided mount Repeater to wall or ceiling surface

TWO SCREWS

Figure 3

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.
- The repeater is shipped with two 3.6VDC custom lithium AA cells not installed. The battery is for battery backup use only.

Figure 5

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.

- The repeater is shipped with two 3.6VDC custom lithium AA cells not installed. The battery is for battery backup use only.
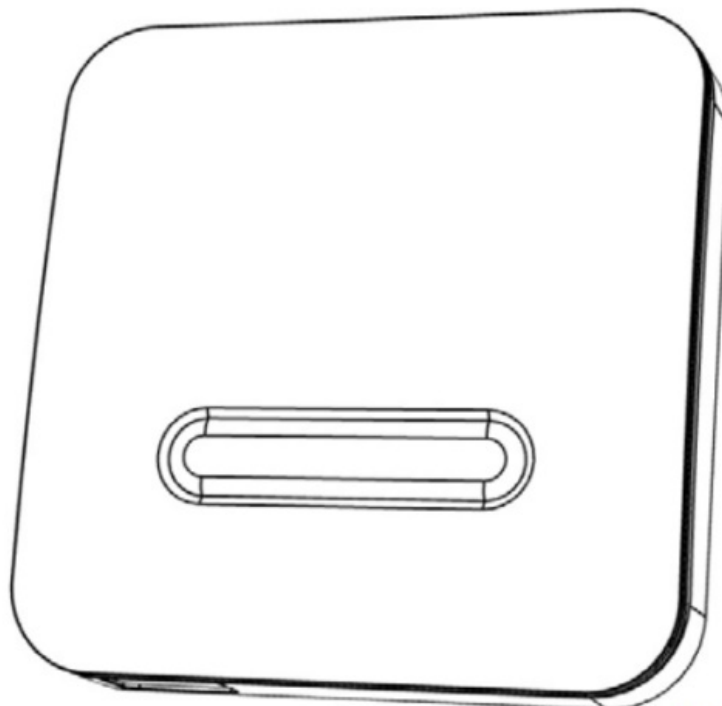
Custom 3.6v AA Battery Installation / Replacement

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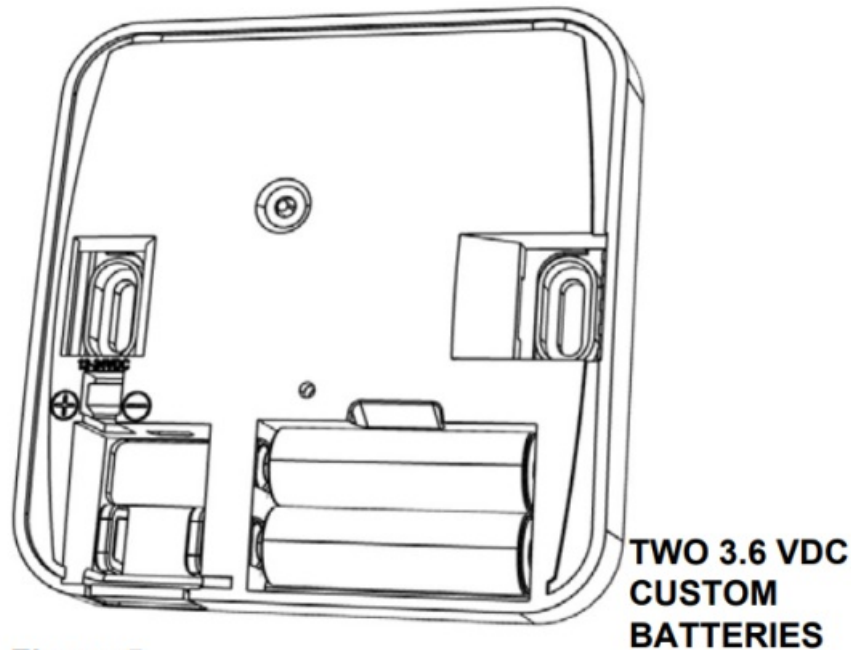

TWO 3.6 VDC CUSTOM BATTERIES

Figure 5

Test Repeater for the Pendant TX/RX

Broadcast Alarm to Server via Gateway

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

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

Repeater imposition & Check-in Heartbeat

When the Pendant is moving the accelerometer will enable the Pendant to look for a 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 an Alarm is being sent
- The Pendant will receive an acknowledgment from the 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.

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 imposition or Heartbeat
3	OFF	ON	Repeater Receive Pendant/Device Alarm or Heatbeat
4	OFF	It Blinks 500ms and off every 1sec	An alarm was 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: miller supports recycling and reuse whenever possible. Please recycle these parts using a certified electronics recycler.
Note: For UL 2560 installations, miller repeaters must have 20 minute check-in times. miller transmitters must have a minimum of 60 minute check-in times.
Note: In a UL 2560 installation the miller 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 the 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, miller 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.

Specifications

Dimensions: 112mm x 112mm x 22mm.
Weight: 200g with the battery inserted.
Operating temperature: 32 to 140°F (0 to 60°C).

Battery type for Backup: 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.

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

Medical Device Interference

Under FDA and FCC guidelines, the responsibility for verifying the 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, millet does not have the authority or specific device knowledge to conduct or interpret formal tests on their behalf.
miller 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 miller 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.

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.

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Documents / Resources

miALERT miPos2 Repeater [pdf] User Manual
MIPOS2RPTR, 2AZU7-MIPOS2RPTR, 2AZU7MIPOS2RPTR, miPos2 Repeater, miPos2, Repeater

References

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