

## Required Tools

- ▶ Anti-static wrist strap
- ▶ Appropriate tools for connecting wires to device
- ▶ Voltmeter
- ▶ Small slotted screwdriver
- ▶ Magnet
- ▶ Laptop (with Microsoft<sup>®</sup> Windows<sup>®</sup>)
- ▶ Bullhorn<sup>®</sup> Tools

## Optional Tools

- ▶ Wire stripper and wire cutter
- ▶ USB Bluetooth dongle or mini-b USB cable
- ▶ Bullhorn<sup>®</sup> Tools Mobile app

## Installing the Equipment

The following procedures are general steps for a typical installation. For specific instructions, see the *RM3250 User Guide* available from your website account under the **Help** menu.

**WARNING:** To prevent electrostatic discharge (ESD) damage when handling electronic equipment, always wear an anti-static wrist strap attached to an unpainted, grounded metal object. Ensure the wrist strap has maximum contact with bare skin.

**WARNING:** To keep exposure of radio frequency energy below limits mandated for permissive exposure, do not operate the RM3250 within 20 cm of any part of the body.

**WARNING:** Before beginning any wiring to the RM3250, disconnect all equipment from hazardous voltages.

**WARNING: Explosion Hazard** - Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.

**WARNING: Explosion Hazard** - Substitution of any components may impair suitability for Hazardous Locations.

**WARNING: Explosion Hazard** - Do not replace/remove batteries unless the area is known to be non-hazardous.

**WARNING: DO NOT** remove unit dome from base unless location is known to be non-hazardous.

**WARNING:** The RM3250 is intended for use only with Lithium-Ion and Lithium battery cells. Only a trained service technician should service or replace the batteries in the RM3250. When changing batteries, change all of the batteries at the same time.



**NOTE:** For all safety precautions for wiring power supply and unit inputs, refer to the *RM3250 User Guide*.

## IMPORTANT EQUIPMENT NOTES

This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D Hazardous Locations or Non-Hazardous Locations. See **page 3** of this guide for more information on location considerations for the RM3250.

## 1 Mount Base and Connect External Device

- 1 Attach base to bracket on a secure location, such as a pole, that is near the external device.
- 2 Bring wires connecting the external device up through the bottom of the flat base.
- 3 Connect the external device to the 10-pin connector terminal block.
- 4 Connect the terminal block to the **RM3250** connection.

**NOTES:** The maximum cable length for RS232 is **50 feet**. Flow control lines are static and cannot change states.

## 2 Install and Connect Batteries

- 1 Install the two batteries into the bracket on the RM3250, as shown. Secure with strap. Note position of each battery.
- 2 Connect the 2-pin battery connector to the corresponding **Battery** connection (labeled **P4**) on the **RM3250**.
- 3 Connect the 3-pin battery connector to the corresponding **Battery** connection (labeled **P3**) on the **RM3250**.

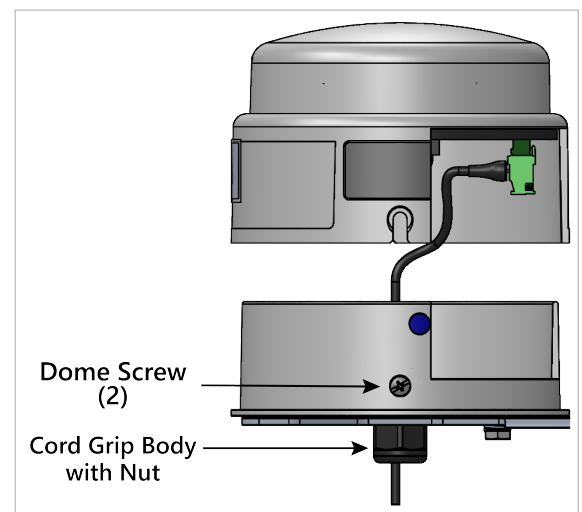


Unit Batteries and Connections

## 3 Secure RM3250 Unit

- 1 Place the **RM3250** unit onto the base by lining up the Bullhorn label with the blue circle on the flat base. The unit will slide over the two dome base screws.
- 2 Secure the unit by tightening the two dome base screws.

**NOTES:** Torque **Dome Screws** to 10-12 In-lbs.  
Torque **Cord Grip Body** to 60 in-lbs.  
Torque **Cord Grip Gland Nut** to 30 in-lbs.

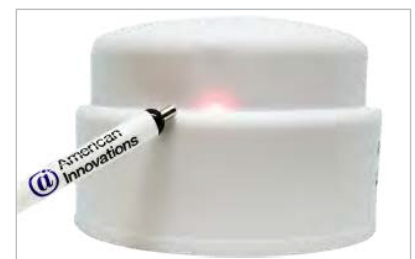


Unit Installed on Mounting Bracket

## 4 Configure RM3250 for Service

Bullhorn **RM3250** units can be configured using Bullhorn® Tools (available from **Bullhorn Web Help**). If using Bullhorn Tools on a computer, you will need either the USB Bluetooth dongle or a mini-b USB cable to communicate with the unit. The following provides general steps to configure the **RM3250** for service. For complete instructions, refer to the Bullhorn Tools **Help** menu or the **user manual** (found on **Bullhorn Web Help**). Optionally, you can use the Bullhorn Tools Mobile app on either an Android or iOS mobile device to configure the unit.

- 1 Swipe a magnet across the access point on the **RM3250** unit dome. The indicator light will blink on/off, which indicates that the unit is on and looking to pair.
- 2 Insert USB Bluetooth dongle or connect the USB cable to laptop and unit. If using the mobile app, enable Bluetooth on your device.
- 3 Start **Bullhorn Tools**.
- 4 Set **Serial Settings**, enable or disable **Readings** (registers), and configure the enabled registers, including digital inputs, as necessary.
- 5 Send a test message to verify communication to the Bullhorn Web account.
- 6 When finished, close Bullhorn Tools. The **RM3250's** Bluetooth connection will disconnect automatically (usually within 10 minutes), or swipe the unit with the magnet again to disconnect immediately.

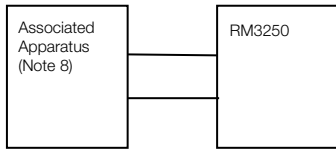


Unit Bluetooth Activated

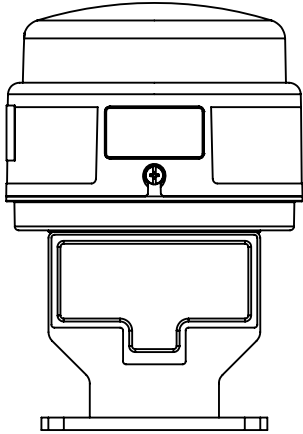
## NOTES

1. The non-incendive field wiring concept allows interconnection of two approved Non-incendive Apparatuses with non-incendive field wiring parameters not specifically examined in combination as a system when:  $V_{oc}$  or  $V_t \leq V_{max}$ ,  $I_{sc}$  or  $I_t \leq I_{max}$ ,  $C_a \leq C_i + C_{cable}$ ,  $L_a \leq L_i + L_{cable}$ .
2. Where cable capacitance and inductance per foot are not known, the following values shall be used:  $C_{cable} = 60\text{pF/ft.}$ ,  $L_{cable} = 0.2\text{ uH/ft.}$
3. Use 22AWG, shielded, irradiated PVC/PVC alpha 463C or equivalent. Maximum length not to exceed 25 feet.
4. Customer-supplied signal wire must be rated for 70° C or higher.
5. Tighten Input Terminal Screws to 3-1/2 inch lbs 0.4Nm).
6. Installation should be in accordance with the National Electrical Code (ANSI/NFPA 70).
7. The configuration of associated Apparatus must be approved under Non-incendive Field Wiring Concept or be a simple apparatus (a device which can neither generate nor store more than 1.2V, 0.1A, 25mW, or 20mJ).
8. Associated Apparatus manufacturer's installation drawing must be followed when installing this equipment to maintain Type 3S rating.
9. Associated Apparatus connection is representative of each input signal connection. Each signal shall be wired in a separate shielded cable.
10. No revisions to drawing without prior approval.
11. Temperature code T6 for all models.

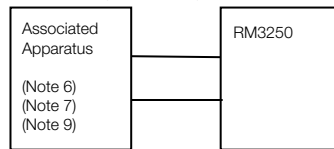
Hazardous (Class I, Division 2, Groups A,B,C,D) Location



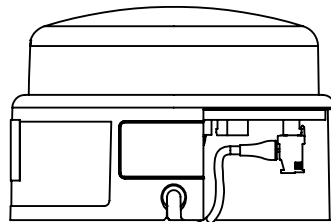
**Note:** Unplug batteries when connecting field wiring.



Hazardous (Class I, Division 2, Groups A, B, C, D) Location

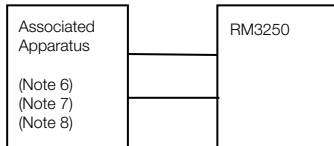


**Note:** Unplug batteries when connecting field wiring.

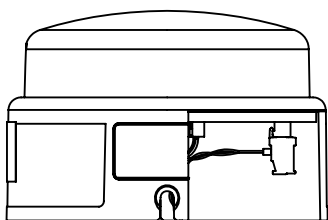


Non-incendive field wiring

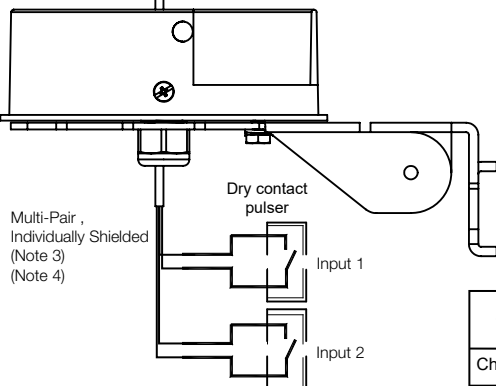
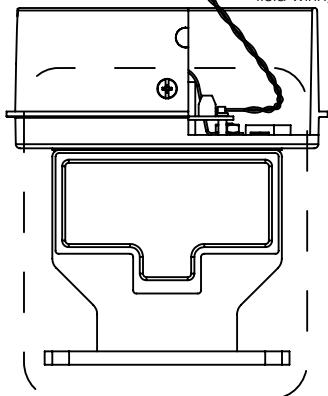
Hazardous (Class I, Division 2, Groups A, B, C, D) Location



**Note:** Unplug batteries when connecting field wiring.



Non-incendive field wiring



Multi-Pair, Individually Shielded (Note 3) (Note 4)

Dry contact pulser

Input 1

Input 2

NON-INCENDIVE PARAMETERS FOR RM3250 INSTALLATION

Output Signal	Signal Name	V <sub>oc</sub> (V)	I <sub>sc</sub> (mA)	C <sub>a</sub> (uF)	L <sub>a</sub> (mH)
Ch 1 +	Dry Contact Pulser	3	0.1	5	100
Ch 2 +	Dry Contact Pulser	3	0.1	5	100

Input Signal	Signal Name	V <sub>max</sub> (V)	I <sub>max</sub> (mA)	C <sub>i</sub> (pF)	L <sub>i</sub> (uH)
Ch 1 +	Dry Contact Pulser	30	4	100	10
Ch 2 +	Dry Contact Pulser	30	4	100	10