Bullhorn® Monitoring

Required Tools

- Anti static wrist strap
- Small slotted screwdriver
- Small Phillips head screwdriver
- Wire stripper and wire cutter
- Adjustable wrench
- Voltmeter
- Tools to prepare mounting surface
- Hardware to mount enclosure
- Compass
- Wire to connect the power supply to a voltage supply
- Wire nuts
- Windows® Laptop PC
- USB Mini-b cable
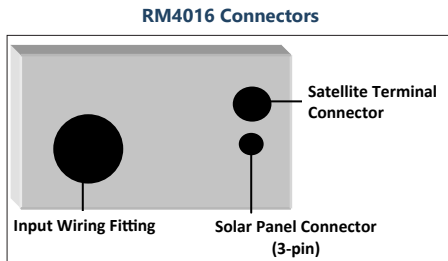- Bullhorn® Tools (see back)

Installing the Equipment

The following procedures are general steps for a typical installation. For specific instructions, including safety warnings and safety icon descriptions, see *RM4000 Series User Guide* (part no. 122173-000) available available from the **Documents** page of the Bullhorn Web **Help** site (**www.support.aiworldwide.com**).

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: Before beginning any wiring to the RM4016, ensure that power has been turned off at the rectifier.

NOTE: For additional safety precautions for wiring power supply and unit inputs, see *RM4000 Series User Guide*.

1 Mount enclosure & attach solar panel

RM4016 Connectors

- Satellite Terminal Connector
- Input Wiring Fitting
- Solar Panel Connector (3-pin)

1. Mount **RM4016** enclosure.
2. Attach **solar panel**:
   a. If replacing an older remote monitoring unit and using the existing **solar panel**, attach Solar Panel to connector on faceplate (see figure in step **3**).
   b. If mounting a new **solar panel** (with 3-pin connector), connect to solar panel connector on enclosure (see figure above).
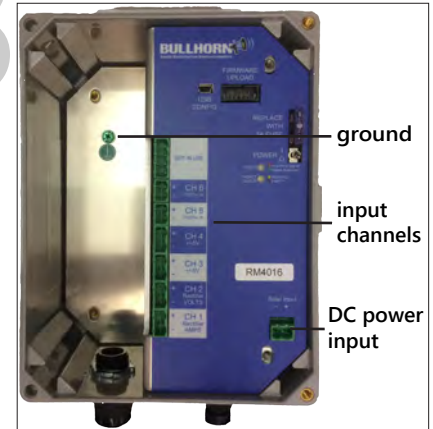
2 Install satellite terminal

Satellite Terminal

1. Mount **satellite terminal** on angle bracket. Mount to pole or other structure.
2. Angle bracket to 90°, with the terminal lying flat (as shown in photo).
3. Connect **satellite terminal** to connector on bottom of unit enclosure.
4. Use **Bullhorn Tools** to verify satellite signal strength (see back of this Guide).

3 Connect ground & inputs

- ground
- input channels
- DC power input

RM4016 Ground & Inputs

1. Route input wires through fitting to inside enclosure.
2. Connect ground wire from the RM4016 **ground** screw to rectifier ground.
3. Connect input device to input channels. Refer to the following:
   - **CH 1** *Rectifier SHUNT*: analog (±5 V DC)
   - **CH 2** *Rectifier VOLTS*: analog (±100 V DC)
   - **CH 3 & CH 4**: analog (±5 V DC)
   - **CH 5**: digital (0 - 15 V DC). Can also be set as an accumulator.
   - **CH 6**: digital (0 - 15 V DC)

WARNING: If wires are to be buried or covered, use conduit to protect the wires.

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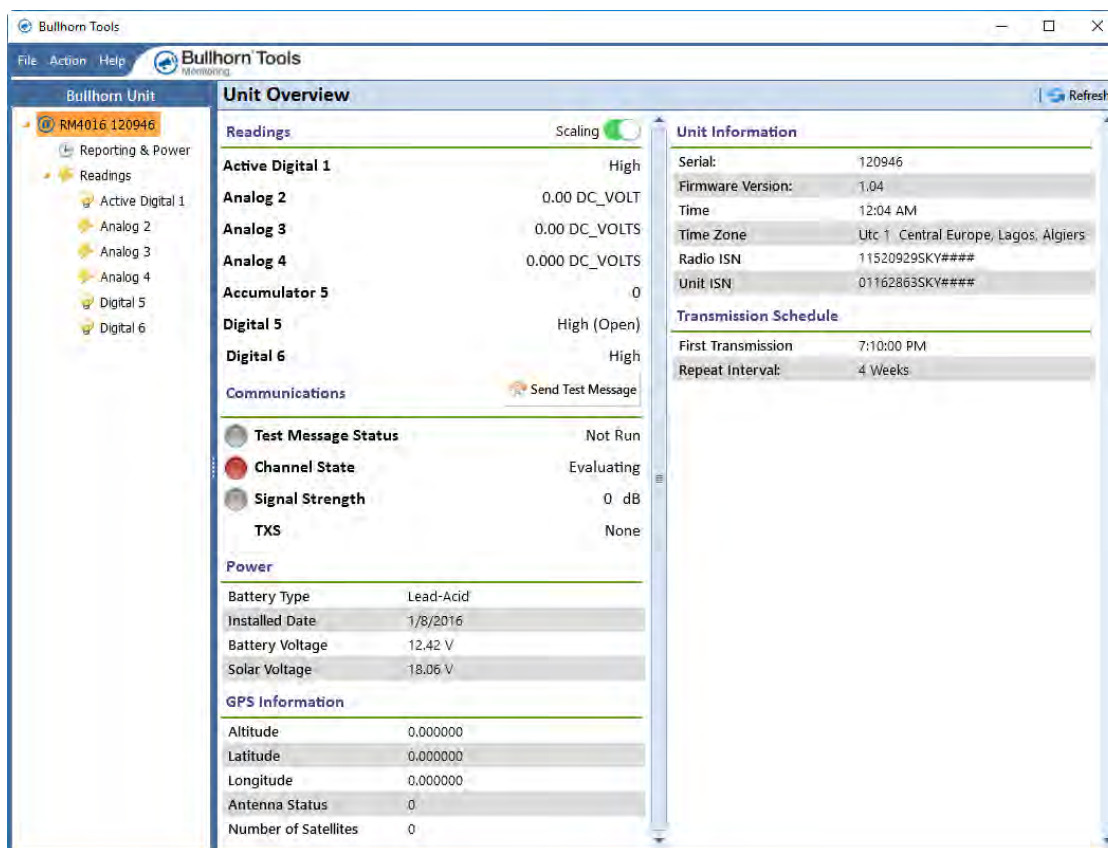
Installing the Equipment, cont.

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Dress input wires

1 Connect input wires from **RM4016** to output terminals of your device.

2 Dress input wires inside enclosure, making sure wires do not slip through opening of faceplate.

3 Tighten fitting on bottom of enclosure.

4 Turn **ON** your device. Wait at least 2 minutes.

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Configuring the RM4016 for Service

The following procedure provides general steps for configuring the **RM4016** for service using Bullhorn Tools. Before beginning the configuration steps, ensure that Bullhorn Tools is installed on your laptop. The software can be downloaded from the **Downloads** page on Bullhorn Web Help (**www.support.aiworldwide.com**).

1 Ensure that the configuration cable is connected to the **RM4016** and your laptop and the unit is powered on.

2 Open Bullhorn Tools. After the scan has completed, click ▦**Connect** to open the *Unit Overview* window.

3 Click ⟳ **Refresh** to update unit settings.

4 Click 📡**Send Test Message** to verify communications.

5 Load or import a saved template, if available (**File > Load Template**).

6 Click 🕐 **Reporting & Power** to adjust unit clock, create a transmission schedule, check battery information, and set AC outage delay alarm times.

7 Configure **Readings**, including Analog and Digital. **Digital 5** can be configured as an accumulator.

8 Exit Bullhorn Tools and disconnect configuration cable.

9 Close and secure enclosure door.