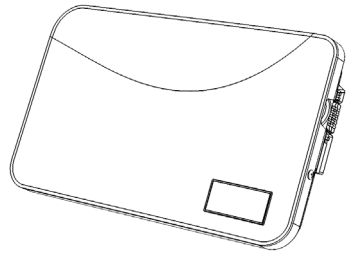# alula™

Connect Family

# BAT-Connect Communicator

**BAT-Connect** is a device that connects to security panels and provides interactive services, home automation, and the ability to update the user interface.

## Features

- Three network connectivity paths: cellular, ethernet, and Wi-Fi

- Provides interactive services, home automation, and the ability to update the user interface on existing panels without panel replacement

- Full interactive support of Honeywell Vista and DSC Power Series panels

- Telco event capture and reporting on most legacy panels using phone line emulation

- Keyswitch arming for remote control of most legacy panels

- 2-way voice alarm verification for most legacy panels

- Optional remote control is available via the Alula app from the App Store or Google Play™

## Installation Overview

1. Set up an account in the AlulaConnect portal.

2. Program the panel to use the BAT-Connect. (Refer to the programming section for your panel.)

3. Mount the BAT-Connect to a wall using the mounting holes on the back plate.

   - Maximum cable length to the panel:
     18 gauge wire = 350 feet
     22 gauge wire = 130 feet
     24 gauge wire = 75 feet

4. Wire the panel to the BAT-Connect. (Refer to the wiring diagram section for your panel.)

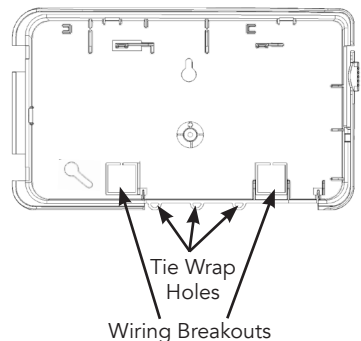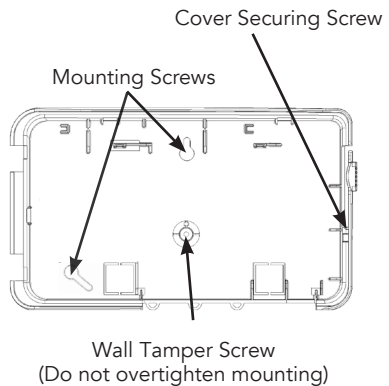5. Set up the network communication path.

   **Note:** if 2-way voice will be used, the network communication path must be ethernet or Wi-Fi. Cellular can be used as back-up; however, does not support 2-way voice.

   ### Connecting via ethernet:
   Plug in cable and ensure ethernet LED is on.

   ### Connecting via cellular:
   Verify cellular LED is on and verify signal strength. (See page 9 for signal strength.)

*Verify proper enrollment and operation using your control panel's installation manual.*

Cover Securing Screw

Mounting Screws

Wall Tamper Screw
(Do not overtighten mounting)

Tie Wrap Holes

Wiring Breakouts

*(Continued)*
*Connecting via Wi-Fi:*
1. Enable WPS on router.

2. Press and hold WPS button until WiFi LED flashes on BAT-Connect.

3. Unplug the ethernet cable (if used). After approximately 1-2 minutes, the Wi-Fi LED will turn on. Wi-Fi network credentials are now saved in BAT-Connect.

4. If the Wi-Fi LED does not turn on after 2 minutes, then WPS was not successful. Repeat steps 1-3.

5. If WPS is unavailable, Wi-Fi credentials can alternately be entered in the AlulaConnect portal.

6. Reconnect ethernet cable (if used).

6. Mount and enroll Touchpads if needed. (Refer to Touchpad install guide for additional information).
   **Note:** it is recommended to keep one original keypad in the system.

7. Installation is complete. After installing BAT-Connect, or modifying any panel programming, verify proper operation and reporting of all event codes using your control panel's installation manual.
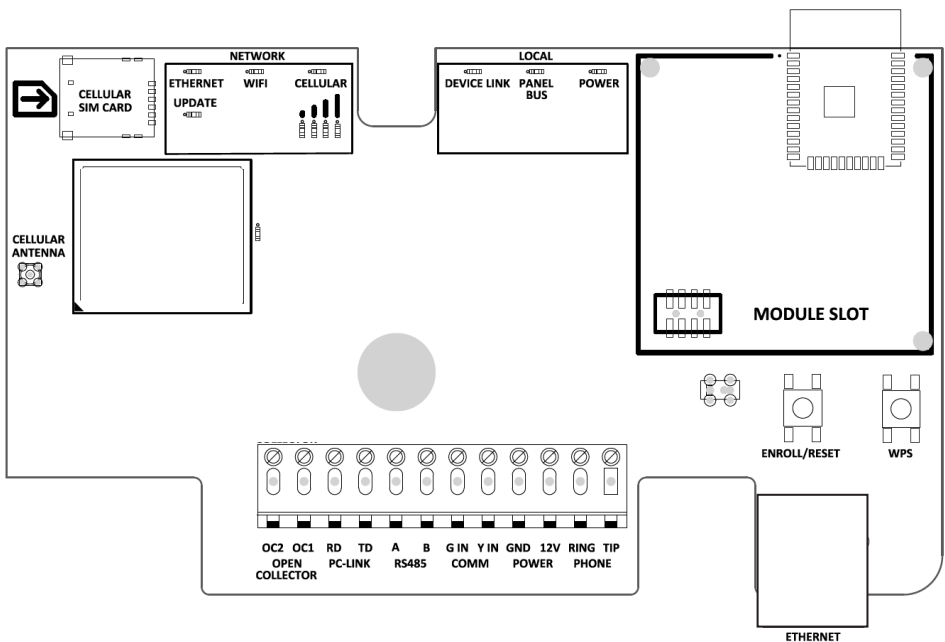
# Honeywell® Vista™ Programming

1. Set up an account in the AlulaConnect portal.
2. Add the MASTER CODE to the primary account user before connecting the BAT-Connect. This is required for the BAT-Connect to be able to properly configure the system settings.
3. Disarm the system (all partitions).
4. Enter panel programming mode using the installer code and program the following:

   **AUI 2:**
   - If the panel supports AUI, verify that AUI2 is enabled using field *189.
   - If the panel does not support AUI, then interactive control and status of the alarm panel must be done using a virtual keypad. See Keypad 8 configuration below.
   - If another device is using AUI 2, that device must first be moved to a different AUI address. The other device should be moved to AUI 1 for Vista 15P and AUI 1, 3, or 4 for Vista 20P, Vista 21IP, or Safewatch Pro.

   **Keypad 8:**
   - Verify that Keypad 8 is enabled for all partitions that are enabled in the alarm panel using field *196.

   **RIS:**
   - Vista panels that have a *91 field that supports RIS need to have RIS disabled. No action is required if RIS is not supported.

   **Keypad lockout:**
   - Vista 15P and 20P panel versions 10.21 and later have the keypad lockout feature enabled by default. It is recommended this feature be disabled to prevent possible keypad lockout conditions if the system master code in the BAT-Connect is not synchronized with the master code in the Vista panel.
   - *188 to disable keypad lockout.
   - If it is required to have the keypad lockout feature enabled, it is critical that the system master code be set up as a user for this account before connecting the module to the panel (see step 2 above). Also, all changes to the system master code must be done at AlulaConnect or with the Alula app, not at the Vista keypad. Failing to do this may result in a keypad lockout condition.

   **Event capture:**
   - Configure the panel for event reporting via IP/GSM or telco event capture using panel programming items *29 and *55. Vista 15P and 20P panels with firmware of 3.0 or earlier should always use telco event capture.
   - Telco event capture is required if 2-way voice will be used for alarm verification.
   - IP/GSM event capture:
     - *29 = 1, 0
     - *55 = 1
   - Telco event capture:
     - *29 = 0, 0
     - *55 = 0

   **Note: If the system has Touchpads enrolled and panic alarms are needed on the Touchpads, zone types for zones 95, 96 and 99 must be configured in the panel as follows, using *56:**
   - **zone 95: 24 hour silent or audible (zone type 6 or 7)**
   - **zone 96: fire (zone type 9)**
   - **zone 99: 24 hour auxiliary (zone type 8)**

5. Exit programming mode and power down the Vista system.
6. Connect the Vista system and BAT-Connect as shown in the wiring diagram on the next page.
7. For Vista 21IP panels, Internal IP/GSM jumper needs to be set to "OFF".
8. Power up the Vista system.

- The Vista system will be busy for 50-60 seconds after power up before it will automatically program. Programming of the panel will only be performed if the panel supports AUI.
- BAT-Connect will set the following fields automatically:
  * Opening report (*65) = 1 (enabled)
  * Closing report (*66) = 1, 1 (stay closing and away closing reports enabled)
  * Alarm cancel report (*68) = 1 (enabled)
  * AC power restoral report (*73) = 1 (enabled)
  * Low Battery restoral report (*74) = 1 (enabled)

9. Once the keypad(s) display **DISARMED Ready to Arm**, installation is complete.
10. Verify proper operation and reporting of all event codes using your control panel's installation manual.

## Honeywell Vista Wiring for Interactive Control and Event Reporting
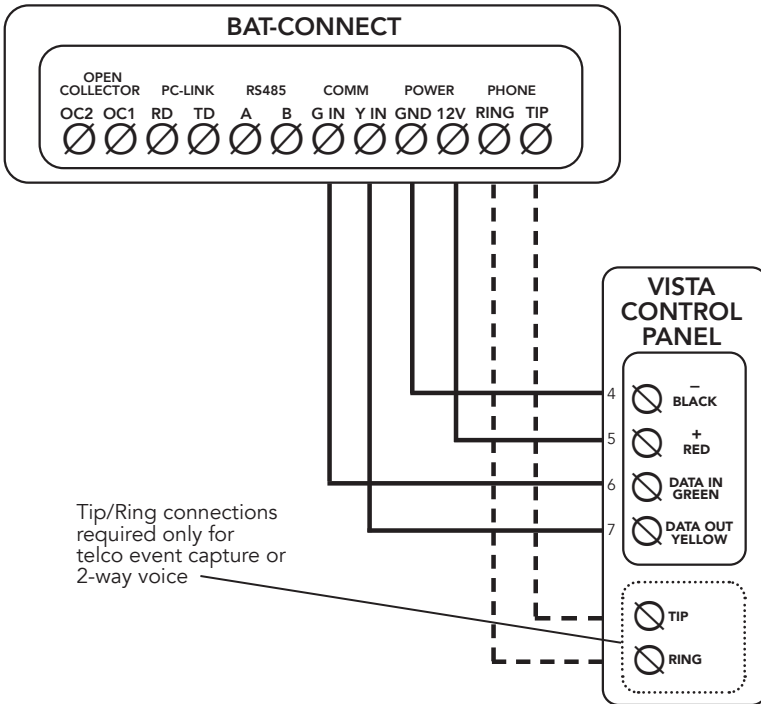


- Vista control panels require connection to panel bus only. Tip/ring connections are required only if telco event capture reporting or 2-way voice alarm verification is used.

- Tip & Ring should not be wired to BAT-Connect using the same multi-conductor cable as the panel bus wiring. Tip & Ring should be in a separate cable.

- See below for supported Vista panels. If Vista panel is not listed, please contact Alula Support.

**Compatible Panels**
- Vista 10P
- Vista 15P
- Vista 20P
- Vista 21IP
- Safewatch Pro 3000

# DSC® Power Series™ Programming

1. Set up an account in the AlulaConnect portal.

2. Add the MASTER CODE to the primary account user before connecting the BAT-Connect. This is required for the BAT-Connect to be able to properly configure the system settings.

3. Disarm the system (all partitions).

4. Enter panel programming mode using the installer code and program the following:

> **Note:** DSC Power Series panels may use different programming locations or the option may not be available.  Always refer to the installation manual of the specific panel for programming locations and options.
>
> - Enable Communicator ([380]:[1])
> - Enter a Telephone Number ([301])
> - Enter Account Number ([310])
> - Verify 1st Telephone Number is enabled in Call Direction Options ([351]-[376])
> - Verify Master Code Not Changeable is Disabled ([015]:[6])
> - Verify Access Code Required for *1, *2, *3 menus is disabled ([022]:[1])
> - Verify that keypad lockout is either zero (disabled) or higher than 6 ([012])
> - If you have removed any bus devices, perform a Module Supervision Reset ([902])
> - Set Communicator Format to Contact ID ([350])
> - Verify the panel is properly set up for Contact ID event reporting
> - To enable reporting of the Period Test Transmission, program the "Periodic Test Transmission" ([348]:[4]) and the "Periodic Test Transmission with Trouble" ([348]:[3]) reporting codes to "02"(optional)
>
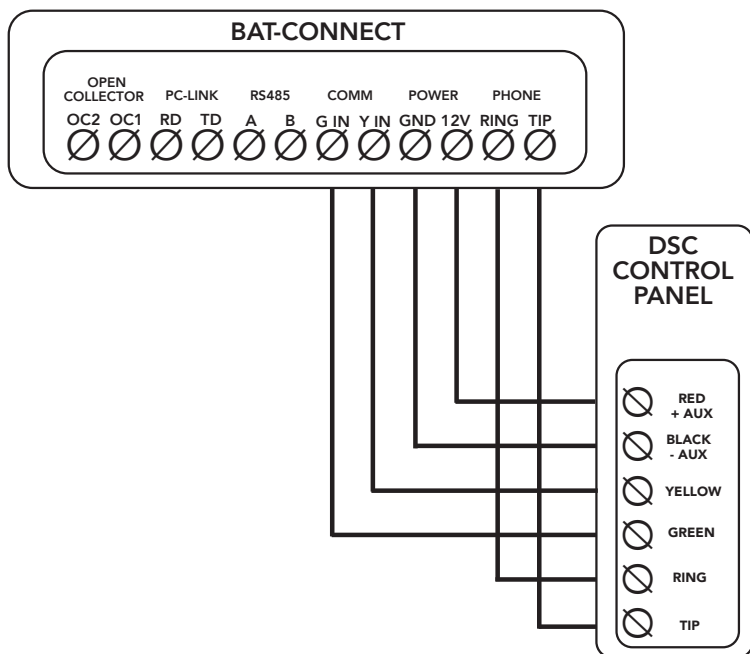> **Note:** if installing the PC-Link cable for uDownloader, verify T-Link is enabled.

5. Exit programming mode and power down the DSC system.

6. Connect the DSC system and the BAT-Connect as shown in the wiring diagram on the next page.

7. Power up the DSC system.

> - The DSC control panel will begin automatic configuration. Panel keypads will be unavailable during this time.

8. Verify proper operation and reporting of all event codes using your control panel's installation manual.

> **Note**: During normal operation, BAT-Connect will occasionally use the panel bus for some system tests. Typically, this lasts for 5-6 seconds. During this time, panel keypads will be unavailable.

### DSC® Wiring for Interactive Control and Event Reporting

**BAT-CONNECT**

| OPEN COLLECTOR | PC-LINK | RS485 | COMM | POWER | PHONE |
|---|---|---|---|---|---|
| OC2 OC1 | RD TD | A B | G IN Y IN | GND 12V | RING TIP |

**DSC CONTROL PANEL**

- RED + AUX
- BLACK - AUX
- YELLOW
- GREEN
- RING
- TIP

- DSC control panels require connection to panel bus and Tip & Ring.

- Tip & Ring should not be wired to BAT-Connect using the same multi-conductor cable as the panel bus wiring. Tip & Ring should be in a separate cable.

- See below for supported DSC panels. If DSC panel is not listed, please contact Alula Support.

*Compatible Panels*
- PC580 (Power 432)
- PC1555 (Power 632)
- PC1555MX (Power 632)
- PC5010 (Power 832)
- PC5020 (Power 864)
- PC1616
- PC1832
- PC1864

## Generic Alarm Panel Programming

1. Set up an account in the AlulaConnect portal.

2. Disarm the system (all partitions).

3. Enter panel programming mode using the installer code and program the following:

   - Enter a Telephone Number into the Central Station Phone Number field
   - Enter Customer Account Number
   - Enter Reporting Codes
   - Program panel to transmit events in Contact ID format

4. Exit programming mode and power down the system.

5. Connect the system and the BAT-Connect as shown in the wiring diagram below.

6. Power up the system.

7. Verify proper operation and reporting of all event codes using your control panel's installation manual.


## Generic Alarm Panel Wiring for Event Reporting
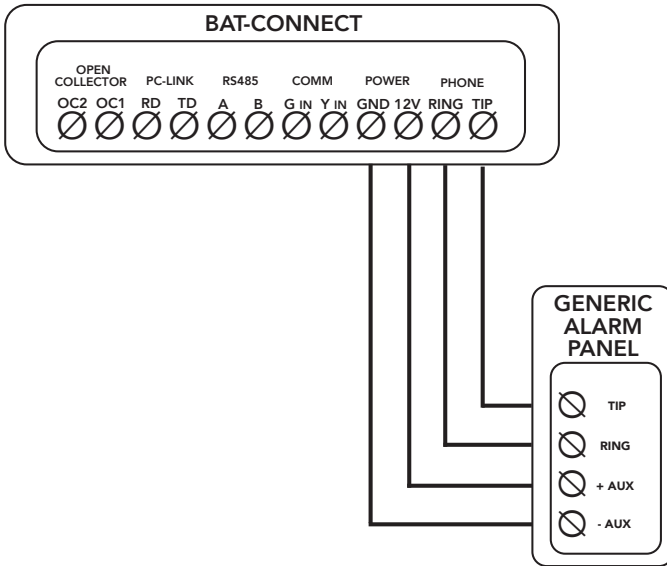


- Any control panel can be supported for event reporting as long as it provides Tip & Ring connection and transmits events in Contact ID format.

- Tip & Ring should not be wired to BAT-Connect using the same multi-conductor cable as the panel wiring. Tip & Ring should be in a separate cable.

## Generic Alarm Panel Keyswitch Arming Requirements

- An arming status output on the alarm panel will be used to signal to the BAT-Connect (Y IN terminal) that the panel has entered Arm/Disarmed state.
  - A 2k pull-up resistor must be installed from Y IN to 12V.
  - BAT-Connect requires the arming status output to be stable for more than 3 seconds to register an arming level change.
  - The output level when the panel is disarmed is learned by the BAT-Connect by pressing and holding the enroll button until the Device Link LED begins to flash. The disarm output level can only be enrolled one time. If the level is enrolled incorrectly, change it by defaulting the BAT-Connect.
  - The panel's arming status output typically must be programmed for keyswitch operation. Refer to the specific panel manual for keyswitch output operation setup instructions.
- The BAT-Connect provides an open collector output OC1 that is pulsed for 1 second when an arm or disarm command is received from the Alula platform.
  - OC1 must be connected to the panel's keyswitch input.
  - The panel's keyswitch input typically must be programmed for keyswitch operation. Refer to the specific panel manual for keyswitch input operation setup instructions.

## Generic Alarm Panel Keyswitch Arming Set-Up Procedure and Wiring

1. Disarm the panel.

2. Connect Y IN and OC1 as described above and in accordance to specific directions described by the panel's keyswitch arming documentation.

3. Program the panel as specified in its documentation.

4. With the panel disarmed, press the enroll button on the BAT-Connect.

5. Arm the panel for 10 seconds, then disarm the panel for at least 10 seconds. The BAT-Connect will not enable keyswitch arming until an arming cycle is performed.
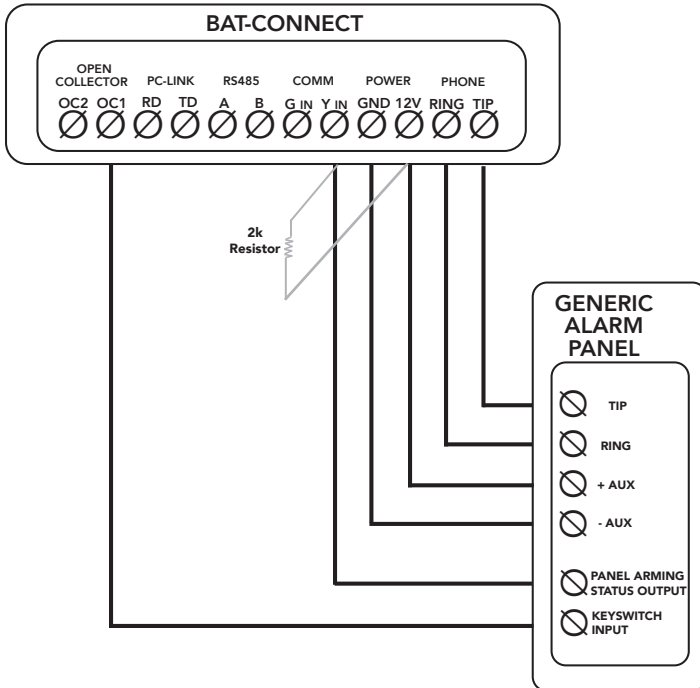
## Operation

**Events are reported** to the Alula server and the central station. All events use Contact ID reporting codes.

**Ensure that the required events** are enabled for reporting. See panel programming sections above.

**Remote control** of the system can be done through the Alula apps on Honeywell Vista and DSC panels. Arming and disarming control and status apply only to partition 1. Keyswitch arming can be used for remote control of any alarm panel that can be configured for keyswitch arming.

**Enroll/Reset button** will enable Device Link enroll mode if held for 2 seconds (Device Link LED will flash), reset the BAT-Connect if held for 5 seconds, and if held for approximately 10 seconds will factory default the BAT-Connect.

- All LEDs flash on then off twice when the BAT-Connect is factory defaulted.
- When you change panel types, you must default the BAT-Connect.

### LED indicators

| LED | Indication |
|---|---|
| Power | Pulses every second |
| Panel Bus | **Flashing fast -** attempting to discover panel type<br>**Flashing slow -** panel identified, attempting to connect to panel<br>**On** - connected to panel |
| Device Link | **Flashing -** Device Link enroll mode is enabled<br>**On** - Device Link network is operational |
| Cellular, Wi-Fi, Ethernet | **Off** - interface not used<br>**Flashing slow -** attempting server connection using this interface<br>**On** - connected to server using this interface<br>**Short blink every 2 seconds (cellular LED only) -** this is a backup interface, last test was successful |
| Update | **Off** - no connection to server<br>**Flashing** - update is in progress<br>**On** - all firmware is up to date |

**Cellular signal bar** LEDs indicate the quality of the cellular connection.  A minimum of two signal bar LEDs is recommended.

| Number of Signal Bar LEDs Lit | Cellular Signal Strength | |
|---|---|---|
| 0 | Bad | (0-6) |
| 1 | Marginal | (7-11) |
| 2 | Acceptable | (12-16) |
| 3 | Good | (17-21) |
| 4 | Best | (22+) |

**Note:** during a 2-way voice session, the first two cellular LEDs will flash.

## Pro Tips

- Do not mount inside of a metal can. The cellular and Wi-Fi antennas need to be in free air to communicate.

- Mount as high in the building as possible to optimize cellular strength.

- An auxiliary power supply may be used to power BAT-Connect. This power supply must have a backup battery to provide power if AC power fails. Ensure voltage is 12 VDC.

- The uDownloader which allows for uploading and downloading of alarm panels can be found at AlulaConnect.com.

- Ensure the alarm panel is configured for 2-way voice support.  For 2-way voice, telco event capture event reporting must be used.  Refer to the alarm panel installation manual for additional information.

- The BAT-Connect supports up to 49 users, or the maximum supported by the alarm panel. Consult your alarm panel installation manual for additional information.

## Troubleshooting

| Symptom | Troubleshooting Steps |
|---|---|
| Panel Bus LED Blinking | **General** <br> 1. Incorrect wiring. <br> 2. Unsupported panel version. <br> 3. Unsupported panel model. <br> 4. Panel is in Installer Program Mode. <br> **Honeywell Vista** <br> 1. AUI not enabled. <br> 2. AUI used for some other function. <br> 3. LRR not enabled. <br> 4. Another LRR or IP/GSM device connected to panel bus. |
| Ethernet, Wi-Fi, and Cellular LED Flashing Slow | 1. If registration information changes after the BAT-Connect is powered up, perform a factory default. <br> 2. For Wi-Fi and ethernet, ensure internet connectivity at the router. |
| Ethernet LED Off | 1. Confirm cable connected. <br> 2. Ensure router is powered. <br> 3. Ensure UDP ports 1234 and 1235 are open in router/modem settings. |
| Wi-Fi LED Off | 1. Ensure router is powered. <br> 2. Ensure Wi-Fi credentials are correct. |
| Cellular LED Off | Verify sufficient signal strength for cellular (see below). |
| Supervisory Trouble Information | **Honeywell Vista -** *LRR Fault/bF error* <br> 1. Verify panel is 4.0 or later. <br> 2. Verify that no other LRR devices are connected to the panel bus. |
| No Alarm CS Reports | 1. Incorrect wiring. <br> 2. Confirm communication format is Contact ID. |
| Poor Cellular Signal Strength | 1. Make sure antenna is securely snapped into the circuit board. <br> 2. Reposition the unit (move or rotate). <br> 3. Move the unit higher in the building. <br> 4. Move the unit away from metal objects (appliances, ducts). <br> 5. Move the unit closer to a window. <br> 6. Move to one of the below higher performance antenna options. |

## Antenna Options

### Internal antenna - RE048
- Good Performance
- Offers a compact solution



### Wall Drop antenna - RE036
- 8-foot antenna
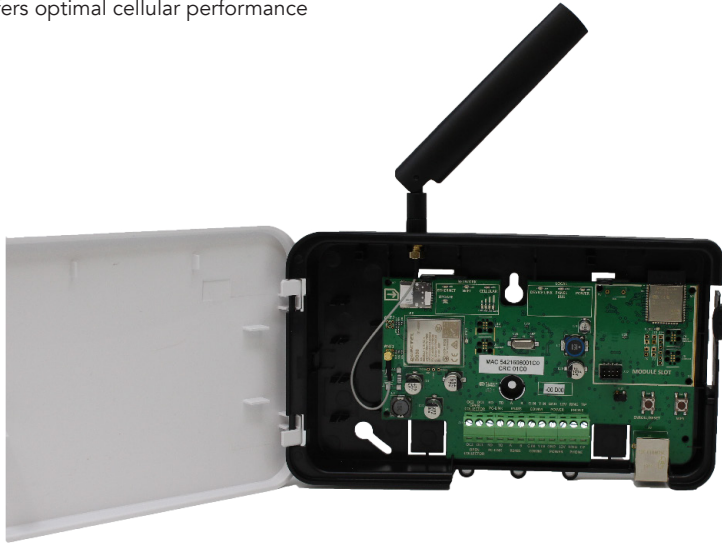- Better performance
- Antenna can be hidden in the wall



### Wall Drop antenna - RE036-0
- 1-foot antenna
- Better performance
- Antenna can be hidden in the wall

### *Side Mount Antenna - RE046*
- Best performance
- Offers optimal cellular performance



### *Antenna Removal and Installation*

1. Pull up gently on the internal antenna's connector to release it from the cellular module.
2. Remove the internal antenna.
3. Break out the plastic plug in hole at top of enclosure.
4. Install the large (MMCX) end of the supplied cable in hole in top of enclosure, and secure with supplied nut.
5. Snap the small end of the supplied cable into the circuit board.
6. Thread the high gain antenna to the MMCX connector at top of enclosure.

### *Other cellular antenna options*
- Nearson T6155AM-LTE-S
- Taoglas TG.30.8113
- Laird DBA6927C1-FSMAM

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## Specifications

| Physical | |
|---|---|
| Housing Dimensions | 8.5 x 5.0 x 1.3 inches (21.6 x 12.7 x 3.3 cm) |
| Weight | 10.0 ounces (283.5 g) |
| Mounting Fasteners | #6 screws and wall anchors (included) |
| Cover Securing Screw | #4 screw (included) |

| Device Specification | |
|---|---|
| Reported Indications | Cover Tamper, Wall Tamper |
| Current Draw | 100mA (Nominal) |
| Input Voltage | 9 - 14 VDC |

| Environmental | |
|---|---|
| Operating Temperature | 32°F to 120°F (0°C to 48.9°C) |
| Maximum Humidity | 85% non-condensing relative humidity |

| Models | |
|---|---|
| BAT-CONNECT-V | BAT-Connect, Verizon |
| BAT-CONNECT-A | BAT-Connect, AT&T |

| Certification | |
|---|---|
| BAT-CONNECT-V | FCC, IC, Verizon |
| BAT-CONNECT-A | FCC, IC, AT&T |

Specifications subject to change without notice

### FCC NOTICE
This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.
(2) This device must accept any interference that may be received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Alula could void the user's authority to operate this equipment.

RF Exposure:

To satisfy FCC RF Exposure requirements for mobile and base station transmission devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended.

**Cellular**
   FCC ID:  XMR201707BG96
**Wi-Fi**
   FCC ID: 2AC7Z-ESPWROOM32D

Scan QR for most up to date manual, features, and compatibility

### TRADEMARKS
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Google Play is a trademark owned by Google LLC.

### IC NOTICE
This device complies with 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.
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.
**Cellular**
   IC: 10224A-201709BG96
**Wi-Fi**
   IC: 21098-ESPWROOM32D