



Alert Beacon®

Installation Guide

This guide provides typical installation instructions. Please bear in mind that building codes vary and the technician installing the Alert Beacon is responsible for compliance with any relevant codes.

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About Alertus

Alertus Technologies is a pioneer and market leader of emergency mass notification systems for large-area, high occupancy facilities. Since 2002, Alertus has engineered innovative solutions for unified mass notification, in-building notification, outdoor notification, and personal notification. Thousands of institutions and enterprise organizations worldwide trust and rely on Alertus to protect millions of people. To learn more, visit www.alertus.com.



Alert Beacon® Installation

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Specifications

- Dimensions: 5.9 "H x 7.2 "W x 2.2 "D
- Weight: 2 lbs
- Colors: Yellow, White
- Power: 24VDC or AC or POE
- Data Input: TCP/IP port 80
- Temperature: 0-35C with batteries installed, 0-55C without batteries



Installation Kit

- Alert Beacon
- Flush Mount
- Surface Mount

Due to differences in installation styles and locations, it is the responsibility of the customer to supply a power cable in the appropriate length. If using DC: 18AWG, 2-conductor cable is suggested, if using AC: 18AWG 3-conductor cable is suggested, if using POE: CAT5e is suggested; please ensure compliance with applicable building codes.

Installation Overview

1. Determine desired mounting location
2. Determine power source
3. If necessary, install electrical box / wiremold to supply power to the Alert Beacon
4. Affix mounting bracket to the wall
5. Connect power / cables to the Alert Beacon
6. Set DIP switches, if applicable
7. Record the Unit ID and location description
8. Snap the unit into the mounting bracket
9. Test the unit

This guide provides typical installation instructions. Please bear in mind that building codes vary and the technician installing the Alert Beacon units is responsible for compliance with any relevant codes.

General Mounting Guidelines

Recommended locations for installing Alert Beacon units include:

1. Heavily trafficked building corridors
2. Lobbies and points of egress
3. Administrative desks

For optimal coverage, each hallway and common area should contain at least one unit. Suggested mounting height is 48" above finished floor, in accordance with accessibility recommendations.

Install location with a drop ceiling:

- The preferred method is to install an electrical outlet in the ceiling, and use a plug-in AC transformer (e.g. Mouser Part # 507-XT2420, or AllElectronics Part # ACTX-2420). This presents a number of advantages:
 - Plug-in transformers include a locking screw to prevent accidental unplugging.
 - Power can be disconnected without needing to turn off the mains; simplifies maintenance (i.e. if power supply needs to be replaced)
 - The power supply for an external siren or strobe can be connected to the second outlet, providing for future expansion.
 - AC plug-in transformers do not come pre-wired, so it is necessary to obtain crimp-on spade lugs for the transformer connection, a compatible "Euro-block" style connector (Digi-Key Part # ED2779-ND or ED1701-ND) for the Alert Beacon connection, wire strippers and an appropriate crimp tool. See the section on "Connecting Power", below.

Install location without a drop ceiling:

This typically requires a standalone step-down transformer. These are often slightly more expensive than the plug-in type, and are more complicated to install. However, this method is sometimes necessary if there is no place to install an outlet, or for aesthetic reasons. While a full install procedure for a hardwired transformer is beyond the scope of this document, the following are some UL-approved models known to function well with the Alertus Alert Beacons:

- Foster Transformer, Model 15343
- Grainger Item #6WU91 (fits inside a deep double-gang box)

The sample photos at the end of this document illustrate examples of installations using hardwired AC transformers.

Mounting Options and Accessories

Select a suitable mounting option from the three options below. Installation examples of each mounting option are provided at the end of this manual.

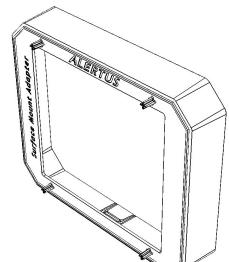
Flush Mount Bracket

The low-profile flush mount bracket is included standard with every Alert Beacon. By itself, this bracket is suitable for mounting the unit on drywall, or anytime the power cables can be run inside the wall. It attaches directly to a double-gang electrical box using 2 to 4 #6-32 screws (1 ½" length suggested). Note that the box must be recessed into the wall; if this is not an option (i.e. on masonry walls) then the additional Surface Mount Adapter should also be used.



Surface Mount Adapter

If it is not feasible to recess the electrical box inside the wall, then a Surface Mount Adapter may be required. This extension combines with the standard Flush Mount Bracket to increase the total depth, allowing the Bracket to mount on a double-gang surface mount Wiremold box.



The inner rim of the Surface Mount Adapter has punchouts on the top and bottom to allow cable entry via Wiremold conduit.

If you have received a Surface-Mount Adapter as part of a first article kit, please note that while there is no additional charge for these parts, they are not included unless requested. If you have determined that your installation will require Surface Mount Adapters, please make your sales representative aware of the quantity you would like to receive.

Wire Desk Stand

The desk stand provides a simple and easy option for deploying Alert Beacons at administrative desks or in offices, as well as in temporary locations. Other stand options are also available; contact Alertus for details.



Optional Accessory: Wire Guard

To protect against theft, vandalism, or accidental damage (in locations such as a gymnasium) Alertus offers a wire guard cage as an optional accessory.



Mounting the Bracket

The procedure for attaching the bracket depends on the bracket type.

Flush Mount Bracket

The low-profile, "Flush Mount" bracket is designed to mount to a standard double-gang electrical box. The box should be installed as normal, i.e. recessed into the wall so that the mounting tabs are flush with the wall surface. All required wiring should be run into the box before proceeding.



Once the box is securely mounted to the wall, attach the flush mount bracket using 2 to 4 #6-32 screws (1 ½" length suggested.) The inner-most holes on the bracket should line up with the appropriate holes on the double-gang box. Figure 3 shows an installed Flush Mount bracket.

Surface Mount Bracket

The Surface Mount bracket mounts to a "shallow" surface-mount receptacle box such as Wiremold part #V5747-2, as shown in Figure 4. #6-32 screws (1 ½" long) are required. The inside of the bracket includes prefabricated punch-outs for a variety of wiring conduit sizes, allowing connections from the top or bottom.



Connecting Power to the Beacon

After determining the desired mounting option, the next step is to make the power connections. Select the procedure appropriate for the chosen power source.

Connecting DC Power

The Alert Beacon can operate on DC power from 13.4V to 24V, and requires a maximum of approximately 15W. The required barrel plug dimensions are 2.5mm inner diameter and 5.5mm outer diameter. To use DC power, simply

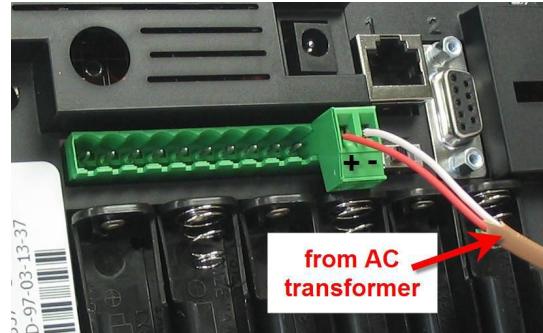
connect the barrel plug to the appropriate jack on the Alert Beacon, as shown in Figure 2 (see page 2 of this guide.) After connecting power, proceed to the next section to select the appropriate DIP switch settings.

(Note: While it is possible to use a DC adapter for a wall-mount installation, this is not recommended. If 13.4V-24V DC is available, it can be connected using the Auxiliary Port connections similar to the AC power connection method described below, although care must be taken to observe the proper polarity.)

Connecting AC Power

AC power connections are made through the Alert Beacon's Auxiliary Port (green Euroblock connector.) Either a 12-position or 2-position plug can be used (typically, Alertus will ship a 2-position plug with the Alert Beacon when the customer is using AC power.) Make the connections according to the procedure below.

1. Attach one end of a two-conductor cable to the AC power source. Refer to the Power Options section on page 2 for a list of suitable AC transformers, if required.
2. Strip the wires carrying the low voltage AC power and insert them into the terminal block plug, as shown in Figure 5 (above.)
3. Insert the plug into the terminal block on the back of the Alert Beacon.



The Alert Beacon should now be receiving AC power. Proceed to the next section to select the appropriate DIP switch settings.

Connecting Power over Ethernet (PoE)

When using PoE, the only required connection is the data/power cable from the PoE data equipment. Use Category 5e or Category 6 cabling, with standard RJ-45 connectors. After connecting the cable as shown in Figure 6, proceed to the next section to select the appropriate DIP switch settings.



DIP Switches

Certain aspects of the Alert Beacon's behavior can be configured using DIP switches, located on the back of the unit as shown in Figure 7. The switches are numbered from 1-3, and function as follows:

- DIP1 – Set to ON for Low Power Siren mode. This limits the maximum siren intensity and should be set when the Alert Beacon is installed in small or enclosed areas.
- DIP2 – Set to ON to allow the siren to be muted by pressing both front buttons. This is NOT recommended when installing in public areas! It is intended for use when the unit is installed in an administrative office (such as a police dispatch center) where continued siren operation may interfere with emergency response operations.
- DIP3 – Reserved for future use. This switch should remain set to OFF.



Power Switch

The last step before attaching the Alert Beacon to a Mounting Bracket is to set the Power Switch to 'ON'.



Attaching an Alert Beacon to the Mounting Bracket

Once all required connections have been made and the appropriate DIP switches have been set, attach the unit to the mounting bracket using the following procedure:

1. While tilting the Alert Beacon towards the bracket as shown, attach the clips on the top rear under the slots on the bracket.
2. Once the top clips are in place, rotate the bottom edge of the unit towards the bracket while continuing to apply slight upwards pressure.
3. After the Alert Beacon is fully aligned, apply firm pressure towards the wall until the unit is caught by the retaining clip. Ensure that the clip is holding the unit securely.



Security Screws

While the standard mounting bracket provides sufficient attachment for most locations, the bottom of the bracket also includes threaded inserts for security screws. These can be installed as a deterrent to accidental or malicious removal of the unit, or to provide additional tamper protection for units in isolated areas. These inserts require pan head #6-32 screws, $\frac{3}{4}$ " long (screws over 1" long may interfere with the electrical box.) For additional security, use tamper-proof screws such as the #6 spanner head (Screws and driver available from McMaster-Carr: P/N 94066A151 (screws) and 94062A114 (driver).)

NOTE: Alertus does not include screws for this purpose due to the wide variety of tamper-proof screw designs on the market, and the fact that many organizations already have a preferred bit/driver type.

Post-Install Tasks

In order to properly configure the localized notification capabilities of the Alertus Notification system, administrators must have a record of the Unit ID and location of each Alert Beacon. Alertus provides [Alert Beacon Install Logs](#) for this purpose.

After completing an installation, record the 4-digit Unit ID (found on the white label on the rear of the unit, highlighted in Figure to the right) and a short description of the unit's location, such as "Mathematics Building, East hallway near lobby" or "Smith Dorm, near main entrance".



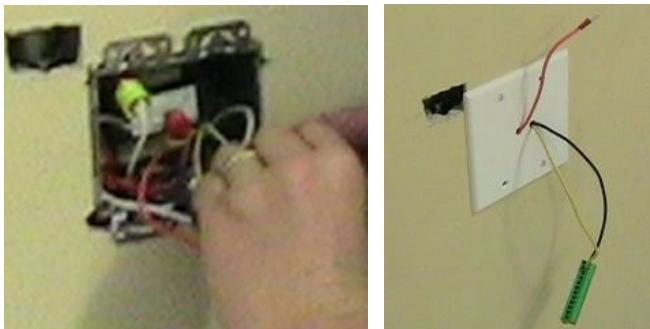
Removing an Alert Beacon

The release mechanism operates similar to a standard fire alarm. To remove an Alert Beacon, first remove the security screws (if applicable.) To release the retaining clip, insert a small flat-head screwdriver (or similar tool) into the slot on the bottom of the Alert Beacon housing. Press gently but firmly until the clip releases; continue to hold the clip while tilting the Alert Beacon upwards out of the mounting bracket. The stages of the release procedure are illustrated in the images below.

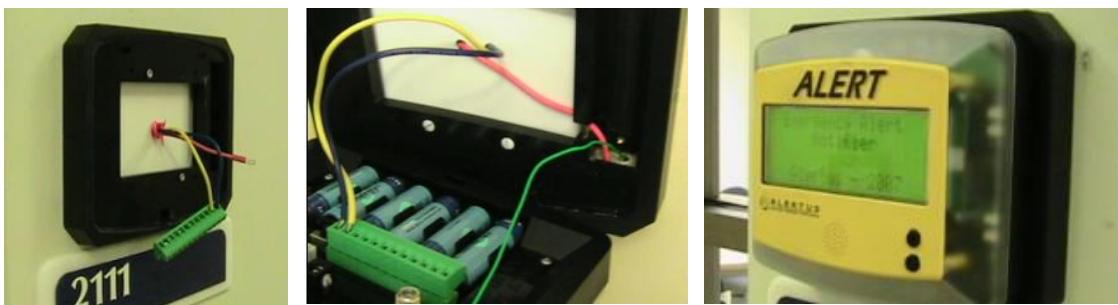


Example: Flush Mounting (Hardwired AC transformer, FM Datalink)

1. Hardwired a step down transformer in a double gang electrical box.
2. Drilled holes in faceplate for wires to come through. Two screws hold the face-plate and two screws secure the mounting bracket (next photo).

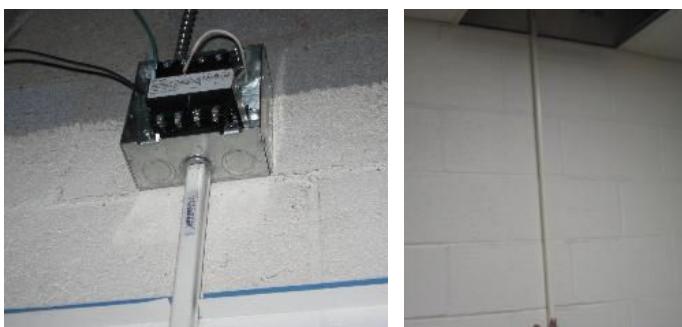


3. Installed mounting bracket onto double gang box with the transformer located inside.
4. Connected AC Power plug to Alert Beacon. (Note: The unit in this example received data over a wireless FM datalink; the green wire on the right was an antenna.)

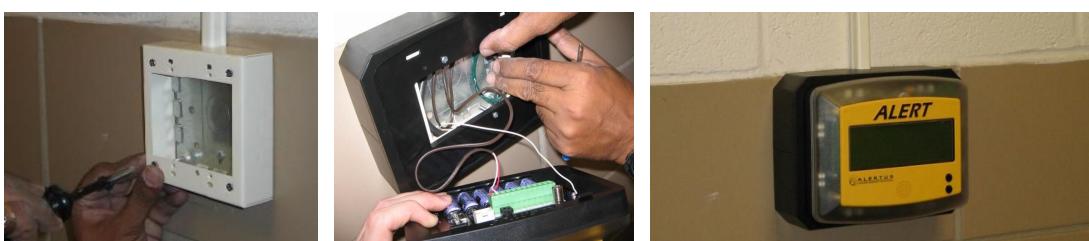


Example: Surface Mounting (Hardwired AC transformer, FM Datalink)

1. 120VAC from a nearby emergency exit sign was brought into an electrical box installed above the drop ceiling.

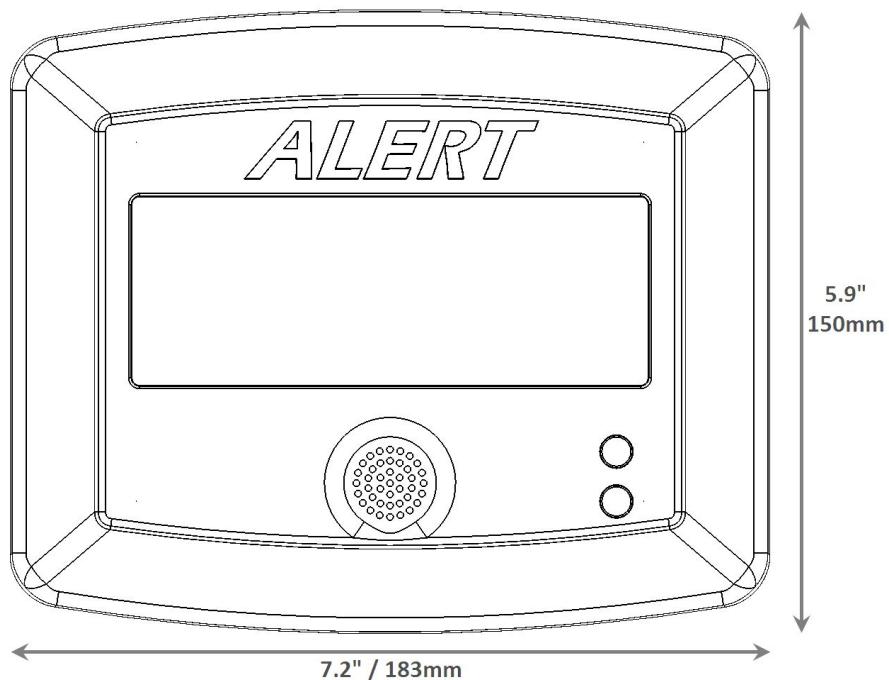


2. 500 Series Wiremold was brought down from the electrical box.
3. A Wiremold double-gang surface mount box was installed.
4. The Surface Mount Backplate screws into the Wiremold box.



Appendix: Dimensional Drawings

Alert Beacon, front view (no mounting bracket)



Alert Beacon, side views

