

Wi-Fi Array Outdoor Enclosure

812-0047-001, Revision B

Installation Guide

The Wi-Fi Array Outdoor Enclosure is intended for all outdoor applications where securing any Wi-Fi Array from harsh environments is required. Features built into the Wi-Fi Array Outdoor Enclosure (*referred to as the Enclosure in the rest of this guide*) include protection from rain, heat, cold, direct sun, and wind while providing an additional layer of physical security.

The key features of the Enclosure include:

- ▶ Weatherproofing and lightning protection.
- ▶ Heater for cold weather locations.
- ▶ Fan cooling with filters.
- ▶ RP-TNC connectors increase flexibility in antenna selection and usage.
- ▶ Flexible mounting options for pole and wall mounting capabilities.



General and Environmental Product Specifications

- ▶ **Power Input:** Auto-sensing 110/240 VAC, 50/60 Hz, single phase
- ▶ **AC Power Consumption:** 40W typical, 180W maximum (with Wi-Fi Array).
- ▶ **Dimensions:** 14 inches tall x 24 inches diameter (without accessories).
- ▶ **Weight:** 47 lbs (21.3 Kg) without Wi-Fi Array installed and 56 lbs (25.4 Kg) with Array
- ▶ **Operating Temperature:** -40°C to +55°C with internal heater option, or 0°C to +55°C without heater options.
- ▶ **Humidity:** 10% to 90% non-condensing.
- ▶ **Wind Survivability:** >165 mph

Choose Your Preferred Mounting Option

The Enclosure can be mounted to a vertical structure or mounted on a pole (if no suitable vertical structure is available at the location). Mounting the enclosure to an existing vertical structure with a flat surface (for example, a wall), the enclosure's mounting arm can be attached directly to the structure with two mounting screws.

Installer Note: Insure that the mounting screws used can support a vertical load of at least 100 lbs (allowing for the Outdoor Enclosure, Wi-Fi Array and snow load).

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If the enclosure is to be mounted on a pole, the pole mounting kit is required. This kit is included with the Enclosure as shipped.

Basic Installation Tools Required

To properly and safely install the Enclosure, at least 2 persons are required. Additionally, the following tools may be required, depending on your particular installation site and the current configuration of the surface on which the Enclosure is to be mounted (for example, the pole may already have an access opening for data and power).

- ▶ Band-It Tensioner Tool (Model C001 or equivalent. See www.BAND-IT-IDEX.com)
- ▶ Hammer
- ▶ Drill Motor
- ▶ 2-1/2" Bi-Metal Drill Bit
- ▶ Metal Shears
- ▶ Philips #2 Screwdriver
- ▶ Torx T-15 Screwdriver
- ▶ 7/16" Nut Driver
- ▶ Small Wire Cutters
- ▶ Wire Strippers
- ▶ 14 gauge Wire Nuts (3 required)

Accessory Kit

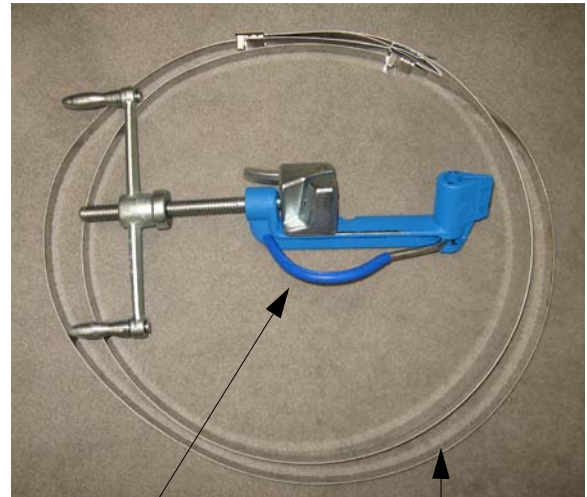
Included with the Enclosure is an accessory kit that includes the following parts:

- ▶ Flexible Straps 50" x 3/4" (2, stainless steel) - for attaching to poles of up to, but not exceeding, 12" in diameter (the strap dimensions are 3/4" x 50").
- ▶ Temporary Strap (1)
- ▶ Female/Female RJ45 straight through connectors (2)
- ▶ Pole Gasket (1)
- ▶ 1" x 12" Watertight Flexible Conduit (1)
- ▶ Arlington 1" Watertight Flexible Connector (1)
- ▶ 1/4-20 x 1/2" Bolt (4)
- ▶ Quick Install Guide

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- ▶ The Flexible Straps are used with the Tensioner Tool as depicted on the right. See also “Fastening the Flexible Stainless Steel (BAND-IT) Straps” on page 13.

Installer Note: Use a proper tensioner tool with Flexible Straps to insure a long lasting and secure installation. Do not use hose or worm-drive clamps that can vibrate loose over time.



Tensioner

Straps

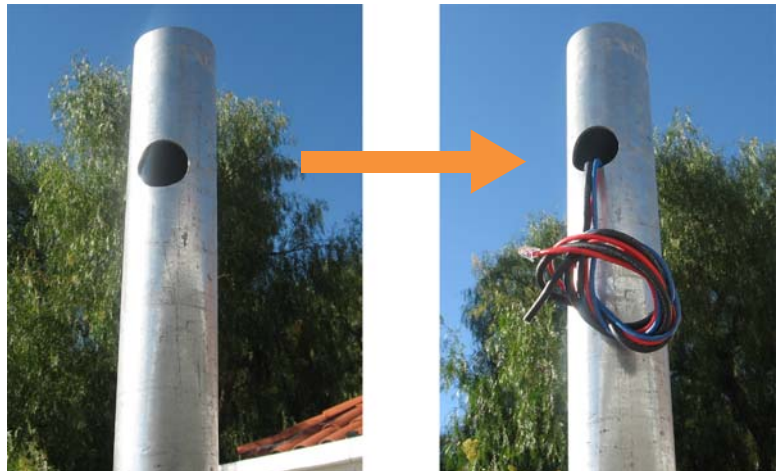
Prepare Pole for Mounting of the Enclosure

This procedure assumes that the pole has been firmly secured in an upright position.

Insure that the Wi-Fi Array has been REMOVED from the Enclosure before beginning the installation of the Enclosure.

A 2-1/2" access hole is required for the data and power to be supplied to the Wi-Fi Array. If the

necessary access hole is not already present at the location where the Enclosure mounting arm will be attached, it will be necessary to drill one.



1. Drill a 2-1/2" access hole in the pole for the electrical cabling at the approximate height where the mounting arm will be attached.
2. Run the electrical and data communication cables that are to be connected to the Wi-Fi Array. Feed them from the base of the pole and up through the pole, leaving about 2 feet of excess cable exposed from the access hole. Coil the excess cable loosely so that it won't fall back inside the pole. Once the cables are connected to the Enclosure, this excess service loop cable will be pushed back down inside the pole.

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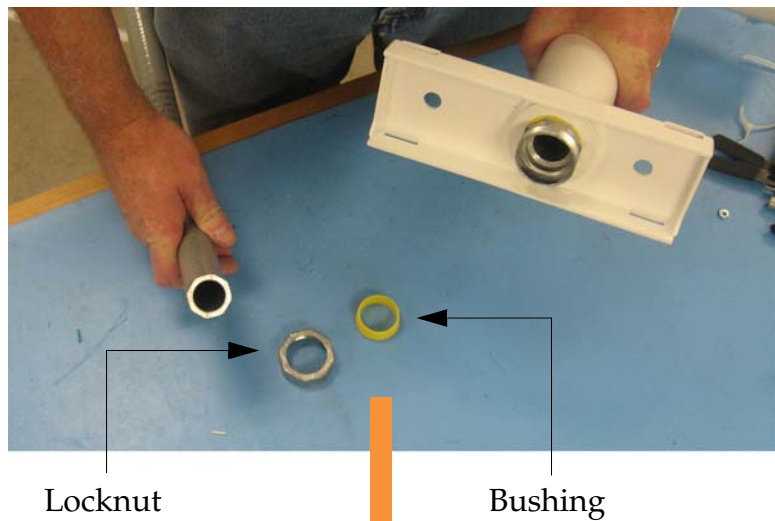
3. Ensure that the AC Electrical connection that will power the Array is SINGLE Phase, 110VAC - 240VAC, 50/60Hz and able to supply a minimum of 2A (250W). For proper operation and safety of the product, a good, separate AC Earth Ground is required.

Installer Note: *Ensure that the AC Supply is OFF!*

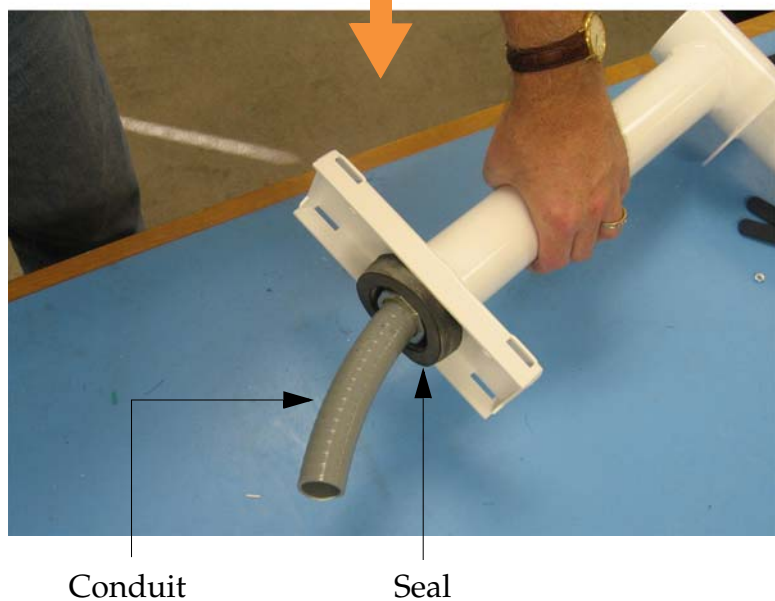
Installer Note: *The data cables should be terminated to an RJ45 connector, using TS568-B connections on both ends. Use the provided RJ45 female to female connectors to connect the cables provided in the Wi-Fi Array to the cables provisioned in the pole.*

Prepare Mounting Arm

1. Connect the 1' section of flexible 1" electrical conduit to the enclosure's mounting arm by securing the conduit to the mounting arm with the bushing and locknut provided and illustrated on the right.



2. Install the foam seal. Place the foam seal over the conduit with the narrower side towards the bracket. Push it over the conduit till it is seated flush against the bracket.



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Connect Data and Power Cables

1. Connect the Data and Electrical cables previously installed in the pole, to the Enclosure.

Installer Note: *Ensure that the AC Supply is OFF!*

- a. Connect the RED and BLUE Enclosure Data cables to the Data Cables provisioned in the pole, using the two RJ45 F/F connector blocks provided. Note that the RED Enclosure Data Cable is Gigabit Ethernet Port 1 connected to the Wi-Fi Array, and the BLUE Enclosure Data Cable is Gigabit Ethernet Port 2.



- b. Connect the 115 VAC supply to the 16AWG 3-Wire BLACK AC pigtail cable exiting the Enclosure mounting arm. Connections should be made as follows:

WHITE = AC Neutral

GREEN = AC EARTH GROUND

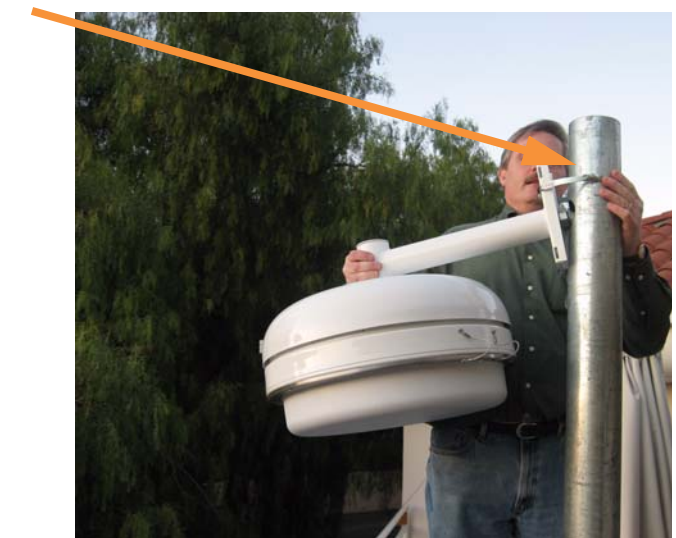
BLACK = AC LIVE (110/240VAC, 50/60Hz)

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Mount Enclosure on Pole

1. Temporarily attach the Enclosure to the pole using the Temporary Band provided in the Accessory Kit.
 - a. Position the Temporary Band on the pole in a position that allows the band to slide down, over the top of the mounting arm plate.
 - b. Feed the excess Enclosure cabling into the pole.
 - c. Slide the Temporary Band down over the top of the mounting arm.

Installer Note: *The Enclosure will remain in place, supported by the provided Temporary Band.*



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2. Attach the first of the two stainless steel Flexible Straps through the two slots provided on the base of the Enclosure Mounting Arm. .

Installer Note: *Ensure that the Flexible Strap is correctly positioned, with the band folds positioned out. For detailed instructions on the installation of the Flexible Stainless Steel (BAND-IT) Straps, see "Fastening the Flexible Stainless Steel (BAND-IT) Straps" on page 13.*



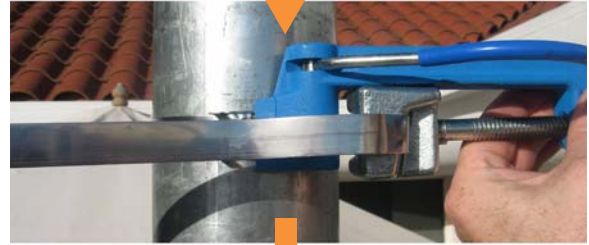
Feed strap through bracket

3. Apply hand tension to the lower strap.



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4. Use the Tensioner Tool to apply tension to the lower strap, then cut the excess from the strap (the tensioner includes the cutting mechanism).

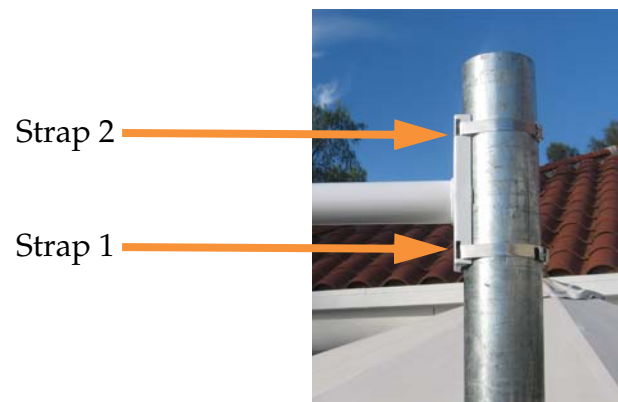


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5. Slide the strap's locking plate into position, then use a hammer to secure the cut end of the strap with the locking plate's tabs, ensuring that the cut end of the strap is not exposed.



6. Repeat Step 2 through Step 5 to attach the upper strap and complete the installation of the enclosure's mounting arm.



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7. Install the Wi-Fi Array Mounting Plate:

Installer Note: Make sure that the orientation of the Wi-Fi Array is clearly understood and decided prior to the installation of the Mounting Plate. It is recommended that Radio ABG2 (denoted on the face of the Wi-Fi Array) be positioned towards the pole. Note that the photos on the right do NOT show this orientation - they show the opposite orientation.

- a. The Mounting Plate comes with a foam pad already attached. Make sure that the hole in the foam pad aligns with the Mounting Plate's access hole.
- b. Using the Wi-Fi Array Mounting Plate that is supplied with your Array product, thread the Data and Array power cable through the access hole on the Array Mounting plate.
- c. Using the four 1/4-20 x 1/2" bolts provided in the Accessory Kit, secure the Wi-Fi Array mounting plate to the enclosure housing as depicted on the right. Tighten all 4 bolts to 10–12 ft.lb (1.38–1.66 kg.m). Do not overtighten. The Outdoor Enclosure is now ready to accept the Wi-Fi Array.



Wi-Fi Array cables

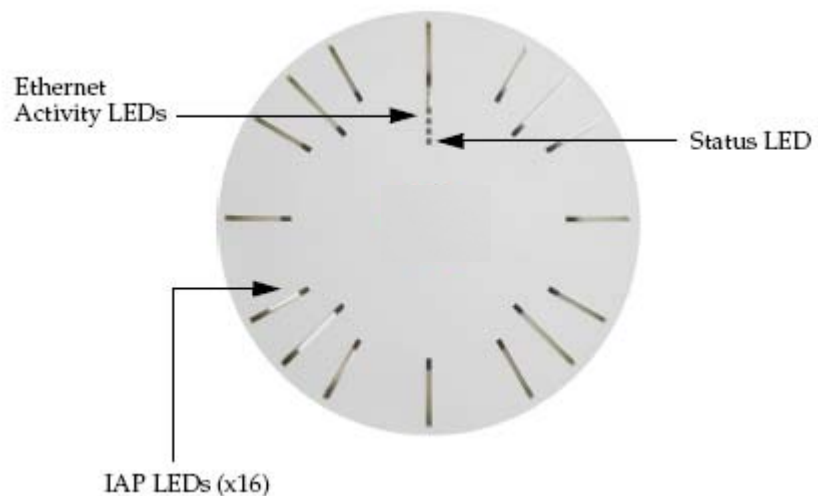


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Install the Wi-Fi Array in the Enclosure

1. Connect the RED Cat5 cable to the Gig 1 port on the Array.
2. Connect the BLUE Cat5 cable to the Gig 2 port on the Array.
3. Connect the AC Cord to the Power Supply on the Array.
4. Turn ON the Wi-Fi Array.
5. Mount the Wi-Fi Array to the Mounting Plate by carefully threading the excess power and data cable back through the access hole on the mounting plate. Secure the Array to the mounting plate by carefully locating and twist-locking the Wi-Fi Array to the mounting plate.
6. Turn on the 115 VAC power supply to the Array.

Installer Note: *The Array will begin its boot up process, indicated by the LEDs on the face of the array. If the Array does not boot up successfully as described below, check the installation. If none of the LEDs light at all, check that the unit is receiving power.*



- a. The green status LED will light first, showing a steady flashing while the unit boots. In the event of a boot failure, this LED will change to flashing red.
- b. The Ethernet Link/Activity LEDs on the underside of the Array will light for those ports connected to the network.
- c. All IAP radio LEDs will light simultaneously.
- d. As the Array boots, a sequential LED pattern will cycle through all the radio LEDs.
- e. When the Array completes booting, the status LED will show a steady green, and all radio lights will show the current state of those radios.

Installer Note: *Make sure that the Array has booted up, BEFORE proceeding to the next section to close the Enclosure.*

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Close and Seal the Enclosure

Installer Note: Ensure that the large black gasket is securely and correctly seated on the Enclosure opening as shown.

1. Now that the Wi-Fi Array is securely mounted to the Wi-Fi Array Mounting plate, swing the plastic Enclosure dome cover closed.
2. Using a Torx T-15 screwdriver, tighten the six locking screws located on the dome.

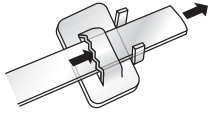


Installer Note: Never remove any of the six dome locking screws. These are captive screws, ensuring that they will not be lost.

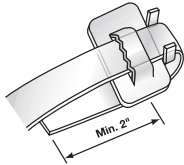
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Fastening the Flexible Stainless Steel (BAND-IT) Straps

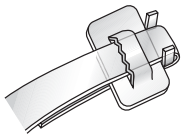
The following instructions detail how to install and fasten the provided straps, using the BAND-IT tensioning tool (not included). For more information, see the web site: www.BAND-IT-IDEX.com.



1. Pull appropriate length of band from BAND-IT Tote (approx. 3 1/2 times the diameter of the pole or mast arm for a single-wrapped clamp and double-wrapped clamp. Add 6 – 8 inches for both single-wrapped and double-wrapped clamps to accommodate the tail and bracket design.) Cut the band using one of the BAND-IT tools with built-in cutter. One end of the band will be very flat and the opposite end will be slightly bent from the cut-off.



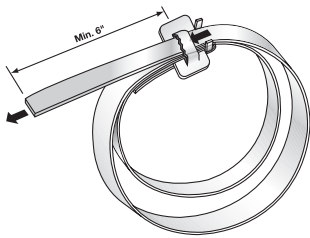
2. Holding the buckle in one hand, with ears pointing upward and to the right as shown, insert the bent or twisted end of the band through the buckle "bridge," past the ears and bend so that at least 2 inches are underneath the buckle.



3. Squeeze the "lip wrap" to flatten the bend preventing "pull-out" during tensioning.



4. Wrap band through sign bracket and around the pole or mast arm and thread through bridge as shown.



5. Repeat a second wrap of band through the bracket and buckle for a continuous double-wrap application. Double-wrapping develops greater radial compression than single-wrapped clamps and more than doubles the holding strength for heavy objects and high wind loads.



6. Place band in open slot of tool nose and gripper block. Move into slot as far as possible to prevent buckle from sliding into tool nose. With thumb on band gripper lever, apply tension by turning handle of tool. After tension is created, it is no longer necessary to hold the band gripper lever as it locks itself under tension. When band stops moving through buckle, maximum tension has been applied. Stop turning handle.



7. To set the lock and cut off band, roll tool nose over buckle, relieving a slight amount of tension by backing off tension handle during this fold over operation. Failure to back off tension handle throughout the entire course of roll over may result in breaking band. On the other hand, releasing too much tension may result in a loose clamp.



8. Pull cutting handle to cut the band.



9. Remove tool, holding stub of band down with thumb.

10. Hold clamp tail down between ears while hammering the buckle ears down to hold band stub in place. This completes the secure BAND-IT clamp.

Fluted Pole Applications

When tensioning a conventional clamp over a fluted pole, it is necessary to extend the length of the "lip wrap" several inches to assure contact with 2 or 3 flute ridges. Buckle placement over a ridge is important to provide support for the lock and prevent the "lip wrap" from shifting.

