

External Antenna Capability Retrofit Kit

For converting meters with internal antenna to external antenna capable

General

Typically, the internal antenna in the A3 ALPHA[®] meter with the ILC/ILN option board is sufficient for reliable communications within the EnergyAxis[®] network. However, if the meter is enclosed in a meter cabinet or the antenna needs to be elevated to increase communication distances, an external antenna may be required. An A3 ALPHA meter is typically factory configured for either internal or external antenna operation; but, if necessary, it may be converted from an internal antenna to an external antenna capable meter.

This leaflet contains instructions for converting an A3 ALPHA meter from an internal antenna to an external antenna capable meter using the external antenna conversion kit 1B12317G01.

⚠ WARNING

Use authorized utility procedures to install and service metering equipment. Dangerous voltages may be present. Equipment damage, personal injury, or death can result if safety precautions are not followed. Use circuit closing devices on current transformer secondaries (Forms 3S, 4S, 5S, 5A, 6S, 6A, 8S, 9S, 10S, 10A, 26S, 29S, 35S, 35A, 36S, and 36A meters). Equipment damage, personal injury, or death can result if circuit closing secondaries are not used.

⚠ CAUTION

The meter and option boards contain components that are sensitive to electrostatic discharge (ESD). When installing, servicing, or removing the meter or any option board, connect to ground with a wrist strap and follow safe ESD procedures. Failure to properly ground both you and the electronic devices or to follow safe ESD procedures to avoid ESD can result in equipment damage.

The external antenna capability retrofit kit contains the following parts:

Item	Part number
Pan head screw (type 25)	4072B34H03
Antenna isolation board	1B12154G02
Retaining clip	4074B14H01
Antenna cable	1B11554G01
Wire tie	3A34307H01
Tie mount (not used but may be included in kit)	3A35042H01

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Removing an internal antenna

1. Position the meter on a workbench so that the top of the meter is facing away from you.
2. Loosen the electronic assembly by turning it approximately 10 degrees counterclockwise.

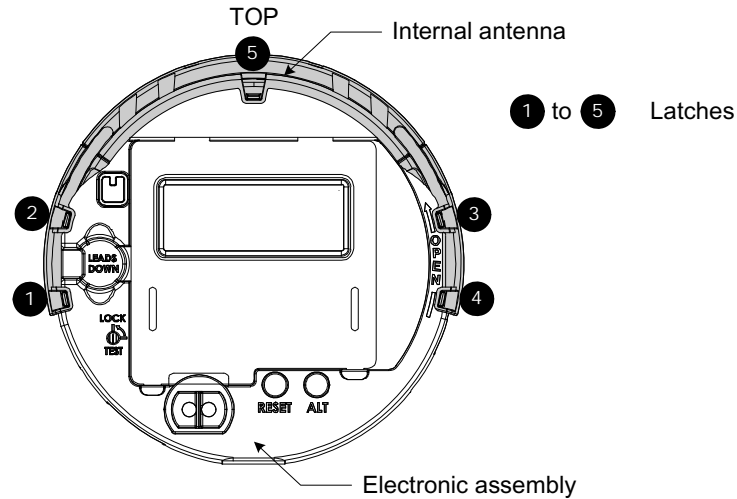


Figure 1

3. Disengage the electronic assembly from the meter base, offset it slightly to one side. Do not disconnect any cables between the electronic assembly and the meter base.

It is not necessary to completely remove the meter module from the base. You only need to have access to key areas within the assembly.

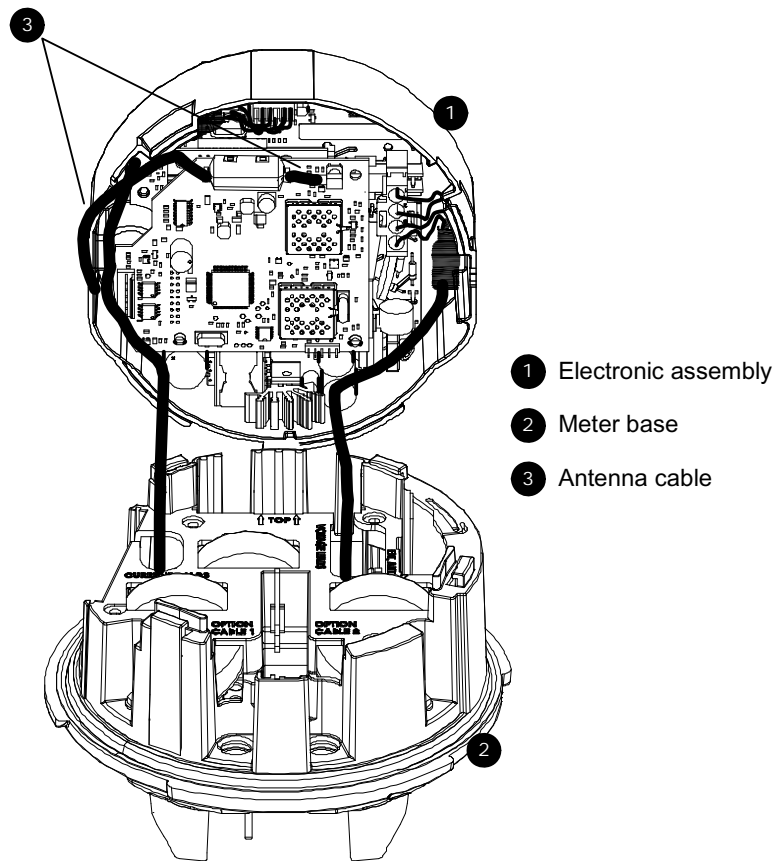


Figure 2

4. Disconnect the antenna cable from the option board.
5. Unlatch latches ❶, ❷, ❸, and ❹ (see Figure 1) and gently pry open both sides of the antenna about ½ inch.
6. Press downward on the left and right sides of the antenna slightly to disengage the lower left and right antenna latches.
7. With a small flat blade screwdriver, gently pry up and disengage the latch ❺ (see Figure 1).
8. Move the internal antenna assembly toward the bench top surface using a hinge-like motion about the top antenna mounting hole. The antenna should then pull easily from its mounting hole and can be removed from the electronic assembly.

Installing the antenna isolation board

1. Position the electronic assembly to the left side of the meter base to allow access to the cavity labeled “EXT ANT” on the right side of the meter base.
2. Use a #1 Phillips screwdriver to punch through the plastic knock-out labeled #33. Discard the knock-out chip.
3. Insert the antenna isolation board into the EXT ANT slot, with the component side facing outward and the coax cable extending from the top of the board.
4. When the card is properly seated in the card guides, it will lock into place as it is pressed down completely.

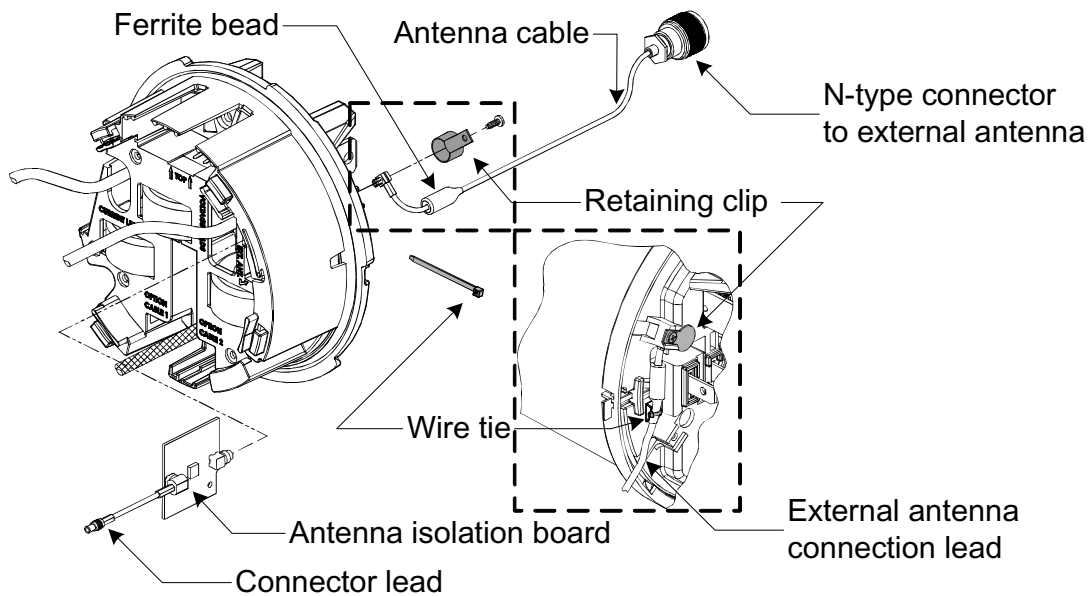


Figure 3

5. Connect the antenna isolation board's connector lead to the option board.
6. Reattach the electronic assembly to the meter base by engaging the guides and turning the module approximately 10 degrees clockwise.

Attaching the antenna cable and completing the reassembly

1. Plug the MCX connector end of the antenna cable into the jack on the antenna isolation board through the knock-out hole #33. The top of the antenna cable MCX connector must be flush with the bottom surface of the meter base before the retaining clip can be installed.
2. Install the retaining clip and secure with the pan-head screw.
3. Lay the antenna cable's ferrite bead across a small slot in the meter base where the wire tie can be installed. The cable runs generally parallel to the meter blades at this point.
4. Install the wire tie through the hole in the slot below the ferrite bead and tighten until the cable is held securely. Cut off the excess wire tie material.

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