

## High gain remote mount dual band cellular/PCS antenna kit

For CDMA 1xRTT Wireless WIC equipped A3 ALPHA® meters

### General

#### NOTICE

The high gain remote mount dual band cellular/PCS antenna kit is solely intended for CDMA 1xRTT Wireless WIC equipped A3 ALPHA meters. Do not use this kit on GSM GPRS Wireless WIC equipped A3 ALPHA meters. Use of this kit on GSM GPRS Wireless WIC equipped devices constitutes a violation of the FCC operation grant.

This leaflet provides general information about contents and installation of a high gain remote mount dual band cellular antenna kit (PN: 1B12385G02) for use with A3 ALPHA meters with CDMA 1xRTT cellular wireless WAN interface card (Wireless WIC) option. For information on installing the A3 ALPHA meter, see the ALPHA meter installation instructions IL42-4001Q or later. For information on the Wireless WIC for A3 ALPHA meters, see IL42-4036A or later.

A3 ALPHA meters or EA\_Gatekeepers equipped with Wireless WIC and ordered with the external antenna option are equipped with an RF pigtail cable to connect to an external cellular antenna. This remote-mount external antenna kit supports installation locations with lower cellular signal.

This kit includes the following components:

Part	Description	Elster part number
1	10-foot LMR400 Cable N-male / N-male	7S1816H001
2	Dual band fiberglass antenna 9dbi gain	3A35279G01
3	Antenna mounting hardware	
4	Coaxial Sealant	3A35281H01
5	5/8-inch SS Star Washer	3A35280H01
6	2.4 GHz In-Line Arrestor bulkhead	7S1713H001

#### ⚠ WARNING

**Use authorized utility procedures to install and service metering equipment. Dangerous voltages are present. Equipment damage, personal injury, or death can result if safety precautions are not followed.**

A typical high gain external antenna installation kit is shown in Figure 1:

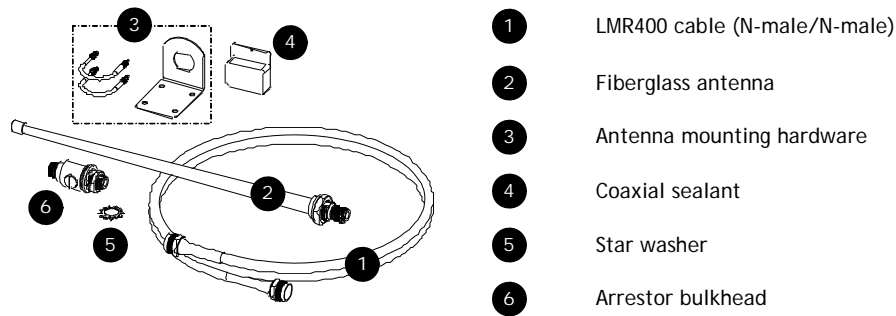


Figure 1. Typical high gain external antenna installation kit

The installation procedure includes:

- Install the bulkhead RF connector in the meter socket box and connect the meter's RF output pigtail cable to it
- Install the remote high gain antenna and RF coaxial cable
- Verify system operation

## Installing the bulkhead RF connector

### ⚠ WARNING

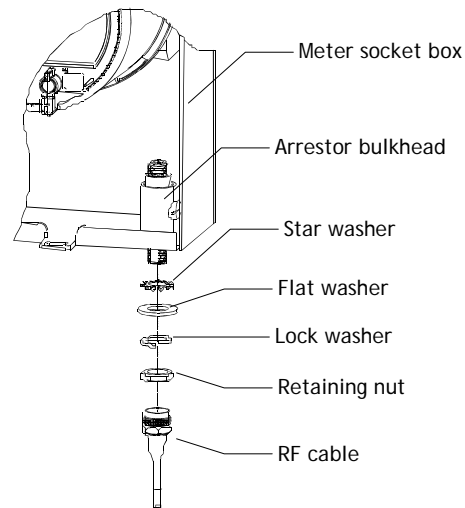
Use approved utility safety procedures while installing the remote antenna, bulkhead and meter RF output cable in the meter socket box. Dangerous voltages may be present. Assure that there is sufficient clearance between any line-energized socket part and the exposed metal of the antenna connectors. Also assure that the external antenna is electrically bonded to the meter socket box. Failing to follow approved utility safety procedures, failing to allow sufficient clearance, or failing to electrically bond the external antenna to the meter socket box may result in equipment damage, personal injury, or death.

1. Drill and/or punch a 5/8-inch bulkhead mounting hole in the bottom surface of the meter socket box and ensure the hole is free of burrs, dirt, and debris.
2. Insert the bulkhead such that the O-ring seal mates with the inside surface of the meter socket box.
3. Install the star washer, flat washer, lock washer and retaining nut on threads extending outside of the socket box and tighten.

### NOTICE

Be sure to place the star washer on the threads of the bulkhead directly against the exterior of the meter socket box. The star washer will pierce through the paint on the meter socket box creating a good ground connection for the lightning arrestor bulkhead when the retaining nut is tightened.

4. Attach the RF pigtail from the A3 ALPHA meter to the bulkhead on the inside of the meter socket box.



## Installing the antenna and RF cable

To install the antenna and the RF cable:

1. Locate the antenna mounting hardware at an elevated location on a nonmetallic pole or structure within reach of the 10-foot RF cable and attach using the supplied U-bolts or lag bolts.

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### NOTICE

Do not mount the antenna within 20 cm of any metallic obstruction. If service cable or wire way extends up the utility pole from the meter socket, mount the antenna on the opposite side of the pole

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2. Secure the antenna to the mounting bracket and connect the RF cable between the antenna and meter socket box bulkhead.

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### NOTICE

The cable should be mounted in drip loop fashion. A drip loop is formed by bringing the cable to a point below the enclosure and then bending it back up to the connector. This forms a U-shape that allows water to run down the cable exterior. To prevent damage to the RF cable, do not exceed the minimum bend radius of 4 inches. Secure the RF cable to the pole or structure using outdoor rated coax straps to minimize cable movement due to wind load.

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3. Apply coaxial sealant to the terminations at each end of the RF cable to prevent water from entering the connections.

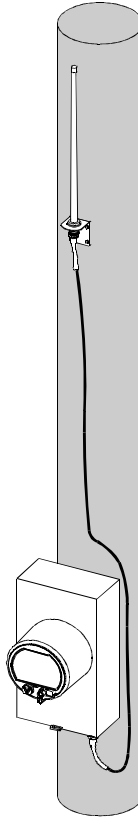


Figure 2. A3 ALPHA meter with high gain antenna

## Verifying operation

Please refer to document “A3 ALPHA meter with wireless cellular communication option” (IL-4036A or later).

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