

AMI Range Extension Kit Product Guide

March 17, 2022

Examples of Areas Where Coupler Antenna Kits will Extend AMI Range

- Basements
- Underground Parking Garages
- Remote locations
- Meters in Metal Cabinets
- Underground Vaults



Coupler Antennas

- A coupler antenna can be used on most AMI Smart meters using the Cellular, LoRa/ISM or UHF frequency bands. They can be attached to the meters without the need to remove the meter cover or turning off the power feeding the meter. Each coupler antenna has a pigtail cable with a Type-N connector for connection to the external antenna options via a coax cable run. The antenna coupler has double stick tape with a self-adhesive backing.

LTE (698 – 960MHz,
1710 – 2700MHz)
WPANT40046-S3A



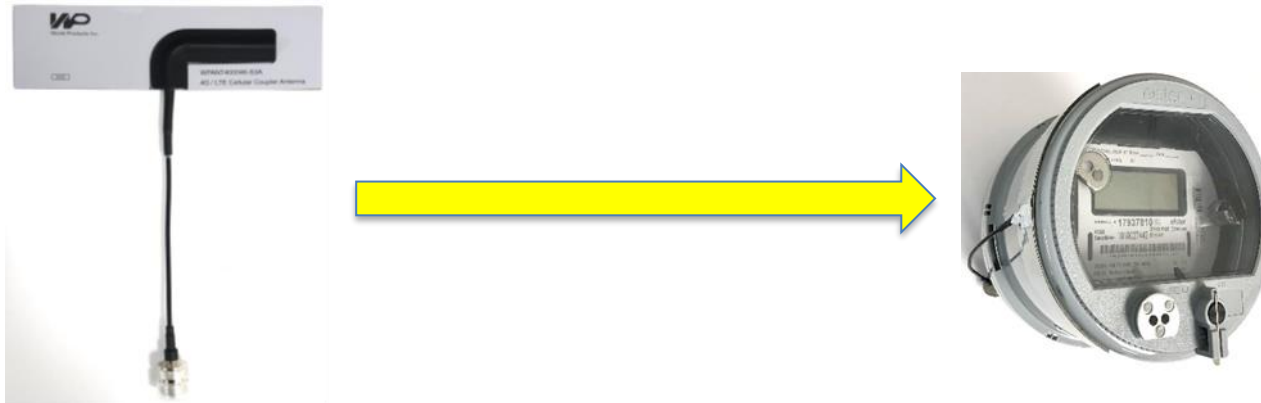
UHF
(450-470MHz)
WPANT40142-S3A



LoRA/ISM
(902-928MHz)
WPANT40016-CB



Electric Meter Coupler Antenna Attachment Procedures



In most installations the antenna should be installed on the meter as close as possible to its embedded antenna (please check with WPI for details). Before attaching the antenna, clean the surface where the antenna will be applied by gently sanding then wiping with an alcohol wipe. Once this area is dry, peel away the 3M tape backing from the antennal coupler. Attach antenna coupler to the side of meter in the 9 o'clock position as shown above.

External Antenna Options

- There are four external antenna options which can be used with each of the AMI protocols. In addition, as shown on page 7, we have a flush mount antenna specifically developed for gas, electric and water meters located in underground vaults.

- LTE



Cabinet/Bracket
Mount Omni
WPANT30202-S1B



Vandal Resistant
Cabinet Mount Antenna
WPANT30146-S5A



High Gain Omni
Mount On Any Surface
WPANT30274-R1A



High Gain, Pole Mount,
Directional Antenna
WPANT30319-R1A

- LoRa/ISM



Cabinet/Bracket
Mount Omni
WPANT30202-S1B



Vandal Resistant
Cabinet Mount Antenna
WPANT30146-S5A



High Gain, Pole
Mount, Omni
Antenna
WPANT30104-S1C



High Gain, Pole
Mount, Directional
Antenna
WPANTDP118-R1A

- UHF



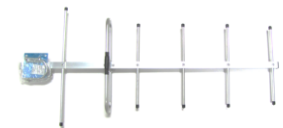
Cabinet Mount Omni
WPANT30176-S1A



Vandal Resistant
Cabinet Mount Antenna
WPANT30175-S2A



High Gain, Pole Mount,
Omni Antenna
WPANT30180-S1A



High Gain, Pole Mount,
Directional Antenna
WPANT30160-R1A

External Antenna Selection Guidelines

- For meters located inside metal cabinets we recommend the WPANT30202-S1B or WPANT30176-S1A antennas. They should be mounted on the cabinet top within 6 inches of its edge. In areas where vandalism is a concern, the WPANT30146-S5A or WPANT30175-S2A should be selected.
- For meters in basements, underground vaults, parking structures, etc., we recommend the WPANT30274-R1A, WPANT30104-S1C, or WPANT30180-S1A antennas mounted outside the building. Cable runs up to 150 feet can be used to attach to the coupler antenna. Both these antennas are typically mounted on a pole or on the outside of the building using a bracket.
- The directional high gain antennas, WPANT30319-R1A, WPANTDP119-R1A and WPANT30160-R1A are recommended for remote locations with low signal strength. They need to be pointed in the general direction of the nearest base station or where a mesh network is being used, the nearest meter location where which is connected to the network.
- Please contact WPI personnel if help is needed selecting an external antenna.

Flush Mount Antenna

- These rugged antennas provide excellent coverage in the 902-928 MHz ISM/LoRA band and UHF band from 450-470 MHz. This series of antennas is ideal for applications in high traffic areas where avoidance of trip hazards is desired. The design surpasses all ADA requirements (chapter 3, section 303). They are also designed to meet IP68 (water/dust proof) and IK10 (vandal resistant) standards. The antenna is both high performance and omni-directional. These augment our line of coupler antenna kits which were engineered to extend range of Smart Meters located in areas with challenging RF environments. Please contact us for additional information.



Cable/Connector Assembly Options

For cable runs 10 feet and under LMR200 cable is recommended. Cable runs 25 feet and over, LMR400 cable is recommended. Both assemblies come with N Type male connectors. Different cable lengths and types can be linked together using a female to female N adapter.



LMR200 Cable/Connector
Assemblies:
WPANT50206-S1A, 5 Ft
WPANT50206-S2A, 10 Ft



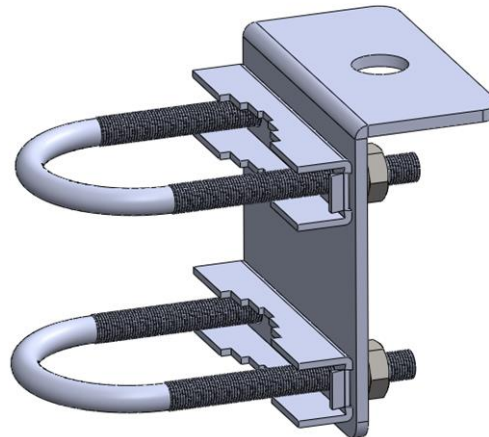
LMR400 Cable/Connector Assemblies:
WPANT50603-S1A, 5 Ft
WPANT50603-S2A, 10 Ft
WPANT50603-S3A, 25 Ft
WPANT50603-S4A, 50 Ft
WPANT50603-S5A, 75 Ft
WPANT50603-S6A, 100 Ft



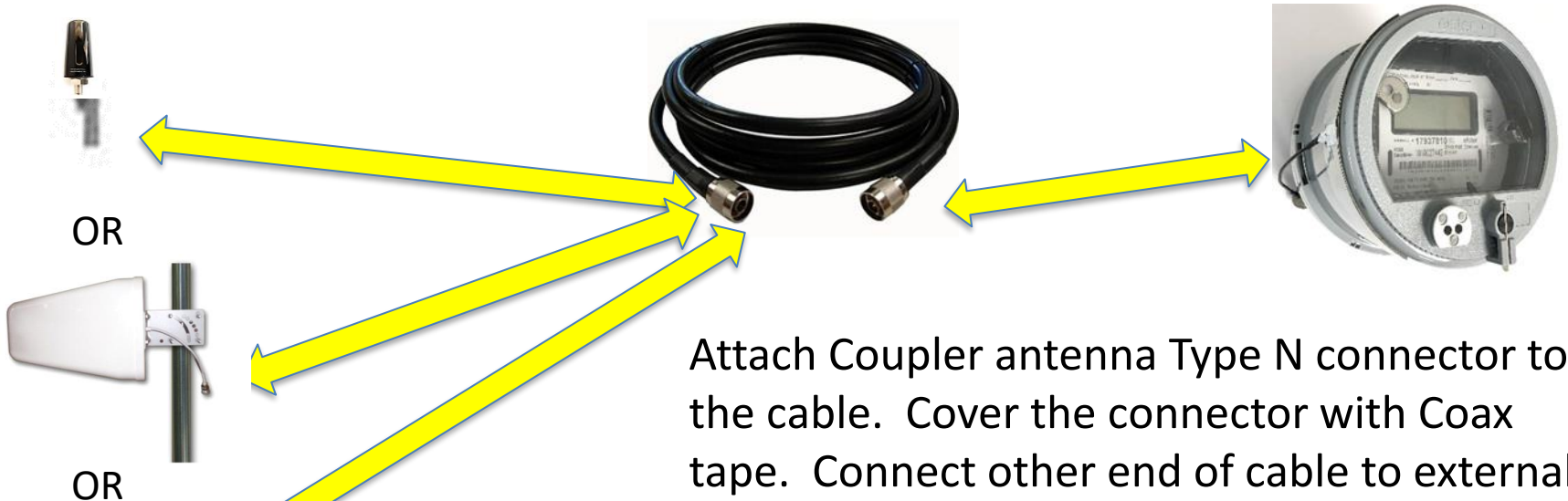
Female to Female N Type Adapter
WPANT50041-S1A

Antenna Bracket

Depending on the installation, the Quarter Wave Omni Antenna, part number WPANT30202-S1B may require a mounting bracket. WPI recommends its stainless-steel bracket, part number WPANT50025-S1B.

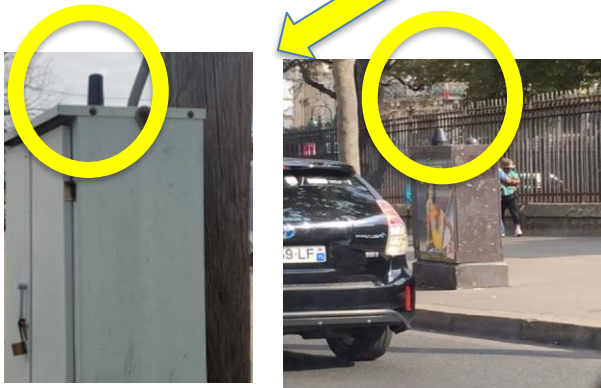


Final Installation



Attach Coupler antenna Type N connector to the cable. Cover the connector with Coax tape. Connect other end of cable to external antenna. Cover with Coax tape.

Note: When installing external antenna on a metal cabinet, a hole will need to be drilled into the top of metal cabinet. .



Done !

Your AMI meter should now be
connected to the RF network

We Are Here To Help

Dan Paulson

Wireless Business Unit Manager

707 815 8117

dpaulson@worldproducts.com

Bruce Bishop

Director Wireless Development

bbishop@worldproducts.com

831-612-6709