



# LTE External Antenna

## Omni-Directional Antenna

Itron® Cellular Solutions offers a proven, end-to-end smart grid solution that consists of cellular-embedded devices, communication networks and the utility's back-office system. Every integrated cellular device includes an internal antenna for enhanced communication capabilities. Additionally, an external antenna option is available on all OpenWay® CENTRON® Cellular LTE Polyphase meters for areas of weak coverage. The External Omni-Directional Antenna is used to strengthen the cellular connection from the device to offer sufficient power for data transfer. The most common use of the external antennas is for devices in basements or meter cabinets.

### KIT COMPONENTS

Itron offers a low-profile, omni-directional antenna with a dual-band design. To mount the antenna, a hole at least 5/8 inch and no larger than 3/4 inch must be drilled or punched into the mounting surface. The antenna requires a metal ground plane, which is included to maximize the performance.

#### Directions to attach the antenna:

1. Remove the nut and lock washer.
2. Remove liner from self-adhesive seal on bottom of antenna.

3. Feed the cable through the hole.
4. Seat the antenna on the surface.
5. Reattach the lock washer and then the nut.
6. Tighten the nut with a wrench to properly seal the gasket.
7. Attach the cable to the unit's external connector.

#### Meter Isolation Circuit

The OpenWay CENTRON Cellular LTE Polyphase meter must be specified

with an external antenna at the time of manufacturing. With this specification, Itron will install a meter isolation circuit to protect the Itron cellular module (ICM) against intrusion of harmful voltage, currents or any active electromagnetic interference (EMI) or radio frequency interference (RFI). The typical loss is usually 1-2 dB. The isolation circuit will exit the meter base at the six o'clock position with two 18-inch cables (for primary and diversity elements) ending with a SMA-male connector.

## FEATURES

- » Low-profile with five dBi max gain performance
- » Rugged screw mount (permanent mount) to 22mm hole. A hole must be drilled into a meter cabinet or other and can be mounted indoors or outdoors, depending on application.
- » Dual Band for PCS and cellular networks
- » Waterproof Rating: IPX7

## ORDER INFORMATION

### Antenna Part Number

- » External Omni-Directional Antenna without isolation circuit for any smart meter (574931-001)

### Smart Meter

This external antenna is applicable to the following smart meters. These smart meters should be ordered as “external-antenna ready” through the meter specification process. Then the external antenna can be ordered separately using the part number above. OpenWay CENTRON Cellular LTE Polyphase available on the following carriers:

- » Verizon
- » Rogers
- » AT&T

### Extension Cables

If extension cables are necessary, customers should purchase their own cables. The OpenWay CENTRON cellular LTE has not been tested or certified with extension cables, so there is potential for reduced performance. Please ensure that the cables have the appropriate SMA connectors.

## SAFETY AND PRECAUTIONS

When installing external antennas, extreme care should be given to both safety and FCC compliance issues. Antenna safety is a concern during the installation phase and during the operation of the unit. Care should be exercised when installing antenna due to the shock potential. Since the antenna is connected within the meter, it is mandatory that an isolation circuit be installed to protect against a line-voltage charge. The isolation circuit is included if meters are specified as stated previously.

By combining the relatively high output power of the modem with the signal strength gain of some antennas, it is possible to exceed the maximum power output allowed by the device. In these cases, it is mandatory that sufficient cable is used to degrade the power output at the antenna. Please use only Itron-approved antennas.

Please make sure to study and comply with all appropriate safety and FCC compliance standards.



The LTE external antenna has two separate cables to support primary and diversity elements.



The antenna mounts through a hole that must be drilled in the cabinet, which can be mounted outdoors. Most cabinets are indoors and underground. Mounting could vary on the application.



OpenWay CENTRON LTE Polyphase meter with external antenna

## ANTENNA SPECIFICATIONS

Frequency Support	698~960MHz/1710~2170 MHz /2500~2690MHz
Peak Gain	1.1dBi / 2.8dBi / 2.8dBi typ. (exclude cable loss)
Operating Temperature	-40°C to +70°C
Humidity	95% @ 55°C
Impedance	50Ω
Polarization	Linear
Cable/Connector	Itron installed Iso-circuit terminates in SMA-male. External antenna connects with SMA-female
Dimensions	240.0mm (l) x 65.6mm (w) x 38.7mm (h)
Housing Material	PC(UL-94V0)
Waterproof Rating	IPX7



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