



TESLA<sup>((( )))</sup>-DUO

# TESLA DUO AMI ENDPOINTS FOR WATER

We've got you covered.

Tesla Duo (Duo) multi-network AMI water endpoints give you several options to read your meters from the office, as well as, a drive-by AMR backup option. Each Duo is both a cellular endpoint and a point-to-multi-point RF fixed-network endpoint, combining the two leading AMI technology options into one. Using the multi carrier eSIM over the LTE-M network, each Duo evaluates the signal strength at the installation location of multiple public cellular network carriers and chooses the strongest. The built in 450-470 MHz RF transceiver gives the Duo the ability to overcome poor cellular coverage areas and any dead spots in the service area. It also provides you with a built in network guarantee so you will have peace of mind knowing that you will always have a network available. Utilizing both public cellular networks and a utility owned Licensed Private Network provides the greatest coverage possible and unmatched redundancy. Combining the two most effective AMI read methods into one Tesla Duo multi-network endpoint produces the most versatile technology available and makes it very easy for you to read your meters from the office.



## Instant AMI

As soon as a Tesla Duo endpoint is installed, you can read it from your office. When an endpoint is activated, it immediately communicates with cell networks and the Licensed Private Network (LPN) if fixed data collectors are installed. If a Duo is outside of the 450 MHz LPN coverage area, or no fixed network data collectors are installed, it will operate as a cellular endpoint. If LPN coverage becomes available in the future, the Duo will automatically switch to the 450 MHz LPN network and then back to the cellular networks if LPN coverage is ever unavailable. The automatic network switch feature makes installing or expanding your system extremely easy and hassle-free.

## Future Proof Redundant Coverage

The Tesla Duo provides superior network coverage simply because it uses multiple networks. Typical cell endpoint challenges such as cellular tower coverage drops, tower equipment changes, and localized cell dead spots are easily overcome with built-in alternative cellular carrier options and the utility owned 450 MHz LPN. Factors that can adversely affect traditional fixed networks like new construction and vegetation growth can be damaging to a utility owned network over time. Duo AMI endpoints overcome these obstacles by switching networks automatically. The ability to move between networks as needed affords the Tesla Duo multi-network endpoint more opportunity to deliver meter data than any other technology. Auto compensating for changes in your meter system creates a highly resilient future proof technology with multiple paths of redundancy.

### Cellular Endpoint

When public cellular network coverage is available, Tesla Duo endpoints are self-contained. Simply install and you will be reading from the office. If cell dead spots exist in your system, Tesla Duos can use the utility owned 450 MHz Licensed Private Network to communicate.

### Point-to-Multi-point RF Fixed Network Endpoint

When cellular coverage isn't optimal everywhere in your meter system, 450 MHz LPN fixed data collectors can be installed to overcome cell network problem spots. Fixed Network Collectors can cover large areas where utility towers already exist but can also cover small areas economically using Duo Collectors (see [rg3meter.com](http://rg3meter.com) for information on Duo Collectors).

## Guarantee of Network Performance

Tesla Duo eSIM cards are able to automatically switch between multiple cellular carriers. If the cellular communication networks that support any Tesla Duo endpoint discontinue operation, the already built in 450 MHz transceiver can immediately be used for both drive-by AMR and fixed network AMI reading strategies. The 450 MHz Licensed Private Network is owned by the utility, providing built-in security and peace of mind. If the primary method of data delivery has been over the LPN and something catastrophic happens to a fixed data collector, the Tesla Duo will automatically begin sending meter data over the strongest cellular network available.

## Installation

The Tesla Duo housing design allows for pit or wall installation with no change in products. In meter pit installations, the low-profile lid mount rugged design brings the endpoint above the mud, water, and depths of the meter pit environment giving them the best opportunity for solid antenna propagation which translates directly into exceptional range. To ensure a long-life cycle, Tesla Duo endpoints are solid state devices built to be completely submerged for their entire service life without danger of water intrusion. Firmware can be updated at any time after installation over the air (OTA) for future feature additions and bug fixes. Tesla Duo multi-network endpoints are plug-and-play with no programming required making them easy and fast to install.



## TESLA DUO PRODUCT DATA SHEET

## Encoder Compatibility

While RG3 offers a battery free analog encoder and a universal encoder that can retrofit any meter with a removable register, Tesla Duo endpoints work with any wired make or model encoder register of any manufacture that uses the industry standard UI-1203 communication protocol. They also have the capability to detect most major manufacturer encoder register brands and utilize extended protocols if offered. They are perfect for upgrading older systems from walk-by or drive-by to read from the office AMI.

Tesla Duo endpoints can be read from the office (AMI) and or by drive-by (AMR), with no programming required to switch between the two read strategies. When using the 450-470 FCC Licensed Private Network, Tesla Duo endpoints utilize a secure and protected proprietary time-synchronized, RF protocol.

## Features and Benefits

- TeslaDuo eSIM cards are purchased with 10 years of pre-paid data for cost control. (Verizon is not pre-paid)
- Secure, encrypted, true 2-way communication provides greater functionality.
- Near real-time alerts and alarms improve customer service.
- TeslaDuo automatically switches to the public cellular network with the strongest signal if LPN coverage is not successful, creating unparalleled network coverage redundancy.

## Multi-Network Migratable

- Tesla Duo automatically migrates between the 450-470 MHz Licensed Private Network and multiple public cellular networks creating multi-network redundant coverage, giving you the best opportunity possible to read your meters from anywhere.
- Simultaneous redundant read strategies for enhanced system reliability.
- 120 days of hourly reads stored in the endpoint for data redundancy.

## Long-Life Rugged Design

- IP68 Environmental Rating for the highest protection against the meter pit environment.
- Ultra rugged, fully potted, solid-state design.
- Mount in lid antenna for increased range and network stability.
- Remote Over the Air (OTA) updates increase endpoint and system longevity.
- 20-year warranty (10-year full /10-year prorated).

## Plug-and-Play Installation

- Tesla Duo installation is quick, easy, and requires no programming.
- Endpoints are pre-configured at the factory for immediate deployment.
- No expertise needed. Install, record data, and move on.
- Automatic successful network communication verification after installation
- Endpoint serial numbers are barcoded to reduce human data errors.

