Tesla

EXT

Description

Applications: The Tesla EXT radio endpoint is a 1-Watt transceiver designed for deep meter pit or vault environments. It is designed for use with the RG3 Tomahawk encoder, as well as, most other manufactures' encoder or pluse registers (ABB, Badger, Neptune, Sensus, Muller, Elster, Master Meter, etc.). The Tesla EXT radio endpoint provides 2-way wireless connectivity with RG3 Automated Meter Reading Systems Software (AMRSS) and RG3 AMR/AMI technology solutions eliminating the need for physical access to the meter after installation.

Alarms: The Tesla EXT radio endpoint notifies the utility, via the RF message, of Backflow, Tamper, Leak, and Battery Status flags as they occur.

Time Sync for Water Loss Identification: Every time Tesla EXT radio endpoint reads, it syncs time with the reading device. Tesla EXT radio endpoint-time sync is a 2-Way transmission function and can only be accomplished with true 2-way communication. This feature is important because water loss identification through metering requires the comparison of water volumes recorded by customer and mainline meters over a specific period of time to the water volumes discharged from the treatment facilities or the volume passing through system zone meters over this same period of time. Distribution leak detection requires time synchronization to avoid "clock drift", a phenomena where two clocks do not run at the exact speed and after a period of time, "drift apart". By syncing time with the reading device,Tesla EXT radio endpoint avoids clock drift completely and delivers the most accurate leak detection possible.

Specifications

Humidity	0 to 100% condensing
Temperature	-40˚ to 185˚F (-40˚ to 85˚C)
Status Indicators	Included in the RF message: Totalizer, flow rate, back-flow, leak, battery indicator (including 20% battery life alarm)
Signal Output	1-Watt RF Transmission
Signal Type	Unlicensed Frequency (902 MHz-928 MHz)
Battery	D cell lithium thionyl chloride battery with capacitor, fully potted and fully encapsulated within the Tesla EXT housing
Battery Life	25 Years (calculated)
Warranty	20 Years (Prorated)
Weight	.95 lbs
Length	6 -1/4 inches
Width	Cap - 3 -3/8 inches
Diameter	Body - 2.1/16 inches

2912 South Access Rd.
Longview, TX 75602
PH: 903-753-3456
Fax: 903-753-5678
RG3METER.COM

Transmission: Tesla EXT radio endpoint technology starts where the rest of the industry's most advanced solutions top out. Tesla EXT radio endpoint has full time 2-way communication and also offers one-way communication redundancy. All functions are accomplished through streamlined 2-way communication utilizing the FCC approved unlicensed 902-928 MHz band. To ensure transmission success, Tesla EXT radio endpoint employs Cyclic Redundancy Checks (CRC), Spread Spectrum Frequency Hopping Modulation, and Channel Coding.

Transmission Power: Tesla EXT radio endpoint transmits at a full 1-watt. Unlike 1-way bubble up technologies that throw hundreds of thousands of wasted transmissions and large amounts of unnecessary energy into the atmosphere each month, Tesla EXT radio endpoint's extremely efficient 1 watt power is environmentally friendly. Although Tesla EXT radio endpointhas 10 times the transmission power of other leading AMR/AMI technologies, the total monthly output of electromagnetic radiation is at least 10,000 times less than comparable technologies, or roughly 5% of the amount emitted by the average cell phone each month in the US.

Transmission Read Options: From the factory, any Tesla EXT radio endpoint can be read as an AMR drive-by system, an AMI fixed network system (if network infrastructure is present), or as a hybrid system. No additional programming, switching modes, or contact with the register is necessary.

Drive-By (AMR) Read: Tesla EXT transmits its associated meter number, current read, number of digits transmitted, unit of measurement, battery status, leak counter, and backflow, tamper, and leak flags as applicable. Individual meters can be read alone or all meters can be read at once.

Fixed (AMI) Read: Each day the Tesla EXT transmits 24 top of the hour time synced reads.

Connectors: The Tesla EXT radio endpoint comes standard with a RG3 connector, rated for use in water depths of up to 30 feet. Nicor and Bare-wire assemblies are also available.

Construction: The Tesla EXT shroud assembly is constructed from engineered polycarbonate and hermetically sealed. The enclosure is UV-resistant, weatherproof, and fully encapsulated to withstand harsh environments and to protect the solid state electronics. The Tesla EXT radio endpoint is suitable for installation in all environments, including continuously submerged water meter pits. Electronic circuitry is gold plated to provide increased corrosion resistance before it is encapsulated by high quality potting material. Electronics are designed to provide immunity to electrical surges. The power source is an internal lithium battery with capacitor that is also encapsulated in potting for redundant protection against moisture and provides 25 years of life.

Electrical: All mechanical and electronic devices are subject to the effects of their environment. The Tesla EXT radio endpoint is equipped with an internal watchdog that reboots the electronics if faced with an external interference such as a close proximity lightning strike or other uncontrollable event. Tesla EXT electronic circuitry is designed to provide immunity to electrical surges and transients per IEC801-2, IEC801-4 Severity Level 4.

Data Log / Consumption: Tesla EXT retains 120 days of hourly data. Whether Tesla EXT is being utilized in a drive by AMR system, an AMI network, or as a hybrid system, consumption data can be wirelessly extracted at the meter site.

Tesla
EXT

RG3 Meter Company
2912 South Access Rd.
Longview, TX 75602
PH: 903-753-3456
Fax: 903-753-5678
RG3METER.COM

Tesla EXT-U000100000020121