

DESCRIPTION

APPLICATIONS: The Badger® ORION Recordall® Transmitter Register (RTR) Transmitter is a fully potted AMR transmitter designed for all water applications including indoor, outdoor, and water meter pit and vault installations that are subject to flooding. The ORION RTR Transmitter is offered in two different configurations to provide maximum performance. The ORION RTR Transmitters include transmitters for non-metal lid and remote applications and a second transmitter for metal lid applications. When assembled to the Badger RTR, the product is fully compatible for use with Recordall Disc Series, Turbo Series, Compound Series, Fire Series Meter and Assemblies and Magnetoflow® Mag Meters with digital output.

OPERATION: The ORION RTR Transmitters operate using bubble up (broadcast) Radio Frequency technology, which does not require the utility to obtain an FCC license. ORION RTR Transmitters shipped connected to a Badger Meter encoder register are factory wired, programmed, and ready for installation. ORION RTR Transmitters automatically begin broadcasting RF data upon measuring the first usage of water.

In addition to the bubble up signal for walk-by/drive-by applications, the ORION RTR Transmitter will also transmit a periodic high power signal to support connectivity to network reading systems.

LEAK DETECTION: The ORION system provides leak detection notification when the meter is read. The system reports leak detection when a one-hour window of no usage is not found within a 24-hour time period. The system automatically resets when the next one hour time period of no usage is found.

NO USAGE: ORION Transmitters provide notification of accounts with no usage when they are read. Transmitters with no usage are any accounts that do not measure consumption of water over a 30-day time period. The no usage notification automatically rests after flow resumes at the account.

DATA PROFILING: ORION Transmitters can be purchased with an optional Data Profiling feature. The ORION Data Profile Transmitter includes all of the same features and functionality of the ORION Transmitter plus a customer programmable data storage option. The Data Profile information provides utilities with an additional customer support tool to determine customer tampering and to help resolve high water usage disputes. With the capability to store over 21,000 consumption readings, based on an hourly time interval, the ORION Data Profile Transmitter can accumulate over two years worth of customer usage for analysis.

MOUNTING: The ORION RTR Transmitter is packaged in an enclosure that is fully encapsulated in epoxy that can be mounted in any indoor, outdoor or pit application. Different mounting kits are available to install the ORION RTR Transmitter in basement/remote applications and all of the different pit installations including through lid, below lid, deep vault and composite lid applications.

All Badger Meter encoder registers use a bayonet style connection compatible with all Recordall Disc Series, Turbo Series, Compound Series and Fire Series Meters and Assemblies. A TORX® seal screw



Bronze M35 with
ORION Pit or Remote
Transmitter

Bronze M25 with
ORION Integral
Transmitter

SPECIFICATIONS

Operating Temperature	-40F to 140F (-40C to 60C)
Humidity	0% to 100% Condensing
Battery on Pit ORION Broadcast Technology	(2) 3.6V 2.4 Ahr Lithium Batteries Nonlicensed, Bubble Up Technology
Leak Detection	Based on 24-Hour Time Period with Automatic Reset
Data Profile	Option to Store 21,000 Consumption Reading

is provided to allow positioning and to secure the Badger encoder register to the meter body in a tamper-resistant mode.

MAGNETIC DRIVE: Direct drive, high-strength, magnetic coupling through the meter body to the wetted magnet provides reliable and dependable register coupling.

TAMPER-PROOF FEATURES: Removal of the Badger RTR register from the meter can be minimized using a tamper-resistant Torx seal screw. Torx seal screws are provided as a standard accessory with Badger RTR registers.

CUT WIRE TAMPER INDICATION: ORION RTR Transmitters have the capability to detect and report a tamper. Tamper information is collected and stored by the reading equipment and can be sorted through reports to help manage the ORION system.



TEMPERATURE: The operating temperature of the ORION RTR Transmitter is -40°F to 140°F (-40°C to 60°C). The water meter should not be subjected to temperatures below freezing.

MOISTURE: The ORION RTR Transmitters are fully encapsulated with epoxy to withstand harsh pit environments and to protect the electronics from flooded or submerged pit applications.

WIRE CONNECTIONS: ORION RTR Transmitters can be mounted up to 75' from the Badger RTR encoder register using a three-wire shielded cable.

⚠ WARNING

TRANSPORTATION: The Federal Aviation Administration prohibits operating transmitters and receivers on all commercial aircraft. The ORION RTR Transmitter is considered an operating transmitter and **cannot** be shipped by air.

METER COMPATIBILITY: An ORION transmitter solution is available for all of Badger's current Recordall Disc Series, Turbo Series, Compound Series, Fire Series Meters and Assemblies and Magnetoflo Mag meters. A separate Universal 1 transmitter is also available for connectivity to approved Neptune®, Sensus®, Hersey®, and Elster AMCo® encoders. Contact your Badger Meter sales representative or authorized distributor for more details.

LICENSE REQUIREMENTS: This device complies with Part 15 of the FCC Rules. Operation of this device is subject to the following two conditions:(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes made by the user not approved by Badger Meter can void the user's authority to operate the equipment. No license is required by the utility to operate an ORION meter reading system.

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Please see our website at
www.badgermeter.com
for specific contacts.

Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists.



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