

DESCRIPTION

APPLICATIONS: The Badger® ORION® Pit Transmitter and Integral Pit Transmitter are designed for water meter pit or vault installations that are subject to flooding or submergence. The Pit Transmitter and Integral Transmitter are offered in two different configurations to provide the maximum performance for each application. The transmitters include ORION Pit and Integral Pit Transmitters designed for metal and non-metal lid applications. When assembled to the Absolute Digital Encoder (ADE®), the product is fully compatible for use with Recordall® Disc Series, Turbo Series, Compound Series, Fire Series meters and assemblies and Magnetoflow® Mag meters with digital output.

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

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

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: Badger Meter ADE encoder registers use a bayonet connection compatible with all Recordall Disc Series, Turbo Series, Compound Series and Fire Series meters and assemblies. A Torx® seal screw is provided to allow positioning and to secure the Badger encoder register to the meter body in a tamper-resistant mode. The Badger ADE register can be removed from the meter without disrupting service or disconnecting the ORION transmitter. ORION Pit Transmitters and Integral Pit Transmitters connected to a Badger ADE register are factory wired and programmed for increased reliability and ease of installation.

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 ADE register from the meter can be minimized using a tamper-resistant Torx seal screw. Torx seal screws are provided as a standard accessory with the Badger ADE registers.

CUT WIRE TAMPER INDICATION: ORION Pit 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® Pit Transmitter and Integral Pit Transmitter is -40°F to 140°F (-40°C to 60°C). The water meter should not be subjected to temperatures below freezing.



Bronze M35 with
ORION® Pit Transmitter



Bronze M25 with
ORION® Integral Pit
Transmitter

SPECIFICATIONS

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

MOISTURE: The ORION Pit and Integral Pit 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 Pit Transmitters can be mounted up to 75' from the Badger® ADE® 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 Module 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 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.



DESCRIPTION

APPLICATIONS: The Badger® ORION® Integral Transmitter and Remote Transmitter are packaged with the Absolute Digital Encoder (ADE®). When assembled, the product is fully compatible for use with Recordall Disc Series, Turbo Series, Fire Series Meters and Assemblies and Compound Series water meters, which are installed in either an indoor or outdoor non-submerged meter setting, i.e. in basements, utility rooms, etc. (This product is not designed for installations which are subject to submergence). ORION Remote Transmitters are also compatible with the Badger® Magnetoflow® Mag meter's digital output.

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

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

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: Badger Meter ADE registers use a bayonet connection compatible with all Recordall Disc Series, Turbo Series, Compound Series and Fire Series meters and assemblies. A Torx® seal screw is provided to allow positioning and to secure the Badger encoder register to the meter body in a tamper-resistant mode. The Badger ADE register can be removed from the meter without disrupting service or disconnecting the ORION transmitter. ORION Integral and Remote Transmitters connected to a Badger ADE register are factory wired and programmed for ease of installation.

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 ADE register from the meter can be minimized using a tamper-resistant Torx seal screw. Torx seal screws are provided as a standard accessory with the Badger ADE register.

CUT WIRE TAMPER INDICATION: ORION Integral and Remote 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 Integral and Remote Transmitters 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 Integral Transmitter and Remote Transmitter are designed for indoor or outdoor non-submerged applications i.e. meters located in basements, utility rooms, etc.



Plastic M25 with
ORION® Integral Transmitter



Bronze M25 with
ORION® Integral Data Profile
Transmitter



Bronze M25 with
ORION® Remote Transmitter

SPECIFICATIONS

| | |
|---|--|
| Operating Temperature | -40F to 140F (-40C to 60C) |
| Humidity | 5% to 95% Noncondensing |
| Battery on Integral and Remote ORION | (2) 3.6V 2.4 Ahr Lithium Batteries |
| Broadcast Technology | Non-Licensed, Bubble Up Technology |
| Leak Detection | Based on 24-Hour Time Period With Automatic Reset |
| Data Profile | Option to Store 21,000 Consumption Readings |

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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 AMCO® encoders. Contact your Badger Meter sales representative or authorized distributor for more details.

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Please see our website at
www.badgermeter.com
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