

DESCRIPTION

APPLICATION: The Dual Recordall Transmitter Register (RTR®) is designed for use with all Recordall Compound Meters to provide output compatible with Itron® ERT® Transponders, ORION® Transponders and TRACE® Transponders. Each unit incorporates a local six digit mechanical odometer register.

OPERATION: The RTR provides a digital output based on Badger Meter's patented piezoelectric solid-state switch. This output has the characteristics of an open drain Field Effect Transistor (FET) and has no electrical contacts to stick, wear or corrode.

RESOLUTION: Digital output from the RTR typically has resolution of 1/10th of the register test circle (resolution may vary in some cases). The electronic resolution table in this brochure lists minimum output resolution for all Recordall meter applications.

MOUNTING: The RTR is compatible with all current Recordall compound meters.

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

SEALED REGISTER: The RTR register consists of 2 separate (one low flow and the other high flow) six-digit straight-reading mechanical odometer totalizers (located in the six o'clock position), 360° test circles with sweep hands and flow finders to detect leaks. The register gearing is self-lubricating thermoplastic to minimize friction and provide long, reliable life. Permanent sealing eliminates moisture, dirt, and other contaminants. Each odometer has a separate leak detector.

TAMPER-PROOF FEATURES: Customer removal of the RTR can be prevented with the use of the tamper seal screw and seal wire. Seal wire and seals are provided as optional accessories with the RTR.

CONSTRUCTION: The housing of the RTR is constructed of a tempered glass lens top and a stainless steel bottom. Internal construction materials are thermoplastics for long-life and high reliability. The integrity of the adhesive seal joining the glass top to the metal base provide unmatched protection in water meter applications. A corrosion and tamper resistant seal screw is provided to secure the RTR to the meter. The cover and shroud assembly are thermoplastic (std.) or bronze (optional) material.

TEMPERATURE: Operating range is -40°C to 49°C (-40°F to 120°F). The water meter should not be subjected to temperatures below freezing.

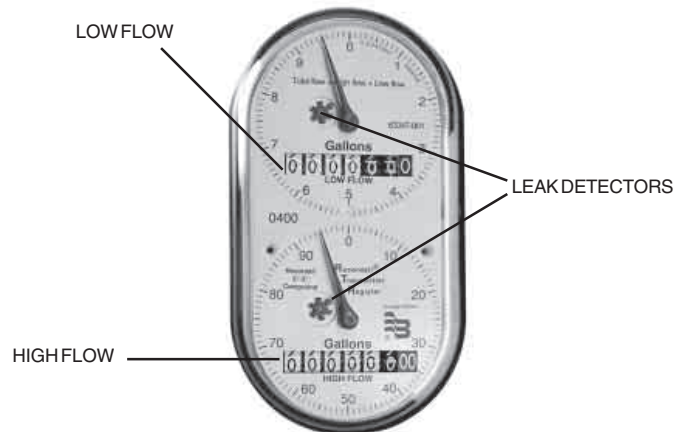
MOISTURE: The RTR achieves true water resistance due to the adhesive technology used in the sealing process. Leak rates less than 10⁻⁶ cc/sec., as tested by a helium mass spectrometer, are comparable to a true hermetic seal. Due to this unique sealing process, the RTR exceeds all applicable requirements of AWWA Standards C706 and C707 regarding moisture intrusion. Register fogging and condensation are no longer an issue.

WIRE CONNECTIONS: Compound RTRs use submersible, reusable connectors. A protective cap is provided when used as a local register.



SPECIFICATIONS

Transmitter/Register	Two straight reading, permanently sealed, magnetic drive
Unit of Measure	U.S. Gallons, Cubic Feet, Cubic Meters, clearly identified on register face
Number Wheels	Two sets of six with 3/16" high numerals
Test Circle	360° circle with ten major increments with ten divisions each
Humidity	5% to 100% Condensing
Temperature	-40°C to 49°C (-40°F to 120°F) (RTR)
Output Signal Characteristics	NPN Open Collector Transistor (FET)
Visual Resolution	1/100th of Test Circle
Electronic Resolution	1/10th of Test Circle
On State Resistance	7.5 Ohms @ 25°C (77°F)
Power Source	External
Maximum Switching	30 VDC @ 1mA @ 25°C (77°F)
Maximum Power Dissipation	.4 Watts Continuous @ 25°C (77°F)



ELECTRONICS: The piezoelectric switch circuit board in the RTR® is completely sealed against moisture by a conformal coating, and potted in place to assure protection from humidity.

ELECTRICAL: The electronic circuitry is designed to provide immunity to electrical surges and transients per IEC801-2, IEC801-4 Severity Level 4.

OPERATING CHARACTERISTICS: The RTR has an output equal to 1/10th of the meter test circle with the characteristics of an open drain FET. The on-state condition is a solid-state switch closure. Off-state condition is an open circuit. Powered by an external source, the RTR has a maximum rating of 30 VDC at 1 mA (25°C).

ELECTRONIC RESOLUTION: The minimum resolution of the Compound RTR is:

Size	Gallons	Cubic Feet	Resolution Meters Cubed (m ³)
2"	10	1	0.1
3"	10	1	0.1
4"	100	10	1
6"	100	10	1

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