



Badger Meter

Absolute Digital Encoder



Meter, Valve & Control
877-566-3837

DESCRIPTION

Applications: The Absolute Digital Encoder (ADE[®]) is designed for use with all Recordall[®] Disc, Turbo, Compound and Fire Service meters to provide connectivity with ORION[®], Badger[®] ERT[®], BadgerTouch[®] and Badger Meter approved AMR technology solutions.

Electronic Resolution: Digital output from the ADE includes the option of either four, five or six dial resolution. Refer to tables on the next page for details.

Mounting: The ADE in its shroud assembly uses a bayonet mount compatible with all Recordall Disc, Turbo, Compound and Fire Series meters. The bayonet mount allows positioning of the register in any of four orientations for visual reading convenience. The ADE can be removed from the meter without disrupting water service.

Magnetic Drive: A direct-drive, high-strength magnetic coupling through the meter body to the wetted magnet provides reliable and dependable register coupling.

Local Indication: The ADE register face features a six-digit mechanical odometer wheel stack, a 360° test circle with sweep hand, and a flow finder to indicate leaks.

Tamper-Resistant Features: Unauthorized removal of the ADE is inhibited by a tamper resistant Torx[®] seal screw, provided as a standard accessory with the ADE. An optional tamper detection seal wire screw is also available.

Construction: The housing of the ADE is constructed of a strengthened glass lens top and a corrosion-resistant metal bottom. Internal construction materials are thermoplastic for long life and high reliability. The register gearing is self-lubricating thermoplastic to minimize friction and provide long, reliable life. The shroud assembly is thermoplastic.

Temperature: The operating range of the ADE is -40...60° C (-40...140° F). The water meter should not be subjected to temperatures below freezing.

Sealing: The ADE achieves true water resistance due to the adhesive technology used to seal the glass dome to the corrosion resistant metal bottom. 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 ADE exceeds all applicable requirements of AWWA Standard C707 regarding moisture intrusion.

Wire Connections: The ADE is available with either a wire lead, fully potted to prevent moisture intrusion at the connections, or with terminal screws. When provided with a wire lead, the ADE may be pre-wired at the factory to select Badger Meter-approved AMR devices, or may be furnished with a variety of lead wire lengths. Lead wire equipped ADE registers are suitable for installation in all environments, including continuously submerged water meter pits.



SPECIFICATIONS

Transmitter/Register	Straight reading, permanently sealed, magnetic drive
Unit of Measure	U.S. Gallons, Cubic Feet, Cubic Meters, clearly identified on register face
Number Wheels	Six with 3/16-inch high numerals
Test Circle	360° circle with ten major increments with ten divisions each
Weight	11 Ounces
Humidity	0% to 100% condensing when equipped with potted lead wire, 0% to 95% non-condensing with screw-terminal wire connections
Temperature	-5...120° F (-20...49° C)
Signal Output	Industry Standard ASCII Format
Visual Resolution	1/100th of Test Circle
Electronic Resolution	Four-, five- or six-dial resolution
Signal Type	Two-wire asynchronous for Touch Solutions
Power Source	External

The terminal screw version ADE features a tamper-resistant cap over the three-wire terminals. ADE registers with terminal screws are for indoor installation in protected environments, such as residential basements.

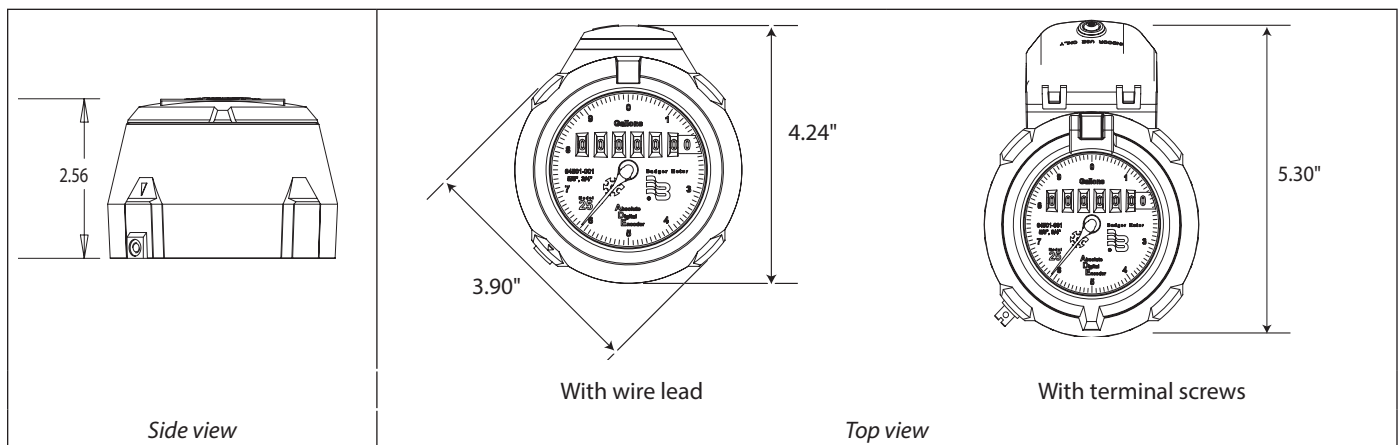
Electrical: The electronic circuitry is designed to provide immunity to electrical surges and transients per IEC801-2, IEC801-4 Severity Level 4. Operation of the ADE is dependent on the wire length limitations of connected AMR equipment.

Operating Characteristics: The digital reading obtained by an AMR device is sensed directly from the position of the ADE register's odometer using internal LED light paths to determine the exact position of each number wheel. This technology eliminates electromechanical contacts that could wear out, and provides greater long-term performance.

ADE-T-01-EN (February 2013)

Technical Brief

DIMENSIONAL DRAWINGS



MEASUREMENT RESOLUTION

The minimum electronic resolution of the ADE is as noted below (6 Dial Reading). To verify the correct resolution for your application, contact Badger Meter Customer Service.

Recordall Disc Series	Size	6-Dial Resolution (gal)	6-Dial Resolution (ft ³)	6-Dial Resolution (m ³)
M25/MLP	5/8"	10	1	0.1
M25/MLP	3/4"	10	1	0.1
M35	3/4"	10	1	0.1
M40	1"	10	1	0.1
M55	1"	10	1	0.1
M70	1"	10	1	0.1
M120	1-1/2"	100	10	1
M170	2"	100	10	1

Fire Service Series	6-Dial Resolution (gal)	6-Dial Resolution (ft ³)	6-Dial Resolution (m ³)
3"	100	10	1
4"	100	10	1
6"	1000	100	10
8"	1000	100	10
10"	1000	100	10

Recordall Turbo Series	Size	6-Dial Resolution (gal)	6-Dial Resolution (ft ³)	6-Dial Resolution (m ³)
T160	1-1/2"	100	10	1
T200	2"	100	10	1
T450	3"	100	10	1
T1000	4"	100	10	1
T2000	6"	1000	100	10
T3500	8"	1000	100	10
T5500	10"	1000	100	10
T6200	12"	10000	1000	10
T6600	16"	10000	1000	10
T10000	20"	10000	10000	10

Recordall Compound Series	Size	6-Dial Resolution (gal)	6-Dial Resolution (ft ³)	6-Dial Resolution (m ³)
High Side T200	2"	100	10	1
Low Side M25	2"	10	1	0.1
High Side T450	3"	100	10	1
Low Side M25	3"	10	1	0.1
High Side T1000	4"	100	10	1
Low side M35	4"	10	1	0.1
High Side T2000	6"	1000	100	10
Low Side M35	6"	10	1	0.1

Resolution stated as individual high and low readings.

ADE, ORION and RECORDALL are registered trademarks of Badger Meter, Inc. Other trademarks appearing in this document are the property of their respective entities.

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. © 2013 Badger Meter, Inc. All rights reserved.

www.badgermeter.com

The Americas | Badger Meter | 4545 West Brown Deer Rd | PO Box 245036 | Milwaukee, WI 53224-9536 | 800-876-3837 | 414-355-0400

México | Badger Meter de las Americas, S.A. de C.V. | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882

Europe, Middle East and Africa | Badger Meter Europa GmbH | Nurtinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0

Czech Republic | Badger Meter Czech Republic s.r.o. | Mařikova 2082/26 | 621 00 Brno, Czech Republic | +420-5-41420411

Slovakia | Badger Meter Slovakia s.r.o. | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01

Asia Pacific | Badger Meter | 80 Marine Parade Rd | 21-04 Parkway Parade | Singapore 449269 | +65-63464836

China | Badger Meter | Rm 501, N° 11 Longyue Apartment | N° 180 Longjin Rd, Jiuting Songjiang District | Shanghai, China | 201615 | +86-21-5763 5412