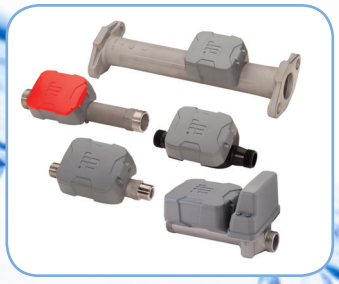
Badger Meter | Making Water Visible®



Comprehensive Metering Line
Proven AMR/AMI Technology
Powerful Analytics

Water Utility Solutions

Today's Demanding Water Utility Management Challenges

Today's business environment demands informed decision making and control over your water utility management. It's essential you efficiently manage your operations, conserve water and energy, provide superior customer service, and achieve regulatory compliance—all while continuing to control revenue and resources.

The more challenges you face, the more you need a reliable and knowledgeable partner who can supply you with durable and accurate metering hardware, and powerful yet adaptable technology solutions that give you greater visibility to timely, meaningful information.

All the Products, Technology and Expertise You Need in a Water Metering Partner

A leader in flow measurement technology since 1905, Badger Meter continues to be a key partner in helping public and private utilities and municipalities with their water management initiatives. Because we understand the challenges utilities encounter, we can provide the tools that help communities generate needed revenue, monitor and conserve their precious resources and serve their valued end water customers.

Today, our water utility solutions are top-rated and industry-leading. We offer a comprehensive metering line, proven AMR/AMI technology and the powerful analytics tools that truly help in Making Water Visible® for thousands of water utilities.

Choice Matters—Choose From Our Comprehensive Lead-Free Metering Solutions

We offer a comprehensive water meter product line for residential, commercial and fire service applications. All of our meters are regulation compliant and are available in a range of metering technologies, materials and sizes. Choose between our families of Recordall®, E-Series® or ModMAG® M-Series® meters. Choices include BiAlloy, Engineered Polymer or Stainless Steel in a wide range of sizing options. Your choice in a water metering solution counts—choose from the many Badger Meter offerings to find a solution that meets your specific needs.

Electronic Meters

For the latest in innovative metering technology, choose an electronic meter from Badger Meter. Electronic meters improve reliability, have greater extended low flow accuracy and keep maintenance to a minimum.

- E-Series Ultrasonic Meters
- E-Series Ultrasonic Plus with Integrated Shutoff Valve Meters
- ModMAG M-Series Electromagnetic Meters

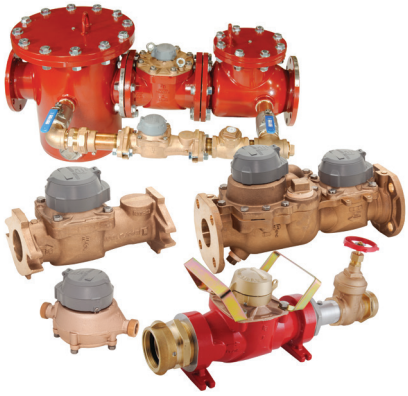
Electronic Meters

Mechanical Meters

For an accurate, cost-effective solution for your residential, commercial or fire service metering needs, choose one of our Recordall® mechanical meters. These time-tested meters are an ideal solution for measuring flow in a wide variety of applications.

- Recordall Disc Series Meters
- Recordall Compound Series Meters
- Recordall Turbo Series Meters
- Recordall Fire Service Meters and Assemblies
- Recordall Fire Hydrant Meters

Mechanical Meters



Encoders

Badger Meter high resolution encoders (HR-E® LCD and HR-E®) provide utilities with more than just a reading. Whether you choose the 9 digit LCD or the 8-dial HR-E encoder, the high resolution encoded output provides leak detection and other critical information to help utilities manage their water. High resolution encoders utilize the industry standard communication protocol, do not require programming or setting adjustments during installation or wire repair. And, through a unique sealing process that eliminates gaskets, Badger Meter encoders are built to withstand harsh environments including flooded pits.

- High Resolution LCD Encoders
- High Resolution Encoders

Encoders

All of our meters and encoders are compatible with Badger Meter AMR/AMI systems as well as other approved technologies.

Our Comprehensive Metering Lines

E-Series® Ultrasonic Meters

E-Series Ultrasonic meters are designed to reduce maintenance, improve accuracy and durability, lower operating costs, and minimize water loss.

- Available in both a stainless steel (5/8…2 in.) and engineered polymer (5/8 in., 5/8 x 3/4 in., 1 in.).
- Simplified one-piece electronic meter and register integral to the meter body eliminates tampering.
- No moving parts eliminates mechanical wear.
- Meter alarms for better utility visibility and management.
- Delivers precision accuracies with extended flow ranges.
- UL approved models for fire service applications.

E-Series® Ultrasonic Plus Meters

The E-Series Ultrasonic Plus meter combines innovative ultrasonic transit time metering with an integrated shutoff valve, allowing water utilities to actuate the valve remotely to temporarily restrict water service safely and efficiently.

- Available in stainless steel (5/8 x 3/4 in., 3/4 x 7-1/2in., 3/4 x 9 in., and 3/4 x 1 x 9 in.).
- Flexible, tamper-proof design; option to install meter first and valve later.
- Patented flow restriction valve supports open, closed and partial closed settings.
- Permanent seal maximizes field life through patent pending magnetic coupled valve.
- Delivers precision accuracies with extended flow ranges.
- Lower pressure loss when compared to other shutoff valve assemblies on the market.

ModMAG® M-Series® Electromagnetic Meters

ModMAG M-Series meters improve accuracy, decrease system maintenance and help meet the demands of challenging fluid conditions.

- Non-intrusive, completely open-flow tube design virtually eliminates pressure loss.
- No moving parts to impede the flow stream; maintenance is kept to a minimum—even in less-than ideal fluid conditions.

Recordall® Disc Series Meters

Recordall Disc Series meters are an accurate, cost-effective solution for your residential metering needs. Our positive displacement meters utilize the industry-leading accuracy of nutating disc technology to drive revenue and reliability.*

- Available in both a lead-free bronze alloy (5/8…2 in.) and engineered polymer (5/8 in., 5/8 x 3/4 in., 1 in.).
- Delivers precision accuracy with extended flow ranges from 1/8…170 GPM.
- Reduced disc nutation—extends long-term accuracy.
- Low pressure loss—ideal for long-term metering solutions.
- Exceeds AWWA C700 and C710 standards.

Recordall® Compound Series Meters

Recordall Compound Series meters combine two metering technologies in one innovative package. A positive displacement chamber measures low flow, while a turbine chamber records high flow.

- High crossover accuracy.
- Extended flow range from 1/4...4500 GPM.
- Floating rotor design reduces friction and wear.
- Features a "screw-in" valve assembly for easy field maintenance.
- Long-term reliability and accuracy.
- Exceeds AWWA C702 standards.

** As referenced by the Water Research Foundation.*

Our Comprehensive Metering Lines

Recordall® Turbo Series Meters

Recordall Turbo Series meters are the smart choice for larger facilities.

- Low pressure loss for improved efficiency.
- Extended flow range from 2-1/2...8,800 GPM.
- Floating rotor design reduces friction and wear.
- Optional built-in test plug.
- Exceeds AWWA C701 standards.

Recordall® Fire Hydrant Meters

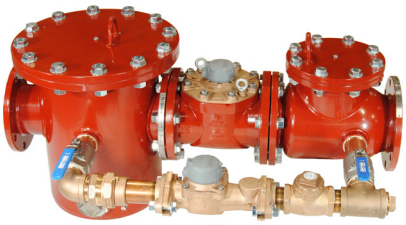
Recordall Fire Hydrant meters are ideal for a temporary source of water.

- Rugged stainless steel screen.
- Optional check valve and flow rate control valve.

Recordall® Fire Service Assemblies

Recordall Fire Series meters (FSMA) and assemblies (FSAA) are ideal for dedicated and multi-use fire service applications.

- FSMA – Ideal for measuring high volume through a single supply line.
- FSAA – Ideal for when the fire service main also supplies water for secondary services.
- UL and FM approved.



High Resolution LCD Encoder (HR-E® LCD)

High Resolution LCD encoders are fully electronic, solid-state, field programmable and utilize industry standard ASCII-communication protocol to provide high resolution encoded output. Status indicators/alarms can also be sent as part of the encoded output to endpoints capable of receiving extended messages. In addition, the HR-E LCD offers tamper resistant features such as encoder removal and magnetic tamper indicators to provide utilities with increased security.

- Factory programmed to customer specifications with field programming capabilities.
- LCD display automatically toggles between nine-and six-digit visual resolution, rate of flow and meter model.

High Resolution Encoder (HR-E®)

The HR-E 8-dial encoder utilizes a non-contact field-proven light emitting diode technology to provide a high resolution 8-digit reading while at the same time eliminating friction and wear of traditional mechanical encoders. The HR-E communicates using the industry standard ASCII-communication protocol to provide high resolution encoded output.

- High resolution 8-dial encoded output.
- Frictionless, non-contact wheel position encoding.

Turn Your Data into Proactive Intelligence

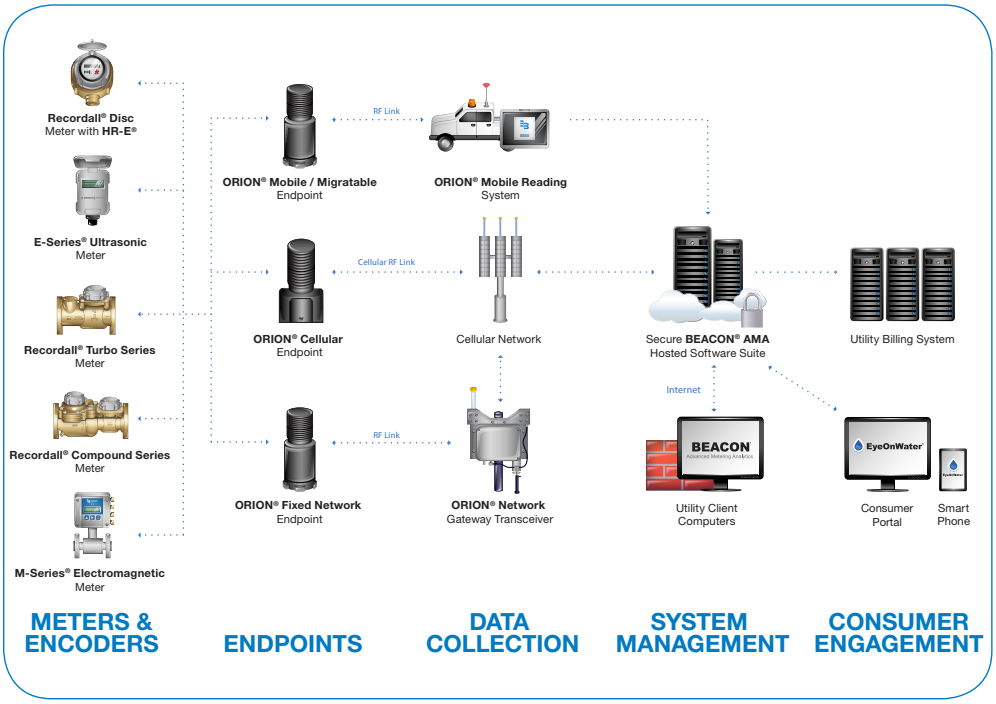
Fast, easy access to powerful information is imperative for utilities. You need it. Your customers expect it. And increasing government regulations demand it.

BEACON® Advanced Metering Analytics (AMA) puts your meter reading data to work to address your demands for actionable intelligence—and improve your water utility operations.

The Badger Meter managed, traditional fixed network, and mobile solutions all combine our comprehensive meter and encoder lines with proven ORION® communication technology and the robust BEACON AMA software suite to provide your utility management with greater visibility and control.

Your clear path to better utility management begins today with BEACON AMA.

Better information. Better utility management. **Clearly Better**.



BEACON Advanced Metering Analytics (AMA)

Analytics Made Easy

Built on a century of water metering experience and the latest technology, the cloud-based BEACON AMA software suite and proven ORION® family of endpoints bring a new level of utility-optimizing information to light. BEACON AMA provides valuable benefits:

The BEACON AMA software suite and ORION family of endpoints bring utility-optimizing information to light

Increased Visibility Through Analytics

- Customizable dashboards to deliver system-wide information to your desktop or device.
- The ability to set unique alert conditions to define and proactively monitor exceptions.
- Secure, hosted platform—ISO 27001certified and SOC 2 examined for secuity, availability and confidentiality.
- Automatic software upgrades keep your system up to date without discs or downloads.
- Built-in API's and data exchange modules support data transfer to utility billing, work order, inventory/asset management, Customer Relationship Management (CRM), Geographic Information Systems (GIS), and other legacy utility systems.

Enhanced Customer Service

- Consumption graphs with temperature and precipitation overlays provide an easy-to-understand picture of how water is being used by each customer.
- Consumer engagement website and smartphone/tablet app provide your end water customers with easy access to their usage activity to gain a greater understanding and control of their consumption patterns.

Focus on Water Management

- All BEACON AMA solutions provide the hosted software platform, system maintenance, software support, and management information that allow you to focus your time and resources on managing your water delivery system.

Future-Proof Technology

- With a BEACON AMA solution, you receive the hosted BEACON AMA software suite with regular updates and the latest ORION communication technology to future-proof your investment and keep your system in step with changes in technology.

Customizable Solutions to Fit Your Needs

Badger Meter offers a choice of managed, traditional fixed network, mobile, and consumer engagement solutions to meet your system management, water meter reading, reporting and outreach needs. Select the solution that is right for your utility:

Managed, Traditional Fixed Network, Mobile, and Consumer Engagement Solutions

- **Managed Solution**: Configured by Badger Meter for your utility, the managed solution approach provides built-in infrastructure management services and a system design that keeps you in step with technology.
- **Traditional Fixed Network Solution**: Our traditional point-to-point fixed network system combines smart meter endpoints with fixed network gateway transceiver technology.
- **Mobile Solution:** A comprehensive end-to-end solution for drive-by or walk-by meter reading, including migratable endpoints that are easily upgraded from mobile to fixed network data collection without rolling a truck or reprogramming the endpoint.
- **EyeOnWater® Consumer Engagement**: Powered by the hourly reads of a fixed network system, web portal and smartphone apps provide utility customers with access to their water consumption data, allowing them to view their usage activity and gain a greater understanding and control of the water they consume.

ORION® Endpoints

The BEACON AMA solutions utilize our time-tested ORION family of endpoints to capture interval meter reading data through cellular, fixed network, or mobile communication technologies.

ORION Cellular LTE, Fixed Network (SE) and Migratable (ME) Endpoints

- **ORION Cellular:** Designed for maximum flexibility and rapid deployment, our water endpoint eliminates utility-owned infrastructure by utilizing existing cellular networks.
- **ORION Fixed Network (SE):** This system collects meter readings and enhances operations via a fixed network (AMI) system of gateways and endpoints.
- **ORION Migratable (ME):** This migratable mobile (AMR) system can be easily upgraded to a fixed network (AMI) system to evolve with your needs.

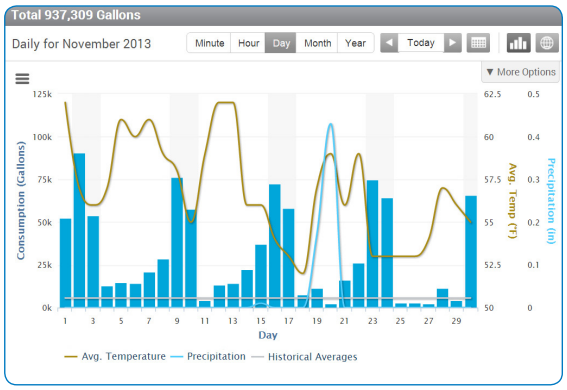
BEACON® Advanced Metering Analytics Software Suite

The BEACON AMA software suite is designed to transform your data into proactive intelligence and enhance your overall operations. Here are a few examples of the benefits you can expect:

Enhanced Customer Service

With access to timely information, respond to customer needs more effectively—and resolve billing issues quickly.

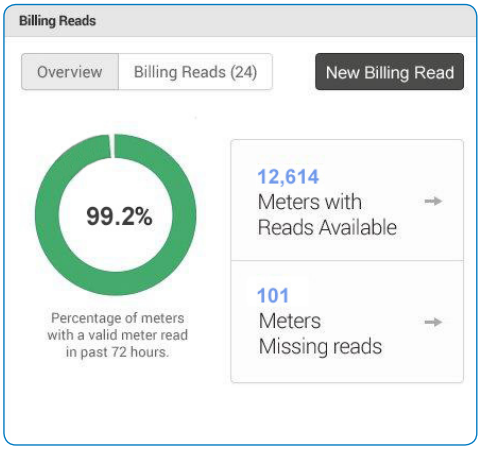
Analyze a consumption profile over selected time periods and rapidly respond to customer inquiries.



Simplified Revenue Management

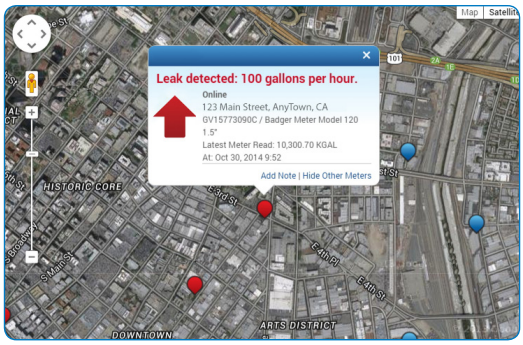
The system supports increased profitability by efficiently importing and exporting billing data.

Improve your process—and access information easily on user-friendly, intuitive screens.



Faster Leak Detection

Set leak detection alerts and thresholds to quickly understand where problems are occurring.



Set threshold and leak detection alerts to monitor water use.

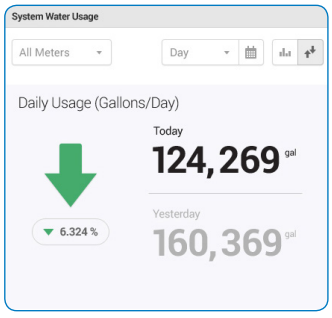
Making Water Visible to Utilities and End Water Customers

Allow end water customers to view and understand their usage profile through an easy-to-use consumer engagement website or smartphone/tablet app.

Consumers can use EyeOnWater Online or the EyeOnWater App to easily gain access to their water usage data.

Better Tools for Government Regulation Compliance

Streamline regulatory compliance by configuring a variety of reports within the BEACON AMA software suite.



Easily compile data for ever-changing compliance reporting.

Backed by World-Class Service & Support

To protect your investments, Badger Meter offers the service and support you need to keep your utility operations running smoothly and efficiently. Our team of experts is ready to assist you.

Customer Service & Technical Support | 800-616-3837

From general product applications to order placement, our friendly and knowledgeable Customer Service team supports you every step of the way during the ordering process. And, our Technical Support team provides you with the resources and technical assistance necessary to maximize your Badger Meter investments. Assistance is available 24 hours a day, seven days a week.

Field Support

When you need installation and project management for your meters or metering infrastructure, discover what Badger Meter Field Support has to offer. An accomplished team of experts is ready to assist you. We specialize in project management to help you get the most from your Badger Meter system.

Training Support

Maximize your utility operations with the wide range of learning opportunities offered by Badger Meter. Courses are designed to arm you and your team with the skills and best practices needed to maintain and promote successful operations.

Website

For more information, visit our website at www.badgermeter.com.

One drop at a time.

At Badger Meter, we know it all adds up. That's why we continually improve our products to be even more accurate, more efficient and more effective at measuring and tracking your water flow. With industry-leading initiatives like Advanced Metering Analytics (AMA), Badger Meter provides the solutions you need to help boost profitability and conservation efforts.

When every drop counts, choose Badger Meter. We focus on **Making Water Visible** so you can optimize your operation.

Making Water Visible®

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