Smart water metering by Kamstrup

Innovative solutions to save utilities time, money and resources
The future of water metering

Major global trends, such as climate change and population growth, are having a profound effect on the water industry. Reducing non-revenue water, managing the aging infrastructure and optimising operations are key to ensure safe and steady supply of water.

How do you not just manage these challenges, but overcome them and improve your distribution network in the process? We believe that the answers to our industry’s challenges can be found through digitalization and the intelligent use of data. The potential of smart water metering goes far beyond accurate billing. If you have the knowledge you need to make the right decisions at the right time you become proactive rather than reactive.

With ultrasonic water meters we have a world of knowledge available at our fingertips, and we can achieve a level of accuracy and efficiency that was unthinkable just a few years ago. It is no longer just a matter of increased accuracy and metering of water consumption. It is also about reducing water loss, strengthening consumer relations and optimizing operations. The future of smart water metering is about being able to make the right choices and choose the right investments.

With smart metering solutions from Kamstrup, you can improve your system’s capabilities today and gain the confidence to solve the challenges of tomorrow.
Intelligent solutions for water utilities

Based on our +25 years of experience in the water industry, we deliver smart metering solutions from individual meters, remote reading systems and service solutions.

We provide utilities around the world with state-of-the-art ultrasonic water meters, high-performing remote reading solutions, advanced monitoring of pressure and leakages as well as intelligent data analytics. Our solutions come in all shapes and sizes, but while every project is unique, our starting point is always the same – you, the customer.

Meters
All Kamstrup flowIQ® meters are based on proven technology with pinpoint accuracy and high quality.

Remote reading
We offer a variety of automated meter reading solutions, drive-by and fixed network solutions and communications that support new technologies.

Analytics platform
With our analytics platform your meter data is automatically visualized and analyzed to give you knowledge on water loss and incidents to effectively target your efforts.

Service & Support
We offer different service packages for your needs that range from day-to-day technical support, onboarding and training, to hosting and full-service solutions.
Ultrasonic water metering

For years, the mechanical meter has been the natural choice. But in today’s digital world where the need for communication and connectivity increases by the day, good is no longer good enough. Ultrasonic smart metering secures a future proof technology with many benefits to support your business.

Building on more than 25 years’ of experience, our smart water meters are based on proven technology and represent the next generation of smart metering. While precision is at the core of everything we do, our products offer more than the data needed to conduct a fair an accurate billing. Because we believe that smart water metering is not just a matter of increased accuracy, it is also about strengthening consumer relations, optimizing operations, quality, revenue protection and asset management. It is about being able to make the right choices and choosing the right investments.

Our products create transparency in the distribution network all the way to the end-users. From household and commercial water meters that provide information on the consumption to district water meters. Intelligent alarms enable efficient detection of leaks, bursts, unaccounted for and non-revenue water providing valuable information on what is actually going on in your distribution network.

Ultrasonic Measurement Principle

Two transducers send an ultrasonic signal in each direction through the water flow. Based on the speed difference between the two signals and the inner diameter, the flow rate is calculated.

Mechanical metering

- Wear and tear over time
- Manual reading
- Limited data
- Limited alarms

Smart metering

- Unrelenting precision
- Remote reading capabilities
- Full data overview
- Intelligent alarms

Ultrasonic metering

- 3% Outside +2% of original accuracy range
- 25% Within +2% of original accuracy range
- 72% Within original accuracy range

Mechanical metering

- 3% Outside +2% of original accuracy range
- 25% Within +2% of original accuracy range
- 97% Within original accuracy range

Calibration results from mechanical meters tested at Kamstrup’s accredited laboratory in 2017.

Calibration results from ultrasonic meters tested at Kamstrup’s accredited laboratory in 2017. Installed in 2011 to 2014.
Ultrasonic water metering opens the door to a world of opportunities

Figure 1.
Comparison of indicative accuracy curve for flowIQ and a typical residential mechanical meters.
Remote meter reading

Aside from the time saved compared to reading your meters manually, remote reading helps you eliminate misreading errors, time-consuming follow-ups and estimated calculations. Remote meter reading increases the quality of your data and makes it easier to analyze as you can look at consumption and supply data from readings made at the same time. The increased reading frequency lets you evaluate the effects of your improvements and discover problems much sooner instead of just once a year.

And it does not have to be hard to get started with remote reading. We offer a variety of automated meter reading and smart metering systems – from handheld devices or drive-by solutions to fixed networks. We do not support 5 minute intervals in US - only EU. Also don’t want to say we only have hourly data as our competitors have more granular intervals – together with user friendly data management programs.

All Kamstrup meters have an integrated radio to transmit meter and offer drive-by and fixed network reading solutions.

REAdy, Kamstrup’s full meter reading and data management solution, is used in combination with the flowIQ® meters. REAdy is available as a Drive-By or Fixed Network Solution. It consists of the meter reading hardware (e.g. collectors, mobile Android devices paired to a bluetooth converter), and Meter Data Management software, called REAdy Manager.

MyKamstrup – utility portal

MyKamstrup is a web-based platform that provides customers with one common portal secured with a login based on credentials.

This allows you to easily access all our customer centric digital services such as managing your meters, setup security, tracking past orders, review encryption key download history, and access to training material and Kamstrup applications like District Analyzer. The dashboard is customizable and due to cloud-based format of the platform no customer-initiated updates are necessary.
Services
In an everchanging world, we help you drive change. We are here to support you in delivering value to your customers. From initial onboarding and training, project roll-out, and deployment. Kamstrup is your full-service solution provider.

Product Service & System Support
Fast and effective support for your entire Kamstrup solution.

System Hosting
Leave all server operation, software installation, maintenance and data back-up to us.

Customized Services
From short-term help or long-term guidance for specific tasks or comprehensive projects.

Training and Courses
We offer both standard and customized training in Kamstrup hardware and software.

Facts about Kamstrup

1946
In business since 1946

90
Meter solutions installed in 90 countries

20+
Offices in 20+ countries

60+
Distributors in 60+ countries

25+
Manufacturing ultrasonic meters for >25 years

14,000,000
Over 14,000,000 smart meters sold worldwide

Quality
High quality and innovation

14%
14% growth globally in 2018 and history of profitable growth year after year

25%
More than 25% of employees dedicated to R&D, keeping Kamstrup on the leading edge of digitalization
For over 70 years utilities have trusted Kamstrup to deliver reliable meter solutions and while other companies are offshoring production, Kamstrup continues to invest in and expand production and jobs in the United States.

Our US-based production allows us to work closely with our partners to implement rapidly innovative products. We use our superior technology, deep customer understanding and industry vision to deliver intelligent, reliable and cost effective ways to measure and manage the consumption of energy and water.

Through automated production, calibration and configuration process, we ensure that the highest quality, most reliable products engineered to last. And, by expanding the US manufacturing capacity and capabilities, we will be able to continue to meet the high demand for our innovative smart water metering solutions.

By anticipating the challenges of tomorrow, we enable our partners to run a better business and inspire smarter and more responsible solutions for the communities they serve. Our solutions benefit not only utilities, but the people the utilities serve and allow them to proactively turn vision into action for a brighter future.
Software Solutions

District Analyzer
– overview and water loss

The District Analyzer app gives detailed insight into each individual district and visualizes its water loss. A map of your supply area provides a constant overview of the water loss in your entire network. Intuitive color coding of your districts immediately shows their status based on your predefined limits for acceptable water loss. This enables you to target your leak detection so you can react in a matter of hours instead of days. Continuous monitoring and daily water balances also make it possible to follow developments and catch smaller leaks before they develop into large-scale bursts.

Incidents
– efficient event management

The Incidents app gives you an overview of the different digital events in your distribution network – and the tools to prioritize and handle them. All active events are shown on a map clearly indicating their location and status. Events include alarms and info codes from your smart meters, other devices and alarms concerning the water loss in your individual districts based on your pre-defined limits from the Water Intelligence module. In addition, you can assign certain team members to certain events, and the “acknowledge” function ensures that you know exactly which events have been handled and which ones have not.
Value created around the US

City of Lincolnton (North Carolina)
Revenue Increase, Technology Update and Digitalization

Every drop counts
ROI that Lincolnton immediately saw toppled fears of risk and change, pleased employees and customers, and convinced decision-makers to unanimously approve moving forward with city-wide implementation. ROI is occurring in months rather than years. Benefits are realized in the form of reduced operations and management expenses and improved operational efficiency, enhanced revenue found by measuring more water, and the vast amount of data and business intelligence now at employees’ fingertips.

SHARYLAND WATER SUPPLY CORPORATION (TEXAS)
“The accuracy of the Kamstrup water meters is exceptional and the coverage of the AMI collectors provides reliable readings at very long ranges. The entire ‘Kamstrup’ system is second to none.”

Javier Ramirez, Sharyland Water Supply Corporation

City of Gonzales (Texas)
From mechanical meters to smart meters

11% Revenue increase
The City of Gonzales in Texas faced the challenge of manual metering readings as well as inaccuracy of mechanical meters. The city is in the process of exchanging all their meters to Kamstrup smart meters. With only half the meters in the ground, the city has increased its revenue by around 11%, creating a payback time for their investment of just 3 years.
ECBI sought a technologically advanced, robust and scalable metering solution, with meter accuracy being the most important criteria in selection of the new system. Meter accuracy would allow for a reduction in unaccounted-for water and increase revenues, which would help the department to future-proof the system for long-term sustainability, among other benefits. After the propagation study was completed of the challenging terrain, the EBCI were pleased to know that the Kamstrup AMI solution would indeed work in their area. Soon after the study, the EBCI team began taking the proper steps for migrating from AMR to AMI in their territory.

Town of Urbanna (Virginia)
The right meter solution

Reducing water waste with smart meters
Town of Urbanna had a non-revenue water challenge to solve while simultaneously managing new state regulations. To help in both areas, the town chose Kamstrup Water Metering’s flowIQ® smart water meters and drive-by meter reading system. “It’s exciting for us to get a remote meter reading system, because efficiency has really gone up,” said Gailey. In addition to improved efficiency, a remote meter reading system also allows for a 10% withdrawal increase, which is helpful to ensure the town does not incur the expensive penalty for over-withdrawing from the Potomac aquifer.

ST. LUCIE WEST SERVICES DISTRICT (FLORIDA):

“Once all of our meters are changed, our revenue increase may reach $500,000 per year with the low flows we get from this meter,” says Miller. “And our guys love installing them. They are lightweight and the threads bite better than other meters we’ve installed. You really can’t mess up the installation of this meter.”

Josh Miller, St. Lucie West Service District

Eastern Band of Cherokee Indians (North Carolina)
From AMR to AMI – a meter reading migration story

Significant water loss leads to new technologies and cutting edge service
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