

Getting the best from the A200 meter

The A200 smart water meter is not just a cash register for billing purposes. It is a sensor that can also provide useful data for other parts of the water company's business such as network planning, asset management, operations management, field service, water efficiency, customer accounts, call centre and business planning. The data will also have value for customers.

When a water company adopts the A200 it is effectively growing the role of meter management to involve interfaces with all these areas of its business and, potentially, opening up a new channel of communication with customers.

Key features

- Accurate at all flow rates, over full 20+ year lifespan
- Future proof, field-upgradeable functionality
- Accurate time-stamping of all consumption
- High capacity data archive
- Fully remote operation by ZigBee SEP radio
- Local programming and data retrieval by optical port

Aquiba A200 – key concepts

For a detailed specification, please refer to the A200 meter datasheet.

Meter performance – world class

The A200's metrological performance is world class. It measures accurately at all flow rates relevant to revenue collection. It also provides useful raw sensor data down to extremely low flow rates (well below 1 litre per hour), enabling you to prevent a minor leak becoming a pipe burst that causes thousands of dollars of damage.

All data is time-stamped

Internally, the A200 measures at one second intervals and incorporates a software clock so that each reading can be time-stamped. Custom firmware can take advantage of this fine time resolution to support many new system functions. By comparison, traditional meters have no concept of time at all.

Data archived for retrieval at your convenience

Data can be saved in the meter's secure data archive in non-volatile memory for later retrieval. The data types available as standard are:

- Legal metrology (to OIML/NMI R-49)
- Raw flow
- Internal temperature (of meter).

Customisation and field upgrade

Different smart water metering projects can have very different objectives. The different stakeholders may have very different views and these views may change over time. It is therefore likely that the smart water meters will need customisation during manufacture and, later, field upgrade to support the functionality that your system must provide.

Aquiba can customise meters in all aspects of battery and radio management, data capture, alert processing and home/local area network functions. The firmware architecture consists of an operating system and metrology module that are fixed and ring-fenced, plus application modules that can be installed or removed at manufacture or in the field.



Customer account management

It is essential for water companies that revenue is collected quickly and efficiently. Automatic Meter Reading (AMR) systems provide frequent reads (and so allow billing cycles to be shortened), and reduce meter reading errors. Deployment of A200 meters takes revenue collection and protection beyond simple AMR. The accounts team have evidence of correct meter functioning from its status information and are alerted to any attempts to tamper.

The accounts team can also, in periods of water shortage, look for households ignoring restrictions and then provide advice or cue field investigations, as appropriate.

When household leakage produces an abnormal bill, high resolution consumption data allows the accounts team to check if the leak was fixed promptly and, depending on company policy, decide if a partial write-off is justified.

Promoting water efficiency

High resolution consumption data may help identify:

- Discretionary use
- Wasteful use / leakage.

Water efficiency campaigns can then be directed at the specific customer segments (regions, property types or usage patterns) that are likely to bring the best results. High resolution data also helps you measure the effectiveness of a campaign.

Field service productivity

The A200 removes the need for routine visits to the meter and enables the field service team to perform higher value tasks, such as:

- Assisting in end-use studies by configuring the archiving to capture the necessary data and, if the data cannot be transmitted by radio, retrieving it via the optical port
- Offering doorstep water efficiency advice to households.

Evolving the business

With concerns rising over the security of supply, growing environmental impact, known assets used now, and understanding consumer trends will help the process. If a new service platform can deliver the d



The network planning perspective

A200 meters collect detailed consumption data so you can measure key parameters weekly, monthly and annual flow at the household and segment your data to help planning. Together with other data, such as forecasts, such information can help size and timing of infrastructure projects on a small scale (e.g. a water main upgrade) or the large (a new reservoir for the region), enabling more efficient use of capital and business and higher utilisation of assets.

climate change and
growing populations and
knowing how water is
being used is an important
part of your business planning
Data is required, the A200
can provide the data to support it.

Business
planning

Network
planning

Operative

consumption data so
managers can see peak daily,
low rates for each
customer effectively,
and demographic
data can help you optimise the
investments from the
upgrade in one street) to
the whole city). This
capital within the
of network assets.

Improving the call centre experience

Customers call with a huge range of queries about their account but, whatever the query, to deal with the matter completely call centre staff may need access to the customer's data:

- High resolution historical consumption
- Consumption trends
- Meter 'health' status and remaining battery life
- Alerts including tampering, excess flow events, continuous low flow (indicating background leakage).

A smart metering system based on the A200 can provide this.

Call
centre

Customers

Operations
management

Communications with customers

All businesses communicate with their customers through communications channels and 'touch points'. Water companies have the difficulty that, although their product is a necessity, it is a low cost commodity. Prices are generally not high enough to make the bill an effective touch point.

In this context, targeting messages accurately is crucial: a message that is relevant is much more likely to be heard. In fact, poor targeting is not neutral, it is negative. A message such as "we need to save water" could go to everybody, but might be better targeted at households with high discretionary use.

The A200 can help identify the best targets for your messages but, more than that, timely information enables new communication channels such as text messaging, in home displays and customer web portals, to go alongside traditional bills and media communications.

The network operations – optimise costs and performance

In addition to optimising network performance, water quality and environmental objectives, operations teams must minimise burst rates, leakage and pumping costs. High quality data from the A200 meter can help achieve these goals in many ways, for example:

- With high quality network meters, the A200 can be used to calculate real losses from the network due to leakage and unauthorised connections
- Pressure management is often used to reduce energy consumption and burst frequency. However, operations managers need to know that they are supplying the flows customers expect. Data from the A200 meters can identify peak flow rates to see if any households are adversely affected.

Tomorrow's water meters today

The A200 is a versatile platform providing a better meter for today and facilitating intelligent networks for the future. It can help water utilities improve efficiency in many areas, and provides all the data necessary to deliver world-class customer services.

