

# TracWater DMA water quality analyser

The  
**Game  
CHANGER**

in cloud-based robotic  
water quality monitoring





## **Nothing beats a TracWater<sup>®</sup> DMA remote water quality analyser for for real-time, cloud-based remote monitoring.**

Compact, battery powered and wireless - The TracWater DMA is a powerful fixed in place, Plug & Play network monitoring solution. Superior quality and performance that meets the highest expectations.

With 4G wireless communications, the TracWater<sup>®</sup> DMA water quality analyser makes robotic, autonomous water quality measurements 24/7.

The TracWater<sup>®</sup> DMA analyser can perform more than 10,000 water quality measurements per day for unprecedented improvement in analysis and verification of distribution network water quality.

# TracWater<sup>®</sup> DMA



No other  
cloud-based  
water quality  
analyser can  
match this

- Measures Free Chlorine, pH, Temperature, Conductivity, Pressure and Flow as standard
- Optional ORP, Salinity, Turbidity, TOC, TSS, Colour and Transient Pressure events
- Robust, reagent-free field sensors, non-buffered - no accuracy compromises
- Easy to install, operate and move from site to site
- Transient pressure senses at 1,000 times/second and measures at 100 times/second on the cloud
- Wireless 4G communications
- Simple and fast field calibration
- Water saver option - sample flow and measurement frequency can be reduced
- Plug & Play - automatically connects to TracWater<sup>®</sup> IaaS - Information as a Service platform

# Online water quality monitoring is essential

Ageing infrastructure, use of alternative water sources such as desalination and recycled water, pollution, contamination threats, and duty of care issues bring new challenges to water distribution and water quality assurance worldwide.

Every city, town and village with water infrastructure built decades ago experiences issues such as increasing water quality hazards, water shortages, leakage and infrastructure cost increases. The true economic damage of water quality incidents is severe.

Today for a safe and secure supply of drinking water, the quality of the water in the water distribution network needs to be monitored in real time. To be assured of safe and healthy water, the water quality must be monitored throughout the network and not just at the post-treatment plant stage of water processing.

## The TracWater<sup>®</sup> Solution

### Seamlessly integrated network capable field devices

TracWater is one of Australia's leading utility cloud-solution technology companies. User interactive high-speed big data on the cloud is what we do. TracWater build award winning fully cloud-integrated equipment and sensor solutions for real-time measurement and control of water, gas and power applications.

Our vision is to continue to be the trail-blazing Aussie tech company at the forefront of research and development of cloud-based solutions for the utilities sector. We began our journey in cloud data engineering when the term Big Data was new. Our focus today is delivering high quality data to improve operational interaction. We give network optimisation teams the data they need for critical decision making, the tools to reduce operational costs and the confidence that comes with the support they receive.

# TracWater® Secure Data:

Complies with the Federal Government Australian Signals Directorate's cloud computing security risk profiles

## The connected future is unstoppable



Information and applications are spreading to the cloud across the globe in all industries. Most governments now require that all critical data is to be maintained securely on-shore. TracWater® IaaS water quality data, which we supply as an Information as a Service package, is the convergence of electronic security with cyber security. It is a specialised area of information and telecommunication technology that we take care of seamlessly for our clients. Keeping track of data security threats and deploying solutions to protect data infrastructure and operations requires skilful resources in emerging cyber security streams. We leverage the economic advantages of cloud computing to deliver high quality capabilities to all of our customers.

Using TracWater® Information as a Service we aim to:

- Eliminate all of the data risks associated with using overseas based servers which are constantly subjected to malicious intent by attackers, malware, viruses and physical security threats.
- Maintain compliance with the Australian Government's Australian Signals Directorate cloud computing security risk profiles, which evolve at the same rate that new data security threats emerge
- Ensure up-to-date protection is maintained over our clients' data and our cloud infrastructure
- We deploy multiple strategies at every data layer to minimise exposure risks including private cloud networks, private addresses for TracWater® water quality assets and devices, military grade encryption and secure socket layers (SSL) for inter-network connections.

# TracWater® IaaS

## Information-as-a-Service Platform

Around the clock, high-resolution water quality monitoring requires high level technical understanding of the cloud and big data management systems. Most Australian utilities are not sufficiently resourced to be able to do this 24/7. Yet every Australian expects clean and healthy water at their tap. The TracWater IaaS platform is a FULL SERVICE offer to water utilities to help them to ensure that their water quality is being managed in real-time across the water distribution network.

TracWater has proven strengths in innovative high-speed cloud-based utility systems which enable the TracWater IaaS field-proven data solution for Australian water utilities:

- Fully user-interactive cloud-based data and historical trending for up to 3 years
- Accessible from any web enabled devices
- Alarms and threshold notifications sent via SMS or Email
- Automatically generated customised reports
- Real-time data can be delivered to existing SCADA systems
- Supported by thousands of hours of fault-free water quality monitoring operations
- Also available for industrial and building automation



# The TracWater® family of cloud-based, battery powered solutions reduce the cost of remote water quality testing

TracWater® DMA model sensor systems have operated remotely in the field for over 520,000 fault free hours. No TracWater® measurement data has ever been lost even during the most severe floods and cyclonic weather events.

Designed for a twenty year operational life by engineers with real experience in the field, every TracWater® robotic water analyser is strongly built.

All internal parts and systems are modular and field serviceable and cabinets are constructed to maximise equipment security and minimise damage by vandals.

TracWater® robotic analysers make up to 2,800 live, user-interactive cloud-based water quality reports every day.

Each report consists of 6-10 measured water quality parameters and advanced units can make up to 4,800 measurements per day.

The operational cost for a cloud-based TracWater® remote water analyser system can be far less than the cost of traditional grab-sampling and thousands of times faster.



# TracWater® DMA Remote for early warning detection of key water quality parameters at distant parts of the network

TracWater® also provides a unique early warning contamination detection system for water distribution networks and public infrastructure.

This combines TracWater's highly sensitive optical and amperometric sensors with dedicated event detection algorithms and automatic SMS and email notification of alarm events. Self-contained TracWater® robots can provide an economically viable online early warning sensor network that can be deployed anywhere in the water distribution grid.

Testing water samples for specific substances, using water samples collected and transported to a laboratory, remains an important component in the integrated approach to assure water quality. However measurement of key chemical and physical water quality indicators can be made easier, faster, and much more cost-effectively using TracWater® water analysis systems fitted with a wide range of sensors.

TracWater® offers a flexible and affordable platform for the real-time measurement of specific substances and physical properties of the water flowing in the water distribution grid. TracWater® robotic water analysers do not need any connection to mains power or solar power. They can be installed indoors or outdoors anywhere that a pressurised low-volume water supply can be obtained. Cabinets and portable cases are rated at IP66 or IP67 while all electronic components, sensors, and military specification wiring connections are rated at IP68 meaning that they must be able to operate submerged under water.



# Integration with other legacy systems

Real time TracWater® water quality measurement data can be integrated with most existing SCADA systems, building management systems BMS and other legacy control systems. TracWater® DMA remote water quality analysers can easily extend the data reach of existing legacy control systems without the need to resort to expensive SCADA system replacement or upgrades.



TracWater® real-time measurement data can provide an operational window into the distant and hidden parts of the water network that fixed in place systems can never reach. Water grab sampling don't capture the same information measurement in real-time can.

## TracWater® DMA self-powered remote water quality analysers can be used just about anywhere





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## Low maintenance and non-polluting

Using a mix of amperometric and optical sensors the TracWater® family of analysers use no reagents or chemicals whatsoever during measurement operations. No harmful chemicals ever need to be stored on-site or replaced in TracWater® robotic water analysers and ongoing operating and maintenance costs are minimised.

TracWater® sensor design ensures long life between calibrations and good stability of real-time sensor measurements. Normal calibration checks are reduced to 2-4 times a year for our TracWater® Basic model. Some TracWater® robots with very sophisticated sensor arrays do require calibration at more regular intervals. Sensor calibration is easily performed on-site using secondary test instrumentation and certified calibration standard solutions.

## TracWater<sup>®</sup> sensor technology raises the bar for remote real-time water quality analysis

All sensors and components in TracWater<sup>®</sup> systems are designed with a view to perfect interaction. Features like automatic communication and power testing, remote configuration capabilities and on-board operational alarms and alerts sent by SMS and email are major advantages in a remote robotic water quality measurement system that is also simple to use.

Secure cloud-based communication protocols guarantee consistent data security. TracWater<sup>®</sup> robots can be programmed to learn to recognise when water supply quality fails. When this happens they can automatically switch into a high-speed measurement and data communication mode and send an alert or alarm message directly from the TracWater<sup>®</sup> analyser at the remote site to a relevant person anywhere in the world.

# Operating Specifications

Measurement Type	Basic	Basic Plus	Advanced
Flow	●	●	●
Temperature	●	●	●
Electrical Conductivity	●	●	●
pH	●	●	●
Free Chlorine	●	●	●
Water Pressure	●	●	●
Salinity		●	●
Total Suspended Solids TSS		●	●
Oxidation Reduction Potential ORP		●	●
Turbidity			●
Colour			●
Transient Pressure Alert/Alarm	Optional	Optional	●
Total Organic Carbon TOC		Optional	Optional
Features	Basic	Basic Plus	Advanced
Plug & Play	●	●	●
Self Powered	●	●	●
Measurement @ 5 Minute Intervals	2880/day	3168/day	4320/day
Heartbeat Monitoring	Basic	Basic Plus	Advanced
Communications Signal Strength	●	●	●
3G/4G Network Operation	●	●	●
Low Battery Power Alert	●	●	●
Sample Water Flow Alert/Alarm	●	●	●
Door Lock Security Alarm	●	●	●
Water Pressure Alert/Alarm	●	●	●
Dimensions (cm)	Height	Width	Depth
	130	60	40
Weight (Kg)	Basic	Basic Plus	Advanced
	120	120	120



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