Photonic Measurements

Trusted Water Quality Measurement

About Us

Empowering Your Success with Innovative Water Quality Measurement Instrumentation

We aim to help clients achieve water safety and environmental protection with advanced technology and great service

Photonic Measurements Ltd is a multi-award-winning, UK and EU based global provider of advanced water quality measurement instrumentation, specializing in wastewater, drinking water, and environmental sectors.

Our comprehensive range of UV, IR, and optical water quality measurement instruments are designed to assess critical parameters such as Nitrate, UV transmission, UV absorption and organic content indicators.

We offer versatile online, inline, and portable solutions to meet diverse water quality monitoring needs.

Committed to water safety, operational excellence, compliance, and sustainability, we support a circular economy by delivering innovative, reliable, and accurate water quality monitoring solutions.

UK Manufacturing and Global Presence

- We deliver premium products manufactured in the UK.
- Benefit from our dedicated local customer support.
- Access our advanced water quality solutions worldwide.
- Experience our commitment to excellence with cutting-edge technology and exceptional service.

Some of Our Clients

Applications

Tailored Water Quality Measurement from Waste Water and Drinking Water to Environmental Monitoring

Improve Control and Compliance for Waste Water Treatment

Track organic load (UV254) and nitrates for proactive adjustments in raw influent, while ensuring compliance with real-time organic content monitoring in final effluent.

- **Real-Time Monitoring:** Automated nitrate measurements allow for quick responses to water condition changes.
- **Cost Savings:** Save time and avoid the hassle of frequent sensor calibration and installation. Reduce electricity costs by up to 19% with real-time aeration control for nitrate,
- **Enhanced Compliance:** Effortlessly meet organic content and nitrate regulations.

Safeguard Your Drinking Water with Fast, Reliable Monitoring

Ensure consistent, high-quality drinking water by tracking key parameters like pH, Chlorine, Turbidity, and UV254 in real-time for optimized treatment.

- **Quick, Reliable Data:** Ensure water quality with ±1% accuracy.
- **Cost Reduction:** Minimize chemical waste and optimize dosing.
- **Enhanced Control:** Adjust treatment with real-time insights.
- **SCADA Integration:** Automate control and receive instant alerts.

Empower Environmental Monitoring with Portable UV254 Devices

Ensure data-driven decision-making in remote locations with portable, rugged UV254 analyzers that provide fast, reliable, and accurate water quality measurements.

- **Rapid Response:** Swiftly address water quality threats with immediate on-site data.
- **Enhanced Efficiency:** Expedite sample collection by eliminating lab analysis.
- **Improved Data Quality:** Reduce errors from sample transport and storage.
- **Regulatory Compliance:** Ensure adherence to regulations with accurate UV254 measurements.

Parameters

Mitigate the Risk of Organic and Nitrate Contamination in Water Treatment Processes

Ensure you have the latest tools for measuring diverse parameters

Understanding Parameters: A Crucial Aspect of Water Quality

Excessive organic matter in water poses health risks and disrupts treatment processes.

Measuring parameters in drinking water, wastewater, and environmental contexts ensures high-quality water, operational efficiency, and sustainability.

Enhancing Water Safety: Revolutionary Nitrate Measurement and UV254 Analysis

Our Nitrate instrumentation provides rapid and reliable measurement of nitrate concentrations in water.

This technology offers specificity, sensitivity, and cost-effectiveness compared to traditional approaches.

UV254 measures ultraviolet transmittance (UVT) or absorption (UVA) at 254 nm, providing critical insights into organic contamination levels.

It supports efficient water quality monitoring, informs decisions on treatment processes and pollution events, and ensures compliance with regulatory standards.

Nitrate: A Hidden Threat to Water Quality

Nitrate (NO3-), while important for plant growth, can become a threat at high levels.

UVT: Mitigate Risks to Achieve Effective Water Treatment

UV254, or Ultraviolet Transmittance at 254 nm, is highly regarded in water quality measurement due to its ability to detect organic contaminants and particles invisible to the naked eye.

UVA Surrogates: Gain Insights into organic Contaminants

UVA surrogates measures parameters to estimate the concentration of dissolved organic matter (DOM) in water by measuring substances that absorb UV light at 254 nm, including BOD, COD, DOC, and TOC.

Total Suspended Solids (TSS): A Key Water Quality Indicator

Managing TSS is essential for maintaining water quality, ensuring regulatory compliance, and protecting both infrastructure and the environment.

Mixed Liquor Suspended Solids (MLSS): Wide Ranging Measurement of Aeration Tanks

MLSS is a vital parameter that measures suspended solids, including microorganisms, in aeration tanks, essential for maintaining biological activity, optimizing energy use, and ensuring effective wastewater treatment.

Northumbrian Water Enhances Water Quality Testing with UV254 Go!

Challenge

Northumbrian Water Limited (NWL), serving nearly 4.7 million people across the northeast, Essex, and Suffolk, sought a reliable, high-precision solution to enhance water quality monitoring. They needed an instrument that could deliver consistent, accurate results, streamline testing processes, and support AMP 8 goals for operational resilience, regulatory compliance, and environmental sustainability.

Solution

NWL integrated Photonic Measurements' UV254 Go! portable analyzer into their operations. This advanced instrument delivers rapid, repeatable UV254 measurements with a +1% tolerance, enabling on-site verification and reducing reliance on laboratory testing. The UV254 Go! supports NWL's commitment to efficiency, sustainability, and proactive asset management.

Impact

- **High Accuracy & Repeatability**: Trusted, consistent data with +1% tolerance.
- **Operational Efficiency**: Stable performance optimizes water monitoring workflows.
- **Cost Savings:** Reduced resource consumption and operational costs through streamlined testing.
- **Regulatory Compliance & Sustainability:** Reliable data integrity supports environmental objectives and AMP 8 priorities.
- **Customer Confidence:** Strengthened trust through accurate, timely water quality insights.

"The UV254 Go! has significantly improved our water quality monitoring. Its reliable, repeatable data enhances decision-making, operational efficiency, and ensures the highest water quality for our customers. The service from Photonic Measurements was exceptional."

Michael James, Instrument & Process Technician, NWL

Right Group Optimizes Water Treatment with Collaborative Development of the UV254 Go!

Challenge

Karl Fox, ICA Manager identified a need for a reliable portable field instrument to save the time, effort and costs of transporting water samples to the laboratory and giving reliable results in minutes not days.

Solution

Through collaboration with Photonic Measurements, Right Group helped develop the UV254 Go!, a portable UV analyzer that provides fast and accurate results.

Impact

- **Enhanced Efficiency:** Right Group saves time and money by eliminating unnecessary lab trips and plant shutdowns.
- **Improved Client Confidence:** Accurate data with a +1% tolerance and strengthened client relationships.
- **Streamlined Verification:** The UV254 Go! simplified on-site verification procedures.
- **Peace of Mind:** Right Group trusts the instrument's readings for optimal water quality delivery.

"The UV254 Go! is a game-changer for us! We can truly trust its readings, giving us peace of mind and the confidence that our clients can deliver optimal water quality. Right Group is excited to continue our collaboration with Photonic Measurements and bring the benefits of the UV254 Go! to our customers across Ireland."

Karl Fox, ICA Manager, Right Group

Waste Water Final Effluent UVT & Turbidity Solution for Waste Water Treatment Plant

Challenge

The site previously relied on autosampler results and grab samples taken twice a day, limiting real-time insights. Operators needed a more in-depth investigation into real-time water quality trends to improve plant efficiency.

Solution

A bespoke system was designed for a waste water site to monitor UVT [%] and Turbidity [NTU] in real-time.

Impact

- Real-time UVT monitoring provides insight into organic load trends after final treatment.
- The system offers real-time threshold alerts, enabling feedforward and feedback control to optimize wastewater treatment efficiency.

Real-time Online UVT and Turbidity Solution

Photonic Measurements

10 Reasons to Partner with us

UK Based Manufacturer

British Built, ISO 9001 quality assured with fast shipping, local support and no plant shutdown

Diverse Applications

Meets diverse needs of drinking water, wastewater & environmental applications

Multiple Solutions

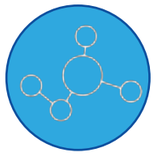
Online, Inline and Portable systems for diverse water monitoring needs

Measure 20+ Parameters

UVT, UVA Surrogates, Nitrate, COD, BOD, DOC, TOC, Turbidity, MLSS, TSS, pH and more

Real-Time Data

Accurate, repeatable and reliable monitoring with ±1% tolerance



Nitrate Detection

Save up to 30% on energy & dosing costs year on year with real-time aeration control

Section 82 Compliance

Real time Dissolved Oxygen, Temperature and pH, Turbidity and ammonia

Portable Measurement

Perform onsite verifications and spot checks with ease. Eliminate the delays of manual sampling

UVT/UVA Surrogates

Real-time UVT & UVA data minimize disinfection by-product (DBP) formation, boost UV lamp efficiency

Frameworks Supplier

We are already a trusted supplier to UK utility companies

Real-Time Water Quality Monitoring Instrumentation

Comprehensive Nitrate Wastewater Solution

Our advanced nitrate monitoring solution was developed to cut energy usage, lower electricity, carbon costs, and optimize process control in both drinking water and wastewater plants.

By tracking real-time nitrate levels, operators can fine-tune aeration and chemical dosing delivering cleaner effluent, significant energy savings, and measurable financial returns.

Nitrate Monitoring Station

Applications

Wastewater

- Aeration control and optimization
- Final effluent monitoring
- Inlet monitoring
- Planning and optimization of denitrification processes

Real-life Trends

- Instant Measurement for proactive process control
- Uses no chemicals or reagents
- Long service life with very few consumables

Operational Efficiencies

- Save energy on aeration
- Reduce carbon dosing costs
- Reduce chemical dosing

Achieve Compliance

- Verify compliance standards with real-time measurements
- Stay compliant in difficult environments

Ease of Install & Maintenance

- No moving parts – minimal maintenance
- Long life LED light source
- Intuitive calibration and easy setup
- Interfaces with Komet Controller

Save up to 30% year-on-year with blower energy and dosing cost savings

Mounted Drinking Water Nitrate Analyzer Using Long-Life UV LED

Our advanced nitrate monitor delivers fast, reliable, and responsive measurements that enhance operational efficiency while ensuring the highest standards of regulatory compliance.

With reduced probe replacements, fewer calibrations, and minimal maintenance interruptions, plants benefit from improved uptime and long-term performance.

Nitrate Monitor

Applications

Drinking Water

- Boreholes
- Raw water inlet
- Reservoirs
- Source water
- Storage tanks
- Distribution water

Real-life Trends

- Instant Measurement for proactive process control
- Uses no chemicals or reagents
- Long service life with very few consumables

Operational Efficiencies

- More uptime due to less failures
- Less guesswork with reliable readings even in complex water chemistry
- Cost savings with reduced routine change outs

Achieve Compliance

- Verify compliance standards with real-time measurements
- Stay compliant in difficult environments

Ease of Install & Maintenance

- No moving parts – minimal maintenance
- Long life LED light source
- Intuitive calibration and easy setup
- Interfaces with Komet Controller
- Modular automatic maintenance available

Optimise your Water Treatment using the UV254 Monitoring Station

Fast reliable UV254 Probe continuous monitoring station with one probe, one controller for complete autonomy with optional automatic cleaning for ease of maintenance.

Universal Smart Meter (USM) with UVT Probe (basic UVT solution)

Fast, Accurate Results

- Sampling time every minute
- Real-time UVT, UVA, SUVAub+, TSS; surrogates TOC, BOD, COD, DOC
- ±1% UVT accuracy, ±0.1% UVT repeatability

Operational Efficiencies

- No breakdowns due to moving parts
- Simple set-up and 4-20mA output

Data Integrity

- Reliable, remote deployment with long-range communication
- Optional data logging, up to 20 years

Ease of Use & Maintenance

- Simple user interface, push button and attractive monitor display
- Easily wall mounted
- Optional automatic cleanse for easy maintenance

Applications

Drinking Water

- Coagulation optimisation
- UV Disinfection

Wastewater

- Distribution system contamination
- Source water monitoring /protection
- Reverse Osmosis
- DBP formation potential

Ensure Accurate Measurements with Automated Cleanse System

Maintain precise, drift-free readings with our advanced flow cell and UV254 probe, engineered for consistent, accurate water quality data.

The Automated Cleanse System delivers fast, reliable results while reducing maintenance demands and supporting compliance in critical applications. Designed for easy installation and operational efficiency, it ensures optimal performance with minimal downtime.

Automatic Cleanse System

Fast, Accurate Results

- Focus spray nozzle for thorough cleaning
- Rigorous cleaning ensures more accurate measurements

Ease of Installation

- Easily mounted to the wall
- Push-fit tubing connectors for quick and simple setup

Operational Efficiencies

- Minimizes maintenance require-ments
- Customizable cleaning duration and intervals from 1 to 24 hours

Gain Complete Control

- Check valve to prevent reverse flow
- Pressure switch cut-off for enhanced safety

UV254 Go! – Portable UVT & UVA Analyzer

The UV254 Go! delivers fast, accurate UV Transmittance (UVT) and UV Absorbance (UVA) measurements in the field, providing reliable, repeatable data in minutes.

Designed for drinking water, wastewater, and environmental monitoring, it empowers operators to make informed, on-the-spot decisions without waiting for lab results.

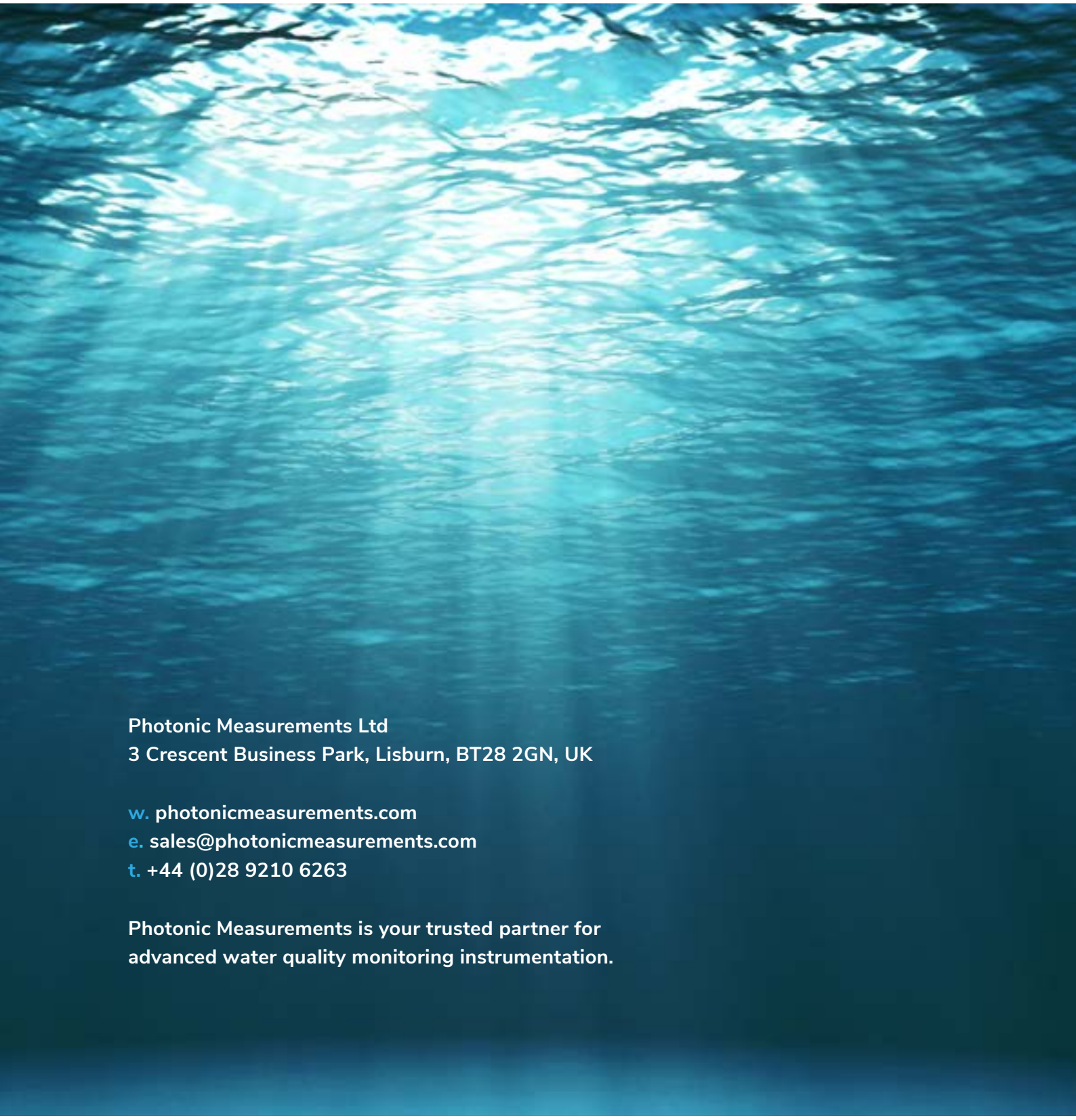
UV254 Surrogates Go! – BOD, COD, TOC & DOC

The UV254 Surrogates Go! delivers rapid, on-site surrogate measurements for key organic load indicators including BOD, COD, TOC, and DOC.

Using advanced UV254 technology, it enables real-time water quality assessment without the delays, costs, or chemical usage of traditional lab testing.

Photonic Measurements

Safeguard Water Quality, Achieve Compliance Standards, Optimise Operations with Reliable and Repeatable Measurements



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Photonic Measurements is your trusted partner for advanced water quality monitoring instrumentation.