
leadtec
Water Treatment Solution
Your Water Treatment
Solution Partner

Company Background

Leadtec
Water Treatment Solution

Our Profile

Founded in **1997**, **Leadtec** has two main ventures, a PCB and SMD processing plant and a factory that designs and manufactures water quality monitoring instruments.

Our long history of OEM/ODM businesses experiences, industry expertise and cost-conscious solutions have given a sense of trust and reliance to customers.

Leadtec continues to diversify its product range to become one-stop instrumentation provider to all the customers. We serve a diverse portfolio of clients in different industries in water and wastewater treatment, agriculture, aquaculture, river monitoring, pharmaceutical as well as food and beverages

Company Background

Our Vision

To be the company of choice of our clients in global market for water monitoring, driven by innovative, reliable and easy-to-use solutions.

Our Mission

To provide one-stop, responsive and trusted water monitoring instruments to our clients with the highest quality, most dependable before and after sales services.

HIGH QUALITY ANALYZERS

All Leadtec products are designed for harsh industrial applications

WHAT WE CAN OFFER YOU?

TECHNICAL ASSISTANCE

As part of our after-sales service, our representatives are well trained in technical and hands-on

CALIBRATION SERVICES

We offer you our calibration services for online analyzers in your process

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Why Choose Us?

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Direct Manufacturer Price

We provide you to the price which our manufacturer recommends it be sold for in retail stores.

Shorter Lead Time

Hassle-free, timely and highly efficient in maintaining business schedules from start to the end and meet consumer demand.

Fast & Effective Technical Support

Our highly experienced team will ensure to give you the best after-sales services, trainings and professionalism.

One-Stop Solution

Our products and services include testing and commissioning, manufacturer calibration and on-site troubleshooting.

Worldwide Production Sites and Sales Offices

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Water Treatment Solution

www.leadtec-asia.com

Parameters

- pH/ORP
- Conductivity/Resistivity/TDS
- Dissolved oxygen
- Turbidity/Suspended Solids
- Free Chlorine
- Ozone
- Hydrogen Peroxide
- Ion Selective – Fluoride
- COD/BOD/SAC/TOC

6000 Series

800 Series

Leadtec Digital Sensor

Your Benefits

- **Robust and compact design;**
  Allows handheld or fixed installations.
- **Reliable and hassle-free maintenance;**
  The sensor comes with free Leadtec software, simplifying calibration and troubleshooting.
- **Advanced connectivity;**
  Can directly connect to any types of transmitters, display unit, controllers or data loggers with Modbus RS485 inputs.

Available Parameters

pH / ORP
Conductivity / TDS
Optical / Polarographic DO
Fluoride
Turbidity / Suspended Solids

Leadtec Process Analytics

6000 Series

800 Series

Wiring interface of 6000-series

Key Features

- Two 4-20mA current outputs
- Two/Four relay outputs with delay function
- One multifunctional relay (Clean/Period/Error alarm)
- Automatic/Manual temperature compensation
- RS485 MODBUS communication
- Data logger & software update (6000 Series only)

www.leadtec-asia.com

pH/ORP Sensors

Special Applications

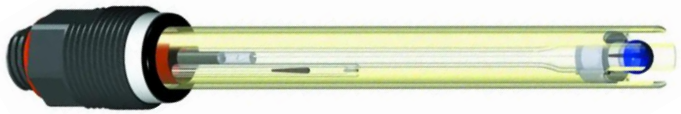
- ❖ **HF Resistant**
- ❖ **Low Ionic**
- ❖ **Strong Alkalinity (> pH 13)**
- ❖ **High Temperature**

Leadtec Water Treatment Solution

Extended Insertion

Bulb Type

Flat Type



Glass Type

Leadtec E-Series pH/ORP Sensors

- ❖ **Type of Junction:** Double Junction
- ❖ **Measuring Range:** 0-14 pH ; ± 2000mV
- ❖ **Temperature Range:** -5^{0}C to 105^{0}C / 140^{0}C
- ❖ **Maximum Pressure:** 10 bars

Leadtec C-Series pH/ORP Sensors

- ❖ **Type of Junction:** Double Junction
- ❖ **Measuring Range:** 2-12 pH ; ± 2000mV
- ❖ **Temperature Range:** 0^{0}C to 60^{0}C
- ❖ **Maximum Pressure:** 5 bars

Sensorex Differential Sensors

- ❖ **Type of Junction:** Double Junction
- ❖ **Measuring Range:** 0-14 pH ; ± 2000mV
- ❖ **Temperature Range:** 0^{0}C to 85^{0}C
- ❖ **Maximum Pressure:** 7 bars

Conductivity Sensors

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Leadtec 2-electrode Conductivity Sensors

- **Cell Constants:** 0.01 & 0.1
- **Measuring Range:** 0 – 20 uS/cm ; 0 – 200 uS/cm
- **Maximum Temperature:**110 ^{0}C
- **Maximum Pressure: 7** bars

Leadtec 4-electrode Conductivity Sensor

- **Cell Constants:** 0.5
- **Measuring Range:** 10 uS/cm - 500 mS/cm
- **Maximum Temperature:** 110 ^{0}C
- **Maximum Pressure: 7** bars

Leadtec Inductive Conductivity Sensor

- **Measuring Range:** 0 – 100 mS/cm
- **Response Time:** 90% of the value <30 seconds
- **Maximum Temperature:** 60 ^{0}C
- **Maximum Pressure:** 5 bars

Dissolved Oxygen Sensors

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Leadtec Optical DO Sensor

- **Measuring Principle:** Optical Luminescence
- **Measuring Range:** 0 – 200%; 20ppm; 20 mg/L
- **Accuracy:** ± 1%
- **Response Time:** 90% of the value in <60 seconds
- **Maximum Temperature:** 60 ^{0}C
- **Maximum Pressure:** 5 bars

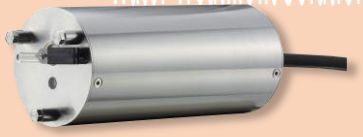
Leadtec DO Polarographic Sensor

- **Measuring Principle:** Polarographic Technology
- **Measuring Range:** 40 ppb – 40 ppm
- **Polarization Voltage:** - 670 ± 50mV
- **Response Time:** 95% of the value in <90 seconds
- **Maximum Temperature:** 60 ^{0}C
- **Maximum Pressure:** 5 bars

Leadtec DO Low ppb Sensor

- **Measuring Principle:** Polarographic Technology
- **Measuring Range:** 0 - 200 ppb
- **Response Time:** 90% of the value in <60 seconds
- **Maximum Temperature:** 60 ^{0}C
- **Maximum Pressure:** 5 bars

Turbidity & Suspended Solids Family



Low Turbidity Sensor (P-J001)

- **Measuring Range**
  0.0001 to 100.00 NTU
- **Accuracy**
  ±2% of reading or 0.02 NTU, whichever is greater
- **Special Feature**
  Bubble Remover

Medium Turbidity Sensor (P-J002)

- **Measuring Range**
  0.00 to 1000 NTU
- **Accuracy**
  ±2% of reading or 0.05 NTU, whichever is greater
- **Special Feature**
  Automatic Wiper

High Turbidity / SS Sensor (P-T001)

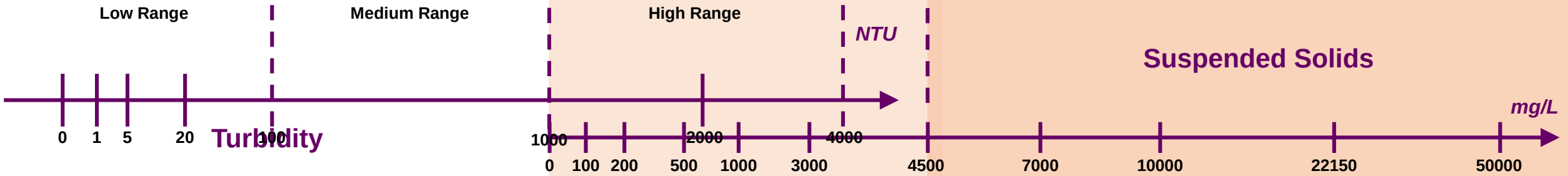
- **Measuring Range**
  Turbidity : 0 – 4000 NTU
  SS : 0 – 4500 mg/L
- **Accuracy**
  <5% of the reading

SS Sensor (P-S001)

- **Measuring Range**
  SS : 0 – 50 g/L
  Turbidity : 0 – 4000 FAU
  Sludge Blanket : 0 – 100%
- **Accuracy**
  SS : <10%
  Turbidity : ±5%
  Sludge Blanket : ±2%

SS Sensor (P-J003)

- **Measuring Range**
  0 to 50000 mg/L
- **Accuracy**
  ±3% of reading or 300 mg/L, whichever is greater
- **Special Feature**
  Automatic Wiper



Free Chlorine Sensor

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Measuring System	Amperometric Potentiostatic 3-Electrode System
Measuring Range	0.000 – 20.000 ppm
Electronic	Digital Modbus RTU
Slope Drift	Approx. <3% per month
pH Range	pH 4 – 12, highly reduced dependence on pH value
Run-in Time	First start-up approx. 2 hours
Response Time	T90 approx. 2 hours
Slope Calibration	DPD-1 Method

Fluoride Sensor

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Specifications

Measuring Principle	Ion Selective (Potentiometric)
Measuring Range	0.02 – 2000 ppm Other ranges are upon request
Resolution	0.01 ppm
Slope	56 ± 6 mV @ 25°C
Endpoint Time	Typically, 10 to 30 seconds
Interferences	Hydroxide Ions Aluminum (III) Ions Iron (III) Ions
Temperature Range	5 – 50°C
pH Range	2 – 8 pH
Potential Drift	2 mV per day
Body Material	ABS

Project Reference

Location:
Bukit Tampoi Old Water Treatment Plant
Instruments:
Fluoride and Free chlorine

Location:
Bukit Tampoi New Water Treatment Plant
Instruments:
pH, Fluoride and Free chlorine

Project Reference

Location:
Sungai Semenyih WTP
System:
Scrubber
Description:
Briefing

Location:
Sungai Semenyih WTP
System:
Scrubber
Description:
Successfully replace the existing controller with new Leadtec controllers

Project Reference

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Location:
Teluk Panglima
Garang

System:
IoT Fertilizer
Conductivity Control

Description:
Chilli Farm

Project Reference

Leadtec
Water Treatment Solution

Our Partners

Hydro-Air Process Instruments

SYSTEA

WaterSam®

FIP

FLS

eureka™ water probes

Sensorex

LTH Electronics

EUTECH INSTRUMENTS
Technology Made Easy ...

Hydro-Air

Process Instruments

Hydro-Air is a Malaysian brand which being created to cater for the needs of reliable and good quality water treatment analyzers and sensors.

Hydro-Air starts with most common parameters pH/ORP and Conductivity/ Resistivity/TDS, and currently extended to flow, level and pressure measurements

Hydro-Air
Process Instruments

Online Analyzer

pH/ORP Sensors

Conductivity / Resistivity / TDS Sensors

Ultrasonic / Radar Level

Pressure Transmitter

Electromagnetic Flowmeter

FS Series
(Compact Type)

RS Series
(Remote Type)

Ultrasonic Flowmeter

Portable Type

Online Type

s::can

Intelligent. Optical. Online.

Who is s::can?

Company Background

- s::can Messtechnik GmbH
  - Established 1999
  - University Spin-Off
  - Based in Vienna, Austria
- Family business
  - owned by brothers Weingartner since 2011
  - 75 full-time staff
  - 5 subsidiaries in USA, China, Spain, France, Mexico
  - JV in India
  - RSMs in Italy, Portugal
- Focus on (a) development of innovative, truly outstanding products (b) design of complete solutions for end customers and OEM in growth segments.

University of Natural Resources and Life Sciences, Vienna

Who is s::can?

Product focus

- Global leader in on-line spectrometry with >10.000 spectrometer systems sold
- Offering a full range of optical and electrochemical water quality sensors…
- …to the whole water industry: drinking water, waste water, environmental, industrial.


Environmental Monitoring

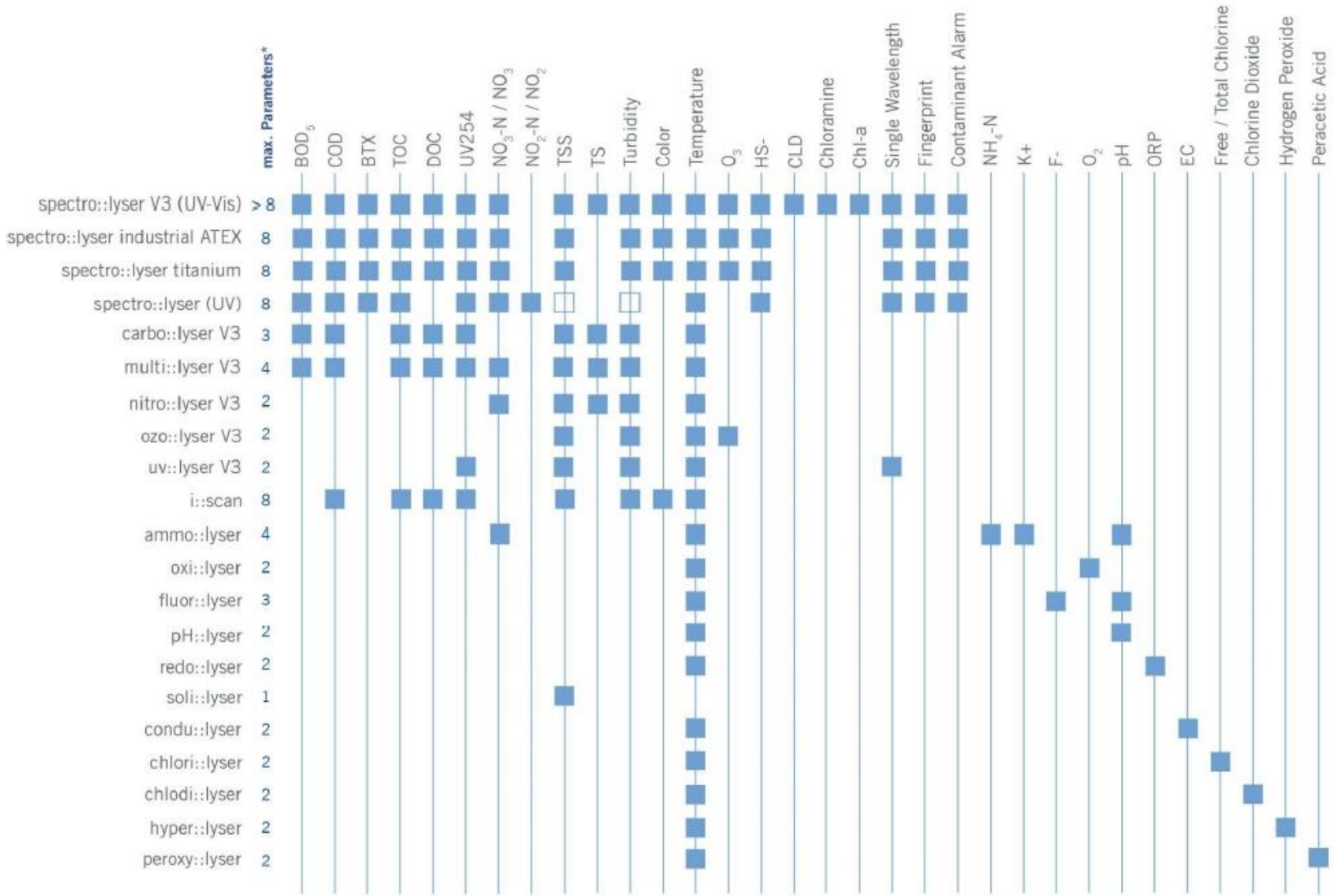
Industrial Monitoring


Waste Water Monitoring


Drinking Water

s::can
Intelligent. Optical. Online.

Parameter Overview



* The number of parameters is depending on the specific configuration of the monitoring system.

s::can Probes

Overview

Spectrometer Probes

ISE Probes

Electrochem. Probes

other optical Probes

s::can Probes

Overview

- spectro::lyser
  - Measures: NO2-N, NO3-N, COD, BOD, TOC, DOC, turbidity, TSS, BTX, H2S, and more
  - Submersible UV/UV-Vis spectrophotometer

- i::scan
  - Measures: UV254, turbidity (NTU & FTU), TOC, DOC, color, transmission and more
  - new light emitting technology; can be mounted directly in a mains pipe / pressure pipe

- ammo::lyser
  - Measures: NH4-N, pH, K (compensation), NO3-N
  - Ion selective, installed in a flow cell or in-situ

s::can Probes

Overview

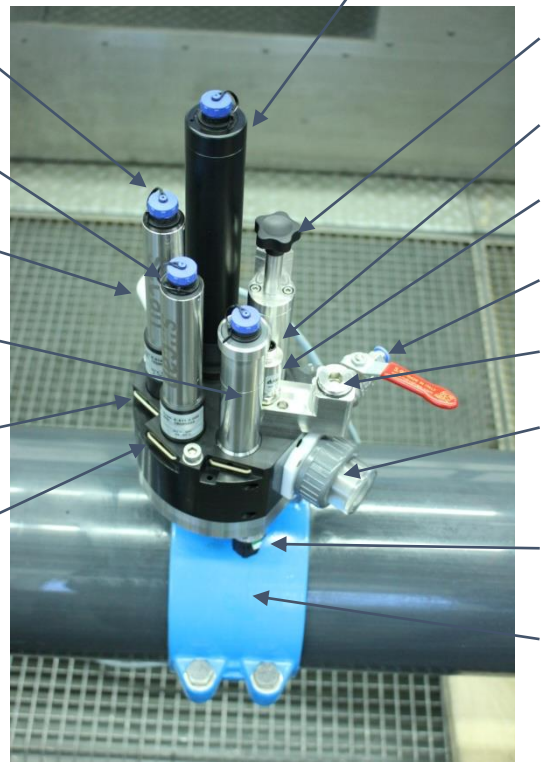
- fluor::lyser
  - Measures: fluoride and temperature
  - Ion selective, installed in a flow cell or in-situ
- chlori::lyser
  - Free or total chlorine
  - Amperometric, installed in a flow cell or in-situ
- pH::lyser
  - One-year electrode lifetime & guarantee, low maintenance and operating costs
  - Unique reference electrode for long-term stability
- condu::lyser
  - Exceptional range and linearity (0 – 100 mS)
  - Essentially no aging

s::can Probes

Overview

- redo::lyser
  - Measures ORP and temperature
  - Unique, non-porous / non leaking combined reference electrode
- oxi::lyser
  - Dissolved oxygen measurement
  - Fluorescence measuring technique
  - No replacement caps needed, approx. 7-10 years lifetime
- soli::lyser
  - Measures TSS
  - Minimal maintenance (no waste parts)

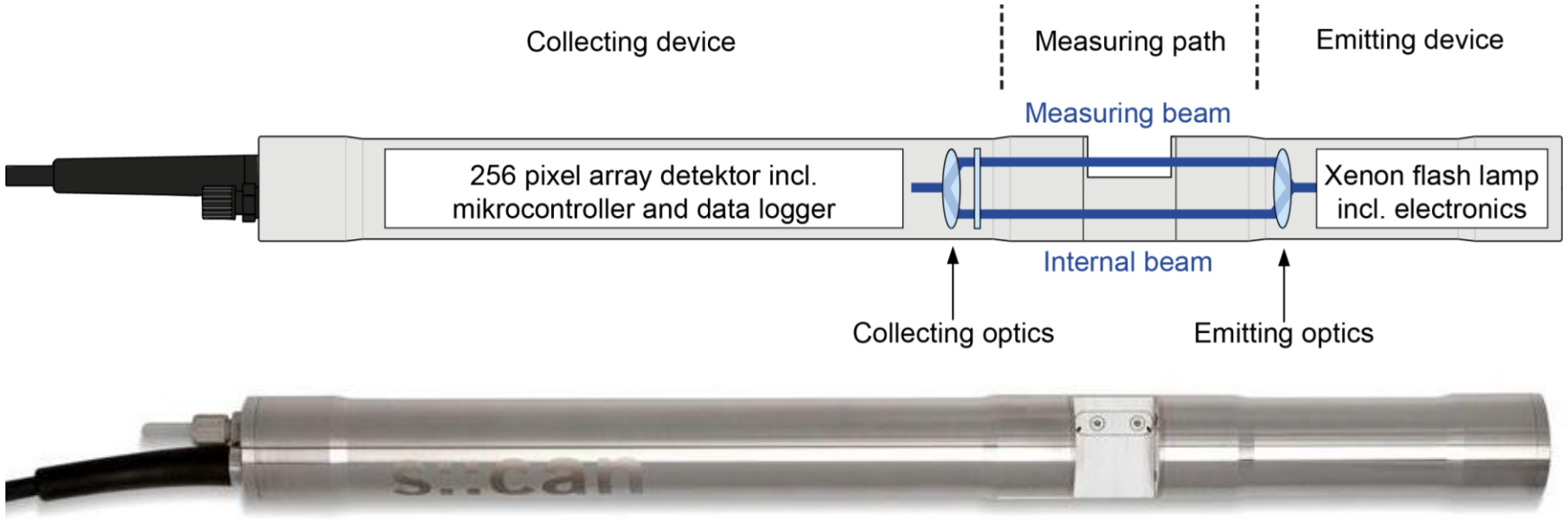
Pipe::SCAN


i::Scan (NTU/FTU, UV254, DOC, TOC, Colour)
pH::lyser or redo::lyser (pH or ORP)
insertion nozzle (retractable)
condu::lyser (µS)
flow sensor (optional, not shown)
automatic cleaning brush
pressure sensor
sample valve (future option: automatic)
chlori::lyser (FCl)
position for automatic venting valve
clamp for sensor mounting
filter (future option: self-cleaning)
area for security ring
pump
pipe saddle

SPECTROMETER PROBES

spectro::lyser – Measuring Principle

How does it work ?



The measurements make use of the specific absorption signals caused by (groups of) substances

spectro::lyser – General Overview

Types and Applications

0.5 - 5 mm (wastewater)

Wastewater (ppm to g/l)

Sewer system

Processes / industries

- paper & pulp
- breweries
- juice manufacturing
- oils
- petrochemical
- biotech
- …

35 mm (sensitive)

water monitoring (mid-ppb)

- river water, river filtrate
- seawater
- groundwater, -recharge
- drinking waters
- compliance of WWTP
- treatment processes

Alarm / early warning systems

100 mm (ultra sensitive)

water monitoring (low ppb)

- groundwaters (organic contamination)
- seawater
- low turbid drinking waters
- ultrapure waters
- alarm / protection / security systems

processes / industries

- cooling waters
- pharmaceuticals
- electronic industries

s::can Terminals

Overview

- con::cube
  - Latest generation of s::can operator terminal
  - Highly intuitive use because of wide screen color graphical display (7”) and touch screen
  - Max. 64 parameters

- con::lyte
  - Operation of up to 3 s::can sensors / probes (plug & measure)
  - Setup and calibration of all s::can monitoring systems
  - Max 6 parameters

- con::nect
  - Interface box for the connection of one s::can probe

s::can Terminals

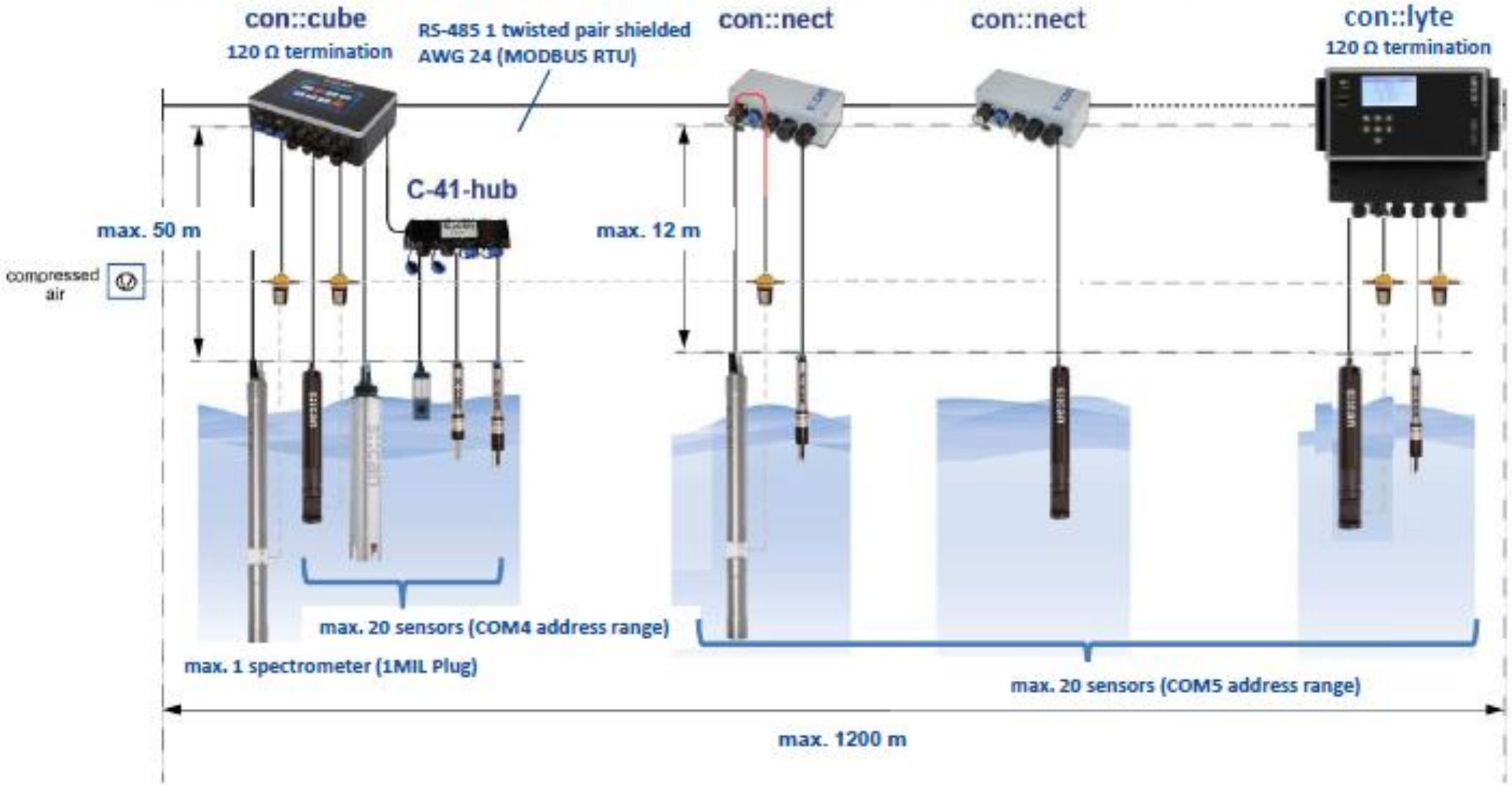
con::cube

- Latest generation of s::can operator terminal and datalogger
- High-performance, power efficient industrial PC based on newest Intel Atom technology
- Highly intuitive use because of wide screen color graphical display (7”) and touch screen
- Extended input options for almost any sensor, analyzer and other analogue or digital I/Os
- Worldwide network connectivity thanks to quad-band WCDMA and dual-band, EV-DO network connection technology
- Easy data transfer via SSH or FTP
- 100% remote controllable via VPN

use con::nect and con::lyte to add more sensors

cleaning over con::nect is supported in combination with spectometer, only

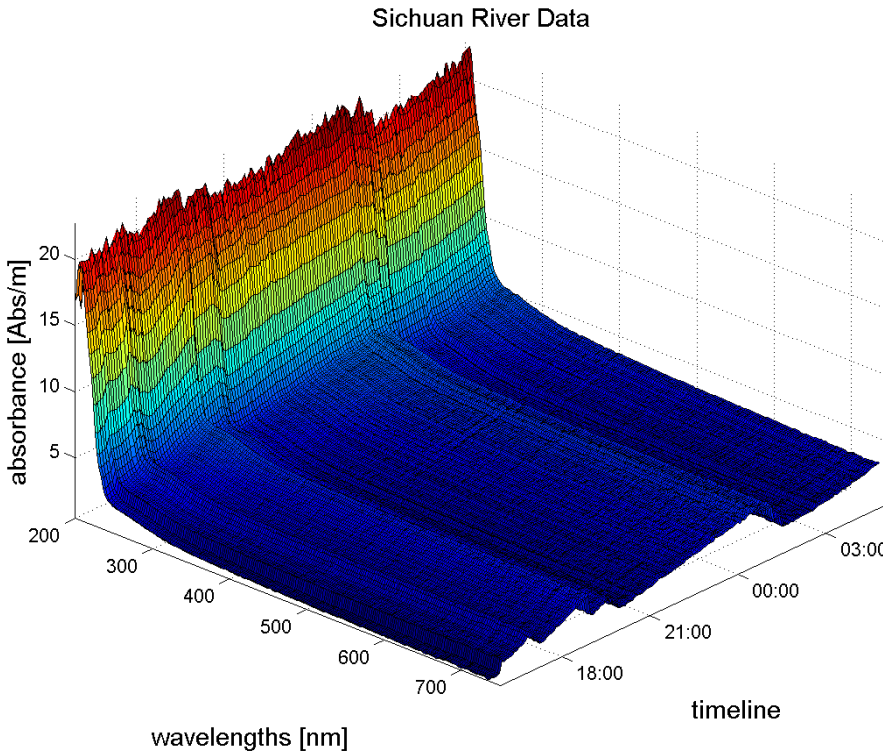
cleaning over con::lyte is supported in combination with all sensors

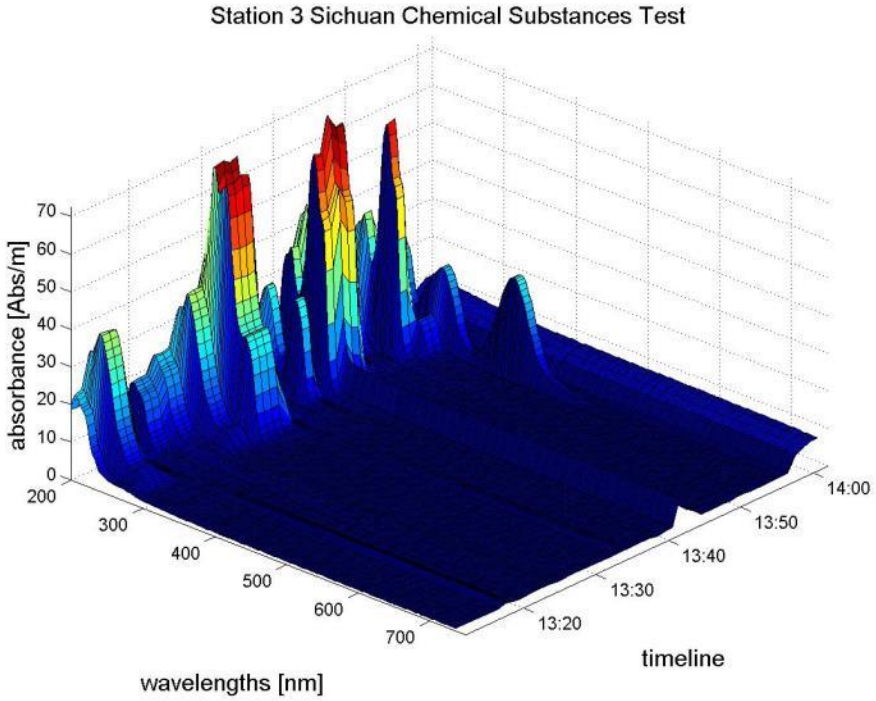



s::can

S::CAN Spectral Alarm (Con::cube)

River Monitoring Station for Pollution Alarm



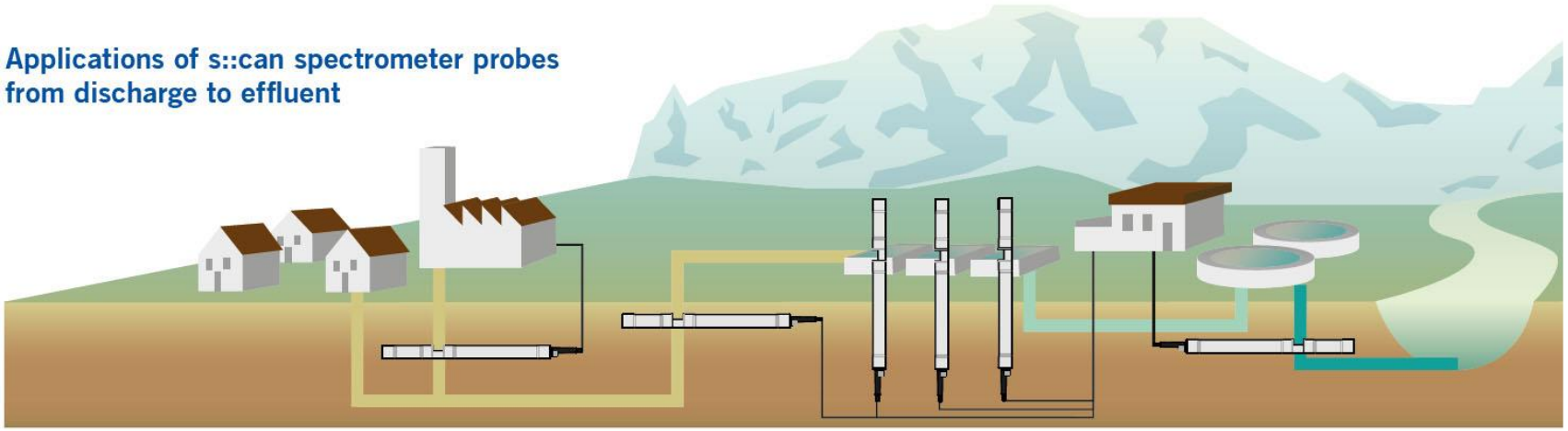


spectral alarms for unknown contaminants (e.g. Hydrocarbons, BTX, ..)

Applications

Waste Water

Applications of s::can spectrometer probes from discharge to effluent



Monitoring of municipal and industrial waste water:

- Compliance with emission regulation limits
- Determination of process stability
- Determination of problems within/during the process
- Real time dosing
- Determination of product losses
- Effluent monitoring
- TSS
- COD
- NO3
- NH4
- pH
- EC
- ORP

Sewer Monitoring:

- Determination of waste water composition
- Identification of industrial dischargers
- TSS
- COD
- BOD
- NO3
- H2S
- Alarm
- NH4
- pH
- EC
- ORP
- O2

Monitoring of WWTP influent:

- Quantification of load and nutrients
- Judgement of consequences due to indirect dischargers
- Reaction to loadpeaks
- Real time dosing
- TSS
- COD
- BOD
- NO3
- H2S
- Alarm
- NH4
- pH
- EC
- ORP
- O2

Optimisation of aeration:

- Cost savings due to process optimisation
- Nitrification- and denitrification control in real time
- Reduction of operational costs
- TSS
- NO3
- NO2
- NH4
- TS
- O2
- ORP
- pH

Monitoring of WWTP effluent:

- Determination of efficiency
- Control of cleaning process
- Compliance with emission regulation limits
- TSS
- COD
- BOD
- NO3
- NO2
- NH4

Introduction

- Founded in 2002
- River Monitoring Multiparameter Probes
- 3 years warranty including the sensors
- Direct connection to Mobile; Local PC

Manta+ Series

Eureka™ water probes

★ Only Eureka have these parameters in the market

- pH/ORP
- Temperature
- Turbidity
- ★ **Transmissivity**
- Dissolved oxygen
- Conductivity/TDS/Salinity
- Pressure/Depth
- ★ **Total Dissolved Gas (TDG)**
- ★ **Chlorophyll (blue/red) (fresh & saltwater)**
- Rhodamine dye
- Blue-green algae(Freshwater/Marine)
- Ammonium
- Nitrate
- Chloride
- ★ **Sodium**
- ★ **Calcium**
- ★ **Bromide**
- CDOM/FDOM
- ★ **Optical brightener**
- ★ **Tryptophan (Relates to COD/BOD)**
- ★ **Refined / Crude oil**
- ★ **Photometric PAR**
- Carbon dioxide

Trimeter

temperature
depth
+ any other single parameter
including flourometers

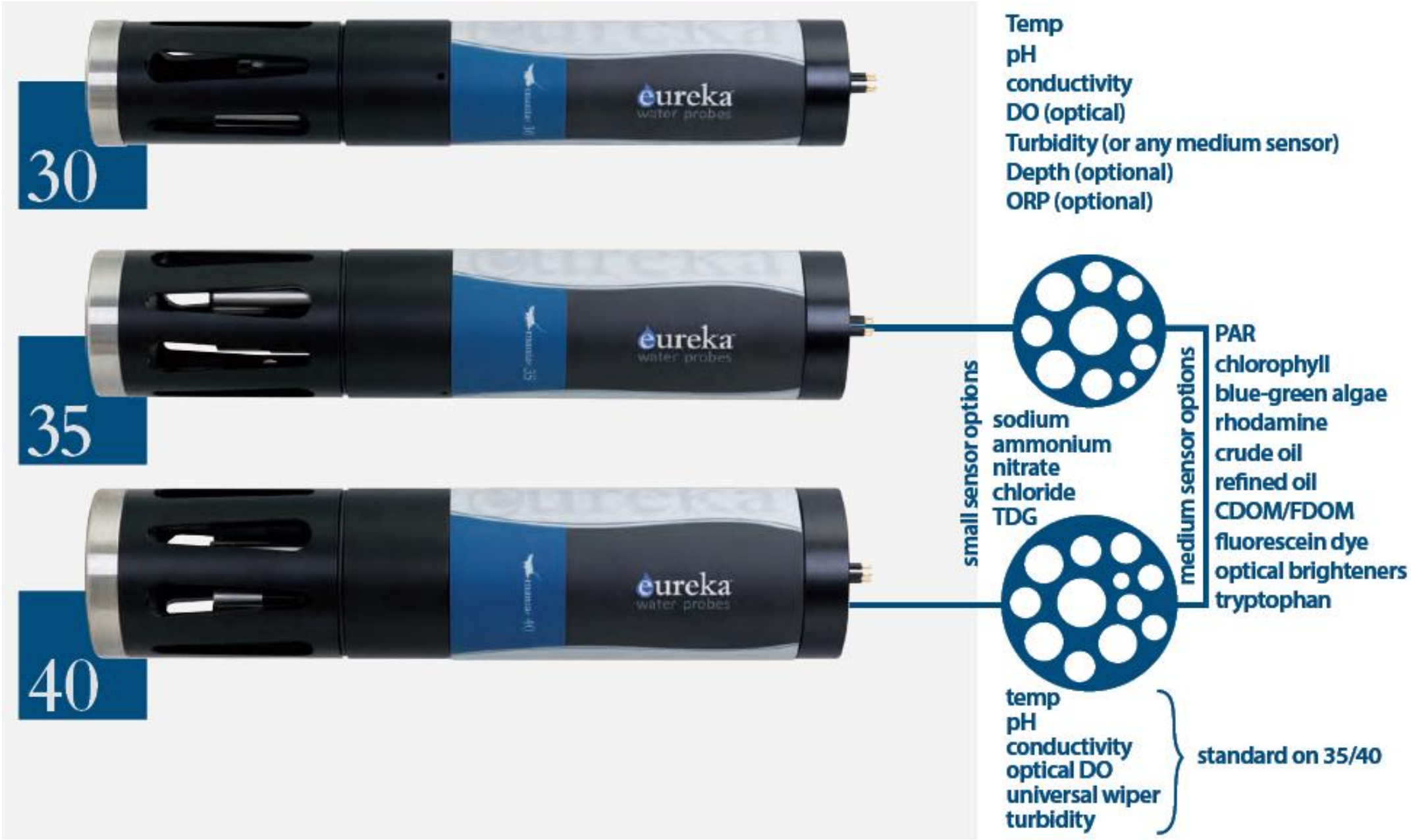
20

Temp
pH
conductivity
DO (optical)
Depth (optional)
ORP (optional)

25

Temp
pH
conductivity
Turbidity (or any medium sensor)
Depth (optional)
ORP (optional)

Manta+ Trimeter, 20 & 35 Series



Manta+ 30, 35 & 40 Series up to 12 sensors

Leapfrog Bluetooth Module™

What is the Bluetooth Module?

Eureka's Leapfrog™ is simply a unit that powers the Manta2 sonde and provides wireless communication to any Bluetooth-enabled display running Manta2 control software (Android, Windows™ for PC, or Windows™ Mobile). Since the Leapfrog™ connects to the end of the underwater cable, it is a great solution for a variety of monitoring projects. It works on up to 200 meters of cable, for wireless connection to a Manta2 sonde under water.

Advantages

- Works with a wide variety of display devices
- Supplies sonde power for over 20 hours of continuous use
- Utilize a Bluetooth-enabled device already available
- Reduces cost of portable/field display

Problem statement:

- Bio-fouling is the accumulation of microorganisms, plants, algae or animals on wetted surface
- It is the key factor in determining the length of time a water quality instrument can stay deployed, particularly in long-term, continuous monitoring application.

Eureka Anti-Fouling Copper Gauze System

Solution:

- Copper mesh: copper-gauze anti-fouling kits
- To wound around the sensor guard to avoid strong growth on the sensors which may even eat up the epoxy of the sensor body

Case study: Ajman UAE

Client:

Ajman Municipality, UAE

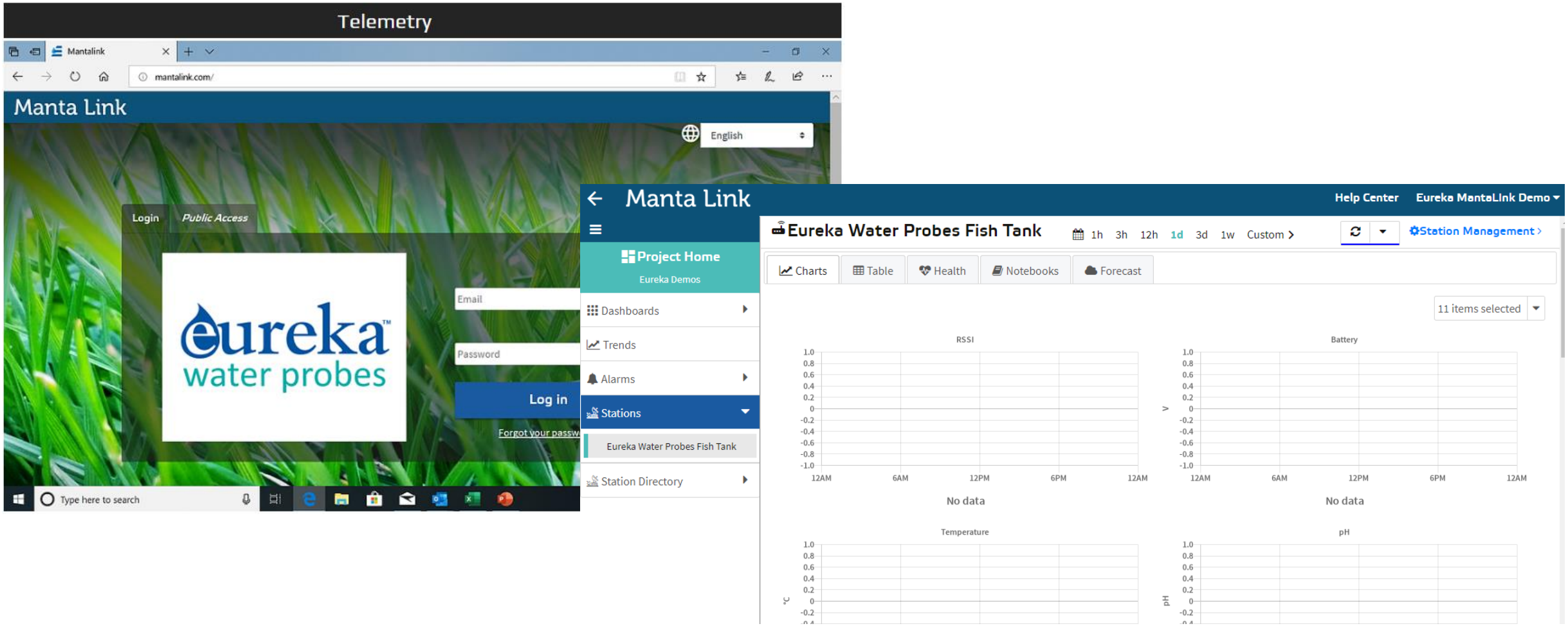
Products used:

Eureka Manta 3.5 Probes with GPRS Link Datalogger

Measured parameters:

pH, DO, Cond, TDS, Refined Oil, Turbidity, Chlorophyll

Manta Link Telemetry System



Site to Site Profiling

Buoy Deployments

Unattended Logging

Telemetered Deployments

Introduction

- Founded in 1988 in Italy.
- Manufacture automatic wet chemistry analyzer.
- Automatic calibration with low consumption of reagent.

What is EasyChem Tox Early Warning?

- Direct reading **on-line analyzer** based on **discrete analysis** technology
- **Fully automated** toxicity measurements of water samples using **live cultures** of **luminescent bacteria**.

Key Features:

1. Full automated early warning acute toxicity detection, according to ISO and GB-T standards
2. Fully automatic operation
3. Long autonomy; low maintenance, low operating cost
4. Very low reagents consumption; no preparation time; low disposable costs
5. Easy operation; plug in analyzer, no special training is required

EasyChem Tox Early Warning

EasyChem Tox Early Warning

What does it do?

Measuring the acute toxicity with luminescent bacteria:

- In order to enable an extended time of use of rehydrated cultures by up to ten days, proprietary bioluminescent bacteria were selected, grown, stabilized and lyophilized according to standard methods.

- The microorganisms preserve a measurable bioluminescence signal and an unaltered sensitivity to different types of reference compounds defined in ISO and GB-T standards, such as zinc sulphate and mercury Chloride.

- Enables 1 – 3 months of unattended operation.

- Automatically replicating samples and performing control checks to confirm identified toxicity, significantly reducing the occurrence of false positives.

We have created a kit for EasyChem TOX Early Warning; the kit has been developed, tested and validated by our application laboratory to guarantee the perfect stability and reproducibility of toxicity assays.
Each kit includes:

- Rehydration buffer
- Reagent A (set of liophylized bacteria vials)
- Acute test buffer
- Positive controls: $ZnSO_4$ and/or $HgCl_2$

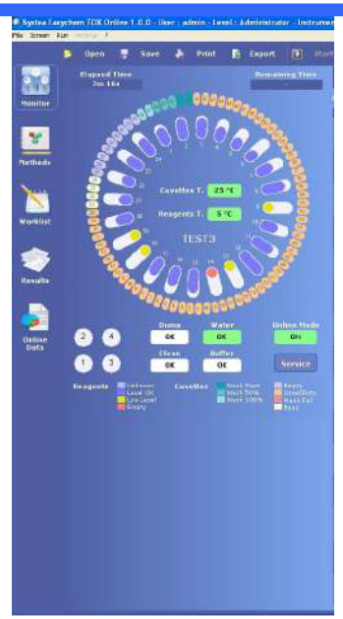
EasyChem Tox Early Warning

EasyChem Tox Early Warning

Technical Data	
Technology	On Line Real Time Toxicity trend- DAMTA* *Device for Analytical Monitoring and Toxicity Assesment
Detector & Reading	High sensitivity Luminometer - Direct reading
Reaction microcuvettes	80, reusable after washing and QC check; 6.0 mm
Reaction plate temperature	15 to 25 °C adjustable, accuracy: +/- 0.1 °C
Sample/Reagents/Waste - Level sensors	Yes
Sample requirement	100-200 mL/h at ambient pressure
Sample/Ambient temperature	Sample: 5 to 35 °C; Ambient: 5 to 30 °C
Power supply	110/230 Vac, 50/60 Hz
Power consumption	400 W
Dimensions/Weight	160 (H) x 80 (W) x 50 (D) cm/ 100 Kg w/o reagents
PC and Software	Integrated Touch Screen PC panel, dedicated software
Ethernet port FTP Data transmission GPRS data transmission Analog output Digital outputs - Alarm	Standard Standard from Ethernet port or with optional 3G Modem With optional 3G Modem 4-20 mA - optional Optional
Reagents	Freeze-dried bacteria vials: on-line rehydration and use Assay buffers & Positive controls: ready to use
Refrigerated reagent tray	Yes, standard
Calibration interval	Positive control check - programmable
Reagent replacement	30 days @ max frequency; @ lower frequencies reagent replacement up to 3 months
Sampling	Continuous in sample pot, 2 minute moving average
Measurement Frequency	Programmable; max frequency: 2.5 minutes
Response time to events	Between 74 and 80 sec
Analysis time to final result	From 1 up to 15/30 minutes, according to sample toxicity
Real time calculation	Real time calculation of all parameters required by UNI EN ISO 11348-3 and GB-T 15441
Blanks (Validation for false negatives & positives)	Programmable up to one blank per each sample
Sample replicate & Positive control (Validation for false positives)	Programmable after any toxicity warning The analyzer runs a new sample with up to 5 dilutions, a positive control, and calculates EC50 in case of toxicity greater then a predefined threshold

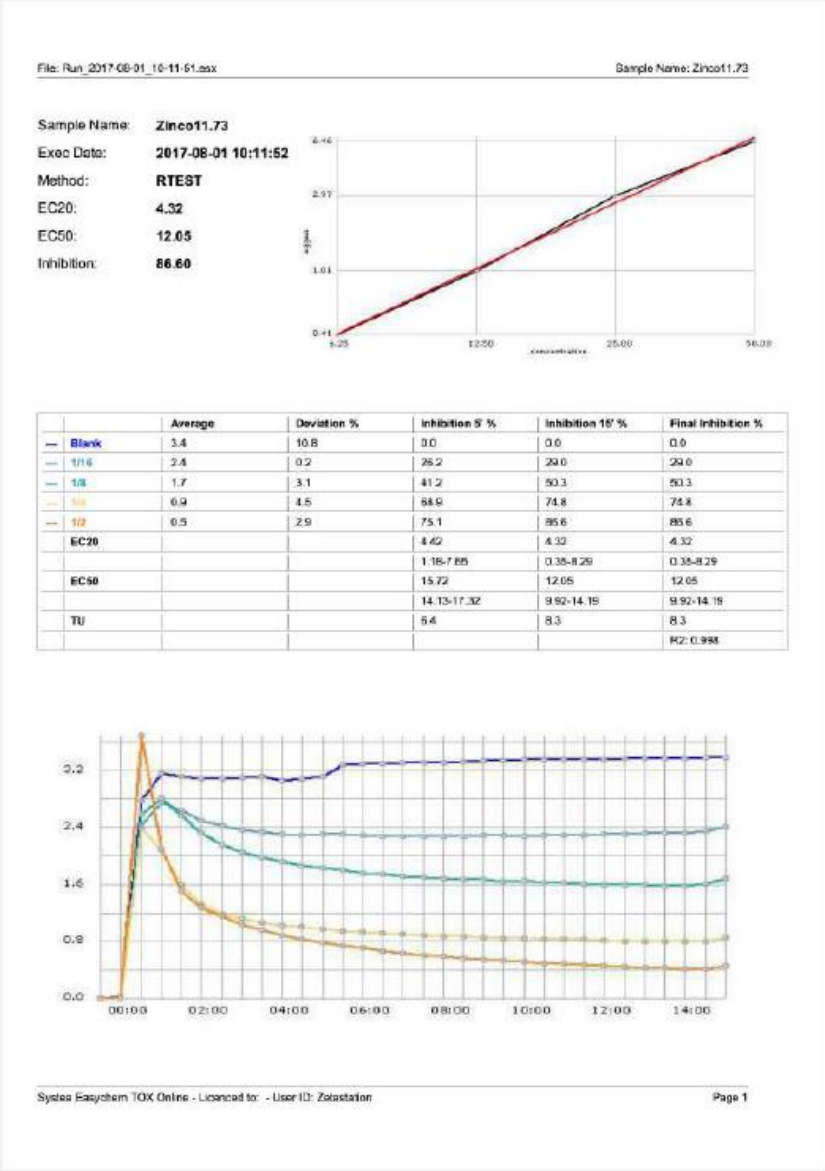
SOFTWARE

- Continuous monitoring of the analyzer status and operation
- Reagent level monitoring and warnings
- Liophylized bacteria on board at low temperature
- Automated bacteria rehydration
- Reaction cuvette washing and QC check before reuse
- Reagents and reaction cuvette temperature monitoring
- Waste level monitoring
- Result database
- Result report with data validation
- Automatic warning and alarm generation



EasyChem Tox Early Warning

EasyChem Tox Early Warning



File: Run_2017-08-01_10-11-51.esx — Sample Name: Zinco11.73

Sample Name: Zinco11.73
Exec Date: 2017-08-01 10:11:52
Method: RTEST
EC20: 4.32
EC50: 12.05
Inhibition: 86.60

	Average	Deviation %	Inhibition 5' %	Inhibition 15' %	Final Inhibition %
Blank	3.4	10.8	0.0	0.0	0.0
1/16	2.4	0.2	26.2	29.0	29.0
1/8	1.7	3.1	41.2	50.3	50.3
1/4	0.9	4.5	68.9	74.8	74.8
1/2	0.5	2.9	75.1	85.6	85.6
EC20			4.42	4.32	4.32
			1.18-7.65	0.35-8.29	0.35-8.29
EC50			15.72	12.05	12.05
			14.13-17.32	9.92-14.19	9.92-14.19
TU			6.4	8.3	8.3
					R2: 0.998

Systea Easychem TOX Online - Licenced to: - User ID: Zotastation — Page 1

CONTROL ANALYSIS

- The analyzer is programmed to perform inhibition test of any of the positive controls required by UNI EN ISO 11348-3 and GB-T 15441
- All measurements of blanks and controls at the required concentration can be performed in duplicate.

EasyChem TOX Early Warning, the result of years of intensive R&D activity based on DAMTA* analytical technology, is an original direct reading analyzer for fully automated continuous acute toxicity measurements of water samples using live cultures of luminescent bacteria.

EASYCHEM TOX Early Warning is an on line discrete automated analyzer equipped with color touchscreen LCD and housed in an industrial cabinet, including:

- Refrigerated compartment for liophylized bacteria, reagents, calibrants and controls
- Mechanical arm to allow aspiration, transfer and dispensing of reagents and samples
- Bacteria rehydration system
- Reaction plate, temperature controlled with n. 80 reaction cuvettes
- Cuvette wash station and quality check before reuse
- Integrated high sensitivity luminometer.

Samples, conditioning buffer and bacteria are transferred through a high precision microsyringe inside the reaction cuvette, where luminescense emission is constantlty monitored; toxicity events can be identified within 60 sec from sampling.

EasyChem Tox Early Warning

EasyChem Tox Early Warning

■ LUMINESCENT BACTERIA

- Proprietary bioluminescent bacteria have been selected, grown, stabilized and liophylized according to standard methods
- Rehydrated cultures last up to ten days
- High sensitivity to different types of reference compounds defined in ISO and GB-T standards, such as zinc sulfate and mercury chloride
- Up to 16 liophyilized vials on board to be rehydrated and used when necessary, thus enabling up to one month of unattended operation at 2.5 minute analytical frequency.

■UNATTENDED TOXICITY MONITORING

- Programmable timing and frequency of analytical cycles
- Programmable quality control, limits and parameters.
- Toxicity alert within 60 seconds from sampling
- Real time toxicity trend continuously monitored from 1 up to 15/30 minutes from sampling
- Programmable measurement of blanks and positive controls to validate results
- During result validation, sample runs are not interrupted.

■FILTRATION

In case of high turbidity samples, it is available a unique 0.1 µm self-cleaning filtration, fully managed by the EasyChem TOX Early Warning.

Systea Micromac-C Ammonia

On-line analyzers for Ammonia monitoring in water and wastewater.

Benefits:

- Fully automatic operation
- Auto calibration
- Low maintenance and operating cost
- Low reagents consumption
- Easy operation
- Full Colour 8” Interactive Touch Screen
- Available for single and multichannel up to 4 paramaters

Measuring Principle
Salicylate or phenate method

Measuring Range***
0-0.5 / 1 / 2 / 5 / 10 / 20 / 40 / 100 mg/L N-NH3

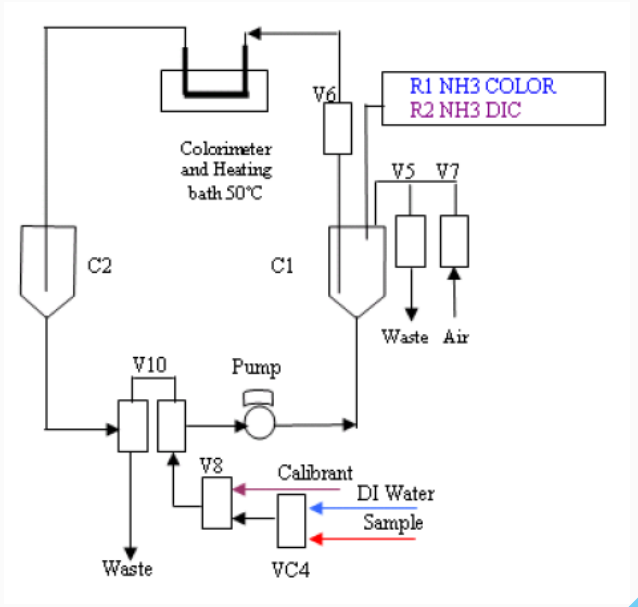
Measuring Time
10 minutes

Detection Limit
0.003mg/L

Repeatability
Better than 5%

*****Other ranges available upon request*

NH3 (Salicylate) Measuring Principle



AMMONIA ANALYZER

Measuring Principle
Fluorimetric.

Measuring Range***
0-100/1000 ppb N-NH3

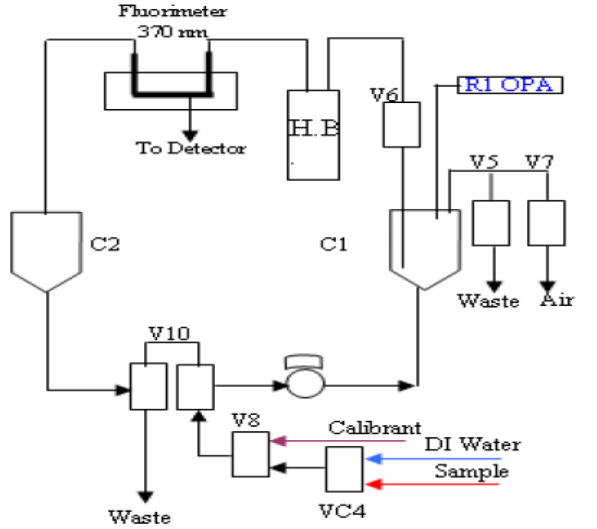
Measuring Time
15 minutes

Detection Limit
2% of full scale

Repeatability
+2%

*****Other ranges available upon request*

NH3 (OPA) Measuring Principle



Specially for Seawater application

Nutrients Measuring Principle

1. **Ammonia**: Salicylate or Phenate. Measuring wavelength: 630 or 660nm
2. **Nitrate+Nitrite**: Nitrate-Nitrite reduction by VCl3 then colorimetric reaction with with sulfanilamide and naphtylethylendiamine in acid solution. Measuring wavelength: 525nm
3. **Phosphate**: Molybdate and Ascorbic Acid, measuring wavelength: 660nm
4. **Nitrite**: Colorimetric reaction with with sulfanilamide and naphtylethylendiamine in acid solution. Measuring wavelength: 525nm

Measuring Parameters
Ammonia, Nitrate, Phosphate, Nitrite

Measuring Range***
0-5 / 10 / 20 / 50 / 100 / 200 mg/L

Measuring Time
30 – 35 minutes

Detection Limit
3-5% of full scale

Accuracy
+5%

Introduction

- Founded in 1996 in Germany
- manufacture automated samplers and monitoring stations
- Different bottles arrangement with XY-distributor

WS-Porti

WS-98

WS-312 / WS-316

Case study: Rhine river in Germany

- Rhine river is located in the catchment areas of major rivers. Accordingly, the automotive, chemical, pharmaceutical and steel industries constitute a high pollution potential along the rivers.
- Largeindustrial enterprises are direct dischargers, that means, they inject their internally treated wastewater directly into the rivers.
- Solutions were needed for the following primary problems:
  - Nationwide monitoring of water quality
  - Identification of polluters
  - Quantification of pollutants and monitoring the compliance with specific limits

WaterSam® Solution: WaterSam WS 316-24 SE (Self-emptying)

- It is a self-emptying sampler
- Installed along the river.
- These samplers are continuously taking samples and holding them for a certain period of time: **so-called retained samples**.
- The retained samples can cover different time periods, for example:
  - **24 hours** with **one bottle per hour** or **24 days with one bottle per day**.
- Samples can be picked up for analysis as needed.
- Samples that were not needed during the retaining period will be discarded automatically by the WS 316-24 SE.

WaterSam® Solution: WaterSam WS 316-24 SE (Self-emptying)

- In order to prevent the carryover of residues from the old sample, the emptied bottle is rinsed with water.
- Then the bottle is used for fresh samples. This concept allows the sampling of long river sections with minimal time and personnel expenditure.
- Since regular visits to the sampler are not mandatory, the WS 316-24 SE is also an even more eco-friendly alternative to conventional samplers.

Turbidity

Oxygen

pH / Temperature

Conductivity

WebServer Basic
Live Monitoring

WaterSam®
Samplers, Monitoring Stations, Custom Sampling Solutions

HOME
MEASUREMENT
DEVICE INFO
CONTACT INFO

active programs
none

bottle: 01
samples: 001

system status
OK

system clock
08:58:48

Home

Deutsch

Program preselection/start/stop

☐ 1 ☐ 4 ☐ 7
☐ 2 ☐ 5 ☐ 8
☐ 3 ☐ 6 ☐ 9

Start program(s)
Stop Pause

Fault messages

none
"
"

Acknowledge alarms

Serial number	200 1535
PLC board number	0547
Software version	V. SNP-6G07-M17 N
IP adress	10.10.10.11

©WaterSam GmbH & Co. KG
Hölzlestraße 42, 72336 Balingen, Deutschland
Tel +49 (0) 7433 277043-0 | Fax +49 (0) 7433 277043-22 |

Last update: 28.10.2016

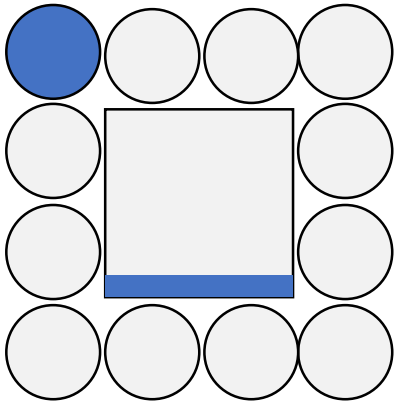
Concept & Realisierung: webmaster@watersam.de

Member of German Water Partnership

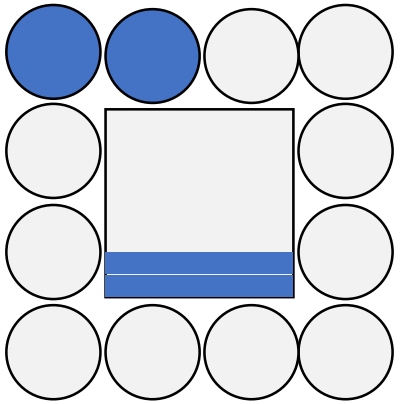
WaterSam® Example of Discrete and Composite Sampling

Example:

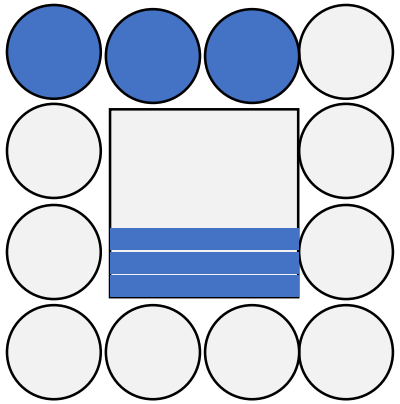
Day 1: No Pollution



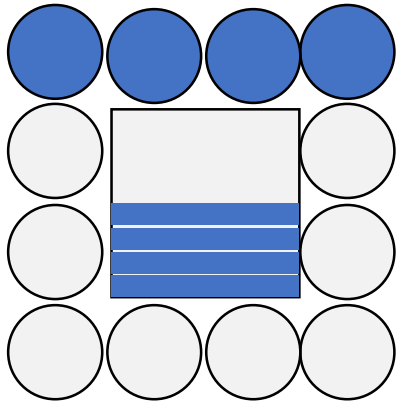
Day 2: No Pollution



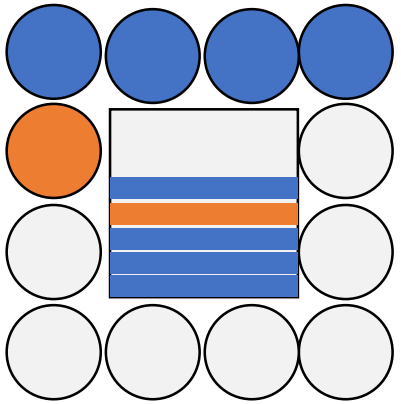
Day 3: No Pollution



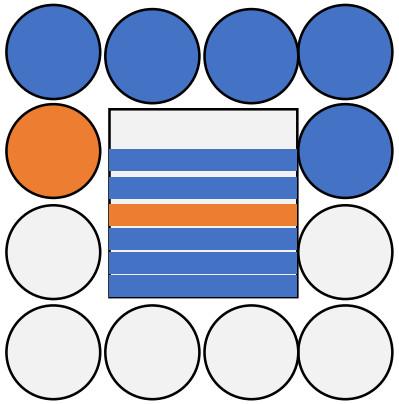
Day 4: No Pollution



Day 5: Pollution Detected



Day 6: No Pollution



Benefits:

- Time and Cost Saving
- Hassle-free solution
- Reliable; Samples will be preserved (refrigerated) prior collection

WaterSam®

Results:

- After the establishment of tighter water monitoring, the water quality of German rivers improved to such an extent that, according to the supervising authorities, the problems of water pollution due to industrial sewage disposal are considered as solved today.
- Rhine river is now becoming the travel attraction for tourists!

EUTECH INSTRUMENTS
Technology Made Easy ...

Thermo SCIENTIFIC

Leading ISO9001-certified company established in 1990.
Pioneer in the development of ASIC-based instruments.

Eutech 150 and 450

- pH/ORP
- Conductivity/TDS
- Salinity
- Dissolved Oxygen
- IONS
- Temperature

AQUAfast AQ3170

AQUAfast AQ3700

Calibration to NIST standard
Calibration can be refined for specific measurement ranges
Angled, ergonomic design for bench top or hand held use

Certificate of Analysis (COA)
Material Safety Data Sheet (MSDS)

Buffer Solutions

After Sales Service and Support

Leadtec emphasizes on the after sales service as it is the most important criteria for customer to select Leadtec as their instrumentation partner.

All of the staffs in Leadtec are trained to be technically strong to provide quality and fast response towards instrumentation solutions.

Through initial sales inquiry, order received, proper follow up, until testing and commissioning for customer projects, all the staffs are ready to provide technical advises for Leadtec products.

leadtec
Water Treatment Solution

Your Best International Partner For Instrumentations