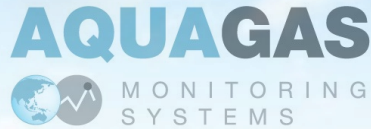


INDUSTRIAL AND SURFACE WATER MONITORING



TURBILIGHT II Extractive Turbidity Analyser

Description

The **TURBILIGHT II** is designed for fast and reliable **automated measurement** of medium and low turbidity in rough environmental conditions. Easy to install, operate and service, endowed with an efficient self-cleaning dispositive, The **TURBILIGHT II** is designed for **online monitoring** of turbidity suited to a large range of applications.

Applications

Manufacturing industries Process water supply and Raw waste water effluents

Environment Surface water, water quality monitoring network

Food industry Inlet & outlet water treatment station

Low and Medium Turbidity



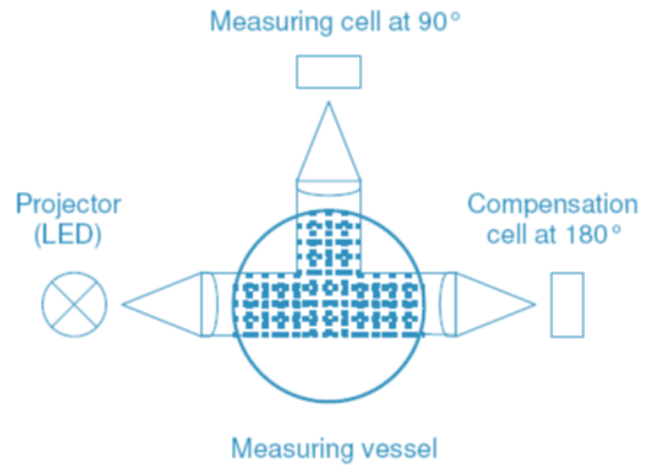
Key functions for enhanced monitoring

- RESPONSE WITHIN FEW SECONDS
- PRESSURED MEASURING CELL TO ELIMINATE AIR INTERFERENCES
- STAND-ALONE INSTRUMENT FOR CONTINUOUS OPERATION
- INTUITIVE INTERFACE VIA TOUCHSCREEN, TRUE REAL-TIME, USB PORT
- NO DRIFT
- FACTORY CALIBRATED FOR QUICK AND EASY COMMISSIONING
- IR MEASUREMENT BY NEPHELOMETRY
- PROGRAMMABLE AUTOMATIC CELL SELF CLEANING (PISTON OPERATED WIPER)
- INTEGRAL DATA LOGGER
- USER CONFIGURABLE MEASURING RANGES FROM 0-2 TO 0-1000NTU
- HIGH RESOLUTION (0.001NTU ON 0-2 NTU MR)
- PATENTED MEASUREMENT PRINCIPLE

System Overview

TURBILIGHT II measures turbidity by IR Nephelometry :

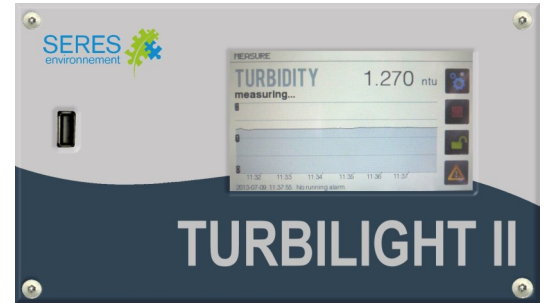
- Measuring light diffused at an angle of 90° from collimated incident beam (projector).
- The resulting signal detected by the measuring cell is strictly proportional to the concentration of diffusing particles representative of water turbidity.
- Compensation of water colour and diode aging achieved via a measurement at 180°.



Advanced user benefits

User-friendly interface : large graphic touch-screen, intuitive scrolling menus, real-time display of turbidity value and curve with configurable time scale

- ✓ **Improved connectivity** : Data storage and transfer by USB / Historic available from menu / Output signal: 4 – 20 mA / Communication: RS232 / JBUS (support RS485)



Technical Specifications

CONSTRUCTION & ENVIRONMENT

Dimensions	Control unit (CU) 215 x 185 x 120 (W x H x D) mm
Weight	2Kg
Material	Enclosure ABS, RAL 7035 - transparent cover
Installation	Wall mounting assembly Overall dimensions 400 x 280 x 130 mm - 4kg approx.
Environment & Protection	IP65 - Installation in safe area away from corrosive atmosphere

ELECTRICAL UTILITIES

Power supply	110 - 240 VAC 50 / 60 Hz (25VDC on request)
consumption	25W max.

ANALYSIS

Method	Continuous measurement by IR Nephelometry
Units	Water turbidity / NTU (other on request)
Range	Programmable 0-50 / 100 / 250 / 500 / 1000 NTU (0-4000mg/l on request)
Resolution	0.001 NTU for 0-2NTU MR
Response time	Continuous online monitoring Initial response time (cold start) in few seconds - T90<20sec.
Accuracy	+/- 2% full range
Repeatability	+/- 2% full range

CONNECTIVITY, ALARMS & COMMUNICATION

User interface	Colour LCD display 4.3" touch screen
Data storage	Built-in data logger equipped with USB port
Input signal	1 x input 4-20mA for acquisition of another parameter such as dissolved O2, conductivity, flow, redox...
Alarms	2 x programmable threshold 1 x analyser fault
Outputs	1 x input 4-20mA 1 x serial output RS232 RS485 JBus (IO) as option

OPERATION

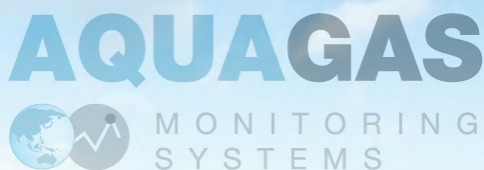
Cleaning	Measuring cell equipped with an automatic cleaning system - Piston operated wiper. User programmable frequency.
Sample supply	Temperature +4 to + 40C Flow 50 l/h Pressure 0.1 to 3 bar
Connections	Sample inlet: semi-rigid tubing 6x8mm Sample outlet: flexible tubing 12 x 14mm
Calibration	Factory calibrated
Maintenance	Routine calibration recommended every 6 months Preventive replacement of wiper and desiccant once a year

CONFORMITY

Conformity	Nephelometry: ISO 7027 / EN27027
Options	Sample conditioning unit for low sample pressure application



INDUSTRIAL AND SURFACE WATER MONITORING



TURBISONDE Insitu Turbidity Analyser

Description

The **TURBISONDE** is designed for fast and reliable **INSITU** measurement of medium and high turbidity in rough environmental conditions. The **INSITU** probe features an **automatic ultrasonic cleaning** eliminating the need for maintenance and empower instantaneous detection of change in turbidity.

Applications

Control of industrial process: Raw waste industrial water, water Treatment Plant (urban and industrial), activated or recirculation sludge tank, effluents and influents continuous monitoring, compliance with environmental regulations and guidelines.

Drinking and Surface water: Alert stations and environmental monitoring.

Oil & Gas: refineries, oil exploration.

Medium and High TSS level



Key functions for enhanced monitoring

- RESPONSE WITHIN FEW SECONDS
- WEATHER PROOF TRANSMITTER HOUSING SUITABLE FOR OUTDOOR INSTALLATION
- STAND-ALONE INSTRUMENT FOR CONTINUOUS OPERATION
- NO WEARING PARTS, NO MAINTENANCE OF THE SENSING PROBE
- NO DRIFT
- LIMITED CALIBRATION REQUIREMENTS (6MONTH)
- IIR MEASUREMENT BY NEPHELOMETRY
- INSITU SUBMERSIBLE PROBE (UP TO 1 BAR)
- AUTOMATIC ULTRASONIC CLEANING WITH ADJUSTABLE FREQUENCY
- USER CONFIGURABLE MEASURING RANGES FROM 0-50 TO 0-2000 NTU
- OPTIONAL DUAL STREAM (2 PROBES FOR 1 CONTROL UNIT)
- PATENTED MEASUREMENT PRINCIPLE

System Overview

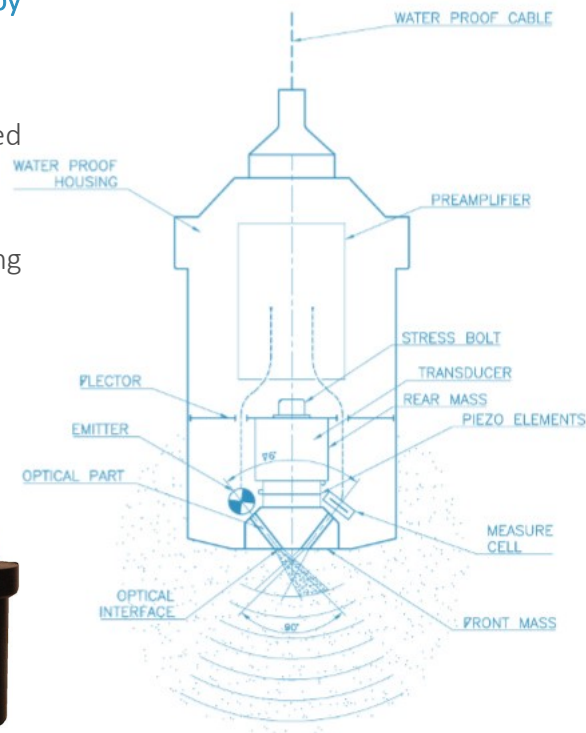
TURBISONDE operation is based on infra-red (IR) measurement by Nephelometry

- The light dispersed at 90 degrees from incident ray by suspended particles is detected by the measuring cell.
- The signal yielded is strictly proportional to the concentration of diffusing particles and water turbidity.

TURBISONDE benefits

“True” zero : no signal is generated if water if turbidity-free.

No drift nor maintenance thanks to the automatic cleaning system of the submersible sensing probe : maximum ultrasonic efficiency (patented process).



Technical Specifications

CONSTRUCTION & ENVIRONMENT

Dimensions	Control unit (CU) 300 x 400 x 200 (W x H x D) mm Probe (P) L=140mm Diam. 60mm
Weight	CU: 10kg P: 1kg
Material	CU: Polyester P: Moulded epoxy resin
Environment & Protection	CU: IP64 - EMC compliant P: up to 1 bar Probe connection lead: 10m Installation in safe area away from corrosive atmosphere
Ambient T°	-20 to +50°C

ELECTRICAL UTILITIES

Power supply	110 - 240 VAC 50 / 60 Hz (25VDC on request)
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ANALYSIS

Method	Continuous measurement by Nephelometry
Units	Water turbidity / NTU or FTU (other on request)
Range	Programmable 0-50 / 100 / 250 / 500 / 1000 / 2000 NTU (0-4000mg/l on request)
Number of streams	1 stream / sensor - max 2 streams / CU for 1 or 2 Turbidity range
Resolution	1 NTU for 0-1000NTU MR
Response time	3 sec
Accuracy	+/- 1 % full range
Repeatability	+/- 2 % full range

CONNECTIVITY, ALARMS & COMMUNICATION

User interface	1 line alphanumeric display - 8 digits
Output signal	Serial output RS232 (option) 2 x 4 - 20 mA
Input signal	1 x input 4-20mA for acquisition of another parameter such as dissolved O2, conductivity, flow, redox...
Alarms	2 x programmable set point per stream 1 x analyser fault

OPERATION

Cleaning	Continuous on the optical surface of the probe sensor by ultra-sounds, user programmable frequency (factory set at 10 min)
Sample temperature	+4 to +40C
Drift	None
Calibration control	Manual using 1 or 2 standard solutions Frequency: every 6 months

CONFORMITY

Conformity	Nephelometry; ISO 7027 / EN27027
Options	SS cranked probe holder Extended probe connection lead (max.20m)





PROCESS CONTROL

Manufacturing industries

Drinking water

ONLINE Water Quality Monitoring Solutions for up-stream and downstream purification processes.

Ensure the optimal quality all along the manufacturing and distribution network.

Process water

Integrated solutions for real-time water quality measurements suited to industrial processes.

ENVIRONMENT

Environmental protection and pollution control.

Surface water

REALTIME Monitoring stations or mobile laboratories, for the protection of surface water, spring water, rivers and groundwater.

Sea water

Prevention of sea water by hydrocarbon wastes: Oil tankers, Oil Rigs, Refinery wastes.



SERES Environnement (FRANCE) is one of the major actors in the field of online analysis dedicated to **Water Quality Monitoring** in the industry and the environment. Outstanding experience, attentiveness, innovative and effective solutions are the strengths of SERES while meeting everyday challenges with Environment Organizations, Water production & treatment, Oil & Gas, Petrochemical industry, Refineries, Power stations, Paper mills, Metal, food and other industries, Oil rigs, Tankers, Etc. ...



Environmental Compliance & Online Process Analysis

AQUAGAS



AquaGas Pty Ltd is supporting the global industrial community with high performance **Environmental & Process Monitoring Systems** (Continuous Emissions Monitoring Systems, Air Quality Monitoring Systems, Online process analysers, **Water Quality Monitoring Systems**) specifically designed and built to meet your application requirements.

With extensive expertise and diverse technical skills acquired around the globe, AquaGas Pty Ltd designs, installs, and supports innovative technical solutions, which respond to the requirements of environmental regulations in terms of pollution monitoring and environmental impact assessment. AquaGas Pty Ltd Systems and Services are available in **Australia, New-Zealand and New Caledonia.**





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IN A LARGE FIELD OF
APPLICATION

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Total

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Coca Cola

Lafarge

Mitsubishi

Petro Bras

Alstom...



APPLICATIONS

Drinking water

Quality control at all stages :
treatment, storage, distribution

Surface water

Study and design of surface
water monitoring stations

Waste water

Monitoring of industrial
or urban waste water

Process water

Quality control of
process water

Oil & Water

Oil in Water Detection &
Water in Oil storage tanks

PARAMETERS

TOTAL CHLORINE
FREE CHLORINE
MORPHOLINE
PHOSPHATES
AMMONIA
HYDRAZINE
COLOUR
PHENOLS
SILICA...

HARDNESS

THT
TA
TAC ...

CHROMIUM VI
MANGANESE
ALUMINIUM
COPPER
NICKEL
IRON
LEAD
ZINC...

CHLORIDES
CYANIDES
FLUORIDES
SULFIDES
ARSENIC
SULFATES ...

CERTIFICATIONS



L C I E