AQUALABO
CONTRÔLE

NEPHELOMETRIC TURBIDITY

OPTICAL TECHNOLOGY
FOR OPTIMIZED MEASURES

RANGE DIGISENS / DATASHEET

APPLICATION

- Urban wastewater treatment (inlet/ outlet controls)
- Sanitation network
- Industrial effluent treatment
- Surface water monitoring
- Drinking water

OPTICAL TECHNOLOGY

- The measure principle is based on IR nephelometry / 850 nm. The sensor can be calibrated with a formazine standard solution.
- The NTU sensor integrates a low-cost optical technology, with a very few maintenance and no consumables.

DIGITAL COMMUNICATION

The PONSEL sensor can be connected to any types of transmitters, display units, controllers or data loggers with Modbus RS-485 or SDI-12 inputs. The optical sensor saves its calibration data for better measures management.

INTEGRATED TRANSMITTER

All data concerning calibration, history, users and measures are directly treated within the NTU sensor and transmitted via RS-485 or SDI-12.

PHYSICAL CHARACTERISTICS

Compact, robust and light, the PVC sensor allows a handheld or fixed unit application.
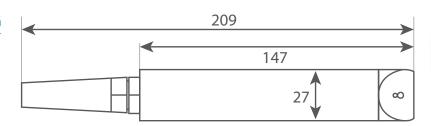
ADVANTAGES

- IR optical sensor with optical fibre
- Range : 0 to 4000 NTU or 0-4500 mg/L
- Robust and waterproof (IP68)
- Ultra low-power consumption
- Digital output Modbus RS-485
- Nephelometry measurement

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GROUP

TECHNICAL CHARACTERISTICS

Measures	
Measure principle	Diffusion IR at 90°
Measure ranges	0 to 4000 NTU in 5 ranges: • 0 – 50 NTU • 0 – 200 NTU • 0 – 1000 NTU • 0 – 4000 NTU • AUTOMATIC 0 to 4500 mg/L Calibration : Range 0-500 mg/L according to NF EN 872 Range >500 mg/L according to NF T 90 105 2
Resolution	0,01 to 1 NTU - mg/L
Accuracy	< 5% of the reading
Working temperature	0°C to + 50°C
Measure of temperature	Via CTN
Stocking temperature	-10°C to + 60°C
Signal interface	Modbus RS-485 (standard) and SDI-12 (option)
Maximum refreshing time	< 1 second
Sensor power-supply	5 to 12 volts
Electric consumption	Standby: 40 µA Average RS485 (1 measure/seconde): 820 µA Average SDI12 (1 measure/seconde): 4,2 mA Current pulse: 500 mA

Sensor	
Dimensions	Diameter : 27 mm; length : 170 mm
Weight	300 g (sensor + cable 3 meters)
Material	PVC, DELRIN, Quartz, PMMA, Polyamide
Maximum pressure	5 bars
Connection	9 armoured connectors, polyurethane jacket, bare-wires or waterproof Fisher connector
Degree of protection	IP68

OUTLINE DRAWING

209
147
27
8

WIRING DIAGRAM

*Cable length **up to 15m***

1. RED : POWER SUPPLY V+
2. BLUE : SDI-12
3. BLACK : POWER SUPPLY V-
4. GREEN : B " RS-485 "
5. WHITE : A " RS-485 "
6. GREEN / YELLOW : CABLE SHIELD

*Cable lenght **15 to 100 meters***

1. RED, PURPLE, YELLOW, ORANGE, PINK : POWER SUPPLY V+
2. BLUE : SDI-12
3. BLACK : POWER SUPPLY V-
4. GREEN : B " RS-485 "
5. WHITE : A " RS-485 "
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