

## Digisens

### DIGITAL MES5 / VB5 : MEASURE OF SUSPENDED SOLID, TURBIDITY AND SLUDGE BLANKET

- Optical sensor based on absorptiometry
  - Range of measure :  
SS : 0-50 g/L  
Sludge blanket 0-100 %  
Turbidity 0-4000 FAU
- Digital communication  
Modbus RS-485 / SDI-12
  - Strong sensor

**DIGITAL TECHNOLOGY**  
FOR RELIABLE MEASUREMENTS

#### APPLICATION:

- Urban Waste water treatment (Inlet/ sewage water (SS, Turbidity), Aeration basin (SS), Outlet (Turbidity)).
- Treatment of industrial effluents (Aeration basin (SS)), Clarifier (Sludge blanket), Outlet (Turbidity)
- Sludge treatment (Centrifugation)
  - Dredging site (turbidity)



## OPTICAL TECHNOLOGY:

The principle of measure is based on the mitigation of the Infra-Red signal in 870 nm through an optical path of 5mm. The sensor delivers measures in Suspended Solid (g/l), Turbidity (FAU) and Sludge Blanket detection in % of transmission IR. For a better precision, the optics of the sensor are regulated in temperature.

For a measure of Suspended Solid, the sensor is directly calibrated on the material to be measured (sample of sludge).

In Turbidimeter version the sensor delivers measures on a range 0-4000 FAU ( Formazine Attenuation Unit) and is calibrated with solutions of Formazine.

**Temperature: measure and regulation of optics via CTN.**

## DIGITAL COMMUNICATION / INTEGRATED TRANSMITTER:

The sensor PONSEL connects to every type of recorder, transmitter, system of remote processing or automaton endowed with an entrance **Modbus RS485**. Thanks to the indexation of the sensor, more than 200 sensors can be connected on a recorder.

Resisting the disturbances: pre-development integrated into the sensor and the digital treatment of the signals. All the data concerning the calibration, the history and the users are directly recorded in the digital sensor MES5.

## MECHANICS:

A handle in DELRIN material assures the mechanical dress of the sensor and the sealing seals of the cable.

**Compact, strong and light**, the sensor allows a use in portable version or fixed post.

### TECHNICAL DATA :

<b>Suspended Solid measure</b>	
<b>Principle of measure</b>	Optical IR (870 nm) based on IR absorption
<b>Range of measure</b>	SS : 0-50 g/L Turbidity : 0-4000 FAU Sludge blanket : 0-100 %
<b>Resolution</b>	SS : 0.01 g/L Turbidity : 0.01 à 1 FAU Sludge blanket : 0.01 à 0.1 %
<b>Accuracy</b>	SS < 10 % Turbidity : +/- 5% (range 200-4000 FAU) Sludge blanket : +/- 2%
<b>Response time</b>	< 35 secondes
<b>Temperature measure</b>	
<b>Principle of measure</b>	NTC
<b>Working temperature</b>	-5.00 °C to + 60,00°C
<b>Resolution</b>	0,01 °C
<b>Accuracy</b>	+/- 0.5 °C
<b>Storage Temperature</b>	-10°C to + 60°C
<b>Degree of protection</b>	IP 68
<b>Signal Interface</b>	Modbus RS-485 or SDI-12
<b>Refreshment of the measure</b>	Maximum < 1 seconde
<b>Power supply</b>	5 to 28 volts
<b>Consumption</b>	Standby : 25 µA (5V) Average RS485 (1 mesure/seconde) : 4.5 mA (5V) Average SDI12 (1 mesure/seconde) : 4.5 mA (5V) Curent Pulse : 100 mA during 30 mS Heating times : 100 ms
<b>Sensor</b>	
<b>Weight</b>	750 g (sensor)
<b>Material</b>	DELRIN, Nickel-plated brass, EPDM
<b>Pressure max.</b>	5 bars
<b>Cable/ connexions</b>	9 armoured connectors, polyurethane jacket, bare-wires or waterproof Fisher connector

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