

# TurBiScat 2 Ex

## Turbidimeter with Flange Connection



### Applications

- Turbidity measurement in processes
- Turbidity in "Produced Water"
- Measurement of dispersed oil traces
- Water and particle determination in paraffin

### Industries

- Chemistry
- Petrochemistry
- Pharma
- Metal
- Power plants, etc.
- Aircraft fuels
- For other industries see TurBiScat 2 Ex with Varinline connection

### Advantages

- Two-angle measurement with one measuring head
- Optional colour measurement at 430 nm
- Integrated measured value display and communication modules
- Simple operation through WLAN-capable devices
- Protection class Zone 1, Ex db IIC T3/T4/T5/T6 Ga/Gb
- Measuring range 0 ... 4'000 NTU
- Sealless design
- Easy installation on standard in-line enclosures
- Hygienic design
- Dual beam measurement to compensate for colour and window contamination
- Simple adjustment with calibration unit
- Sensor check function

# TurBiScat 2 Ex

## Turbidimeter with Flange Connection

### Innovations with tangible benefits



#### Convincing Design

Combination of Hastelloy® and sapphire in a compact, sealless design with LED technology:

- Simple installation
- Allows operation in practically all process applications.
- Minimal maintenance and servicing work



#### Highest Precision, Large Measuring Span

Highest quality components and precise workmanship result in a high measuring span. An optional integrated colour measurement is available:

- One sensor type for numerous applications.
- Precise measurement of lowest up to very high turbidity values.
- Colour measurement in the same sensor



#### Integrated Operation and Communication

- Display for measured values and status
- Visualisation of measurement data over the last 7 days
- Proximity sensor for operation
- Configuration via WLAN and integrated web server
- Various communication modules



#### Monitored Reliability

Formazin is used in the factory to calibrate the TurBiScat 2 Ex after assembly. For QC purpose and possible recalibration, a secondary solid reference standard is available.

- Precise verification and recalibration without the use of Formazin.
- The integrated sensor check periodically checks the function of the light receivers and amplifiers:
- Ensures reliable measurement

#### Technical Data

##### Sensor:

Measuring principle: 90° / 25° scattered light at 650 nm (optional colour measurement at 430 nm)

##### Conformities:

Ex-protection type/  
Temperature class:

CE, ATEX, IE

Ex db IIC T3/T4/T5/T6 Ga/Gb, temperature class depending on medium temperature:

Medium temperature	Temperature class
-20 ... +80 °C	T6
-20 ... +95 °C	T5
-20 ... +130 °C	T4
-20 ... +180 °C	T3

Wavelength turbidity: LED 650 nm

Wavelength colour (optional): LED 430 nm

Measuring span turbidity: 0 ... 4'000 NTU

Measuring ranges: 8, freely programmable

Resolution: 0,001 NTU

Measuring span colour: 0 ... 200 E/m

Installation: In-line housing

Material sensor head: Hastelloy® C-22

Material housing: Stainless Steel 1.4462/ 1.4404/ Borosilicate glass

Windows: Sapphire

Sample temperature: -20 ... +180 °C, depending on the medium and ambient temperature, optional cooling is required.

Max. pressure: 2 MPa (20 bar)

Ambient temperature: -20 ... +60 °C

Ambient humidity: 0 ... 100 % rel. humidity

Operation voltage: 24 VDC ± 10 %

Protection degree: IP66

Display: Colour graphic

Operation: Proximity sensor

WLAN module: WLAN according to IEEE 802.11 b/g/n

Communication module: 6 configurable inputs/outputs  
- outputs: 0/4 ... 20mA, digital  
- inputs: digital

In preparation:

- Ethernet with POE: 10/100BaseT Ethernet with web server and Modbus-TCP
- Profibus DP
- Profinet IO

External control unit:

Optional (without ex-protection)



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