

TurBiScat 2 Ex

Turbidimeter



Applications

- Filtration monitoring and control
- Turbidity in whisky (cold filtration)

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

Industries

- Beverage (Spirits as whisky, cognac, ...)
- For other industries see TurBiScat 2 Ex 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

Main technical details

Measuring principle:	90° / 25° scattered light (optional colour measurement)
Conformities:	CE, ATEX, IECEx
Wavelength turbidity:	LED 650 nm
Wavelength colour (optional):	LED 430 nm
Measuring span turbidity:	0 ... 4'000 NTU
Resolution:	0.001 NTU
Measuring span colour:	0 ... 200 E/m
Sample temperature:	-20 ... +180 °C, depending on the medium and ambient temperature, optional cooling is required.
Ambient temperature:	-20 ... +60 °C
Protection degree:	IP66

Full details and technical data:



TurBiScat 2 Ex

Technical data

Sensor

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

Conformities: CE, ATEX, IECEx
Ex-protection type/ 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 VARINLINE® or compatible

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)
 VARINLINE housing: observe specifications
 Ambient temperature: -20 ... +60 °C
 Ambient humidity: 0 ... 100 % rel. humidity
 Operating voltage: 24 VDC ± 10 %
 Protection degree: IP66

Display: Colour graphic
 Operation: Proximity sensor or mobile device directly

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

Communication modules: 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)

