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

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

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
Standard Interface (IO):	6 configurable inputs and outputs
	• Max. 2 digital inputs: 5 ... 28 VDC
	• Max. 4 digital outputs: High–
Side	Switch max. 20 mA
	• Max. 4 current outputs: 0/4 ... 20 mA, max. 700 Ω Modbus RTU
Power over Ethernet:	Ethernet LAN connection with Power over Ethernet (PoE)
	• Ethernet accoridng to 10/100BaseT
	• POE according to 802.3af, class 0
EG_Profibus:	Profibus DP–V1 Slave
EG_Profinet:	Profinet IO Device, Conformance Class B
External control unit:	Optional (without ex–protection)

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