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TurbiGuard AD 40

In-line Measuring device for medium to high turbidity

Applications

- Turbidity measurement or monitoring in beverages such as beer, fruit juices
- Control of centrifuges, separators, whirlpools
- Filter performance and filter breakthrough monitoring
- Determination of the solids concentration
- Yeast propagation and dosing

Advantages

- In-Line Sensing – seamless integration within existing process lines
- Real-Time Monitoring with very short response time
- Process Optimization & control for various applications
- High measuring range, linearised factory calibration in EBC or NTU
- Permanent device monitoring in the background
- Extremely low maintenance e.g. due to seal-less design
- Modern measured value display and integrated operation with colour display
- Cost efficiency (low TCO and fast ROI) & high reliability
- Hygienic design according to EHEDG and compliant to Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food
- Swiss Engineering / Swiss Made

Industries

- Beverages
- Food and dairy industry
- Chemistry
- Pharmacy

Innovations with tangible benefits

A universally applicable device with a large measuring range, simple installation in a standard housing without tools, integrated measured value display and maximum flexibility in configuration and communication –this is what modern process measuring devices look like today.

Precision Turbidity Measurement
Enables real-time monitoring of turbidity in a wide range of processes. Measures turbidity and detects any deviations early, helping to avoid off-spec batches.
The TurbiGuard AD 40 helps to ensure the quality of the end product.

Innovative device design for fast ROI
Engineered to provide dependable performance with reduced downtime and minimal servicing needs. Gone are the days of maintenance and servicing work due to by periodically changing seals. The gasket-free design with sapphire windows is tried and tested.
- Easy installation in VARINLINE® housing
- Allows use in practically all process applications – from turbidity measurements in the brewing process to monitoring in chemical processes
- Very low maintenance
- Integrated measured value display provides all necessary information and setting options directly at the measuring point.
- Permanent humidity and temperature monitoring
- Low TCO

Precision Turbidity Measurement
The TurbiGuard AD 40 is factory-fitted with a real, linearised calibration with formazine. The use of proven optical components guarantees quality and reduces maintenance costs.
The LED-based measuring system of the TurbiGuard AD 40 has proven itself over many years and has been further optimised in the new generation for durability and low-maintenance operation.

Simple system integration and integrated security
Designed for straightforward integration with process control systems, reducing setup complexities while delivering consistent, accurate readings.
The TurbiGuard AD 40 offers various data interfaces from 0/4...20 mA current outputs to process buses for continuous process monitoring.
-Permanent accessibility to measured values and status information
-Integrated limit value monitoring
-Increased data security
-Access via smartphones for advanced configuration and maintenance

Main technical details

Measuring principle	Absorption
Wavelength	LED 870 nm
Measuring range	0...2000 EBC (0...8000 NTU)
Resolution	0.5 EBC (2 NTU)
Accuracy	0 – 1000 EBC: +/– 3%, min. +/– 3 EBC 1000 – 2000 EBC: +/– 5% *
Repeatability	+/– 0.25%; min. +/–0.5 EBC
Response time	<0.3 s at 0 s integration time (step response –> limit value switch)
Cleaning	CIP/SIP- compatible until 120 °C @2h
Protection class	IP 66

* in reference to factory standard

Details and technical data:

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TurbiGuard AD 40

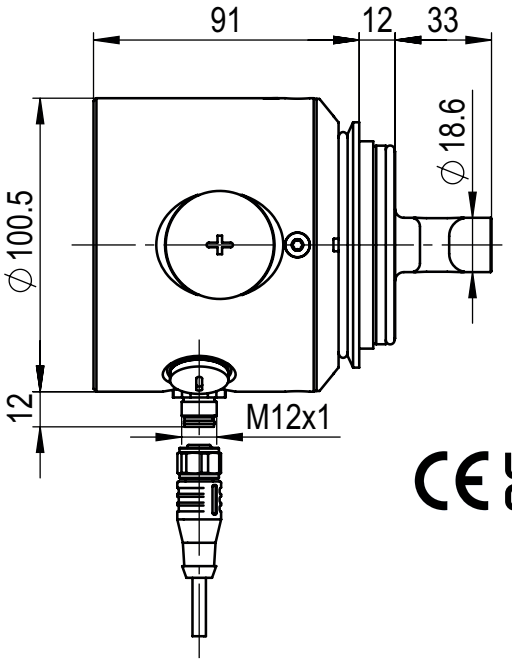
Technical data

Measuring principal	Absorption
Wavelength	870 nm
Measuring range	0..2000 EBC (0...8000 NTU)
Resolution	0.5 EBC/2 NTU
Accuracy	0 – 1000 EBC: +/– 3%, min. +/– 3 EBC 1000 – 2000 EBC: +/– 5% *
Repeatability	+/– 0.25%; min. +/–0.5 EBC
Response time	< 0.3 s at 0 Seconds Integration time (Step response →limit value switch)
Path length	10 mm
Medium temperature	–10 ... +100 °C –10 ... +85°C at ambient temperature 55°C –10 ... +75°C at ambient temperature 60°C
Cleaning	CIP/SIP– compatible up to 120 °C @2h
Surroundings	–10 ... +50 °C 0 ... 100 % relative humidity
Medium pressure	Max. 1 MPa (10 bar) @100 °C
Pipe connections	Inline VARINLINE® – housing or compatible DN 40 ... DN 150, 1 1/2″... 6″
Operating voltage	24 VDC ± 10 % (Interface PoE according to standard)
Warm–up time	< 3 min
Power consumption	Max. 3 W
Warm–up time	< 3 min.
Protection class	IP 66
Dimensions	Ø 100.5 x 137 mm
Material	Housing: Stainless steel 1.4301 / AISI 304 Sensor head material: Stainless steel 1.4404 / AISI 316L Window material: Sapphire Touchscreen: Soda–Lime tempering glas
Weight	1.5 kg
Display	Display: 2.4″ with Touchscreen Resolution: 320 x 240 Pixel

Interfaces

LT (Standard)	1 Current output 0/4 ... 20 mA, max. 700 Ohm, 1 digital input, 2 digital outputs
IO	6 configurable inputs/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 Ohm – Modbus RTU
PoE	Ethernet LAN connection with Power over Ethernet: – Ethernet according to 10/100BaseT – POE according to 802.3af, Class 0 – Sigrist Web interface
Profibus	Profibus DP–V1 Slave
Profinet	Profinet IO, Conformity class B

* in reference to factory standard



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