

TurbiGuard

In-line Process Monitor for Medium to High Turbidity Measurement



Applications

- Turbidity measurement and monitoring in beverages such as beer, fruit juices, etc.
- Supervision of centrifuges, separators, whirlpools
- Monitoring of filter performance and filter breakthrough
- Determination of solids concentration
- Yeast dosing

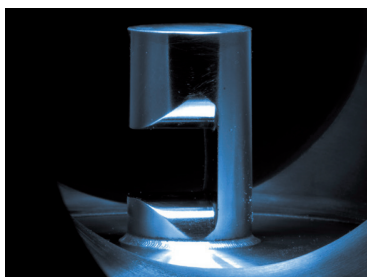
Advantages

- Sealless design
- Extremely low maintenance
- High measuring span
- Linearized factory calibration over the whole measuring range
- Easy configuration and system integration

Industries

- Beverage
- Food and Dairy Industry
- Chemical Industry
- Pharmaceutical Industry

Innovations with tangible benefits



Sealless Design

The days of spending time doing routine maintenance for regular replacement of seals have gone. The sealless design with sapphire windows is well-proven and established. This allows the TurbiGuard to be used in practically all process applications – from turbidity measurement in the brewing process to monitoring tasks in the chemical industry.



Simple Concept

A single instrument which can be widely used for almost all applications, simply mounted in a standard housing without the need of tools, combined with the highest flexibility in configuration and communication – just the way state-of-the-art instruments should be designed.



Quality- and Cost optimized

The TurbiGuard is factory calibrated with a true, linearized Formazine calibration. Once installed it is only necessary to perform an occasional zero check. The use of well-proven optical components guarantees the quality and reduces costs of purchase and maintenance. This results in a favourable total cost of ownership.



Flexible Configuration

For simple applications and system integration the instrument configuration and communication can be easily done using the integrated Ethernet interface with a web browser in combination with the existing outputs. For a more comfortable installation and operation the optional control unit SICON with touch screen technology and colour display can be connected.

Main technical details

Measuring principle:	Absorption
Wavelength:	LED 880 nm
Measuring range:	0 .. 100 / 0 .. 1000 EBC, 0 .. 400 / 0 .. 4000 NTU 0 .. 69,000 ASBC
Resolution:	0.5 EBC / 2 NTU / 34 ASBC
Outputs:	1 × 0/4 .. 20 mA, 2 × Open-Collector-Transistor
Sample temperature:	-10 .. +100 °C / 14 .. +212 °F
Cleaning:	CIP / SIP compatible up to +120 °C / +248 °F @ 2 h
Protection degree:	IP66
Power supply:	9 .. 30 VDC
Power consumption max:	2 W (3 W with Profibus DP)
Communication (optional):	Profibus DP, Modbus RTU, Profinet IO

Details and technical data:



TurbiGuard

Technical data

Sensor

Measuring principle: Absorption
 Wavelength: LED 880 nm
 Measuring range: 0 .. 100 / 0 .. 1000 EBC
 0 .. 400 / 0 .. 4000 NTU
 0 .. 69,000 ASBC
 Resolution: 0.5 EBC / 2 NTU / 34 ASBC
 Path-length: 10 mm
 Outputs: 1 × 0/4 .. 20 mA
 2 × Open-Collector-Transistor
 In-line housing Varivent®

Installation:
 or compatible

Pipe diameter: ≥DN 40
 Material sensor head: Stainless steel, 316L
 Material housing: Stainless steel, 304
 Windows: Sapphire
 Sample temperature: -10 .. +100 °C / 14 .. +212 °F
 Cleaning: CIP / SIP compatible up to
 +120 °C / +248 °F @ 2 h

Pressure: 1 MPa (10 bar) / +100 °C
 145 psi / +212 °F

Ambient temperature: -10 .. +50 °C / +14 .. +122 °F
 Ambient humidity: 0 .. 100 % RH
 Protection degree: IP66
 Power supply: 9 .. 30 VDC
 Power consumption max.: 2 W (3 W with Profibus DP)

Operation

Configuration: Ethernet / Web-Browser
 Communication (optional): Profibus DP, Modbus RTU,
 Profinet IO

Control unit SICON (optional)

Power supply: 9 .. 30 VDC
 Power consumption max.: 8 W (with instrument)
 Display: 1/4 VGA, 3.5"
 Operation: Touchscreen
 Ambient temperature: -10 .. +50 °C / +14 .. +122 °F

Ambient humidity: 0 .. 100 % RH
 Protection degree: IP66
 Outputs: 4 × 0/4 .. 20 mA, galv.
 separated
 7 × digital
 Inputs: 5 × digital, freely configurable
 Digital interfaces: Ethernet, microSD-card,
 Modbus TCP
 Optional modules (max. 2): Profibus DP, Modbus RTU,
 Profinet
 4 × 0/4 .. 20 mA outputs,
 galv. separated
 4 × 0/4 .. 20 mA inputs

