Type STS 07

Turbidity sensor

modular @ *analyse*

Basic Features

▶ Hygienic detection of turbidity for the food and beverage industry
▶ For low turbidity, from just 2 EBC / 8 FAU
▶ Colour-independent concentration measurement
▶ Compact design with integrated electronics and display with backlighting for easy parameterisation
▶ IO-Link
▶ LED Light Source, LED Service life > 100.000 Hours
▶ Resistant sapphire windows CIP/SIP-suitable
▶ Hygienic design, polymer-free sealing system
▶ Process monitoring and documentation

Technical features

▶ 180° Transmitted light turbidity measurement
▶ Measuring range 0-100%
▶ Light-Source LED
▶ Wave-Length 880 nm
▶ Optical Path-Length 5,10 und 20mm
▶ Material High Grade Steel 1.4435 (316L)
▶ Electropolished surface finish <0,37 µm Ra
▶ Sapphire window
▶ Power Supply 18...30 VDC
▶ Output Signal 4…20mA; IO-Link
▶ Schaltausgang PNP 24 V, NC/NO
▶ Input contact zero position
▶ Cable Connection M12 plug, 5 - pole
▶ Process Connection G1/2" elastomer-free sealing system
▶ Ambient temperature -20...70°C
▶ Process temperature 0…90 ºC, 140 ºC Maximum for 2 hours. (SIP - Cyle)
▶ Process-pressure max. 16 bar (230 psig) at 60 ºC
▶ Response time<200 mS

Optische Pfadlängen (OPL)

Preferred areas of application are:

STS 07 is a turbidimeter for inline measurement of the optical density of liquids in order to monitor continuous process results or to reliably determine changes.

Particularly suitable for:

- Separator control
- Phase separation with quick product change
- Filter monitoring
- Concentration measurements
- Yeast dosage
- Yeast management
- Milk reception
- Monitoring lorry tank cleaning station
- Monitoring the contamination of cleaning media, e.g. in the CIP return line
- Flushing milk applications: Wastewater management, Product return
- Reduction of wastewater costs
- Quality monitoring
- and much more.

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Technical data

Supply voltage	: 18...30 VDC
Power consumption:	ca. 80 mA (bei 30 VDC und, Analogue output = 22,5 mA)
Power consumption:	max. 2,4 W
Analogue output:	4-20 mA
Current limitation:	min. 3,5 mA
	max. 22,5 mA, adjustable
Tightening torque:	10 - 20 Nm

Burden: <=(Ub-4V)/20mA (<=700 Ohm@Ub=18V, <=1000 Ohm@Ub=24V, <=1300 Ohm@Ub=30V)
Reproducibility: ≤ 1 % of the final value

Messbereiche

The following dependencies exist in relation to formazin:

1FNU = 1FAU = 1 NTU= 0,25 EBC = 2,05 mg/l = 0,000000205% TS
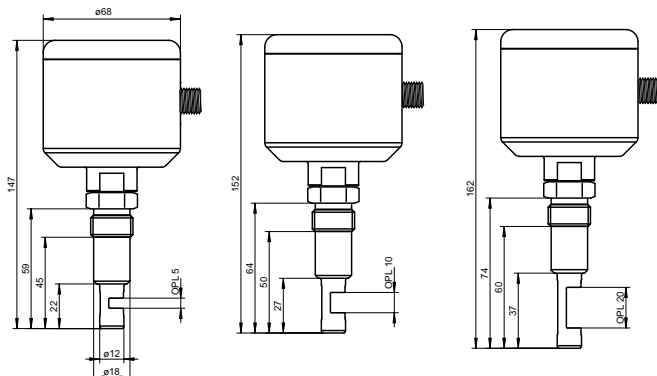
Our measuring range is approx:
OPL   5mm   0…500 EBC 0…2000 FAU 5,0 g/l ~0,4% TS*
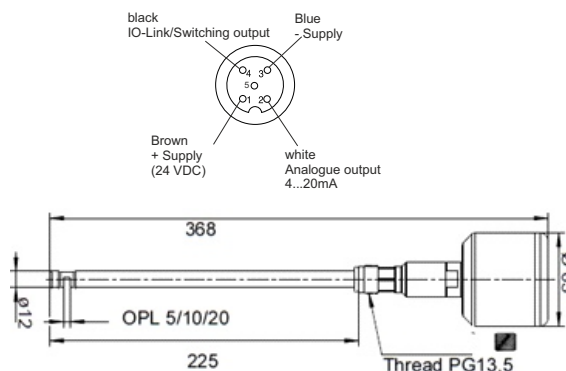OPL 10mm   0…250 EBC 0…1000 FAU 2,5 g/l ~0,2% TS*
OPL 20mm   0…100 EBC 0… 400 FAU 1,0 g/l ~0,1% TS*

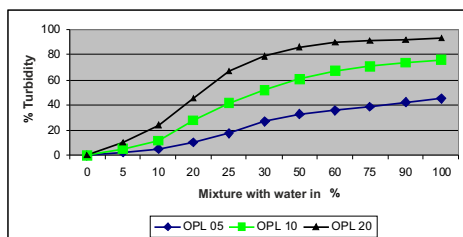* the values correspond to approx. 80% of the display range
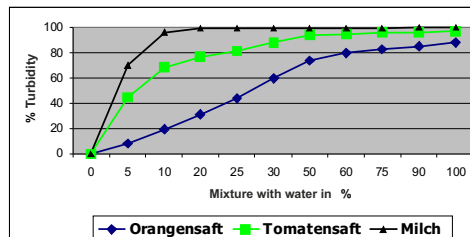
Dimensional drawings

Pin assignment

black
IO-Link/Switching output

Blue
- Supply

Brown
+ Supply
(24 VDC)

white
Analogue output
4...20mA

Typical Turbidities

Hefeweizen with various OPLs

Various products with OPL 010

Parameterisation + documentation

The settings are made either using the integrated display or the PC parameterisation or via IO-link.

Both the optional SMW-PA-M12 PC-USB interface and the ST-M12-mini USB programming adapter are required for parameterisation using a PC.

SMW-PA-M12
PC-USB interface incl. software for readout and parameterisation

SMW-PA-M12
PC-USB interface incl. software for readout and parameterisation

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Turbidimeter

Order Code

STS07- "HygienicConnect" (metallic sealing) Standard	-	-	-
STS07-R Probe 225mm PG13.5 for retractable fitting	-	-	-

Optical path length				
Optical path length 5 mm (OPL)	**005**			
Optical path length 10 mm (OPL)	**010**			
Optical path length 20 mm (OPL)	**020**			
Measuring range configuration				
Measuring range 0...100,0 %		**1**		
Special version on request		**K**		
Interface / parameterisation				
4...20 mA / M12 5-pole			**A**	
Special version on request			**K**	
Display / control unit				
with integrated display				**1**
Without display				**0**
Special version on request				**X**

Accessories for OPL 5mm : Reference filter set for recalibration with traceability certificate

Examples of modular process connections

Varivent   Triclamp   Milk-Pipe

See process connection technology data sheet

modular @ process