

## Type STS 02

modular @ analyse

### Turbidity Sensor

#### Basic features

- ▶ Automatic Cleaning possible by use of Process Fitting SAW-830
- ▶ Securely Phase-Separation
- ▶ Quicker product-changes
- ▶ Reduced costs for waste water
- ▶ Filter-monitoring
- ▶ Colour-independent concentration measurement
- ▶ Compact Design with integrated electronic and display for parameterisation
- ▶ Robust saphir-windows, CIP/SIP-suitable
- ▶ Hygienic Design, elastomer-free sealing system
- ▶ LED-light, LED durability > 100000 hours
- ▶ Integrated digital- and analog-output
- ▶ Simple parameterization
- ▶ Process-monitoring and documentation



supported by *impulse* **ZIM**  
für wachstum  
Zentrales Innovationsprogramm  
Mittelstand

#### Technical Features

- ▶ Measuring range 0-100%
- ▶ Wave length 880 nm
- ▶ Light source LED
- ▶ Optical pathlength 5, 10 mm
- ▶ Made of high grade steel 1.4435 (316L)
- ▶ Finish quality electropolished <0,37 µm Ra
- ▶ Window: Saphir
- ▶ Supply voltage 12...30VDC
- ▶ Output current 4...20mA
- ▶ Output PNP Normally Closed / Normally open, parametrisable / 150 mA max.
- ▶ Input-contact: zero position
- ▶ Cable-Connection M12-plug, 5-pole
- ▶ Process connection PG 13,5 thread
- ▶ Ambient temperature: -20...70°C
- ▶ Process-temperature 0...90 °C, 140 °C max. for 2 hours (SIP-cycle)
- ▶ Process-pressure 16 bar max. at 60 °C

Foto in Prozessarmatur SAW 830



OPL 5

OPL 10

#### Favoured fields of application are:

STS is a sensor for monitoring the optical density of liquids, to control process-results continuously or to indicate changes securely. Especially suitable for phase-separation, filter-monitoring and concentration measurement.

#### ATTENTION!

At lower deviation of dew points water condensation is possible, that can destroy the sensor. At stress with change of temperatures, e. G. a cold water jet on the hot sensor, it can come to absorption of fluids in to the sensor. (Requirements cf. DIN EN 60068-2-14)  
At applications with dew point, temperature shock or thermal shock stresses we recommend to put in the enclosed silikagel-bag into the connecting head.

The tightness classification after IP68 does not mean that these parts are suitable! for applications with lower deviation of dew point or temperature shock. (DIN 60068-2-14)

2024/02

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### Technical Facts

Supply Voltage:	12...30 VDC	Load: $\leq (U_b - 4V) / 20mA$ (max. 400 Ohm at 12V, 1000 Ohm at 24V, 1300 Ohm at 30V)
Current demand:	ca. 80 mA (30V, Analog-Output= 22,5 mA)	Teach-Input: Digital-Input, +12...30VDC, circa. 1,6mA input current
Power Input:	2,4 W max.	Switch-Output: semiconductor-switching, PNP-switching
Analog-Output:	4-20 mA	Switched Power: 150mA max., thermally protected against overload
Current limit:	3,5 mA min. 22,5 mA max., adjustable	Protection class: IP 69K
Torque:	10-20Nm	

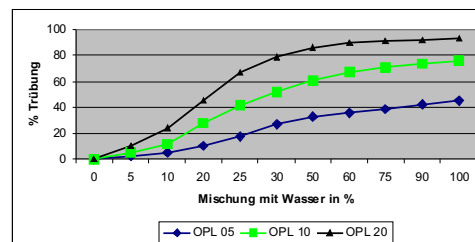
### Measuring Ranges

Based on Formazin there are the following dependencies:  
 1FNU = 1FAU = 1 NTU = 0,25 EBC = 2,05 mg/l = 0,00000205% TS

Our Measuring Range is:

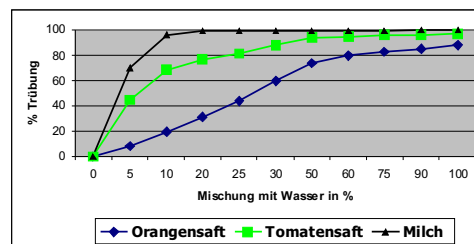
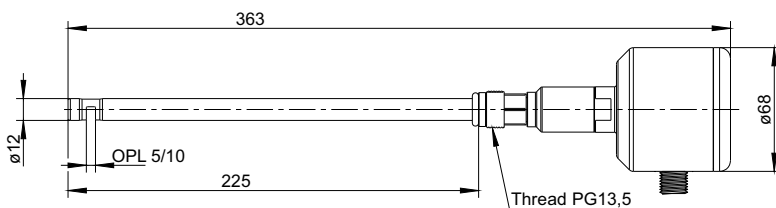
OPL 5mm	0...500 EBC	0...2000 FAU	5,0 g/l	~0,4% TS
OPL 10mm	0...250 EBC	0...1000 FAU	2,5 g/l	~0,2% TS

### Typical Turbidities



Wheat beer with different OPLs

### Dimensional Drawing



Different products with OPL 010

### Parameterization (optional accessories)

For parameterization, both the PC USB interface SMW-PA-M12 and the programming adapter ST-M12-M8 is required

#### SMW-PA-M12

PC-USB-Interface incl. the Software for readout and parameterize

#### ST-M12-M8

Programming adapter M12 to M8

STS 02-				
<b>Optical Pathlength</b>				
Optical Pathlength 5 mm	005			
Optical Pathlength 10 mm	010			
<b>Configuration Measuring-Range</b>				
Measuring range 0...100,0%		1		
Special Constructions on request		K		
<b>Interface / Parameterization</b>				
4...20 mA			A	
Special Constructions on request			K	
<b>Display / Control Unit</b>				
with integrated control + indicator display, inspection cover				1
without integrated control + indicator display, closed cover				0
Special Constructions on request				X

### Accessories



Redox-Holder SAW-830