Type STS 01

modular @ analyse

Turbidity Sensor

Basic features

- Phase-Separation
- Qick product-change
- Reduced costs for waste water
- Filter-monitoring
- Colour-independent concentration measure-ment
- Compact Design with integrated electronic and display for parameterisation
- Robust saphir-windows, CIP/SIP-suitable
- Hygienc Design, polymerfree-sealing system
- LED-light, LED durability > 100000 hours
- Integrated digital- and analog-output
- Simple parameterization
- Process-monitoring and documentation

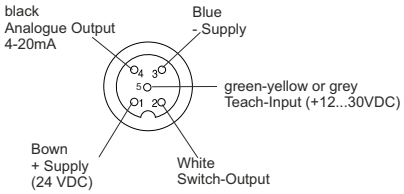
supported by impulse ZIM für wachstum Zentrales Innovationsprogramm Mittelstand

Technical features

- Measuring range 0-100%
- Wave length 880 nm
- Light source LED
- Optical pathlength 5, 10, and 20 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
- Cabel-Connection M12-plug, 5-pole
- Process-connection 1/2” elastomerfree sealing system
- Ambient-temperature -20...70°C
- Process-temperature 0…90 ºC, 140 ºC max. for 2 hours (SIP-cycle)
- Process-pressure 16 bar max. at 60 ºC

Optical Pathlength (OPL)

Pin Configuration



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 ot dew point or temperature shock. (DIN 60068-2-14)

2024/02

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Technical Facts

Supply Voltage:	12...30 VDC
Currend demand:	ca. 80 mA (30V, Analog-Output= 22,5 mA)
Power Input:	2,4 W max.
Analog-Output:	4-20 mA
Current limit:	3,5 mA min. 22,5 mA max., ajustable
Torque:	10-20Nm

Load: <=(Ub-4V)/20mA (max. 400Ohm at 12V, 1000 Ohm at 24V, 1300 Ohm at 30V)
Teach-Input: Digital-Input, +12...30VDC, circa. 1,6mA input current
Switch-Output: semiconductor-switching, PNP-switching
Switched Power: 150mA max., thermally protected against overload
Protection class: IP 69K

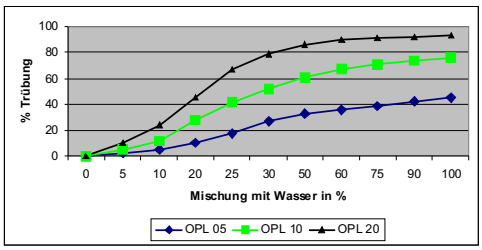
Measuring Ranges

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:

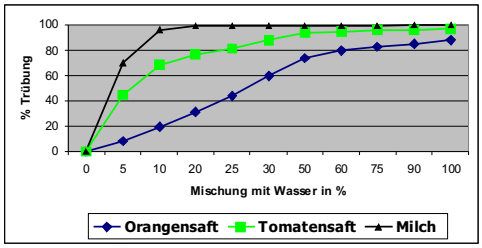
OPL 5mm	0…500 EBC	0…2000 FAU	5,0 g/l	~0,4% TS*
OPL 10mm	0…250 EBC	0…1000 FAU	2,5 g/l	~0,2% TS*
OPL 20mm	0…100 EBC	0… 400 FAU	1,0 g/l	~0,1% TS*

* the values represent about 80% of the display scale

Typical Turbidities

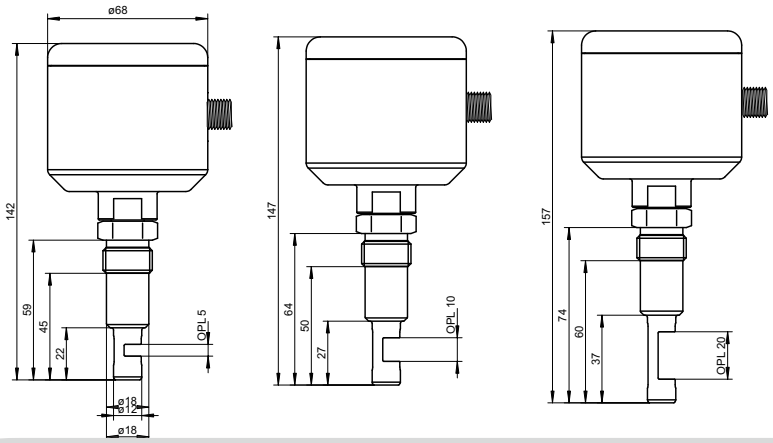


Wheat beer with different OPLs



Different products with OPL 010

Dimensional Drawing



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 01- [ ] - [ ] - [ ] - [ ]

Optical Pathlength				
Optical Pathlength 5 mm	005			
Optical Pathlength 10 mm	010			
Optical Pathlength 20 mm	020			
Configuration Measuring-Range				
Measuring range 0...100,0%		1		
Special Constructions on request		K		
Interface / Parameterization				
4...20 mA			A	
Special Constructions on request			K	
Display / Control Unit				
with integrated control + indicator display, inspection cover				1
without integrated control + indicator display, closed cover				0
Special Constructions on request				X

2020/10