

## 7002 SWMF-T / E

### Self Cleaning Suspended Solids Sensor with Frequency Output



The sensor 7002 SWMF has been designed to measure suspended solids in low concentrations in various water applications.

#### **Applications**

- Filtrate monitoring
- Condensate monitoring
- Industrial water monitoring
- Final effluent of waste water treatment plants
- Industrial quality control

#### **Features and benefits**

- Reliable concentration measurement using optical measuring process
- Signal preprocessing in sensor
- Stainless steel sensor body



ISO 9001



## Measuring principle

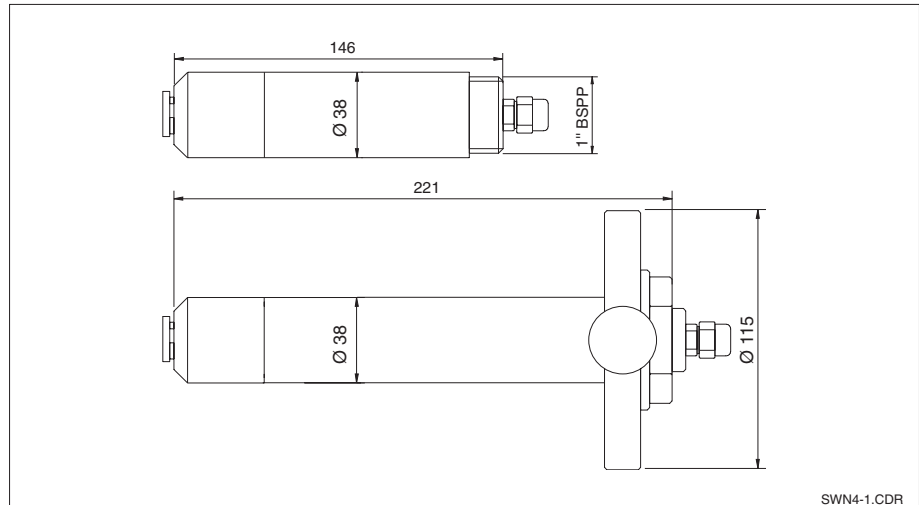
Low turbidity and suspended solids are measured by scattered light. The number of suspended particles corresponds to the intensity of scattered light. In order to ensure that different

measuring instruments will yield comparable results, the standard ISO 7027 (DIN 38404) was drawn up, stipulating 90° measurement for turbidity.

## Dimensions

Dimensions  
Sensor 7002-SWMF-T

Dimensions  
Sensor 7002-SWMF-E



## Sensor design

The sensor processes a frequency signal which is supplied by the sensor electronics after compensation of temperature and ambient light. A mechanical cleaning wiper prevents contamination of the measuring windows. The wiper cycle is controlled by a preprogrammed time interval and allows to match the cleaning cycle to the application. Pre-processing the measurement signal directly in the sensor permits the sensor and transmitter to be separated by up to 650 feet (200m). The following two types of sensors are available for installation:

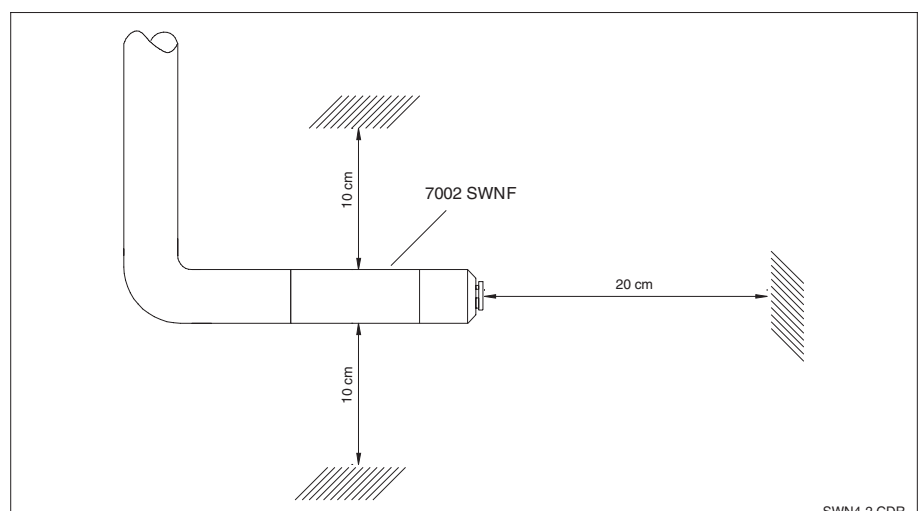
1. Immersion sensor (T) for open channel installation with optional accessories like e.g. sensor support bracket or sensor extension pipe.
2. Insertion sensor (E) with a ball-valve assembly for installation in pipes without interrupting the process.

## Installation

Reflections from stationary installations in the area of the probe (e.g. wall, ground) can affect measurements at low turbidity levels, cause the probe then falsely provides higher turbidity values.

It is important to take account of this when performing control measurements in small vessels. The distance between the probe and the next wall should be large enough to avoid reflections.

Required mounting  
clearances



## Electrical connection

to transmitter 7110 MTF  
see Technical Information TI 232e00  
Order No.: 51508353

## Accessories

- ❑ **7900 SHG**  
Special support for installation at the wall  
Material: stainless steel 1.4301  
Order No.: 51503581
- ❑ **7900 KHE-DN 40**  
Ball-valve assembly with safety lock  
Material: stainless steel 1.4401 / 1.4571  
Order No.:51503660
- ❑ **7900 SVR**  
Extension pipe, length 2 or 3 m with R1" and 90° elbow  
Material: stainless steel 1.4301  
Order No.:51505996 oder 51505997
- ❑ **7900 DLA**  
Flow-through armature for by-pass application and pressure up to 5 bar  
Material: PVC  
Connections R1"  
Order No.: 51503631
- ❑ **7900 VLKW-XX**  
Extension cable, with connectors on both ends, length 200 m (656 ft.) max. (customer specified)  
Order No.: 51506063

## Technical data

<b>General data</b>	Manufacturer	ISI Europa
	Product designation	7002 SWMF
<b>Materials</b>	Sensor body	Stainless steel 1.4571 (SS 316 Ti)
	Optical windows	Quartz glass
<b>Electrical connection</b>	Power supply	Supplied by transmitter
	Sensor cable T version	13 m incl. connector
	E version	1m + 10m extension cable
	Measuring principle	90°-scattered light with pulsed infrared light
	Wavelength	880 nm
	Measuring range	Suspended solids 0 ... 6000 mg/l
	Analog output	Frequency
	Signal damping	selectable in 7110, 1 – 20 s
Control signal for wiper	selectable in 7110, 1 – 600 s	
<b>Operating conditions</b>	Temperature range	0 ... +50 °C (32 – 122 °F)
	Operating pressure	max. 6 bar (87 psi)

Subject to modifications.

## Ordering information

Sensor 7002 SWMF-T

Order No.: 51503615

Sensor 7002 SWMF-E

Order No.: 51503639

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