

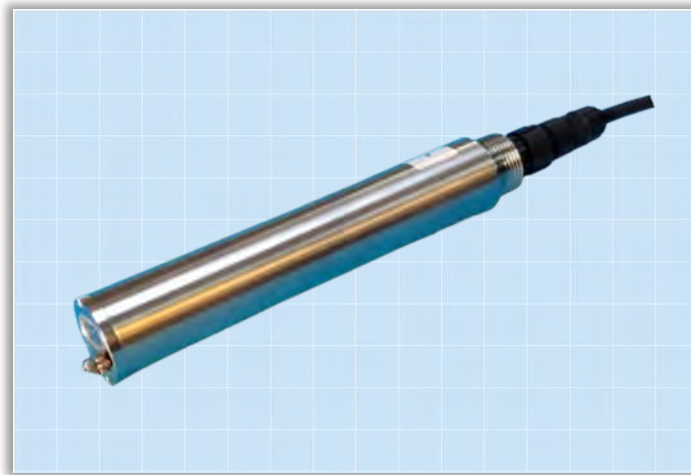
## CROSS SMART SENSOR

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# FA7 Fluorescence Analyzing Sensor

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For Cyanobacteria (Blue-Green Algae), Chlorophyll and Mineral oil



### FEATURES & BENEFITS

- In-situ monitoring
- High sensitivity, fast response, stable and reliable
- Range adjustable, automatic daylight compensation
- Low power consumption, easy operation and maintenance
- Digital transmission, low interference susceptibility
- Integrated sensor design, submersible operation down to 60 meters.
- Built-in wiper for automatic self-cleaning

### TYPICAL APPLICATIONS

- Lake, reservoir, underground, river and coastal water**
- The presence of **Cyanobacteria** in freshwater bodies used for both drinking water and recreational purposes is under increasing public health attention. Measuring cyanobacteria concentration helps to estimate the abundance of blue-green algae.
- Chlorophyll** is a basic parameter monitoring eutrophication and algal biomass of surface water. Measuring chlorophyll is important to control the occurrence of nutrition in water bodies
- Mineral Oil** are primarily anthropogenic sources of hydrocarbons like mineral oils, pesticides, herbicides, and fungicides. In the literature it is common to refer to the fluorescent part of the TOC as fluorescent dissolved organic matter (FDOM)

## DESCRIPTION

**FA7-BA** Cyanobacteria (Blue-green Algae) sensor uses fluorescence to measure cyanobacteria concentrations in water. When cyanobacteria are excited by a high-energy LED light source at 590nm, a specific fluorescence wavelength is emitted which based on its spectral absorption signature, may be used to detect cyanobacteria concentrations in water.

**FA7-CP** utilizes fluorescence to measure phycocyanin inside chlorophyll and derived substances in water. The content of chlorophyll is calculated by the released fluorescence energy when excited by a high-energy LED light beam of 470nm through water; It excites chlorophyll in water to produce fluorescence with a specific wavelength which is then employed to measure the concentration of chlorophyll.

**FA7-MO** measures moderate to high concentrations (on the order of 100 to 1000 micrograms per liter) of FDOM in water. When FDOM are excited by a high-energy LED light source of 360nm, it produces a specific wavelength fluorescence which can be detected referring to a kind of oil-in-water concentration.

## SPECIFICATIONS

Measuring System	Light Source: LED (590 nm for FA7-BA; 470 nm for FA7-CP; 360 nm for FA7-MO) Detector: Photo diode + Filter (specific wavelength for different parameters)
Principle	Fluorescence Detection
Measuring Range	Typical 0 to 300k cells/ml for FA7-BA; 0 to 400 ppb for FA7-CP; 0 to 150 ppm (up to 1000 ppm) for FA7-MO
Accuracy	± 3 % F.S.
Respond Time	T90 < 10s
Operate Pressure	<6 bar, usually < 3 bar in Flow cell 2 to 4 L/min
Operate Temp.	32 to 104 °F (0 to 40 °C)
Power	12 to 24VDC, Max. 0.5 W
Digital Interface	RS485 Modbus RTU
Housing Material	316L SS, Optional Titanium
Auto Cleaning	Built-in Wiper
Protection Rate	>IP68, submersible
Dimension	Dia. 1.26" (32mm), Length 7.48" (190 mm)
Weight	2.45 lbs (1 kg) with 30 ft (9m) Cable

## ORDER CODE

*Specifications subject to change without notice.*

FA7-CP: Chlorophyll Sensor

### Measuring Range

- BA Cyanobacteria (Blue-green Algae) Sensor
- CP Chlorophyll Sensor
- MO Mineral Oil Sensor

Other Range contact factory

### Cable Length

- C10 10' (3 m) cable
- C20 20' (6 m) cable
- C30 30' (9 m) cable

More length contact factory.

**FA7-CP**

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**-C30**



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