

StamoSens CSM 750 / CSS 70

System for Online Evaluation of Dissolved Organic Substances in Water



The StamoSens sensor CSS 70 and the transmitter CSM 750 form an analysis system for continuous UV absorption measurement. It is specially designed to monitor the organic content of wastewater treatment plants. The organic content is determined using a turbidity compensating multiple beam method.

Applications

- Determination of the spectral absorption coefficient as a significant parameter for dissolved organic compounds. It correlates to common load parameters like COD, BOD and TOC.
- Optimising process control with continuous determination of organic substances
- Special solutions available for determination of substances with absorption in the UV range.

Features and benefits

- Economy-priced and ecological measuring process
- No sample taking or conditioning system required
- No chemicals required
- Service friendly design
- Very short response time
- In-situ calibration
- Measured value preparation in the sensor, therefore low interference susceptibility on signal transfer
- Measured values stored by data logger
- Menu-driven parameter setting and calibration

Endress+Hauser

The Power of Know How



Measuring system

The complete measuring system consists of

- the StamoSens UV-Sensor CSS 70
- the StamoSens Transmitter CSM 750

Optional:

- Immersion tube

Complete measuring system

StamoSens CSM 750 transmitter with CSS 70 sensor



NM750-01.TIF

Measuring principle

The measuring principle of the UV sensor is based on UV absorption by organic substances.

The water sample is irradiated by UV light. The transmission light is diverted to photo receivers by means of an optical system consisting of mirrors and lenses. A reference light is used for compensation of absorption caused by turbidity.

An optional automatical self cleaning device provides stable and correct measurements even under difficult conditions.

The in-situ calibration feature provides a perfect adaptation of the measuring system to the wastewater requirements.

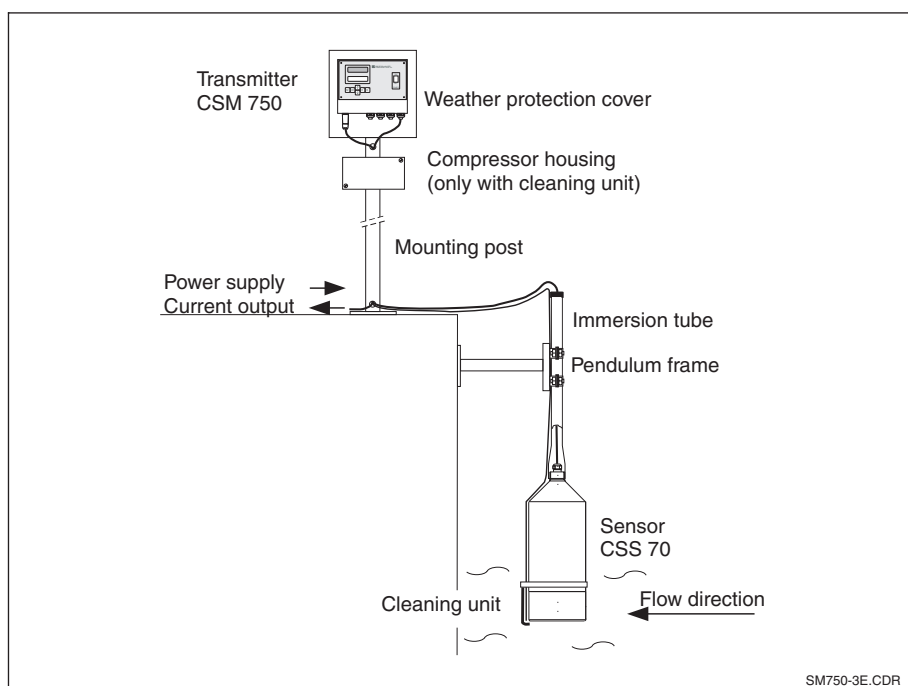
Installation

The StamoSens UV-Sensor CSS 70 is screwed in an immersion tube and is directly immersed into the medium by a pendulum frame. Due to the direct immersion, no additional sample taking or sample preparing equipment are required.

Alternatively it can be combined with a flow-through chamber.

The transmitter CSM 750 could both be installed close to the sensor as well as in a few meters distance.

Installation of the measuring system StamoSens CSM 750 with CSS 70



SM750-3E.CDR

Technical data

Transmitter CSM 750

| | | |
|---------------------------|---------------------------------------|---|
| General data | Manufacturer | Endress+Hauser |
| | Product designation | StamoSens Transmitter CSM 750 |
| Mechanical data | Dimensions of transmitter (h x w x d) | 185 x 241 x 114.5 mm |
| | Weight | 1.6 kg |
| Input | Accuracy | ±2 % of upper range value (referred to standard solutions) |
| | Reproducibility | 0.5 % (homogeneous sample) |
| | Displays | 2-line LC display (5 mm) for programming LED display (12 mm) for measured values |
| | Measurement unit | m ⁻¹ resp. TOC, BOD, COD, DOC in mg/l |
| Output | Current output | 0/4 ... 20 mA, galvanically separated |
| | Load | max. 500 Ω |
| | Relay outputs | 2 limit contacts, error signal, Hold function, sensor cleaning feature |
| | Contact switching power | 230 V AC / 3 A; 30 V DC / 1 A |
| | Communication interface | RS 232, slot for bus expansion |
| Electrical data | Power supply | 80 ... 250 V AC ±10 %, 50 / 60 Hz 24 V AC / DC |
| | Power consumption | max. 15 VA |
| Ambient conditions | Ambient temperature | -20 ... + 60 °C |

UV sensor CSS 70

| | | |
|---------------------------|--------------------------|--|
| General data | Manufacturer | Endress+Hauser |
| | Instrument designation | StamoSens Sensor CSS 70 |
| Mechanical data | Dimensions (L x Ø) | 359 x Ø 127 mm |
| | Weight | ca. 5 kg |
| Materials | Sensor head | Stainless steel SS 316 Ti with quartz glass window |
| | Sensor body | Polyoxymethylene POM (polyacetals) black |
| | Protection class | IP 68 (<1 bar) |
| Process connection | Sensor head | G 1 1/2 |
| | Cable length | 7 m / 15 m, max. cable length 200 m |
| Measurement | Measuring principle | Multiple beam photometer |
| | Optical measuring system | UV strobe lamp, measuring light and reference light, photoreceiver |
| | Measuring wavelength | 254 nm |
| | Measuring range | 0.3 ... 50 m ⁻¹ resp. 0.4 ... 60 mg COD/l 15 ... 700 m ⁻¹ resp. 20 ... 900 mg COD/l |
| Operating data | Medium temperature | +2 ... +40 °C |
| | Medium pressure | max. 1 bar |

Subject to modifications.

Accessories

- Weather protection cover CYY 101
Order no.: 50061258
- Mounting post CYY 102
Order no.: 50064291
- Wall bracket for CSS 70
Order no.: 51508576
- Flow vessel without dead volume reduction with hose sleeve 6.4 mm
Order no.: 51508578
- Extension cable 10 m, plug, socket
Order no.: 51502953
- Plug IP 67
Order no.: 51502954
- Socket
Order no.: 51502955
- Sensor connecting enclosure IP 65
Order no.: 51502956
- Immersion tube 2 m
Order no.: 51502959
- Immersion tube 3 m
Order no.: 51502960
- Immersion tube, special length
Order no.: 50066036
- Pendulum frame at 250 mm wall distance
Order no.: 51502962
- Special version pendulum frame
Order no.: 50066036
- Control cable
Order no.: 51503015

Product structure

| StamoSens Transmitter CSM 750 | | | | | |
|---|--|--|--|--|----------------------------|
| <p>Power supply 7 80 ... 250 V AC 8 24 V AC / DC</p> <p>Communication / current output A . . RS 232 and 0/4 ... 20 mA</p> <p>Version 1 Single-channel version</p> <p>Additional equipment A Quality certificate</p> | | | | | |
| CSM 750- | | | | | Complete order code |
| StamoSens Sensor CSS 70 | | | | | |
| <p>Application A no cleaning unit B with cleaning unit 230 V C with cleaning unit 115 V</p> <p>Measuring range 1 Measuring range 0.3 ... 50 m⁻¹ resp. 0.4 ... 60 mg COD/l 2 Measuring range 15 ... 700 m⁻¹ resp. 20 ... 900 mg COD/l</p> <p>Cable length B 7 m D 15 m Y Special version to customer specifications</p> <p>Versions 1 without assembly 2 with immersion tube 2 m and pendulum frame 3 Sensor seawater resistant</p> <p>Additional equipment A Quality certificate</p> | | | | | |
| CSS 70- | | | | | Complete order code |

Endress+Hauser GmbH+Co.
- Instruments International -
 P.O. Box 2222
 D-79574 Weil am Rhein
 Tel. (07621) 975-02
 Fax (07621) 975-345
 E-Mail: ehii@compuserve.com

