

Technical Information

## Stamosens CSM750 / CSS70

Spectral Absorption Coefficient  
Analysis system for online evaluation of dissolved organic substances in  
wastewater



### Application

Determination of the spectral absorption coefficient as a significant parameter. It correlates to common load parameters like COD, BOD, TOC and DOC.

- Wastewater monitoring for organic substances
- Special applications in the UV range measurement

### Your benefits

- Economy-priced and ecological measuring process:
  - No sampling or conditioning system required
  - No chemicals required
  - Service friendly design
- Measured value preparation in the sensor:
  - Low interference susceptibility on signal transfer
  - Very short response time
  - In-situ calibration
- Recognition of load peaks:
  - In time
  - Instantaneous
  - Without gap
- Measured values stored by data logger

## Function and system design

### Measuring principle

The sensor light source transmits an ultraviolet light beam through the medium. The transmission light is diverted by means of an optical system consisting of mirrors and lenses. The received light is measured by a photodiode. The part of light absorbed by the medium is proportional to the concentration of the measured value (see input).

Additionally, a reference beam is measured to compensate interference due to suspended solids and organic substances.

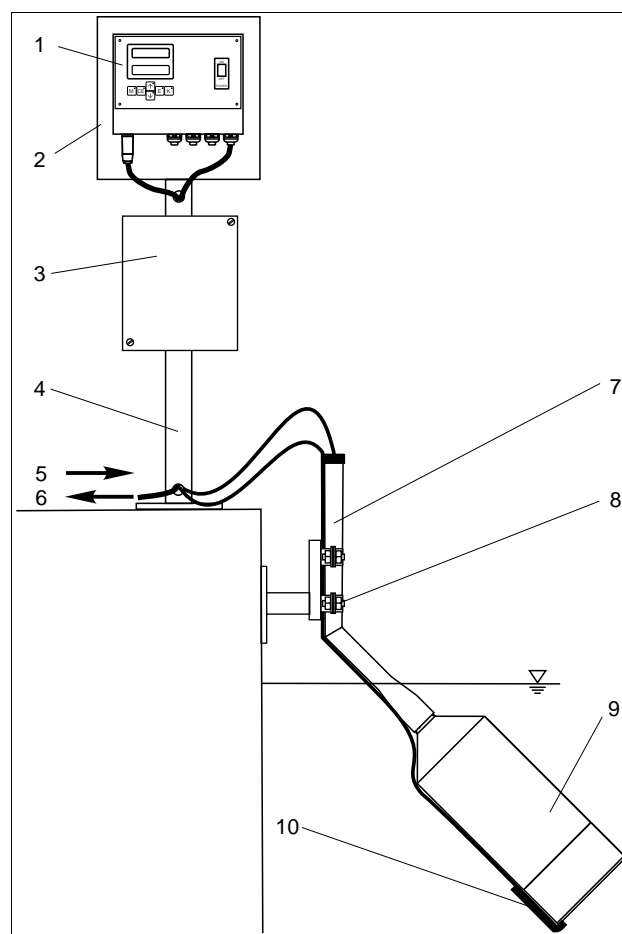
### Measuring system

A complete measuring system comprises:

- a CSM750 transmitter
- a CSS70 sensor
- an immersion assembly with pendulum frame

Optionally:

- Cleaning unit with compressor
- Mounting post and weather protection cover



Complete measuring system

- 1 Transmitter CSM750
- 2 Weather protection cover
- 3 Compressor housing (optionally, only with cleaning unit)
- 4 Mounting post
- 5 Power supply
- 6 Signal output
- 7 Immersion assembly
- 8 Pendulum frame
- 9 Sensor CSS70
- 10 Cleaning unit (optionally)

## Input

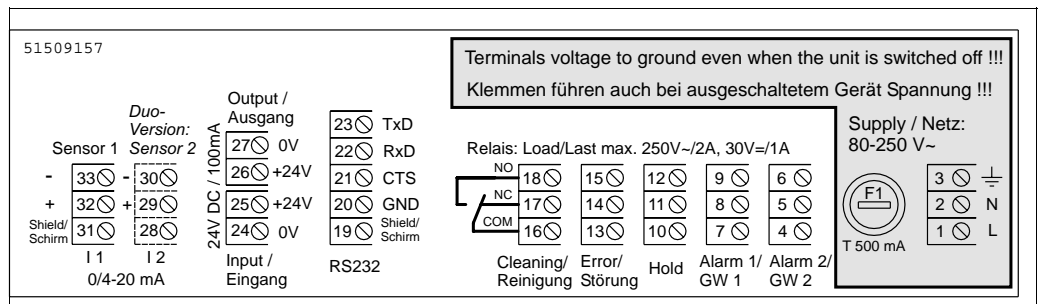
<b>Measured variable</b>	Spectral absorption coefficient [m <sup>-1</sup> ]
<b>Measuring range</b>	0.3 ... 50 m <sup>-1</sup> resp. 0.4 ... 60 mg/l COD 15 ... 700 m <sup>-1</sup> resp. 20 ... 900 mg/l COD
<b>Wavelength</b>	254 nm

## Output

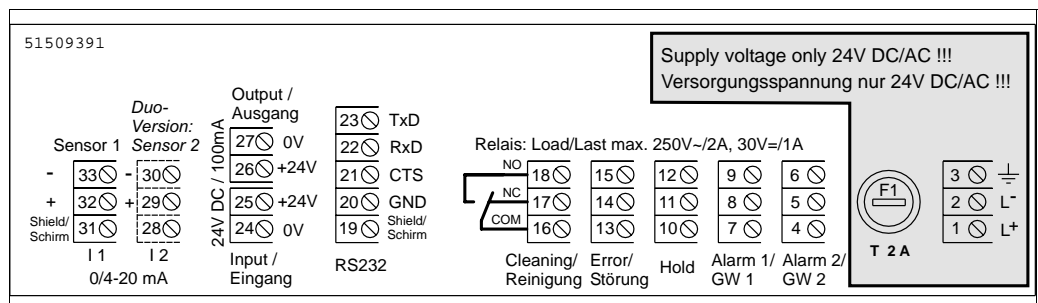
<b>Output signal</b>	0/4 ... 20 mA, galvanically separated
<b>Signal on alarm</b>	2 limit contact, 1 alarm contact
<b>Contact switching power</b>	230 V AC / 3 A, 30 V DC / 1 A
<b>Load</b>	max. 500 Ω
<b>Data interface</b>	RS 232 C, slot for bus extension

## Power supply

### Electrical connection



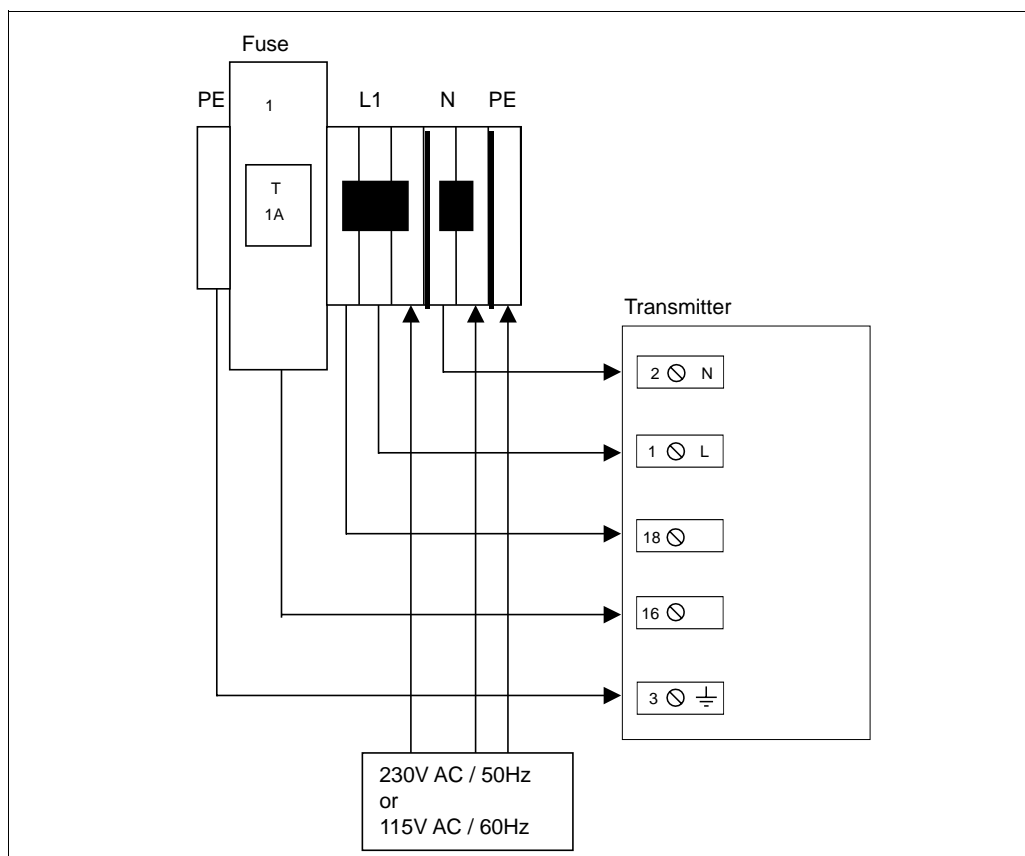
Electrical connection transmitter with power supply 80 ... 250 V AC



Electrical connection transmitter with power supply 24 V AC/DC

<b>Supply voltage</b>	80 ... 250 V AC ±10%, 50/60 Hz 24 V AC/DC
<b>Power consumption</b>	max. 15 VA

### Connection of the cleaning unit



Connection of the cleaning unit

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## Performance characteristics

<b>Response time <math>t_{90}</math></b>	$\geq 60$ s, selectable
<b>Maximum measured error</b>	2 % of upper range value, measurement with potassium hydrogen phthalate (PHP) as standard
<b>Repeatability</b>	0,5 % (with homogeneous media)
<b>Measuring interval</b>	$\geq 40$ s, selectable

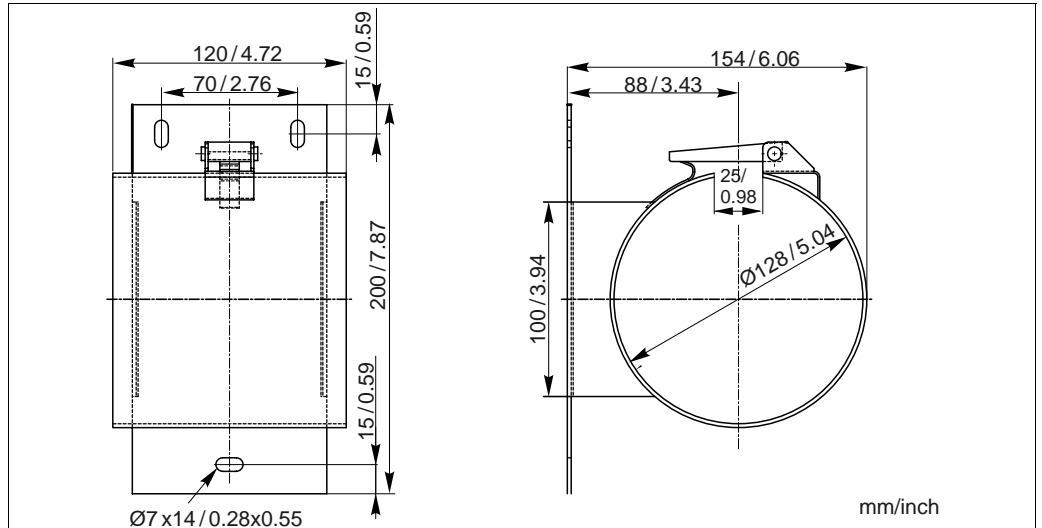
# Installation

## Installation instructions



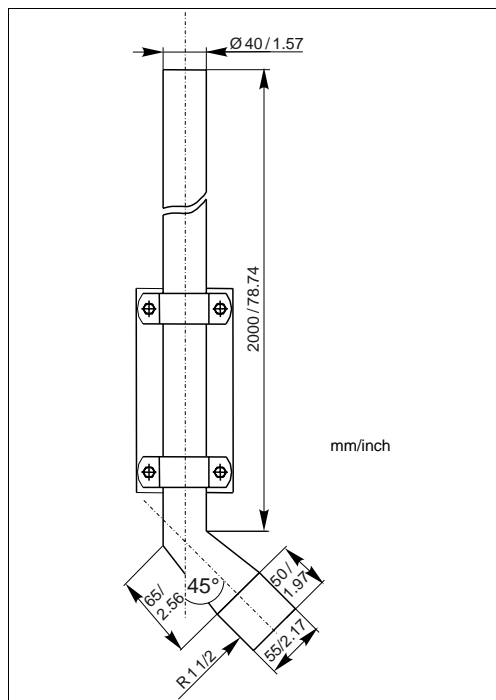
Caution!

Do not install the sensor suspended from the cable. Use a wall bracket or an immersion assembly with pendulum frame for sensor mounting.



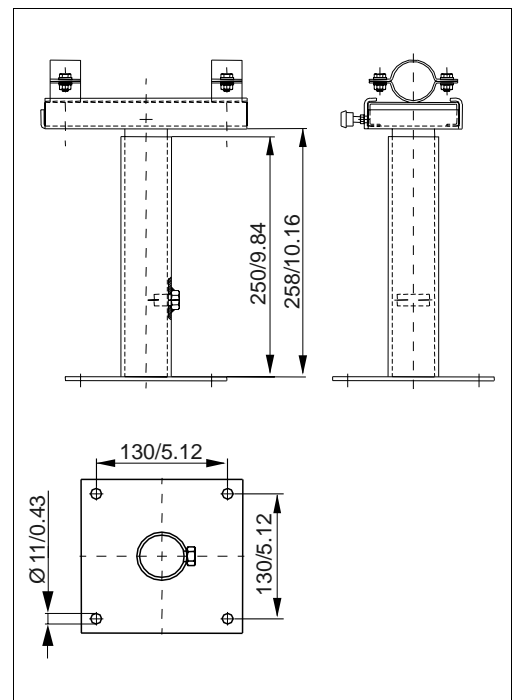
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Wall bracket for sensor



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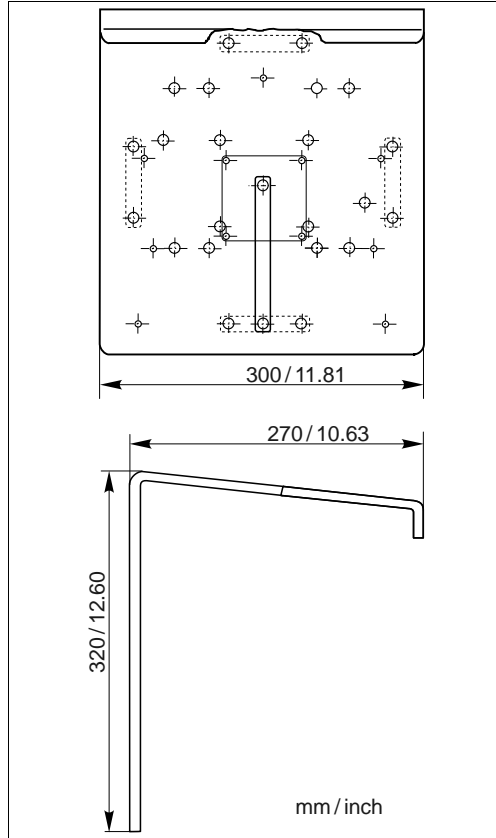
Immersion assembly for sensor



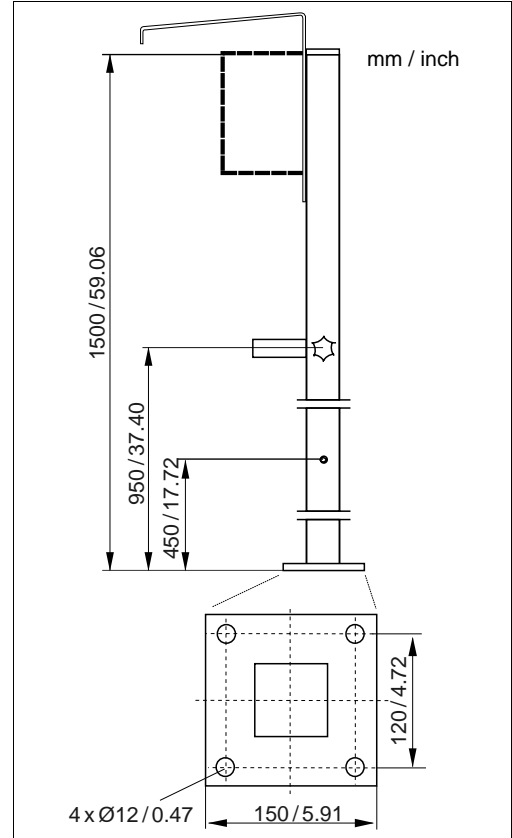
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Pendulum frame for immersion assembly

**Weather protection cover and round post mount (accessories, optional)**



Weather protection cover CYY 101



Round post mount CYY 102

## Environment

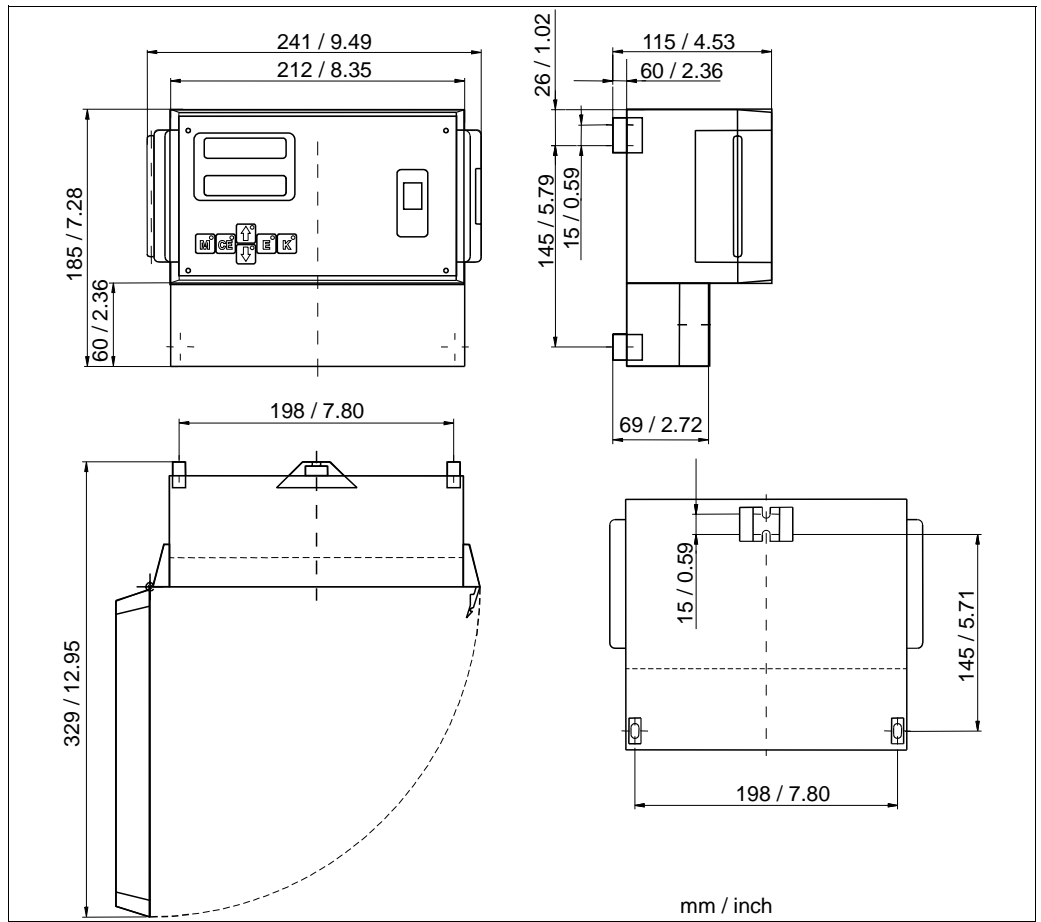
<b>Ambient temperature</b>	-10 ... 50 °C (14 ... 122 °F)
<b>Ingress protection</b>	Sensor, up to 1 bar (14.5 psi): IP 68 Transmitter: IP 68 Cleaning unit (compressor): IP 68

## Process

<b>Medium temperature</b>	2 ... 40 °C
<b>Medium pressure</b>	max. 1 bar
<b>Solid content</b>	< 2 g/l

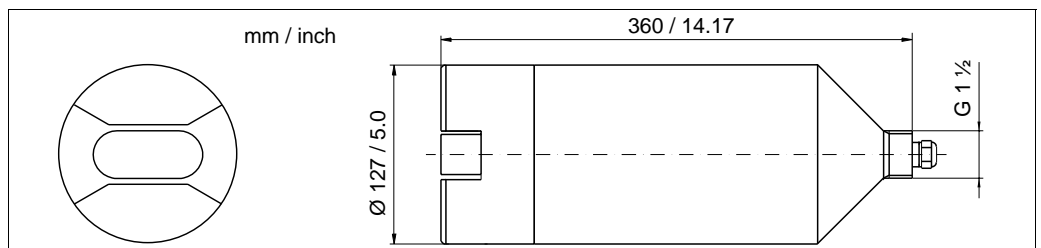
## Mechanical construction

### Design, dimensions



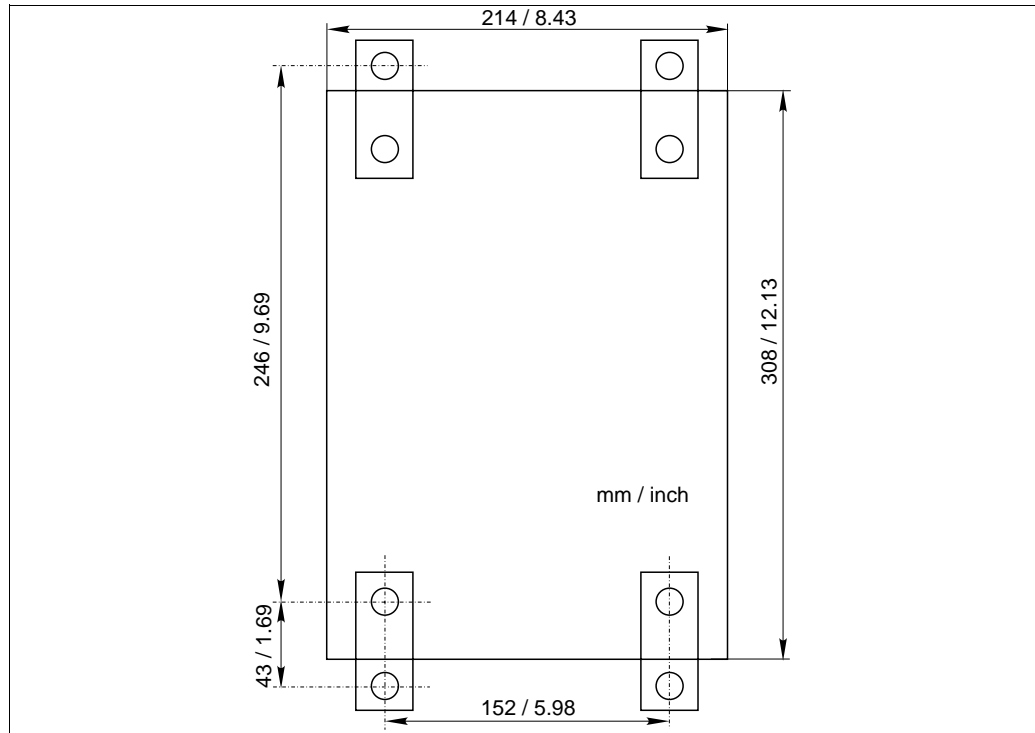
Transmitter dimensions

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Sensor dimensions

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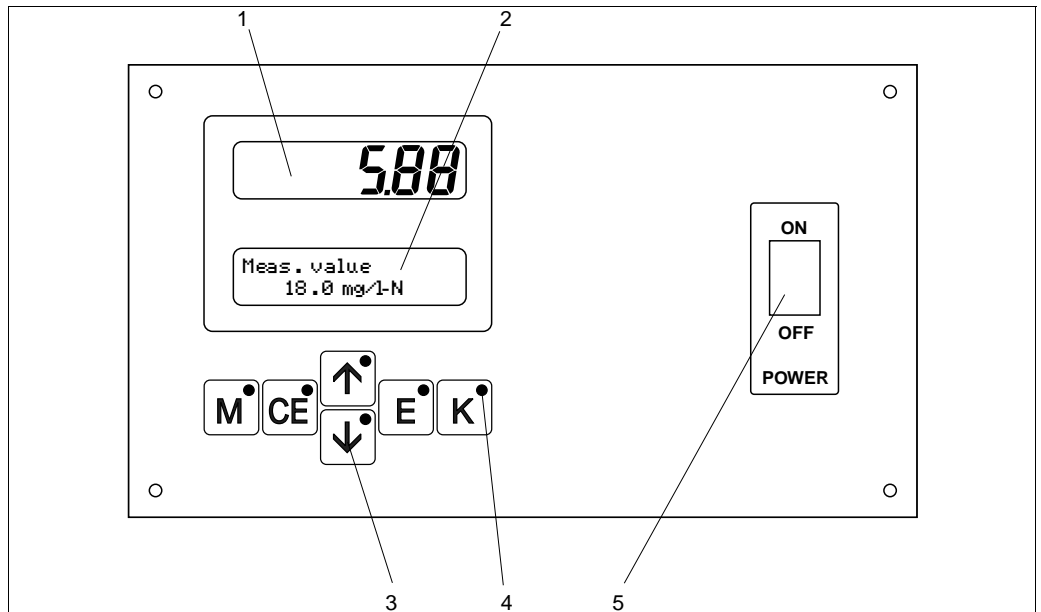


Compressor of the cleaning unit

<b>Weight</b>	Transmitter	approx. 1,6 kg (3.5 lb)
	Sensor	approx. 5 kg (11 lb)
<b>Materials</b>	Sensor head	Stainless steel 1.4571 (AISI 316 L)
	Optical sensor windows	Quartz glass
	Sensor housing	POM
<b>Process connection</b>	Sensor head G1½	
<b>Cable specification</b>	Cable length:	2 m (6.6 ft), 5 m (16.4 ft), 7 m (23 ft) or 15 m (49.2 ft) (cable with plug)
	Cable extension:	up to 200 m <sup>1)</sup> (656 ft) (with sensor connection box, s. accessories) up to 50 m <sup>2)</sup> (164 ft) (with sensor connection box, s. accessories)
	1)	with CNM750/CNS70
	2)	with CSM750/CSS70

## Human Interface

### Display and operating elements



Display and operating elements

- 1 LED (measured value)
- 2 LC display (status)
- 3 Operating keys
- 4 Indicator LEDs
- 5 Mains switch

## Certificates and approvals

### CE approval

#### Declaration of conformity

The product meets the legal requirements of the harmonised European standards.  
The manufacturer confirms compliance with the standards by affixing the **CE** symbol.

### Test reports

#### Quality certificate

Depending on the order code, you receive a quality certificate.  
With the certificate the manufacturer confirms compliance with all technical regulations and the successful individual testing of your product.

## Ordering information

### Product structure

Power supply	
7	Power supply 80 ... 250 V AC
8	Power supply 24 V AC/DC
9	Special version acc. to customers specification
Communication / Output	
A	RS 232 + 0/4 ... 20 mA
Y	Special version acc. to customers specification
Version	
1	One channel version
9	Special version acc. to customers specification
Additional equipment	
A	Quality certificate
Y	Special version acc. to customers specification
CSM 750 -	<b>complete order code</b>

Cleaning unit	
A	not selected
B	230 V
C	115 V
Y	Special version acc. to customers specification
Measuring range	
1	0.3 ... 50 m <sup>-1</sup> resp. 0.4 ... 60 mg/1 COD, calculated as PHP
2	15 ... 700 m <sup>-1</sup> resp. 20 ... 900 mg/1 COD, calculated as PHP
3	2 ... 250 m <sup>-1</sup> resp. 8 ... 400 mg/1 COD, calculated as PHP
9	Special version acc. to customers specification
Cable length	
A	2 m (6.56 ft)
B	7 m (22.97 ft)
C	5 m (16.41 ft)
D	15 m (49.22 ft)
Y	Special version acc. to customers specification
Assembly	
1	not selected
3	Sea water version
4	Immersion assembly 2 m, 90° offset + pendulum frame w. 250 mm wall spacing
9	Special version acc. to customers specification
Additional equipment	
A	Quality certificate
Y	Special version acc. to customers specification
CSS70 -	<b>complete order code</b>

## 广州晋合水处理设备有限公司



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