WATER QUALITY / DATA SHEET

SS311-01-ETH

Oil in Water Transmitter

Fluorescence measurement with automatic temperature compensation and Ethernet data upload.



Overview

- Measures oil-related fluorescence in water for pollution monitoring and early warning.
- Relative fluorescence units support analysis of the relationship between signal intensity and oil concentration.
- Uploads readings over Ethernet to a cloud monitoring platform or customer server.

Oil Range	Fluorescence	Power Supply	Communication
0–50 ppm	0–100 RFU	DC 10–30 V	Ethernet / RS485

Key Advantages

- Fluorescence sensing with light-filtering algorithm.
- Automatic temperature compensation.
- 2 s acquisition; adjustable upload interval.
- IP68 probe and IP65 transmitter housing.
- RJ45 with TCP, DHCP, static IP and DNS support.

Application Scenarios

- Oil pollution monitoring in water.
- Online contamination early warning.
- Remote water quality monitoring.
- Centralized data collection and alarms.

SYSTEM DATA

Technical Specifications

Item	Specification
Model	SS311-01-ETH
Measurement principle	Fluorescence
Measurement range	0–50 ppm; 0–100 RFU
Measurement error	±5% FS at 25 °C; temperature: ±0.5 °C
Resolution	0.01 ppm; 0.1 RFU; temperature: 0.1 °C
Response time	≤30 s, T90
Probe operating temperature	0–40 °C
Housing environment	−40 to +60 °C; 0–95% RH, non-condensing
Power supply / average power	DC 10–30 V / ≤0.7 W
Data transmission	RJ45 Ethernet, TCP data upload; RS485 Modbus-RTU interface
RS485 baud rate	4800 bit/s default; 1200, 2400, 4800, 9600, 19200, 38400, 57600 or 115200 bit/s
Data acquisition interval	2 s
Data upload interval	30 s default; 1–60000 s in the specification table; 1–65535 s in the configuration chapter
Ingress protection	Probe: IP68; transmitter housing: IP65
Probe cable length	5 m standard

Item	Specification
Housing material	Corrosion-resistant material
Housing dimensions	117 × 87 × 43 mm maximum
Probe dimensions / thread	147 mm dimension shown; Ø30 mm; NPT 3/4 thread

MEASUREMENT DATA

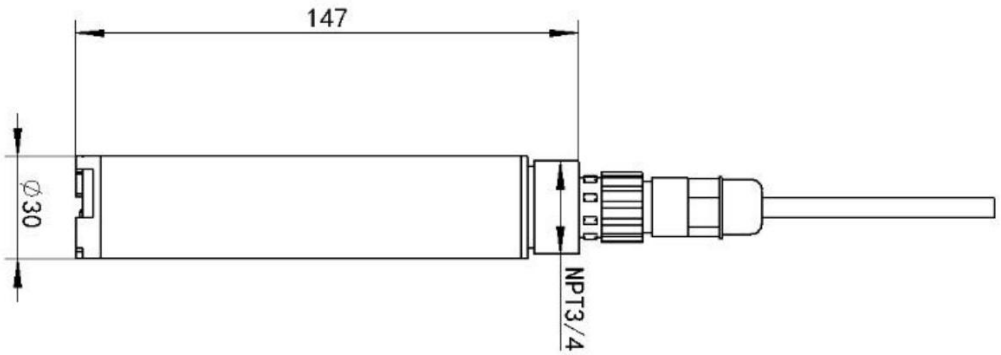
Measurement Conditions

Measurement condition	Interpretation
Reference solution	Specifications were obtained from repeated laboratory tests with quinine sulfate solution at specified concentrations.
RFU output	Relative fluorescence intensity. Assess the relationship between fluorescence and oil concentration for the actual application.

Ordering model: SS311-01-ETH, with Ethernet data upload, RS485 Modbus-RTU interface and wall-mounted transmitter housing. Standard probe cable length: 5 m.

MECHANICAL DATA

Dimensions and Installation



Probe drawing dimensions in millimetres: Ø30 mm, 147 mm as indicated and NPT 3/4 thread. Housing: 117 × 87 × 43 mm maximum; wall mounting spacing: 105 mm. Use Ø5 mm holes with the supplied expansion plugs and screws.

Route the cable through a waterproof support pipe and screw the probe into its NPT 3/4 threaded connection. Allow for water level changes: keep the probe at least 10 cm below the surface in slow-flowing water without bubbles. Maintain 5 cm clearance from surrounding walls and 7 cm beneath the probe, with no obstructions or reflective surfaces.

ELECTRICAL CONNECTION

Power Connection and Start Up

Connection	Instruction
Supply voltage	DC 10–30 V; supplied power adapter: 12 V
Start up	Connect the adapter to the device power input, then energize
Data availability	Wait 1–3 minutes, then view readings at the platform or receiving server

Connect the Ethernet cable to the RJ45 port and the site network. Connect the supplied 12 V adapter to the power input and switch on. Allow 1–3 minutes before viewing readings at the platform or receiving server. Keep cable connectors out of water until fully locked.

COMMUNICATION DATA

Ethernet Configuration and Data Upload

Use the supplied Android configuration app with Bluetooth enabled. Scan for ETHM followed by the device address, connect with the default password 12345678, select the required parameter dictionaries and read current values. Edit the selected settings, download them and read again to verify. The unique 8-digit device address cannot be changed. Real-time data can be read in the app.

Set the receiving server public IP address or domain and matching listening port (default: 8020). Choose static IP or DHCP; for static IP, enter the assigned address, subnet mask and gateway. The interface supports communication across gateways and DNS resolution. Default upload interval: 30 s. The specification table states 1–60000 s, while the configuration chapter states 1–65535 s; confirm the supported limit for the supplied unit. Operation password: 1–8 numeric digits, default 12345678.

Monitoring platforms: local software runs on a customer PC or server; the cloud option needs no customer server. Both offer web monitoring, limit alarms, email alerts, history export and permission management. Local SMS alerts require an additional SMS modem.

CALIBRATION & MAINTENANCE

Probe Cleaning and Calibration

Remove the black rubber protective cover before measurement. Clean optical probe deposits at least every 30 days, adjusting frequency to the application. Rinse with flowing water; use a soft damp cloth for remaining dirt. Avoid scratching the optical light-guiding surfaces.

Calibrate before each use. For continuous operation, calibrate approximately every 3 months and adjust frequency for fouling and chemical deposits. Keep cable connectors dry until securely locked. If a clear fault occurs, contact technical support rather than opening the device for repair.

Do not use this device as a safety device or emergency stop device, or in applications where equipment failure could cause personal injury. Read the operating instructions before installation, use or servicing.

Package contents: one oil in water transmitter, 5 m cable, one 12 V power adapter, one Ethernet cable, nylon protective mesh, two expansion plugs, two self-tapping screws, certificate and warranty card. Warranty: 12 months for verified defects in materials or workmanship under normal use and maintenance.

CONTACT / SUPPORT

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