WATER QUALITY / DATA SHEET

SS312-01-4G-3

Suspended Solids Transmitter

Optical measurement of suspended solids and sludge concentration with temperature compensation and 4G data upload.



Overview

- Measures suspended inorganic and organic solids, sediment and microorganisms in water.
- Optical scattering measurement requires no chemical reagents.
- Sends readings over 4G to a cloud platform or customer server for centralized monitoring.

Maximum Range	Resolution	Power Supply	Upload
0–5000 mg/L	0.1 mg/L	DC 10–30 V	4G

Key Advantages

- Optical scattering measurement without reagents.
- Modulated light reduces visible-light interference.
- Automatic temperature compensation.
- 2 s acquisition; configurable upload interval.
- <25 MB monthly traffic at default upload interval.

Application Scenarios

- Water treatment.
- Aquaculture.
- Environmental monitoring.
- Online sludge concentration monitoring.

SYSTEM DATA

Technical Specifications

Item	Specification
Model	SS312-01-4G-3
Measurement principle	Optical scattering
Range options	0–5000 / 0–1000 / 0–200 mg/L; select one
Measurement error	±5% FS; depends on sludge homogeneity
Resolution	0.1 mg/L
Response time	≤30 s
Supply voltage	DC 10–30 V
Power consumption	0.4 W
Data upload	4G
Probe operating temperature	0–40 °C
Housing environment	−40 to +60 °C; 0–95% RH, non-condensing
Ingress protection	Probe: IP68; transmitter housing: IP65

Item	Specification
Probe pressure limit	<0.6 MPa
Data acquisition interval	2 s
Data upload interval	60 s default; configurable from 1 to 65535 s
Probe cable	5 m standard; customizable
Housing material	Corrosion-resistant plastic
Maintenance / calibration interval	3 months recommended
Housing dimensions	117 × 87 × 43 mm maximum
Probe dimensions / thread	137 mm dimension shown; Ø30 mm; NPT 3/4

MEASUREMENT DATA

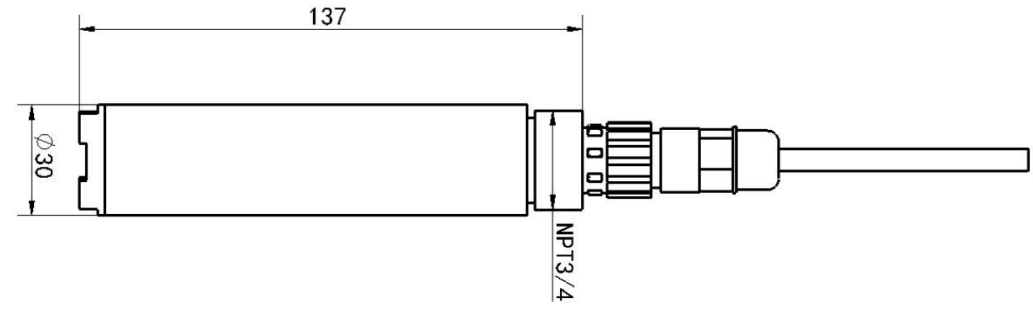
Calibration and Range Selection

Calibration condition	Requirement
Factory reference	Diatomaceous earth standard, selected for the optical scattering measurement method.
Site calibration	Use a standard prepared from sludge representative of the installation environment to ensure homogeneity and appropriate concentration calibration.

Ordering model: SS312-01-4G-3. Specify the required 5000, 1000 or 200 mg/L full-scale range and cable length. The type 3 probe and wall-mounted transmitter housing form the 4G monitoring system.

MECHANICAL DATA

Dimensions and Installation



Dimensions in millimetres: probe Ø30 mm, 137 mm as shown and NPT 3/4 thread. Housing: 117 × 87 × 43 mm maximum. Wall mounting spacing: 105 mm; use Ø5 mm holes with the supplied plugs and screws.

Install the probe in slow-flowing, bubble-free water. Maintain 5 cm clearance from surrounding walls and keep the 7 cm space beneath the probe free of obstructions. Route the cable through a waterproof support pipe and attach using the NPT 3/4 thread.

ELECTRICAL CONNECTION

Power Connection and Start Up

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

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

COMMUNICATION DATA

4G Configuration and Data Upload

Use the supplied Android configuration app with Bluetooth enabled. Scan for 4GMOD followed by the device address code, connect with the default password 12345678, read current parameters, edit the required settings and download them. Read real-time data to check signal strength: values from 10 to 33 indicate weakest to strongest signal.

Set the target IP address or domain and receiving port (local software: 2404; cloud: 8020). Upload interval: 1–65535 s, default 60 s. The first network upload delay is configurable in seconds. Operation password: 1–8 numeric digits, default 12345678. Use the supplied development documentation for custom server integration.

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 probe deposits approximately every 30 days, adjusting frequency to the operating environment. Rinse with flowing water and wipe remaining dirt with a soft damp cloth. Avoid scratching the optical light-guiding surfaces.

Calibrate before each use and approximately every 3 months for long-term operation, adjusting for fouling and chemical deposits. Factory calibration uses diatomaceous earth; use a standard prepared from sludge representative of the installation environment for site calibration. Keep cable connectors out of water until fully locked. Contact technical support if a clear fault occurs.

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 suspended solids transmitter, 5 m cable, one 12 V power adapter, 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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