WATER QUALITY / DATA SHEET

# SS312-01-WIFI-3

# Suspended Solids Transmitter

Optical measurement of suspended solids and sludge concentration with temperature compensation and Wi-Fi data upload.




## Overview

- Measures suspended inorganic and organic solids, sediment and microorganisms in water.
- Optical scattering measurement requires no chemical reagents.
- Sends readings over Wi-Fi 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 | Wi-Fi |

## Key Advantages

- Optical scattering measurement without reagents.
- Modulated light reduces visible-light interference.
- Automatic temperature compensation.
- 2 s acquisition; configurable upload interval.
- LAN and WAN communication; DNS support.

## Application Scenarios

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

SYSTEM DATA

## Technical Specifications

| Item | Specification |
|---|---|
| **Model** | SS312-01-WIFI-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** | Wi-Fi; IEEE 802.11b/g/n |
| **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** | 10 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 |
| **Wi-Fi security** | WEP / WPA-PSK / WPA2-PSK; WEP / TKIP / AES encryption |

MEASUREMENT DATA

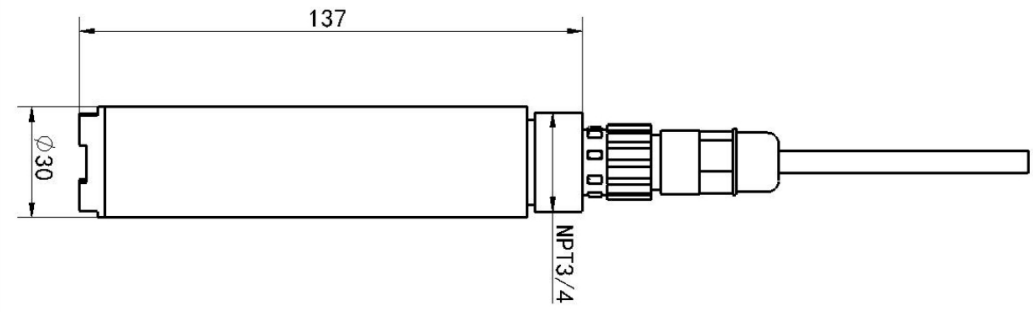
## Calibration and Range Selection

| 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-WIFI-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 Wi-Fi 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

## Wi-Fi Configuration and Data Upload

Use the supplied Android configuration app with Bluetooth enabled. Scan for WIFIOPEN followed by the device address code and connect with default password 12345678. Read the current parameters, edit the required settings and download them to the device; wait for confirmation that the update succeeded.

Set the target IP address or domain and receiving port (local software: 2404; cloud: 8020). For static IP operation, enter the assigned IP address, subnet mask and gateway, then select static IP acquisition. Upload interval: 1–65535 s, default 10 s. 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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