WATER QUALITY / DATA SHEET

SS313-01-ANALOG

Blue Green Algae Transmitter



Fluorescence measurement of blue-green algae concentration in water with temperature compensation and selectable analog output.

Overview

- Measures blue-green algae concentration from 0 to 300000 cells/mL.
- Fluorescence principle with a fibre-optic light path.
- Analog output options: 4–20 mA, 0–5 V or 0–10 V.

Maximum Range	Resolution	Power Supply	Output
0–300000 cells/mL	1 cell/mL	DC 7–30 V*	Analog

Key Advantages

- Filter algorithm reduces external-light interference.
- Fibre-optic design supports online monitoring.
- Automatic temperature compensation.
- 4–20 mA, 0–5 V or 0–10 V output; select one.
- IP68 probe and IP65 conversion module housing.

Application Scenarios

- Rivers, lakes and ponds.
- Marine surveys and aquaculture.
- Drinking-water sources.
- Algae and phytoplankton research.

SYSTEM DATA

Technical Specifications

Item	Specification
Model	SS313-01-ANALOG
Measurement principle	Fluorescence; fibre-optic light path
Range options	0–300000 cells/mL
Linearity	R^2 >0.999; based on laboratory Rhodamine B tests
Resolution	1 cell/mL
Supply voltage	DC 7–30 V; 0–10 V output requires DC 24 V
Power consumption	≤1 W
Analog output	4–20 mA / 0–5 V / 0–10 V; select one
Probe operating temperature	0–40 °C
Housing environment	−40 to +60 °C; 0–95% RH, non-condensing
Ingress protection	Probe: IP68; transmitter housing: IP65
Probe pressure limit	<0.6 MPa
Probe cable	5 m standard; 10 / 15 / 20 m customizable
Housing material	Corrosion-resistant plastic
Housing dimensions	117 × 87 × 43 mm maximum
Probe dimensions / thread	134 mm and 119 mm dimensions shown; Ø30 mm; NPT 3/4

MEASUREMENT DATA

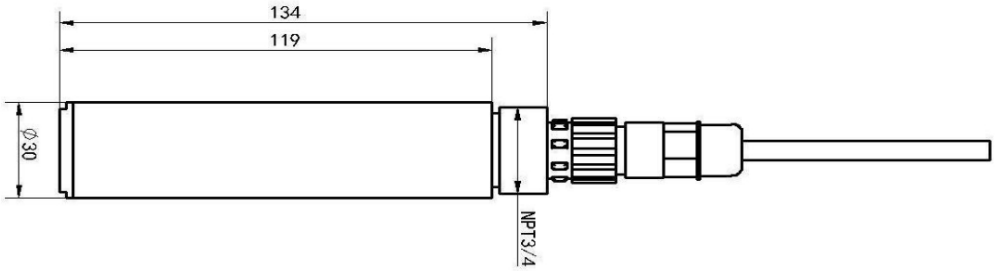
Measurement Conditions and Output Selection

Calibration condition	Requirement
Laboratory reference	Specified concentrations of Rhodamine B solution; published parameters derive from repeated laboratory measurements.
Monitoring conditions	Water turbidity below 50 NTU. Use multiple monitoring points because blue-green algae may be unevenly distributed.

Ordering model: SS313-01-ANALOG. Specify the analog output (4–20 mA, 0–5 V or 0–10 V) and cable length. The system includes the probe and wall-mounted analog conversion module. *The 0–10 V version requires DC 24 V.

MECHANICAL DATA

Dimensions and Installation



Dimensions in millimetres: probe Ø30 mm, 134 mm and 119 mm dimensions as shown; NPT 3/4 mounting thread. Module housing: 117 × 87 × 43 mm maximum. Wall mounting spacing: 105 mm; use Ø5 mm holes with the supplied plugs and screws.

Install in slow-flowing, bubble-free water, at least 10 cm below the water surface while allowing for water-level changes. 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 and Analog Signal Wiring

Wire colour	Connection
Brown	Power positive: DC 7–30 V; DC 24 V for 0–10 V output
Black	Power negative
Blue	Analog signal positive
Yellow or green	Analog signal negative

The standard output cable has four bare wires. Connect power and analog signal according to the wire colours above. Use DC 7–30 V for 4–20 mA or 0–5 V versions; use DC 24 V for the 0–10 V version. Keep cable connectors out of water until fully locked.

ANALOG OUTPUT DATA

Signal Conversion and Measurement Examples

Let C be blue-green algae concentration in cells/mL and R the full-scale concentration, 300000 cells/mL. Scale the receiving instrument to the selected analog output and the specified concentration range.

4–20 mA: C = (I − 4) × R / 16, with I in mA. At 12 mA, C = 150000 cells/mL. 0–5 V: C = V × R / 5; at 2.5 V, C = 150000 cells/mL. 0–10 V: C = V × R / 10; at 5 V, C = 150000 cells/mL. These examples use the stated 0–300000 cells/mL specification rather than the different range and units printed in the source examples.

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; adjust frequency for fouling and chemical deposits. Keep cable connectors out of water until fully locked. If an obvious fault occurs, contact technical support and do not open 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 blue-green algae transmitter, one analog conversion module, 5 m cable, 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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