WATER QUALITY / DATA SHEET

SS308-01-ANALOG

Industrial Ion Transmitter

Continuous ion concentration monitoring with selectable current or voltage output.



Overview

- Select from eight ion electrode types for aqueous monitoring.
- Automatic temperature compensation supports stable measurement.
- Designed for industrial wastewater, surface water, drinking water and process control.

Ion Options	Resolution	Power Supply	Analog Output
8 types	0.01 / 0.1 mg/L	DC 10–30 V*	4–20 mA 0–5 V / 0–10 V

Key Advantages

- Automatic temperature compensation.
- Current or voltage output options.
- Simple integration with analog acquisition systems.
- Upper and lower 3/4-inch installation threads.
- Optional OLED display.

Application Scenarios

- Industrial wastewater monitoring.
- Surface water analysis.
- Drinking water monitoring.
- Industrial process control.

SYSTEM DATA

Technical Specifications

Item	Specification
Model	SS308-01-ANALOG
Power supply / consumption	DC 10–30 V / 1.2 W; 0–10 V output requires DC 24 V
Output options	4–20 mA / 0–5 V / 0–10 V (select one)
Current output load	≤600 Ω
Voltage output resistance	≤250 Ω
Range / resolution	0–100.00 mg/L / 0.01 mg/L: all ion options except chloride 0–1000.0 mg/L / 0.1 mg/L: sodium, magnesium and calcium only 0–3500.0 mg/L / 0.1 mg/L: chloride only
Ion measurement error	5% FS
Repeatability error	±1 mg/L
Response time	<60 s
Transmitter environment	−20 to +80 °C; 0–95% RH, non-condensing
Electrode operating temperature	0–50 °C
Electrode pressure resistance	0.2 MPa

Item	Specification
Electrode cable	5 m standard; 10 m, 15 m or 20 m customizable
Electrode service life	3–6 months
Housing dimensions	117 × 87 × 43 mm maximum
Electrode dimensions / thread	212 mm overall length; Ø30 mm body; NPT 3/4 at both ends
Display	Without OLED or with optional OLED

PRODUCT SELECTION

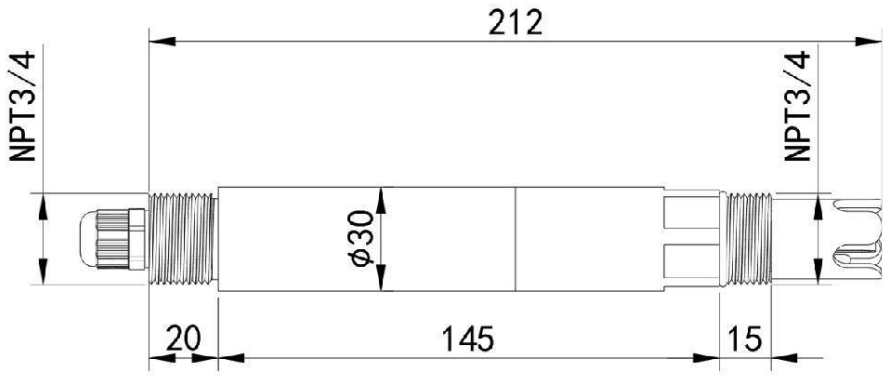
Ion Options and Operating Conditions

Ion / working pH	Main interfering ions
Ammonium / pH 4–10	K+
Nitrite / pH 2.5–11	Acetate, F−, Cl−, NO3−, sulfate and other monovalent anions
Nitrate / pH 2.5–11	ClO4−, I−, CN−, BF4−, Cl−, NO2−, organic acid ions and other monovalent anions
Magnesium / pH 3–10	Zn2+, Fe2+, Cu2+, Ni2+
Sodium / pH 5–12	Ag+, Li+, H+
Potassium / pH 2–12	Cs+, NH4+
Calcium / pH 3–10	Pb2+, Hg2+, Cu2+, Ni2+
Chloride / pH 2–12	S2−, I−, CN−, Br−

Specify SS308-01-ANALOG, ion type, applicable measuring range, output option, OLED option and cable length when ordering. Each electrode measures its selected ion. *The 0–10 V output version requires DC 24 V; other outputs use DC 10–30 V.

MECHANICAL DATA

Dimensions and Installation



Electrode dimensions in millimetres. Housing: 117 × 87 × 43 mm maximum; wall mounting spacing: 105 mm. Use Ø5 mm mounting holes with the supplied expansion plugs and screws.

For immersion installation, route the electrode cable through a waterproof support and seal the upper 3/4-inch threaded joint with thread sealing tape. For pipeline installation, connect using the electrode 3/4-inch thread. Remove the transparent protective cap before measurement.

ELECTRICAL CONNECTION

Wiring Instructions

Wire / terminal	Connection
Brown	Power positive, DC 10–30 V; DC 24 V for 0–10 V output
Black supply wire	Power negative
Blue	Analog signal positive
Yellow or green	Analog signal negative
Electrode black wire	PH–
Electrode transparent wire	PH+
Temperature wires	PT+ and PT–; either order

Open the housing using the four corner screws. Feed the electrode cable through the PG7 cable gland, connect the electrode and temperature wires to their marked terminals, and tighten the terminals. Keep connectors dry until fully locked.

OUTPUT CONVERSION

Analog Signal Conversion

For a configured range from 0 to Cmax mg/L, calculate concentration C using the selected output: 4–20 mA: C = (I − 4) × Cmax / 16, with I in mA. 0–5 V: C = V × Cmax / 5. 0–10 V: C = V × Cmax / 10, with V in volts.

Example for 0–100 mg/L: 12 mA on the 4–20 mA output, 2.5 V on the 0–5 V output, or 5 V on the 0–10 V output each corresponds to 50 mg/L. Set the receiving instrument to the ordered range and output type.

CALIBRATION & MAINTENANCE

Electrode Calibration and Maintenance

Calibrate before each use; for continuous monitoring, recalibrate every 2–3 weeks and adjust for fouling. Remove the protective cap and tip bubbles before measurement. Rinse after use and store the electrode in its ion-specific diluted standard solution. Electrode service life: 3–6 months.

After long storage, activate in 10 mg/L standard for at least 12 hours, then 1000 mg/L standard for 1–2 hours. Rinse thoroughly and soak in stirred deionized water for 5 minutes, changing water repeatedly. After short storage, soak in deionized water before calibration.

Avoid corrosive media, strong acids or alkalis, strong oxidizing or reducing media, hydrofluoric acid, organic solvents and substances that attack glass or silver/silver chloride. Seawater is not recommended. Protect the membrane from sharp objects and keep connectors dry until locked.

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 transmitter, one ion electrode, two expansion plugs, two self-tapping screws, certificate and warranty card.

CONTACT / SUPPORT

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