ION 4G TRANSMITTER / DATA SHEET

SS308-01-4G
Industrial Ion 4G Transmitter

A compact 4G ion transmitter for continuous water-quality monitoring, automatic temperature compensation and cloud or customer-server data access.



Overview

- SS308-01-4G supports selectable ammonium, nitrite, nitrate, magnesium, sodium, potassium, calcium and chloride ion electrodes.
- Measured ion concentration and temperature are sampled continuously and uploaded through 4G at a configurable interval.
- The unit is suited to industrial wastewater, surface water, drinking water and process monitoring.

Ion Range	Interface	Supply	Acquisition
0–100 mg/L	4G	DC 10–30 V	2 s

Key Advantages

- Eight ion types can be selected according to the application.
- Wide DC 10–30 V supply and automatic temperature compensation.
- 2 s acquisition; 1–65535 s configurable 4G upload interval.
- Cloud, local software or customer-server integration.

Application Scenarios

- Industrial wastewater and process control.
- Surface water and drinking-water monitoring.
- Remote monitoring through web, local software or mobile APP.
- Agriculture, aquaculture and environmental water-quality projects.

MEASUREMENT & CONNECTIVITY

Ion Measurement and 4G Data Path

END-TO-END DATA FLOW

The selected ion electrode and temperature element connect to the transmitter. The transmitter samples the ion concentration every 2 seconds, applies temperature compensation and uploads the measured values through 4G to a local platform, cloud platform or customer server.

Function	Default / available setting
Ion types	Ammonium, nitrite, nitrate, magnesium, sodium, potassium, calcium or chloride
Acquisition interval	2 s per measurement
4G upload interval	Default 60 s; configurable 1–65535 s
4G target	Company cloud platform, local monitoring software or customer server
Software platform	Web, local client, WeChat service or mobile APP
Configuration	Bluetooth configuration APP; default password 12345678
Traffic	Less than 25 MB/month at the default upload interval

MEASUREMENT PRINCIPLE

Ion-Selective Measurement

ELECTROCHEMICAL MEASUREMENT

The selected ion-selective electrode responds to the target ion activity in water. The transmitter converts the electrode signal to concentration, applies automatic temperature compensation and publishes the result together with temperature and device status.

SYSTEM DATA

Technical Specifications

Item	Specification
Model	SS308-01-4G
Power Supply	DC 10–30 V
Power Consumption	0.8 W typical
Ion Concentration Range	0–100.00 mg/L; 0.01 mg/L resolution (not for chloride)
Extended Range	0–1000.0 mg/L; 0.1 mg/L resolution (sodium, magnesium or calcium)
Chloride Range	0–3500.0 mg/L; 0.1 mg/L resolution
Measurement Error	5% FS
Repeatability	±1 mg/L
Response Time	<60 s
Transmitter Temperature / Humidity	−20–80 °C; 0–95% RH, non-condensing
Electrode Temperature / Pressure	0–50 °C; 0.2 MPa
Electrode Cable / Life	5 m default; 10/15/20 m customizable; approximately 3–6 months
Data Acquisition / Upload	2 s / default 60 s; upload interval 1–65535 s
Enclosure	Wall-mount enclosure; maximum 117 × 87 × 43 mm

ION SELECTION

Ion Types and Operating Conditions

Ion option	Typical interference / operating pH
Ammonium NH4+	K+ interference; pH 4–10
Nitrite NO2−	Acetate, F−, Cl−, NO3−, SO4− and other anions; pH 2.5–11
Nitrate NO3−	ClO4−, I−, CN−, BF4−, Cl−, NO2− and organic acids; pH 2.5–11
Magnesium Mg2+	Zn2+, Fe2+, Cu2+ and Ni2+; pH 3–10
Sodium Na+	Ag+, Li+ and H+; pH 5–12
Potassium K+	Cs+ and NH4+; pH 2–12
Calcium Ca2+	Pb2+, Hg2+, Cu2+ and Ni2+; pH 3–10
Chloride Cl−	S2−, I−, CN− and Br−; pH 2–12

PRODUCT SELECTION

Configuration Options

Option	Description
SS308-01-4G	Industrial ion transmitter with 4G data upload
Ion	LNH ammonium; LNO2 nitrite; LNO3 nitrate; LMG magnesium; LNA sodium; LK potassium; LCA calcium; LCL chloride

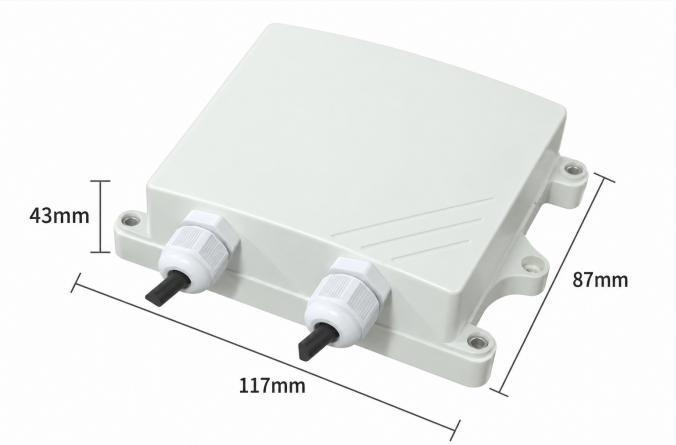
Option	Description
4G	4G communication for cloud, local or customer-server upload
2	Wall-mount enclosure
Range	100 mg/L; 1000 mg/L for sodium/magnesium/calcium; 3500 mg/L for chloride
Display	Blank option means no OLED display

SELECTION NOTE

Select the ion type and compatible concentration range together. The standard package includes the transmitter, selected ion electrode, 12 V adapter, mounting hardware, certificate and warranty materials.

MECHANICAL DATA

Transmitter Enclosure and Electrode Installation

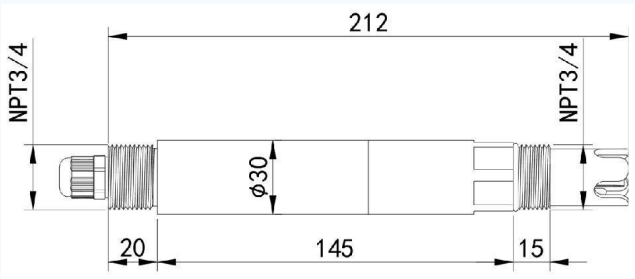


Wall-mount enclosure: maximum 117 × 87 × 43 mm

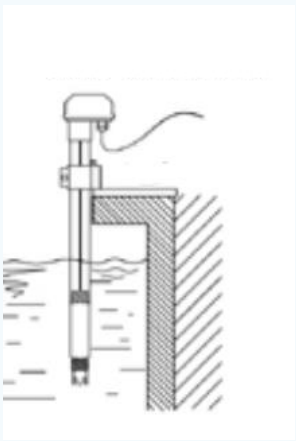
Mechanical notes

- Wall-mount with the supplied expansion plugs and screws where suitable.
- Use the 3/4 in electrode thread for submerged or pipeline installation.
- Keep the enclosure and connector dry; place the sensing end in representative flow without bubbles.

Representative electrode dimensions are shown below in millimetres. The final selected ion electrode determines the applicable drawing.



Typical 3/4 in ion electrode: 212 mm; Ø30



Submerged installation example

INSTALLATION & OPERATION

Installation, Wiring and 4G Operation

Connection / step	Function / guidance
Power + / −	Connect the supplied adapter or a stable DC 10–30 V supply
Ion electrode	Connect the black electrode wire to PH− and the transparent wire to PH+

Connection / step	Function / guidance
Temperature element	Connect the temperature wires to PT+ and PT− in either order
Submerged installation	Use the 3/4 in thread and keep the cable and top of the electrode dry
Pipeline installation	Connect the 3/4 in electrode thread to the pipeline fitting
4G target	Company cloud, local software or customer server; default upload 60 s

- Remove the cover, eliminate bubbles and rinse the electrode with deionized water before and after use.
- Activate a new electrode in standard solution; calibrate before use and every 2–3 weeks in long-term field deployment.
- Use the configuration APP to set target URL/port, interval, first-upload delay and password.
- Keep the connector above standing water; avoid strong acids/alkalis, oxidizers/reducers, solvents and seawater; protect the membrane.

INTEGRATION / SERVICE

The 4G interface supports SpeSense cloud, local-client or customer-server monitoring with real-time values, alarms, history export, permissions and maintenance. The transmitter includes a 24-month warranty and lifetime service support; the consumable ion electrode typically lasts 3–6 months and is not covered by the transmitter warranty.

CONTACT / SUPPORT

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