

WATER QUALITY MONITORING / DATA SHEET

SS308-02

Integrated Ion Transmitter

An integrated ion transmitter for continuous monitoring of ion concentration and temperature in water. Eight selectable ion types, automatic temperature compensation and RS485 Modbus-RTU communication support online analysis in wastewater, surface water, drinking water and process control.

Overview

- Eight ion types are available: ammonium, nitrite, nitrate, magnesium, sodium, potassium, calcium and chloride.
- Measurement ranges from 0-100 mg/L to 0-3500 mg/L, with up to 0.01 mg/L resolution.
- Automatic temperature compensation reduces environmental influence and improves measurement stability.
- RS485 Modbus-RTU interface with configurable address and baud rate.



Measured Ion concentration	Range 0-100 / 1000 / 3500 mg/L	Resolution 0.01 mg/L	Supply DC 10-30 V
Key Functions • Eight ion selections cover common water-quality and process-monitoring requirements. • Upper and lower NPT 3/4 threads support submerged or pipe installation. • Modbus-RTU communication with configurable address and baud rate. • Wide DC 10-30 V supply, IP68 probe protection and 0.2 MPa pressure resistance.		Applications • Industrial wastewater and process-water monitoring. • Surface-water and drinking-water analysis. • Agricultural and aquaculture water-quality control. • Continuous ion monitoring in production processes.	

SYSTEM DATA

Technical Specifications

Item	Specification
Supply Voltage	DC 10-30 V
Power Consumption	0.19 W
Ion Types	NH ₄ ⁺ , NO ₂ ⁻ , NO ₃ ⁻ , Mg ²⁺ , Na ⁺ , K ⁺ , Ca ²⁺ or Cl ⁻ selectable
Ion Measurement Range	0-100.00 mg/L / 0.01 mg/L resolution; 0-1000.0 mg/L / 0.1 mg/L; 0-3500.0 mg/L / 0.1 mg/L for chloride
Measurement Error	5% FS
Repeatability Error	±1 mg/L
Response Time	<60 s
Operating Conditions	0-50 °C; ion-specific pH intervals apply
Protection / Pressure	IP68; 0.2 MPa
Cable Length	5 m standard; 10 m, 15 m or 20 m customizable
Electrode Service Period	Approximately 3-6 months

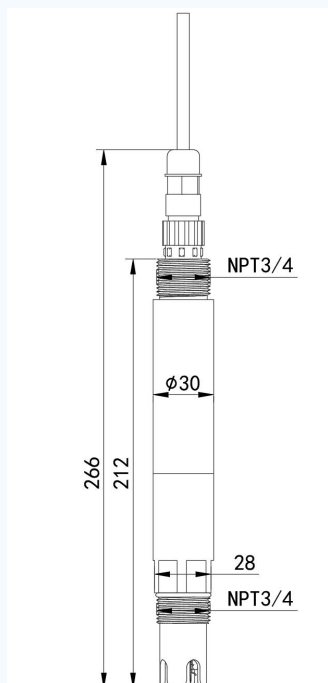
INTERFACES

Output and Communication Options

Option	Power	Description
RS485	0.19 W	Modbus-RTU; 8 data bits, no parity, 1 stop bit, CRC; 4800 bit/s default; address and baud rate configurable

HARDWARE

Transmitter and Electrode Dimensions



Integrated ion probe dimensions | 266 mm overall | Ø30 mm | NPT 3/4



Integrated ion probe | 266 mm overall | Ø30 mm | NPT 3/4

INSTALLATION

Submerged and Pipe Installation



Integrated probe assembly

Installation Requirements

- Submerged installation: connect the upper NPT 3/4 thread to a compatible waterproof support and keep the cable outlet dry.
- Pipe installation: connect the NPT 3/4 thread to a compatible process port and expose the sensing end to the sample.
- Immerse the sensing end fully in the sample and avoid contact with the tank wall or other metal parts.
- Select the ion type and range in the configuration software; keep the probe clean and within its specified pH interval.

SELECTION

Product Configuration

Item	Available configuration
Product code	SS308-02 integrated ion transmitter
Ion selection	LNH ammonium; LNO2 nitrite; LNO3 nitrate; LMG magnesium; LNA sodium; LK potassium; LCA calcium; LCL chloride
Communication	N01 RS485 / Modbus-RTU
Range code	100 standard; 1000 for sodium, magnesium or calcium; 3500 for chloride
Installation	Integrated probe with upper and lower NPT 3/4 threads

Service note: calibrate with suitable standard solutions for the selected ion; the ion electrode service period is approximately 3-6 months in normal use.

CONTACT / SUPPORT

SpeSense Technologies Inc.

Add: No. 9 Yuhe Road, Guitang Subdistrict, Yuhua District, Changsha City

Tel: +86-15386478166

Email: info@spesense.com

Web: www.spesense.com



WhatsApp / WeChat