WATER QUALITY / DATA SHEET

SS316-01-ETH-3

Ammonia Nitrogen Transmitter

Online ammonia nitrogen, pH and temperature monitoring in water with automatic compensation and Ethernet upload to a cloud platform or customer server.



Overview

- Three ranges: 0–10, 0–100 or 0–1000 mg/L.
- Reagent-free monitoring with automatic pH compensation.
- Ethernet data upload; 2 s acquisition; 30 s default upload.

Maximum Range	Resolution	Power Supply	Upload
0–1000 mg/L	0.01 / 0.1 mg/L	DC 10–30 V	Ethernet

Key Advantages

- Automatic pH and temperature compensation.
- Reagent-free online concentration monitoring.
- Three selectable measurement ranges.
- RJ45 interface; static IP, DHCP, gateway and DNS support.
- IP68 probe and IP65 conversion module.

Application Scenarios

- Online water-quality monitoring.
- Continuous ammonia nitrogen measurement.
- Direct immersion installation.
- Use in compatible freshwater matrices.

SYSTEM DATA

Technical Specifications

Item	Specification
Model	SS316-01-ETH-3
Measured parameter	Ammonia nitrogen: nitrogen present as NH3 and NH4+
Range / resolution	0–10 mg/L: 0.01 mg/L; 0–100 mg/L: 0.01 mg/L; 0–1000 mg/L: 0.1 mg/L
Measurement error	±3% FS at 25 °C in laboratory conditions
Response time	<30 s at 25 °C in laboratory conditions
Repeatability error	≤3% at 25 °C in laboratory conditions
Supply voltage	DC 10–30 V
Power consumption	0.5 W
Data upload	Ethernet / TCP; 2 s acquisition; 30 s default upload
Probe operating temperature	0–50 °C
Housing environment	−40 to +60 °C; 0–95% RH, non-condensing
Ingress protection	Probe: IP68; transmitter housing: IP65
Probe cable	5 m standard; 10 / 15 / 20 m customizable
Probe pressure rating	0.2 MPa

Item	Specification
Housing dimensions	117 × 87 × 43 mm maximum
Probe dimensions / thread	245 mm body dimension; Ø50 / Ø51 mm; NPT 3/4
pH range / error	0–14 pH; ±0.15 pH at 25 °C in laboratory conditions
Temperature range / error	−20 to +80 °C; ±0.3 °C (probe operating limit: 0–50 °C)

MEASUREMENT DATA

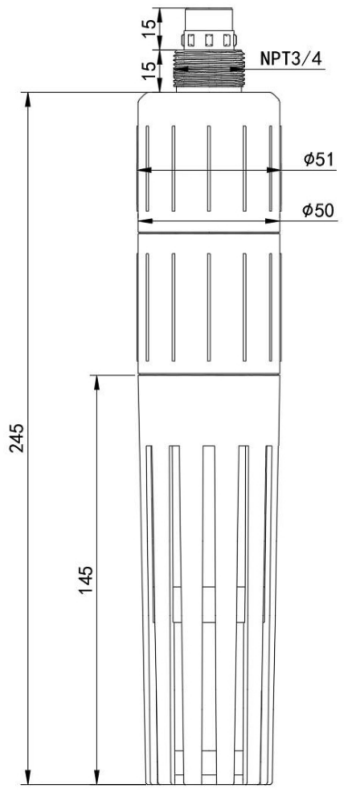
Electrode Service and Monitoring

Electrode maintenance	Requirement
Typical service life	pH electrode: 6–12 months; ammonia nitrogen electrode: 3–6 months. Replace aged electrodes promptly.
Calibration interval	Calibrate before each use; for continuous immersion, calibrate every 2–3 weeks and adjust for fouling or chemical deposits.

Ordering model: SS316-01-ETH-3. Specify the 0–10, 0–100 or 0–1000 mg/L ammonia nitrogen range and cable length. The system includes the probe and wall-mounted Ethernet transmitter.

MECHANICAL DATA

Dimensions and Installation



Dimensions in millimetres: probe body dimension 245, lower section 145, diameters Ø50 / Ø51; NPT 3/4 thread. Module housing: 117 × 87 × 43 maximum. Wall mounting spacing: 105; use Ø5 holes with the supplied plugs and screws.

Use immersion installation. Route the probe cable through a waterproof support bracket and connect its 3/4-inch thread to the probe thread using PTFE sealing tape. Keep cable connectors out of water until fully locked.

ELECTRICAL CONNECTION

Power Connection and Start Up

Connection	Instruction
Power	DC 10–30 V; supplied adapter: 12 V
Start up	Connect the adapter to the device, then energize
Data availability	Wait 1–3 minutes, then view readings on the platform or receiving server

COMMUNICATION DATA

Ethernet Configuration and Data Upload

Connect the RJ45 Ethernet port to the network. Use the supplied Android configuration app with Bluetooth enabled. Scan for ETHM followed by the device address; connect with default password 12345678. Read parameters, edit settings and send them to the device. Read back to verify changes and view real-time data to check readings.

Set the server public IP address or domain and matching listening port (default 8020). Select static IP or DHCP; for static IP, enter the IP address, subnet mask and gateway. Upload interval defaults to 30 s. The specification table gives 1–60000 s; the configuration section gives 1–65535 s. Verify the supported upper limit before use. The unique 8-digit device address cannot be changed. Operation password: 1–8 numeric digits, default 12345678.

Local software runs on a customer PC or server; cloud monitoring requires no customer server. Both support 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 both the black and transparent electrode protective sleeves before measurement. Check the sensing end for bubbles; if present, shake the device downward to remove them. Rinse the probe head with clean water after use. Protect the membrane from sharp objects and store unused electrodes in diluted standard solution.

After prolonged storage, activate first in 10 mg/L standard for at least 12 hours, then in 1000 mg/L standard for 1–2 hours. Before testing, immerse the sensing end in deionized water for 5 minutes while stirring; repeat with fresh water for thorough rinsing. After a short idle period, soak in deionized water before measurement or calibration.

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.

Avoid strong acids/alkalis, strong oxidizing or reducing media, hydrofluoric acid, sulfides, bromides, iodides and organic solvents. Complex sample chemistry can damage the ion membrane. Potassium ions cause substantial interference; seawater and high-potassium samples are not recommended. Package: transmitter, Ethernet transmitter module, 12 V power adapter, 5 m cable, two plugs, two screws, Ethernet cable, nylon protective net, certificate and warranty card. Warranty: 24 months for verified defects under normal use; pH and ammonia nitrogen electrodes are consumables and excluded.

CONTACT / SUPPORT

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