

PH ETHERNET TRANSMITTER / DATA SHEET

SS307-02-ETH

Industrial pH Ethernet Transmitter

A compact Ethernet pH transmitter for remote water-quality monitoring, automatic or manual temperature compensation and reliable TCP/IP data upload.

Overview

- SS307-02-ETH combines a pH/temperature acquisition circuit with RJ45 Ethernet communication.
- Static-IP and DHCP modes, cross-gateway transmission and DNS domain-name resolution simplify network deployment.
- It is suited to industrial wastewater, domestic wastewater, agriculture, aquaculture and other weakly acidic or weakly alkaline liquids.



pH Range 0–14.00 pH	Interface RJ45 Ethernet	Supply DC 10–30 V	Temperature 0–80 °C
Key Advantages • RJ45 Ethernet with TCP data upload. • Static IP or DHCP, cross-gateway and DNS support. • Automatic or manual temperature compensation. • Wide-voltage DC 10–30 V input; configurable data-frame interval and server destination.		Application Scenarios • Industrial and domestic wastewater. • Agriculture and aquaculture water. • Process-water and environmental monitoring. • Weakly acidic or weakly alkaline, non-corrosive liquids. • Sites with an available wired Ethernet network.	

MEASUREMENT & CONNECTIVITY

Measurement and Ethernet Data Path

END-TO-END DATA FLOW

The selected pH electrode and optional temperature element connect to the transmitter. The transmitter samples the signal, applies the selected temperature-compensation mode and sends the measured values through the RJ45 Ethernet network to a local platform, cloud platform or customer server.

Function	Default / available setting
Acquisition interval	2 s
Upload data interval	30 s default; configurable from 1 to 60000 s
Ethernet data-frame interval	30 s default; configurable from 1 to 65535 s
Network interface	RJ45; TCP data upload
IP mode	Static IP or DHCP
Network routing	Cross-gateway transmission and DNS domain-name resolution
Server destination	Target URL and listener port configurable; default listener port 8020
Device scan name	ETHM plus the device address code
Default operation password	12345678; maximum eight characters

MEASUREMENT PRINCIPLE

pH and Temperature Measurement

ELECTROCHEMICAL MEASUREMENT

The pH electrode produces a potential related to hydrogen-ion activity. The transmitter converts this signal to a pH value and can use the installed temperature element for automatic compensation. In manual mode, the configured temperature is used; the default manual value is 25 °C.

SYSTEM DATA

Technical Specifications

Item	Specification
Model	SS307-02-ETH
Power Supply	DC 10–30 V wide-voltage input
Power Consumption	0.8 W typical
pH Measurement Range	0–14.00 pH
pH Resolution	0.01 pH
pH Measurement Error	±0.15 pH
pH Repeatability	±0.02 pH
Temperature Range	0–80 °C; flat desulfurization electrode: 0–60 °C
Temperature Resolution / Error	0.1 °C / ±0.5 °C
Temperature Compensation	Automatic or manual; manual default 25 °C
Transmitter Environment	–40–60 °C; 0–95% RH, non-condensing
Electrode Pressure	0.6 MPa
Electrode Cable	5 m default; 10/15/20 m customizable
Communication	RJ45 Ethernet; TCP upload; static IP or DHCP; DNS supported
Upload Interval	30 s default; 1–60000 s configurable
Enclosure	Wall-mount enclosure; approximately 178 × 120 × 62 mm

PRODUCT SELECTION

Configuration Options

Option	Description
SS307-02-ETH	Industrial pH transmitter with Ethernet data upload
Electrode	Composite, flat desulfurization, PTFE, plating/double salt bridge, glass or antimony; choose chemical compatibility
Temperature	With or without temperature compensation, according to the selected electrode
Network	RJ45 Ethernet; static IP or DHCP; cross-gateway and DNS supported
Data destination	Local platform, cloud platform or customer server
Mounting	Wall mount, submerged installation or pipeline installation according to the electrode and process

SELECTION NOTE

Choose the electrode material, temperature option, network mode and data destination together. Confirm the liquid chemistry, temperature, pressure, cable length and connection dimensions before ordering.

INSTALLATION & OPERATION

Installation, Wiring and Operation

Connection	Function / guidance
PH–	pH electrode negative; connect the black electrode wire
PH+	pH electrode positive; connect the transparent electrode wire

Connection	Function / guidance
PT- / PT+	Temperature element; two temperature wires may be connected in either order when fitted
Power	Use a DC 10–30 V supply or the supplied adapter within its rated range
RJ45 Ethernet	Connect the network cable; configure static IP or DHCP and the target server parameters
Connector protection	Lock the connector before operation; do not immerse an unlocked connector

- Mount the transmitter on the wall or in the selected installation position; keep the enclosure, cable gland and network connector above standing water.
- After power-on, allow about 1–3 minutes for the transmitter to initialize, then check the local receiver or platform data.
- Use the configuration app to scan for the device shown as ETHM plus its address, connect with the operation password and set IP mode, target URL, listener port and data-frame interval.
- Rinse the electrode with pure water before and after measurement. Store the electrode in soaking solution and calibrate before use or at least every 3 months for long-term operation.
- Avoid strong acid, strong alkali, oxidizing or reducing liquids outside the selected electrode's compatibility range; protect the sensing element from impact and scratching.

PLATFORM SUPPORT

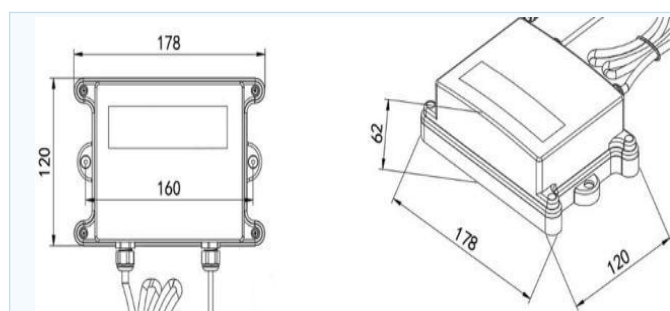
The Ethernet transmitter can feed a local monitoring platform, an environmental cloud platform or a customer server. Typical platform functions include real-time WEB monitoring, upper and lower limit alarms, history export, permission management, data storage and software updates.

SERVICE & WARRANTY

The transmitter is covered by a 24-month warranty under normal use and includes lifetime service support. The pH electrode is a consumable component; its service life is typically 6–12 months and it is not covered by the transmitter warranty.

MECHANICAL DATA

Transmitter Enclosure and Electrode Dimensions

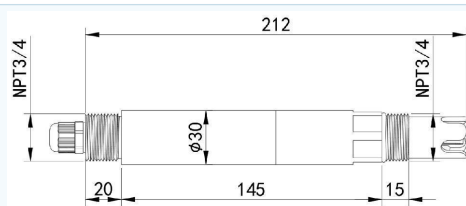


Wall-mount enclosure: approximately 178 × 120 × 62 mm; installation width 157 mm

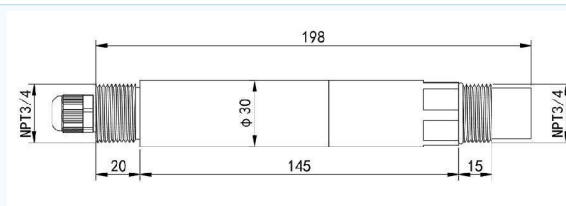
Mechanical notes

- Use the supplied expansion plugs, screws and network cable for wall mounting where suitable.
- NPT3/4 connection for most industrial electrode variants.
- PG13.5 connection for the glass variant.
- Keep cable connectors, the cable gland and the RJ45 connection dry and locked.
- For submerged or pipeline installation, position the sensing end in the representative flow and avoid bubbles.

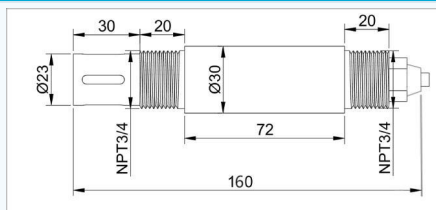
Representative electrode dimensions are shown below in millimetres. The final selected electrode determines the applicable drawing.



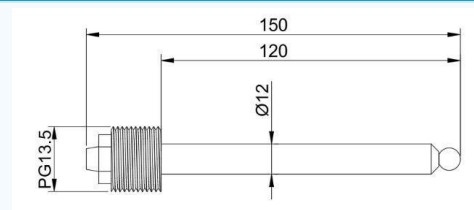
Composite, plating or antimony variants: 212 mm; Ø30; NPT3/4



Flat desulfurization variant: 198 mm; Ø30; NPT3/4



PTFE variant: 160 mm; Ø30; NPT3/4



Glass variant: 150 mm; Ø12; PG13.5

CONTACT / SUPPORT

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