

PH LORA TRANSMITTER / DATA SHEET

SS307-02-LORA

Industrial pH LoRa Transmitter

A compact LoRa pH transmitter for remote water-quality monitoring, automatic or manual temperature compensation and low-power long-distance wireless communication.

Overview

- SS307-02-LORA combines a pH/temperature acquisition circuit with LoRa spread-spectrum wireless communication.
- Long-distance, strong anti-interference and low-power transmission simplify remote monitoring where wired access is difficult.
- It is suited to industrial wastewater, domestic wastewater, agriculture, aquaculture and other weakly acidic or weakly alkaline liquids.



pH Range 0–14.00 pH	Wireless LoRa	Supply DC 10–30 V	Temperature 0–80 °C
Key Advantages • LoRa spread-spectrum communication for long-distance, anti-interference and low-power transmission. • Automatic or manual temperature compensation. • Wide-voltage DC 10–30 V input. • Configurable address, channels, spreading factor, slot interval and upload interval via the gateway/configuration app.		Application Scenarios • Industrial and domestic wastewater. • Agriculture and aquaculture water. • Remote environmental and process-water monitoring. • Weakly acidic or weakly alkaline, non-corrosive liquids. • Sites where long-distance wireless coverage reduces cabling.	

MEASUREMENT & CONNECTIVITY

Measurement and LoRa 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 LoRa wireless network to a gateway, then to a local platform, cloud platform or customer server.

Function	Default / available setting
Acquisition interval	2 s
Wireless sleep / upload time	300 s default; configure in multiples of 60 s
Device address	8-digit address code mapped to the LoRa gateway
LoRa channels	TX/RX channels 1–64; paired channels must match and be unique in the gateway area
Spreading factor	SF7–SF9; default SF9; avoid changing unless the network is planned for it
Slot interval	3000 ms default; read-only; affects update stability, relay distance and system capacity
Gateway backhaul	LoRa gateway with 4G or Ethernet uplink
Configuration	Bluetooth configuration app; scan name appears as LORA485H plus the address code

Default operation password	12345678; maximum eight digits
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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-LORA
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	LoRa spread-spectrum; channels 1–64; SF7–SF9; slot 3000 ms; gateway backhaul via 4G or Ethernet
Wireless Sleep / Upload	300 s default; configure in multiples of 60 s
Enclosure	Wall-mount enclosure; maximum 117 × 87 × 43 mm

PRODUCT SELECTION

Configuration Options

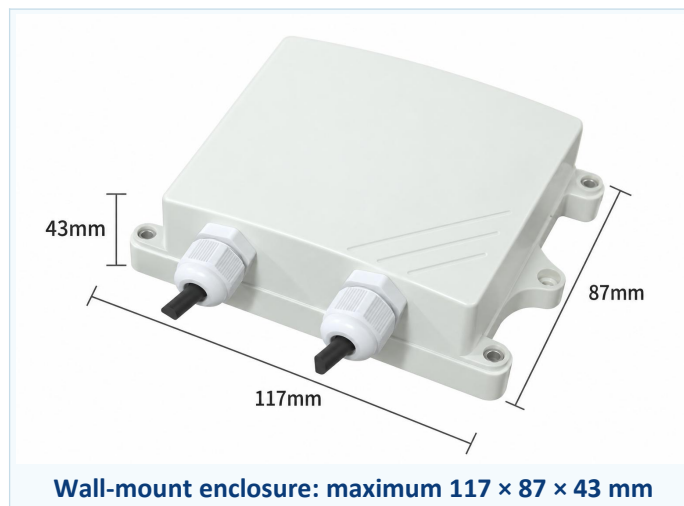
Option	Description
SS307-02-LORA	Industrial pH transmitter with LoRa wireless upload
Electrode	Composite, flat desulfurization, PTFE, plating/double salt bridge, glass or antimony
Temperature	With or without temperature compensation, according to the selected electrode
Wireless	LoRa channels 1–64; SF7–SF9; address and upload interval configurable
Gateway	LoRa gateway with 4G or Ethernet uplink
Mounting	Wall, submerged or pipeline installation

SELECTION NOTE

Choose the electrode material, temperature option, wireless address/channel plan, gateway uplink and display option together. Confirm the liquid chemistry, temperature, pressure, cable length and connection dimensions before ordering.

MECHANICAL DATA

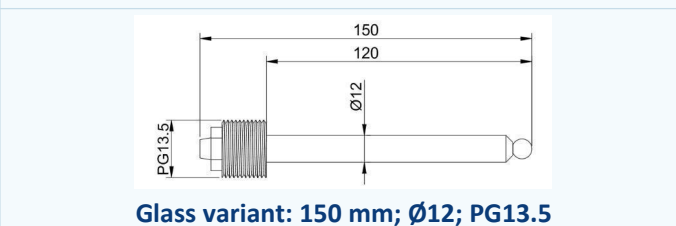
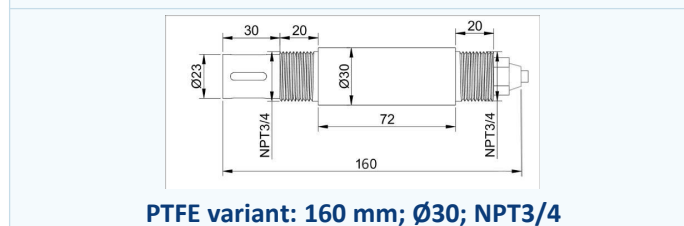
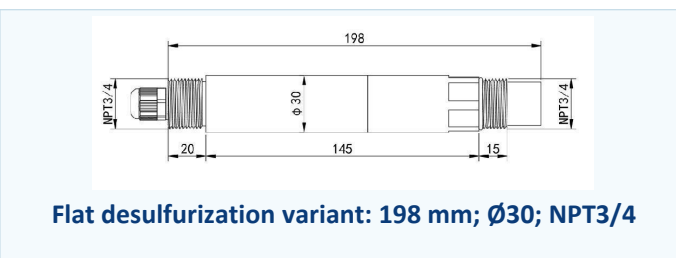
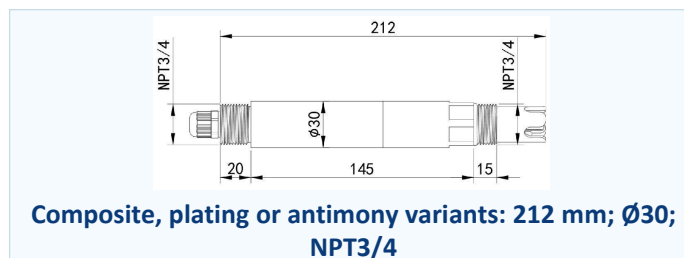
Transmitter Enclosure and Electrode Dimensions



Mechanical notes

- Use the supplied expansion plugs and screws 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 LoRa antenna 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.



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
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
LoRa / gateway	Pair the device address, TX/RX channels and spreading factor with the gateway; keep the antenna clear
Connector protection	Lock the connector before operation; keep the cable gland and antenna connection dry

- Mount the transmitter in the selected position; keep the enclosure, cable gland and wireless connection above standing water.
- After power-on, allow about 1–3 minutes for initialization, then check the gateway or platform data.
- Use the Bluetooth configuration app to scan LORA485H plus the address, enter password 12345678 and set address, channels, SF, slot interval and upload time.
- Keep the transmitter and gateway within planned radio coverage; actual range depends on antenna placement, relay use and surroundings.
- Rinse the electrode with pure water, store it in soaking solution and calibrate before use or at least every 3 months.

- Avoid liquids outside the selected electrode's compatibility range; protect the sensing element from impact and scratching.

PLATFORM SUPPORT

The LoRa transmitter sends data to a gateway, which can forward it through 4G or Ethernet to a local monitoring platform, cloud platform or 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.

CONTACT / SUPPORT

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