

WATER QUALITY MONITORING / DATA SHEET

SS301-02

Wide-Range Industrial EC Transmitter

A configurable industrial conductivity transmitter for continuous water-quality monitoring, with automatic temperature compensation, salinity and TDS conversion, and flexible wired or wireless communication options.

Overview

- Measures conductivity and temperature with selectable K=1 or K=10 electrode constants.
- Calculates salinity and TDS for RS485, Wi-Fi, 4G and LoRa variants.
- Wide DC 10-30 V supply; 0-10 V output requires a 24 V DC supply.
- IP65 housing for non-display variants; suitable for outdoor rain and snow exposure.



Measured EC + Temperature	EC Range 1-100000 μ S/cm	Supply 10-30 V DC	Protection IP65 / IP68 electrode
Key Functions • Automatic compensation to a configurable reference temperature. • Four selectable electrode constants and multiple output variants. • Configurable acquisition and upload intervals. • Optional local OLED display on supported configurations.		Applications • Surface-water and municipal-water monitoring. • Aquaculture and agricultural water management. • Wastewater treatment and environmental protection. • Food, pharmaceutical and process-water control.	

SYSTEM DATA

Technical Specifications

Item	Specification
Supply Voltage	DC 10-30 V; 24 V DC required for 0-10 V output
Power Consumption	0.4 W RS485; ≤ 1 W analog output; 0.6 W Wi-Fi / 4G / LoRa
Conductivity Range	K=1: 1-10000 μ S/cm; K=10: 10-100000 μ S/cm
Conductivity Resolution	K=1: 0.1 μ S/cm; K=10: 1 μ S/cm
Conductivity Accuracy	$\pm 1.5\%$ FS
Response Time	≤ 30 s (T90)
Temperature Range / Resolution	-20 to +100 $^{\circ}$ C / 0.1 $^{\circ}$ C
Temperature Accuracy	± 0.5 $^{\circ}$ C
Temperature Compensation	-20 to +100 $^{\circ}$ C; default reference 25 $^{\circ}$ C; coefficient 0.02 default
Salinity Range	K=1: 0-5439 ppm; K=10: 0-60292 ppm
TDS Range	K=1: 0-6700 ppm; K=10: 0-75000 ppm
Operating Environment	-20 to +80 $^{\circ}$ C; 0-95% RH, non-condensing
Cable Length	5 m standard; 10 m, 15 m and 20 m options

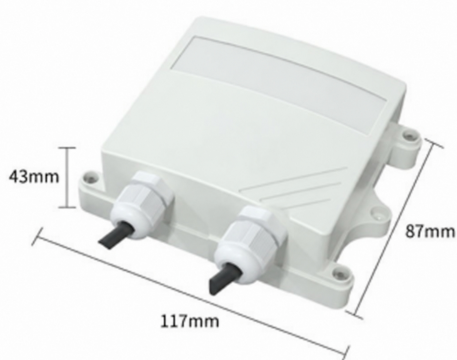
MEASUREMENT

Measurement and Conversion

Parameter	Range	Method / Resolution	Accuracy
Conductivity	1-10000 μ S/cm	K=1; 0.1 μ S/cm resolution	$\pm 1.5\%$ FS
Conductivity	10-100000 μ S/cm	K=10; 1 μ S/cm resolution	$\pm 1.5\%$ FS
Temperature	-20 to +100 °C	0.1 °C resolution	± 0.5 °C
Salinity	0-5439 / 60292 ppm	K=1 / K=10 calculated value	—
TDS	0-6700 / 75000 ppm	K=1 / K=10 calculated value	—

HARDWARE

Housing and Electrode Options



Wall-mount housing • 117 × 87 × 43 mm

Electrode and Housing Choices

- Wall-mount enclosure with optional OLED display.
- Stainless-steel or plastic electrode with NPT 3/4 threaded connections.
- K=1 or K=10 electrode constants for the target conductivity range.
- IP65 transmitter housing for non-display variants; electrode is designed for continuous water contact.

INSTALLATION

Installation Guidance

Installation	Guidance
Submerged	Route the cable through a waterproof tube and seal the NPT 3/4 connection; keep the sensing end fully immersed.
In-line / Pipe	Connect the NPT 3/4 electrode thread to the process pipe using a suitable seal and maintain a stable flow.
Probe Position	Avoid trapped air bubbles and keep the sensing surfaces clear of sediment or heavy deposits.
Enclosure	Fix the 117 × 87 × 43 mm housing on a dry, stable surface; seal cable glands after wiring.

INTERFACES

Output and Communication Options

Variant	Interface	Function
Analog current	4-20 mA	Continuous conductivity output
Analog voltage	0-5 V / 0-10 V	0-10 V requires 24 V DC supply
RS485	Modbus-RTU	Configurable address and baud rate; default 4800 bit/s
Wi-Fi	802.11b/g/n	Local or wide-area network; 10 s default upload
4G	Cellular upload	Configurable upload interval; 60 s default
LoRa	Long-range wireless	Low-power transmission with strong interference resistance
Ethernet	RJ45 option	Wired network upload where specified

CONFIGURATION

Ordering and Configuration

Option	Selection
Output	4-20 mA, 0-5 V, 0-10 V or RS485 Modbus-RTU
Wireless	Wi-Fi, 4G, LoRa or Ethernet according to selected variant
Electrode	SUS01 / EP01: K=1; SUS10 / EP10: K=10
Housing	Wall-mount enclosure, optional OLED display
Cable	5 m standard; 10 m, 15 m and 20 m options

Service note: rinse the electrode, remove bubbles before measurement, clean deposits with suitable methods, and keep cable plugs dry until fully locked and sealed.

CONTACT / SUPPORT

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