

## IS-310 – WiFi Water Treatment Sensor

### Electric Conductivity/ Dissolved Oxygen/PH/ORP Sensor with Temperature Compensation



#### Overview

IS-310 is a Wifi water treatment sensor used to monitor water quality. It is designed for measuring Electric Conductivity/Dissolved Oxygen/PH/ORP with Temperature compensation. The sensor is programmed to sleep for a user-specified time interval and then wakeup and transmit the data information over the Wi-Fi network. With a unique low power consumption design the IS-310 can work from a 12V DC wall power supply adapter or with a battery for up to 5 years without a need to replace the battery.

Using Wi-Fi makes it possible to connect the sensor to the Wi-Fi network in two possible ways: with an existing Wi-Fi network router or through a cellular gateway that sends the data to the cloud over cellular. The cellular gateway (IS-300) is also designed by In-Syst and allows to connect numerous different end node sensors to the cellular network with power failure backup. Combined with SensorVision™ users can visually manage sensor data remotely, get alerts and view data in real time from any remote location.

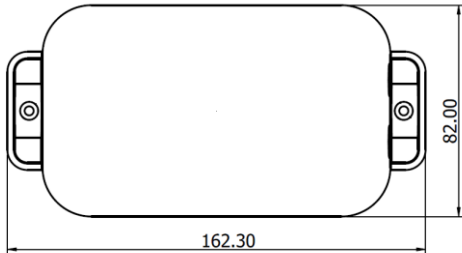
#### Applications

IS-300 is widely used for water quality measuring applications such as fish farms, wells, swimming pools, fresh or industrial water, sewage water, etc. It can be used for aquaculture, sewage treatment, tap water treatment, food, pharmaceutical and environmental protection.

#### Features

- Wi-Fi Architectures:
  - Direct connection to home/office router. Cost effective solution using an existing Wi-Fi network router
  - Sensor to Cellular Gateway. Completely independent network solution with power backup
- Power Supply:
  - 12V DC 1A power input using a 220Vac 1A wall power adapter
  - Built-in 4000mAh (or optional 2x4000mAh) replaceable battery that can work for several years without replacement
- Support for RS485 probes
- Support for 3.3V, 5V and 12V RS485 probes. Other probes with an external power supply are also supported
- Option for EC (Electrical Conductivity) probe, ORP probe, DO (Dissolved Oxygen) probe, or PH probe
- Support for any two lead Electric Conductivity probes (K 0.01, K 0.1, K 1.0, K 10)
- Support for any (or integrated) two lead Temperature probes PT-100, PT-1000, or 10K NTC Thermistor
- Compliant with standard Wi-Fi gateways and network servers
- Quick and easy cloud management with SensorVision™ IoT Cloud solution
- Firmware Upgrade via UART download or OTA (Over-The-Air, using the Wi-Fi network)
- Wireless Range of up to 100ft from router or Access Point. Device range is typical to standard Wi-Fi devices
- SmartConfig™ for easy configuration and connection to local Wi-Fi network
- The sensor can be easily mounted on a pole (with tie wraps) or to the wall with 2 screws
- IP67 waterproof enclosure for harsh environment applications

## Specifications

Wireless Transmission	
Network	IEEE 802.11 b/g/n
Frequency range	2.4GHz-2.5GHz (2400MHz-2483.5MHz)
Security	Open, WPA/WPA2
Encryption	WEP/TKIP/AES
Measurement	
<b>Temperature (any brand probe), can be connected with any of the other EC/DO/PH probes</b>	
Range	-40°C ~ 80°C
Resolution	1 µs/cm
Accuracy	±0.5°C
Resolution	0.1°C
<b>Conductivity (any brand probe)</b>	
Range	0.07 – 500,000+ µS/cm
Accuracy	±3%(0~10000 µs/cm), ±5%(10000~20000 µs/cm)
Supported probes	K 0.01 – K 10.2 any brand
Temperature compensation	Yes
Standard	ISO 7888 compliant (determination of electrical conductivity)
<b>Dissolved Oxygen</b>	
Range	0.0 – 100 mg/L 0 – 350% saturation
Accuracy	+/- 0.05 mg/L
Supported probes	Any galvanic probe
Temperature, Salinity & Pressure compensation	Yes
International standard	ISO 5814 compliant (determination of dissolved oxygen)
<b>PH</b>	
Range	.001 – 14.000
Resolution	.001
Accuracy	+/- 0.002
Supported probes	Any type & brand
Temperature compensation	Yes
International standard	ISO 10523 compliant (determination of pH)
<b>ORP</b>	
Range	-1019.9mV – 1019.9mV
Accuracy	+/- 1mV
Supported probes	Any type & brand
Temperature compensation	N/A
International standard	ISO 11271 compliant (determination of redox potential)
<b>Enclosure</b>	
Dimension (in mm):	 <ul style="list-style-type: none"> <li>• 162.30 x 82.0 x 37.0 mm (6.4 x 3.2 x 1.5 in)</li> </ul>
Installation	Pole (using metal or plastic tie-wraps), wall, or DIN rail mounting