iSPA-T Multi-Parameter Water Quality Online Monitoring System Datasheet

Overview

The iSPA series water quality monitoring system is a multi-functional water quality monitoring system integrating control, sensing, wireless communication, and cloud platform. The iSPA series water quality monitoring system can monitor COD, TOC, turbidity, free chlorine/total chlorine (Constant voltage method, membrane covered method, DPD method), pH, conductivity, water temperature in real time with optional parameters. Through this system, water quality information can be collected and detected on-site, transmitted to the monitoring system in real time, and interacted with the cloud platform through big data statistics, analysis, and automatic data verification. It can realize closed-loop control of everything in the pump room, laying a solid foundation for the construction of an unattended smart water supply platform.

Application

- Drinking water plant
- Secondary pumping station
- Water supply network

Features

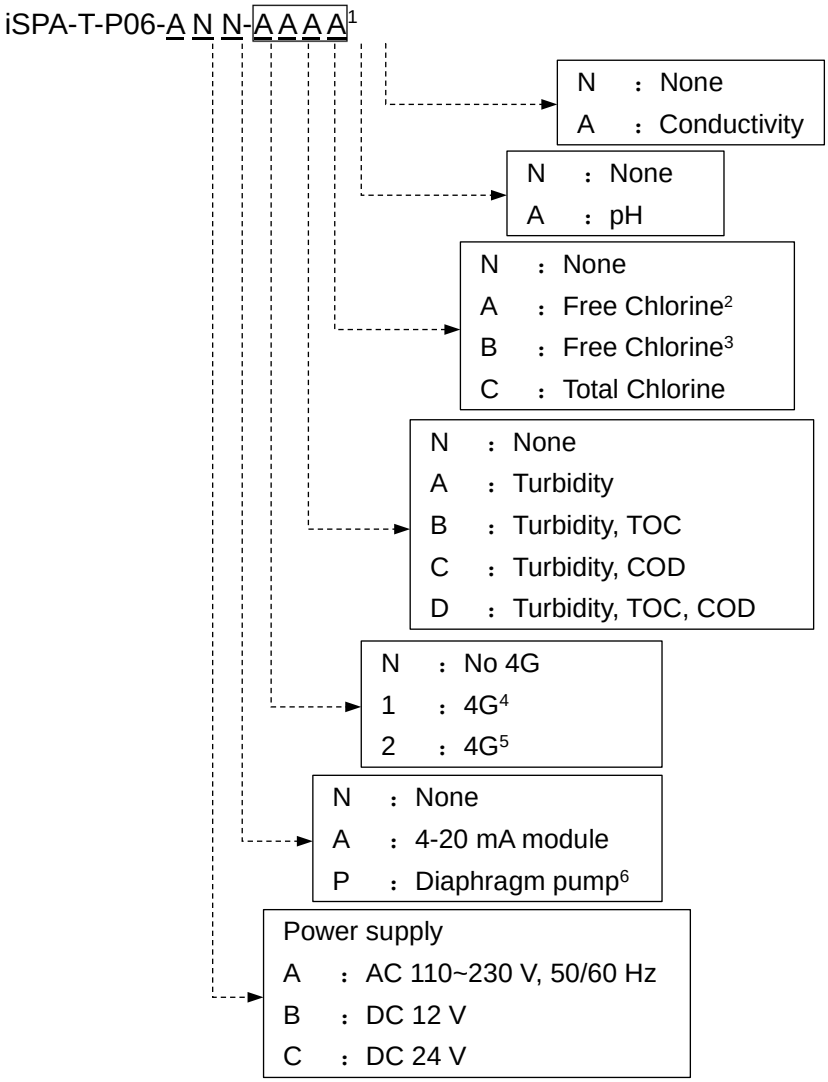
- Quick measurements with a minimum cycle time of 10 seconds
- Self-cleaning module for long term maintenance-free operation
- Multi-parameter integration, can measure turbidity, free chlorine / total chlorine, pH, COD, TOC, conductivity, water temperature
- The system supports 4G wireless transmission, through which users can transfer data to the cloud platform.
- Users can set the threshold value of water quality parameters; the water quality exceeds the set threshold value will trigger the system alarm.

Specification

Specification	Details
Parameter	Turbidity, free chlorine/total chlorine, pH, COD, TOC, Conductivity, Temperature (optional)
Measurement method	Turbidity: 90-degree nephelometric method Free chlorine: membrane covered, amperometric potentiostatic 3-electrode Total chlorine: membrane covered pH: Glass electrode method COD: Ultraviolet absorption spectroscopy TOC: Ultraviolet absorption spectroscopy Conductivity: Coaxial 4 graphite electrodes Temperature: NTC 10 K
Range	Turbidity: 0-100 NTU/FNU Free chlorine/total chlorine: 0-2 mg/L, 0-5 mg/L, 0-20 mg/L pH: 0-14 pH COD: 0-50 mg/L (for KHP) TOC: 0-20 mg/L (for KHP) Conductivity: 0.001-200 000 µs/cm Temperature: 0-50 °C
Accuracy	Turbidity: 0-40 NTU, ±2% or ±0.015 NTU (the large value) 40-100 NTU, ±2% Free chlorine/total chlorine: ±3%F.S., after repeated calibration at full scale (25 °C, pH 7.2 drinking water) pH: ±0.1 pH COD: ±2% F.S. TOC: ±2% F.S. Conductivity: ±5% Temperature: ±0.5 °C
Display	7-inch LCD touch screen
Dimension (H x W x D)	400×300×200 mm (15.75×11.81×7.87 inch)
Weight	9 kg (weight varies slightly with different parameter configurations)
Mounting	Indoor on a wall
Power requirements	AC 220 V, 50 Hz / Internal battery
Protection class	IP65

Operating temperature	0-50 °C (32-122 °F)
Storage temperature	-10 to 50 °C (14 to 122 °F)
Humidity	5% to 95% relative humidity, non-condensing
Device cable length	6 m, please contact us for other sizes
Tubing requirements	Sample inlet, sample outlet, 6 mm tube
Measurement period	Minimum 10 s, adjustable
Sample requirements	Temperature: 2 to 50 °C (35.6 to 122 °F) Flow rate: 200 to 500 mL/min Pressure: 6 bar (87 psi) maximum compared to air, 2 to 50 °C (35.6 to 122 °F)
Digital output	1 channel RS485 interface, support Modbus standard protocol 2 channel 4-20mA analogue output (optional)
Wireless Communication	4G, Wi-Fi
Warranty period	One year

Product selection



1 This item is a parameter selection item, if you need other parameters, you can replace free chlorine, pH, conductivity with other parameter codes, E: ORP, F: ammonia nitrogen.

2 Constant voltage method free chlorine sensor.

3 Membrane-covered free chlorine sensor.

4 Frequency Bands:

LTE FDD: B1/B3/B5/B8.

LTE TDD: B34/B38/ B39/B40/ B41.

TD-SCDMA: B34/B39

WCDMA: B1/B8

CDMA: BC0

GSM: 900/1800MHz

5 Frequency Bands:

LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/N13/B18/B19/B20/B25/B26/B28

LTE-TDD: B38/B39/B40/B41

WCDMA: B1/B2/B4/B5/B6/B8/B19

GSM: B2/B3/B5/B8

6 When the assembly includes a diaphragm pump, the unit can automatically pump water for measurement intermittently. When the assembly does not include a diaphragm pump, the device has to be installed on a pipe network with water pressure in order to carry out the measurement. 4-20 mA module and diaphragm pump can only be selected one of them.

For example:

iSPA-T-P06-ANN-AAAA.

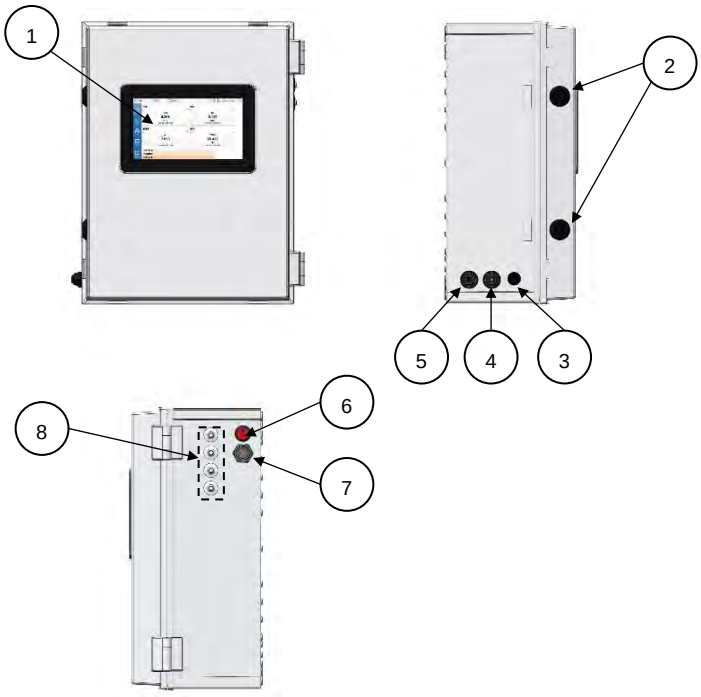
This means that the measured parameters include turbidity, free chlorine, pH and conductivity. The power supply is AC 110V~230V, 50/60Hz and no diaphragm pump and 4G module is required.

iSPA-T-P06-BP1-AAAE.

This indicates that the measured parameters include turbidity, free chlorine, pH, and electrical ORP. The power supply is DC 12 V, 50/60 Hz, and requires a diaphragm pump and 4G module.

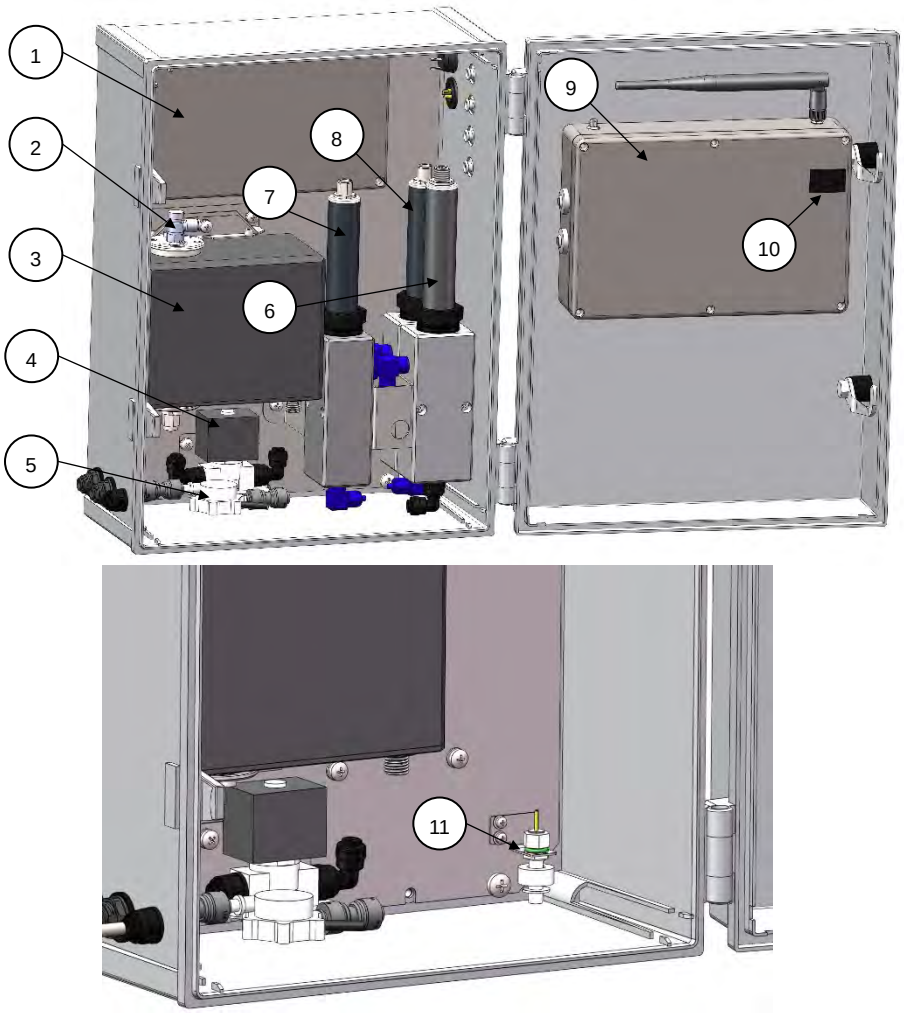
Product structure

The front of the iSPA-T-P06 water quality online monitoring system is mainly a 7-inch LCD touch screen and a door lock. On the left side are the power cable, digital output cable, and antenna.



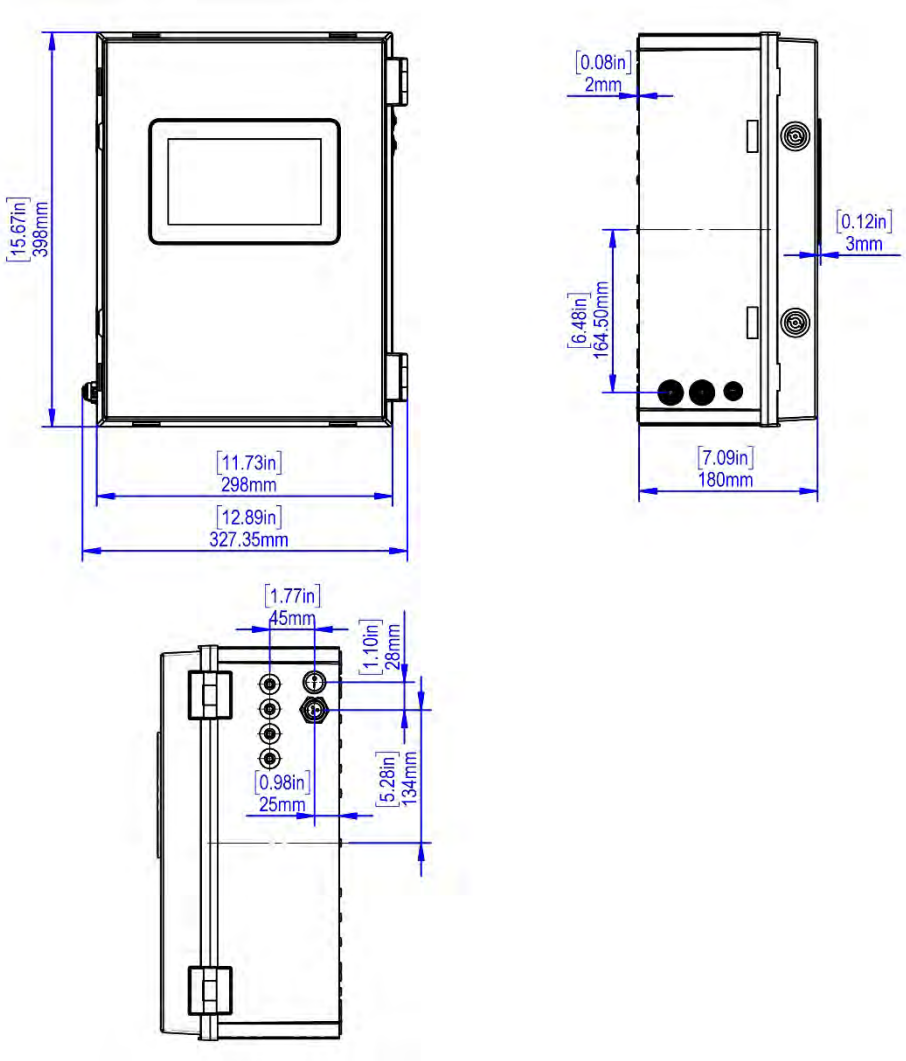
1	7-inch LCD touch screen	2	Door lock
3	Overflow port	4	Water outlet
5	Water inlet	6	Power switch
7	Power plug connectors	8	Data output threading hole

Note: The function of the overflow port is to discharge the water sample leaking from the equipment piping to avoid the equipment being submerged due to internal piping leakage, thus causing short circuit damage to the equipment.



1	Controller	2	Throttle valve
3	Turbidity sensor	4	Solenoid valve
5	Flow sensor	6	Free/total chlorine sensors
7	pH sensor	8	Conductivity sensor
9	Display waterproof box	10	USB interface (data export interface)
11	Float ball		

Dimensions


[15.67in]
398mm
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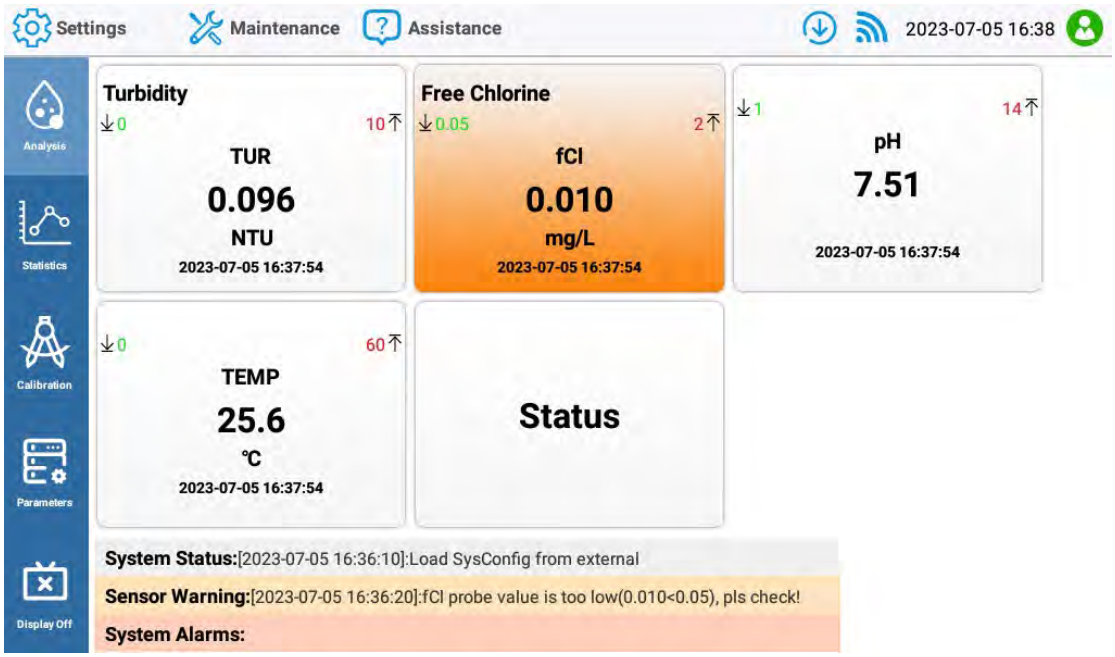
298mm
[12.89in]
327.35mm
[0.08in]
2mm
[0.12in]
3mm
[6.48in]
164.50mm
[7.09in]
180mm
[1.77in]
45mm
[1.10in]
28mm
[0.98in]
25mm
[5.28in]
134mm

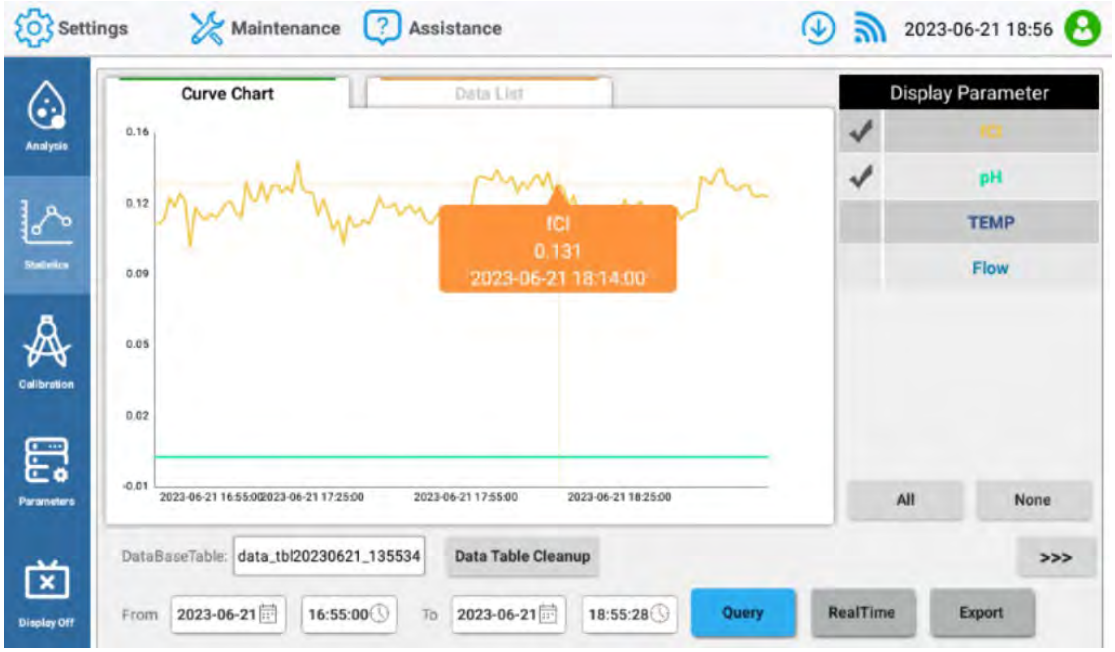
Local monitoring

The device can real-time online monitoring turbidity, free chlorine, pH, temperature and other parameters, and the interface is simple and clear.



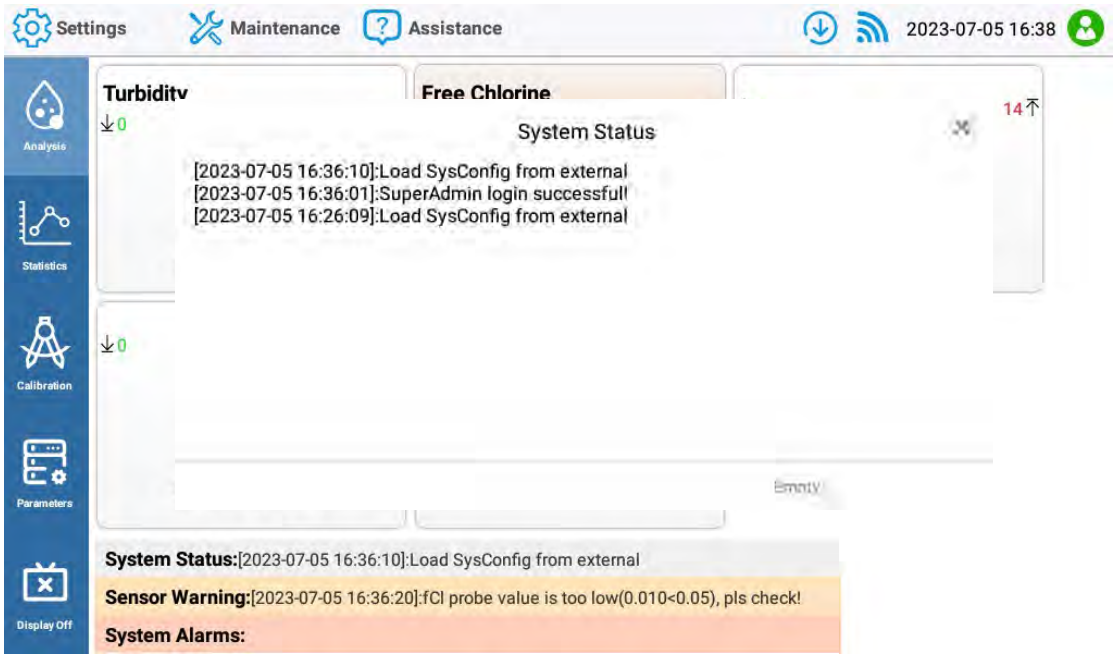
Historical data

By viewing the historical data curve, you can understand the whole monitoring data trend.



Alarm

When the unit appears water quality parameter alarm, use portable device to check the water quality sampling. Judge the real situation of water quality, if the water quality deteriorates, need to record the data to the device maintenance table, and will report the situation to the higher leadership. If the water quality is normal, then judge the sensor abnormal, the sensor maintenance.



Remote monitoring

Our company is equipped with a perfect operation and maintenance software platform, which includes a variety of functions such as equipment management, spare parts management, fault repair, data collection, alarm information, predictive maintenance, equipment maintenance, online rate display and so on.