

FUNEL DIGITAL SENSOR HANDBOOK

Water Quality Monitoring Instruments

Plug-and-Play Digital Sensor Solutions

Dissolved Oxygen • Sludge Concentration • Turbidity • Chlorophyll • Blue-Green Algae

Reliable Digital Sensing for Smarter Water Monitoring



Accurate
Precise Measurements



Durable
Built to Last



Smart
Intelligent & Reliable



Plug-and-Play
Easy Installation

DXC20 Universal Transmitter

Introduction

Dual-channel transmitter, measured parameters include PH, DO, ORP, conductivity, turbidity SS, chlorophyll, blue-green algae and other parameters. And realize the plug and play of the sensor, the configuration is flexible and convenient.

Features

- Achieve plug and play of sensors, quick and convenient electrode installation and replacement;
- Simple to use, reliable results, interface operation instructions can reduce operation errors;
- LCD screen visual operation, with Chinese and English bilingual navigation menu, rich and comprehensive interface content;
- With 4 ~ 20mA, MODBUS RS485 multiple data output methods;
- Automatically prompt error and alarm information, and realize the upload of alarm signal;
- The transmitter supports wall-mounted installation/panel installation/ pinch tube installation;
- Existing time display, data storage and historical data viewing functions;
- Optional data wireless transmission module.



Controller Technical Specifications

Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485, HART (Optional equipment)
Storage temperature	-20-70℃
Measuring temperature	-15-60℃
Protective rate	IP66/NEMA4X
Dimensions	145*125*162mm(L*W*H)
Weight	1.35KG

UNI-30 Universal Transmitter

Introduction

Universal Transmitter is capable of measuring parameters including pH, DO, ORP, Conductivity, Turbidity, SS, UVCOD, UVNO₃, Chlorophyll, Cyanobacteria, Ammonia Nitrogen, Residual Chlorine, Transparency, Color, etc. It supports plug-and-play for sensors. Equipped with a 3.5-inch color LCD screen, the transmitter features a clear and concise operation interface with user-friendly navigation, along with functions such as data storage, historical data review, and data export.



Features

- Universal controller compatible with the company's sensors for pH, DO, ORP, Conductivity, Turbidity, SS, UVCOD, UVNO₃, Chlorophyll, Cyanobacteria, Ammonia Nitrogen, Residual Chlorine, Transparency, Color, and other parameters;
- Visual operation via a 3.5-inch color LCD screen, with Chinese-English bilingual navigation menu and comprehensive interface content;
- Multiple data output methods: 4~20mA current signal and MODBUS RS485;
- Enhanced non-metallic housing with excellent corrosion resistance;
- Enhanced electromagnetic compatibility (EMC) and weather-resistant design, suitable for harsh environments such as general industrial sites;
- Automatic error and alarm message prompts, with alarm signal upload functionality;
- Equipped with time display, data storage, and historical data review functions;
- Supports wall mounting/panel mounting/pipe clamp mounting.

Controller Technical Specifications

Display	3.5-inch color LCD display
Power Supply	AC Power Supply: 100-240VAC, 50Hz/60Hz; DC Power Supply: 24VDC
Output	2 channels of 4~20mA
Relay	2 channels of SPDT relays, with programmable response parameters and response values
Communication Protocol	MODBUS RS485
Main Material	Polycarbonate
Storage Temperature	-25℃ to 70℃
Operating Temperature	-20℃ to 60℃
Protection Class	IP65
Dimensions	Overall Dimensions: 155*155*120mm (Length*Width*Height); Cutout Dimensions: 139*139mm (Width*Height)
Weight	0.85KG

MUC-200 Multi-parameter Controller

Introduction

The multi-parameter transmitter can realize online monitoring of multiple different parameters at the same time through optional sensors according to different needs of customers, including temperature / PH / ORP / conductance / dissolved oxygen / turbidity / sludge concentration / chlorophyll / blue-green algae / UVCOD / UVNO3 / ion ammonia nitrogen / transparency / residual chlorine and other parameters. It is widely used in water quality monitoring in sewage plants, water plants, water stations, surface water, industry and other fields.

The transmitter software interface parameter display realizes self-adaptation; electrode installation and replacement is fast and convenient, and has data storage and export.



Features

- Up to our 7 sensors can be connected at the same time to improve integration and reduce operation and maintenance costs;
- Strong versatility, all digital sensor interfaces are common, and analog sensors can be configured with different modules according to different sensor types;
- The plug and play of the sensor is realized, and the electrode installation and replacement are fast and convenient;
- With 7-inch color touch screen, the operation interface is simple, easy learn, reliable, and the maintenance is low, optional wireless data transmission module;
- With data storage and curve display functions, master the dynamic changes of monitoring parameters;
- Automatically alarm error, upload alarm signals and three-level management authority;
- Can realize wall-mounted installation / panel installation.

Controller Technical Specifications

Display	7inch touch screen with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply: 85-500VAC, DC power supply: 9-36VDC
Output	8 channels 4-20mA output. Program setting response parameters and response values
Relay	Four-way relay, program setting response parameters and response values
Communication protocol	Standard MODBUS RS485 communication for real-time transmission of measured value. Optional wireless communication method: 4G: UDP/TCP NB: UDP
Main Material	PA66+GF25+FR (top cover); aluminum powder dusting (lower shell)
Storage Temperature	-20 to 70℃
Operation temperature	-15 to 60℃
Protective rate	IP65/ NEMA4X
Dimension	260mm*200mm*123.3mm (L*W*H)
Weight	About 2.0KG

PFDO-700 Dissolved Oxygen Online Analyzer

Measurement Principle

Dissolved oxygen sensor uses advanced fluorescence quenching technology. When the blue light emitted by the sensor illuminates the fluorescent substance on the fluorescent cap, the fluorescent substance is excited to emit red light, and since the oxygen molecule can carry away the energy (quenching effect), the time and intensity of the excited red light and the concentration of the oxygen molecule become In inverse proportion, the concentration of dissolved oxygen in water can be obtained by calculation.



Features

- A new type of oxygen-sensitive membrane used, with NTC temperature compensation function, so with repeatable and stable measurement results; Built-in self-diagnosis function to ensure accurate data;
- No oxygen consumption during measurement, no flow / stirring requirements;
- Breakthrough fluorescence technology, without membrane and the electrolyte and almost no maintenance;
- Factory calibration, no calibration required for one year, could be on-site calibration;
- Digital sensor, strong anti-interference ability, long transmission distance;
- Standard digital signal output, which can be integrated and networked with other equipment without a transmitter;
- Convenient and quick on-site installation, enabling plug in & operate, reverse polarity protection of sensor power;
- Power protection, avoid RS485 A / B terminal is wrongly connected.

Applications

- Online monitoring of various process processes such as sewage treatment plant adjustment tank, biochemical tank, and effluent;
- DO online monitoring of waterworks, surface water, various industrial process water, aquaculture and other industries.

Sensor Technical Specifications	
Measurement range	DO:0-20 mg/L or 0-200% Saturation; Temperature:0-45℃
Measurement Accuracy	DO: ±3% or ±0.3 mg/L, Greater one; Temperature:±0.5℃
Repeatability	±0.3 mg/L
Resolution	0.01 mg/L
Pressure range	≤0.3Mpa
Main material	Body:SUS316L(fresh water);Titanium alloy(Ocean marine) Cover:PPS+ glass fiber ;Cable:PUR
Calibration	Air automated calibration, sample calibration
Storage temperature	-15-60℃
Measuring temperature	0-45℃(Non-freezing)
Protective rate	Sensor:IP68/NEMA6P
Dimensions&Weight	D 49.5mm* L 251.3mm,1.4KG
Cable length	Standard:10m, max could be extended to 100m

Controller Technical Specifications	
Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20-70℃
Measuring temperature	-15-60℃
Protective rate	IP66/NEMA4X
Dimensions	145mm*125mm*162mm(L*W*H)
Weight	1.35KG

PSS-800 SS(Sludge Concentration)On-line Analyzer

Measurement Principle

Sludge Concentration Sensor is based on the combined infrared absorption scattering light method, the infrared light emitted by the light source is scattered by the suspended particles in the sample, and finally converted into an electrical signal by a photodetector, and the sludge concentration of the sample is obtained after analog and digital signal processing.

Features

- The sensor adopts dual-beam infrared scattered light photometer detection technology, which has good repeatability and stability;
- Application of ISO7027 standard method (infrared light scattering technology) can eliminate the effect of sample color;
- Built-in self-diagnosis function to ensure accurate data;
- Optional cleaning brush of automatic cleaning function to reduce the maintenance;
- Digital sensor, strong anti-interference ability, long transmission distance;
- Standard digital signal output, which can be integrated and networked with other equipment without a transmitter;
- Plug-and-play sensor;
- Quick and easy installation;
- Reverse polarity protection of sensor power;
- Power protection, avoid RS485 A / B terminal is wrongly connected.



Applications

- On-line monitoring in each process of the sewage treatment plant
- Online monitoring in various industrial production processes such as water and wastewater treatment processes.

Sensor Technical Specifications	
Measurement range	0.01-20000 mg/L, 0.01-45000 mg/L, 0.01-120000 mg/L
Measurement accuracy	<the $\pm 5\%$ of measured value. (Depending on the homogeneity of sludge)
Repeatability	$\pm 2\%$
Resolution	0.01~1 mg/L,base on range
Flow rate	$\leq 2.5\text{m/s}$ 、 8.2ft/s
Pressure range	$\leq 0.4\text{Mpa}$
Main material	Body:SUS316L(freshwater), Titanium alloy(Ocean) ;Cable:PUR
Calibration	Sample Calibration, Slope Calibration
Storage temperature	-15-50℃
Measuring temperature	0-45℃(Non-freezing)
Protective rate	IP68/NEMA6P
Dimensions& Weight	Dia 60mm*Length 261mm,1.65KG
Cable length	Standard:10m, max could be extended to 100m

Controller Technical Specifications	
Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20-70℃
Measuring temperature	-15-60℃
Protective rate	IP66/NEMA4X
Dimensions	145mm*125mm*162mm(L*W*H)
Weight	1.35KG

PTU-800 Turbidity Online Analyzer

Measurement Principle

The turbidity sensor is based on the combined infrared absorption and scattering light method. The infrared light emitted by the light source is scattered by the turbidity in the sample, and finally converted into an electrical signal by a photodetector. The turbidity value of the sample is obtained after analog and digital signal processing.

Features

- Infrared scattered light technology can eliminate the effect of sample color;
- Optional cleaning brush automatic cleaning function, greatly reducing the amount of sensor maintenance;
- Digital sensor, strong anti-interference ability, long transmission distance;
- Plug-and-play sensor, quick and easy installation;
- Standard digital signal output, which can be integrated and networked with other devices without a controller;
- Easy usage, reliable results, interface operation instructions can reduce operation errors;
- With visual alarm system to provide important alarm functions;
- Controller can be wall-mounted, panel-mounted, or pipe-mounted;
- Reverse polarity protection of sensor power;
- Power protection, avoid RS485 A / B terminal is wrongly connected.



Applications

- On-line monitoring of turbidity in the water inlet, sedimentation tank and other links of the water plant;
- On-line monitoring of turbidity in sewage plants, various industrial processes and water treatment processes.

Sensor Technical Specifications	
Measurement range	0.01-100 NTU, 0.01-4000 NTU
Measurement accuracy	$\leq \pm 5\%$ of the measured value or ± 0.5 NTU, the bigger one
Repeatability	$\pm 2\%$
Resolution	0.01 NTU~0.1 NTU, Depend on the measuring range
Main material	Body: SUS316L (fresh water), Titanium alloy (marine); Cable: PUR
Flow rate	≤ 2.5 m/s, 8.2 ft/s
Calibration	Sample calibration, Slope calibration
Pressure range	≤ 0.4 Mpa
Storage temperature	-15~50°C
Measuring temperature	0~45°C (Non-freezing)
Dimension & Weight	D 60mm * L 261mm, 1.65 KG
Protective rate	Sensor: IP68/NEMA6P
Cable length	Standard: 10m, max could be extended to 100m

Controller Technical Specifications	
Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply: 85-500VAC DC power supply: 9-36VDC
Main material	PA66+GF25+FR (Cover); Aluminum alloy powder (Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20~70°C
Measuring temperature	-15~60°C
Protective rate	IP66/NEMA4X
Dimensions	145mm * 125mm * 162mm (L * W * H)
Weight	1.35 KG

PLTU-600 Low-range Turbidity Analyzer

Measurement Principle

The low range turbidity analyzer, through the parallel light emitted by the light source into the sensor of the water samples, the light is scattered by the particles in the water samples, and with the incident angle of 90 degrees of the scattered light is submerged in the water samples of the silicon photocell receiver to receive, through the calculation of 90 degrees of the relationship between the scattered light and the incident beam to obtain the turbidity value of the water samples.

Features

- EPA principle 90 degree scattering method, specialized for low range turbidity monitoring;
- Stable and reproducible data;
- Simple cleaning and maintenance;
- Power supply positive and negative reverse connection protection;
- RS485 A/B terminal misconnection power protection.

Application

- Turbidity online monitoring of tap water plant pre-filtration, post-filtration, factory water, direct drinking water system
- Turbidity online monitoring of various industrial production circulating cooling water, filtered water, water reuse system, etc.
- Online monitoring of turbidity in various industrial production circulating cooling water, filtered water, water reuse system and other links.



Specifications

Measuring range	0.001-100 NTU
Measurement accuracy	0.001-40 NTU: $\pm 2\%$ or ± 0.015 NTU bigger one / 40-100 NTU: $\pm 5\%$
Repeatability	$\leq \pm 2\%$
Resolution	0.001-0.1NTU, base on different range
Display	3.5 inch LCD screen
Sample Flow	200mL/min $\leq X \leq$ 400mL/min
Calibration	Sample calibration, slope calibration
Pipe Fittings	Water inlet: Quick-connect switch to hard pipe $\phi 8$
	Outlet: Quick-connect to hard tube $\phi 12$
	Cleaning port: Quick-insert straight through hard tube $\phi 12$
Sensor Main Material	Body: ASA ;Cable: PUR
Power	Sensor 9-36VDC / Standard with 220VAC to 12VDC power converter
Relay	1 way relay
Output	1 way 4-20mA
Communication Protocols	MODBUS RS485
Storage Temp.	-15-60°C
Operating Temperature	0-45°C(Non-freezing)

PCH-800A Chlorophyll Online Analyzer

Measurement Principle

The chlorophyll sensor uses the characteristic that chlorophyll A has an absorption peak and an emission peak in the spectrum, and emits monochromatic light of a specific wavelength to the water. The light intensity of chlorophyll A is proportional to the content of chlorophyll A in the water.

Features

- The target parameters are measured based on the fluorescence of the pigment, which can be identified before the potential water bloom causes impact;
- Controller can be wall-mounted, panel-mounted, or pipe-mounted;
- Digital sensor, strong anti-interference ability, long transmission distance;
- Standard digital signal output can be integrated and networked with other devices without a transmitter;
- The on-site installation of the sensor is convenient and fast, realizing plug and play;
- Simple to use, reliable results, interface operation instructions can reduce operation errors;
- With visual alarm system to provide important alarm functions;
- No need for extraction or other treatment, rapid detection to avoid the impact caused by shelving water samples;
- Reverse polarity protection of sensor power.

Applications

- Chlorophyll online monitoring of waterworks imports, drinking water sources, aquaculture, etc .
- Online monitoring of chlorophyll in different water bodies such as surface water, landscape water and sea water.



Sensor Technical Specifications

Measurement range	0-500 ug/L
Measurement Accuracy	±5% of the signal level corresponding value of 1ppb Rhodamine B Dye
Repeatability	±3%
Resolution	0.01 ug/L
Calibration	Deviation value calibration, slope Calibration
Pressure range	≤0.4Mpa
Requirements	Suggest a multipoint monitoring for the distribution of Blue-Green Algae in water is very uneven. Water turbidity is below 50NTU.
Main material	Body:SUS316L(fresh water),Titanium alloy(marine) ; Cover:POM ; Cable:PUR
Storage temperature	-15-50℃
Measuring temperature	0- 45℃(Non-freezing)
Dimension&Weight	Dia30mm*L 223mm,0.55KG
Protective rate	Sensor:IP68/NEMA6P
Cable length	Standard:10m, the maximum may be extended to 100m

Controller Technical Specifications

Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20-70℃
Measuring temperature	-15-60℃
Protective rate	IP66/NEMA4X
Dimensions	145mm*125mm*162mm(L*W*H)
Weight	1.35KG

PBA-800A Blue-Green Algae Online Analyzer

Measurement Principle

The blue-green algae sensor uses the characteristic that blue-green algae have absorption peaks and emission peaks in the spectrum, and emits monochromatic light of a specific wavelength to the water.

Features

- The target parameters are measured based on the fluorescence of the pigment, which can be identified before the potential water bloom causes impact;
- Digital sensor, strong anti-interference ability, long transmission distance;
- Standard digital signal output can be integrated and networked with other devices without a transmitter;
- The on-site installation of the sensor is convenient and fast, realizing plug and play;
- Simple to use, reliable results, interface operation instructions can reduce operation errors;
- With visual alarm system to provide important alarm functions and reverse polarity protection of sensor power;
- Controller can be wall-mounted, panel-mounted, or pipe-mounted;
- No need for extraction or other treatment, rapid detection to avoid the impact caused by shelving water samples

Applications

- Blue-green algae online monitoring of waterworks imports, drinking water sources, aquaculture, etc .
- Blue-green algae online monitoring of chlorophyll in different water bodies such as surface water, landscape water



Sensor Technical Specifications

Measurement range	0-300,000cells/mL
Detection limit	200cells/mL
Measurement Accuracy	±10% of the signal level corresponding value of 1ppbRhodamine B Dye
Repeatability	±3%
Calibration	Deviation value calibration,slope Calibration
Resolution	20cells/mL
Pressure range	≤0.4Mpa
Requirements	Suggest a multipoint monitoring for the distribution of Blue-Green Algae in water is very uneven. Water turbidity is below 50NTU.
Main material	Body:SUS316L + PVC ;Cover:POM ;Cable:PUR
Storage temperature	-15-50℃
Measuring temperature	0-45℃(Non-freezing)
Dimension&Weight	Dia30mm*L223mm,0.55KG
Protective rate	Sensor:IP68/NEMA6P
Cable length	Standard:10m, may be extended to 100m

Controller Technical Specifications

Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20-70℃
Measuring temperature	-15-60℃
Protective rate	IP66/NEMA4X
Dimensions	145mm*125mm*162mm(L*W*H)
Weight	1.35KG

PDS-300 Transparency Online Analyzer

Measurement Principle

Water transparency is an important indicator for determining the level of black and smelly water bodies. The sensor is based on the combined infrared absorption and scattered light method. The infrared light emitted by the light source is scattered by the water sample, and finally the electrical signal detected by the photoelectric monitor is converted into a transparency value. The sensor is equipped with an automatic cleaning device, which can ensure accurate data measurement and can quickly reflect the change of water transparency into a transparency value.



Features

- The sensor adopts double-beam infrared scattered light photometer detection technology, which has good repeatability and stability;
- Built-in self-diagnosis function to ensure accurate data;
- Optional cleaning brush automatic cleaning function, greatly reducing sensor maintenance;
- Digital sensor, strong anti-interference ability, long transmission distance;
- Standard digital signal output can be integrated and networked with other devices without transmitter;
- The on-site installation of the sensor is convenient and fast, realizing plug and play;
- Reverse polarity protection of sensor power;
- The sensor RS485 A / B end is connected to the power supply for protection;
- With time display, data storage and historical data viewing function;
- Optional data wireless transmission module.

Application

- Transparency is an important indicator for determining the black and odor level of black and odorous water bodies, and is especially suitable for the online monitoring of the black and odorous water transparency;
- Applicable to on-line monitoring of surface water in urban rivers, lakes and reservoirs and aquaculture industry.

Sensor Technical Specifications

Measuring Range	2-100cm
Accuracy	±0.3cm or value's 5%
Pressure range	≤0.4Mpa
Flow rate	≤2.5m/s、8.2ft/s
Protocol	MODBUS RS485
Storage Tempt.	-15 to 50℃
Operating Tempt.	0 to 45℃(no frozen)
Protection class	IP68/NEMA6P ;
Weight	1.65KG ;
Size	D 60mm* L 254mm
Cable length	Standard 10m cable, can be extended to 100m

Controller Technical Specifications

Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Storage temperature	-20-70℃
Measuring temperature	-15-60℃
Protective rate	IP66/NEMA4X
Weight	1.35KG
Dimensions	145mm*125mm*162mm(L*W*H)
Communication protocol	MODBUS RS485

PCT-600 Color online analyzer

Measurement Principle

colorimetric online analyzer adopts the principle of absorbance spectrophotometry and complies with the platinum-cobalt color standard. Color online analyzer can be directly immersed in measurement, no sampling and pretreatment, no chemical reagents, no secondary pollution, to achieve in-situ color online monitoring, easy to install on site..

Features

- Short response time for continuous measurement
- LED light source, small size, low power consumption, easy to integrate on site
- The sensor has an automatic cleaning function to reduce maintenance
- The sensor with power supply positive and negative polarity protection
- The sensor RS485 A/B is incorrectly connected to the power supply protection.
- With time display, data storage and historical data view functions (need purchase SD card to support)
- Optional wireless data transmission module.

Applications

- Real-time online monitoring of color of tap water, secondary drinking water and agricultural drinking water
- Real-time online color monitoring of surface water and other environmental water



Sensor Technical Specifications	
Measuring range	0-100 degree
Measurement accuracy	±10% or ±1degree, whichever is greater
Repeatability	≤5%
Resolution	0.1 degree
Pressure range	≤0.1 Mpa
Sensor material	Body: SUS316L(normal), Titanium alloy (seawater version); Cable PUR
Storage temp.	-15 to 50℃
Operating temp.	0 to 45℃(No frozen)
Dimension	Dia. 34*244mm
Weight	0.8KG
Class of protection	IP68/NEMA6P
Cable length	Standard: 10M cable, Can be extended into 100M

Controller Technical Specifications	
Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20-70℃
Measuring temperature	-15-60℃
Protective rate	IP66/NEMA4X
Dimensions	145mm*125mm*162mm(L*W*H)
Weight	1.35KG

POIL-800 Oil In Water Online Analyzer

Measurement Principle

The oil-in-water Online Analyzer uses ultraviolet fluorescence to monitor the oil content in water. It quantitatively analyzes the concentration of oil in water based on the fluorescence intensity emitted by petroleum and its aromatic compounds and conjugated double bond compounds after absorbing ultraviolet light. Aromatic hydrocarbons in petroleum can produce fluorescence under ultraviolet light excitation, and the value of oil in water is calculated based on the intensity of fluorescence.

Main Features

- Advanced optical monitoring method, no reagents, no dilution, long-term stable operation;
- Short response time, continuous measurement;
- LED light source, small size, low power consumption, easy on-site integration;
- The sensor has an automatic cleaning function to reduce maintenance;
- Unique optical and electronic filtering technology to eliminate the influence of ambient light;
- Wide operating range and high sensitivity;
- All-metal casing, sturdy and durable.

Typical Application

- Real-time online monitoring of oil in water in water treatment systems and wastewater discharge in industrial fields such as petroleum, chemical industry, and electric power;
- Real-time online monitoring of oil in water in environmental water bodies such as surface water, groundwater, seawater, drinking water, and pollution source emission control.



Sensor Technical Specifications

Measuring range	0-100mg/L(NDSA)
Measuring accuracy	Less than $\pm 5\%$ of the measured value or $\pm 0.15\text{mg/L}$, the bigger one
Repeatability	$\pm 2\%$
Resolution	0.01mg/L
Pressure range	$\leq 0.4\text{Mpa}$
Calibration	Sample calibration, slope calibration
Main material of sensor	Body: SUS316L (normal version), titanium alloy (seawater version); Cable: PUR
Power supply	DC: 9~36VDC
Communication protocol	MODBUS RS485
Storage temperature	-15-50°C
Operating temperature	0-45°C (no freezing)
Dimensions	Diameter 60mm*Length 262mm
Weight	2.1KG
Protection level	IP68/NEMA6P
Cleaning method	Automatic scraper cleaning
Cable length	Standard 10m cable, can be extended to 100m

Controller Technical Specifications

Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20-70°C
Measuring temperature	-15-60°C
Protective rate	IP66/NEMA4X
Dimensions	145mm*125mm*162mm(L*W*H)
Weight	1.35KG

POIL-700 Oil In Water Online Analyzer

Measurement Principle

The POIL-700 oil-in-water Online Analyzer uses ultraviolet fluorescence to monitor the oil content in water. It quantitatively analyzes the concentration of oil in water based on the fluorescence intensity emitted by petroleum and its aromatic compounds and conjugated double bond compounds after absorbing ultraviolet light. Aromatic hydrocarbons in petroleum can produce fluorescence under ultraviolet light excitation, and the value of oil in water is calculated based on the intensity of fluorescence.

Main Features

- Advanced optical monitoring method, no reagents, no dilution, long-term stable operation;
- Short response time, continuous measurement;
- LED light source, small size, low power consumption, easy on-site integration;
- The sensor has an automatic cleaning function to reduce maintenance;
- Unique optical and electronic filtering technology to eliminate the influence of ambient light.

Typical Application

- Real-time online monitoring of oil in environmental water such as surface water, groundwater, drinking water, and pollution source emission control.



Sensor Technical Specifications

Measuring range	0-50mg/L(NDSA)
Measuring accuracy	Less than $\pm 10\%$ of the measured value or $\pm 0.3\text{mg/L}$, the bigger one
Repeatability	$\pm 5\%$
Resolution	0.01mg/L
Pressure range	$\leq 0.1\text{Mpa}$
Calibration	Sample calibration, slope calibration
Main material of sensor	Body: SUS316L; Cable: PUR
Power supply	DC power supply: 9~36VDC
Communication protocol	MODBUS RS485
Storage temperature	-15~50℃
Operating temperature	0~45℃ (no freezing)
Dimensions	Diameter 60mm*Length 212mm
Weight	1.55KG
Protection level	IP68/NEMA6P
Cleaning method	Automatic scraper cleaning
Cable length	Standard 10m cable, can be extended to 100m

Controller Technical Specifications

Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20~70℃
Measuring temperature	-15~60℃
Protective rate	IP66/NEMA4X
Dimensions	145mm*125mm*162mm(L*W*H)
Weight	1.35KG

PUVCOD-900 Spectroscopic Organic OnLine Analyzer

Principle of Measurement

Based on the UV absorption reaction by organic matter, the Spectrometer Organic On-Line Analyzer uses the 254nm spectral absorption coefficient SAC254 to measure the content of soluble organic compound in the water, and it can be converted to COD or BOD values under certain conditions. This method allows continuous monitoring without any reagents.

Main Features

- Direct-immersion probe measurement without taking sampling and pretreatment;
- No chemical reagents, no secondary pollution;
- The sensor has an automatic cleaning function to reduce maintenance time. Easy operating, reliable results, interface operation instructions can reduce operating errors;
- Easy operating, reliable results, interface operation instructions can reduce operating errors;
- Set up a visual alarm system to provide important alarm functions, and short response time for continuous measurement;
- The controller can be wall-mounted / panel-mounted / pipe-mounted.

Typical Application

- Continuous monitoring of organic load during sewage treatment, online real-time monitoring of influent and effluent water quality of wastewater treatment plants;
- Continuous on-line monitoring of surface water, industrial effluent and fishery wastewater.



Sensor Technical Specifications

Measuring Range	COD (using KHP calibration):0-2000mg/L COD (2mm),0-1000mg/L COD (5mm), 0-90mg/L COD (50mm) BOD (using KHP calibration):0-1500mg/L BOD(2mm),0-750mg/L BOD(5mm), 0-60mg/L BOD (50mm) TOC(using KHP calibration):0-800mg/l TOC(2mm),0-400mg/l TOC(5mm),0-35mg/l TOC(50mm)
Accuracy	±5%(KHP Standard solution)
Repeatability	±2%(KHP Standard solution)
Resolution	0.01 mg/L
Pressure Range	≤0.4Mpa
Sensor material	Body:SUS316L(fresh water),Titanium alloy(Ocean marine) ;Cable:PUR
Storage & Measuring temp	-15-50℃ & 0-45℃ (Non-freezing)
Protective rate	IP68/NEMA6P
Dimensions&Weight	DIA 69mm*L 382mm(2mm) DIA 69mm*L 385mm(5mm) DIA 69mm*L 430mm(50mm)
Cable length	Standard:10m,can be extended to 100m

Controller Technical Specifications

Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20-70℃
Measuring temperature	-15-60℃
Protective rate	IP66/NEMA4X
Dimensions	145mm*125mm*162mm(L*W*H)
Weight	1.35KG

PUVCOD-600 Spectroscopic Organic Online Analyzer

Principle of Measurement

Based on the UV absorption reaction by organic matter, the Spectromete Organic On-Line Analyzer uses the 254 nm spectral absorption coefficient SAC254 to measure the content of soluble organic compound in the water, and it can be converted to COD or BOD values under certain conditions. This method allows continuous monitoring without any reagents.

Main Features

- Direct-immersion probe measurement without taking sampling and pretreatment;
- No chemical reagents, no secondary pollution;
- Short response time for continuous measurement
- LED light source, small size, low power consumption, easy to integrate on-site
- The sensor has an automatic cleaning function to reduce maintenance time.
- With time display, data storage and historical data viewing function;
- Optional data wireless transmission module.

Typical Application

- Continuous monitoring of organic load during sewage treatment, online real-time monitoring of influent and effluent water quality of wastewater treatment plants.
- Continuous on-line monitoring of surface water, industrial effluent, and fishery wastewater.



Sensor Technical Specifications	
Measuring Range	COD (using KHP calibration):0-1000mg/l COD (5mm),0-100mg/L COD (25mm);BOD (using KHP calibration):0-750mg/Lmg/Lmg/L BOD(5mm),0-75mg/L BOD(25mm);TOC(using KHP calibration):0-400mg/L TOC(5mm),0-40mg/L TOC(25mm) Turbidity:10-1000NTU(5mm),10-300NTU(25 mm)
Accuracy	COD/BOD/TOC (using KHP calibration): $\pm$ 5% or $\pm$ 1mg/L, whichever is greater;Turbidity: $\pm$ 10%
Repeatability	5% (using KHP calibration)
resolution	COD/BOD/TOC:0.01 mg/l;Turbidity:0.01NTU
Pressure Range	$\leq$ 0.1Mpa
Sensor material	Body:SUS316L(fresh water),Titanium alloy(Ocean marine) ;Cable:PUR
Storage & Measuring temp	-15-50°C & 0-45°C(Non-freezing)
Protective rate	IP68/NEMA6P
Dimensions&Weight	DIA 34mm*L 223m (5mm) ;DIA 34mm*L 244m (25mm) ,0.8KG

Controller Technical Specifications	
Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20-70°C
Measuring temperature	-15-60°C
Protective rate	IP66/NEMA4X
Dimensions&Weight	145mm*125mm*162mm(L*W*H),1.35KG

PUVCOD-500 Spectroscopic Organic OnLine Analyzer

Principle of Measurement

Based on the UV absorption reaction by organic matter, the Spectromete Organic On-Line Analyzer uses the 254 nm spectral absorption coefficient SAC254 to measure the content of soluble organic compound in the water, and it can be converted to COD or BOD values under certain conditions. This method allows continuous monitoring without any reagents.

Main Features

- Direct-immersion probe measurement without taking sampling and pretreatment;
- No chemical reagents, no secondary pollution;
- Short response time for continuous measurement
- LED light source, small size, low power consumption, easy to integrate on-site
- The sensor has an automatic cleaning function to reduce maintenance time.
- Sensor power supply positive and negative reverse connection protection
- Sensor RS485 A/B terminal is connected to the power supply protection
- With time display, data storage and historical data viewing function;
- Optional data wireless transmission module.

Typical Application

- Continuous monitoring of organic load during sewage treatment, online real-time monitoring of influent and effluent water quality of wastewater treatment plants.
- Continuous on-line monitoring of surface water, industrial effluent, and fishery wastewater.



Sensor Technical Specifications	
Measuring Range	COD (using KHP calibration):0-1000mg/l COD (5mm),0-100mg/L COD (25mm);BOD (using KHP calibration):0-750mg/Lmg/Lmg/L BOD(5mm),0-75mg/L BOD(25mm);TOC(using KHP calibration):0-400mg/L TOC(5mm),0-40mg/L TOC(25mm) Turbidity:10-1000NTU(5mm),10-300NTU(25m m)
Accuracy	COD/BOD/TOC (using KHP calibration):±5% or ±1mg/L, whichever is greater;Turbidity:±10%
Repeatability	5% (using KHP calibration)
resolution	COD/BOD/TOC:0.01 mg/l;Turbidity:0.01NTU
Pressure Range	≤0.1Mpa
Sensor material	Body:SUS316L(fresh water),Titanium alloy(Ocean marine) ;Cable:PUR
Storage & Measuring temp	-15-50℃ & 0-45℃(Non-freezing)
Protective rate	IP68/NEMA6P
Dimensions&Weight	Diam Diam 34mm*Length 223mm,0.8KG

Controller Technical Specifications	
Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20-70℃
Measuring temperature	-15-60℃
Protective rate	IP66/NEMA4X
Dimensions&Weight	145mm*125mm*162mm(L*W*H),1.35KG

PINH3-900 Ammonia Nitrogen sensor Online Analyzer

Measurement Principle

The ammonia nitrogen concentration was measured by an ion selective electrode method. The ammonia ion selective electrode directly detects the ammonium ion in the water environment to determine the concentration of ammonia nitrogen.

Use a pH electrode as a reference electrode for better stability. The concentration of ammonia nitrogen in the measurement process is easily interfered by potassium ions, so potassium ion compensation is required.

The ammonia nitrogen sensor is composed of an ammonium ion selective electrode, a potassium ion (optional), a pH electrode and a temperature electrode to form an integrated sensor. These parameters can mutually correct and compensate the measurement value of ammonia nitrogen, and at the same time realize multi-parameter measurement.



Features

- Digital sensor, strong anti-interference ability, long transmission distance;
- Standard digital signal output for integration and networking with other devices without a transmitter;
- The sensor is easy to install on site, enabling plug and play, and the sensor power supply is reversed and protected;
- The sensor RS485 A/B terminal is connected to the power supply protection;
- Easy operating, reliable results, interface operation instructions can reduce operating errors;
- The controller can be wall-mounted / panel-mounted / pipe-mounted.

Applications

Sewage treatment plants monitoring instruments and ammonia nitrogen values in aeration tanks monitoring instruments, industrial processes and river water monitoring instruments.

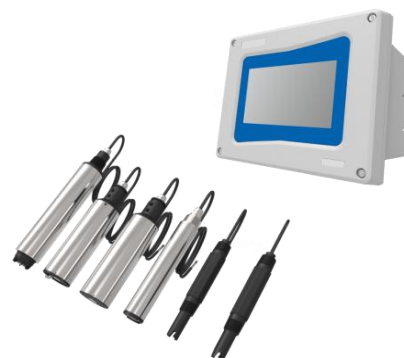
Sensor Technical Specifications	
Measurement range	NH ₄ N:0.1-3000 mg/L,Temp.:0-40℃, K+:0.5-5000 mg/L(optional),PH:5-10
Resolution	NH ₄ N:0.01 mg/L,Temp.: 0.1℃ K+:0.01 mg/L(optional),PH:0.01
Accuracy	NH ₄ N:±5 % or ± 0.2 mg/L (bigger one); K+:±10 % or ±0.2 mg/L(optional); Temp.: ±0.5℃ ; pH:±0.1 pH
Repeatability	±5 % or ± 0.2 mg/L (bigger one)
Pressure	Max Pressure: 0.1MPa (10m)
Storage temperature	0-50℃ (Non-freezing)
Operating temperature	0-40℃ (Non-freezing)
Protective rate	IP68/NEMA6P
Dimension&Weight	Diam55mm*L 342mm,1Kg
Cable length	Standard 10M cable (Max could be extended to 100M)

Controller Technical Specifications	
Display	128*64 Graphic dot matrix LCD with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply:85-500VAC DC power supply:9-36VDC
Main material	PA66+GF25+FR(Cover) ;Aluminum alloy powder(Lower casing)
Output	3-way 4-20mA analog output, programmed response parameter and response range
Relay	Three-way relays, programmed parameter & value response
Communication protocol	MODBUS RS485
Storage temperature	-20-70℃
Measuring temperature	-15-60℃
Protective rate	IP66/NEMA4X
Dimensions	145mm*125mm*162mm(L*W*H)
Weight	1.35KG

Split Type Multi-parameter Online Analyzer

Introduction

The multi-parameter transmitter can realize online monitoring of multiple different parameters at the same time through optional sensors according to different needs of customers, including temperature / PH / ORP / conductance / dissolved oxygen / turbidity / sludge concentration / chlorophyll / blue-green algae / UVCOD / UVNO₃ / ion ammonia nitrogen / transparency / residual chlorine and other parameters. The transmitter software interface parameter display realizes self-adaptation, and has data storage and export.



Features

- Up to 7 sensors of our company can be connected at the same time to improve integration and reduce operation and maintenance costs;
- Strong versatility, all digital sensor interfaces are common, and analog sensors can be configured with different modules according to different sensor types;
- The plug and play of the sensor is realized, and the electrode installation and replacement are fast and convenient;
- With 7-inch color touch screen, the operation interface is simple, easy learn, reliable system, low maintenance;
- pH, ORP, conductivity sensor cleaning and activation is simple, and the balance speed is fast;
- Dissolved oxygen sensor adopts breakthrough fluorescence method technology, basically no maintenance, and comes with NTC temperature compensation function;
- The turbidity, sludge concentration sensor uses ISO7027 standard method (infrared light scattering technology), which can eliminate the influence of the color of the sample, and can be equipped with a cleaning brush function;
- Chlorophyll sensor and blue-green algae sensor measure the target parameters based on the fluorescence of the pigment, which can be identified before the potential water bloom causes the impact, without the need for extraction or other treatment, rapid detection, to avoid the impact caused by the water sample.

Application

- Online monitoring of multi-parameter water quality in surface water, drinking water sources and aquaculture;
- Online monitoring of water quality in wastewater treatment plants, industrial sectors and ocean water quality .

Controller Technical Specifications

Display	7inch touch screen with LED strong backlight, can operate in direct sunlight
Power supply	AC power supply: 85-500VAC,DC power supply:9-36VDC
Output	8 channels 4-20mA output. Program setting response parameters and response values
Relay	Four-way relay, program setting response parameters and response values
Communication protocol	Standard MODBUS RS485 communication for real-time transmission of measured value. Optional wireless communication method:4G: UDP/TCP NB: UDP
Main Material	PA66+GF25+FR (top cover); aluminum powder dusting (lower shell)
Storage Temperature	-20 to 70℃
Operation temperature	-15 to 60℃
Protective rate	IP65/ NEMA4X
Dimension&Weight	260mm*200mm*123.3mm (L*W*H),About 2.0KG

Standard Electrode Parameters Specifications

pH	Principle	Glass electrode method	Residual Chlorine	Principle	constant voltage method
	Range	0-14 pH		Range	0-2 mg/L,0-20 mg/L(optional)
	Accuracy	±0.1 pH		Dimension	13.5mm*178.5mm(Φ*L)
	Dimension	28.7mm*195mm(Φ*L)			
Conductivity	Principle	Conductivity cell method	DO (Dissolved Oxygen)	Principle	Fluorescence
	Range	10us/cm-5000 us/cm(K=1)		Range	0 -20 mg/L ;0-200% Saturation
	Accuracy	±3%or3us/cm, whichever is greater		Accuracy	±3% or ±0.3 mg/L, whichever is greater
	Dimension	28.7mm*195mm(Φ*L)		Dimension	49.5mm*251.5mm(Φ*L)
Turbidity	Principle	Light scattering method	Suspended and Sludge Concentration	Principle	Fluorescence
	Range	0.01-100NTU ;0.01-4000NTU		Range	0.01-20000mg/L ;0.01-45000mg/L ;0.01-120000mg/L
	Accuracy	<±2% of the measure reading or ±0.1 NTU, the bigger one		Accuracy	<the ±5% of measured value. (Depending on the homogeneity of sludge)
	Dimension	60mm*261mm(Φ*L)		Dimension	60mm*261mm(Φ*L)
Chlorophyll	Principle	Fluorescence	Blue-green algae	Principle	Fluorescence
	Range	0-500 ug/L		Range	0-300,000cells/mL
	Accuracy	±5% of the signal level corresponding value of 1ppb Rhodamine B Dye		Accuracy	±10% of the signal level corresponding value of 1ppb Rhodamine B Dye
	Dimension	30*223mm(Φ*L)		Dimension	30*223mm(Φ*L)
UVCOD	Principle	Spectroscopy	Ammonia nitrogen	Principle	Ion selection
	Range	0-2000mg/l COD (2mm optical path); 0-1000mg/l COD (5mm optical path); 0-90mg/l COD (50mm optical path)		Accuracy	NH4N:±5 % or ± 0.2 mg/L bigger; K+:±10 % or ±0.2 mg/L(Optional) Temp:±0.5℃ pH:±0.1 pH
	Accuracy	±5%(KHP Standard solution)		Range	NH4N:0.1 to 3000 mg/L ;K+:0.5 to 5000 mg/L(optional) ;PH:5-10
	Dimension	69*365mm(Diam*L)		Dimension	55mm*342mm(Φ*L)
NO3	Principle	Spectroscopy	Temperature	Principle	Thermistor method
	Range	0.1-40mg/L (2mm optical path)		Range	0℃-80℃
	Accuracy	±5%		Accuracy	±0.5℃
	Dimension	69*365mm(Diam*L)			

Water Quality Monitoring System

Introduction

The water quality monitoring system is a system that integrates pipe network water quality monitoring sensors, data processing units, and internal water flow pipeline units. It can continuously measure temperature, PH, turbidity, disinfectant indicators, and can extend water quality parameters such as conductivity and ORP.

The disinfectant index adopts the DPD colorimetric method. The two disinfectant indexes of residual chlorine, and total chlorine are optional. The cuvette has an automatic cleaning function, which greatly reduces the amount of maintenance and improves the stability of the measurement data. Need to purchase reagents locally.

The turbidity adopts the 90 ° scattered light technology of EPA principle, adopts LED light source, low power consumption and long life of light source.



Features

- Integrated design, save space;
- The internal wiring and waterway are highly integrated, and users only need to connect the power supply and enter and exit the water;
- The internal waterway design can try to ensure that the water flow is stable during the internal measurement process of the equipment, and ensure the monitoring data is accurate;
- With 7-inch color touch screen, the operation interface is simple, easy operation, reliable system, low maintenance;
- With data storage and curve display functions, master the dynamic changes of water quality;
- With automatic fault diagnosis function, abnormal information recording and uploading functions, such as parts failure, over-range alarm, over-standard alarm and other information, three-level management authority;
- Historical data download and curve display can intuitively and accurately understand and track the changes of water parameters within a certain period, Optional wireless data transmission module.

Applications

- Water quality monitoring of waterworks ,water supply network, and rural tap;
- Detection of water quality standards for secondary water supply in the community;
- Real-time water quality monitoring of swimming pool, SPA, etc.

Mainframe Physical Specifications

Display	7inch LED touch screen, can operate in direct sunlight
Power	AC Power:85-500VAC ;DC Power:9-36VDC
Output	8 way 4-20mA analog output. Program setting response parameters and response values
Relay	Four relays, program setting response parameters and response values
Communication Protocol	Standard MODBUS RS485 communication function, real-time transmission of measured values. Optional wireless communication method: 4G: UDP / TCP NB: UDP
Storage Temp.	0-60°C
Operation Temp.	0-45°C (non-frozen)
Protection Level	IP54
Size	340*450*900mm (L * W * H)

Monitoring parameter index		
Residual chlorine / total chlorine	Principle	DPD Standard colorimetry
	Range	0-10ppm
	Resolution	0.01ppm
	Accuracy	0-5ppm: $\pm 5\%$ reading or $\pm 0.03\text{ppmCl}_2$, whichever is greater; 5-10ppm: $\pm 10\%$
pH	Principle	Glass electrode method
	Range	0-14 pH
	Resolution	0.01 pH
	Accuracy	± 0.1 pH
ORP	Principle	Glass electrode method
	Range	-2000mV-2000mV
	Resolution	1mV
	Accuracy	$\pm 5\text{mV}$
Conductivity	Principle	Conductivity cell method
	Range	10us/cm-5000 us/cm(K=1)
	Resolution	0.1us/cm-0.01ms/cm(Depends on range)
	Accuracy	$\pm 3\%$ or 3us/cm,greater one
Turbidity	Principle	Light scattering
	Range	0-100NTU
	Resolution	0.001-0.1NTU(Depends on range)
	Accuracy	0.001-40NTU: reading $\pm 2\%$ or $\pm 0.015\text{NTU}$,greater one; 40-100NTU: reading $\pm 5\%$
Color	Principle	Absorbance spectrophotometry
	Range	0-100 degree
	Resolution	0.1 degree
	Accuracy	$\pm 10\%$ or $\pm 1\text{degree}$, the bigger one
Temp.	Principle	Thermistor method
	Range	0℃-40℃
	Resolution	0.1℃
	Accuracy	$\pm 0.5^\circ\text{C}$

Water Quality Monitoring System(electrode method)

Introduction

water quality monitoring system is a system that integrates pipe network water quality monitoring sensors, data processing units, and internal water flow pipeline units. It can continuously measure temperature, PH, turbidity, disinfectant indicators, and can extend water quality parameters such as conductivity and ORP.

The disinfectant index adopts the constant voltage method, and the two disinfectant indexes of residual chlorine and chlorine dioxide are optional; the electrode structure is simple, easy to clean and replace, no need to replace the diaphragm and reagent, and simple maintenance. The turbidity adopts the 90 ° scattered light technology of EPA principle, adopts LED light source, low power consumption and long life of light source

Features

- Integrated design, save space
- The internal wiring and waterway are highly integrated, and users only need to connect the power supply and enter and exit the water.
- The internal waterway design can try to ensure that the water flow is stable during the internal measurement process of the equipment, and ensure the monitoring data is accurate;
- With 7-inch color touch screen, the operation interface is simple, easy operation, reliable system, low maintenance
- With data storage and curve display functions, master the dynamic changes of water quality;
- With automatic fault diagnosis function, abnormal information recording and uploading functions, such as parts failure, over-range alarm, over-standard alarm and other information;
- With three-level management authority;
- Historical data download and curve display can intuitively and accurately understand and track the changes of water parameters within a certain period;
- Optional wireless data transmission module.

Application

- Water quality monitoring of waterworks ,water supply network;
- Detection of water quality standards for secondary water supply in the community;
- Real-time water quality monitoring of swimming pool, SPA, etc.
- Water quality monitoring of rural tap water



Mainframe Physical Specifications

Display	7inch LED touch screen, can operate in direct sunlight
Power	AC Power:85-500VAC ;DC Power:9-36VDC
Output	8 way 4-20mA analog output. Program setting response parameters and response values
Relay	Four relays, program setting response parameters and response values
Communication Protocol	Standard MODBUS RS485 communication function, real-time transmission of measured values. Optional wireless communication method: 4G: UDP / TCP NB: UDP
Storage Temp.	0-60°C
Operation Temp.	0-45°C (non-frozen)
Protection Level	IP54
Size	340*450*900mm (L * W * H)

Monitoring parameter index

Residual chlorine / chlorine dioxide	Principle	Constant voltage method
	Range	0-2ppm,0-20ppm(optional)
	Resolution	0.01ppm
pH	Principle	Glass electrode method
	Range	0-14 pH
	Resolution	0.01 pH
	Accuracy	±0.1 pH
ORP	Principle	Glass electrode method
	Range	-2000mV-2000mV
	Resolution	1mV
	Accuracy	±5mV
Conductivity	Principle	Conductivity cell method
	Range	10us/cm-5000 us/cm(K=1)
	Resolution	0.1us/cm-0.01ms/cm(Depends on range)
	Accuracy	±3% or 3us/cm,greater one
Turbidity	Principle	Light scattering
	Range	0-100NTU
	Resolution	0.001-0.1NTU(Depends on range)
	Accuracy	0.001-40NTU: reading ±2% or ±0.015NTU,greater one; 40-100NTU: reading ±5%
Color	Principle	Absorbance spectrophotometry
	Range	0-100 degree
	Resolution	0.1 degree
	Accuracy	±10% or ±1 degree, the bigger one
Temp.	Principle	Thermistor method
	Range	0℃-40℃
	Resolution	0.1℃
	Accuracy	±0.5℃

Integrated Multi-Parameter Analyzer

Introduction

Integrated multi-parameter online analyzer: Suitable for long-term field online monitoring, up to 8 parameters can be measured at the same time, parameters include: Temperature, Depth, pH, ORP, Conductivity & Salinity & TDS, Turbidity, DO, Chlorophyll, Blue-green algae, Ammonia nitrogen, Nitrate, Chloride, Fluoride. Optional accessories such as bluetooth module, battery pack, handheld communicator are also available. Easily realize the portable measurement of the instrument.

Communicator: In order to enable the integrated multi-parameter analyzer to complete the data reading, parameter setting and calibration of the analyzer without the need of a PC, and can be applied to handheld and portable applications, our company Specially developed a hand-held communicator to be used with it. Built-in GPS receiver; Bluetooth function; USB interface and data storage function; ergonomic design, with rubber gasket, suitable for hand-held operation, easy to grasp in wet environment.

Features

- Standard ModbusRS-485 digital signal output, can be connected with third-party data logger or remote equipment to achieve integration and networking;
- With built-in battery compartment, optional battery, to achieve battery power in a short time;
- Hand-operated device is optional, and Bluetooth wireless communication mode is realized with the hand-operated device, data viewing and calibration are convenient, and hand-held applications can be realized;
- The host has LED lights, which can display the current running state of the host and the working state of Bluetooth;
- The host has a data storage function, the amount of stored data is 100,000;
- The host can flexibly set the sampling interval time, optimize the work / sleep time, reduce the overall power consumption, and can be suitable for battery power supply, solar power supply, commercial power supply and other occasions;
- The electrode can be replaced directly on site, the maintenance is simple and fast;
- Self-cleaning system can allow products to obtain accurate data for a long time;
- The operation software of the Windows interface can realize the functions of setting, online observation, calibration and historical data download, which are simple and easy;
- Historical data download and curve display can intuitively and accurately understand and track the parameter changes of the test water body within a certain period.

Application

- Multi-parameter water quality online monitoring of rivers, lakes and reservoirs;
- Online monitoring of drinking water quality, groundwater quality and ocean water quality.



Mainframe Physical Indicators

Power Supply	9-36VDC	Measuring Temperature	0-40℃(non-frozen)
Power Dissipation	3W	Storage Temperature	0-50℃(non-frozen)
Communication protocol	MODBUS RS485	Protection Class	IP68
Size	D 90*L 635mm	Weight	5KG
Maximum withstand pressure depth	30m(With ion selective electrode: 10 m)	Battery capacity	8 sections, 3.6V lithium sub-battery

Communicator Physical Indicators

Display	3.5-inch color display screen with adjustable backlight
Data storage	More than 100,000 data
Power supply	Built-in battery power, battery specifications: 4 3.7V rechargeable lithium battery
Protection level	IP67
Operating & Storage temp.	0-50℃(Non-frozen)&-15-60℃
Size	203*100*43mm
Weight	0.5KG

Standard Electrode Parameters

Temperature	Principle	Thermistor method	pH sensor	Principle	Glass electrode method
	Range	0℃-60℃(Mainframe's work temp. 0-40℃)		Range	0-14 pH(With ion electrode:5~ 10 pH)
	Resolution	0.1℃		Resolution	0.01 pH
	Accuracy	±0.5℃		Accuracy	±0.1 pH
ORP Sensor	Principle	Glass electrode method	Conductivity sensor	Principle	Conductivity cell method
	Range	-1000mV -+1000mV		Range	10us/cm-200ms/cm
	Resolution	1mV		Resolution	0.1us/cm-0.01ms/cm(Depending on the range)
	Accuracy	±5mV		Accuracy	±1% or 1uS/cmL, the bigger one
Turbidity sensor	Principle	Light scattering method	DO Probe	Principle	Fluorescence
	Range	0-1000NTU		Range	0 -20 mg/L ;0-20 ppm ;0-200%
	Resolution	0.1NTU		Resolution	0.1%/0.01mg/l
	Accuracy	± 5% or 0.3NTU, whichever is greater		Accuracy	±3% or ±0.3 mg/L, whichever is greater
Chlorophyll sensor	Principle	Fluorescence	Blue-green algae sensor	Principle	Fluorescence
	Range	0-500 ug/L		Range	0-300,000cells/mL
	Resolution	0.01 ug/L-0.1 ug/L, Depending on range		Resolution	20cells/mL
	Accuracy	±5% of the signal level corresponding value of 1ppb Rhodamine B Dye		Accuracy	±10% of the signal level corresponding value of 1ppb Rhodamine B Dye
Ammonia nitrogen Sensor	Principle	Ion selection	Chloride Sensor	Principle	Ion selection
	Range	0.1-3000mg/L-N		Range	3-3500mg/L
	Resolution	0.01mg/L-N		Resolution	0.01mg/L
	Accuracy	±5% or ±0.2mg/L		Accuracy	±10% or ±0.2mg/L
Nitrate nitrogen Sensor	Principle	Ion selection	Fluoride Sensor	Principle	Ion selection
	Range	0.5-3000mg/L-N		Range	0.5-10000mg/L
	Resolution	0.01mg/L-N		Resolution	0.01mg/L
	Accuracy	±10% or ±0.2mg/L		Accuracy	±10% or ±0.2mg/L
Depth (Pressure)	Principle	Pressure-sensitive Method	Potassium ion sensor	Principle	Ion selection
	Range	0-61m		Range	0.5-5000 mg/L
	Resolution	2cm		Resolution	0.01mg/L
	Accuracy	±0.3%		Accuracy	±10% or ±0.2mg/L

Portable Water Analyzer

Introduction

Portable Water Analyzer when used with portable electrodes, the portable analyzer can measure a variety of parameters such as pH, ORP, Conductivity (convertible Salinity & TDS), Dissolved oxygen, Turbidity, Suspended solids, Chlorophyll, Blue-green algae ect. The connected electrode type can be automatically identified; single channel and dual channel configurations are available. It has the advantages of comfortable operation, convenient testing and wide application.

Main features

- The host with IP67 protection rating;
- 3.5-inch color screen display, interface menu design is beautiful, easy to operate;
- Ergonomic curve design, suitable for hand grip, with rubber non-slip hand strap, not easy to slip in wet environment;
- With data storage function, and data export through USB interface;
- Built-in rechargeable battery and charging directly via USB without disassembling the battery;
- Automatically identify the connected sensor type and the reading interface automatically adapts;
- The sensor can be parameterized and calibrated.

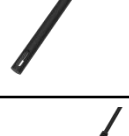


Measurement parameters	Single channel	Dual channel
Turbidity	√	√
Suspended solids	√	√
Dissolved oxygen	√	√
Chlorophyll	√	√
Blue-green algae	√	√
Oil-in-Water	√	√
Colority	√	√
Ion((NH ₄ N, NO ₃ N, K ⁺ , CL ⁻ , and F ⁻)	√	√
PH	√	√
Conductivity	√	√
ORP	√	√
COD	√	√

Mainframe Physical Specifications

Display	3.5-inch color display screen with adjustable backlight
Data storage	More than 100,000 data
Material	ABS+PC
Power supply	Built-in battery power, battery specifications: 4 3.7V rechargeable lithium battery
Protection level	IP67
Operating temperature	0-50°C(Non-freezing)
Storage temperature	-15-60°C
Size	203*100*43mm
Weight	0.5KG

Electrode Parameters

	Temp.	Principle	Thermal method
		Measure Range	0°C-60°C
		Resolution	0.01°C
		Accuracy	±0.5°C
	pH	Principle	Glass electrode method
		Measure Range	0-14 pH
		Resolution	0.01 pH
		Accuracy	±0.1 pH
	ORP	Principle	Glass electrode method
		Measure Range	-2000mV-2000mV
		Resolution	1mV
		Accuracy	±2mV(Electronic component)
	Conductivity (convertible Salinity & TDS)	Principle	Conductivity cell method
		Measure Range	0-20000 us/cm(K=1)
		Resolution	0.1uS/cm-0.01mS/cm(base on range)
		Accuracy	±1.5% or ±2 us/cm,bigger one
	Dissolved oxygen	Principle	Fluorescence method
		Measure Range	0 -20 mg/L ;0-20 ppm ;0-200%
		Resolution	0.1%/0.01mg/L
		Accuracy	±3% or ±0.3 mg/L, whichever is greater
	Turbidity	Principle	Light scattering
		Measure Range	0.1-1000NTU
		Resolution	0.01-0.1NTU,base on range
		Accuracy	±5% or 0.3NTU bigger one
	Suspended solids	Principle	Light scattering
		Measure Range	0.01-20000mg/L ;0.01-45000mg/L ;0.01-120000mg/L
		Resolution	0.01-1 mg/L,base on range
		Accuracy	Not more than ±5% measured(Depends on sludge

			homogeneity)
	Chlorophyll	Principle	Fluorescence method
		Measure Range	0-500 ug/L
		Resolution	0.01 ug/L
		Accuracy	± 5% of the signal level of 1 ppb rhodamine B dye
		Linearity	R2 >0.999
	Blue-green algae	Principle	Fluorescence method
		Measure Range	0-300,000cells/mL
		Resolution	20 cells/mL
		Accuracy	±10% of the signal level of 1 ppb rhodamine B dye
		Linearity	R2 >0.999

