

Water Quality Monitoring Sensor

SPECSSENS 

| Parameter | SPS-D-Lxx | SPS-M-Lxx | SPS-F-Lxx | SPS-F-C | SPS-Color-C | SPS-M-SCx | SPS-T-SCT | SPS-T-SC4 | SPS-T-SC3 | SPS-T-SC1 | SPS-DO | SPS-NH3 | SPS-pH | SPS-EC | SPS-ORP | SPS-Cl-C | SPS-Cl-F | SPS-Cl-T | SPA-Chlorine | SPA-Hardness | SPA-Alkalinity | SPA-Fe | iSPA-T-P06 | iSPS-X | |
|---|-----------|-----------|-----------|---------|-------------|-----------|-----------|-----------|-----------|-----------|--------|---------|--------|--------|---------|----------|----------|----------|--------------|--------------|----------------|--------|------------|--------|---|
| Temperature | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | | √ | √ | |
| Turbidity | √ | √ | √ | √ | | √ | √ | √ | √ | √ | | | | | | | | | | | | | | √ | √ |
| TSS | √ | √ | √ | √ | | | √ | √ | | √ | | | | | | | | | | | | | | √ | √ |
| COD | √ | √ | √ | √ | | √ | √ | | | | | | | | | | | | | | | | | √ | √ |
| TOC | √ | √ | √ | √ | | √ | √ | | | | | | | | | | | | | | | | | √ | √ |
| BOD | √ | √ | √ | √ | | | | | | | | | | | | | | | | | | | | | √ |
| DOC | √ | √ | √ | √ | | | | | | | | | | | | | | | | | | | | | √ |
| SAC254 | √ | √ | √ | √ | | √ | √ | | | | | | | | | | | | | | | | | | √ |
| NO ₃ -N | | √ | √ | √ | | | | | | | | | | | | | | | | | | | | | √ |
| NO ₂ -N | | | √ | √ | | | | | | | | | | | | | | | | | | | | | |
| NO ₃ ⁻ | | √ | √ | √ | | | | | | | | | | | | | | | | | | | | | √ |
| NO ₂ ⁻ | | | √ | √ | | | | | | | | | | | | | | | | | | | | | |
| Color | | | √ | √ | √ | | √ | | | | | | | | | | | | | | | | | √ | |
| O ₃ | | | | √ | | | | | | | | | | | | | | | | | | | | | |
| DO | | | | | | | | | | | √ | | | | | | | | | | | | | | √ |
| NH ₃ -N / NH ₄ -N | | | | | | | | | | | | √ | | | | | | | | | | | | | √ |
| pH | | | | | | | | | | | | | √ | | | | | | | | | | | √ | √ |
| Conductivity | | | | | | | | | | | | | | √ | | | | | | | | | | √ | √ |
| ORP | | | | | | | | | | | | | | | √ | | | | | | | | | √ | √ |
| Free Chlorine | | | | | | | | | | | | | | | | √ | √ | | √ | | | | | √ | |
| Total Chlorine | | | | | | | | | | | | | | | | | | √ | √ | | | | | √ | |
| Hardness | | | | | | | | | | | | | | | | | | | | √ | | | | | |
| Alkalinity | | | | | | | | | | | | | | | | | | | | | | √ | | | |
| Total Iron | | | | | | | | | | | | | | | | | | | | | | | √ | | |
| Chlorophyll-a | | | | | | | | | | | | | | | | | | | | | | | | | √ |
| Phycocyanin (PC) | | | | | | | | | | | | | | | | | | | | | | | | | √ |
| Phycoerythrin (PE) | | | | | | | | | | | | | | | | | | | | | | | | | √ |
| Rhodamine (Rh) | | | | | | | | | | | | | | | | | | | | | | | | | √ |
| fDOM | | | | | | | | | | | | | | | | | | | | | | | | | √ |
| CDOM | | | | | | | | | | | | | | | | | | | | | | | | | √ |
| Fluorescein sodium | | | | | | | | | | | | | | | | | | | | | | | | | √ |
| Oil in water | | | | | | | | | | | | | | | | | | | | | | | | | √ |
| Pressure | | | | | | | | | | | | | | | | | | | | | | | | | √ |
| Principle | | | | | | | | | | | | | | | | | | | | | | | | | |
| Absorption Spectroscopy | √ | √ | √ | √ | √ | √ | | | | | | | | | | | | | | | | | | √ | √ |
| Scattering Spectroscopy | | | | | | | | | √ | √ | | | | | | | | | | | | | | | √ |
| Fluorescence | | | | | | | | | | | √ | | | | | | | | | | | | | | √ |
| Electrode | | | | | | | | | | | | √ | √ | √ | √ | √ | √ | √ | | | | | | √ | √ |
| Titrimetric Colorimetric | | | | | | | | | | | | | | | | | | | √ | √ | | √ | | | |

Application

- Drinking Water
- Municipal Sewage
- Industrial Sewage
- Natural Water

| | |
|--|---|
| Optical |  |
| Electrodes |  |
| Meter Controller and Integration devices |  |

High Performance Water Sensor

- Optical Method
- Electrode Method
- Integrated Multi-Parameter Online
Monitoring Device
- Meter Controller

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SPS-D-Lxx Dual-wavelength Water Quality Sensor

Overview

The dual-wavelength spectrum sensor, based on the principle of ultraviolet absorption spectroscopy, can measure organic components in water; and has a turbidity compensation function effectively improving the accuracy of actual water sample measurement. It is suitable for the monitoring of domestic sewage, industrial waste water, watershed, etc. Compared with conventional chemical detection, it has the characteristics of high reliability, zero pollution and zero delay, and realizes real-time online monitoring of organic pollutants.

It can be matched with our MC series data collector and cloud service to realize remote real-time monitoring of data, operation, and maintenance of equipment.



Features

- Optical in-situ measurement, no actual pollution, environmentally friendly
- Quick measurement, the shortest measurement cycle is 10 seconds
- Long maintenance-free cycle, with its own cleaning brush for cleaning
- RS485 communication mode, can quickly connect the meter Controller, and control the sensor
- IP68 protection rating, can be used in harsh environments
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|----------------------------|-------------------------|--------------------|
| Principle | UV-Vis spectral absorption | Power | < 6 W |
| Dimension | Φ45 x 325 mm | Material | AISI 316L |
| Power requirements | DC + 12V to + 24 V | Cleaning method | Cleaning brush |
| Measurement period | 10 to 65535 seconds | IP rating | IP68 |
| Operating temperature | -5 to 50 °C | Sample flow rate | < 3 m/s |
| Pressure | 6 bar | Communication | RS485 (Modbus RTU) |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|--------------------|--------------------------|-------------|------------|-------------------------------|
| COD | SPS-D-L10 | 0-500 mg/L | 0.01 mg/L | ±2.5% of reading or ±2.5 mg/L |
| | SPS-D-L05 | 0-1000 mg/L | 0.01 mg/L | ±2.5% of reading or ±2.5 mg/L |
| TOC | SPS-D-L10 | 0-200 mg/L | 0.01 mg/L | ±2.5% of reading or ±2.5 mg/L |
| | SPS-D-L05 | 0-400 mg/L | 0.01 mg/L | ±2.5% of reading or ±2.5 mg/L |
| BOD | SPS-D-L10 | 0-300 mg/L | 0.01 mg/L | ±2.5% of reading or ±2.5 mg/L |
| | SPS-D-L05 | 0-600 mg/L | 0.01 mg/L | ±2.5% of reading or ±2.5 mg/L |
| TUR | SPS-D-L10 | 0-500 NTU | 0.01 NTU | ±2.5% of reading or ±5 NTU |
| | SPS-D-L05 | 0-1000 NTU | 0.01 NTU | ±2.5% of reading or ±10 NTU |
| TSS (Diatomite) | SPS-D-L10 | 0-2000 mg/L | 1 mg/L | ±5% of reading or ±5 mg/L |
| | SPS-D-L05 | 0-4000 mg/L | 1 mg/L | ±5% of reading or ±10 mg/L |
| Temperature | SPS-D-Lxx | -5 to 50 °C | 0.01 °C | ±0.1 °C |
| Model | Description | IP rating | Connection | |
| SPS-D-Lxx | Cable extending directly | IP68 | | |

For more information, please refer to the user manual.

Application

- Sewage treatment plant outlet monitoring
- Surface water, rainwater, groundwater monitoring
- Municipal sewage monitoring
- River, watershed monitoring

SPS-M-Lxx Multi-Wavelength Spectrum Water Quality Sensor

Overview

The multi-wavelength spectrum water quality sensor, based on the principle of ultraviolet absorption spectrum, can measure organic matter and nitrate nitrogen in water, and has turbidity compensation function effectively improving the measurement accuracy of actual water samples. It is suitable for monitoring domestic sewage, industrial sewage, watershed, etc. Compared with conventional chemical detection, it has the characteristics of high reliability, zero pollution and zero delay, and can realize real-time online monitoring of organic pollutants. It can be matched with our MC series data collector and cloud service to realize remote real-time monitoring of data and remote operation and maintenance of equipment.



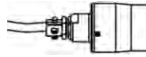

Features

- 4 wavelengths measured, obtaining more spectral information of water samples
- Optical in-situ measurement, no chemical reagent consumption, environmentally friendly
- Quick measurement, the shortest measurement cycle is 10 seconds
- The maintenance-free period is long, and the sensor has its own cleaning brush
- RS485 communication mode, can quickly connect to the meter
- IP68 protection rating, can be used in harsh environment
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|----------------------------|-------------------------|------------------------------|
| Principle | UV-Vis spectral absorption | Power | <2 W |
| Dimension | Φ30x260 mm | Material | AISI 316L |
| Power requirements | DC +12V to +24V | Cleaning method | Cleaning brush |
| Measurement period | 10 to 65535 seconds | IP rating | IP68 |
| Operating temperature | -5 to 50 °C | Sample flow rate | <3 m/s |
| Pressure | 6 bar | Communication | RS485(Modbus RTU), Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|--------------------|---|-------------|------------|---|
| COD | SPS-M-L10 | 0-500 mg/L | 0.01 mg/L | ±5% of reading or ±5 mg/L |
| TUR | SPS-M-L10 | 0-500 NTU | 0.01 NTU | ±5% of reading or ±5 NTU |
| NO ₃ -N | SPS-M-L10 | 0-50 mg/L | 0.01 mg/L | ±5% of reading or ±1 mg/L |
| TOC | SPS-M-L10 | 0-200 mg/L | 0.01 mg/L | ±5% of reading or ±2 mg/L |
| TSS | SPS-M-L10 | 0-500 mg/L | 1 mg/L | ±10% of reading or ±10 mg/L |
| Temperature | SPS-M-L10 | -5 to 50 °C | 0.01 °C | ±0.1 °C |
| Model | Description | IP rating | Connection | |
| SPS-M-L10-P02 | Cable extending directly | IP68 | |  |
| SPS-M-L10-S02 | M12 5-pin aviation plug with waterproof connection thread | IP67 | |  |

For more information, please refer to the user manual.

Application

- Sewage treatment plant effluent monitoring
- Watershed, surface water, groundwater monitoring
- Municipal sewage monitoring
- Industrial water monitoring

SPS-F-Lxx Full Spectrum Water Quality Sensor

Overview

The full spectrum sensor adopts the measurement principle of UV-Vis absorption spectroscopy to monitor the "light pattern" (fingerprint) information in the wavelength range of 200-800 nm online in real time, and realize multi-parameter measurement through AI algorithm, including: COD, TOC, DOC, BOD, TUR, TSS, nitrate, color, etc. It is mainly applied to influent feature identification and real-time online monitoring of domestic and industrial sewage, as well as process parameter optimization enhancing efficiency and reducing consumption of the sewage treatment. It can be matched with our MC series data controller and cloud service to realize remote monitoring of data and remote operation and maintenance of equipment.



Features

- 200~800nm full spectrum measurement with more water samples spectral information
- Water pattern recognition, which identifies the type of water sample based on the water pattern (fingerprint).
- Optical in-situ measurement, no chemical reagent consumption, environmentally friendly
- Quick measurement, the shortest measurement cycle is 10 seconds
- The maintenance-free period is long, and the sensor has its own cleaning brush
- RS485 communication mode, can quickly connect to the meter
- IP68 protection rating, can be used in harsh environment
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|--|-------------------------|-------------------------------|
| Principle | UV-Vis spectral absorption (200 nm~800 nm) | Power | < 8 W |
| Dimension | Φ66 x 513 mm | Material | AISI 316L |
| Power requirements | DC + 12V to + 24 V | Cleaning method | Cleaning brush |
| Measurement period | 10 to 65535 seconds | IP rating | IP68 |
| Operating temperature | -5 to 50 °C | Sample flow rate | < 3 m/s |
| Pressure | 6 bar | Communication | RS485 (Modbus RTU), Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|--------------------|--------------------------|------------|------------|-----------------------------|
| COD | SPS-F-L02 | 0-1000mg/L | 0.01mg/L | ±3% of reading or ±3mg/L |
| | SPS-F-L05 | 0-500mg/L | 0.01mg/L | ± 3% of reading or ±2.5mg/L |
| | SPS-F-L15 | 0-150mg/L | 0.01mg/L | ± 3% of reading or ±1.5mg/L |
| TUR | SPS-F-L02 | 0-1000NTU | 0.01NTU | ± 3% of reading or ±10 NTU |
| | SPS-F-L05 | 0-500NTU | 0.01NTU | ±3% of reading or ±10 NTU |
| | SPS-F-L15 | 0-150NTU | 0.01NTU | ±3% of reading or ±2.5 NTU |
| NO ₃ -N | SPS-F-L02 | 0-50mg/L | 0.01mg/L | ±3% of reading or ±0.5mg/L |
| | SPS-F-L05 | 0-20mg/L | 0.01mg/L | ±3% of reading or ±0.2mg/L |
| | SPS-F-L15 | 0-8mg/L | 0.01mg/L | ±3% of reading or ±0.1mg/L |
| Model | Description | IP rating | Connection | |
| SPS-F-Lxx | Cable extending directly | IP68 | | |

For more information, please refer to the user manual.

Application

- Industrial sewage
- Sewage treatment process
- Municipal sewage
- Basin, surface water, groundwater
- Tap water and pipe network

SPS-F-C Full Spectrum Water Quality Sensor

Overview

The full spectrum sensor adopts the measurement principle of UV-Vis absorption spectroscopy to monitor the "light pattern" (fingerprint) information in the wavelength range of 200-800 nm online in real time, and realize multi-parameter measurement through AI algorithm, including: O₃, COD, TOC, DOC, BOD, TUR, TSS, nitrate, color, etc. SPS-F-C series full-spectrum adopts configurable measuring range design, with the measuring range of 40 mm-150 mm that can be set continuously. It supports automatic window cleaning, and can be applied to a variety of water body water quality measurement, supports in-situ installation, flow-through installation. It is mainly used for real-time online monitoring of water quality in waterworks, water distribution network and secondary water supply, as well as for online monitoring of surface water and groundwater quality.



Features

- 200~800nm full spectrum measurement with more water samples spectral information
- Water pattern recognition, which identifies the type of water sample based on the water pattern (fingerprint).
- Optical in-situ measurement, no chemical reagent consumption, environmentally friendly
- Quick measurement, the shortest measurement cycle is 10 seconds
- The maintenance-free period is long, and the sensor has its own cleaning brush
- RS485 communication mode, can quickly connect to the meter
- IP68 protection rating, can be used in harsh environment
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|--|-------------------------|------------------------------|
| Principle | UV-Vis spectral absorption (200 nm~800 nm) | Power | < 8 W |
| Dimension | Φ66 x536 mm | Material | AISI 316L |
| Power requirements | DC + 12V to + 24 V | Cleaning method | Cleaning brush |
| Measurement period | 10 to 65535 seconds | IP rating | IP68 |
| Operating temperature | -5 to 50 °C | Sample flow rate | < 3 m/s |
| Pressure | 6 bar | Communication | RS485 (Modbus RTU),Bluetooth |

Parameter information

| Parameter | Optical path | Range | Resolution | Accuracy |
|--------------------|--------------------------|------------|------------|----------------------------|
| COD | 80 mm (Typical) | 0-15 mg/L | 0.01 mg/L | ±0.5 mg/L |
| | 40 mm (Min) | 0-50 mg/L | 0.01 mg/L | ±3% of reading or ± 1 mg/L |
| TUR | 80 mm (Typical) | 0-15 NTU | 0.01 NTU | ±1 NTU |
| | 40 mm (Min) | 0-50 NTU | 0.01 NTU | ±5% of reading or ± 1 NTU |
| NO ₃ -N | 80 mm (Typical) | 0-0.5 mg/L | 0.01 mg/L | ± 0.05 mg/L |
| | 40 mm (Min) | 0-2.5 mg/L | 0.01 mg/L | ± 0.1 mg/L |
| O ₃ | 80 mm (Typical) | 0-0.5 mg/L | 0.001 mg/L | ± 5%F.S. |
| | 40 mm (Min) | 0-1.5 mg/L | 0.01 mg/L | ± 5%F.S. |
| Model | Description | IP rating | Connection | |
| SPS-F-C | Cable extending directly | IP68 | | |

For more information, please refer to the user manual.

Application

- Municipal sewage
- Basin, surface water, groundwater
- Tap water and pipe network
- Industrial water
- Semiconductor Industry

SPS-T-SC1 Turbidity/Suspended Solids Water Quality Sensor

Overview

The turbidity/suspended solids (sludge concentration) sensor is a water quality sensor that measures turbidity and suspended solids based on 90° and back scattered light measurement principles. Mainly used in the fields of surface water, domestic sewage, and industrial sewage. The turbidity sensor is equipped with an automatic optical window cleaning function, which greatly reduces the amount of manual maintenance and ensures the normal operation of the sensor even in harsh environments. In addition, with the MC-W-S series meter controller and cloud service, users can realize on-site and remote data viewing.



Features

- Optical in-situ measurement
- Quick measurement, the shortest measurement cycle is 3 seconds
- The maintenance-free period is long, and the sensor has its own cleaning brush
- RS485 communication mode, can quickly connect to the meter
- IP68 protection rating, can be used in harsh environment
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|--------------------|-------------------------|--------------------|
| Principle | Scattering | Power | < 3 W |
| Dimension | Φ55 x 212 mm | Material | AISI 316L |
| Power requirements | DC + 12V to + 24 V | Cleaning method | Cleaning brush |
| Measurement period | 3 to 65535 seconds | IP rating | IP68 |
| Operating temperature | -5 to 50 °C | Sample flow rate | < 3 m/s |
| Pressure | 6 bar | Communication | RS485 (Modbus RTU) |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-----------|--------------------------|---|------------|-----------------------------|
| TUR | SPS-T-SC1 | 0-4000NTU/FNU | 0.001 NTU | ±5% of reading or ± 0.1 NTU |
| TSS | SPS-T-SC1 | 0-10 g/L (Diatomaceous earth) 0-5 g/L (Kaolin) | 1 mg/L | ±5% of reading or ± 1 mg/L |
| MLSS | SPS-T-SC1 | 0-50 g/L | 1 mg/L | ±5% of reading or ±5 mg/L |
| Model | Description | IP rating | Connection | |
| SPS-T-SC1 | Cable extending directly | IP68 | | |

For more information, please refer to the user manual.

Application

- Influent and effluent monitoring of sewage treatment plant
- Watershed, surface water, groundwater monitoring
- Municipal sewage monitoring
- Industrial water monitoring
- Raw water monitoring of water works
- Water pipe network monitoring

SPS-T-SC4 Turbidity Water Quality Sensor

Overview

The turbidity water quality sensor, with the principle of 90° scattered and 180° transmission light measurement, can measure turbidity and suspended solids. It is mainly used in the field of surface water, domestic sewage, and industrial sewage. The turbidity sensor is equipped with an automatic optical window cleaning function. In addition, with the MC-W-S series meter controller and cloud service, users can realize both on-site and remote data viewing.



Features

- Optical in-situ measurement
- Quick measurement, the shortest measurement cycle is 10 seconds
- The maintenance-free period is long, and the sensor has its own cleaning brush
- RS485 communication mode, can quickly connect to the meter
- IP68 protection rating, can be used in harsh environment
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|--------------------------------|-------------------------|------------------------------|
| Principle | Transmission and 90°scattering | Installation | Submerged, Flow-through |
| Dimension | Φ30 × 267 mm | Material | AISI 316L |
| Power requirements | DC + 12V to + 24V | Cleaning method | Cleaning brush |
| Measurement period | 10 to 65535 seconds | IP rating | IP68 |
| Operating temperature | -5 to 50 °C | Sample flow rate | < 3 m/s |
| Pressure | 6 bar | Communication | RS485 (Modbus RTU) Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|---------------|--|-------------------------------------|------------|-------------------------------|
| TUR | SPS-T-SC4 | 0-1000 NTU/FNU | 0.001 NTU | ±3% of reading or ± 0.015 NTU |
| TSS | SPS-T-SC4 | 0-2000 mg/L (Diatomaceous earth) | 1 mg/L | ±5% of reading or ± 5 mg/L |
| Model | Description | IP rating | Connection | |
| SPS-T-SC1-S01 | M12 5-pin aviation plug with waterproof connection thread | IP67 | | |
| SPS-T-SC1-S11 | Cable extending directly with waterproof connection thread | IP68 | | |
| SPS-T-SC1-P01 | M12 5-pin aviation plug | IP67 | | |
| SPS-T-SC1-P11 | Cable extending directly | IP68 | | |

For more information, please refer to the user manual.

Application

- Influent and effluent monitoring of sewage treatment plant
- Watershed, surface water, groundwater monitoring
- Municipal sewage monitoring
- Industrial water monitoring
- Raw water monitoring of water works
- Water pipe network monitoring

ASM002776-TUR-P11 Turbidity Water Quality Sensor

Overview

ASM002776-TUR-P11 is a compact turbidity sensor that adopts 90° scattered light turbidity detection technology. It is mainly used in circulating cooling water, industrial pure water, drinking water and other fields. The turbidity sensor supports Modbus RS485 communication. In addition, with the MC-W-S series meter controller and cloud service, users can realize both on-site and remote data viewing.



Features

- Compact design, small size, and easy integration
- Optical in-situ measurement
- Quick measurement, the shortest measurement cycle is 10 seconds
- RS485 communication mode, can quickly connect to the meter
- IP67 protection rating, can be used in harsh environment
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|--------------------------------|-------------------------|------------------------------|
| Principle | Transmission and 90°scattering | Installation | Flow-through |
| Dimension | Φ19.5 × 175 mm | Material | AISI 316L, TC4 |
| Power requirements | DC + 12V to + 24V | Cleaning method | Manual cleaning |
| Measurement period | 10 to 65535 seconds | IP rating | IP67 |
| Operating temperature | -5 to 50 °C | Sample flow rate | < 3 m/s |
| Pressure | 6 bar | Communication | RS485 (Modbus RTU) Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-------------------|------------------------|-------------------------------------|------------|--|
| TUR | ASM002776-TUR-P11 | 0-4000 NTU/FNU | 0.001 NTU | 0-10 NTU: ±3% of reading or ± 0.015 NTU >10 NTU: ±3% of reading |
| TSS | ASM002776-TUR-P11 | 0-4000 mg/L (Diatomaceous earth) | 1 mg/L | ±5% of reading or ± 5 mg/L |
| Model | Description | IP rating | Connection | |
| ASM002776-TUR-P11 | M8 5-pin aviation plug | IP67 | | |

For more information, please refer to the user manual.

Application

- Circulating cooling water monitoring
- Industrial pure water monitoring
- Surface water and groundwater monitoring
- Drinking water monitoring

SPS-T-SC3 Ultra-low Turbidity Water Quality Sensor

Overview

The turbidity sensor, is a ultra-low turbidimetry based on the principle of 90°scattered light, using high parallelism, with automatic light intensity correction laser light source and highly sensitive detector. Its detection performance at low turbidity(<1NTU)is excellent. The turbidity sensor is equipped with automatic optical window cleaning function, which is maintenance-free for a long time for tap water application scenarios. In addition, with the MC-W-S series meter controller and cloud service, users can realize on-site and remote data viewing.




Features

- Small and compact structure
- Accuracy comparable to SWAN and Hach Brand
- Pass CE/RoHS/vibration/high and low temperature test
- 1-3 months secondary water supply sensor maintenance-free
- 3 months factory water sensor maintenance-free
- 1/4 the volume of 1720E and TU5300
- Withstand pressure up to 1 MPa (10 atm)

Specifications

| | | | |
|------------------------------|-----------------------|-------------------------|--------------------|
| Principle | 90° scattering method | Pressure | 10 bar |
| Dimension | 150 × 82 × 175 mm | Power | < 6 W |
| Power requirements | DC + 12V to + 24 V | Cleaning method | Cleaning brush |
| Measurement period | 10 to 65535 seconds | Sample flow rate | 200-500m L/min |
| Operating temperature | -5 to 50 °C | Communication | RS485 (Modbus RTU) |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-----------|-------------------------|---------------|---|-------------------------------|
| TUR | SPS-T-SC3 | 0-100 NTU/FNU | 0.001 NTU | ±2% of reading or ± 0.015 NTU |
| Model | Description | IP rating | Connection | |
| SPS-T-SC3 | M12 5-pin aviation plug | IP65 |  | |

For more information, please refer to the user manual.

Application

- Tap water factory water monitoring
- Water quality monitoring of tap water network
- Monitoring of secondary water supply of tap water

SPS-M-SCx Multi-Parameter Water Quality Sensor

Overview

The multi-parameter water quality sensor adopts optical principle and integrates multiple parameters into one, which can measure turbidity, TOC, and COD. Users can choose specific parameters according to their needs. The turbidity sensor is equipped with automatic optical window cleaning function, which is maintenance-free for a long time for tap water application scenarios. In addition, with the MC-W-S meter controller and cloud service, users can realize on-site and remote data viewing.



Features

- Pass CE/RoHS/vibration/high and low temperature test
- 1-3 months secondary water supply sensor maintenance-free
- 3 months factory water sensor maintenance-free
- Withstand pressure up to 1 MPa (10 atm)
- Highly integrated, can measure turbidity, organic matter

Specifications

| | | | |
|------------------------------|---------------------------------|-------------------------|--------------------|
| Principle | 90°scattering + UV spectrometry | Pressure | 10 bar |
| Dimension | 150 × 82 × 175 mm | Power | < 6 W |
| Power requirements | DC + 12V to + 24 V | Cleaning method | Cleaning brush |
| Measurement period | 10 to 65535 seconds | Sample flow rate | 200-500 mL/min |
| Operating temperature | -5 to 50 °C | Communication | RS485 (Modbus RTU) |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-----------|-------------------------------------|-----------|------------|-------------------------------|
| TUR | SPS-M-SC2 SPS-M-SC3 SPS-M-SC5 | 0-100 NTU | 0.001 NTU | ±2% of reading or ± 0.015 NTU |
| TOC | SPS-M-SC2 SPS-M-SC5 | 0-20 mg/L | 0.001 mg/L | ±2% F.S. |
| COD | SPS-M-SC3 SPS-M-SC5 | 0-50 mg/L | 0.001 mg/L | ±2% F.S. |
| Model | Description | IP rating | Connection | |
| SPS-T-SCx | M12 5-pin aviation plug | IP65 | | |

For more information, please refer to the user manual.

Application

- Tap water factory water monitoring
- Water quality monitoring of tap water network
- Monitoring of secondary water supply of tap water

SPS-M-SCT Multi-Parameter Water Quality Sensor

Overview

SPS-M-SCT multi-parameter water quality sensor adopts compact design and integrates turbidity, COD, TOC and chromaticity multi-parameters into one. Organic matter measurement adopts UV absorption spectrometry, turbidity adopts 90-degree scattering principle, and color adopts multi-wavelength spectral absorption principle for simultaneous multi-parameter measurements with small size, multiple parameters and high-cost performance. It is applicable to the monitoring of domestic drinking water, with high reliability, zero pollution, zero delay and other characteristics, can realize real-time online monitoring of multiple parameters.

It can be matched with our MC-W-S series meter controller and cloud service to realize remote real-time monitoring of data and remote operation and maintenance of equipment.



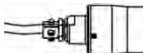
Features

- Multi-parameter measurement, obtain more spectral information of water samples
- Optical in-situ measurement, no chemical reagent consumption, environmentally friendly
- Fast measurement, the fastest measurement cycle is 10 seconds
- The maintenance-free period is long, and the sensor has its own cleaning brush
- IP68 protection rating, can be used in harsh environment
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|---------------------|------------------------|--------------------|
| Principle | Spectral absorption | Pressure | 6 bar |
| Dimension | Φ55 × 280 mm | Power | < 6 W |
| Power requirements | DC + 12V ~ + 24 V | Cleaning method | Cleaning brush |
| Measurement period | 10 to 65535 seconds | IP rating | IP 68 |
| Operating temperature | -5 to 50 °C | Communication | RS485 (Modbus RTU) |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-------------|--------------------------|-------------|---|------------------------------|
| COD | SPS-M-SCT | 0-100 mg/L | 0.01 mg/L | ±5% of reading or ±5 mg/L |
| TOC | SPS-M-SCT | 0-40 mg/L | 0.01 mg/L | ±5% of reading or 2 mg/L |
| SAC254 | SPS-M-SCT | 0-80 Abs/m | 0.01 Abs/m | ±5% of reading or ±5 Abs/m |
| TUR | SPS-M-SCT | 0-100 NTU | 0.01 NTU | ±3% of reading or ±0.015 NTU |
| TSS | SPS-M-SCT | 0-100 mg/L | 1 mg/L | ±5% of reading or ±5 mg/L |
| Color | SPS-M-SCT | 0-500 PCU | ≤1 PCU | ±3% of reading or ±1.5 PCU |
| Temperature | SPS-M-SCT | -5 to 50 °C | 0.01 °C | ±0.1 °C |
| Model | Description | IP rating | Connection | |
| SPS-M-SCT | Cable extending directly | IP68 |  | |

For more information, please refer to the user manual.

Application

- Tap water factory water monitoring
- Water quality monitoring of tap water network
- Monitoring of secondary

SPS-DO Dissolved Oxygen Water Quality Sensor

Overview

The dissolved oxygen water quality sensor is based on the principle of fluorescence quenching. When light shines on the fluorescent material, the fluorescent material will be excited and emit red light. Since oxygen molecules can take away energy, the time of excited red light is inversely proportional to the concentration of oxygen molecules. The concentration of dissolved oxygen can be calculated by measuring the duration of red light. SPS-DO sensor can meet all the requirements of field operation and long-term or short-term test. On the premise of not consuming oxygen, fluorescence technology can provide users with accurate measurement data for all measurement environments, especially those with low oxygen concentration.



Features

- Optical in-situ measurement, no actual pollution, environmentally friendly
- Fast measurement, the fastest measurement cycle is 10 seconds
- Long maintenance-free cycle, with its own cleaning brush for cleaning
- RS485 communication mode, can quickly connect to the meter controller, control the sensor
- IP68 protection rating, can be used in harsh environments
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|---------------------|-------------------------|-----------------------------|
| Principle | Fluorescence method | Pressure | 6 bar |
| Dimension | Φ30 × 249 mm | Material | AISI 316L |
| Power requirements | DC + 12V to + 24 V | Cleaning method | Cleaning brush |
| Measurement period | 10 to 65535 seconds | Sample flow rate | < 3 m/s |
| Operating temperature | -5 to 50 °C | Communication | RS485(Modbus RTU),Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-------------|-----------|--------------------|------------------|-----------|
| DO | SPS-DO | 0-20 mg/L, 0-200 % | 0.01 mg/L, 0.1 % | ±0.1 mg/L |
| Temperature | SPS-DO | -5 to 50 °C | 0.01 °C | ±0.1 °C |

| Model | Description | IP rating | Connection |
|------------|--|-----------|------------|
| SPS-DO-S01 | M12 5-pin aviation plug with waterproof connection thread | IP67 | |
| SPS-DO-S11 | Cable extending directly with waterproof connection thread | IP68 | |
| SPS-DO-P01 | M12 5-pin aviation plug | IP67 | |
| SPS-DO-P11 | Cable extending directly | IP68 | |

For more information, please refer to the user manual.

Application

- Municipal sewage
- Industrial sewage
- Seawater, fishery, aquaculture
- Surface water
- Drinking water

ASM003000 Multi Channel Fluorescence Probe

Overview

The multi channel fluorescence probe is designed based on the proven fluorescence detection principle and features an intelligent multi-channel sensing system, which empowers simultaneous and high-precision measurement of a diverse range of water quality parameters in a single test. Its measurable parameters cover a comprehensive spectrum including PTSA, Chlorophyll-a, Phycocyanin, Phycoerythrin, Sodium Fluorescein, Rhodamine, fluorescent Dissolved Organic Matter (fDOM), Oil in Water and other key indicators for water quality assessment. Benefiting from its reliable detection performance, flexible adaptation capacity and stable data output, this analyzer is widely applied in various water quality monitoring scenarios, such as surface water environmental monitoring, boiler circulating water quality control, industrial process water detection and other water treatment application fields.



Features

- Optical in-situ measurement, no actual pollution, environmentally friendly
- Fast measurement, the fastest measurement cycle is 10 seconds
- RS485 communication mode, can quickly connect to the meter controller, control the sensor
- IP68 protection rating, can be used in harsh environments
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|---------------------|-------------------------|-------------------------------|
| Principle | Fluorescence method | Pressure | 6 bar |
| Dimension | Φ25 × 255 mm | Material | TC4, ABS |
| Power requirements | DC + 12V to + 24 V | Cleaning method | Manual cleaning |
| Measurement period | 10 to 65535 seconds | Sample flow rate | < 3 m/s |
| Operating temperature | -5 to 50 °C | Communication | RS485 (Modbus RTU), Bluetooth |

Parameter information

| Parameter | Range | Resolution | Accuracy | Excitation | Excitation |
|----------------------------------|------------|------------|-------------------------|------------|------------|
| PTSA (p-Toluenesulfonic acid) | 0-400 µg/L | 0.01 µg/L | R ² ≥0.999 | 365 nm | 410 nm |
| Chlorophyll-a | 0-400 µg/L | 0.01 µg/L | R ² ≥0.999 | 465 nm | 680 nm |
| Phycocyanin (PC) | 0-100 µg/L | 0.01 µg/L | R ² ≥0.999 | 589 nm | 680 nm |
| Phycoerythrin (PE) | 0-400 µg/L | 0.01 µg/L | R ² ≥0.999 | 525 nm | 590 nm |
| Uranine (UR, Fluorescein sodium) | 0-500 µg/L | 0.01 µg/L | R ² ≥0.999 | 465 nm | 515 nm |
| Rhodamine (Rh) | 0-400 µg/L | 0.01 µg/L | R ² ≥0.999 | 525 nm | 590 nm |
| fDOM | 0-500 µg/L | 0.02 µg/L | R ² ≥0.999 | 365 nm | 480 nm |
| CDOM | 0-500 µg/L | 0.02 µg/L | R ² ≥0.999 | 365 nm | 480 nm |
| Oil in Water | 0-150 mg/L | 0.01 mg/L | 5% of reading or 2%F.S. | 254/275 nm | 365 nm |

For more information, please refer to the user manual.

Application

- Industrial sewage
- Surface water
- Boiler water
- Cooling water

SPS-Color-C Color Water Quality Sensor

Overview

The color water quality sensor is a color online monitoring sensor with self-cleaning for long term reliable and maintenance free real time water quality monitoring. The sensor can be widely used in the fields of drinking water, tap water, water pipeline network, groundwater, and sewage.

Features

- Quick measurement, the shortest measurement cycle is 10 seconds
- No chemical reagent consumption, environmentally friendly
- Self-cleaning brushes for long maintenance-free cycles and low maintenance costs

Specifications

| | | | |
|------------------------------|--|-------------------------|--|
| Principle | Multi-wavelength absorption spectrometry | Material | Material: 316L stainless steel / Titanium (Optional) |
| Dimension | Φ30 ×301 mm | Pressure | 6 bar |
| Power requirements | DC + 12V to + 24 V | Cleaning method | Cleaning brush |
| Measurement period | 10 to 65535 seconds | Sample flow rate | < 3 m/s |
| Operating temperature | -5 to 50 °C | Communication | RS485(Modbus RTU),Bluetooth |



Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-----------------|--|-------------|------------|----------------------------|
| Color | SPS-Color-C | 0-500 PCU | ≤1 PCU | ±3% of reading or ±1.5 PCU |
| Temperature | SPS-Color-C | -5 to 50 °C | 0.01 °C | ±0.1 °C |
| Model | Description | IP rating | Connection | |
| SPS-Color-C-S01 | M12 5-pin aviation plug with waterproof connection thread | IP67 | | |
| SPS-Color-C-S11 | Cable extending directly with waterproof connection thread | IP68 | | |
| SPS-Color-C-P01 | M12 5-pin aviation plug | IP67 | | |
| SPS-Color-C-P11 | Cable extending directly | IP68 | | |

For more information, please refer to the user manual.

Application

- Drinking water and pipeline network water quality monitoring
- Drinking water plant
- Groundwater
- Sewage

SPS-pH Water Quality Sensor

Overview

The pH water quality sensor uses a composite electrode that combines a glass indicator electrode and a reference electrode to measure the pH of water. The potential of the internal reference electrode in the glass electrode is constant regardless of the pH of the solution to be measured. When the glass bubble is immersed in the test solution with changing H⁺ concentration, the difference between the stable potential of the reference electrode and the potential generated by the glass ball will be read by the voltmeter and used as the measurement result.

The pH sensor supports RS485 output mode, and the controller module is miniaturized and integrated with pH electrode. pH sensor is widely used in drinking water, pipeline water, surface water and all kinds of sewage.



Features

- Electrodynamic measurement, no pollution, friendly to the environment
- Quick measurement, the shortest measurement cycle is 1 second
- RS485 communication mode, can quickly connect the meter controller, control the sensor
- IP68 protection rating, can be used in harsh environments
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|------------------------|-------------------------|-------------------------------|
| Principle | Glass electrode method | Pressure | 6 bar |
| Power requirements | Φ25 × 228 mm | Installation | Submerged, flow-through |
| Measurement period | DC + 12V to + 24 V | Sample flow rate | 200-500 mL/min |
| Operating temperature | -5 to 50 °C | Communication | RS485 (Modbus RTU), Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-------------|--|-------------|------------|----------|
| pH | SPS-pH | 0-14 pH | 0.01 pH | ±0.1 pH |
| Temperature | SPS-pH | -5 to 50 °C | 0.01 °C | ±0.1 °C |
| Model | Description | IP rating | Connection | |
| SPS-pH-S03 | M12 5-pin aviation plug with waterproof connection thread | IP67 | | |
| SPS-pH-S13 | Cable extending directly with waterproof connection thread | IP68 | | |
| SPS-pH-A03 | M12 5-pin aviation plug | IP67 | | |
| SPS-pH-A13 | Cable extending directly | IP68 | | |

For more information, please refer to the user manual.

Application

- Municipal sewage
- Industrial sewage
- Seawater, fishery, aquaculture
- Surface water
- Drinking water

SPS-pH Water Quality Sensor (split type)

Overview

The pH sensor features a split design, allowing the voltage collector and pH electrode to be replaced independently. The pH electrode can be selected according to different application scenarios, making it suitable for a wider range of environments.

The pH electrode uses a combination electrode, which integrates a glass indicator electrode and a reference electrode, to measure the pH value of water. The potential of the internal reference electrode inside the glass electrode is constant and independent of the pH of the solution to be measured. When the glass bulb is immersed in the measured solution with varying H^+ concentration, the potential difference between the stable potential of the reference electrode and the potential generated by the glass bulb is detected by a voltmeter and used as the measurement result.

The pH sensor supports RS485 output. The controller module is miniaturized and designed separately from the pH electrode. Maintenance of the pH sensor only requires replacing the pH glass electrode, which effectively reduces maintenance costs.

The pH sensor is widely used in drinking water, pipeline water, surface water, and various types of sewage.



Features

- Split design allows individual replacement of pH electrode without replacing the entire sensor.
- Quick measurement, the shortest measurement cycle is 1 second
- RS485 communication mode, can quickly connect the meter controller, control the sensor
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|---|-------------------------|--------------------------------------|
| Principle | Glass electrode method | Pressure | 6 bar/10bar (pH electrode dependent) |
| Power requirements | Voltage Collector: $\Phi 25 \times 216$ mm pH electrode: $\Phi 12 \times 120$ mm | Installation | Flow-through |
| Measurement period | DC + 12V to + 24 V | Sample flow rate | 200-500 mL/min |
| Operating temperature | -5 to 50 °C / -5 to 130 °C (pH electrode dependent) | Communication | RS485 (Modbus RTU), Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-------------|-------------------------|--|------------|--------------|
| pH | SPS-pH | 0-14 pH | 0.01 pH | ± 0.1 pH |
| Temperature | SPS-pH | -5 to 50 °C / -5 to 130 °C (pH electrode dependent) | 0.01 °C | ± 0.1 °C |
| Model | Description | IP rating | Connection | |
| SPS-pH | M12 5-pin aviation plug | IP67 | | |

For more information, please refer to the user manual.

Application

- Municipal sewage
- Industrial sewage
- Seawater, fishery, aquaculture
- Surface water
- Drinking water

SPS-EC Conductivity Water Quality Sensor

Overview

The conductivity water quality sensor operates with an alternating voltage applied between the measuring electrodes, which will generate a corresponding current in the medium. The magnitude of the current is positively correlated with the conductivity of the medium, thus measuring the conductivity of the medium. To compensate for the measurement errors caused by polarization, the SPS-EC has a reference electrode, making the measurement results more accurate.

The SPS-EC sensor has a built-in five-point interpolation algorithm that allows the user to calculate TDS and salinity from conductivity.

The SPS-EC series conductivity sensor uses RS485 communication interface and Modbus RTU protocol communication, which is widely used and easy to use. It is widely used in tap water, surface water, groundwater, domestic sewage and other scenarios to provide customers with stable and reliable water quality monitoring data.



Features

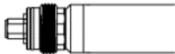



- Easy to install
- Low maintenance costs
- Multiple shapes for different installation conditions

Specifications

| | | | |
|------------------------------|-------------------------------|-------------------------|-------------------------------|
| Principle | Coaxial 4 graphite electrodes | Pressure | 6 bar |
| Power requirements | Φ25 × 231 mm | Installation | Submerged, flow-through |
| Measurement period | DC + 12V to + 24 V | Sample flow rate | 200-500 mL/min |
| Operating temperature | -5 to 50 °C | Communication | RS485 (Modbus RTU), Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-------------|-----------|---------------------|------------------|----------------|
| EC | SPS-EC | 0.001-200 000 μS/cm | Min. 0.001 μS/cm | ±5% of reading |
| TDS | SPS-EC | 0.01-100 000 mg/L | Min. 0.01 mg/L | ±5% of reading |
| Salinity | SPS-EC | 0.01-120 ppt | Min. 0.01 ppm | ±5% of reading |
| Temperature | SPS-EC | -5 to 50 °C | 0.01 °C | ±0.1 °C |

| Model | Description | IP rating | Connection |
|------------|--|-----------|---|
| SPS-EC-S01 | M12 5-pin aviation plug with waterproof connection thread | IP67 |  |
| SPS-EC-S11 | Cable extending directly with waterproof connection thread | IP68 |  |
| SPS-EC-P01 | M12 5-pin aviation plug | IP67 |  |
| SPS-EC-P11 | Cable extending directly | IP68 |  |

For more information, please refer to the user manual.

Application

- Municipal Pipe Network
- Waterworks
- Secondary water supply
- Surface water or groundwater

SPS-ORP Water Quality Sensor

Overview

The water quality sensor (redox potential sensor) adopts the electrode principle, can measure the redox potential, can react to the water samples redox strength, the sensor is widely used in water, pipe network, medical sewage and other fields, can provide customers with accurate and efficient monitoring.

Features

- Electrodynamics measurement, no pollution, friendly to the environment
- Quick measurement, the shortest measurement cycle is 1 second
- RS485 communication mode, can quickly connect to the meter controller, control the sensor
- IP68 protection rating, can be used in harsh environments
- Low power consumption, can be powered by battery, convenient for equipment deployment

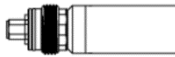





Specifications

| | | | |
|------------------------------|------------------------|-------------------------|-------------------------------|
| Principle | Glass electrode method | Pressure | 6 bar |
| Power requirements | Φ25 × 261 mm | Installation | Submerged, flow-through |
| Measurement period | DC + 12V to + 24 V | Sample flow rate | 200-500 mL/min |
| Operating temperature | -5 to 50 °C | Communication | RS485 (Modbus RTU), Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-------------|-----------|-----------------------|------------|----------|
| ORP | SPS-ORP | -1500 mV to + 1500 mV | 1 mV | ±20 mV |
| Temperature | SPS-ORP | -5 to 50 °C | 0.01 °C | ±0.1 °C |

| Model | Description | IP rating | Connection |
|-------------|--|-----------|---|
| SPS-ORP-S01 | M12 5-pin aviation plug with waterproof connection thread | IP67 |  |
| SPS-ORP-S11 | Cable extending directly with waterproof connection thread | IP68 |  |
| SPS-ORP-P01 | M12 5-pin aviation plug | IP67 |  |
| SPS-ORP-P11 | Cable extending directly | IP68 |  |

For more information, please refer to the user manual.

Application

- Drinking water and pipeline water quality monitoring
- Swimming pool disinfectant monitoring
- Medical sewage, disinfected sewage monitoring
- Other industrial water, cooling water and other monitoring

SPS-CI-C Free Chlorine Water Quality Sensor

Overview

The free chlorine water quality sensor based on the principle of constant voltage method measurement, can continuously and accurately determine the free chlorine or chlorine dioxide of water samples, without consuming any reagent, or replacing the diaphragm and electrolyte. Measuring range: 0-2mg/L, 0-5mg/L, 0-20 mg/L. DC12 V~DC24 V power supply, RS485 Modbus RTU communication.

The free chlorine sensor is widely used in water supply, secondary water supply, municipal network, disinfection process and other fields to provide customers with reliable monitoring data.



Features

- No need for any reagents
- No need to change diaphragms and electrolyte Easy to install
- Low maintenance cost
- Zero-point stability

Specifications

| | | | |
|------------------------------|---|-------------------------|-------------------------------|
| Principle | Double platinum ring, constant voltage method | Pressure | 1 bar |
| Power requirements | Φ25 × 231 mm | Installation | Submerged, flow-through |
| Measurement period | DC + 12V to + 24 V | Sample flow rate | 200-500 mL/min |
| Operating temperature | 0 to 50 °C | Communication | RS485 (Modbus RTU), Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|---------------|--|-------------------------------|------------|----------|
| Free Chlorine | SPS-CI-C | 0-2 mg/L, 0-5 mg/L, 0-20 mg/L | 0.001 mg/L | ± 3%F.S. |
| Temperature | SPS-CI-C | 0 to 50 °C | 0.01 °C | ±0.1 °C |
| Model | Description | IP rating | Connection | |
| SPS-CI-C-S01 | M12 5-pin aviation plug with waterproof connection thread | IP67 | | |
| SPS-CI-C-S11 | Cable extending directly with waterproof connection thread | IP68 | | |
| SPS-CI-C-P01 | M12 5-pin aviation plug | IP67 | | |
| SPS-CI-C-P11 | Cable extending directly | IP68 | | |

For more information, please refer to the user manual.

Application

- Pipe system
- Waterworks
- Secondary water supply
- Disinfection process

SPS-CI Chlorine Water Quality Sensor

Overview

The chlorine sensor adopts membrane covered, amperometric potentiostatic 3-electrode, which effectively improves the measurement stability and accuracy of the sensor. The free chlorine or total chlorine factor enters the sensor through the selective permeability membrane, and a redox reaction occurs on the surface of the gold electrode to generate a weak current. The signal value obtained after processing is proportional to the free chlorine or total chlorine concentration. After calculation, it can obtain the free or total chlorine concentration. SPS-CI series chlorine sensors are widely used in tap water, pipe network, medical sewage, and other fields, and can provide customers with accurate and efficient monitoring.



Features

- Three-electrode coating method, stable and accurate measurement
- No chemical reagent consumption, environmentally friendly
- Long maintenance-free period and low maintenance cost
- The device is compact and easy to install

Specifications

| | | | |
|------------------------------|---|-------------------------|-------------------------|
| Principle | Membrane covered, amperometric potentiostatic 3-electrode | Pressure | 1 bar |
| Power requirements | Φ25 × 205 mm | Installation | Submerged, flow-through |
| Measurement period | DC + 12V to + 24V | Sample flow rate | 250-500 mL/min |
| Operating temperature | 0 to 50 °C | Communication | RS485 (Modbus RTU), |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|----------------|-------------------------|-------------------------------|------------|----------|
| Free Chlorine | SPS-CI-F | 0-2 mg/L, 0-5 mg/L, 0-20 mg/L | 0.001 mg/L | ±3%F.S. |
| Total Chlorine | SPS-CI-T | 0-2 mg/L, 0-5 mg/L, 0-20 mg/L | 0.001 mg/L | ±3%F.S. |
| Temperature | SPS-CI | 0 to 50 °C | 0.01 °C | ±0.1 °C |
| Model | Description | IP rating | Connection | |
| SPS-CI-F/T | M12 5-pin aviation plug | IP65 | | |

For more information, please refer to the user manual.

Application

- Monitoring of tap water and pipe network
- Swimming pool total chlorine monitoring
- Medical sewage, effluent monitoring after disinfection
- Other industrial water, cooling water and other total chlorine monitoring

SPS-NH3 Ammonia Nitrogen Water Quality Sensor

Overview

Ammonia nitrogen is a common pollutant found in industrial, agricultural, and domestic sewage. Ammonium nitrogen depletes dissolved oxygen in water bodies and leads to eutrophication. Ammonium ions are measured using the ion-selective method, which consists of a working electrode, a reference electrode, an ion-selective membrane, and an electrolyte. Only the ammonium ions to be measured can pass through the ion-selective membrane and undergo a charge change, generating a potential at the working electrode that is proportional to the ion concentration and a constant potential at the reference electrode. The controller is based on the Nernst equation, which measures the potential difference between the working and reference electrodes and converts it to the ammonia nitrogen concentration based on the principle of potentiometric measurement, independent of coloration and turbidity.

It is suitable for online and portable monitoring of municipal sewage, domestic sewage, agricultural sewage, industrial sewage, process control, nitrification treatment and aeration tanks, etc. It is suitable for integrated applications such as buoy monitoring, floating discharge monitoring and vessel monitoring



Features

- Quick measurement, the shortest measurement cycle is 1 second
- RS485 communication mode, can quickly connect the meter controller, control the sensor
- IP68 protection rating, can be used in harsh environments
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|--------------------------------|-------------------------|-------------------------------|
| Principle | Ion-selective electrode method | Pressure | 1 bar |
| Power requirements | Φ25 × 261 mm | Installation | Submerged, flow-through |
| Measurement period | DC + 12V to + 24 V | Sample flow rate | 250-500 mL/min |
| Operating temperature | 0 to 50 °C | Communication | RS485 (Modbus RTU), Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|---|-----------|---|-----------------------------------|-----------------------------|
| NH ₃ -N / NH ₄ -N | SPS-NH3 | 0-100 mg/L, 0-1000 mg/L 0-2000 mg/L | 0.01 mg/L 0.1 mg/L 0.1 mg/L | ±5% of reading or ±0.5 mg/L |
| Temperature | SPS-NH3 | 0 to 50 °C | 0.01 °C | ±0.1 °C |

| Model | Description | IP rating | Connection |
|-------------|--|-----------|------------|
| SPS-NH3-S01 | M12 5-pin aviation plug with waterproof connection thread | IP67 | |
| SPS-NH3-S11 | Cable extending directly with waterproof connection thread | IP68 | |
| SPS-NH3-P01 | M12 5-pin aviation plug | IP67 | |
| SPS-NH3-P11 | Cable extending directly | IP68 | |

For more information, please refer to the user manual.

Application

- Domestic sewage
- Surface water, ground water
- Industrial sewage
- Sewage treatment process

SPS-NH3 Ammonia Nitrogen Water Quality Sensor (split type)

Overview

SPS-NH3 sensor consists of two parts, a converter and a probe. It can be quickly installed and removed, making it easy to replace the ammonium ion electrodes. Ammonium ions are measured using the ion-selective method, which consists of a working electrode, a reference electrode, an ion-selective membrane and an electrolyte. Only the ammonium ions to be measured can pass through the ion-selective membrane and undergo a charge change, generating a potential at the working electrode that is proportional to the ion concentration and a constant potential at the reference electrode. The controller is based on the Nernst equation, which measures the potential difference between the working and reference electrodes and converts it to the ammonia nitrogen concentration based on the principle of potentiometric measurement, independent of coloration and turbidity.



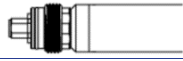



Features

- Fast measurement, the fastest measurement cycle is 1 second
- Split design allows individual replacement of ammonium electrodes without replacing the entire sensor.
- RS485 communication mode, can quickly connect the meter head, control the sensor
- IP68 protection rating, can be used in harsh environments
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|--------------------------------|-------------------------|-------------------------------|
| Principle | Ion-selective electrode method | Pressure | 1 bar |
| Power requirements | Φ25 × 301 mm | Installation | Submerged, flow-through |
| Measurement period | DC + 12V to + 24 V | Sample flow rate | 250-500 mL/min |
| Operating temperature | 0 to 50 °C | Communication | RS485 (Modbus RTU), Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|---|--|---|---|-----------------------------|
| NH ₃ -N / NH ₄ -N | SPS-NH3 | 0-100 mg/L, 0-1000 mg/L 0-2000 mg/L | 0.01 mg/L 0.1 mg/L 0.1 mg/L | ±5% of reading or ±0.5 mg/L |
| Temperature | SPS-NH3 | 0 to 50 °C | 0.01 °C | ±0.1 °C |
| Order No. | Description | IP rating | Connection | |
| SPZL004134 | M12 5-pin aviation plug with waterproof connection thread | IP67 |  | |
| SPZL004133 | Cable extending directly with waterproof connection thread | IP68 |  | |
| SPZL004136 | M12 5-pin aviation plug | IP67 |  | |
| SPZL004135 | Cable extending directly | IP68 |  | |

For more information, please refer to the user manual.

Application

- Domestic sewage
- Surface water, ground water
- Industrial sewage
- Sewage treatment process

SPS-xxx Ion Selective Electrode Water Quality Sensor

Overview

Ion-selective electrodes (ISEs) are electrochemical sensors based on a sensitive membrane, which is the element that makes the electrode respond selectively to specific ions. Measurement of different ions is achieved by using selective membranes of different materials. The ion-selective method consists of a working electrode, a reference electrode, an ion-selective membrane and an electrolyte. Only the ions to be measured can migrate through the ion-selective membrane and undergo a charge change, generating a potential at the working electrode, the value of which is proportional to the concentration of the ions, and a constant potential at the reference electrode. Based on the Nernst equation, the controller measures the potential difference between the working electrode and the reference electrode and converts it into ion concentration.

It is suitable for online and portable monitoring in municipal wastewater, domestic wastewater, agricultural wastewater, industrial wastewater, process control, nitrification treatment and aeration basins, and facilitates the integration of applications such as monitoring buoys, monitoring floating rafts, and monitoring vessels.



Features

- Quick measurement, the shortest measurement cycle is 1 second
- RS485 communication mode, can quickly connect the meter controller, control the sensor
- IP68 protection rating, can be used in harsh environments
- Low power consumption, can be powered by battery, convenient for equipment deployment

Specifications

| | | | |
|------------------------------|--------------------------------|-------------------------|-------------------------------|
| Principle | Ion-selective electrode method | Pressure | 6 bar |
| Power requirements | Φ25 × 261 mm | Installation | Submerged, flow-through |
| Measurement period | DC + 12V to + 24 V | Sample flow rate | 250-500 mL/min |
| Operating temperature | 0 to 50 °C | Communication | RS485 (Modbus RTU), Bluetooth |

Parameter information

| Parameter | Range | Resolution | Accuracy | Temperature |
|---|-------------|--------------------------------------|-----------------------------|-------------|
| Potassium (K ⁺) | 0-1000 mg/L | 0.1(101-1000mg/L) 0.01(0-100mg/L) | ±5% of reading or ±0.5 mg/L | 0-50 °C |
| Sodium (Na ⁺) | 0-1000 mg/L | 0.1(101-1000mg/L) 0.01(0-100mg/L) | ±5% of reading or ±0.5 mg/L | 0-50 °C |
| Nitrate (NO ₃ ⁻) | 0-1000 mg/L | 0.1(101-1000mg/L) 0.01(0-100mg/L) | ±5% of reading or ±0.5 mg/L | 0-50 °C |
| Chloride (Cl ⁻) | 0-1000 mg/L | 0.1(101-1000mg/L) 0.01(0-100mg/L) | ±5% of reading or ±0.5 mg/L | 0-50 °C |
| Fluoride (F ⁻) | 0-1000 mg/L | 0.1(101-1000mg/L) 0.01(0-100mg/L) | ±5% of reading or ±0.5 mg/L | 0-50 °C |
| Calcium (Ca ⁺⁺) | 0-1000 mg/L | 0.1(101-1000mg/L) 0.01(0-100mg/L) | ±5% of reading or ±0.5 mg/L | 0-50 °C |

For more information, please refer to the user manual.

Application

- Domestic sewage
- Surface water, ground water
- Industrial sewage
- Sewage treatment process

iSPA-T Multi-parameter Water Quality Online Monitoring System

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.



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.

Specifications

| | | | |
|------------------------------|-------------------------|-------------------------|------------------------------|
| Display | 7-inch LCD touch screen | Pressure | 1 bar |
| Dimension | 400 × 300 × 180 mm | Installation | Wall - mounted |
| Power requirements | 100-230 VAC, 50/60 Hz | Sample flow rate | 200-500 mL/min |
| Operating temperature | -5 to 50 °C | Communication | RS485 (Modbus RTU), WIFI, 4G |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|----------------|------------|-------------------------------|-----------------|-------------------------------|
| TUR | SPS-M-SCx | 0-100 NTU/FNU | 0.001 NTU | ±2% of reading or ±0.015 NTU |
| COD | SPS-M-SCx | 0-50 mg/L | 0.001 mg/L | ±2% F.S. |
| TOC | SPS-M-SCx | 0-20 mg/L | 0.001 mg/L | ±2% F.S. |
| Free Chlorine | SPS-CI-C/F | 0-2 mg/L, 0-5 mg/L, 0-20 mg/L | 0.001 mg/L | ±3% F.S. |
| Free Chlorine | DPD method | 0-2 mg/L, 0-5 mg/L, 0-10 mg/L | 0.001 mg/L | ±5% of reading or ± 0.05 mg/L |
| Total Chlorine | SPS-CI-T | 0-2 mg/L, 0-5 mg/L, 0-20 mg/L | 0.001 mg/L | ±3% F.S. |
| Total Chlorine | DPD method | 0-2 mg/L, 0-5 mg/L, 0-10 mg/L | 0.001 mg/L | ±5% of reading or ±0.05 mg/L |
| Conductivity | SPS-EC | 0.001-200 000 μS/cm | Min 0.001 μS/cm | ±5% of reading |
| pH | SPS-pH | 0-14 pH | 0.01 pH | ±0.1 pH |
| Temperature | SPS-pH | -5 to 50 °C | 0.01 °C | ±0.1 °C |

For more information, please refer to the user manual.

Application

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

ASM003602 In-pipe Installation Unit

Overview

The in-pipe installation unit can be used to install sensors in-line in pressure vessels or pipelines. In addition, when calibrating or servicing the sensor, maintenance can be carried out without having to close the valve in the front section of the pipeline. Maximum pressure resistance up to 10 bar. Compatible with SPS-M-SCT multi-parameter sensors; custom adapters available for other sensors.

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, COD, TOC, Color, 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.



Specifications

| | | | |
|------------------------------|-------------------------------|--------------------------------------|----------------------|
| Installation | Pipeline In-Line Installation | Pressure | 10 bar |
| Dimension | 554 × 235 × 205 mm | Connection for weld-in socket | G2" internal thread |
| Power requirements | DC 24 V | Materials | 316L Stainless Steel |
| Operating temperature | -5 to 50 °C | Micropump life | > 20000 hours |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|-------------|-----------|-------------|------------|------------------------------|
| COD | SPS-M-SCT | 0-100 mg/L | 0.01 mg/L | ±5% of reading or ±5 mg/L |
| TOC | SPS-M-SCT | 0-40 mg/L | 0.01 mg/L | ±5% of reading or 2 mg/L |
| SAC254 | SPS-M-SCT | 0-80 Abs/m | 0.01 Abs/m | ±5% of reading or ±5 Abs/m |
| TUR | SPS-M-SCT | 0-100 NTU | 0.01 NTU | ±3% of reading or ±0.015 NTU |
| TSS | SPS-M-SCT | 0-100 mg/L | 1 mg/L | ±5% of reading or ±5 mg/L |
| Color | SPS-M-SCT | 0-500 PCU | ≤1 PCU | ±3% of reading or ±1.5 PCU |
| Temperature | SPS-M-SCT | -5 to 50 °C | 0.01 °C | ±0.1 °C |
| Pressure | / | 0-10 bar | 0.02 bar | 0.5%F.S. |

For more information, please refer to the user manual.

Application

- Stationary measurements in pressure tanks and pipelines
- Secondary pumping station
- Water supply network

iSPS-X Multi-Parameter Water Quality Measurement Instrument

Overview

The iSPS-X Multi-Parameter Water Quality Probes is an online measuring instrument integrating pH/ORP, conductivity, TDS, salinity, turbidity, suspended solids, COD, dissolved oxygen (DO), TOC, nitrate nitrogen, ammonia nitrogen, fluoride, chloride, calcium ions, chlorophyll-a, fDOM, oil in water, temperature and so on. The iSPS-X can accommodate up to seven or eight probes. Each probe employs distinct electrochemical, optical, or physical detection methods to measure its respective parameter. Users may read measurement data via a handheld device or transmit data to a data acquisition platform through a data logger..



Features

- Multi-parameter all-in-one, compact size and high integration
- No reagent consumption, environmentally friendly
- Long maintenance-free cycle, sensor comes with cleaning brush
- RS485 communication for fast connection to gauge heads
- IP68 protection for harsh environments

Specifications

| | | | |
|------------------------------|--|----------------------|------------------------------------|
| Dimension | Φ66 × 559 mm (seven probes) Φ80 × 622 mm (eight probes) | Installation | Submerged |
| Power requirements | DC + 12V to + 24 V | IP rating | IP68 |
| Operating temperature | -5 to 50 °C | Communication | RS485 (Modbus RTU), WIFI/Bluetooth |

Parameter information

| Parameter | Model No. | Range | Resolution | Accuracy |
|---------------------|-----------|-----------------------------|----------------------|---|
| pH | ASM002820 | 0-14 pH | 0.01 pH | ±0.1 pH |
| ORP | ASM002821 | -1500 mV to +1500 mV | 1 mV | ±20 mV |
| EC | ASM002774 | 0-200 000 μS/cm | Min 0.001 μS/cm | ±5% of reading |
| TDS | | 0-100 000 mg/L | Min 0.01 mg/L | ±5% of reading |
| Salinity | | 0-120 ppt | Min 0.01 ppm | ±5% of reading |
| DO | ASM002775 | 0-20 mg/L 0-200% | 0.01 mg/L 0.1% | ±0.1 mg/L ±1% |
| Turbidity | ASM002776 | 0-1000 NTU 1000-4000 NTU | 0.001 NTU 0.1 NTU | ±2% of reading or ±0.3 NTU ±5 % of reading |
| COD | ASM002777 | 0-500 mg/L | 0.01 mg/L | ±5% of reading or ±5 mg/L |
| NO ₃ -N | | 0-50 mg/L | 0.01 mg/L | ±5% of reading or ±1 mg/L |
| TOC | | 0-200 mg/L | 0.01 mg/L | ±5% of reading or ±2 mg/L |
| Ammonia | ASM002770 | 0-1000 mg/L | Min 0.1 mg/L | ±5% of reading or ±0.5 mg/L |
| K ⁺ | ASM002771 | 0-1000 mg/L | Min 0.1 mg/L | ±5% of reading or ±0.5 mg/L |
| Chloride | ASM003090 | 0-1000 mg/L | Min 0.1 mg/L | ±5% of reading or ±0.5 mg/L |
| Fluoride | ASM003088 | 0-1000 mg/L | Min 0.1 mg/L | ±5% of reading or ±0.5 mg/L |
| Calcium | ASM003094 | 0-1000 mg/L | Min 0.1 mg/L | ±5% of reading or ±0.5 mg/L |
| Chlorophyll-a | ASM003000 | 0-400 μg/L | 0.01 μg/L | R ² > 0.999 |
| Phycocyanin (PC) | | 0-100 μg/L | 0.01 μg/L | R ² > 0.999 |
| Phycocerythrin (PE) | | 0-400 μg/L | 0.01 μg/L | R ² > 0.999 |
| Rhodamine (Rh) | | 0-400 μg/L | 0.01 μg/L | R ² > 0.999 |
| fDOM/CDOM | | 0-500 μg/L | 0.02 μg/L | R ² > 0.999 |
| Oil in water | ASM002789 | 0-150 mg/L | 0.01 mg/L | 5% of reading or 2%F.S. |
| PAH | | 0-5000 μg/L | 0.1 μg/L | 5% of reading or 10 μg/L |
| Temperature | / | -5 to 50 °C | 0.01 °C | ±0.1 °C |
| Depth | Optional | 0-10 m 0-100 m | 0.001 m 0.002 m | ±0.25% F.S. (±0.025 m) ±0.2% F.S. (±0.2 m) |

For more information, please refer to the user manual.

Application

- Monitoring of water in and out of sewage treatment plant
- Water quality monitoring in the treatment process of the sewage treatment plant
- Basin, surface water, groundwater monitoring
- Aquaculture and RAS (Recirculating Aquaculture System) monitoring
- Sea water

SPA-Hardness/Alkalinity Water Analyzer

Overview

The water analyzer is one that measures the hardness of water by titration and colorimetry. Automatically pumps reagents into the water sample for reaction, determines the endpoint of the reaction by colorimetry, and then determines the hardness concentration in the water based on the amount of reagent added. By selecting different reagents, the analyzer can measure different hardness or alkalinity concentrations.



Features

- Accurate and reliable fully automatic hardness analyzer.
- With self-diagnosis, abnormal alarm, data exceeding the standard alarm function
- Interval measurement optional, minimum 5min
- Supports Modbus RS485 and 4-20mA signal outputs
- Support 4G, WIFI wireless data transmission

Specifications

| | | | |
|------------------------------|---|----------------------|---|
| Dimension | 300×300×180 mm (11.81×11.81×7.09 inch) | Pressure | 0.2-2 bar |
| Power consumption | 25 W | Installation | Wall-mounted |
| Power requirements | 100-240 VAC, 50/60 Hz | IP rating | IP54 |
| Operating temperature | 5 to 45 °C | Communication | RS485(Modbus RTU), WIFI/Bluetooth, 4G, LoRa (Customizable) |

Parameter information

| Parameter | Model No. | Range | Repeatability | Accuracy |
|------------------|----------------|---|---------------|----------|
| Total hardness | SPA-Hardness | 0.21-534.0 mg/L (ppm) CaCO ₃ (see reagent type) | ±5%F.S. | ±5% F.S. |
| Total alkalinity | SPA-Alkalinity | 5.34-2050 mg/L (ppm) CaCO ₃ (see reagent type) | ±5%F.S. | ±5% F.S. |

Hardness Reagent

| Reagent type | mg/L (ppm) CaCO ₃ | °dH | °f | mmol/L |
|------------------|------------------------------|------------|-------------|-------------|
| WAR-Hardness-T01 | 0.21-2.14 | 0.012-0.12 | 0.021-0.214 | 0.002-0.021 |
| WAR-Hardness-T02 | 0.53-5.34 | 0.03-0.3 | 0.053-0.534 | 0.005-0.053 |
| WAR-Hardness-T03 | 1.60-16.0 | 0.09-0.9 | 0.160-1.602 | 0.016-0.160 |
| WAR-Hardness-T04 | 5.34-53.4 | 0.3-3.0 | 0.534-5.340 | 0.053-0.534 |
| WAR-Hardness-T05 | 16.02-160.2 | 0.9-9.0 | 1.602-16.02 | 0.160-1.602 |
| WAR-Hardness-T06 | 26.7-267.0 | 1.5-15 | 2.670-26.70 | 0.267-2.670 |
| WAR-Hardness-T07 | 53.4-534.0 | 3.0-30 | 5.340-53.40 | 0.534-5.340 |

Alkalinity Reagent

| Reagent type | mg/L (ppm) CaCO ₃ | mmol/L |
|--------------------|------------------------------|------------|
| WAR-Alkalinity-T01 | 5.34-134 | 0.107-2.68 |
| WAR-Alkalinity-T02 | 8.01-205 | 0.160-4.10 |
| WAR-Alkalinity-T03 | 10.7-267 | 0.214-5.34 |
| WAR-Alkalinity-T04 | 16.0-401 | 0.2-8.02 |
| WAR-Alkalinity-T05 | 80.1-2050 | 1.6-41.0 |

For more information, please refer to the user manual.

Application

- Drinking water
- Raw water
- Boiler water
- Cooling water

SPA-Chlorine Free/Total Chlorine Water Quality Analyzer

Overview

The SPA-Chlorine is an on-line free/total chlorine analyzer that measures free/total chlorine in water using the DPD colorimetric method. The automatic DPD pumps reagents into the water sample for reaction and determines the water concentration by colorimetry. By selecting different reagents, the analyzer can measure either free or total chlorine.

Features

- With self-diagnosis, abnormal alarm, data exceeding the standard alarm function
- Interval measurement optional, minimum 5min
- Supports Modbus RS485 and 4-20mA signal outputs
- Support 4G, WiFi wireless data transmission

Specifications

| | | | |
|------------------------------|---|----------------------|---|
| Dimension | 450 × 350 × 200 mm (17.72×13.78×7.87 inch) | Pressure | 0.2-2 bar |
| Power consumption | 25 W | Installation | Wall-mounted |
| Power requirements | 100-240 VAC, 50/60 Hz | IP rating | IP65 |
| Operating temperature | 5 to 45 °C | Communication | RS485(Modbus RTU), WiFi/Bluetooth, 4G, LoRa (Customizable) |



Parameter information

| Reagent type | Model No. | Range | Resolution | Accuracy |
|----------------|----------------|-----------------------------|------------|---------------------------|
| Free chlorine | SPA-Chlorine-F | 0-2mg/L, 0-5mg/L, 0-10 mg/L | 0.001mg/L | ±5% reading or ±0.05 mg/L |
| Total chlorine | SPA-Chlorine-T | 0-2mg/L, 0-5mg/L, 0-10mg/L | 0.001mg/L | ±5% reading or ±0.05 mg/L |

Free/ Total Chlorine Reagent

| Reagent Type | Name | Model | Capacity |
|------------------------|--|-------------|----------|
| Free Chlorine Reagent | Free Chlorine Analysis Reagent | WAR-DPD-FC1 | 500 mL |
| | Free Chlorine Analysis Buffer Reagent | WAR-DPD-BF1 | 500 mL |
| Total Chlorine Reagent | Total Chlorine Analysis Reagent | WAR-DPD-TC1 | 500 mL |
| | Total Chlorine Analysis Buffer Reagent | WAR-DPD-TF1 | 500 mL |

For more information, please refer to the user manual.

Application

- Pipe system
- Drink water
- Secondary water supply
- Sterilization process

SPA-Fe-T01 Total Iron Water Quality Analyzer

Overview

SPA-Fe-T01 is an on-line total iron analyzer that measures the concentration of dissolved iron (trivalent and divalent iron) in water by titration and colorimetric methods. Reagents are automatically pumped into the water sample for reaction, the end point of the reaction is determined by the colorimetric method, and then the total iron concentration in the water is determined based on the amount of reagent added. By selecting different reagents, the analyzer can measure different total iron concentrations.



Features

- Accurate and reliable fully automatic hardness analyzer
- With self-diagnosis, abnormal alarm, data exceeding the standard alarm function
- Interval measurement optional, minimum 5min
- Supports Modbus RS485 and 4-20 mA signal outputs
- Support 4G, WIFI wireless data transmission

Specifications

| | | | |
|------------------------------|---|----------------------|---|
| Dimension | 300×300×180 mm (11.81×11.81×7.09 inch) | Pressure | 0.2-2 bar |
| Power consumption | 25 W | Installation | Wall-mounted |
| Power requirements | 100-240 VAC, 50/60 Hz | IP rating | IP54 |
| Operating temperature | 5 to 45 °C | Communication | RS485(Modbus RTU), WIFI/Bluetooth, 4G, LoRa (Customizable) |

Parameter information

| Parameter | Model No. | Range | Repeatability | Accuracy |
|--|------------|-------------------------------|---------------|-----------|
| Total iron (Fe ³⁺ &Fe ²⁺) | SPA-Fe-T01 | 0.01-0.5 mg/L 0.2-6.0 mg/L | ± 5%F.S. | ± 10%F.S. |

For more information, please refer to the user manual.

Application

- Drinking water
- Raw water
- Boiler water
- Cooling water

MC-W-S Meter Controller

Overview

The meter controller uses a 7-inch color LCD screen and is a controller that can connect to multiple sensors at the same time. Users can quickly configure sensor information, connect to controller, and display data and graphs in real time. It supports wireless data output, can upload the collected data to the cloud, supports HTTP protocol, MQTT protocol.



Features

- 7-inch color LCD touch screen, clear display, easy to operate
- Up to 4 sensors can be connected
- Quick Connect, Sensor Auto-Recognition
- Support 4-20 mA output, IO output
- Strong compatibility, can be connected to all sensors of ours and other RS485 communication methods
- Wireless communication, support 2G/4G, Wi-Fi

Specifications

| | | | |
|--------------------------|---|----------------------|---|
| Display | 7-inch color LCD screen with touch function | Power | < 15 W (Unconnected sensor) |
| Dimension | 230×154×68 mm | Installation | Wall-mounted |
| Power requirement | DC24 V | Data storage | 32 GB |
| IP rating | IP65 | Communication | RS485 (Modbus RTU), LoRa (Customizable) |

Interface

| Parameter | Output Interface | Input interface | Wireless communication |
|-----------|--|-----------------------|--|
| MC-W-S | 1 channel RS485 output. 2 expansion ports (Each expansion port can support 2 channels of 4-20 mA or 4 channels of I/O) | 4 channel RS485 input | WIFI, 4G (optional) LoRa (Customizable) |

For more information, please refer to the user manual.

Application

- All probes or equipment of the company can be connected to display data
- It can be used as a display instrument for various sewage treatment, surface water monitoring, drinking water monitoring
- Can be connected to any sensor or device with RS485 communication
- Can be applied to scenarios where multiple sensors are connected at the same time

MC-HC Meter Controller

Overview

The MC-HC meter controller is a handheld device independently developed by our company. It features 4G, WiFi, and Bluetooth for wireless data transmission. This device is compatible with all our sensors and slave devices, and it supports communication equipment with standard Modbus RTU protocol.



Features

- 5-inch color LCD touch screen, clear display, easy to operate
- Quick Connect, Sensor Auto-Recognition
- Strong compatibility, can be connected to all sensors of ours and other RS485 communication methods
- With battery, capable of powering the sensor
- Equipped with GPS, it can mark measurement point locations on a map
- Wireless communication, support 2G/4G, Wi-Fi

Specifications

| | | | |
|--------------------------|---|-------------------------|---|
| Display | 5-inch color LCD screen with touch function | Battery capacity | 3300 mAh, 18650 lithium battery (3.7 V) × 2 |
| Dimension | 184 × 97 × 40 mm | Mounting | Handheld |
| Power requirement | DC12 V | Data storage | 32 GB |
| IP rating | IP65 | Communication | RS485 (Modbus RTU) |

Interface

| Parameter | Input interface | Wireless communication | Location |
|-----------|---|--|----------|
| MC-HC | 2 channel RS485 input 5-pin aviation connector | WiFi, 4G (optional) LoRa (Customizable) | GPS |

For more information, please refer to the user manual.

Application

- All sensors or equipment of the company can be connected to display data
- Portable and handheld design
- Can be connected to any sensor or device with RS485 communication

MC-BW-B Meter Controller

Overview

The meter controller can connect to multiple sensors at the same time. This series of controller supports a variety of power supply methods, and the built-in battery can be adapted to difficult scenarios of field power supply, providing customers with a complete field water quality monitoring data transmission program.

The meter controller supports RS485 bus communication, using standard Modbus RTU protocol, and can support up to 4 channels of sub-devices at the same time; through analog signal acquisition, using 4-20mA and 0-10V two channels can support each 1 Simultaneous access of road equipment. Users can quickly configure sensor information, connect to the controller, and transmit data in real time. The MC-BW-B meter controller supports wireless data output. Through Wi-Fi and 4G networks, users can upload the collected data to the cloud and support HTTP and MQTT protocols. Users can realize remote data viewing through SPS Server (SPS cloud service). MC-BW-B also supports wired data output, through the RS485 host connection interface, users can read data through Modbus RTU protocol.



Features

- Supports use in field and other unpowered environments
- Support 4-20 mA or 0-10 V analog input, I/O input and output
- Wireless communication, supports 2G/4G, Wi-Fi.
- Strong compatibility, can connect to all our sensors and other RS485 communication mode sensors.
- Compact size, easy to install

Specifications

| | | | |
|------------------------------|---|----------------------|------------------------------|
| Dimension | 170 × 170 × 90mm | Power | < 2 W (Unconnected sensor) |
| External power supply | DC12V to DC24V | Installation | Wall-mounted |
| Internal power supply | 4 x 3.6VD - type power battery or 16.8 V rechargeable lithium battery pack (optional) | Data storage | 32GB |
| IP rating | IP65 | Communication | RS485 (Modbus RTU), WIFI, 4G |

Interface

| Parameter | Output Interface | Input interface | Wireless communication |
|-----------|---|--|---|
| MC-BW-B | 1 channel RS485 output. 2 channels of low output are valid. 2 channels of high output are valid | 4 RS485 (Modbus RTU protocol) interface 1 channel 4-20 mA analog input 1 channel 0-10 V analog input | RS485 (Modbus RTU protocol). 4G, WIFI (HTTP, MQTT protocol). BLE (App private protocol) |

For more information, please refer to the user manual.

Application

- All our sensors or devices
- Data acquisition and signaling for pipe network equipment
- Signal transmission or relay

Sewage and Surface Water Applications

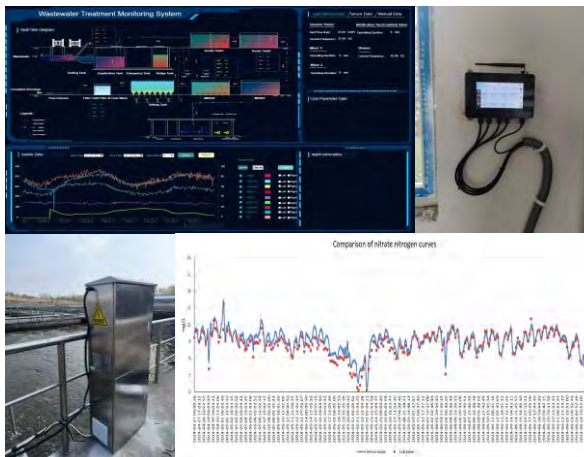
Sewage treatment process monitoring

Pain points

- Unknown status of biochemical operating system
- Abnormalities cannot be handled in time
- High cost of operation and maintenance of chemical online equipment
- Equipment operation energy consumption and chemical consumption cost are high and uncontrollable

Solution

- Real-time monitoring of the whole process
- Optical sensor online monitoring, low operating cost and easy to use
- Add intelligent control system to make aeration and dosing precise and controllable



Sewage network monitoring

Pain points

- High-concentration sewage enters the sewage treatment system and cannot be treated in time, causing impact on the system

Solution

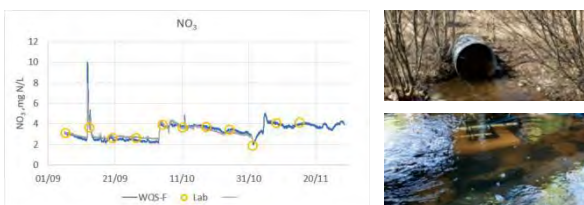
- Real-time monitoring of pipeline network and pre-pumping station



Surface water monitoring

Installation

- Location: Southern Finland
- The sensors are battery-powered and collect data every half hour. The following is a comparison of sensor measurements for the period September 6 through November 28, 2023
- The data from both sensors performed well in comparison to the laboratory results.



Solar Floating Buoy Water Quality Monitoring

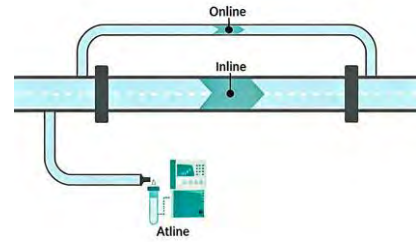
- Lake Water Quality Monitoring
- Photovoltaic Panel Power Supply
- Multi-Parameter Integration, Buoy-Type Installation



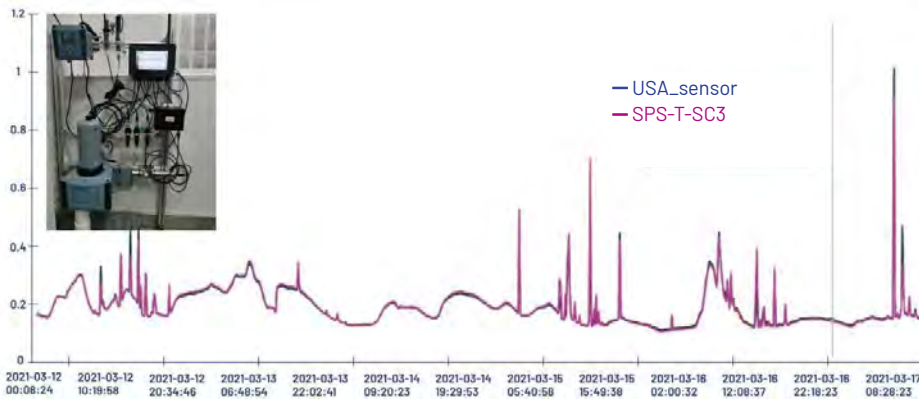
Drinking Water Applications

Mounting Types

- Inline** –Sensor mounted directly in main pipe, continuous in-flow measurement.
- Online** –Sensor in bypass loop, continuous monitoring without main flow interruption.
- Atline** –Sample drawn to nearby analyzer, automated near-real-time testing.



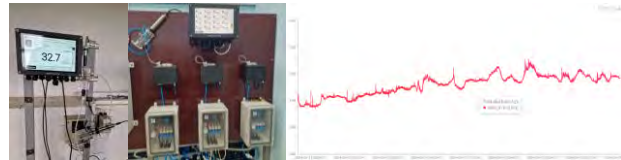
Comparative test



Comparative test

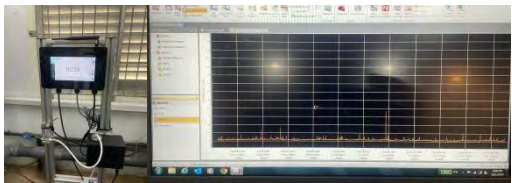


Product comparison test: US/UK company
Long-term reliability test: 3 months



Product Comparison Test: USA
Long-term reliability test: 3 months

Secondary water supply monitoring



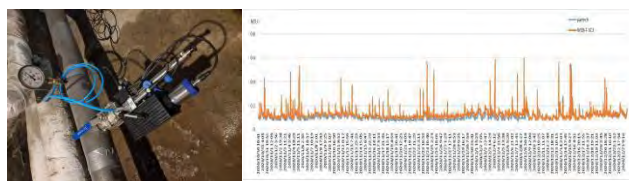
Singapore Projects
Long-term reliability test: 3 months



Korea Projects
Long-term reliability test: 3 months



Product Comparison Test: USA
Long-term reliability test: 3 months

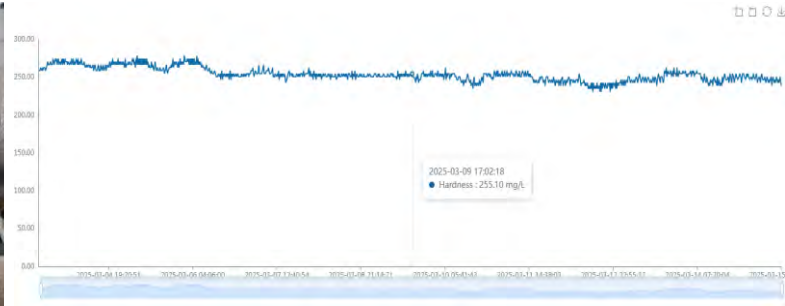


Russia Projects
Long-term reliability test: 3 months

Industrial Water Applications

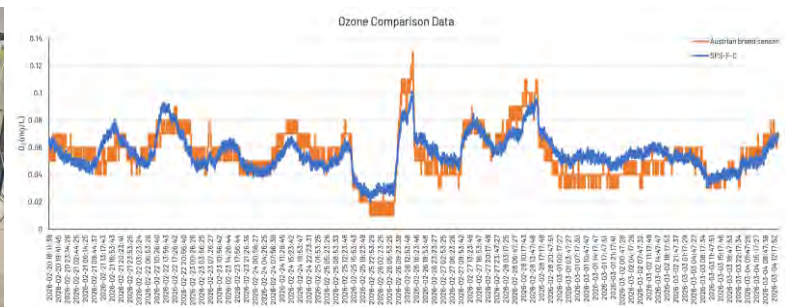
Boiler water monitoring

- Monitoring of hardness in boiler cooling water
- Prevent boiler scaling and improve boiler operating efficiency.
- Reduce equipment corrosion and extend boiler service life.



Ozone monitoring

- On-line ozone monitoring for dosing control
- Ultra-low ozone concentration monitoring
- Real-time data comparison: Specsens SPS-F-C sensor vs German brand sensor
- High resolution, high precision, fast response
- Long service life, no zero drift, minimal drift



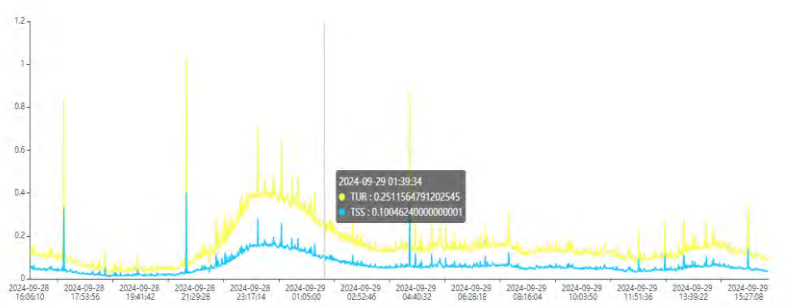
Suspended Solids Monitoring in Coal Mine Sewage

Pain points

- Black coal particles have strong light absorption
- At excessively high concentrations, they fully absorb sensor-emitted light, which fails to reach the detector, causing signal loss and a false zero reading

Solution

- SPS-T-SC4 sensor integrates 90° scattered light and 180° transmitted light detection
- Ensures accurate readings even in high-concentration scenarios.
- Prevents false zero readings and effectively addresses sudden high-concentration wastewater discharge



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