The people for Process Analytics

MZD Analytik GmbH is located in Dresden, Europe's Silicon Valley, the capital of Saxony, Germany. It has set itself the goal of offering modern measuring and automation technology in process analytics. The leading employees of **MZD** have a Doctorate or Master's degree in technical discipline and, thanks to many years of experience, are able to competently solve the problems of measurement and automation technology that are pending in the industry. We place great value on certified quality standards for the products we developed and produced. **MZD** has a well-developed network in Europe and Asia(China) in order to be able to respond competently to all questions of our industrial customers.

Our engineers work in partnership with OEM/ODM's (and customers) from the initial design stage through post-production to ensure customer satisfaction throughout all phases of product development.

MZD offers for you both in Europe and Asia

- Project planning, construction and commissioning of measuring equipment, which we plan and act according to your task
- Coordination of all services, including our cooperation partners in some more complex tasks (general contractor)
- Calibration and adjustment of our measuring instruments

Modbus PROFIBUS Fieldbus Foundation HART COMMUNICATION PROTOCOL WirelessHART

MZD Analytik GmbH supply products as follows:

Moisture in Gas	0~1~500pppm(Max.2,500ppm)	**Dewpoint**	-100 ~ -20°C
H2S Gas Analyzer	0~100ppm up to 1%	**Cl2 Gas Analyzer**	0~100ppm up to 30%
HCl Gas Analyzer	0~10ppm up to100ppm	**NH3 Gas Analyzer**	0~10ppm up to100ppm
O2 Gas Analyzer	0~10ppm up to 100%	**O3 Gas Analyzer**	0~1ppm up to 5000ppm
H2 Gas Analyzer	0~100%	**CH4 Gas Analyzer**	0~100ppm up to 100%
C2H2 Gas Analyzer	0~100ppm up to 10%	**CmHn Gas Analyzer**	0~1000ppm up to 100%
CO Gas Analyzer	0~500ppm up to 100%	**CO2 Gas Analyzer**	0~50ppm up to 100%
SO2 Gas Analyzer	0~10ppm up to 10%	**NOx Gas Analyzer**	0~10ppm up to 5000ppm
He/Ne/Kr/D2/SF6/R125 Gas	0~100%		
Thermal Conductivity analyzer		two-component gas (%)	
Infrared photometry analyzer		CO,CO2,CmHn,N2O,SO2,CF4,SF6,H2O	
Ultraviolet photometry analyzer		SO2,NO,NO2,O3,Cl2,ClO2,CS2,H2S	
Laser analyzer		NH3,H2O,CO,CH2O...	
Medical Oxygen Analyzer		H2O,O2,CO,CO2	
Mutigas Analyzer	Up to six gases components		
Bulk Moisture	0~100%		
Water quality analyzer			
Fouling Monitoring	0~1000μm	**Turbidity**	0~4000NTU/FNU
Dissolved Oxygen	0~20mg/L or 200ppm or 200%SAT	**PH**	-2~16pH
ORP	-2000~2000mv	**Conductivity**	0~700ms/cm
Salinity	0~133000ppm	**Total dissolved solids**	0~78g/Kg
SS/MLSS	0~50g/L	**Chlorine/Dioxide Chlorine**	0~2/5/10ppm
COD	0~50mg/L or 1300mg/L	**BOD**	0~15mg/L or 350mg/L
TOC	0~20mg/L or 500mg/L		

If you have any demand for different measuring applications, please contact us. We can develop and customize the measuring system to fit your applications and wishes, for your private labeled products!

The basis of our work is the mutual trust between the partners in a long-term successful cooperation. Our service goal is to uncompromisingly achieve the satisfaction of our customers and to be the most important partner

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Fouling Monitoring Analyzer

Overview

It's a innovative invention based on MEMS technology, is adopted to provide an industrial measurement solution for continuous monitoring and alarming of the trend phenomenon of scaling (scale, biological bacteria, etc.) in the water treatment process, which can continuously, online and real-time monitor the fouling phenomenon of various industrial processes!

Hazards of scale and biofilm

▲The product quality control is degraded

▲Increased process running time

▲Decreased production efficiency and competitiveness

▲Hygiene and safety control

▲Increased energy consumption

▲Increased chemical emissions

▲The increase of waste...

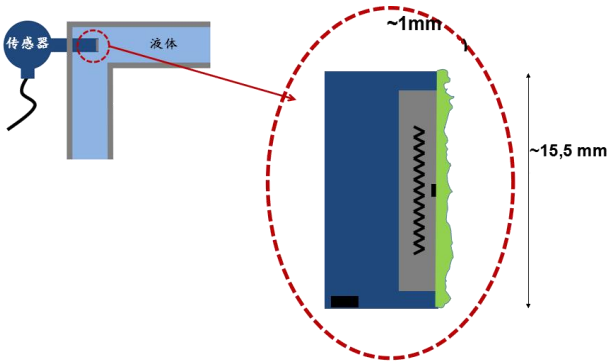
Effect

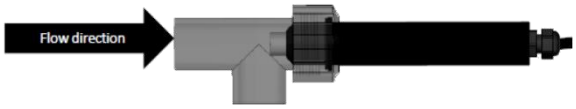
★Improve the heat exchange coefficient of the critical point in time to save energy
★Optimize and control water treatment efficiency
★Optimize and reduce chemical products, reduce emissions
★The risk of germs can be avoided, and biological contamination can be implanted
★Alarm when dirt and biofilm increase abnormally

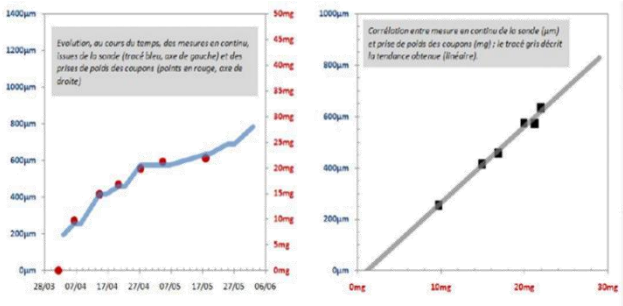
Typical application

▲Cooling tower
▲Heat exchanger
▲Filter and membrane
▲Industrial water treatment
▲Boiler water treatment
▲Pure water treatment
▲Drinking water supply
▲Chemical industry
▲Power plant
▲Biopharmaceutical industry

Fouling Monitoring Analyzer







Measuring range

Using a tiny pulse heater, the surface temperature rises due to the increase in the deposition thickness of fouling and biological bacteria. Continuous measurement of the surface temperature is used to monitor the deposition thickness of the fouling and biological bacteria. **The function of scale membrane/biological bacteria sensor is not only to "analyze and measure", but also to provide a solution for monitoring, alarm and adjustment!**

Installation

The sensor can be installed to a bypass pipe to monitor system operation status. It is recommended to use flow meter and valve, one-way valve and others for bypass measuring system.

Application case

Installed in the tertiary cooling system and circulating water cooling tower system to monitor organic fouling and disinfectant treatment efficiency. The monitoring of scale biological bacteria proves to reduce the amount of disinfectant added, optimize the disinfectant treatment, and ensure safe production while reducing. The use of chemicals reduces the impact on the environment and saves energy.

Fouling Monitoring Analyzer

Features

❖ **Quick and convenient**

The navigation menu contains 6 languages, which can be operated easily.

❖ **Process safety**

4.3" large size color LCD touch screen, convenient and safe touch operation and debugging

Large size screen with red flashing alarm, clearly visible from long distances and in dark areas

Alarm immediately, safe the process

❖ **Alarm event record**

Real-time data curve display

Record function for up to 6,000 alarms

❖ **Expert calibration function**

Multi-point calibration function up to 9 point

❖ **Powerful self-diagnosis function**

Built-in heartbeat monitoring function and watchdog

Monitor the status of analyzer and sensors, and promptly remind customers to take necessary maintenance

High-standard hardware and software security and password protection

❖ **Powerful control function**

High(low) limit control function

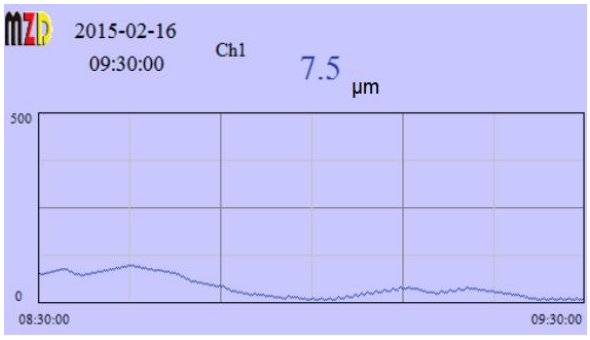
Optional: Timer control(automatic cleaning) function

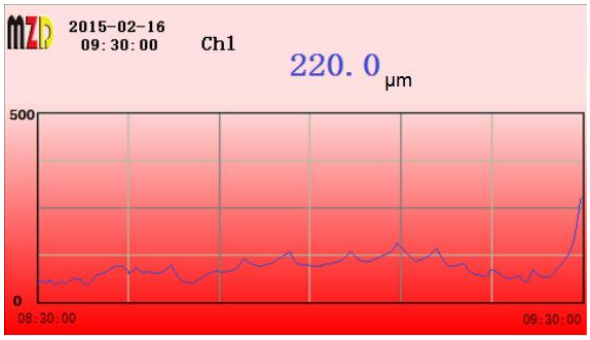
Optional: analog PID control function

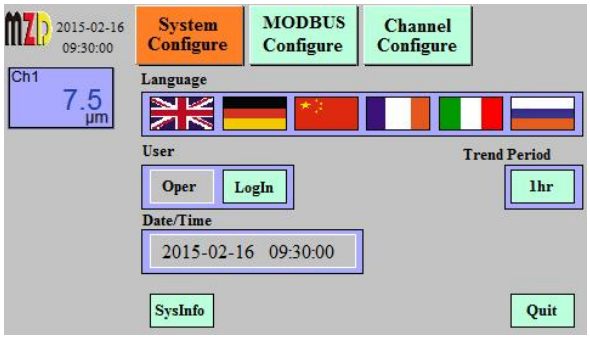
Optional: PWM control function

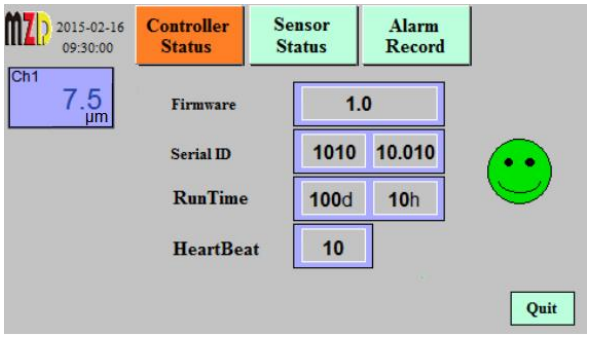
❖ **Flexible fieldbus communication functions for IOT4.0**

Optional fieldbus MODBUS, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, etc.









Fouling Monitoring Analyzer

Parameters

Sensor Type	Fouling Monitoring			
Range	0~1000μm			
Accuracy	5% FS			
Resolution	1μm			
Working temperature	0~60℃			
Maximum temperature change rate	10℃/minute			
Pressure	Max. 5Bar			
Min. Flow rate	>1000l/h（1” pipe）			
Ambient Temperature	5~50℃			
Ambient humidity	0~90%			
Sensor Size	Φ28mm*190mm			
Sensor Weight	250g			
Process connection	3/4” T-shaped sliding sleeve			
Sensor Material	PVC			
Sensor Ingress Protection	IP65			
Sensor cable length	3m			
Display	4.3" industrial color touch screen			
Language	Multi-Language (English, German, Chinese, French,Italian, Russian or Customized)			
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring			
Event Logger	Internal Flash,up to 6,000 alarm records			
Analog Output(Galvanic)	4~20mA, maximum load 500Ω			
Relay Output(Galvanic)	Relay(2A, 230V AC freely set alarm), System alarm			
Control function	Optional Timer controller,PID analog controller,PWM controller			
Calibration	Can store 6 calibration curves of different materials, Multi-point calibration function up to 9 point			
Communication	RS485 MODBUS RTU, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, MODBUS TCP/IP, etc			
Power	80~264V AC,1A or 19~28V DC,3A			
Electrical protection	EMI / RFI CEI-EN55011 – 05/99			
Ambient Temperature	-15 ~ 60℃			
Storage and transport temperature	-25 ~ 70℃			
Ambient humidity	0~90%RH			
Wall-mounted(1~2Channels)	4.3" color touchscreen	ABS,Gray RAL7045	213x185x84mm	IP65
	1.8" color LCD	Aluminum,Gray	180x160x135mm	IP65, Exd IICT4

Fouling Monitoring Analyzer

Sensor Type	Fouling Monitoring
Display	1.8" color LCD, 160*128Pixel
Language	English Menu
LED Light	Status LED Light(NAMUR NE107)
Keypad	Magnetic button
Range	0~1000μm
Accuracy	5% FS
Resolution	1μm
Working temperature	0~60℃
Maximum temperature change rate	10℃/minute
Pressure	Max. 5Bar
Min. Flow rate	>1000l/h (1" pipe)
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring
Analog Output	4~20mA，Maximum load 500 ohms
Relay Output	2 Relays (2A, 230V AC/DC freely set alarm), 1 Relay (System alarm)
Communication	RS485 MODBUS RTU Slave
Power	19 ~ 28V DC,0.5A
Electrical protection	EMI / RFI CEI-EN55011 – 05/99
Ambient Temperature	5~50℃
Ambient humidity	0~90%
Protection	IP67
Housing Material	Aluminum alloy
Size	Φ126*110 mm
Weight	1.5Kg
Explosion-proof	Ex d IICT4 optional

Turbidity/Suspended Solids Concentration Analyzer

Overview

SMART series intelligent multi-parameter universal controller has high accuracy, its unique professional design can be applied in water, chemical, pharmaceutical, food and hygiene in the production process of the most extreme physical and chemical environments. SMART series intelligent multi-parameter universal controller has modular bus structure, highly scalable functionality, high reliability and comfortable operation.

Principle

Turbidity/Suspended Solids Concentration refers to the degree of hindrance of suspended solids in water to light transmission.

Turbidity means that when a beam of light passes through a liquid medium, part of the light will be refracted on the surface of the insoluble particles. The degree of light refraction is related to the size and shape of the particle. The intensity of the scattered light has a certain proportional relationship with the size of the particles.

When a beam of light passes through the suspended object to be measured, the light is absorbed by the measured object, and only a small part of the light is transmitted through after reflection and scattering. According to Lambert-Beer law lnS = CK * MLSS, the concentration of suspended matter has a certain proportional relationship with the transmittance of transmitted light.

Typical application

▲Source water monitoring

▲Filter backwash detection

▲Filter monitoring

▲Driking-water quality monitoring

▲Separation process monitoring

▲Cooling water monitoring

▲Circulating water detection

▲Sludge treatment monitoring

▲Aeration tank monitoring

Turbidity/Suspended Solids Concentration Analyzer

Feature

★Directly measure the turbidity value and the suspended matter concentration

★Smart digital MEMS sensor

★Sensor self-diagnosis, proactively reminding maintenance and management

★Quick response

★ IP68 sensor

★Automatic temperature compensation

★Good robustness

★ Infrared optical sensor

★Comply with ISO 7027/ISO7020/EN27027 standards

Installation

▲Avoid bubble interference

▲The inclined surface of the probe faces the direction of the fluid, and the smooth sensor surface has a self-cleaning effect

▲Keep a distance of 20cm from the side wall or bottom, try to avoid the interference caused by the side wall

▲It is forbidden to install where suspended solid particles are easy to settle

Calibration

The turbidity measurement with NTU or FNU as the unit of measurement does not require calibration.

Application Case

★Chlor-alkali: monitor the working status of the secondary brine filtration membrane

★Sewage: inlet, sludge treatment, dehydration, aeration tank and outlet, detection and control of water treatment process

★Drinking water: detect and control all steps of the drinking water treatment process

Turbidity/Suspended Solids Concentration Analyzer

Features

❖ **Quick and convenient**

The navigation menu contains 6 languages, which can be operated easily.

❖ **Process safety**

4.3" large size color LCD touch screen, convenient and safe touch operation and debugging

Large size screen with red flashing alarm, clearly visible from long distances and in dark areas

Alarm immediately, safe the process

❖ **Alarm event record**

Real-time data curve display

Record function for up to 6,000 alarms

❖ **Expert calibration function**

Multi-point calibration function up to 9 point

❖ **Powerful self-diagnosis function**

Built-in heartbeat monitoring function and watchdog

Monitor the status of analyzer and sensors, and promptly remind customers to take necessary maintenance

High-standard hardware and software security and password protection

❖ **Powerful control function**

High(low) limit control function

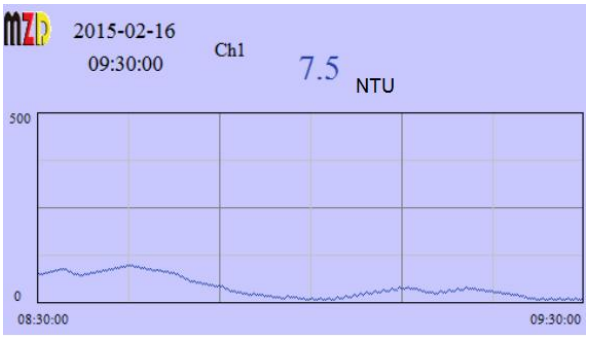
Optional: Timer control(automatic cleaning) function

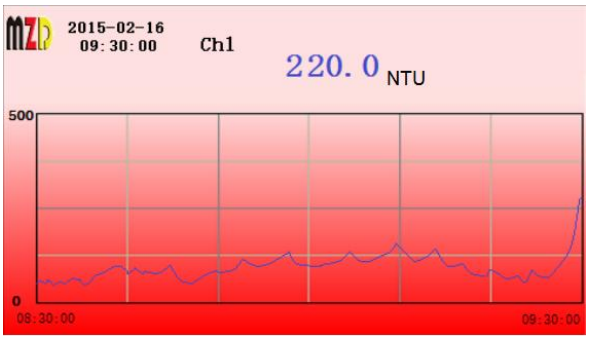
Optional: analog PID control function

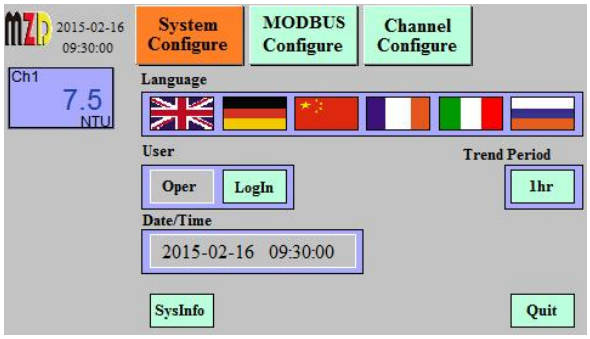
Optional: PWM control function

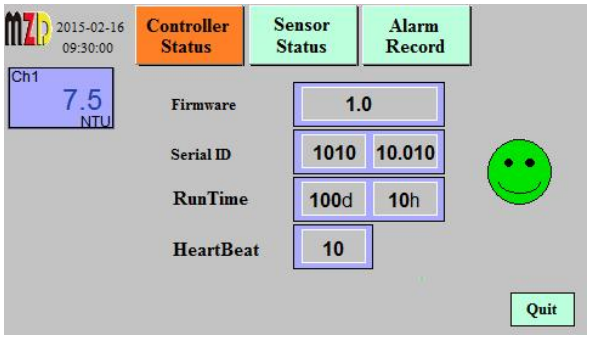
❖ **Flexible fieldbus communication functions for IOT4.0**

Optional fieldbus MODBUS, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, etc.









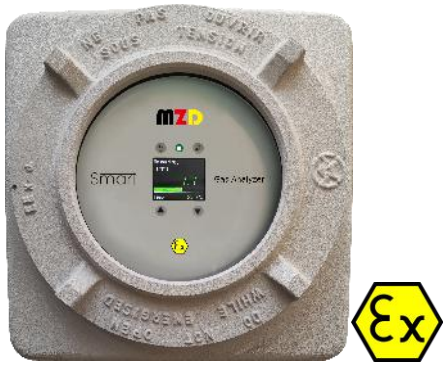
Modbus PROFIBUS Fieldbus Foundation HART COMMUNICATION PROTOCOL WirelessHART

Turbidity/Suspended Solids Concentration Analyzer

Parameters

Sensor Type	Turbidity_Suspended Solids Concentration(IR90°Optical)			
Range	0~4000NTU/FNU or 0~50g/L			
Accuracy	1% FS			
Resolution	0.1NTU/FNU or 0.01g/L			
Response Time T90	<1 s			
Temperature compensation	Automatic			
Working temperature	0~55℃			
Temperature Sensor	CTN Thermistor			
Pressure	Max. 5Bar			
Ambient Temperature	-10~50℃			
Ambient humidity	0~90%			
Sensor Size	Φ27mm*150mm			
Sensor Weight	350g			
Sensor Material	PVC			
Sensor Ingress Protection	IP68			
Sensor cable length	7m			
Display	4.3" industrial color touch screen			
Language	Multi-Language (English, German, Chinese, French,Italian, Russian or Customized)			
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring			
Event Logger	Internal Flash,up to 6,000 alarm records			
Analog Output(Galvanic)	4~20mA, maximum load 500Ω			
Relay Output(Galvanic)	Relay(2A, 230V AC freely set alarm), System alarm			
Control function	Optional Timer controller,PID analog controller,PWM controller			
Calibration	Can store 6 calibration curves of different materials, Multi-point calibration function up to 9 point			
Communication	RS485 MODBUS RTU, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, MODBUS TCP/IP, etc			
Power	80~264V AC,1A or 19~28V DC,3A			
Electrical protection	EMI / RFI CEI-EN55011 – 05/99			
Ambient Temperature	-15 ~ 60℃			
Storage and transport temperature	-25 ~ 70℃			
Ambient humidity	0~90%RH			
Wall-mounted(1~2Channels)	4.3" color touchscreen	ABS,Gray RAL7045	213x185x84mm	IP65
	1.8" color LCD	Aluminum,Gray	180x160x135mm	IP65, Exd IICT4

Turbidity/Suspended Solids Concentration Analyzer



Sensor Type	Turbidity_Suspended Solids Concentration(IR90°Optical)
Display	1.8" color LCD, 160*128Pixel
Language	English Menu
LED Light	Status LED Light(NAMUR NE107)
Keypad	Magnetic button
Range	0~4000NTU/FNU or 0~50g/L
Accuracy	1% FS
Resolution	0.1NTU/FNU or 0.01g/L
Response Time T90	<1 s
Temperature compensation	Automatic
Working temperature	0~55℃
Temperature Sensor	CTN Thermistor
Pressure	Max. 5Bar
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring
Analog Output	4~20mA，Maximum load 500 ohms
Relay Output	2 Relays (2A, 230V AC/DC freely set alarm), 1 Relay (System alarm)
Communication	RS485 MODBUS RTU Slave
Power	19 ~ 28V DC,0.5A
Electrical protection	EMI / RFI CEI-EN55011 – 05/99
Ambient Temperature	-10~50℃
Ambient humidity	0~90%
Protection	IP67
Housing Material	Aluminum alloy
Size	Φ126*110 mm
Weight	1.5Kg
Explosion-proof	Ex d IICT4 optional

Dissolved oxygen Analyzer

Overview

SMART series intelligent multi-parameter universal controller has high accuracy, its unique professional design can be applied in water, chemical, pharmaceutical, food and hygiene in the production process of the most extreme physical and chemical environments. SMART series intelligent multi-parameter universal controller has modular bus structure, highly scalable functionality, high reliability and comfortable operation.

Principle

Dissolved oxygen is the content of gaseous molecular oxygen dissolved in water. The content of dissolved oxygen in water is closely related to the partial pressure of oxygen in the air and the temperature of water.

Luminescent optical method: The blue pulsating light beam emitted by the internal optical system of the sensor hits the fluorescent layer, and the marker "responds" (produces fluorescence) with pulsating red light. The duration and intensity of the excited response signal are directly related to oxygen The composition is related to the partial pressure. (*Amperometric method: Oxygen molecules penetrate the gas permeable membrane at the front of the sensor and are reduced by the working electrode to generate a diffusion current proportional to the oxygen concentration.)

Typical application

▲Sewage treatment plant

▲Drinking water plant

▲Rivers and lakes

▲Fishing

▲Circulating water of power plant boiler

▲Fermentation tank product quality monitoring in the food and pharmaceutical industry

Dissolved oxygen Analyzer

Feature

★Smart digital MEMS sensor

★Sensor self-diagnosis, proactively reminding maintenance and management

★Automatically completes all compensation and measurement algorithms

★Real-time temperature, salinity and pressure compensation

★Quick response sensor

★IP68 Sensor

★Luminescent optical sensor

★Good robustness

★No calibration, no film, no fluoride, no drift

★Unlimited PH value, CO2, H2S, SO2 influence

★High-precision measurement under low dissolved oxygen concentration

★No oxygen consumption

★Comply with ASTM standard D888-05

Installation

▲No need to wait for polarization, measure immediately!

▲No need to replace the membrane and fluorocarbon, saving cost!

▲No need to disassemble, convenient!

▲No regeneration, it is impossible to predict the decay from sewage on the surface of the thermometer

▲H2S or ammonia in the liquid does not affect the measurement

▲No need to replace the film and carbon dioxide

▲No need to continuously perform on-site calibration

▲Clean the sensor surface: every month

▲Sensor calibration: every quarter

▲Replace the fluorescent cap: about every 2 years

Application Case

★Sewage aeration tank: Nitrogen and phosphorus removal, COD degradation, and dissolved oxygen as an important parameter for controlling aeration.

★Ion: Dissolved oxygen detection during iron and manganese ion removal process

★Power plant: boiler water supply

Dissolved oxygen Analyzer

Features

❖ **Quick and convenient**

The navigation menu contains 6 languages, which can be operated easily.

❖ **Process safety**

4.3" large size color LCD touch screen, convenient and safe touch operation and debugging

Large size screen with red flashing alarm, clearly visible from long distances and in dark areas

Alarm immediately, safe the process

❖ **Alarm event record**

Real-time data curve display

Record function for up to 6,000 alarms

❖ **Expert calibration function**

Multi-point calibration function up to 9 point

❖ **Powerful self-diagnosis function**

Built-in heartbeat monitoring function and watchdog

Monitor the status of analyzer and sensors, and promptly remind customers to take necessary maintenance

High-standard hardware and software security and password protection

❖ **Powerful control function**

High(low) limit control function

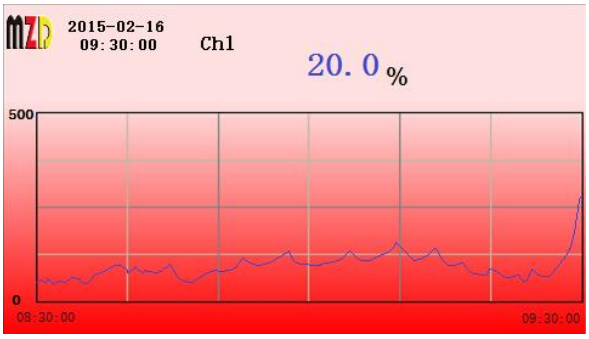
Optional: Timer control(automatic cleaning) function

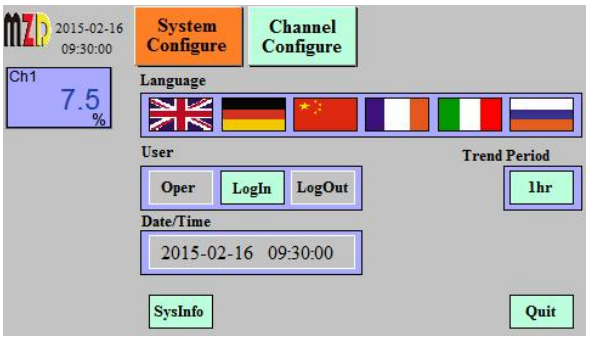
Optional: analog PID control function

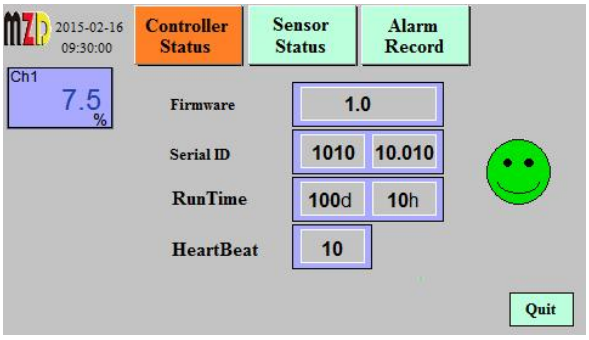
Optional: PWM control function

❖ **Flexible fieldbus communication functions for IOT4.0**

Optional fieldbus MODBUS, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, etc.





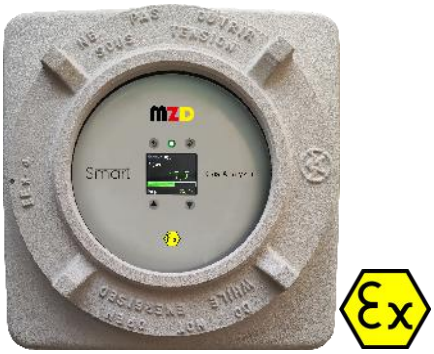


Dissolved oxygen Analyzer

Parameters

Sensor Type	Dissolved oxygen(luminescent optical)			
Range	0~20mg/L，0~200ppm，0~200%SAT			
Accuracy	0.1%，0.1℃			
Resolution	0.01mg/L，1%SAT			
Response Time T90	< 1 s			
Compensation	Atmospheric pressure,Salinity,Temperature			
Working temperature	0~50℃			
Temperature Sensor	CTN Thermistor			
Pressure	Max. 5Bar			
Ambient Temperature	-10~50℃			
Ambient humidity	0~90%			
Sensor Size	Φ25mm*150mm			
Sensor Weight	450g			
Sensor Material	SS16L/Ti(Sea water)			
Sensor Ingress Protection	IP68			
Sensor cable length	7m			
Spare parts	Sensor cap (fluorescent film)			
Display	4.3" industrial color touch screen			
Language	Multi-Language (English, German, Chinese, French,Italian, Russian or Customized)			
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring			
Event Logger	Internal Flash,up to 6,000 alarm records			
Analog Output(Galvanic)	4~20mA, maximum load 500Ω			
Relay Output(Galvanic)	Relay(2A, 230V AC freely set alarm), System alarm			
Control function	Optional Timer controller,PID analog controller,PWM controller			
Calibration	Can store 6 calibration curves of different materials, Multi-point calibration function up to 9 point			
Communication	RS485 MODBUS RTU, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, MODBUS TCP/IP, etc			
Power	80~264V AC,1A or 19~28V DC,3A			
Electrical protection	EMI / RFI CEI-EN55011 – 05/99			
Ambient Temperature	-15 ~ 60℃			
Storage and transport temperature	-25 ~ 70℃			
Ambient humidity	0~90%RH			
Wall-mounted(1~2Channels)	4.3" color touchscreen	ABS,Gray RAL7045	213x185x84mm	IP65
	1.8" color LCD	Aluminum,Gray	180x160x135mm	IP65, Exd IICT4

Dissolved oxygen Analyzer



Sensor Type	Dissolved oxygen(luminescent optical)
Display	1.8" color LCD, 160*128Pixel
Language	English Menu
LED Light	Status LED Light(NAMUR NE107)
Keypad	Magnetic button
Range	0~20mg/L，0~200ppm，0~200%SAT
Accuracy	0.1%，0.1℃
Resolution	0.01mg/L，1%SAT
Response Time T90	< 1 s
Compensation	Atmospheric pressure,Salinity,Temperature
Working temperature	0~50℃
Temperature Sensor	CTN Thermistor
Pressure	Max. 5Bar
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring
Analog Output	4~20mA，Maximum load 500 ohms
Relay Output	2 Relays (2A, 230V AC/DC freely set alarm), 1 Relay (System alarm)
Communication	RS485 MODBUS RTU Slave
Power	19 ~ 28V DC,0.5A
Electrical protection	EMI / RFI CEI-EN55011 – 05/99
Ambient Temperature	-10~50℃
Ambient humidity	0~90%
Protection	IP67
Housing Material	Aluminum alloy
Size	Φ126*110 mm
Weight	1.5Kg
Explosion-proof	Ex d IICT4 optional

COD/TOC/BOD Analyzer

Overview

SMART series intelligent multi-parameter universal controller has high accuracy, its unique professional design can be applied in water, chemical, pharmaceutical, food and hygiene in the production process of the most extreme physical and chemical environments. SMART series intelligent multi-parameter universal controller has modular bus structure, highly scalable functionality, high reliability and comfortable operation.

The Spectral Absorption Coefficient (SAC) at 254 nm helps determine the Organic Content of a water sample, but also the COD, TOC and BOD parameters by applying the appropriate correlation coefficients.

Principle

The sensor uses UV absorption at 254 nm to measure organic compounds dissolved in water. This absorbance is correlated with the concentration of TOC, COD and BOD to provide a high-performance sensor requiring no consumables. A reference measurement at 530 nm is used to compensate for the presence of particles in the sample that also absorb UV light and to establish the Turbidity parameter. The use of a state-of-the-art high-performance UV LED, combined with rigorous ignition management, offers an optimal variance of the signal.

Typical application

▲Sewage treatment

▲Environmental Engineering

▲Municipal water supply

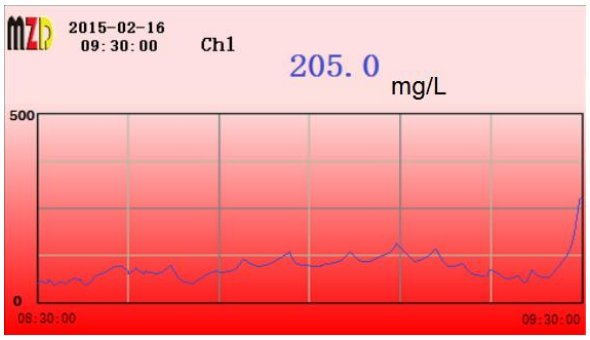
▲Water source monitoring

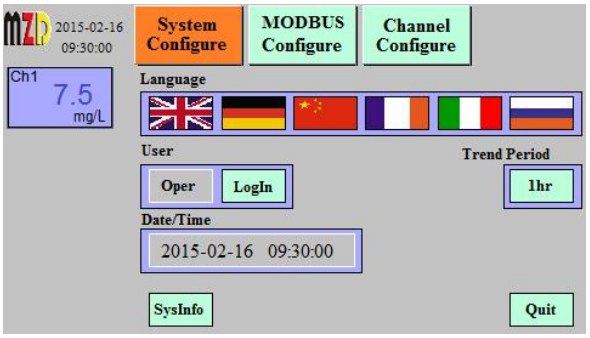
▲Chemical engineering

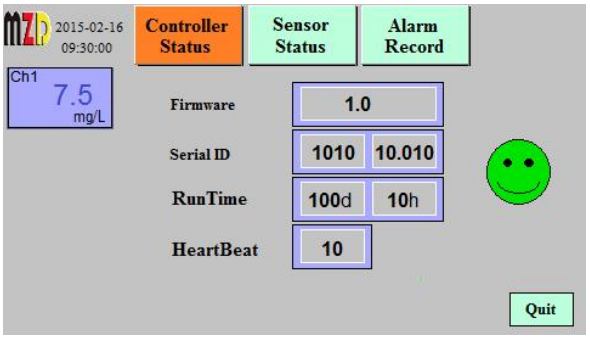
▲Electricity

▲Biopharmaceutical

COD/TOC/BOD Analyzer







Features

❖ **Quick and convenient**

The navigation menu contains 6 languages, which can be operated easily.

❖ **Process safety**

4.3" large size color LCD touch screen, convenient and safe touch operation and debugging

Large size screen with red flashing alarm, clearly visible from long distances and in dark areas

Alarm immediately, safe the process

❖ **Alarm event record**

Real-time data curve display

Record function for up to 6,000 alarms

❖ **Expert calibration function**

Multi-point calibration function up to 9 point

❖ **Powerful self-diagnosis function**

Built-in heartbeat monitoring function and watchdog

Monitor the status of analyzer and sensors, and promptly remind customers to take necessary maintenance

High-standard hardware and software security and password protection

❖ **Powerful control function**

High(low) limit control function

Optional: Timer control(automatic cleaning) function

Optional: analog PID control function

Optional: PWM control function

❖ **Flexible fieldbus communication functions for IOT4.0**

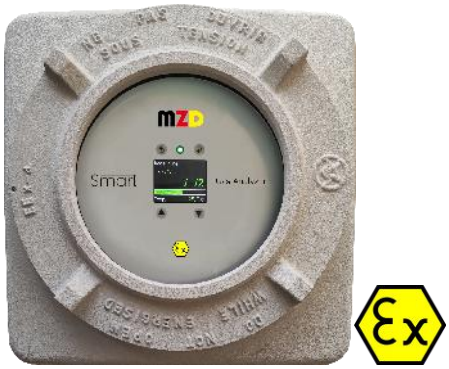
Optional fieldbus MODBUS, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, etc.

COD/TOC/BOD Analyzer

Parameters

Sensor Type	COD/BOD/TOC(UV 254nm)		
Parameters	COD	BOD	TOC
Range	0~50/1300mg/L	0~15/350mg/L	0~20/500mg/L
Accuracy	3%	3%	3%
Resolution	0.01 or 0.1	0.01	0.01
Response Time T90	<2 s		
Temperature compensation	Automatic		
Working temperature	0~40℃		
Temperature Sensor	CTN Thermistor		
Pressure	Max. 5Bar		
Ambient Temperature	-10~50℃		
Ambient humidity	0~90%		
Sensor Size	Φ48x371mm or Φ48x419mm		
Sensor Weight	1800g		
Sensor Material	SS		
Sensor Ingress Protection	IP68		
Sensor cable length	7m		
Display	4.3" industrial color touch screen		
Language	Multi-Language (English, German, Chinese, French,Italian, Russian or Customized)		
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring		
Event Logger	Internal Flash,up to 6,000 alarm records		
Analog Output(Galvanic)	4~20mA, maximum load 500Ω		
Relay Output(Galvanic)	Relay(2A, 230V AC freely set alarm), System alarm		
Control function	Optional Timer controller,PID analog controller,PWM controller		
Calibration	Can store 6 calibration curves of different materials, Multi-point calibration function up to 9 point		
Communication	RS485 MODBUS RTU, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, MODBUS TCP/IP, etc		
Power	80~264V AC,1A or 19~28V DC,3A		
Electrical protection	EMI / RFI CEI-EN55011 – 05/99		
Ambient Temperature	-15 ~ 60℃		
Storage and transport temperature	-25 ~ 70℃		
Ambient humidity	0~90%RH		
Wall-mounted(1~2Channels)	4.3" color touchscreen	ABS,Gray RAL7045	213x185x84mm	IP65
	1.8" color LCD	Aluminum,Gray	180x160x135mm	IP65, Exd IICT4

COD/TOC/BOD Analyzer



Sensor Type	COD/BOD/TOC(UV 254nm)		
Display	1.8" color LCD, 160*128Pixel		
Language	English Menu		
LED Light	Status LED Light(NAMUR NE107)		
Keypad	Magnetic button		
Parameters	COD	BOD	TOC
Range	0~50/1300mg/L	0~15/350mg/L	0~20/500mg/L
Accuracy	3%	3%	3%
Resolution	0.01 or 0.1	0.01	0.01
Response Time T90	<2 s		
Temperature compensation	Automatic		
Working temperature	0~40℃		
Temperature Sensor	CTN Thermistor		
Pressure	Max. 5Bar		
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring		
Analog Output	4~20mA，Maximum load 500 ohms		
Relay Output	2 Relays (2A, 230V AC/DC freely set alarm), 1 Relay (System alarm)		
Communication	RS485 MODBUS RTU Slave		
Power	19 ~ 28V DC,0.5A		
Electrical protection	EMI / RFI CEI-EN55011 – 05/99		
Ambient Temperature	-10~50℃		
Ambient humidity	0~90%		
Protection	IP67		
Housing Material	Aluminum alloy		
Size	Φ126*110 mm		
Weight	1.5Kg		
Explosion-proof	Ex d IICT4 optional		

Conductivity/Salinity/TDS Analyzer

Overview

SMART series intelligent multi-parameter universal controller has high accuracy, its unique professional design can be applied in water, chemical, pharmaceutical, food and hygiene in the production process of the most extreme physical and chemical environments. SMART series intelligent multi-parameter universal controller has modular bus structure, highly scalable functionality, high reliability and comfortable operation.

Principle

Total dissolved solids (TDS) is the total amount of all solutes in water, including both inorganic and organic content. Since organic matter and molecular inorganic matter contained in natural water are generally not considered, the salt content is generally referred to as total dissolved solids.

Salinity refers to the amount of dissolved salts per kilogram of water, and can be understood as the concentration of salt in the water.

In general, the higher the conductivity, the higher the salt content, and the higher the TDS, which means that the water contains more impurities. Generally 1TDS=0.5μS/cm.

In liquid conductors, current is generated by the movement of free ions. According to Ohm's law: I=U/R=U*G, solution conductivity: C=G*d/A=G*k (d is the distance between the plates, A is the area of the plates, and the electrode constant k=d/A[cm-1]).

Electrode type: The conductivity is measured by using 4 electrodes equivalent to the two plates of the capacitor.

Inductive type: The transmitting coil generates an alternating magnetic field, which generates an induced voltage in the medium to move the positively or negatively charged ions in the liquid, and form an alternating current in the liquid. The current generates an alternating magnetic field in the receiving coil, and the circuit has a certain proportional relationship between the induced current generated by the coil and the conductivity, thereby measuring the conductivity. Since ion clusters are formed on the positive plate of the small face, the free movement of positive and negative ions is hindered, and it is impossible to measure solutions with high ion concentration, so an inductive sensor is required.

Conductivity/Salinity/TDS Analyzer

Typical application

▲Source water monitoring

▲Filter backwash detection

▲Filter monitoring

▲Driking-water quality monitoring

▲Separation process monitoring

▲Cooling water monitoring

▲Circulating water detection

▲Sludge treatment monitoring

▲Aeration tank monitoring

Feature

★Smart digital MEMS sensor

★Sensor self-diagnosis, proactively reminding maintenance and management

★The sensor automatically completes all compensation and measurement algorithms

★Quick response sensor

★IP68 Sensor

★Automatic temperature compensation

★Good robustness

★4-electrode/inductive sensor

Application Case

▲Power plant: the quality of boiler feed water

▲Pharmaceutical: ultrapure water

Conductivity/Salinity/TDS Analyzer

Features

❖ **Quick and convenient**

The navigation menu contains 6 languages, which can be operated easily.

❖ **Process safety**

4.3" large size color LCD touch screen, convenient and safe touch operation and debugging

Large size screen with red flashing alarm, clearly visible from long distances and in dark areas

Alarm immediately, safe the process

❖ **Alarm event record**

Real-time data curve display

Record function for up to 6,000 alarms

❖ **Expert calibration function**

Multi-point calibration function up to 9 point

❖ **Powerful self-diagnosis function**

Built-in heartbeat monitoring function and watchdog

Monitor the status of analyzer and sensors, and promptly remind customers to take necessary maintenance

High-standard hardware and software security and password protection

❖ **Powerful control function**

High(low) limit control function

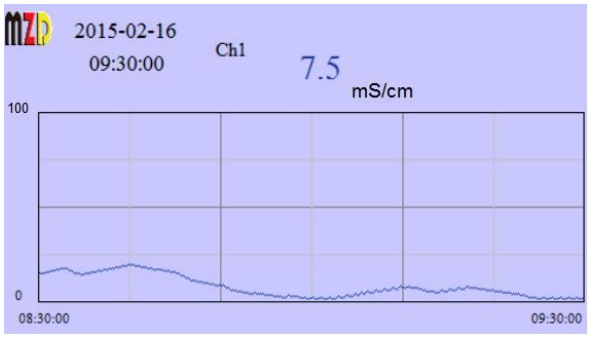
Optional: Timer control(automatic cleaning) function

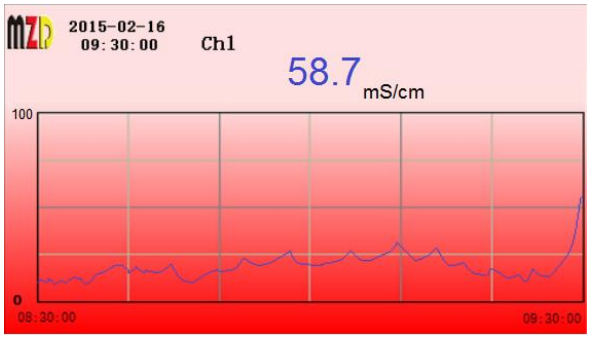
Optional: analog PID control function

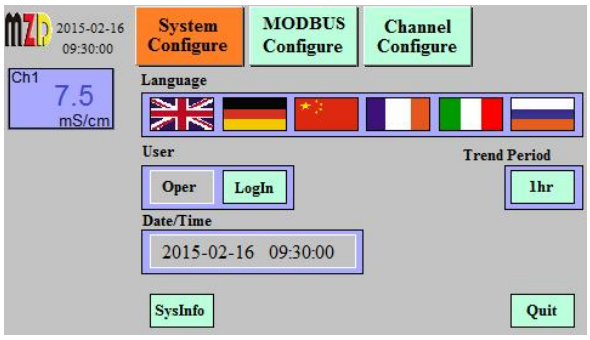
Optional: PWM control function

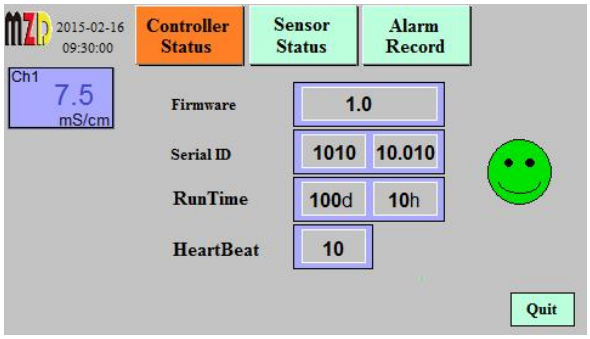
❖ **Flexible fieldbus communication functions for IOT4.0**

Optional fieldbus MODBUS, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, etc.









Conductivity/Salinity/TDS Analyzer

Parameters

Sensor Type	Conductivity/Salinity /TDS_Total dissolved solids(4Electrode type/Inductive type)			
Range	4Electrode type:0~200mS/cm，0~60g/Kg，0~133000ppm Inductive type: 0~700mS/cm，0~78g/Kg			
Accuracy	1% FS			
Resolution	0.01μS/cm，0.1℃			
Response Time T90	<1 s			
Temperature compensation	Automatic			
Working temperature	0~50℃			
Temperature Sensor	CTN Thermistor			
Pressure	Max. 5Bar			
Ambient Temperature	-10~50℃			
Ambient humidity	0~90%			
Sensor Size	Φ27mm*150mm			
Sensor Weight	350g			
Sensor Material	PVC			
Sensor Ingress Protection	IP68			
Sensor cable length	7m			
Display	4.3" industrial color touch screen			
Language	Multi-Language (English, German, Chinese, French,Italian, Russian or Customized)			
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring			
Event Logger	Internal Flash,up to 6,000 alarm records			
Analog Output(Galvanic)	4~20mA, maximum load 500Ω			
Relay Output(Galvanic)	Relay(2A, 230V AC freely set alarm), System alarm			
Control function	Optional Timer controller,PID analog controller,PWM controller			
Calibration	Can store 6 calibration curves of different materials, Multi-point calibration function up to 9 point			
Communication	RS485 MODBUS RTU, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, MODBUS TCP/IP, etc			
Power	80~264V AC,1A or 19~28V DC,3A			
Electrical protection	EMI / RFI CEI-EN55011 – 05/99			
Ambient Temperature	-15 ~ 60℃			
Storage and transport temperature	-25 ~ 70℃			
Ambient humidity	0~90%RH			
Wall-mounted(1~2Channels)	4.3" color touchscreen	ABS,Gray RAL7045	213x185x84mm	IP65
	1.8" color LCD	Aluminum,Gray	180x160x135mm	IP65, Exd IICT4

Conductivity/Salinity/TDS Analyzer

Sensor Type	Conductivity/Salinity /TDS_Total dissolved solids(4Electrode type/Inductive type)
Display	1.8" color LCD, 160*128Pixel
Language	English Menu
LED Light	Status LED Light(NAMUR NE107)
Keypad	Magnetic button
Range	4Electrode type:0~200mS/cm，0~60g/Kg，0~133000ppm Inductive type: 0~700mS/cm，0~78g/Kg
Accuracy	1% FS
Resolution	0.01μS/cm，0.1℃
Response Time T90	<1 s
Temperature compensation	Automatic
Working temperature	0~50℃
Temperature Sensor	CTN Thermistor
Pressure	Max. 5Bar
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring
Analog Output	4~20mA，Maximum load 500 ohms
Relay Output	2 Relays (2A, 230V AC/DC freely set alarm), 1 Relay (System alarm)
Communication	RS485 MODBUS RTU Slave
Power	19 ~ 28V DC,0.5A
Electrical protection	EMI / RFI CEI-EN55011 – 05/99
Ambient Temperature	-10~50℃
Ambient humidity	0~90%
Protection	IP67
Housing Material	Aluminum alloy
Size	Φ126*110 mm
Weight	1.5Kg
Explosion-proof	Ex d IICT4 optional

pH/ORP Analyzer

Overview

SMART series intelligent pH controller has high accuracy, its unique professional design can be applied in water, chemical, pharmaceutical, food and hygiene in the production process of the most extreme physical and chemical environments. SMART series intelligent multi-parameter universal controller has modular bus structure, highly scalable functionality, high reliability and comfortable operation.

Principle

The electrochemical PH glass composite electrode is based on the principle of potential difference, so the voltage between the measuring electrode and the reference electrode follows the Nernst equation.

ORP is a measure of the oxidation or reducibility of the process medium. For different aqueous solutes, the measurement range is between -1500mv and 1500mv. The measuring electrode usually uses precious metals (platinum or gold).

Typical application

▲Chlor-Alkali, Chlorinated and Waste Brine

▲Petroleum Refining, Sour Water Stripper, Wastewater Treatment

▲Oil Refinery Desalter, Wash and Brine Water

▲Ultra Pure Water / Boiler Feed Waters

▲Source water monitoring

▲Filter monitoring

▲Drinking water quality monitoring

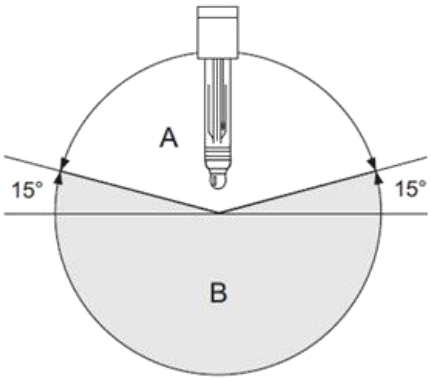
▲Separation process monitoring

▲Cooling water monitoring

▲Circulating water detection

▲Aeration tank monitoring

pH/ORP Analyzer



Feature

★Sensor diagnosis, proactively reminding maintenance and management

★Quick response sensor

★Sensor IP68 protection level

★Automatic temperature compensation

★Electrochemical sensor

★KCl plastic gel electrolyte

★Good robustness

★Good stain resistance

Installation

Please note that the installation is more than 15 degrees above the horizontal plane, the first installation and use will take about 20 minutes of polarization time. When not in use for a long time, the PH or ORP electrode can be kept moist (the best storage solution is potassium chloride solution with pH 7 or 3mol, and it must be noted that it cannot be stored in deionized water and acid-base solutions). White potassium chloride crystals appear, but it will not affect the measurement after cleaning the surface. If the sensor becomes dry during storage, you can soak the sensor in a pH 7 or 3 mol potassium chloride solution for a period of time, and the sensor will restore the water-containing glass membrane and the reference diaphragm.

Calibration

During pH calibration, wait for 5 to 10 minutes until it is stable before operation can be confirmed.

Application Case

★Petro/Chemical, Pulp & Paper, Pharmaceutical, Water Treatment, UPW,

★Sewage: water inlet, activated sludge and water outlet pipe.

pH/ORP Analyzer

Features

❖ **Quick and convenient**

The navigation menu contains 6 languages, which can be operated easily.

❖ **Process safety**

4.3" large size color LCD touch screen, convenient and safe touch operation and debugging

Large size screen with red flashing alarm, clearly visible from long distances and in dark areas

Alarm immediately, safe the process

❖ **Alarm event record**

Real-time data curve display

Record function for up to 6,000 alarms

❖ **Expert calibration function**

Multi-point calibration function up to 9 point

❖ **Powerful self-diagnosis function**

Built-in heartbeat monitoring function and watchdog

Monitor the status of analyzer and sensors, and promptly remind customers to take necessary maintenance

High-standard hardware and software security and password protection

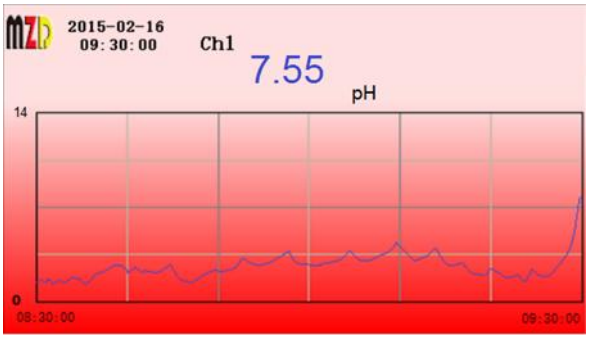
❖ **Powerful control function**

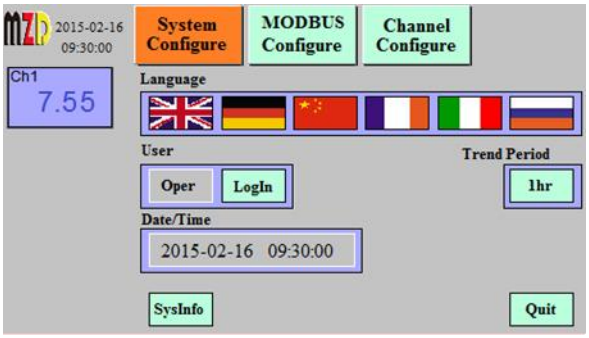
High(low) limit control function

Optional: Timer control(automatic cleaning) function

❖ **Flexible fieldbus communication functions for IOT4.0**

Optional fieldbus MODBUS, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, etc.



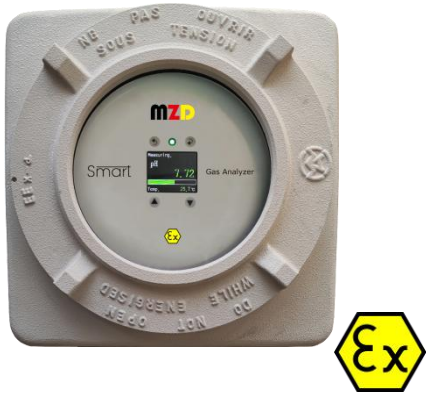


pH/ORP Analyzer

Parameters

Sensor Type	pH/ORP redox (electrochemical KCl gel)
Display	4.3" industrial color touch screen
Language	Multi-Language (English, German, Chinese, French, Italian, Russian or Customized)
Range	-2 ~16pH, -2000~2000mv, -50 ~ 180℃
Accuracy	0.01pH, 1mv, 0.3℃
Resolution	0.01pH, 0.01mv, 0.1℃
Response Time T90	<5 s
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring
Event Logger	Internal Flash,up to 6,000 alarm records
Analog Output(Galvanic)	4~20mA, maximum load 500Ω
Relay Output(Galvanic)	Relay(2A, 230V AC freely set alarm), System alarm
Control function	Optional Timer control function(clean)
Calibration	Expert calibration function,Multi-point calibration function up to 9 point
Temperature compensation	Automatic/Manual
Communication	RS485 MODBUS RTU, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP
Power	80~264V AC,1A or 19~28V DC,3A
Electrical protection	EMI / RFI CEI-EN55011 – 05/99
Ambient Temperature	-15 ~ 60℃
Storage and transport temperature	-25 ~ 70℃
Ambient humidity	0~90%, not condensing
Protection	IP65
Housing Material	ABS,Gray RAL7045
Size	213*185*84mm
Weight	1.2Kg
Sensor	
Range	0 ~12pH, -2000~2000mv, 0 ~ 100°C
Temperature Sensor	Pt1000, Pt100, NTC22K Thermistor, NTC30K Thermistor
Impedance pH-glass/ref	200MΩ Nom. / <100KΩ
Pressure	Max. 20Bar
Sensor Size	Φ12mm*120/225/325/425mm / 1”NPT threaded bodies * 215mm / 3/4”NPT threaded bodies*215mm
Protection	IP69
Sensor Material	Glass / PVDF
Sensor Cable	3 / 5/ 10 m

pH/ORP Analyzer



Sensor Type	pH/ORP redox (electrochemical KCl gel)
Display	1.8" color LCD, 160*128Pixel
Language	English Menu
LED Light	Status LED Light(NAMUR NE107)
Keypad	Magnetic button
Range	-2 ~16pH, -2000~2000mv
Accuracy	0.01pH, 1mv
Resolution	0.01pH, 0.01mv
Response Time T90	<5 s
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring
Analog Output	4~20mA，Maximum load 500 ohms
Relay Output	2 Relays (2A, 230V AC/DC freely set alarm), 1 Relay (System alarm)
Communication	RS485 MODBUS RTU Slave
Power	19 ~ 28V DC,0.5A
Electrical protection	EMI / RFI CEI-EN55011 – 05/99
Ambient Temperature	5 ~ 65℃
Ambient humidity	0~90%
Protection	IP67
Housing Material	Aluminum alloy
Size	Φ126*110 mm
Weight	1.5Kg
Explosion-proof	Ex d IICT4 optional

pH/ORP Sensor and Analyzer

Overview

SMART series intelligent pH controller has high accuracy, its unique professional design can be applied in water, chemical, pharmaceutical, food and hygiene in the production process of the most extreme physical and chemical environments. SMART series intelligent multi-parameter universal controller has modular bus structure, highly scalable functionality, high reliability and comfortable operation.

Principle

The pH meter is an instrument that measures the pH of a solution using potentiometric analysis. Potentiometric analysis is the determination of the potential difference between two electrodes, the electric potential of the cell, under zero current conditions. The principle of operation can be described by the ***Nernst equation***:

$U=U_0+(RT/nF)*Ln(H^+)$

U -- Sensor voltage

U_0 -- Voltage at pH = 7.00

R -- Gas constant, 8.315J/K

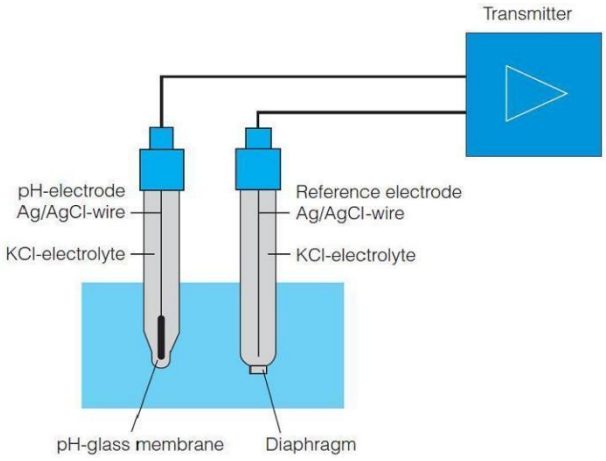
T -- Temperature in Kelvin

n -- Load of the ion (H^+=1)

F -- Faraday constant, 96500C

H^+ -- Activity of H^+ ions

Industrial pH meters consist of an indicator electrode and a reference electrode. When the measured solution flows through the sensor, a chemical primary cell is formed between the electrodes and the measured solution. The indicator electrode is sensitive to pH and the reference electrode maintains a stable potential. A potential difference is generated between the two electrodes, the magnitude of which is logarithmically related to the pH value of the measured solution, which converts the pH value of the measured solution into an electrical signal. Since the potential difference is affected by the temperature of the solution being measured, industrial pH meters usually need to be fitted with a temperature detection element in order to compensate for the temperature of the measurement results.



Advantage

- Sensor self-diagnosis, proactively reminding maintenance and management
- Quick response sensor
- Sensor IP68 protection level
- Automatic temperature compensation
- Electrochemical sensor
- KCl plastic gel electrolyte
- Good robustness
- Good stain resistance

pH/ORP Sensor and Analyzer

Oxidation Reduction Potential (ORP) is a method of expressing the oxidation or reduction state of a substance. The value can be determined using a metal electrode that can receive or release electrons. The electrode material must be an inert metal that does not react with the substance being measured, and commonly used metal electrode materials are platinum (Pt) or aurum (Au).

The instrument used to determine the redox potential is called an oxidation reduction potential meter, or ORP meter for short. The difference between ORP meter and pH meter is the indicator electrode, pH meter uses glass indicator electrode, ORP meter uses metal indicator electrode, other parts are exactly the same. For different solutions, the measurement range is between -2000mv and 2000mv.

Installation

Please note that the installation is more than 15 degrees above the horizontal plane, the first installation and use will take about 20 minutes of polarization time. When not in use for a long time, the PH or ORP electrode can be kept moist (the best storage solution is potassium chloride solution with pH 7 or 3mol, and it must be noted that it cannot be stored in deionized water and acid-base solutions). White potassium chloride crystals appear, but it will not affect the measurement after cleaning the surface. If the sensor becomes dry during storage, you can soak the sensor in a pH 7 or 3 mol potassium chloride solution for a period of time, and the sensor will restore the water-containing glass membrane and the reference diaphragm.

Calibration

During pH calibration, wait for 5 to 10 minutes until it is stable before operation can be confirmed.

Features

- **High accuracy and repeatability:** Accuracy 0.01pH, 1mv
- Range: -2~16pH, -2000~2000mv
- Resolution: 0.01pH, 0.01mv
- Response Time T90: <5sec
- Rugged and durable design

Applications Industry

- Chlor-Alkali, Chlorinated and Waste Brine
- Petroleum Refining, Sour Water Stripper, Wastewater Treatment
- Oil Refinery Desalter, Wash and Brine Water
- Ultra Pure Water / Boiler Feed Waters
- Source water monitoring
- Filter monitoring
- Drinking water quality monitoring
- Separation process monitoring
- Cooling water monitoring
- Circulating water detection
- Aeration tank monitoring

pH/ORP Sensor and Analyzer

Parameters

Measuring principle	pH/ORP redox (electrochemical KCl gel)
Display	1.8" color LCD, 160*128Pixel
Language	English Menu
LED Light	Status LED Light(NAMUR NE107)
Keypad	Magnetic keypad
Range	-2~16pH，-2000~2000mv
Accuracy	0.01pH, 1mv
Resolution	0.01pH, 0.01mv
Response Time T90	<5s
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring
Analog Output	4~20mA, Maximum load 500 ohms
Relay Output	2 Relays (2A, 230V AC/DC freely set alarm), 1 Relay (System alarm)
Communication	RS485 MODBUS RTU Slave
Power	19 ~ 28V DC, 0.5A
Electrical protection	EMI / RFI CEI-EN55011 – 05/99
Ambient Temperature	5~65℃
Ambient humidity	0~90%
Protection	IP67
Housing Material	Aluminum alloy
Size	Φ126*110 mm
Weight	1.5Kg
Explosion-proof	Ex d IICT4 optional

Chlorine/Dioxide Chlorine Analyzer

Overview

SMART series intelligent multi-parameter universal controller has high accuracy, its unique professional design can be applied in water, chemical, pharmaceutical, food and hygiene in the production process of the most extreme physical and chemical environments. SMART series intelligent multi-parameter universal controller has modular bus structure, highly scalable functionality, high reliability and comfortable operation.

Principle

The amperometric sensor has a metal cathode, which is isolated from the medium by a thin membrane. The free chlorine and compound chlorine in the medium diffuse through the membrane and are reduced on the gold cathode. The silver anode and the electrolyte together form a complete circuit loop. The reduction of electrons at the cathode is proportional to the concentration of chlorine in the medium.

How does chlorine exist:

1. Active free chlorine (free active chlorine) hypochlorous acid molecule, HClO, is the most important part of the disinfection process.

2. Total free chlorine (free chlorine, free residual chlorine) is commonly referred to as chlorine disinfectants, which are composed of chlorine in these ways: elemental chlorine molecules Cl2, hypochlorous acid molecules HClO, hypochlorite ion ClO- (hypochlorine Acid salt)

3. Compound chlorine (chloramine) is a compound composed of chlorine and nitrides (NH2, NH3, NH4+), and the compounded chloride has no disinfecting activity.

4. Total combined chlorine refers to the general term of free chlorine and compound chlorine.

Typical application

▲Sewage treatment

▲Environmental Engineering

▲Municipal water supply

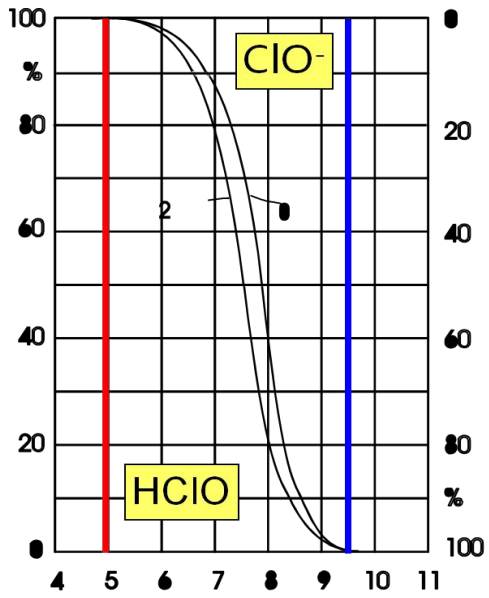
▲Water source monitoring

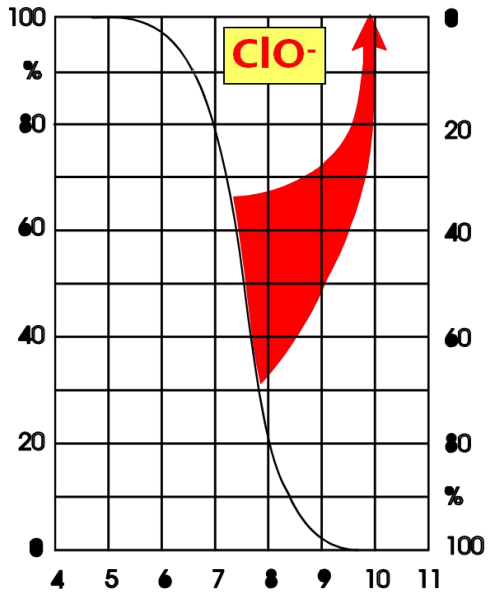
▲Chemical Engineering

▲Electricity

▲Biopharmaceuticals

Chlorine/Dioxide Chlorine Analyzer





Feature

★Quick response sensor

★IP68 Sensor

★Automatic temperature compensation

★Electrochemical sensor

★Good robustness

★Short polarization time (60 minutes)

★Drift <1.5%/month

★Long calibration period

★Low maintenance

Under the condition of pH value <5, chlorine only exists in the form of HClO, and under the condition of pH value> 9.5, chlorine exists in the form of ClO- which has no disinfecting activity. When the pH value is between 5 and 9.5, the measured pH value can be used to realize automatic compensation.

Installation

▲polarization time, 60 minutes

▲Flow rate from 45 to 135 l/h

▲The maximum pressure is 1 bar

▲Temperature 0~45℃

Application Case

★Drinking water: chlorination control and activity monitoring of residual chlorine in the pipe network.

★Swimming pool: chlorination and disinfection measurement.

★Industrial circulating water: In order to prevent the growth of biological algae, it is controlled by adding chlorine.

Disinfectants are generally used to kill germs in the water. The stronger the disinfectant's bactericidal power against germs, it may have a similar effect on other organic substances. Therefore, the amount of disinfectant added must be strictly controlled. Excessive input of disinfectant will endanger the safety of humans and animals.

Chlorine/Dioxide Chlorine Analyzer

Features

❖ **Quick and convenient**

The navigation menu contains 6 languages, which can be operated easily.

❖ **Process safety**

4.3" large size color LCD touch screen, convenient and safe touch operation and debugging

Large size screen with red flashing alarm, clearly visible from long distances and in dark areas

Alarm immediately, safe the process

❖ **Alarm event record**

Real-time data curve display

Record function for up to 6,000 alarms

❖ **Expert calibration function**

Multi-point calibration function up to 9 point

❖ **Powerful self-diagnosis function**

Built-in heartbeat monitoring function and watchdog

Monitor the status of analyzer and sensors, and promptly remind customers to take necessary maintenance

High-standard hardware and software security and password protection

❖ **Powerful control function**

High(low) limit control function

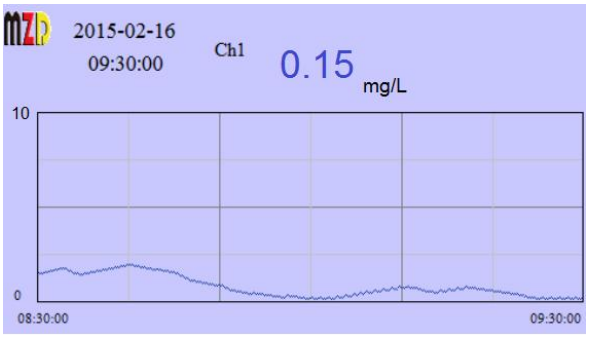
Optional: Timer control(automatic cleaning) function

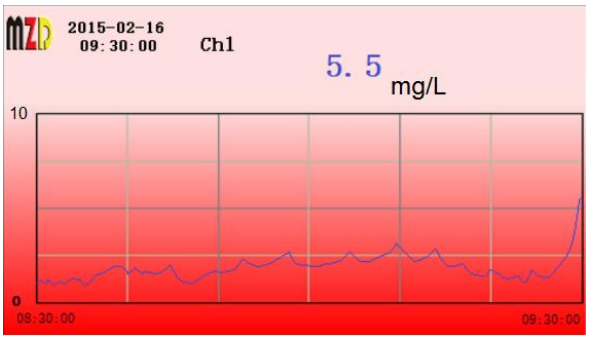
Optional: analog PID control function

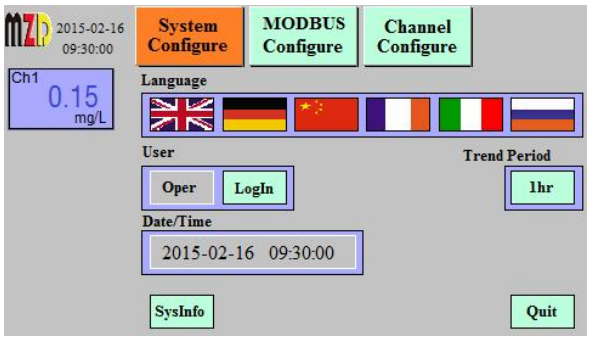
Optional: PWM control function

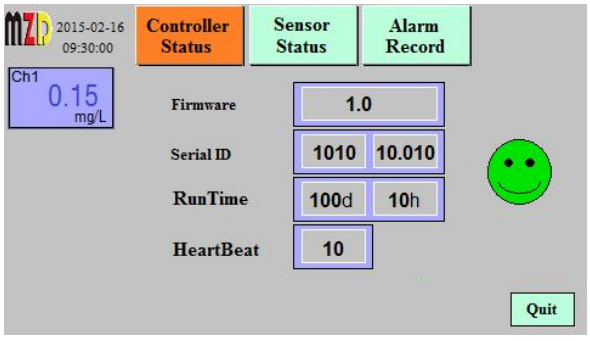
❖ **Flexible fieldbus communication functions for IOT4.0**

Optional fieldbus MODBUS, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, etc.









Modbus PROFIBUS Fieldbus Foundation HART COMMUNICATION PROTOCOL WirelessHART

Chlorine/Dioxide Chlorine Analyzer

Parameters

Sensor Type	Chlorine/Dioxide Chlorine Analyzer(Electrochemical)			
Range	0~2/5/10ppm			
Accuracy	1%FS			
Resolution	0.01ppm			
Response Time T90	<5 s			
Temperature compensation	Automatic			
Working temperature	0~55℃			
Temperature Sensor	CTN Thermistor			
Pressure	Max. 5Bar			
Ambient Temperature	-10~50℃			
Ambient humidity	0~90%			
Sensor Size	Φ30mm*150mm			
Sensor Weight	300g			
Sensor Material	PVC			
Sensor Ingress Protection	IP68			
Sensor cable length	7m			
Spare parts	Membrane and electrolyte			
Display	4.3" industrial color touch screen			
Language	Multi-Language (English, German, Chinese, French,Italian, Russian or Customized)			
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring			
Event Logger	Internal Flash,up to 6,000 alarm records			
Analog Output(Galvanic)	4~20mA, maximum load 500Ω			
Relay Output(Galvanic)	Relay(2A, 230V AC freely set alarm), System alarm			
Control function	Optional Timer controller,PID analog controller,PWM controller			
Calibration	Can store 6 calibration curves of different materials, Multi-point calibration function up to 9 point			
Communication	RS485 MODBUS RTU, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, MODBUS TCP/IP, etc			
Power	80~264V AC,1A or 19~28V DC,3A			
Electrical protection	EMI / RFI CEI-EN55011 – 05/99			
Ambient Temperature	-15 ~ 60℃			
Storage and transport temperature	-25 ~ 70℃			
Ambient humidity	0~90%RH			
Wall-mounted(1~2Channels)	4.3" color touchscreen	ABS,Gray RAL7045	213x185x84mm	IP65
	1.8" color LCD	Aluminum,Gray	180x160x135mm	IP65, Exd IICT4

Chlorine/Dioxide Chlorine Analyzer

Sensor Type	Chlorine/Dioxide Chlorine Analyzer(Electrochemical)
Display	1.8" color LCD, 160*128Pixel
Language	English Menu
LED Light	Status LED Light(NAMUR NE107)
Keypad	Magnetic button
Range	0~2/5/10ppm
Accuracy	1%FS
Resolution	0.01ppm
Response Time T90	<5 s
Temperature compensation	Automatic
Working temperature	0~55℃
Temperature Sensor	CTN Thermistor
Pressure	Max. 5Bar
Diagnosis function	Sensor and controller self-diagnosis,Heartbeat monitoring
Analog Output	4~20mA，Maximum load 500 ohms
Relay Output	2 Relays (2A, 230V AC/DC freely set alarm), 1 Relay (System alarm)
Communication	RS485 MODBUS RTU Slave
Power	19 ~ 28V DC,0.5A
Electrical protection	EMI / RFI CEI-EN55011 – 05/99
Ambient Temperature	-10~50℃
Ambient humidity	0~90%
Protection	IP67
Housing Material	Aluminum alloy
Size	Φ126*110 mm
Weight	1.5Kg
Explosion-proof	Ex d IICT4 optional