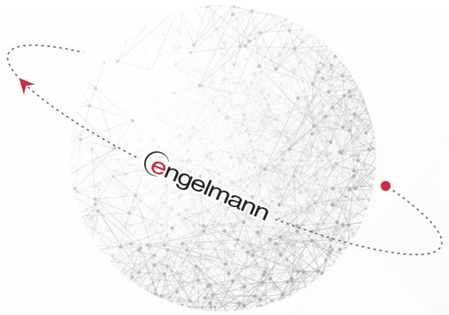

engelmann

PRODUCT MANUAL

SMARTEST METERING TECHNOLOGY

WATER ANALYSIS INSTRUMENT

GERMANY (HEADQUARTERS)

Engelmann Sensor GmbH

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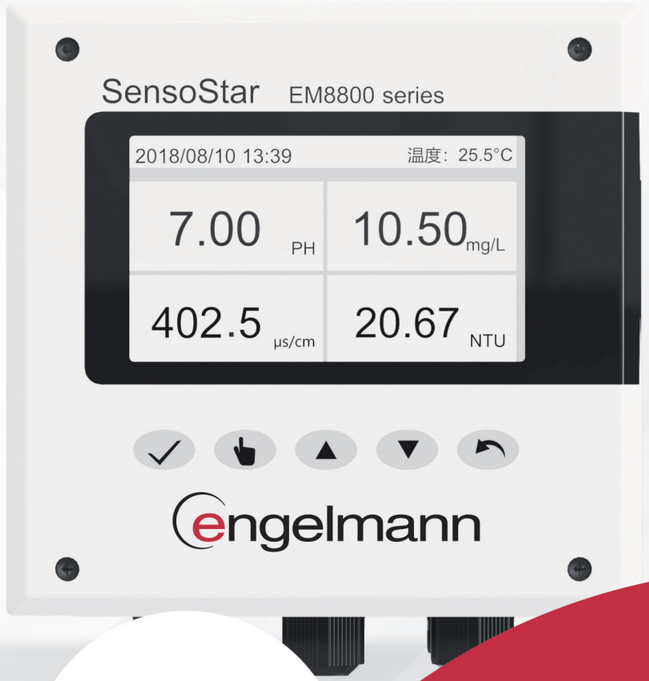


Since **1976**

UNSERE DEVISE

IMMER NAH AM KUNDEN – ZUVERLÄSSIG UND SERVICESTARK

COMPANY PROFILE

Engelmann Sensor GmbH, founded in 1976 and headquartered in Westloch, Germany, is a well-known manufacturer of energy and flow instruments worldwide and a leader in the field of measurement. Since its establishment, Enleman has always been committed to the research and production of measuring instruments. In order to meet the needs of customers and the market, the company invests 5% of its annual revenue in the research and development and improvement of products. Enleman has over 40 years of experience in measuring instruments, and is renowned for designing and producing high-precision and highly reliable measuring instruments with high-quality standards. Having an absolute market share in Europe, it is a leading company in the field of measurement instruments in the European region, with energy instruments accounting for 25% of the market share.

In 2005, Enleman entered China and began serving the Chinese market. With the growth of user demand, in order to provide more professional services, Germany's Enlehmann Sensor Co., Ltd. established its first wholly-owned subsidiary in Beijing in 2006, tailoring solutions based on different customer measurement needs, providing customers with various product related services and technical support. After years of effort, our products cover China and assist the government and users in continuously optimizing energy consumption.

In order to promote the process of product localization, Germany's ENLEMAN Sensors Co., Ltd. established an advanced instrument manufacturing factory - ENLEMAN Instruments (Xuzhou) Co., Ltd. in early 2013, with independent production and testing capabilities for a full range of measuring products. It is a production and sales center in China. Enleman is serving new and old customers with a brand new look, providing high-quality products and solutions, and contributing to China's metrology, energy conservation and environmental protection industry.

UNSERE DEVISE

IMMER NAH AM KUNDEN – ZUVERLÄSSIG UND SERVICESTARK

HEADQUARTERS/PRODUCTION BASE SALES AREA SUBSIDIARY/PRODUCTION BASE

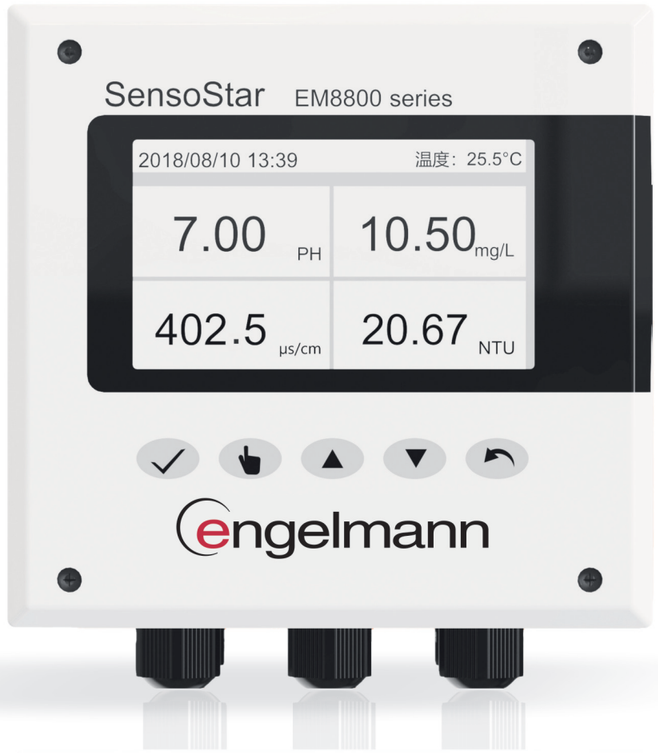
GERMANY

CHINA

CONTENTS

SensoStar®

EM8800 | MULTI-CHANNEL INTELLIGENT ANALYZER



PRODUCT FEATURES

- **Multichannel**
  It can support up to 4 sensors for simultaneous detection, with flexible configuration to meet various on-site measurement scenarios; With 4 signal outputs
- **Programmable Output**
  4 output currents, 4 sets of SPST relays can be programmed for any channel
- **Strong Universality**
  Can be connected to both digital and analog sensors simultaneously
- **Output Calibration**
  Field calibrated output current
- **Simple Connection**
  Sensors, measurement modules, connect by plug automatic recognition
- **Output Test**
  Test whether the output current and relay are normal, convenient for on-site commissioning
- **Easy to Operate**
  Adopting high-definition color LCD screen, user-friendly operation interface, calibration step instructions, etc
- **Fault Diagnosis**
  Scan the sensor and display whether the parameters are normal, which is convenient for correct judgment on site; High definition color display, with a more delicate display effect; Equipped with power outage data protection function, it can cover up to 3400 data collection times

TECHNICAL PARAMETER

Display	TFT color screen: 4.3 "16:9 color LCD; Four line display: 1. Display model and time; 2 measured values; 3. Output current and relay; 4-button prompt
Input	Analog input (up to two channels): pH/ORP/conductivity/residual chlorine Digital input (up to two channels): turbidity/dissolved oxygen (fluorescence method)/fluoride ions/chloride ions/nitrate nitrogen/ammonia nitrogen/sludge concentration/total chlorine/UV method COD/UV method ammonia nitrogen nitrate nitrogen/green algae/blue-green algae
Output	Analog signal: isolated output 4-20mA (load<750 Ω), 4 channels (programmable) Switch signal: AC220V, 3A (normally open contact) 4-way (upper/lower limit/close/high start/low start/delay/programmable cleaning) Digital signal: RS485
Power	⩽10W
Shell Material	PA66-GF25, FR
Protection Grade	IP65
Overall Dimensions	LxWxH:150x170x150mm
Installation Method	Plate mounted/perforated (138x138mm)/wall mounted/pipe mounted
Electrical Interface	4-M20x1.5+2-M18x1.5
Ambient Temperature	0~60°C
Ambient Humidity	<90%RH

SENSOR


PH


ORP


EC


EC


DO


TU


SS


MLSS


CLO


F

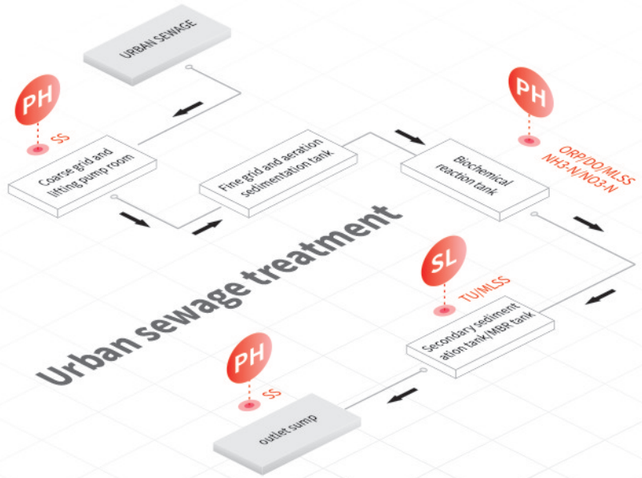

CL

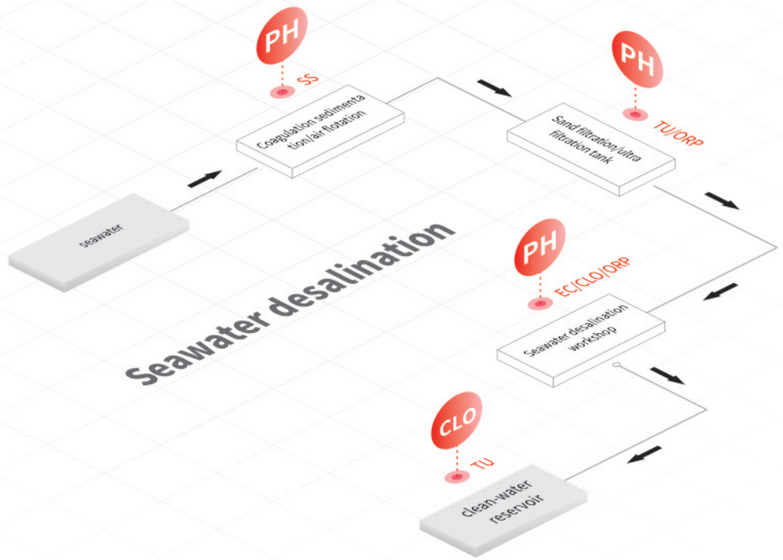

NO3-N

TECHNICAL PARAMETER

Measurement Parameters	Code	Electrode Shell Material	Measuring Method	Range	Response Time
PH	PH	ABS, etc	Glass electrode method	0-14PH	⩽30S
ORP	ORP	ABS, etc	Glass electrode method	-1999~1999mV	⩽30S
Conductivity	EC	ABS, etc	Electrode method	K=1,0.1-2000μs/cm K=10,0.1-20000μs/cm	⩽10S
Dissolved Oxygen	DO	316L+PPS, etc	Fluorescence method, polarographic method	0-20mg/L or 0-200%SAT	2~60S
Turbidity	TU	316L+PVC, etc	Through scattering technology	0.01-4000NTU	1~60S
Low Turbidity	TU	ABS+316L, etc	Through scattering technology	0.01-100NTU	1~60S
Suspended Solids	SS	316L+PVC, etc	Through scattering technology	0.01-4500mg/L 0.01-120000mg/L	1~60S
Sludge Concentration	MLSS	316L+PVC, etc	Through scattering technology	0.01-45000mg/L 0.01-120000mg/L	1~60S
Residual Chlorine	CLO	ABS, etc	Film covered current method	0.005-2.000mg/L;0.05-5.00mg/L; 0.05-10.00 mg/L;0.05-20.00mg/L; 0.5-200.0mg/L	⩽30S
Fluoride Ion	F	Polyphenylene sulfide	Electrode method	0.2-2000ppm	⩽15S
Chloride Ion	CL	Polyphenylene sulfide	Electrode method	0-3500ppm	⩽15S
Ammonia Nitrogen	NH_3-N	Polyoxymethylene	Electrode method	0-1000mg/L	⩽15S
Nitrate Nitrogen	NO_3-N	Polyoxymethylene	Electrode method	0.1-40.0mg/L	⩽60S
Total Chlorine	CL	316L, etc	Coated electrode method	0.005-2.000mg/L; 0.05-5.00/10.00/20.00mg/L	120S
Organic Matter	COD	POM POM 316L, etc	UV spectroscopy	0-500/1500mg/L	⩽60S
Nitrate Nitrogen	NO_3	316L, etc	UV spectroscopy	0-40mg/L	⩽60S
Sludge Interface	SL	ABS, etc	Ultrasonic method	0-5m、0-10m、0-15m	⩽30S
Ozone	OZ	PVC-U	Electrode method	0.005-2.000mg/L	⩽50S
Hardness	DH	Stainless steel cabinet type	Titration colorimetric method	0.53-534 ppm	About 3 minutes
Sodium Meter	NA	Stainless steel cabinet type	Colorimetric method	0.01ppb-20ppb or 0.1ppb-20ppm	⩽150S
Silicon Watch	SI	Stainless steel cabinet type	Colorimetric method	0-200μg/L or 0-1000μg/L	About 12 minutes

Water Treatment Process





SENSOR
DO10 | DO11 DISSOLVED OXYGEN SENSOR

TECHNICAL PARAMETER

Measuring Principle	Polarographic Method
Installation Method	Circulation type, sinking type or oblique insertion type
Maintenance	Simply replace the breathable film and electrolyte
Measuring Range	0.00~20.00mg/L(ppm)
Response Time	Up to 90% within 60 seconds at 25 °C
Temperature Range	5~60°C

APPLICATION AREA

Industries such as thermal power generation, aquaculture, pharmaceuticals, high-temperature fermentation, chemical engineering,paper&pulp , semiconductors, etc

PRODUCT FEATURES

- No film, no electrolyte required, no polarization
- Thickened fluorescent coating improves storage and usage time
- No oxygen consumption required, measurement not affected by flow rate
- Inner temperature sensor, automatically compensate Temp.
- Small limited annual drift, fast response, and accurate measurement
- Maintenance free, long life cycle, and low operating cost
- Fluorescent caps easy to replace
- RS485 communication, can be connected to the upper computer

APPLICATION AREA

Applied in industries such as municipal sewage, surface water, rural sewage, industrial wastewater and exhaust gas, industrial processes, circulating water, aquaculture, and pollution source monitoring

TECHNICAL PARAMETER

Range	Dissolved oxygen value: 0-20mg/L or 0-200% SAT
Temperature	0~45°C
Pressure	⩽0.3MPa
Accuracy	Dissolved oxygen: 0.3mg/L or 3% FS
Temperature	±0.5°C
Output	RS485
Material Body	316L+PPS (standard configuration)
Protection Level	IP68
Overall Dimensions	Diameter x Length Φ49.5x251.5mm
Installation Method	Deeply embedded
Ambient Temperature	0~60°C
Relative Humidity	＜90%RH
Signal Cable	Standard configuration: 10m, customizable up to 100m

SENSOR
SS20 SUSPENDED SOLIDS/SLUDGE CONCENTRATION SENSOR

PRODUCT FEATURES

- Application of ISO7027 standard method (infrared light scattering technology)
- Environmental light compensation system to reduce the impact of ambient light on measurement
- Eliminate the influence of sample color
- Detection Technology of Double Beam Infrared Scattering Photometer
- Has good repeatability and stability
- Built in self diagnosis function to ensure accurate data
- Optional scraper automatic cleaning function to reduce sensor maintenance
- RS485 communication, capable of connecting to upper computer

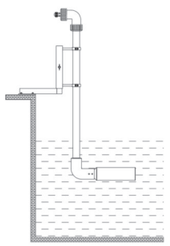
TECHNICAL PARAMETER

Range	0.01~4500 mg/L、0.01~120000 mg/L
Temperature	0~45°C
Pressure	⩽0.4MPa
Accuracy	±5%FS
Current Velocity	⩽2.5m/s
Output	RS485
Material quality	316L+PVC

Protection Class	IP68
Overall Dimensions	Diameter x LengthΦ60x256mm
Installation Method	deeply embedded
Ambient Temperature	0~60°C
Relative Humidity	＜90%RH
Signal Cable	Standard configuration: 10m, customizable up to 100m in length

APPLICATION AREA

Used for domestic sewage treatment, Industrial wastewater treatment, mining, etc



TU30 | TU31 TURBIDITY SENSOR

TU30	Low Turbidity
Overall Dimensions	L x W x H :310x210x410mm

TU31	High Turbidity
Overall Dimensions	D x LΦ60x256mm

PRODUCT FEATURES

- Application of ISO7027 standard method (infrared light scattering technology)
- Eliminate the influence of sample color
- Double beam infrared scattering spectrophotometer detection technology
- Has good repeatability and stability
- Built in self diagnosis function to ensure accurate data
- Optional scraper automatic cleaning function to reduce sensor maintenance
- RS485 communication, capable of connecting to upper computer

TECHNICAL PARAMETER

Range	0.01~100NTU、0.01~4000NTU
Temperature	0~45℃
Accuracy	±2%FS or ±0.1NTU
Velocity	Low turbidity sensor: 300ml/min ⩽ X ⩽ 700ml/min High turbidity sensor: ⩽ 2.5m/s
Pressure	Low turbidity sensor: atmospheric pressure; High turbidity sensor: ⩽ 0.4MPa
Output	RS485
Material	Low turbidity sensor: ABS+316L High turbidity sensor: 316L+PVC
Protection Class	IP68 (high turbidity sensor)
Pipe Fittings	Injection port: 1/4NPT Discharge port: 1/2NPT (low turbidity sensor)
Ambient Temperature	0~60℃
Relative Humidity	＜90%RH
Signal Cable	Low turbidity sensor: standard configuration of 3m, not recommended for extension Turbidity sensor: standard configuration of 10m, can be extended to 100m

APPLICATION AREA

Applied to online monitoring of water plants, sewage treatment discharge, purified water recycled water reuse, etc

CL40 RESIDUAL CHLORINE/CHLORINE DIOXIDE SENSOR

PRODUCT FEATURES

- Film covered current method sensor
- Three electrode measurement system
- PT1000 sensor automatic temperature compensation
- Dedicated flow cell, unaffected by flow rate and pressure during measurement
- Maximum pressure 1.0MPa
- No reagent required
- At least 9 months of continuous use without maintenance
- High measurement accuracy, fast response time, low maintenance cost, and low
- power consumption
  More accurate PH compensation measurement
- Protection class : IP65

TECHNICAL PARAMETER

Parameters	HCLO; CLO_2
Range	0.005~2.000mg/L;0.05~5.00mg/L; 0.05~10.00mg/L;0.05~20.00mg/L;0.5~200.0mg/L
Response Time	Less than 30 seconds after polarization completion
Accuracy	± 2% FS, minimum ± 0.03ppm when the pH of drinking water is 7
PH Range	5~9PH
Conductivity	⩾100μs/cm
Water Sample Flow Rate	⩾ 0.03m/s in the flow cell
Overall Dimensions	Diameter x length Φ21.5x133mm
Connecting Size	3/4NPT
Signal Cable	3m

APPLICATION AREA

Applied to waterworks, municipal pipeline, boiling water disinfection, swimming pools, sewage, etc

CL41 TOTAL CHLORINE COATED SENSOR

PRODUCT FEATURES

- ATEX and IECEX certification
- Low PH dependency
- Anti surfactant
- Low maintenance
- Power supply voltage: DC12~24V
- Output signal: Two wire 4-20mA

TECHNICAL PARAMETER

Measurement Variables	Total chlorine (TRO=total residual oxidant)
Calibration Method	Zero point drift free; Calibration of single point slope based on chemical method
PH Range	4~12
Temperature	0~45°C
Pressure	0.3 bar
Current Velocity	15~30l/h (in the flow tank)
Response Time	The initial polarization time is about 2 hours, and the response time T90=2 minutes
Drift	Drinking water at 25 °C and pH 7.2<1% per month
Maintenance Cycle	Service life of membrane cap: one year; Electrolyte replacement cycle: 6 months
ce	EMC-Testing DIN EN 61326-1,61326-2-3 RoHS compliant

APPLICATION AREA

Used in seawater, ship’ s ballast water , sewage, drinking water, medical wastewater, etc

CL42 DIGITAL RESIDUAL CHLORINE/PH SENSOR

GRAPHIC ANNOTATION

① Water Inlet
② Flow Rate Control Valve
③ Velocity Perception
④ PH Compensation Electrode, Capable of Measuring PH
⑤ Water Outlet Residual
⑥ Chlorine Electrode
⑦ Sample Connection

PRODUCT FEATURES

- The current residual chlorine sensor is designed for measuring inorganic chlorine
- The flow tank is designed to be made of high-quality organic glass, which can integrate PH electrode, residual chlorine electrode, flowmeter and flow rate sensor , and the installation panel can be compact.
- This measurement system has an automatic cleaning design with or without electrical energy, which can extend maintenance time
- This residual chlorine sensor does not require any replacement parts such as membrane caps, electrolytes, etc., and has a service life of up to 3 years
- The flow rate sensor is designed, and the system can monitor whether or not the flow rate is normal.

TECHNICAL PARAMETER

Measurement Range			
PH	0~14PH	Temperature	0~100°C
Residual Chlorine	0~10ppm		
Pressure	0.6MPa	Flowrate	40l/h
Weight	0.88kg	Installation	Floor standing/wall mounted
Size	135*130*50mm		

PH50 | PH/ORP SENSOR

PRODUCT FEATURES

- Suitable for harsh working conditions
- The electrode has stable liquid connection potential and low resistance characteristics, anti clogging, and anti pollution
- Advanced reference process technology and special solution formula
- Resistant to strong acids, alkalis, high temperatures, no need to replenish electrolyte
- The electrode has fast response, stability, and long usage time
- Built in double salt bridge to better prevent electrode erosion by S2-, CN - plasma
- The electrode adopts low noise shielded cable, which ensures a longer and more stable signal output
- Suitable for extremely low conductivity media

TECHNICAL PARAMETER

PH50(PH electrode)

Range	PH value: 0-14PH (with a limit of 2-16PH)
Temperature	-20~130℃(depending on the sensitive film and electrode shell)
Pressure	⩽0.6MPa
Overall Dimensions	Diameter x length Φ26.7x160mm
Process Connection	3/4NPT
Signal Cable	Standard configuration: 5m customizable with a maximum length of 20m

PH51(ORP electrode)

Range	ORPvalue:-1999mV~+1999mV
Temperature	-10~100℃
Pressure	⩽0.8MPa
Accuracy	±1mV
Temperature	±0.5℃
Dimensions	Diameter x length Φ26.7x160mm
Process Connection	3/4NPT
Signal Cable	Standard configuration: 5m, Customizable up to 20m in length

PH52

Glass Composite PH electrode

Characteristic

- Imported electrodes from the United States
- Using circular ceramic joints
- Double junction reference electrode
- With metal cap

specifications

Test scope	0~14PH
Pressure	0.6MPa
Temperature	-5~100℃
Impedance	100MΩ
Reference	Ag/AgCL

PH53

Glass composite ORP

Characteristic

- Imported electrodes from the United States
- Using circular ceramic joints
- Double junction reference electrode
- With metal cap

specifications

Test scope	±5000mV
Pressure	0.6MPa
Temperature	-5~100℃

PH54

High temperature/fermentation pH/ORP electrode

Characteristic

- Imported electrodes from the United States
- Used in steel containers for cheese fermentation tanks in the dairy industry
- Reusable fixing nuts on the casing to secure it
- The rubber sheath eliminating force can reduce the minimizes cable fatigue to minimum level.

specifications

Test Scope	0-14PH ±5000mV
Temperatur	-5~135℃
Pressure	150 pounds per square inch
Liquid	Double ceramic hole, Ag AgCI

PH56 PH57 MAIN TECHNICAL FEATURES

- Adopting a circular large cross-section TEFLON diaphragm imported from Germany
- Adopting low impedance sensitive glass film and salt ring imported from Germany, effectively eliminating interference from various other ions, increasing ion reserves, fast response, stability, and long time
- Introduce the latest reference processtechnology from Germany, unique solution formula, and reference system Stable, no need to replenish electrolyte
- Applicable to conductivity ⩾ 0.1 μ Measurement of (ultra) pure water in s/cm
- PH range 0-14, temperature range 0-80 ℃, pressure range ⩽ 0.6MPa, zero potential pH=7.00
- PH56 and PH57 can be externally connected with backpressure liquid adding containers, socket type cable connection, and the outer tube material is glass. It is mainly suitable for measuring the pH value of low conductivity media such as power plants and semiconductors

APPLICATION AREA

It is used for domestic sewage treatment, Industrial wastewater treatment, tap water, process detection and control (chemical and food), swimming pool water detection, etc

EC60 | EC61 TRIE CONDUCTIVITY SENSOR

PRODUCT FEATURES

- Accuracy, high linearity, and wire impedance do not affect testing accuracy
- Strong consistency of electrode coefficients
- Wide measurement range and short response time
- Good stability, corrosion resistance, and long service life

TECHNICAL PARAMETER

EC60 Series of electrode type conductivity sensors

Range	k=1，0.1~2000μs/cm k=10，0.1~20000μs/cm
Temperature	0~60℃/70℃/120℃/150℃, etc
Pressure	⩽1MPa
Accuracy	±1%FS
Temperature	±0.5℃
Temperature Sensor	NTC2.252K
Material	ABS、POM、316L, etc
Protection Class	IP65
Dimensions	Diameter x length Φ26.7x160mm
Connection	3/4NPT
Signal Cable	Standard configuration: 5m, customizable up to

EC61 Inductive conductivity sensor

Range	0~200μs/cm
Temperature	0~60℃
Pressure	⩽1MPa
Accuracy	Conductivity：±1%FS
Temperature	±0.5℃
Temperature Sensor	PT1000
Material Quality	PP
Protection Class	IP65
Dimensions	Diameter x length Φ33x95mm
Connection	3/4NPT
Signal Cable	Standard configuration: 5m, customizable up to 20m in length

APPLICATION AREA

Applied in waterworks, electricity, purified water,reclaim water reuse, pharmaceutical water, industrial wastewater, chemical industry, etc

NO70 NITRATE NITROGEN SENSOR

PRODUCT FEATURES

- Probe direct immersion measurement without sampling and preprocessing
- No need for chemical reagents, no secondary pollution
- Short response time, enabling continuous measurement
- The sensor has an automatic cleaning function, which can reduce maintenance workload

TECHNICAL PARAMETER

Range	0.1~40.0mg/L (2mm optical path)
Accuracy	±5%
Repeatability	±2%
Distinguishability	0.01mg/L
Pressure	⩽0.4MPa
Sensor Material	Body: SUS316L (regular version), titanium alloy (seawater version); Cable: PUR
Power Supply	AC85-500V(50/60HZ); DC9~36V
Output	3-way4-20mA

Relay	Three way relay, program setting response parameters and response values
Communication Protocol	MODBUS,RS485
Storage Temperature	-15~50℃
Working Temperature	0-45℃(No icing)
Size	Sensor: diameter 69mm * length 365mm; Transmitter: 145 * 125 * 162mm (length * width * height)
Weight	Sensor: 3.2KG; Transmitter: 1.35KG
Protection Class	Sensor: IP68/NEMA6P; Transmitter: IP65/NEMA4X
Signal Cable	Standard configuration: 10m, can be extended to 100m

APPLICATION AREA

Applied to drinking water, surface water, industrial water, and sewage treatment

NO71 | NH72 AMMONIA NITROGEN/NITRATE NITROGEN SENSOR

PRODUCT FEATURES

- The design of replaceable Membranous cap for measuring electrodes extends the overall service life of the sensor
- The central electrode does not require filling liquid and is maintenance free
- Oil quality internal reference design to reduce the possibility of clogging at the seepage interface
- Integrated solution grounding function, strong anti-interference
- Potassium ion interference<3%, no potassium ion compensation required
- Built in PH and temperature compensation algorithms to ensure measurement accuracy
- Automatic recognition of sensors, no calibration required for the first time, ready to use
- IP68 protection class

TECHNICAL PARAMETER

Measuring Method	Lon selective electrode method
Range	0~1000mg/L
Distinguishbility	0.01mg/L
Accuracy	± 5% FS or ± 0.1mg/L, whichever is greater
Temperature Compensation	Built in Temperature sensor, automatic temperature compensation

Output signal	RS485 (MODBUS standard communication protocol)
Material	Polyoxymethylene
Dimensions	D34mm、L205mm (3/4" NPT)
Protection Class	IP68

APPLICATION AREA

Applied to urban sewage, surface water, etc,
rainwater and sewage wells, rural sewage, pipeline networks, and pollution source monitoring

F80 | C81 FLUORIDE/CHLORIDE ION SENSOR

PRODUCT FEATURES

- Adopting annular liquid interface that is not easily blocked, adsorbed, and cleaned
- Upper and lower 3/4 pipe threads for easy installation

TECHNICAL PARAMETER

Test Scope	0.2~20000ppm
Electrode Slope	56±3mV (at 25 ℃)
PH range	5.00~10.00PH
Baseline Potential	＞200mV (deionized water)

Electrode Rod Diameter	28mm×Length150mm
Material	PPS
Connection	Upper and lower 3/4 pipe threads

PRODUCT FEATURES

- Adopting a circular liquid interface, which is not easy to block, adsorb, and clean
- Unique solid dielectric and reference, reducing interference

TECHNICAL PARAMETER

Range	0~3500ppm
Temperature	0~80°C
PH range	2~12PH
Material	PPS
Installation	Up and down3/4NPT

APPLICATION AREA

Applied in such as municipal sewage, surface water, I
ndustrial wastewater,
and pollution source monitoring

CD90 | UV METHOD COD NITRATE NITROGEN SENSOR

PRODUCT FEATURES

- Measurable parameters: CODcr, CODmn, BOD, TOC, SAC, nitrate nitrogen, chromaticity, turbidity/suspended solids, etc
- Real time monitoring and rapid response
- Automatic compensation for various interferences to ensure accurate measurement
- Measurement optical path options: 2, 5, 10, 20, 35mm
- 316 stainless steel, corrosion-resistant
- The sensor is equipped with corresponding pre calibration parameters and can also be calibrated on-site
- No need for chemical reagents, no secondary pollution
- Protection level: IP68, submersible

TECHNICAL PARAMETER

Measuring Principle	200~720nm Continuous spectrum from ultraviolet to visible light
Light Source	Flashing xenon light source, theoretical time 50 years
Measuring Optical Path	2/5/10/20/35mm
Distinguishability	±0.5% FS
Accuracy	±2% FS
Measurement Period	Min 10s, 9999s adjustable
working Temperature	-10~50°C
Storage Temperature	-10~60°C
Shell Material	316L
Flow Rate Requirements	Excessive flow rate of<3m/s may cause bubbles at the measurement point
Automatic Cleaning	Max 4bar compressed air, adjustable cleaning cycle
Power Supply	Powered by COD controller, DC24V, 20W
Calibration	Common parameter pre calibration, users can also perform two-point or multi-point calibration on site based on the test results
Mechanical Strength	30N · m center load, meeting the vast majority of on-site requirements

APPLICATION AREA

Applied to drinking water/surface water/groundwater
Water quality warning system/raw water monitoring and feedforward dosing control

Municipal and industrial wastewater
Emission monitoring/trend analysis/pre monitoring guidance processing

Industrial process water
Industrial equipment process monitoring
Water treatment control

SensoStar®
SL00 | INTELLIGENT SLUDGE INTERFACE

PRODUCT FEATURES

- Up to four display modes, capable of displaying mud level, distance, echo waveform, and historical curve
- Internal integrated temperature sensor for real-time temperature compensation of sound velocity
- With the help of graphical LCD display and keyboard, parameter settings can be carried out on-site
- Equipped with 4-20mA current simulation and mud level simulation diagnostic functions
- It can be displayed in both Chinese and English. You can also choose meters or inches
- Automatically detect on-site electrical interference and intervene to suppress it
- All input and output lines have overvoltage and overcurrent protection
- Provide alarm current output function

TECHNICAL PARAMETER

Range	0~5m、0~10m、0~15m
Blind spot Range	Measurement accuracy of 0.25~0.8m ± 0.3% FS (under standard conditions)
Distinguishability	1mm
Instrument Display	Display mud level, distance, reflux, echo waveform, and historical curve in both Chinese and English
Supply Voltage	DC12V~36V/80mA or AC85V~265V/5W
Analog Output	4-20mA/12bit current output load less than 500 Ω
Digital Output	RS485/MODBUS-RTU
Usage Environment	-20°C~+60°C
Signal Line Length	小于200m
Dimensions	144*144
Installation method	Plate mounted, hole size (138 * 138); Wall mounted installation

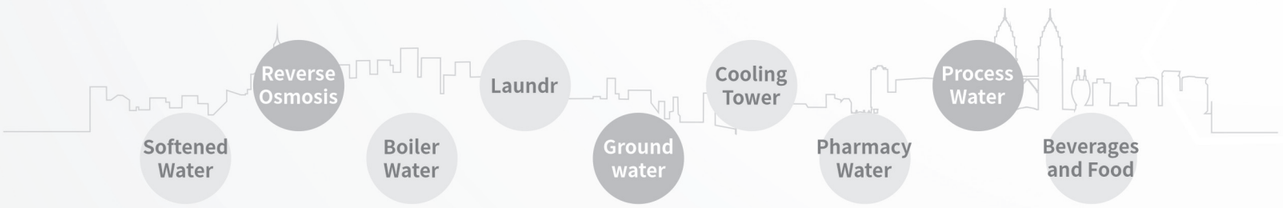
ONLINE HARDNESS ANALYZER

The online hardness analyzer uses the principle of titration colorimetry, making it the best entry level choice for water softening systems and reverse osmosis protection. Low maintenance and low reagent consumption allow long-term continuous operation, which is basically maintenance-free, and is particularly suitable for use in boiler rooms.

MEASURING PARAMETERS

Total Hardness

APPLY



PRODUCT FEATURES

Fully automatic measurement

Fully automatic measurement of total hardness of water quality in different ranges based on the selected reagent; This analysis process is more effective than manual measurement and more continuous and reliable than other indirect measurement methods such as ion selective electrodes.

Intelligent and accurate

National standard measurement method - titration colorimetric method, the instrument has calibration function; Integrated measurement technology and two-stage analysis process can identify external measurement effects (such as contamination of measurement tanks, turbidity of water samples, and external light) and eliminate these effects during measurement.

Minimal maintenance workload

The water and detection device are completely isolated, and the detachable measurement tank does not require additional tools for maintenance, making it easy to perform; It is recommended to replace the spare parts package once a year (including: Peristaltic pump head reagent connecting pipe, agitator and sealing ring)

Automatic cleaning

Rinsing and Cleaning are automatically performed for each analysis, ensuring measurement accuracy, repeatability, and reducing on-site maintenance.

LCD Backlit LCD Display

Multilingual graphical backlight LCD display of measured values, reagent residue, alarm values, and relay status.

SD card data storage

2G data storage card, which can be directly imported into the computer to view historical data and system fault information in Excel format.

lultiple measurement modes

Continuous measurement Interval measurement (5-99min) External switch signal activation measurement

Low reagent consumption

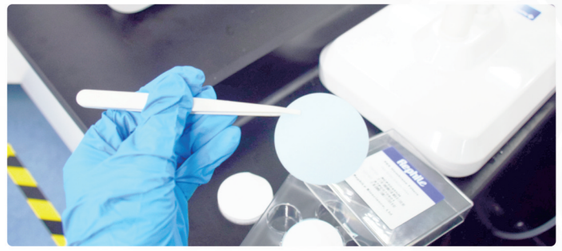
It is easy to replace reagent bottles, and 500ml of reagent can measure 5000 to 10000 times; Reagent validity period 2 years

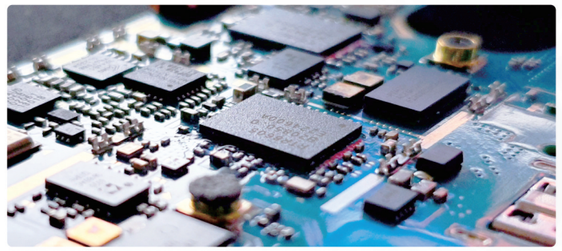
0/4-20mA output

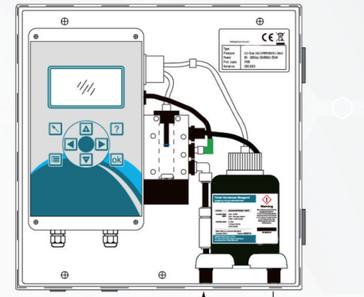
Standard 0/4-20mA output, maximum load 750 Ω

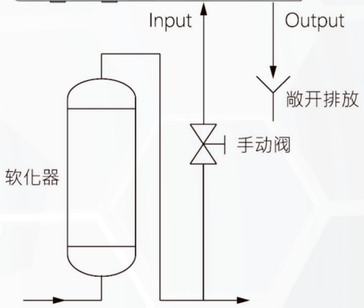
TECHNICAL PARAMETER

Measuring Principle	Titration Colorimetric Method
Ambient Temperature	5~45°C
Water Sample Temperature	5~40°C
Water Sample Pressure	0.5-5bar, recommended 1-2bar; It is recommended to install a pressure reducing valve if it exceeds 2 bar
Inlet/Outlet Connection	Outer diameter 6mm hose
Water Quality Requirements	Colorless, no suspended solids, no bubbles, pH 4-10.5, Iron:<3ppm, copper:<0.2ppm, aluminum:<0.1ppm, manganese:<0.2ppm
Humidity	20-90% RH, indoor installation
Power Supply	AC85-265V, 47-63Hz, 25VA (during operation)
Size/Weight	300x300 × 200mm, ca.4Kg (including outer box shell)
Protection Level	IP65









TECHNICAL PARAMETER

Range	0.53~534.0ppmCaCO3 (see reagent type)
Measurement Time	Approximately 3 minutes, depending on the hardness of the water and the set flushing time
Accuracy	± 5% of the upper limit value of the selected reagent
Repeatability	± 5% of the upper limit value of the selected reagent
Analysis Cycle	Continuous measurement/interval measurement (5-99min)/external start signal
Flushing Time	15~1800s
Water Consumption	Approximately 1000ml/analysis
Display	Backlit LCD display graphics and values
Selectable Unit	mmol/L、ppm、$CaCO_3$、°dH、°f, etc
Current Output	0/4-20mA, Max.750Ω
Relay Output	2-way passive relay output NC/NO, AC250V4A
Input	Analysis of external switch signal activation

ORDER GUIDE

Online hardness analyzer (including outer box)
Spare parts kit, including: Peristaltic pump head (including pump pipe), sealing ring, agitator, reagent bottle connecting pipe, recommended to be replaced once a year
LED light source, recommended to be replaced every two years

SensoStar®

EM8100 | THREE PARAMETER WATER QUALITY ANALYSIS INSTRUMENT

EM8100 is a multi-parameter integrated device that integrates pH, turbidity, and residual chlorine. It is widely used for automated water quality monitoring in swimming pools, tap water, secondary water supply in residential areas, surface water, municipal pipelines, and other places, and has online real-time data remote transmission function; You can choose according to your needs.

The integrated system has added more humanized functions, multiple installation methods, and a detachable internal structure, making it easier for customers to install and maintain in the later stage.

MEASURING PARAMETERS

PH, Turbidity, Residual Chlorine

APPLY

Swimming Pool

Tap Water

Community Water Supply

Surface Water

Municipal Pipe Network

PRODUCT FEATURES

Four different parameters simultaneously

Modular design Convenient installation and maintenance

Flexible combination method suitable

With automatic storage functionAdjustable storage time

Expandable wireless transmission function for convenient remote data monitor

TECHNICAL PARAMETER

Measurement Range			
PH	0~14PH, 0.01PH	Temperature	0~100°C, 0.1°C
Residual Chlorine	0~10ppm, 0.01ppm	Turbidity	0.001~100NTU, 0.001NTU
Other parameters can be expanded according to project requirements			
Power Supply	AC220V/DC24V		
Communication Protocol	RS485, MODBUS, 4-20mA		
Working Temperature	0~50°C		
Cabinet Size	Customizable		
Installation Method	Floor standing/wall mounted		

For detailed technical parameters, please contact Enleman Company