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

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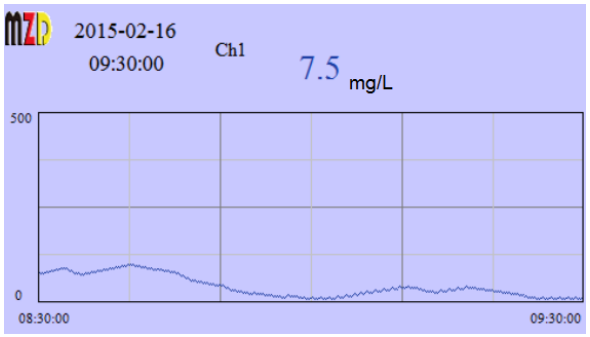

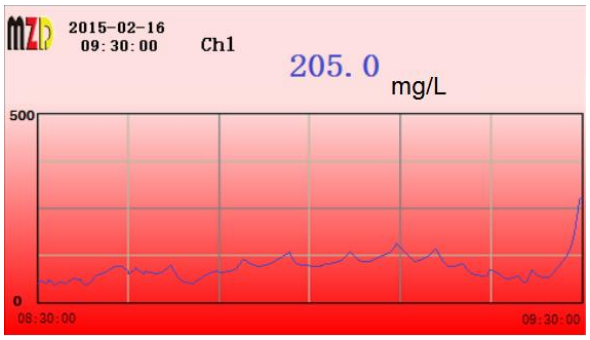

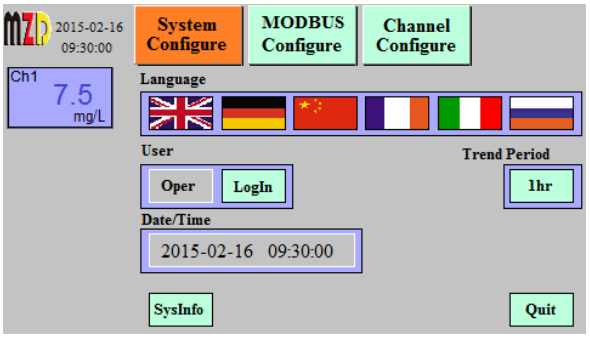

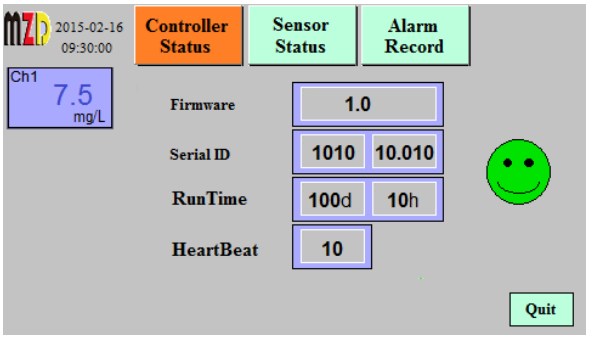

Features

❖ **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.

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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

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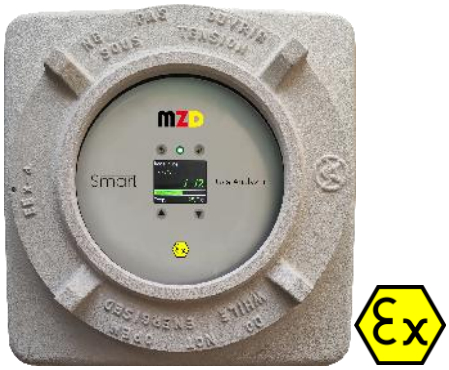

Sensor Type	COD/BOD/TOC(UV 254nm)		
Display	1.8" color LCD, 160*128Pixel		
Language	English Menu		
LED Light	Status LED Light(NAMUR NE107)		
Keypad	Magnetic button		
Parameters	COD	BOD	TOC
Range	0~50/1300mg/L	0~15/350mg/L	0~20/500mg/L
Accuracy	3%	3%	3%
Resolution	0.01 or 0.1	0.01	0.01
Response Time T90	<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		

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Note:

MZD reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail.

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