

## 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.

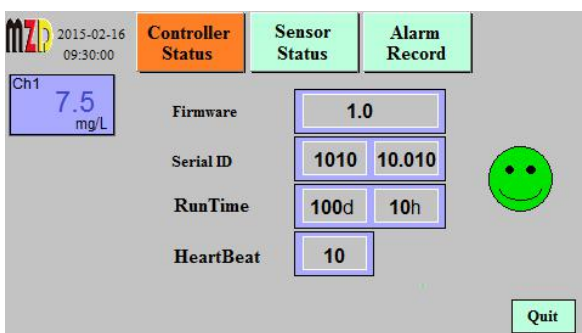
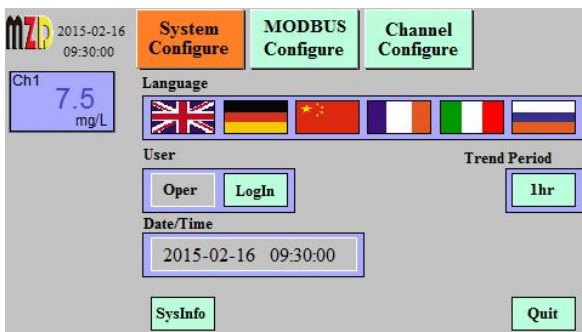
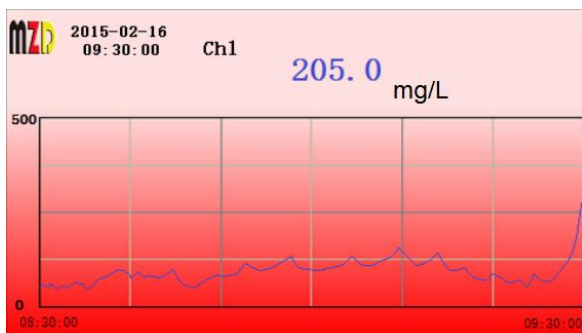
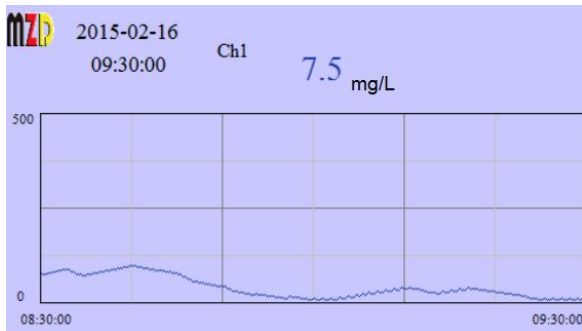


### Typical application

- ▲ 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" or 7" 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

<b>Sensor Type</b>	COD/BOD/TOC(UV 254nm)			
<b>Parameters</b>	COD	BOD	TOC	
<b>Range</b>	0~50/1300mg/L	0~15/350mg/L	0~20/500mg/L	
<b>Accuracy</b>	3%	3%	3%	
<b>Resolution</b>	0.01 or 0.1	0.01	0.01	
<b>Response Time T90</b>	<2 s			
<b>Temperature compensation</b>	Automatic			
<b>Working temperature</b>	0~40°C			
<b>Temperature Sensor</b>	CTN Thermistor			
<b>Pressure</b>	Max. 5Bar			
<b>Ambient Temperature</b>	-10~50°C			
<b>Ambient humidity</b>	0~90%			
<b>Sensor Size</b>	Φ48x371mm or Φ48x419mm			
<b>Sensor Weight</b>	1800g			
<b>Sensor Material</b>	SS			
<b>Sensor Ingress Protection</b>	IP68			
<b>Sensor cable length</b>	7m			
<b>Display</b>	4.3" or 7" industrial color touch screen			
<b>Language</b>	Multi-Language (English, German, Chinese, French,Italian, Russian or Customized)			
<b>Diagnosis function</b>	Sensor and controller self-diagnosis,Heartbeat monitoring			
<b>Event Logger</b>	Internal Flash,up to 6,000 alarm records			
<b>Analog Output(Galvanic)</b>	4~20mA, maximum load 500Ω			
<b>Relay Output(Galvanic)</b>	Relay(2A, 230V AC freely set alarm), System alarm			
<b>Control function</b>	Optional Timer controller,PID analog controller,PWM controller			
<b>Calibration</b>	Can store 6 calibration curves of different materials, Multi-point calibration function up to 9 point			
<b>Communication</b>	RS485 MODBUS RTU, HART, Foundation Fieldbus FF, PROFIBUS PA, PROFIBUS DP, MODBUS TCP/IP, etc			
<b>Power</b>	80~264V AC,1A or 19~28V DC,3A			
<b>Electrical protection</b>	EMI / RFI CEI-EN55011 – 05/99			
<b>Ambient Temperature</b>	-15 ~ 60°C			
<b>Storage and transport temperature</b>	-25 ~ 70°C			
<b>Ambient humidity</b>	0~90%RH			
<b>Wall-mounted(1~2Channels)</b>	4.3" color touchscreen	ABS,Gray RAL7045	213*185*84mm	IP65,Ex d IICT4 optional
	7" color touchscreen		323x237x172mm	

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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. MZD does not accept responsibility for potential errors or possible lack of information in this document.

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