

Multigas Analyzer

Overview

SMART multigas analyzer is based on the modular design, for continuous measurement of gases in gas compounds, offers eight different type sensors for measurement depending on the requirements, and can measure up to six gases components.

Sensors are based on Thermal Conductivity Detector, Galvanic Electrochemical O₂, Optical O₂, paramagnetic O₂, zirconium oxide O₂, TDLAS laser, Ultraviolet photometry, Infrared photometry, or Electrolysis(P₂O₅) measuring principle.

Application

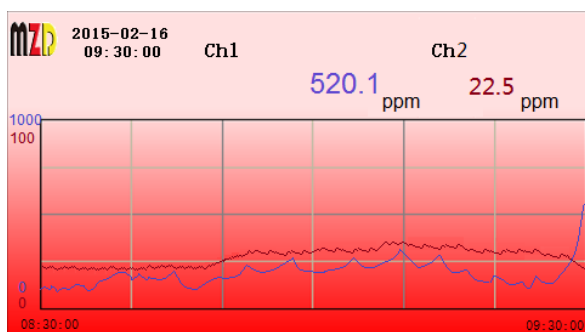
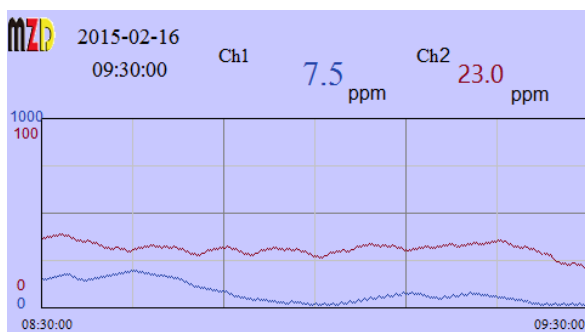
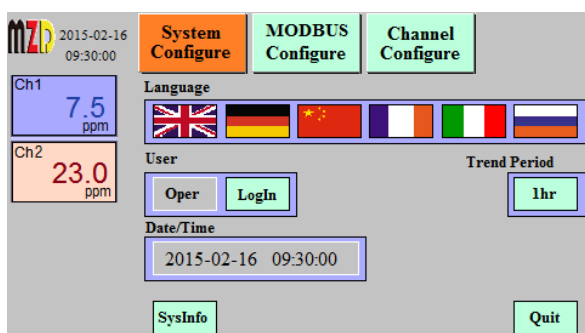
- ASU(Air Separation Unit)
- Chemical, Pharmaceutical industry
- Petroleum and Petrochemical industry
- Metallurgical Industry
- Glass manufacturing
- Semiconductor industry
- Food and beverage industry
- Flare monitoring
- Nuclear,heat treatment, welding protection
- Environmental area monitoring
- Anesthesia, breathing and prenatal care
- Environmental and Process Measurement Technology (CEM)
- Engine development



Measurement components and ranges

- ❖ O₂: 0 ~ 10ppm up to 100%
- ❖ H₂: 0 ~ 0.5% up to 100%
- ❖ H₂O: 0 ~ 10ppm up to 30%
- ❖ Cl₂: 0 ~ 100ppm up to 30%
- ❖ HCl: 0 ~ 10ppm up to 500ppm
- ❖ H₂S: 0 ~ 100ppm up to 5,000ppm
- ❖ SO₂: 0 ~ 50ppm up to 10%
- ❖ NH₃: 0 ~ 10ppm up to 1,500ppm
- ❖ N₂O: 0 ~ 100ppm up to 50%
- ❖ NO: 0~ 300ppm up to 5,000ppm
- ❖ NO₂: 0 ~ 50ppm up to 5,000ppm
- ❖ CO: 0 ~ 500ppm up to 100%
- ❖ CO₂: 0 ~ 50ppm up to 100%
- ❖ CH₄: 0 ~ 1000ppm up to 100%
- ❖ C₂H₂: 0 ~ 100ppm up to 100%
- ❖ C_nH_m: 0 ~ 1000ppm up to 100%
- ❖ CF₄: 0 ~ 30% up to 100%
- ❖ SF₆: 0 ~ 50ppm up to 100%
- ❖ O₃: 0 ~ 1ppm up to 5,000ppm
- ❖ He: 0% ~ 0.8 up to 100%
- ❖ N₂: 0% ~ 3 up to 100%
- ❖ Ar: 0% ~ 3 up to 100%
- ❖ Ne: 0% ~ 1.5 up to 100%
- ❖ Extinguishing gas (R125): 0% ~ 5 up to 100%
- ❖ Other gases: on requirement

Multigas Analyzer

2015-02-16 09:30:00

System Configure MODBUS Configure Channel Configure

Language

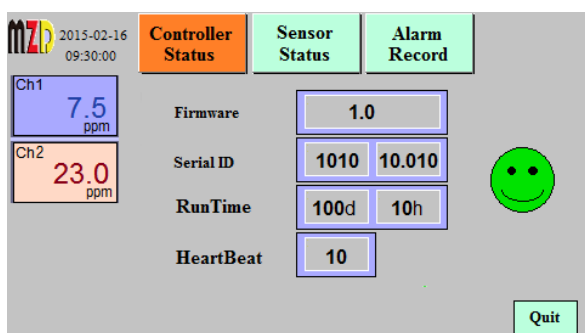
Ch1 7.5 ppm Ch2 23.0 ppm

User Oper Login

Trend Period 1hr

Date/Time 2015-02-16 09:30:00

SysInfo Quit



2015-02-16 09:30:00

Controller Status Sensor Status Alarm Record

Ch1 7.5 ppm Ch2 23.0 ppm

Firmware 1.0

Serial ID 1010 10.010

RunTime 100d 10h

HeartBeat 10

Quit

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

Measuring principle	Thermal Conductivity Detector, Galvanic Electrochemical, Optical, Paramagnetic, Zirconium oxide, TDLAS laser, Ultraviolet photometry, Infrared photometry, Electrolysis(P2O5)			
Display	4.3" or 7" industrial color touch screen			
Language	Multi-Language (English, German, Chinese, French,Italian, Russian or Customized)			
Analog Output(Galvanic)	4~20mA, maximum load 500Ω			
Relay Output(Galvanic)	Relay(2A, 230V AC freely set alarm), System alarm			
Diagnosis function	Flow monitoring, Sensor and analyzer self-diagnosis,Heartbeat monitoring			
Event Logger	Internal Flash,up to 6,000 alarm records			
Control function	Optional Timer control function,PID,PWM			
Calibration	Expert calibration function,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	-15~50°C			
Storage and transport	-25~70°C			
Ambient Humidity	0~90%RH			
Diameter of connecting pipe	6mm			
Wall-mounted	4.3" touchscreen	Steel,Gray	213*185*84mm*	IP65
Laboratory	7" touchscreen	Aluminum,Black	250*144*184mm*	IP40
Portable	7" touchscreen	ABS, Yellow	420*325*180mm*	IP67
19" Rack	7" touchscreen	Aluminu,natural-	483*133*238mm*	IP40

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Green Hydrogen Purity Analyzer	<i>Cost-effective GC (Gas Chromatography) alternative!</i> <i>Supported by the German Federal Government's ZIM (Central Innovation Programme for SMEs)</i>
H2	Thermal conductivity detector Sensor
	99.5% ~ 100%
	Linear error : 50ppm
	Sensitivity: 30ppm
	T90: 10s
	Drift over a week: < 0.05%
	Drift with ambient temperature: < 0.005%/10K
	Drift with flow rate: < 0.005% / 10NI/h
	Daily one-point calibration with 99.999% H2 recommended
	Standard flow rate: 30–60 NI/h
	Warm up time: 45mintue
O2	Galvanic Electrochemical O2 Sensor
	0 ~ 500ppm
	Linear error : 2% FS
	Sensitivity: 50ppb
	T90: 10s
	Standard flow rate: 10–60 NI/h
H2O	Electrolysis P2O5 Sensor
	0 ~ 500ppm
	Linear error : 0.4ppm or 2% of measuring value
	Sensitivity: 50ppb
	T90(up) : 10s
	T90(down) : 15 min
	Standard flow rate: 20 NI/h
N2	Caculation
	0 ~ 5000ppm
	Standard operating temperature range: +5°C to 50°C
	Standard operating pressure range: 800-1200mbar
	Ambient Humidity: 0~90%RH

Multigas Analyzer

Medical Oxygen Analyzer	<i>Compliant with European Pharmacopoeia 2.5.27</i>
O2	Paramagnetic Oxygen Sensor
	95% ~ 100%
	Linear error : 0.05%
	Sensitivity: 0.03%
	T90: < 3 s with 150 ml/min flow and gas change from nitrogen to air
	Zero point drift: $\leq \pm 0.1\%$ /week
	Sample gas temperature: 5 ~ 45°C
	Working temperature: 55°C
	Temperature influence at zero: $\leq \pm 0.05\%/^{\circ}\text{C}$
	Temperature influence span: $\leq \pm 0.2\% \cdot \text{measure value}/^{\circ}\text{C}$
	Pressure influence on zero: None
	Pressure influence span: $< 1\% \cdot \text{measure value}/1\% \text{ pressure change}$
	Flow: 10 ~ 90 l/h
	Flow error: < 0.1 % with in-build fix bypass (option)
	Tilt: Zero change $\leq 0.02 \text{ Vol.-% O}_2 / 1^{\circ}$ deviation from the horizontal position
	T90 Response time: < 3 s with 150 ml/min flow and gas change from nitrogen to air
	Warm up time: 45min
H2O	Electrolysis P2O5 Sensor
	0 ~ 500ppm
	Linear error : 0.4ppm or 2% of measuring value
	Sensitivity: 50ppb
	T90(up) : 10s
	T90(down) : 15 min
	Standard flow rate: 20 NI/h
CO	Infrared photometry Sensor
	0 ~ 50ppm
CO2	Infrared photometry Sensor
	0 ~ 500ppm
	Linear error : 1%F.S
	Sensitivity: 0.1ppm
	Zero point stability: 2% of span
	Response Time: Less than 1 s
	T90-time: <1sec at flow rate higher 60l/h

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	Detection limit (4·STDW): < 1% of span
	Lifetime of the UV Radiation: > 40,000h
	Gas pressure: 800-1200 hPa (mbar)
	Max Static Pressure: 4bar
	Standard flow rate: 30–60 NI/h
	Warm up time: 1-30 Minutes
	Standard operating temperature range: +5°C to 50°C
	Standard operating pressure range: 800-1200mbar
	Ambient Humidity: 0~90%RH

Note:

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