



It Is about

GAS ANALYTICAL & DUST ANALYSIS & WATER ANALYSIS

<p>Multigas Analyzer (MGL Series)</p>	<p>VOC Gas Analyzer (GFID)</p>	<p>Mercury Gas Analyzer (GHg)</p>	<p>Transceiver Receiver Laser Extractive Gas Analyzer (GLE)</p>
<p>Dust & Opacity Monitor (Long Distance)</p>	<p>Triboelectric Monitor (Low Detection)</p>	<p>Dust & Opacity Monitor (Low Detection)</p>	<p>Extractive Dust Monitor (Wet Extractive)</p>
<p>Heavy Metal (HM1000)</p>	<p>Multiparameter Analyzer (MP1000)</p>	<p>UV Water Analyzer UV-W1000</p>	<p>Multiparameter Controller MP-C1000</p>

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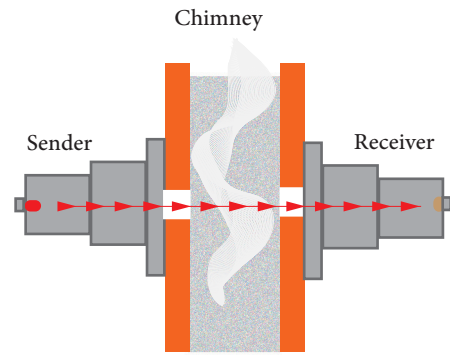


Parameter Specific Emission Standard for Industries need to install CEMS

Industries Parameter	Aluminium	Cement Plant Without co processing	Cement Plant With co processing	Distillery	Chlor Alkali	Fertilizers	Integrated Iron & Steel Plants	Oil Refinery	Petrochemical	Power Plant	Zinc	Copper	Biomedical Waste Incinerator	Common Hazardous Waste Incinerator	Sugar	Sugar, Cotton, Textile, composite Woolen Mills, Synthetic Rubber, Pulp & Paper, Distilleries, Leather Industries, Calcium Carbide, Carbon Black, Natural Rubber, Asbestos, Caustic Soda, Small Boilers, Aluminium Plants, Tanneries, Inorganic Chemicals & other such Industries using boilers
PM D10, DM11	√	√	√	√		√	√	√	√	√	√		√	√	√	
SO ₂ TDLAS-SO ₂ , UV DOAS-SO ₂ , NDIR-SO ₂		√	√				√	√	√	√	√			√		√
NO TDLAS-NO _x , UV DOAS-NO _x , NDIR-NO _x		√	√				√	√	√	√			√	√		√
CO TDLAS-CO, UV DOAS-CO, NDIR- CO	√						√	√	√				√	√		
CO ₂ TDLAS-CO ₂ , UV DOAS-CO ₂ , NDIR- CO ₂						√							√			
Flouride TDLAS-F, IR-DOAS	√				√											
HCl TDLAS-HCl, ECD-HCl			√										√	√		
HF TDLAS-HF, UV DOAS-HF			√											√		
H ₂ S TDLAS-H ₂ S, UV DOAS-H ₂ S								√								
TOC FID-TOC			√											√		
Cl ₂ TDLAS-Cl ₂					√											
Hg UV DOAS-GHg										√						

Measuring Principle

D10.3 is a type-approved measuring device which combines the advantages of the measuring principles transmittance and scattered light forward. Therefore, it is ideal for measurement of very low to high dust concentrations. The automatic self-alignment optimized the position of the measuring beam and prevents incorrect measurement. An automatic check of zero and reference points as well as a contamination monitoring.



Features

- Combination of transmittance and scattered light measurement
- For very low to high dust concentrations
- Automatic check of zero and reference point
- Contamination monitoring and compensation on both sides
- Automatic self-alignment
- For medium to large dust diameter
- CE mark by TUV

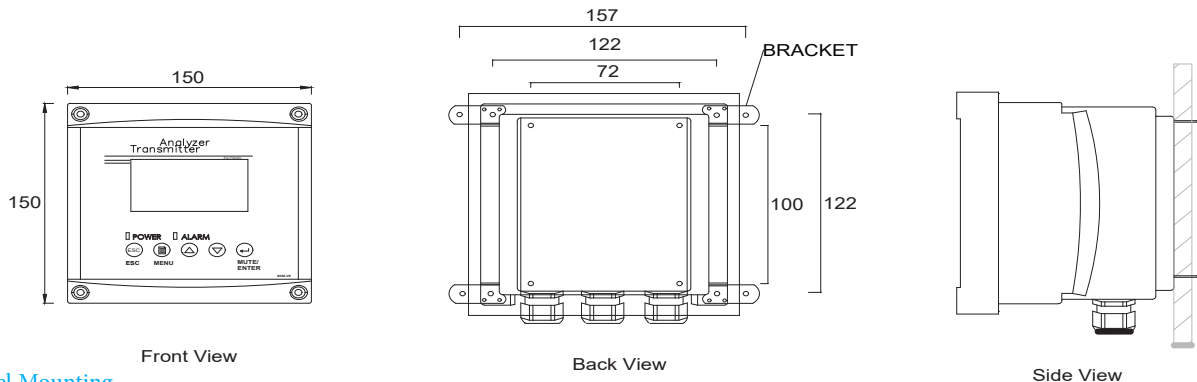
Benefit

- Suitable for highly fluctuating dust concentrations
- Reliable application due to redundant measurement
- Low maintenance due to self-monitoring function
- Future-proof for decreasing limit values

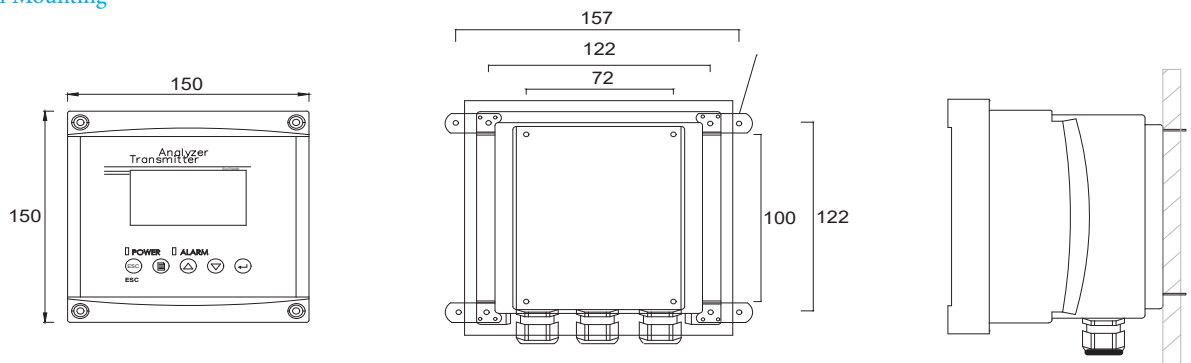
Application

- Solid Fuel Boiler
- Tunnel for Visibility
- Gas Fuel Boiler
- Generator Emission
- Diesel Car Emission
- Rubbish Incinerator

Surface Wall Mounting



Flush Panel Mounting



Technical Information

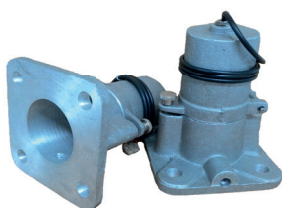
Controller

Power	85-260VAC; 50/60Hz
Power Consumption	20 Watt
Ambient Temperature	-10°C~50°C
Operating Temperature	0°C~55°C
Operating Humidity	-20 to 80% RH Max (Non Condensing)
Measuring Range	0-100% (Opacity) ; 50-100mg/m ³ (Dust)
Scanning Distance	0 ~ 6meter
Screen Width	LCD 70 x 38mm
Engineering Unit	Percent Obscuration (%) ; mg/m ³ (Dust)
Output	2 x output 4~20mA
Communication	RS485 Modbus
Alarm Contact	Max 5A/240VAC - SPDT Relay
Compensation to mg/NM ³	Required Temperature & Pressure
Sampling Time	0.2 seconds
Mounting	Panel or Wall Mount
Dimension	W150 x H150 x D110 (mm)
Panel Cutout Dimension	W137 x H137 x D90 (mm)
Protection	IP65 Front Panel
Weight	1 Kg
TUV Certificate No.	AE50247427 0001



Sensor

Enclosure Class	IP65
Sensor Body Material	Aluminium Alloy
Sender Element	Light Emitting Diode
Receiver Element	Light Dependent Resistor
Flange Mounting Size	146mm P.C.D, Φ18 Holes, C.T.C: 102mm
Air Pressurized adapter	1/4" BSP Thread
Design Body	Weather Proof IP65
Max. Ambient Temperature	70°C
Max Stack Temperature	1200°C
Swing Door	90°C minimum
Weight	2.0 Kg






Auto Cleaner

Ambient Temperature	25°C and 40°C
Power Supply	Single phase 200-240VAC, 50Hz 3 Phase 345 ~415VAC, 60Hz
Material	Cast Aluminium
Connection	DN40 BSP
Static Pressure	120m Bar
Capacity	140m ³ /Hr
Weight	14Kg



Accessories

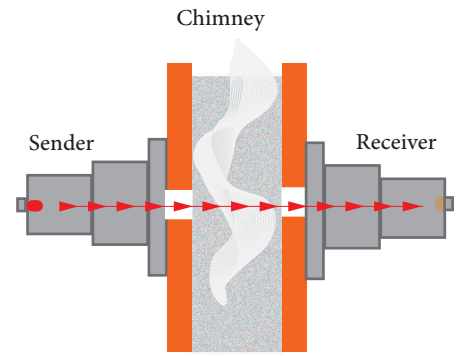
	<p>Multipurpose Bracket</p>
	<p>Blower Kit for Air Purge</p>
	<p>Compress Air Kit Use with compress air purge. Includes pressure regulator, in-line filters and compressed air adapters for the purge body.</p>

Ordering Number

Description	Model
Controller	DM-LK-D10
Sender	SDS-LK-SV5
Receiver	SDR-LK-RV4
Air Blower Cleaner Set	D10.AB
Air Compressor Filter Set	D10.AC
Multipurpose Bracket	S-LK-SDM-SB-1

Measuring Principle

D10.3LS is a type-approved measuring device which combines the advantages of the measuring principles transmittance and scattered light forward. Therefore, it is ideal for measurement of very low to high dust concentrations. The automatic self-alignment optimized the position of the measuring beam and prevents incorrect measurement. An automatic check of zero and reference points as well as a contamination monitoring.



Features

- Combination of transmittance and scattered light measurement
- For very low to high dust concentrations
- Automatic check of zero and reference point
- Contamination monitoring and compensation on both sides
- Automatic self-alignment
- For medium to large dust diameter
- CE mark by TUV

Benefit

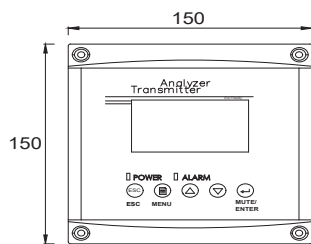
- Suitable for highly fluctuating dust concentrations
- Reliable application due to redundant measurement
- Low maintenance due to self-monitoring function
- Future-proof for decreasing limit values

Application

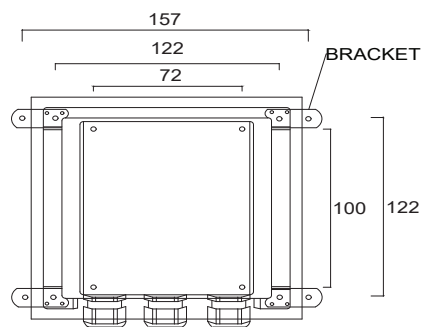
- Solid Fuel Boiler
- Tunnel for Visibility
- Gas Fuel Boiler
- Generator Emission
- Diesel Car Emission
- Rubbish Incinerator
- Prilling Tower



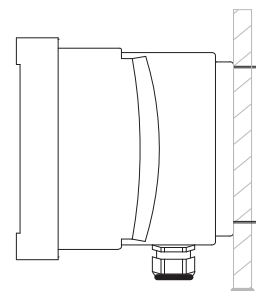
Surface Wall Mounting



Front View

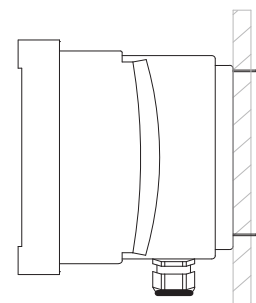
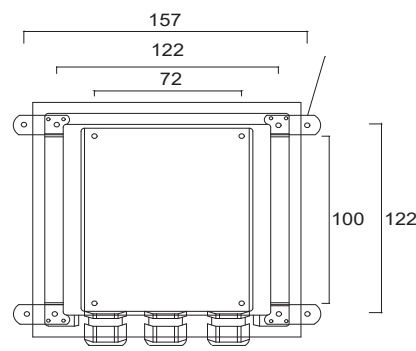
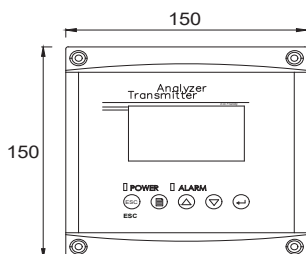


Back View



Side View

Flush Panel Mounting



Technical Information

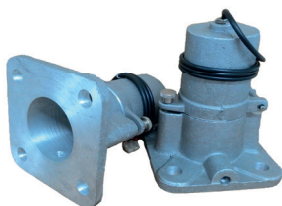
Controller

Power	85-260VAC; 50/60Hz
Power Consumption	20 Watt
Ambient Temperature	-10°C~50°C
Operating Temperature	0°C~55°C
Operating Humidity	-20 to 80% RH Max (Non Condensing)
Measuring Range	0-100% (Opacity) ; 50-100mg/m ³ (Dust)
Scanning Distance	0-30 meter
Screen Width	LCD 70 x 38mm
Engineering Unit	Percent Obscuration (%) ; mg/m ³ (Dust)
Output	2 x output 4~20mA
Communication	RS485 Modbus
Alarm Contact	Max 5A/240VAC - SPDT Relay
Compensation to mg/NM ³	Required Temperature & Pressure
Sampling Time	0.2 seconds
Mounting	Panel or Wall Mount
Dimension	W150 x H150 x D110 (mm)
Panel Cutout Dimension	W137 x H137 x D90 (mm)
Protection	IP65 Front Panel
Weight	1 Kg
TUV Certificate No.	AE50247427 0001



Sensor

Enclosure Class	IP65
Sensor Body Material	Aluminium Alloy
Sender Element	Laser
Receiver Element	Light Dependent Resistor
Flange Mounting Size	146mm P.C.D, Φ18 Holes, C.T.C: 102mm
Air Pressurized adapter	1/4" BSP Thread
Design Body	Weather Proof IP65
Max. Ambient Temperature	70°C
Max Stack Temperature	1200°C
Swing Door	90°C minimum
Weight	2.0 Kg






Auto Cleaner

Ambient Temperature	25°C and 40°C
Power Supply	Single phase 200-240VAC, 50Hz 3 Phase 345 ~415VAC, 60Hz
Material	Cast Aluminium
Connection	DN40 BSP
Static Pressure	120m Bar
Capacity	140m ³ /Hr
Weight	14Kg



Accessories

	<p>Multipurpose Bracket</p>
	<p>Blower Kit for Air Purge</p>
	<p>Compress Air Kit Use with compress air purge. Includes pressure regulator, in-line filters and compressed air adapters for the purge body.</p>

Ordering Number

Description	Model
Controller	DM-LK-D10-LSC
Sender	SDS-LK-SV6
Receiver	SDR-LK-RV4
Air Blower Cleaner Set	D10.AB
Air Compressor Filter Set	D10.AC
Multipurpose Bracket	S-LK-SDM-SB-1

Measuring Principle

When solid particles impact an isolated metal probe, or pass nearby, they transfer their charge to the metal probe. The charge is amplified and converted to 4-20mA signal output or RS485 Modbus RTU with proportional to dust concentration.

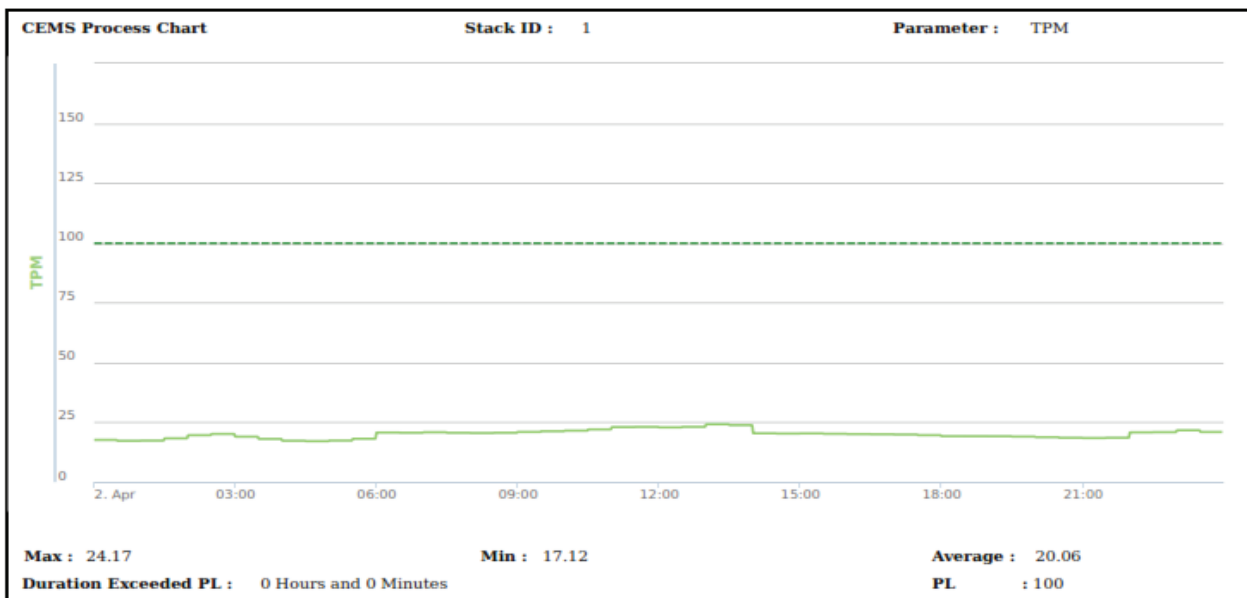


Features

- Detect solid particles with diameters from 0.1µm to 200µm
- For high pressure application up to 1MPa
- Easy to install and adjust
- Easy to maintenance
- Probe Length : 200mm/400mm/600mm/800mm/1000mm

Application

- **Cement Plant**
 - For coal ash and other raw material
 - Cement & Concrete product
 - For kilns, Air Quality Control System
- **Ironworks**
 - For Steel Sintering
 - For Casting
 - Coke Ovens
- **Chemical Plant**
 - For catalyzation
 - Smoke Removal
- **Rubber & Carbon Plant**
 - Handling Raw Material
- **Waste Incinerator Plant**
 - Monitoring Environmental
 - Incinerator

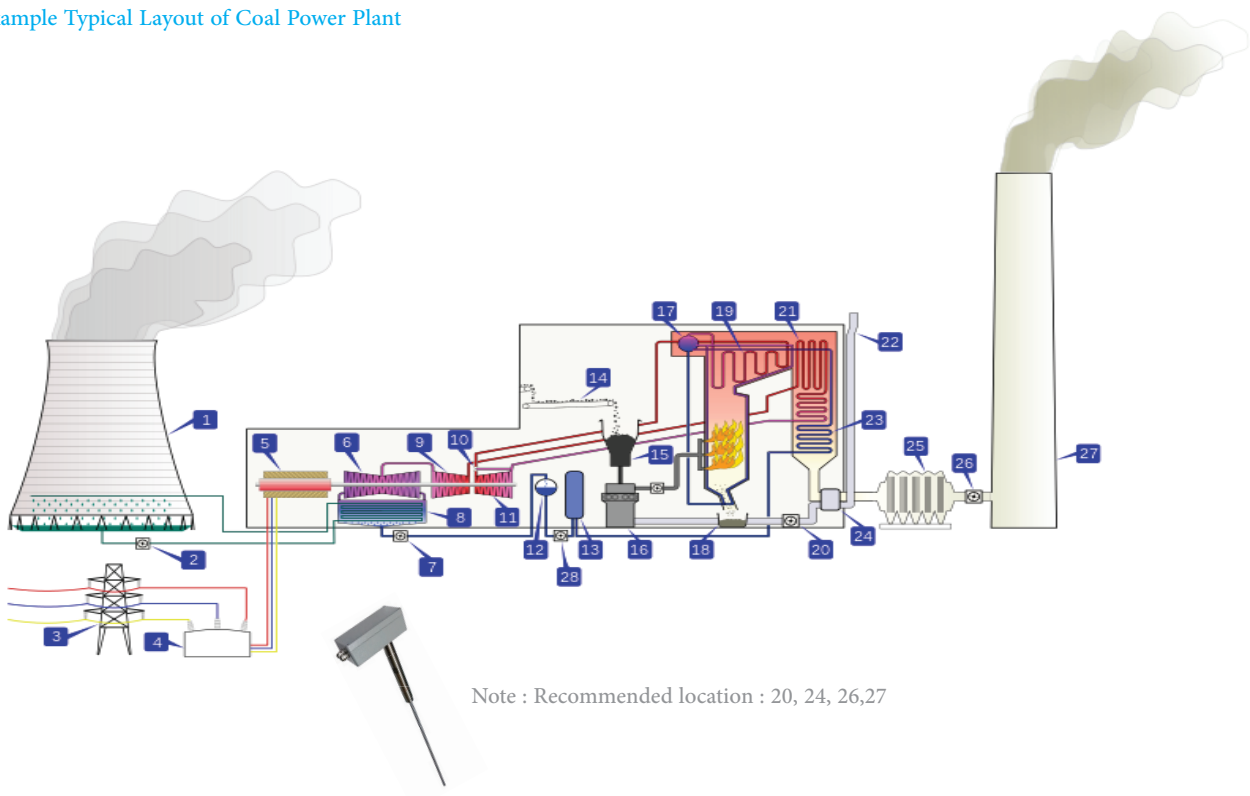


Technical Specification

Model	DM-LK-DM11
Power Supply	24VDC
Weight	2.8 Kg
Analogue Output	4-20mA
Ambient Temperature	-45 to 65°C
Enclosure	IP65
Particle Size	0.1~200µm min
Particle Concentration	0.1~200µm min
Gas Flow Velocity	1m/s ~ 30m/s
Humidity	90°C max
Measurement Range	0-1000mg/m3
Probe Length	200mm/400mm/600/800mm/1000mm
Measurement Range	0-1000mg/m3
Pressure	-0.1 ~ 1mPa

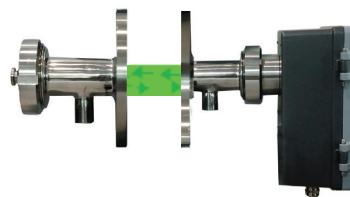


Example Typical Layout of Coal Power Plant



Measuring Principle

The measuring principle is based on double pass technology which detect the differential of transmit and reflect frequency in pulse with also the reference of measurement. The light beam sender/reflector arrangement, to measure particulate, stack or flue to reflector, which then returns the light to the sender where the intensity of the received light is measure. The light source is a green LED that will have the wavelength of 450nm to 600nm and transmit to the opposite multi angle reflector to reflect back to the sender. The display controller can be install at a maximum of 800 meter away to read and retransmit the data.



ISO-Kinetic sampling data is required for dust concentration reference in mg/m^3 . When calibrated against standard reference measurements, the amplitude of this signal relates directly to the dust concentration in the stack and this can be presented as a reading in mg/m^3 .



Features

- Double Pass Principle
- Low Dust Concentration 0-7.5 mg/m^3 and high range 0-1000 mg/m^3
- Measure Opacity in 0-100%, Dust in mg/m^3 with reference to ISO-Kinetic Sample Method.
- Robust design with Aluminium Casing and stainless steel part
- Communication via RS485 Modbus RTU
- Failsafe Shutter (Optional)
- Online Calibration (Optional)
- Cloud DAS or Station (Optional)

Benefit

- Suitable for highly fluctuating dust concentration
- Better accuracy over shorter path lengths
- Reliable application due to redundant measurement
- Low maintenance due to self-monitoring function
- Future-proof for decreasing limit values

Application

- Steel & Iron Plant
- Cement Plant
- Tunnel for visibility
- Palm Oil Mill
- Refinery Oil Mill
- Aluminium Plant
- Power Plant Boiler
- Cement Works
- Waste Incinerator
- Petrol Chemical Plant

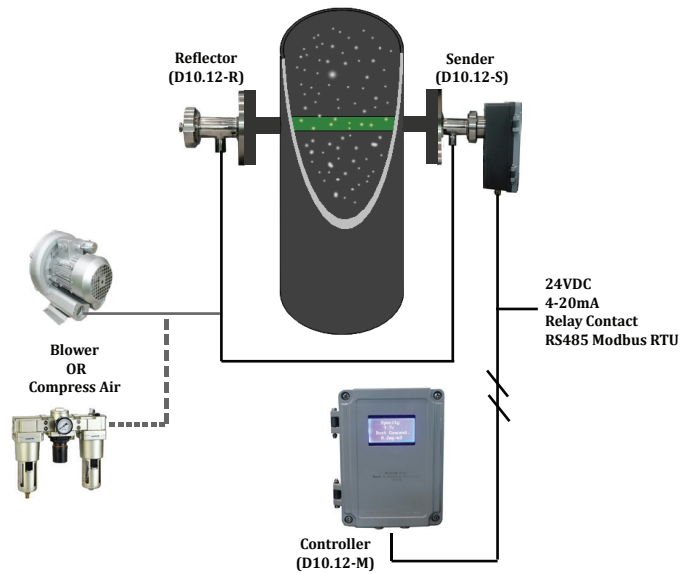
System Components

- Mounting Flanges
- Reflector
- Controller
- Sender

Typical Installation

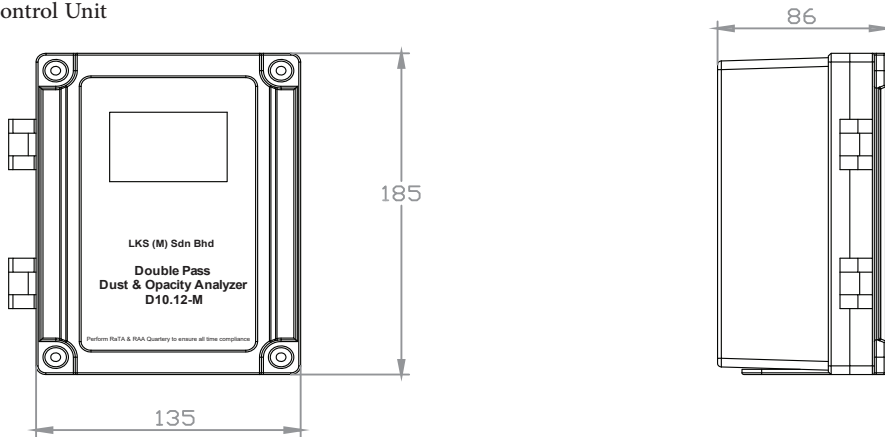
Optional Accessories

- Blower Auto Cleaner (415 VAC)
- Compress Air Cleaner

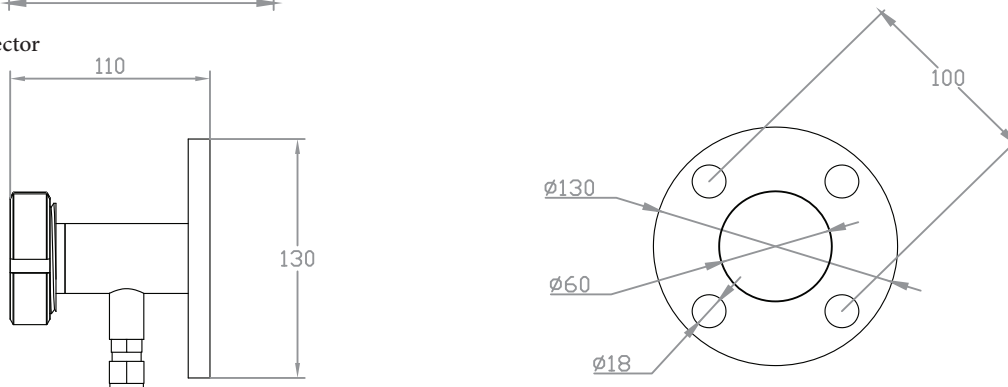


Dimension

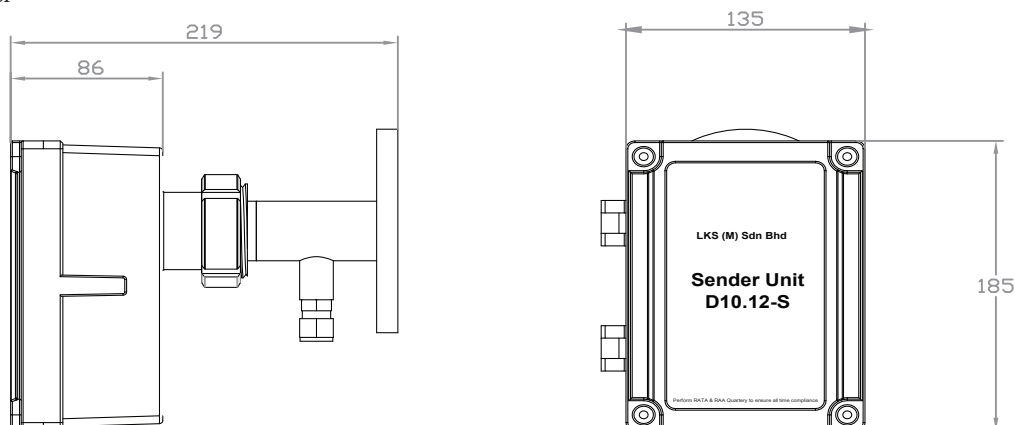
Control Unit







Reflector



Sender



Accessories

	<p>Rubber Alignment (Gasket)</p>
	<p>Fitting (Blower)</p>
	<p>Blower Kit for Air Purge</p>
	<p>Compress Air Kit Use with compress air purge. Includes pressure regulator, in-line filters and compressed air adapters for the purge body.</p>

Ordering Number

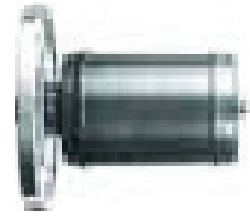
Description	Model
Controller	D10.12-M
Sender	D10.12-S
Reflector	D10.12-R
Air Blower Cleaner Set	D10.AB
Air Compressor Filter Set	D10.AC

Measuring Principle

D10.8 is an on-line dust monitoring device using the mainstream technology of laser back-scattered light principle with imported core components. D10.8 is mainly used for continuous monitoring of various sources emissions of particulate matter concentrations. It can be either equipped with CEMS, or connected with dust monitoring network by a shared set of data acquisition and processing background.

Dust Monitors consists of Optical section, circuit and control section, calibrator and purge system.

The laser beam (650nm) comes across the selection area and produces scattered light after effect with dust particles. The back scattered light crosses the lens converges into photosensitive detector. Analyzer circuit and control section converts light signal into signal output which is propotional to the dust concentration, and obtains dust particles emission concentration of pollution.



Features

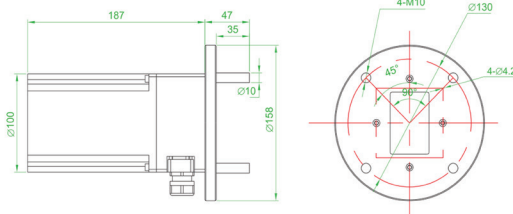
- In-situ zeroing and span calibration
- Automatic gain control function and temperature compensation
- Smart appearance, easy installation, convinient disassembly
- Without background light influence

Application

- Palm Oil Mill
- Paper Mill
- Gas Fuel Boiler
- Aluminium Plant
- Steel Plant
- Cement Plant
- Steel & Iron Plant

Dimension

- Installation on standard flange to the stack
- Installation rainproof on backend of monitor
- Power and gas source connecting at backend of monitor



Specification

Principle	Backscatter Light
Range	0-200mg/m ³ , 0-10mg/m ³ (Option)
Accuracy	±2% F.S
Repeatability	±1% F.S
Response Time	1s
Laser Transmitter	650 nm
Flue Gas Temperature	<500°C (higher temperature need to be customized)
Ambient Temperature	-400~_50°C
Duct Diameter	>0.7m
Analog Output	4-20mA, maximum load 800Ω
Communication	RS485, 2 relay Output
Weight	4Kg
Supply	24VDC±10%

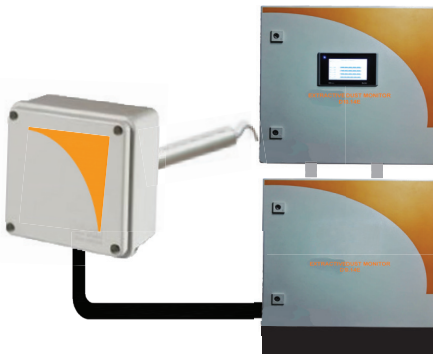
Measuring Principle

DM10.14E extractive dust monitoring system is a high temperature heating extractive dust monitor, based on dust detection technology. D10.14E uniformly samples dust in the flue (stack) to the high temperature heat tracing dust measuring module to measure, the detection limit reach $0.05\text{mg}/\text{m}^3$. No moisture influence and high accuracy, and it applicable for ultra-clean emission. Low temperature and high humidity flue gas situation after wet deSox meet the coal fired power plant air pollutants emission standard.

Under the negative pressure effect of jet pump, dust heated by sampling probe enters the measurement module. Heat tracing during the entire process of extraction, measurement and emission, it eliminates moisture interference, and prevent dust in the measurement module, using laser forward scattering principle to measure dust concentration. The exhaust gas after measurement pass into the stack.

It used electromagnetic valve and control unit to realize automatic counter blowing of gas path and measuring module, and automatic zero at regular intervals. After maintenance the laser device can be closed and calibration block can be inserted for manually zero and calibration.

It used micro differential pressure transmitter and pitot tube to measure flue gas flow inside the stack, feedback to flow control device and controls pump velocity by changing the fluid flow, realizes pitot tube balance sampling, Isokinetic extracts stack dust to measure.



Features

- Using laser forward scattering method to detect dust concentration, low detection limit
- High temperature heat tracing of dust extraction make steam evaporation to avoid dust agglomerate blocking gas path under the influence of water, suitable for high humidity.
- Pitot tube isokinetic sampling, comply with technical conditions of sampler for stack dust
- Support automatic zero and manual span calibration in the field
- Hot and wet application such as scrubber filter
- High moisture application

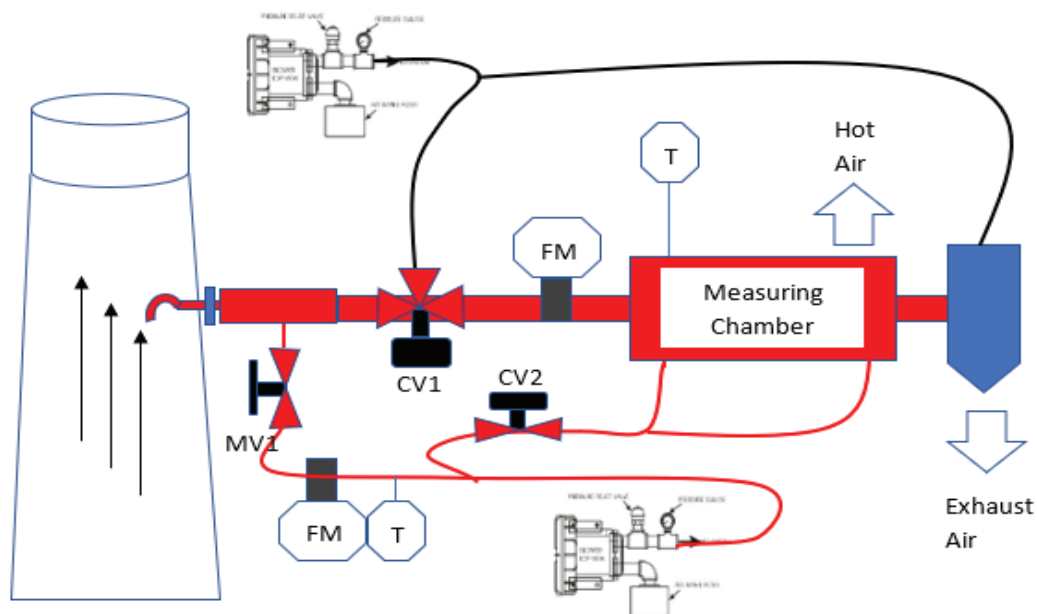
Application

- Palm Oil Mill
 - Paper Mill
 - Gas Fuel Boiler
 - Aluminium Plant
 - Steel Plant
-

Specification

Principle	Extractive Laser Forward Scattering
Concentration Range	0-10mg/m ³ , multi-range switching
Detection Limit	0.05mg/m ³
Accuracy	±2%
Repeatability	±2%
Response Time	2s (optional)
Laser	650nm, 20mW
Sampling Head Diameter	6mm, 8mm, 10mm, 12mm, (according to the condition of customization)
Heat Tracing Temperature	120°C ~ +50°C
Instrument Air	No water and oil, ≥0.4MPa, gas consumption 100L/min
Blowback Time	Blowback 30s(Concentration data keep), interval period 3h (According to the condition of customization)
Velocity Range	2-40m/s
Preheating Time	15min
Analog Output	4-20mA, maximum load 500Ω
Communication Interface	RS485, RS232 (Option)
Weight	103kg
Dimension	1620mm (H) x 850mm(L) x 264mm(D)
Power	1500W
Supply	220 VAC
Enclosure rating	IP54

Diagram

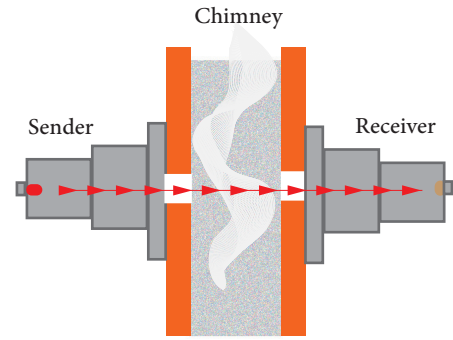


Smoke Density Meter

SDM V9

Measuring Principle

Smoke Density Monitor is used to monitor the smoke emission from all kinds of combustion and the soot contamination of inert gas. The measuring principles transmittance and scattered light forward. The automatic self-alignment optimized the position of the measuring beam and prevents incorrect measurement. An automatic check of zero and reference point as well as a contamination monitoring.



Features

- Continuous Monitoring
- Continuously recording in percent (%)
- Automatic calculation of Smoke Exceed Limit by Daily & Hourly
- Scanning Distance up to 20meter
- Aid to efficiency of combustion
- CE Mark by TUV

Benefit

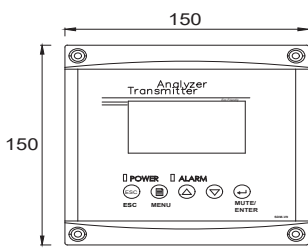
- Better accuracy over shorter path lengths
- Reliable application due to redundant measurement
- Low maintenance due to self-monitoring function
- Future-proof for decreasing limit values

Application

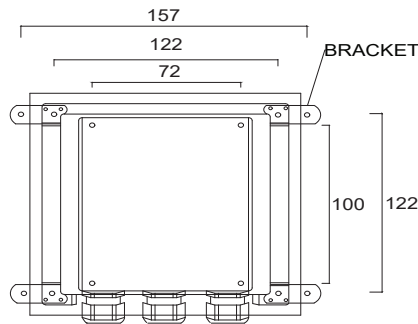
- Palm Oil Mill
- Paper Mill
- Gas Fuel Boiler
- Aluminium Plant
- Steel Plant



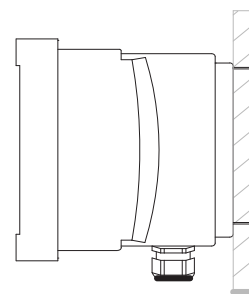
Surface Wall Mounting



Front View

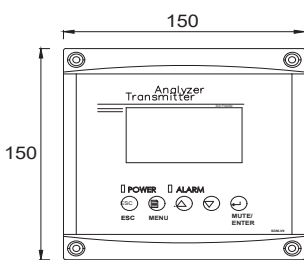


Back View

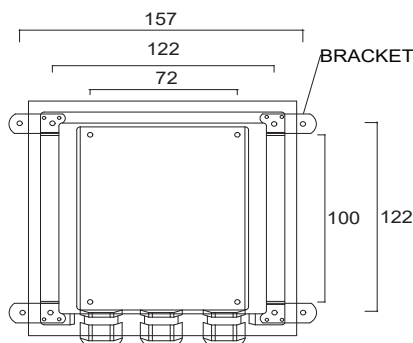


Side View

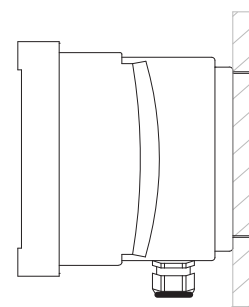
Flush Panel Mounting



Front View



Back View



Side View

Technical Specification

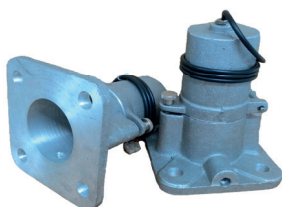
Controller

Power	85-260VAC; 50/60Hz
Power Consumption	20 Watt
Ambient Temperature	-10°C~50°C
Operating Temperature	0°C~55°C
Operating Humidity	-20 to 80% RH Max (Non Condensing)
Measuring Range	0-100% (Opacity)
Screen Width	LCD 70 x 38mm
Engineering Unit	Percent Obscuration (%)
Output	2 x output 4~20mA
Communication	RS485 Modbus
Alarm Contact	Max 5A/240VAC - SPDT Relay
Sampling Time	0.2 seconds
Mounting	Panel or Wall Mount
Dimension	W150 x H150 x D110 (mm)
Panel Cutout Dimension	W137 x H137 x D90 (mm)
Protection	IP65 Front Panel
Weight	1 Kg
TUV Certificate No.	AE50177232 001



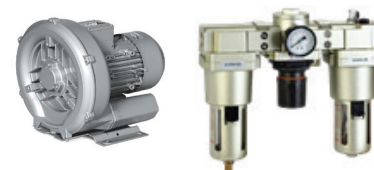
Sensor

Enclosure Class	IP65
Sensor Body Material	Aluminium Alloy
Sender Element	Light Emitting Diode
Receiver Element	Light Dependent Resistor
Flange Mounting Size	146mm P.C.D, Φ 18 Holes, C.T.C: 102mm
Air Pressurized adapter	1/4" BSP Thread
Design Body	Weather Proof IP65
Max. Ambient Temperature	70°C
Max Stack Temperature	1200°C
Swing Door	90°C minimum
Weight	2.0 Kg






Auto Cleaner

Ambient Temperature	25°C and 40°C
Power Supply	Single phase 200-240VAC, 50Hz 3 Phase 345 ~415VAC, 60Hz
Material	Cast Aluminium
Connection	DN40 BSP
Static Pressure	120m Bar
Capacity	140m ³ /Hr
Weight	14Kg



Accessories

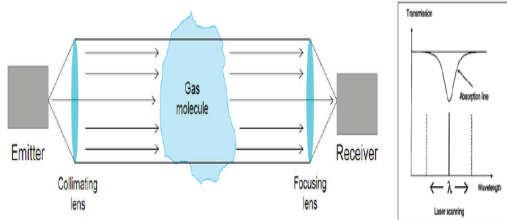
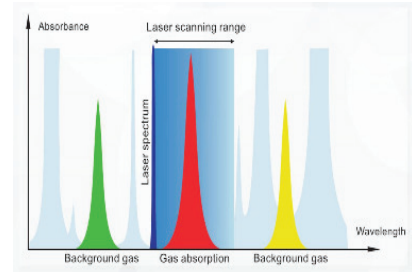
	<p>Multipurpose Bracket</p>
	<p>Blower Kit for Air Purge</p>
	<p>Compress Air Kit Use with compress air purge. Includes pressure regulator, in-line filters and compressed air adapters for the purge body.</p>

Ordering Number

Description	Model
Controller	SDM-LK-V9
Sender	SDS-LK-SV5
Receiver	SDR-LK-RV4
Air Blower Cleaner Set	D10.AB
Air Compressor Filter Set	D10.AC
Multipurpose Bracket	S-LK-SDM-SB-1

TDLAS Gas Analyzer (Tunable Diode Laser Absorption Spectroscopy)

MGL series -TDLAS gas analyzer is a wall mount panel and 19 inches 4U panel for industrial online analysis and environmental online monitoring. It mainly uses the character that tunable laser's narrow band and wavelength change with the current. This instrument adopts white cell to achieve folded optical path up to 30 meters. With this principle it can measure low detection limit and can online analyze O₂, CO, NH₃, CO₂, CH₄, H₂O, HCl, HF and other gases.



Features

- 19 inch 4U panel and 20" wall mount panel
- TDLAS eliminates cross-interference of background gass
- Multiple return optical path up to 30 meters, lower detection limit
- High resolution spectrum technology due to the "fingerprint" characteristic of the molecular spectrum
- Reflected light range can be adjusted, measurement ranges from constant to trace
- TDLAS has the advantages of rapid response speed and high sensitivity
- Easy maintenance
- Strong Anti-Interference Capability
- Parameter : O₂, CO, CO₂, H₂S, H₂O, HCl, HF, NH₃, CH₄

Specification

- Linearity : $\leq \pm 1\%$ F.S
- Span Drift : $\leq \pm 1\%$ F.S
- Response Time : 1s
- Analogue Output : 4-20mA
- Power : 230VAC, 50/60Hz
- Communication : RS485 Modbus RTU
- Working Temperature : -20°C ~ +60°C

Application

- Metallurgical Furnace
- Petrolchemical
- Refining
- Urea Chlor alkali manufacturing process
- Waste Incinerator
- Industrial Flue gas denitration
- Cement Plant



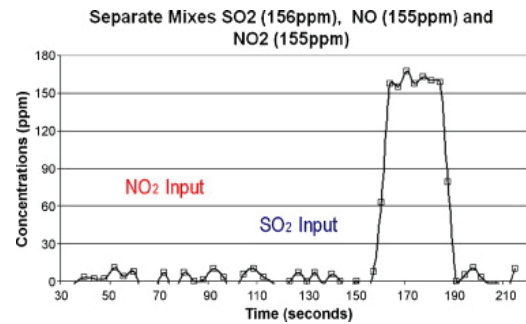
UV DOAS Gas Analyzer

(Ultra Violet Differential Optical Absorption Spectrometer)

MGL

MGL Series - UV DOAS is a flue online monitoring gas analyzer. This analyzer is based on UV DOAS principle. It can measure SO₂, NO, NO₂, O₂, NH₃, CO, CO₂, Cl₂, O₃, H₂S, HCl, CH₂I. With high accuracy and reliability, low operating costs, fast response time, wide measurement range and application fields.

This principle platform consists of light sources, gas chamber, optical and spectroscopic and other components. Ultraviolet light is sent by the light source through the optical window into gas chamber and absorbed by the sample gas through the gas chamber. The light carrying sample absorption information gathers through lens coupled into fiber and then transmits through the optical fiber into spectrometer. After the light splitting and photo-voltaic conversion, absorption spectrum is obtained and analyzed to calculate the concentration of the related components in gas.



Features

- 19 inch 4U panel and wall mount panel
- Principle : UV DOAS
- The minimum detection limit of SO₂, NO, NO₂ can be 1mg/m³
- Ultraviolet has no moisture absorption, undisturbed by moisture and dust
- No cross interference between the gas being measured
- Low detection limit
- NO and NO₂ can measure at the same time, dispense with converter
- No optical moving parts and no vibration influence
- Strong gas cell, low cost
- Spectrum automatic adjustment technology
- Parameters: SO₂, NO, NO₂, O₂, NH₃, CO, CO₂, Cl₂, O₃, H₂S, HCl, CH₂I.



Specification

- Measuring Principle : UV DOAS
- Measuring Range : 0~300~3000ppm (SO₂, NO_x)
- Linearity Error : ≤ ±1% F.S
- Repeatability : ≤ ±0.5% F.S
- Response Time : <25s
- Warm Up Time : None
- Output : 4-20mA
- Power : 230VAC, 50/60Hz
- Working Temperature : -10°C ~ +40°C
- Working Humidity : 0~95% RH
- Communication : RS485 Modbus RTU

Application

- Garbage Power Plant
- Desulfurization
- Coke Oven
- Ceramic Factory
- Coal Fired Power Plant

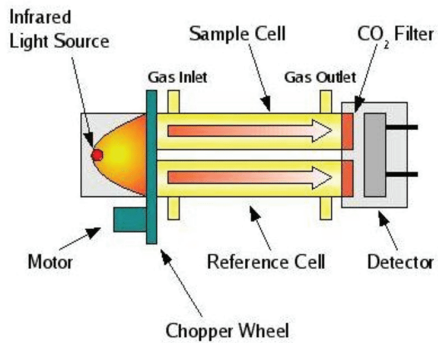
NDIR Gas Analyzer

(Nondispersive Infrared Detector)

MGL

MGL Series - NDIR is a infrared analyzer can be used for measurement of the concentration of gases in sample gases simultaneously. It is based on the single source two beams non dispersion infrared (NDIR) method been used for this analyzer by Micro-Flow NDIR technology.

NDIR Analyzer is designed with 4U rack mountable and wall mount smaller physical dimensions and the simple digital pulsable infrared source and two beam systems. The general application is emission flue gas, landfill, anaerobic digestion and other fermentation processes.



Features

- 19 inch 4U panel and wall mount panel
- Display: 800x480 (mm)
- Principle : NDIR
- Dual Range
- Repeatability : $\pm 2\%$ F.S
- Linearity : $\pm 2\%$ F.S
- Zero/Span drift : $\pm 1\%$ F.S
- H₂O in flue gas don't effect measurement of SO₂ and NO
- Sampling flow don't effect measurement of SO₂/NO/CO/CO₂
- CO and NO₂ don't effect measurement of SO₂ and NO
- RS485 Modbus RTU
- Analog Output : 4-20mA
- Parameters: SO₂, NO, NO₂, O₂, NH₃, CO, CO₂, O₃, H₂S, HCl

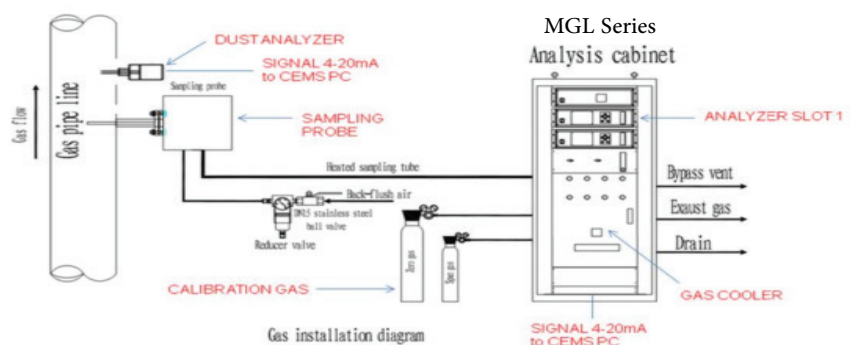
Specification

- Accuracy : $\pm 1\%$ F.S
- Resolution : 0.01%
- Response Time : 2s
- Warm up : 10 Min
- Output : 4-20mA
- Power : 230VAC, 50/60Hz

Application

- Glass Factory
- Cemet Plant
- Coke Oven
- Sinter
- Lime Factory

System Layout



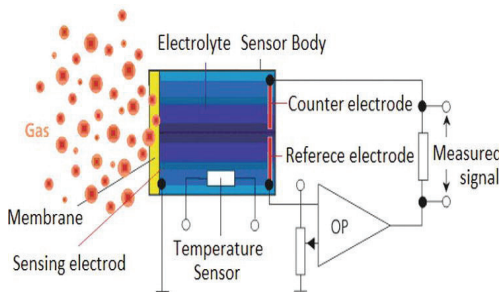
ECD Gas Analyzer

(Electrochemical)

MGL

MGL Series - ECD sensors are operated based on the diffusion of gas of interest into the sensor, which results in the production of an electrical signal that is proportional to the gas concentration.

Gas coming in contact with the sensor passes via a small capillary type opening and diffuses via a hydrophobic barrier to reach the electrode surface. A sufficient amount of gas is allowed to react at the sensing electrode to produce a sufficient electrical signal. The diffused gas in turn gets oxidized or reduced at the sensing electrode.



Features

- 19 inch 4U panel and wall mount panel
- Display: 800x480 (mm)
- Principle : ECD
- Repeatability : $\pm 2\%$ F.S
- Linearity : $\pm 2\%$ F.S
- Zero/Span drift : $\pm 1\%$ F.S
- RS485 Modbus RTU
- Analog Output : 4-20mA

Specification

- Accuracy : $\pm 1\%$ F.S
- Resolution : 0.01%
- Response Time : 2s
- Humidity : 0~40%
- Output : 4-20mA
- Power : 230VAC, 50/60Hz
- Communication : RS485 Modbus RTU

Application

- Garbage Power Plant
- Desulfurization
- Coke Oven
- Ceramic Factory
- Coal Fired Power Plant



Parameters

Gas Parameter	Range (PPM)	Principle	Model No
---------------	-------------	-----------	----------

TDLAS Principle

O ₂ Oxygen	0-1%, 0-25%	TDLAS	TDLAS-O2
H ₂ O	0-30PPM, 0-100%	TDLAS	TDLAS-H2O
CO Carbon Monoxide	0-100PPM, 0-100%	TDLAS	TDLAS-CO
CO ₂ Carbon Dioxide	0-200PPM, 0-100%	TDLAS	TDLAS-CO2
H ₂ S Hydrogen Sulfide	0-200PPM, 0-30%	TDLAS	TDLAS-H2S
HCl Hydrogen Chloride	0-100PPM, 0-50%	TDLAS	TDLAS-HCl
HF Hydrogen Flouride	0-20PPM, 0-50%	TDLAS	TDLAS-HF
HCN Hydrogen Cyanide	0-50PPM, 0-1%	TDLAS	TDLAS-HCN
NH ₃ Ammonia	0-10PPM, 0-100%	TDLAS	TDLAS-NH3
CH ₄ Methane	0-200PPM, 0-100%	TDLAS	TDLAS-CH4
C ₂ H ₂ Acetylene	0-50PPM, 0-100%	TDLAS	TDLAS-C2H2
C ₂ H ₄ Ethylene	0-100PPM, 0-100%	TDLAS	TDLAS-C2H4

UV DOAS Principle

SO ₂ Sulfur Dioxide	0-500 PPM	UV DOAS	UVD-SO2
NO ₂ Nitrogen Dioxide	0-500 PPM	UV DOAS	UVD-NO2
NO Nitric oxide	0-500 PPM	UV DOAS	UVD-NO
	No dew	UV DOAS	UVD-H2O
CO Carbon Monoxide	0-1000 PPM	UV DOAS	UVD-CO
CO ₂ Carbon Dioxide	0-20%	UV DOAS	UVD-CO2
O ₂ Oxygen	0-21%	UV DOAS	UVD-O2

NDIR Principle

SO ₂ Sulfur Dioxide	0-2000 PPM	NDIR	NDIR-SO2
NO ₂ Nitrogen Dioxide	0-2000 PPM	NDIR	NDIR-NO2
CO Carbon Monoxide	0-5000 PPM	NDIR	NDIR-CO
CO ₂ Carbon Dioxide	0-25 %	NDIR	NDIR-CO2
CH ₄ Methane	0-100% LEL	NDIR	NDIR-CH4
H ₂ S Hydrogen Sulfide	0-9999 PPM	NDIR	NDIR-H2S
HC Hydrocarbons	0-9999 PPM to 0-30%	NDIR	NDIR-HC
NO Nitric Oxide	0-2000 PPM	NDIR	NDIR-NO
NO _x Nitrogen Dioxide	0-2100 PPM	NDIR	NDIR-NOX

ECD Principle

NH ₃ Ammonia	0-200 PPM	Electro-Chemical	ECD-NH3
O ₂ Oxygen	0-25%	Electro-Chemical	ECD-O2
O ₃ Ozone	0-100 PPM	Electro-Chemical	ECD-O3
Cl ₂ Chlorine	0-20 PPM	Electro-Chemical	ECD-Cl2
H ₂ Hydrogen	0-50 %	Electro-Chemical	ECD-H2
SO ₃ Sulfur Trioxide/H ₂ SO ₄	0-200 PPM	Electro-Chemical	ECD-SO3
HCl Hydrogen Chloride	0-200 PPM	Electro-Chemical	ECD-HCl
HF Hydrogen Fluoride	0-10 PPM	Electro-Chemical	ECD-HF

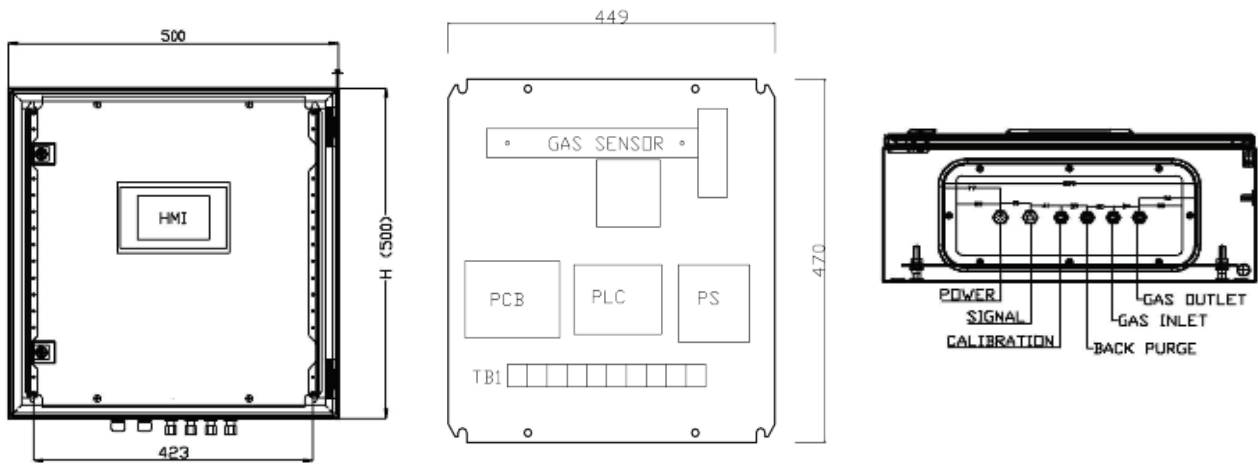
UV DOAS

NMVOC Non-Methane Volatile Organic Compound	0-3000 PPM	PID	PID-NMVOC
HC Hydrocarbon	0-1000 PPM	PID	PID-HC
Benzene	0-10 PPM	PID	PID-BZ

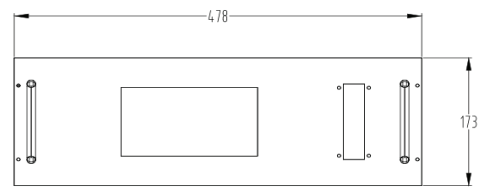
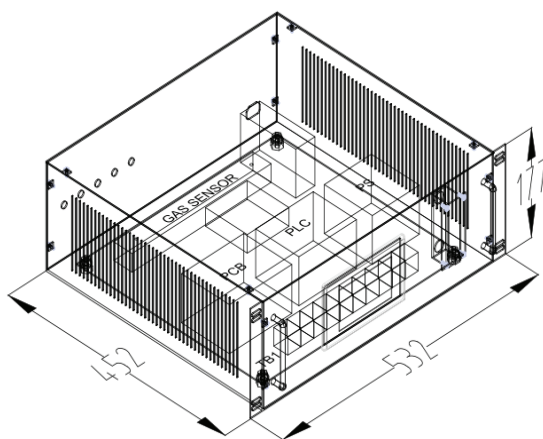
Specification

Panel Dimension	500mm(L) x 500mm(W) x 210mm - 20" Wall Mount Panel 482mm(W) x 452(L) x 175mm(H) - 19" 4U Panel
Main Supply	240VAC, 50/60Hz
Coating	Epoxy
Material	Mild Steel / Stainless Steel
Output	4-20mA
Communication	RS485 Modbus RTU
Working Temperature	-10°C ~ +40°C

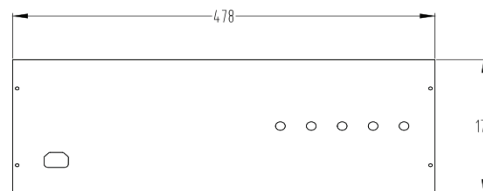
Panel Dimension : - 20" Wall Mount Type Panel



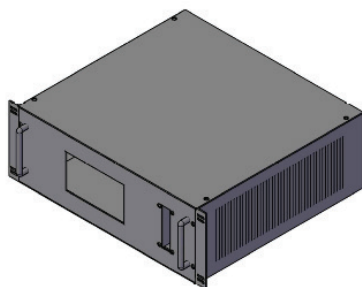
Dimension Panel : 19" 4U Rack Panel



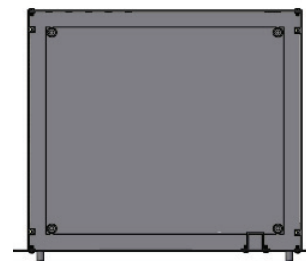
Front View



Back View



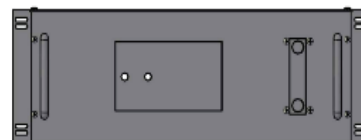
Isometric View



Top View



Back View



Front View

Measuring Principle

VOCs gas analyzer is using high temperature method, there is a heating chamber inside for analytic gas path. By adopting air bath heating method, it can make chromatographic column and gas paths before of after it in high temperature condition.

VOC gas analyzer is using FID principle to analysis. This technology is a gas separation technology that multi component gas mixture pass through special chemical fillings of chromatographic column, then effectively separated while flow out of the column.

FID technology is one of the effective methods for detecting organic gas of low concentration. After been separated from the column, the gas continuously delivered into the FID detector by the carrier gas. Under high temperature ionization of FID detector hydrogen flame, the gas molecular bond is opened and release the free ions and electrons. Under high voltage electric field of FID detector release electrons move to one electrode of the electric field, and generate signal current from the measurement circuit which is related to the quantity of gas components into the detector.



Features

- Analyzer automatically blows the chromatographic column to speed up the component sieving and analysis
- Gas line is inert processed to avoid the adsorption and residue of samples on the pipe wall
- Configuration supports multiple detectors which can be used for complex sample analysis at the same time

Application

- Crude processing
- Textile and dyeing
- Chemical and pharmaceutical
- Metal Smelting
- Food & Drinks Industries

Specification

Principle	FID
Measuring Range	0.01ppm ~ 1000ppm (by methane)
Range Drift	≤ 3.0% (4h)
Linearity	< 4% above measurement Range
Ambient Temperature	-5°C to 40°C
Input flow of Sample Gas	200mL/min
Size	500mm x 500mm x 210mm
Display	Touch Screen LCD
Comm. Output	10/100M ethernet port, RS232
Comm. Protocol	RS485 Modbus RTU / GSM / WIFI
Power Supply	230VAC, 50/60Hz, 900W
Resolution	0.001 ppm
Power Consumption	500W

Measuring Principle

LK-1000F VOC analyzer can be used for measurement of the concentration of gases in sample gases simultaneously. It is based on the Photoionization Detection (PID) method been used for this analyzer by latest available sensor technology.

LKS Analyzer is designed with IP66 weather proof panel enclosure mountable smaller physical dimensions with built-in the PID sensor. The general application is analyze, detect leak on gas station, landfill, sewerage treatment plant, waste water treatment plant, anaerobic digestion and other fermentation processes.



Features

- Single Parameter
- Response Time : 2S
- LCD Display
- Communication : RS485 Modbus RTU
- Accuracy : $\pm 2\%$ F.S
- Sensor Type : PID
- Sampling flow with suction pump

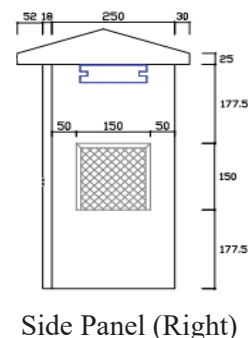
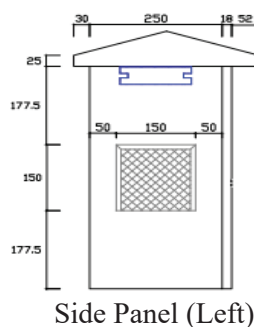
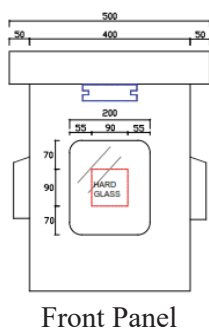
Specification

- VOC Range : 0-6000ppm
- Warm up Time : 5min
- Calibration : Standard Gas
- Power: 230VAC , 50/60Hz
- Suction : 1.0lpm
- Ambient Temperature : -10 ~ 100°C

Application

- Gas Station
 - Sewerage Treatment Plant
 - Water Treatment Plant
 - Oil & Gas Platform
 - Chemical Plant
 - Landfill
-

Dimension



Measuring Principle

Based on Cold Vapor Atomic Fluorescence Spectrophotometer technology, we have developed mercury analyzer system to detect the real time concentration of emission mercury and its cumulate emission rate. It is able to monitor gaseous elemental mercury, ionic mercury and total gaseous mercury. Its detection limit is low to $0.05\mu\text{g}/\text{m}^3$. This system is widely applied to measure mercury concentration in the tail gas of ,amy industries, such as mercury minerals refining process, mercuric chloride catalyst recycling, coal-fired power plant.



Features

- Adopting CV AFS technology with high measurement accuracy
- Sampling untreated gas of large flow, strong resistance to adsorbability
- Combining internal and external purge, long maintenance intervals
- Real Time monitoring the dilution ratio and reflecting true working condition
- Mercury valence state catalyzed and converted at 800°C ; converting rate up to 95%

Application

- Apply to ammonia slip emission monitoring
- Power Plant
- Aluminium Plant
- Steel Mills
- Smelting
- Glass Factory
- Garbage Power Plant
- Cement Plant
- Chemical Plant

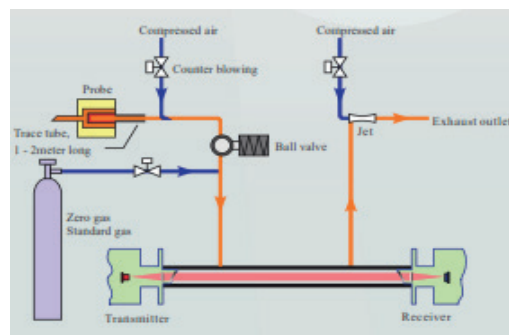
Specification

Principle	Cold Vapor Atomic Fluorescence Spectrophotometer
Range	$0\sim 10\mu\text{g}/\text{m}^3 \sim 200\mu\text{g}/\text{m}^3$ (customizable)
Indication Error	$\leq \pm 5\%$
Repeatability	$\leq \pm 1\%$
Stability	$\leq \pm 1\%$
Zero Drift	$\leq \pm 1\%$ F.S
Span Drift	$\leq \pm 1\%$ F.S
Size	800mm x 600mm x 1800mm
Power	230VAC, 5000W
Working Temp	$-20^{\circ}\text{C} \sim +50^{\circ}\text{C}$
Working Humidity	0-95% RH (No Condensate)

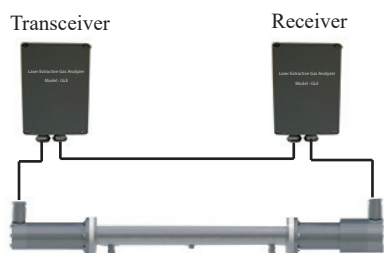
GLE is a flame proof bypass type tunable laser gas analyzer for industrial on-line analysis and environmental on-line monitoring, especially suitable for harsh working condition such as high temperature, high humidity, high dust, high pressure, and for small pipes where in-situ analyzer is not applicable. The transmitter and receiver are installed on a back board. The analyzer contains auto purge function which greatly reduces maintenance cost.

Gas Path

Extracted by a jet pump, the sample gas is filtered (get rid of dust), heated (avoid condensation), cooled (for high temperature conduction), then reach analyze module to be measured. Shutting off ball valve and analyze module, the analyzer carries out a calibration to ensure accuracy. Shutting off ball valve and opening back-flush valve ensures gas path unblocked.



Configuration of GLE is different in different situations. For example, for high pressure situation, a relief valve is added and air pump is removed. For high temperature situation, the heat tracing temperature is higher.



Features

- Suitable for harsh working conditions such as high temperature, high humidity, high dust, high pressure and small pipes where are not suitable for Insitu measurement
- Single Line Spectrum technology free from interference of background gas
- Automatic calibration, and backblow
- Integrated structure design, high reliability and stability
- Innovative Hall button design, high sensitivity and easy operation

Specification Parameter

Linearity Error	≤ ± 1%FS
Repeatability	≤ 1%
Span Drift	≤ ± 1%FS / 6 months
Zero Drift	≤ ± 1%FS/ 6 months
Maintenance Cycle	≤ 2 times/year., clean optical window
Calibration Cycle	≤ 2 times/year
Type of Protection	ExdIICT6 Gb
Enclosure Rating	IP66
Preheating Time	≤ 15 min
Response Time (T ₉₀)	2 ≤ 30s (Related to the working condition)
Analogue Output	2 x 4-20mA output (Isolation, max load 750Ω)
Analogue Input	2 x 4-20mA input (Temp, & Press. compensation)
Digital Output	RS485 / RS232 / GPRS
Relay Contact	3 (24V, 1A)
Power Supply	24 VDC, <20W (without pretreatment system components)
Pressure Gas	0.3 MPa ~ 0.8 MPa industrial nitrogen, purification instrument air, etc
Ambient Temperature	-20°C ~ +60°C
Installation Way	By-pass type Installation

PTF-100 Temperature, Pressure & Velocity Integrated monitor has high precise micro-differential pressure sensor and static pressure sensor. Meanwhile, it is equipped with purge unit. PTF-100 is specially developed for continuously monitoring high dust level, high temperature, high humidity and low flow rate of emission flue gas. It can be applied with CEMS to carry our real time monitor of temperature, pressure and velocity.

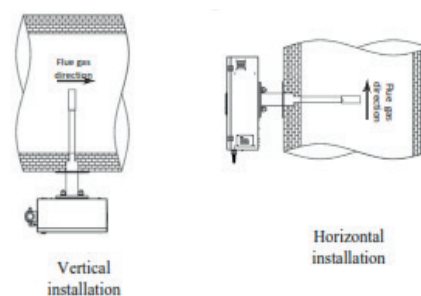


Compared with conventional integrated monitor: PTF-100 can measure flow rate low to 2m/s and has auto timing or manual calibration for dynamic pressure and flow rate; with LCD screen to display all measurement data and signal; easy for reading and debugging.

Installation Instruction

When taking differential pressure, differential pressure transmitter needs to measure total pressure and static pressure. Should pay attention on pitot direction during installation. Make sure the direction of two pressure taking ports is the same as flow direction of flue gas: total pressure taking port is directed to coming direction of flue gas and static pressure taking port is directed to leaving direction of flue gas.

There are two installation methods, vertical installation and Horizontal installation, as showed on below figure:



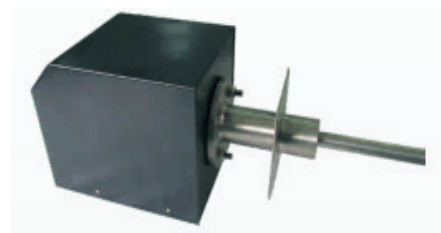
Installation Instruction

- 2m/s low flowrate measurement by pressure sensor of ultra-low range
- Operation unit with LCD screen: perfect HMI provided
- Settable parameters: timing purge, velocity field, pitot coefficient and etc
- Protection for over pressure to avoid damage to pressure sensor and lower operation cost
- Auto zeroing calibration
- Anti-blocking and anti corrosion for pitot
- Strengthen protection for signal output

Specification Parameter

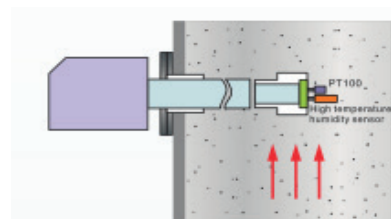
Range	0~40m/s; 0~15m/s (Optional)
Accuracy	±5% F.S
Principle	Pitot
Output Signal	3x4-20mA, 1x232/485
Pressure Limit of differential pressure transmitter	4.0Mpa
Pitot Material	316SS, 316L SS
Pitot Insert Length	500 ~ 1700mm (Optional)
Range of pressure transmitter	-5kPa~5kPa, -200kPa~+200Pa (Customizable)
Range of temperature transmitter	0~300°C (Customizable)
Purge pressure	0.3MPa~0.8MPa
Temperature range of flue gas	40°C~300°C (customizable)
Work Temperature	-40°C~70°C
Storage Temperature	0~50°C
Storage Humidity	0~85%RH

Hygronom is also known as humidity or dew point analyzer for measuring pollutant emission flue gas humidity whereby wet gas concentration being converted to dry gas concentration, also used for industrial on-line moisture monitoring. H-100 hygronom has built-in high precision capacitive type digital temperature and humidity sensor. It is probe rod type independent installation style at present. The sensor is in contact with flue gas in the chimney, while probe should be heated in order to prevent condensation influence to the moisture measurement of flue gas. After flue gas contacting with measurement chip, chip changes capacitance value, thus obtains flue gas concentration.



Application

- High temperature and humidity measurement in coal, oil burning boiler exhaust gas emission (CEMS)
- Humidity measurement in food processing
- Humidity measurement in timber, building materials, paper making industry
- Humidity measurement in the chemical industry, fiber field
- High temperature humidity measurement in open-width dyeing process of printing and dyeing industry field



Features

- Compact structure, convenient flange installation, disassembly, washing
- On site button operation directly
- Probe heated to prevent humidity capacitance and thermal resistance damaged by the flue condensate
- Core components imported, high performance, high reliability

Specification Parameter

Measuring Range	H ₂ O : 0~40% (Volume percent) (Option)
Humidity Sensor	Resistive capacitive
Temperature Sensor	PT100 Platinum Resistor
Accuracy	0~40% H ₂ O : ±2%
Repeatability	0~40% H ₂ O : ±1%
Stability	0~40% H ₂ O : ±1%F.S/7d
Response Time	T ₉₀ <6s
Sensor Lifetime	>2 years (Normal use)
Transmitter Lifetime	>5 years (normal use)
Supply	220VAC
Weight	Approx. 10 Kg
Power	The maximum is approx. 35VA (heating)
Ambient Temp	Probe : 0 ~ 180°C (Except the probe cable); Transmitter : -10°C ~ 50°C
Ambient Humidity	<95%RH
Sample Gas Flow	(2~6) L/min
Analog Output	Temperature & humidity, 4-20mA (2 groups)
Communication	RS232 (standard equipped)

Cloud Monitoring System

CLOUD 4.0

Cloud Monitoring System is a device installed at remote location that collects data, compile the data into a format and transmit the data back to a Cloud server.

Cloud Server is designed to facilitate centralizer monitoring of GSM base Remote Monitoring Unit, customer can easily visualizations the status of each site.

It can customizable user control, meaning customer can create own user level and set access level for each user. Unlimited user can be created and unlimited user can added into each user level.



Application

- Water/Waste Water Treatment Plant Control Monitoring System
- Palm Oil Mill Automation and Monitoring System
- Boiler Control System
- Gas Monitoring Control System
- Cloud River Water Quality Monitoring Water System
- Cloud Flood Monitoring System

Features

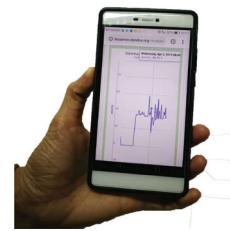
- Cloud System Database
- Can up to 20 Analog Input Channel
- Easy maintenance and calibration
- Can send Daily and Monthly report by mail
- Low cost maintenance
- Easy to install and operate
- Mobile Apps

Benefit

- Low Cost Maintenance
- Isolated Analogue Input
- Measure Various Analogue Signal
- No required additional software to be install
- 24 hours backup power when factory power off
- User Friendly
- Can work at boiler panel condition

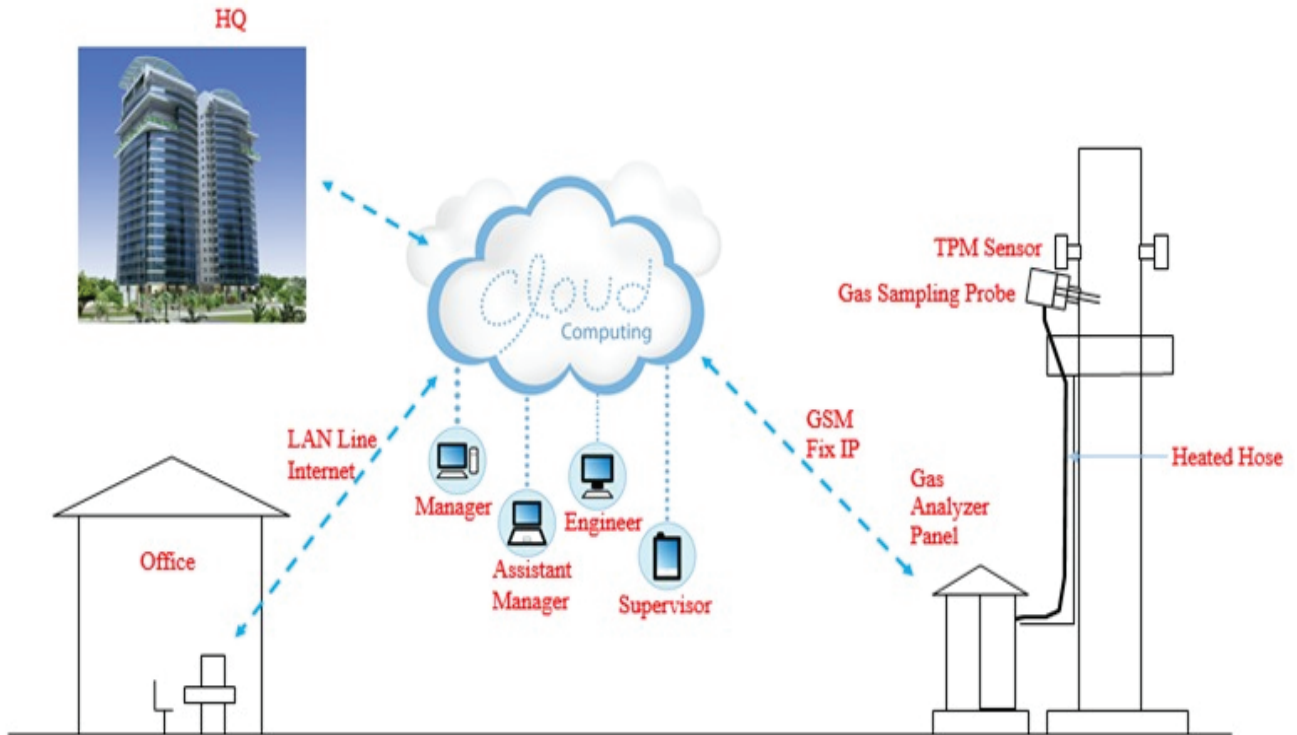
Specification Parameter

Power	12 ~ 26VDC
Power Consumption	8 Watt
Temperature	15 ~ 70 Deg
Memory Size	512M
Input Signal	Isolated, 3-0mA, 4-20mA, 0-20mA
Modem Specs	Quad band 850 / 900 / 1600 / 1900 MHz



Cloud & Apps is ready

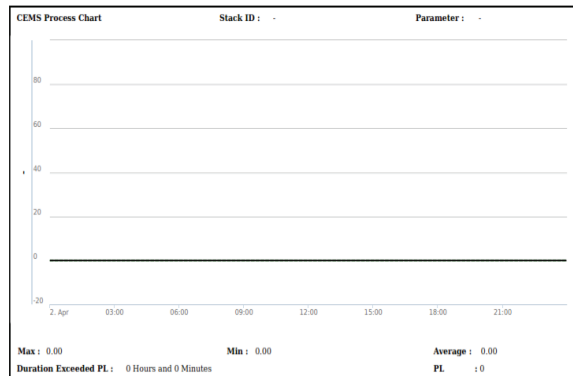
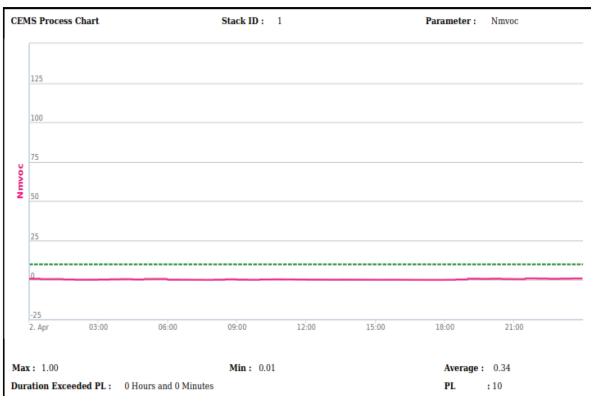
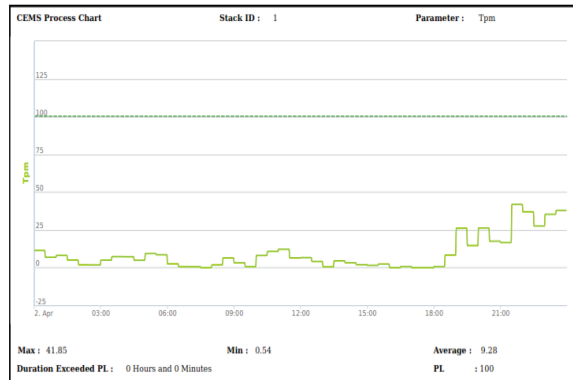
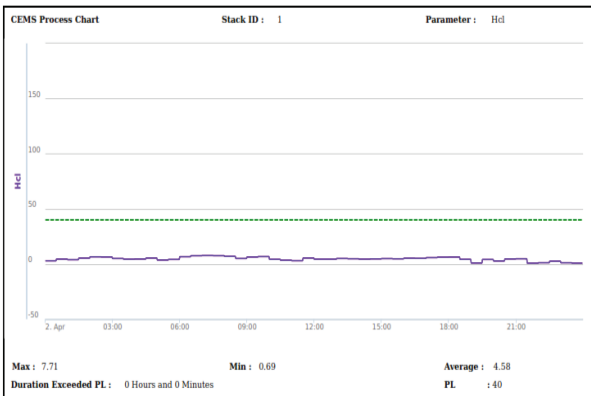
Cloud System



History Report

CEMS Process Daily Report

Plant Name : Hitachi PC2-2 Plant ID : 0102J3643506
 RMU UID : 0B-FF-00-19 Report Date : 2019-04-02
 RMU ID : ID0025 Enabled Channel : 4












Conclusion :
 Hcl, stack Id 1 emission exceeds DOE permissible limit 0 times with total duration of 0 Hours and 0 Minutes
 Nmvoc, stack Id 1 emission exceeds DOE permissible limit 0 times with total duration of 0 Hours and 0 Minutes
 Tpm, stack Id 1 emission exceeds DOE permissible limit 0 times with total duration of 0 Hours and 0 Minutes
 -, stack Id - emission exceeds DOE permissible limit 0 times with total duration of 0 Hours and 0 Minutes





Recommendation :
 Perform CEMS system calibration once every 3 month to conform meet international requirement with test and audit guidelines



<p>Heated Gas Sampling Probe (PSG Plus)</p> 	<p>Features</p> <ul style="list-style-type: none"> • Largest active filter surface on the market • Corrosion resistant made of stainless steel SS316Ti • Controlled or self-regulated heating to 180°C • No cold spots • Comfortable filter change without tools • Double stage back purging as option • Test gas connection as standard • Protective housing for outdoor installation • Temperature Alarm contact • 8-holes flange for variable mounting • Upgradeable as option 	<p>Functions</p> <p>This heated gas sampling probe can be equipped with an ultimate effective double stage back purge with tubing of 12mm outer diameter which is unique on the market</p>
<p>Heated Gas Sampling Probe (PSG Basic)</p> 	<p>Features</p> <ul style="list-style-type: none"> • Largest active filter surface on the market • Corrosion resistant made of stainless steel SS316Ti • Very Compact Design • Controlled or self-regulated heating to 180°C • No cold spots • Filter change without tools • Test gas connection as standard • Protective housing for outdoor installation • Temperature alarm contact • Upgradeable as option 	<p>Functions</p> <p>This heated gas sampling probe can be used for applications with up to 3g/m³ dust concentration. A surface coated ceramic filter with 0.3µm porosity is available as option. They enable troublefree representative sampling of hot predominantly dust and water vapor loaded gases.</p>
<p>Heated Gas Sampling Probe (PSG Plus DSBP)</p> 	<p>Features</p> <ul style="list-style-type: none"> • Largest active filter surface on the market • Dual stage back purging with 10mm passage • Corrosion resistant made of stainless steel SS316Ti • Controlled heating to 180°C • No cold spots • Comfortable filter change without tools • Test gas connection as standard • Protective housing for outdoor installation • Temperature alarm contact • 8-holes flange for variable mounting 	<p>Functions</p> <p>This heated gas sampling probe is without condensation of water vapour and therefore without blocking of the filter. This type of sampling probe is equipped with an ultimate effective double stage back purge with 10mm passage which is unique on the market. The membrane coated ceramic filter with 0.3µm porosity is supporting additionally the great back purge effectivity.</p>
<p>Sample Gas Compressor Cooler</p> 	<p>Features</p> <ul style="list-style-type: none"> • High performance compressor cooler • 1 gas path • High performance heat exchanger • Long-lasting hot-gas bypass system without switching the compressor • Corrosion resistant easy to change PTFE/PVDF, stainless steel or glass heat exchanger • Very compact design • Digital display for temperature and alarm • Alarm contact • Integrated condensate pump optionally • Wall mounting or portable housing 	<p>Functions</p> <p>The cooling system is filled with FCKW-free refrigerant R134a. As heat exchanger materials PVDF, glass or stainless steel are available. The sample gas cooler is equipped with a digital display for temperature monitoring and with a potential-free alarm contact.</p>

<p>Sample Gas Compressor Cooler</p> 	<p>Features</p> <ul style="list-style-type: none"> • High performance compressor cooler • 1-2 gas paths • High performance heat exchanger • Long-lasting hot gas bypass system without switch the compressor • Corrosion resistant easy to change PTFE/PVDF, stainless steel or glass heat exchanger • Compact design • Digital display for temperature and alarm • Integrated condensate pumps 	<p>Functions</p> <p>The cooling system is filled with FCKW-free refrigerant R134a. As heat-exchanger materials PVDF, glass or stainless steel are available. The sample gas cooler is equipped with a digital display for temperature monitoring and with a potential-free alarm contact.</p>
<p>Sample Gas Compressor Cooler</p> 	<p>Features</p> <ul style="list-style-type: none"> • High performance compressor cooler • 1-4 gas paths • High performance heat exchangers • Long-lasting hot gas bypass system without switching the compressor • Corrosion resistant easy to change PTFE / PVDF, stainless steel or glass heat exchanger • Digital display for temperature and alarm • Alarm contact • Integrated condensate pumps 	<p>Functions</p> <p>The cooling system is filled with FCKW-free refrigerant R134a. As heat-exchanger materials PVDF, glass or stainless steel are available. The sample gas cooler is equipped with a digital display for temperature monitoring and with a potential-free alarm contact.</p>
<p>Sample Gas Compressor Cooler</p> 	<p>Features</p> <ul style="list-style-type: none"> • High performance compressor cooler • 1-8 gas paths • High performance heat exchangers • Long-lasting hot gas bypass system without switching the compressor • Corrosion resistant easy to change PTFE / PVDF, stainless steel or glass heat exchanger • Digital display for temperature and alarm • Alarm contact • Integrated condensate pumps 	<p>Functions</p> <p>The cooling system is filled with FCKW-free refrigerant R134a. As heat-exchanger materials PVDF, glass or stainless steel are available. The sample gas cooler is equipped with a digital display for temperature monitoring and with a potential-free alarm contact.</p>
<p>Sample Gas Compressor Cooler</p> 	<p>Features</p> <ul style="list-style-type: none"> • High performance compressor cooler • For Atex-zone 1 and 2 • II 2G Ex pxb de [ia] IIC T4 Gb • High performance heat exchangers • Long lasting hot gas bypass system without switching the compressor • Corrosion resistant easy to change PTFE/PCDF, stainless steel or glass heat exchanger • Analog temperature indication 	<p>Functions</p> <p>A cooling system is filled with CFC-free refrigerant R134a. As heat-exchanger materials PVDF, glass or stainless steel are available. The sample gas cooler is equipped with an analog indication for temperature monitoring and with a potential-free alarm contact.</p>
<p>Sample Gas Compressor Cooler</p> 	<p>Features</p> <ul style="list-style-type: none"> • High performance compressor cooler • Portable or wall mounting housing • Integrated filter, flow meter, liquid sensor and sample pump • High performance heat exchangers • Long lasting hot gas bypass system without switching the compressor • Corrosion resistant easy to change PTFE/PCDF, stainless steel or glass heat exchanger 	<p>Functions</p> <p>The cooling system is filled with FCKW-free refrigerant R134a. As heat-exchanger materials PVDF, glass or stainless steel are available. The sample gas cooler is equipped with a digital display for temperature monitoring and with a potential-free alarm contact.</p>

<p>Sample Gas Compressor Cooler</p> 	<p>Features</p> <ul style="list-style-type: none"> • High performance compressor cooler • 1-4 gas paths • High performance heat exchangers • Long lasting hot gas bypass system without switching the compressor • Corrosion resistant easy to change PTFE/PVDF, stainless steel or glass heat exchanger • Tendency or digital display for temperature and alarm • Alarm contact 	<p>Functions</p> <p>The cooling system is filled with FCKW-free refrigerant R134a. As heat-exchanger materials PVDF, glass or stainless steel are available. The sample gas cooler is equipped with a digital display for temperature monitoring and with a potential-free alarm contact.</p>
<p>Compact Gas Conditioning</p> 	<p>Features</p> <ul style="list-style-type: none"> • High performance compressor cooler • Long lasting hot-gas bypass system without switching the compressor • Corrosion resistant PTFE / PVDF heat exchanger • Very compact design • 1-4 gas path • Integrable filters, flow meters, flow alarms, liquid sensors, gas pumps, preseparators and acid dosing • Modular upgradeable and application dependently configurable • Digital display for temperature, alarms, logbook, operating hours counter and service interval configurable 	<p>Functions</p> <p>An electronic system controls dew point and cooling air temperature. Potential free alarm contact allow remote monitoring of the device.</p>
<p>Compact Gas Conditioning - Peltier</p> 	<p>Features</p> <ul style="list-style-type: none"> • High performance peltier-cooler with two long lasting peltier-elements • Precise outlet dew point even at significant load variations • Corrosion resistant PTFE / PVDF heat exchanger • Very compact design • 1-2 gas paths • Digital display for temperature, alarms, logbook, operating hours counter and service interval indication • Modular upgradeable and application dependently configurable • Integrable filters, flow meters, flow alarms, liquid sensors, gas pumps, preseparators und acid dosing pump 	<p>Functions</p> <p>An electronic system controls dew point and cooling air temperature. Potential free alarm contacts allow remote monitoring of the device. Operating parameters are stored for diagnosis in a log.</p>
<p>Compact Gas Conditioning - Twister</p> 	<p>Features</p> <ul style="list-style-type: none"> • Negligible wash out of water soluble gas compenents due to Twister technology • High performance compressor cooler • Long lasting hot-gas bypass system without switching compressor • Very compact design • Digital display for temperature, alarms, logbook, operating hours counter and service interval indication • Modular upgradeable and application dependently configurable • Integrable filters, flow meters, flow alarms, liquid sensors, gas pump, preseparator und dosing pump 	<p>Functions</p> <p>An electronic system controls dew point and cooling air temperature. Potential free alarm contact allow remote monitoring of the device.</p>

<p>Condensate Guard</p> 	<p>Features</p> <ul style="list-style-type: none"> • Protection against condensate breakthrough • Detection of smallest amounts of liquid • Monitoring of 1-2 gas path • Voltage 24V DC, 115V AC, 230V AC • Easy installation and integration 	<p>Description / Function</p> <p>The condensate guard protects downstream analyzers against humidity. It monitors up to two gaspaths and reliably signals a condensate breakthrough in case of failure of cooling devices or failure of condensate drains, thus avoiding costly downtime and high repair costs.</p>
<p>Electronic Control</p> 	<p>Features</p> <ul style="list-style-type: none"> • Feed / alerting liquid sensor • Feed / alerting light barrier at flow meter • Potential-free switch-contact for alerting, switching off the sample gas pump or switching a shut off valve • Adjustable switch-point 	<p>Description / Function</p> <p>The electronic control is used for supply and signal processing of liquid sensor MS and light barrier at flow meter FM. The electronic control is equipped with a potential free directional contact. The switch point of the electronic of the electronic control unit can be adjusted with a potentiometer.</p>
<p>Flowmeter</p> 	<p>Features</p> <ul style="list-style-type: none"> • Dosage of aggressive gaseous media • With fine adjustment valve • High chemical resistance • Optional light barrier • Optional electronic control 	<p>Description / Function</p> <p>The highly corrosion-resistant flowmeter with needle valve is used for flow control of aggressive gas media. It consist of a flared top glass tube in which a float can move freely up and down.</p>
<p>Sample Gas Pump</p> 	<p>Features</p> <ul style="list-style-type: none"> • Uncontaminated flow • Chemically resistant, maintenance-free • Optimized PTFE-membrane • IP20-housing with on/off switch • Voltage 230V 50Hz, 115V 60Hz • Easy mounting and intergation • External and internal installation • Can operate in any installaed position 	<p>Description / Function</p> <p>The sampling pump is used frequently in the fields of chemistry industry and environmental technology for sampling gases out of the ambient environmental or for exhaust gas and smoke analysis. This pump ensures an easy installation intodevices and equipment as well as an adaption to a variety of processes.</p>
<p>Sample Gas Pump</p> 	<p>Features</p> <ul style="list-style-type: none"> • Uncontaminated flow • Chemically resistant, maintenance-free • Optimized PTFE-membrane • Compact design, low weight • Voltage 230V 50Hz, 115V 60Hz • Easy mounting and integration • For internal installation • Can operate in any installed position 	<p>Description / function</p> <p>The sampling pump is used frequently in the fields of chemistry industry and environmental technology for sampling gases out of the ambient environmental or for exhaust gas and smoke analysis. This pump ensures an easy installation intodevices and equipment as well as an adaption to a variety of processes.</p>

<p>Sample Gas Pump</p> 	<p>Features</p> <ul style="list-style-type: none"> • Uncontaminated flow • For highly aggressive and corrosive gases • Wear-resistant, maintenance-free • Optimized PTFE-membrane • Enclosed IP54-housing • Voltage 230V 50Hz • Easy mounting and integration • Can operate in any installed position 	<p>Description / Function</p> <p>Is a reliable diaphragm pump specifically designed for highly aggressive and corrosive gases. It is equipped with an particularly resistant and gas-tight PVDF-pump-head and a Teflon-coated membrane. Special valves ensure a high tolerance to vapor and condensate.</p> <p>The core of the pump is an elastic membrane which is moved up and down in its center by an eccentric. The pump operates absolutely oil-free. This ensures an uncontaminated transport, evacuation or compression of gases.</p>
<p>Preseparator</p> 	<p>Features</p> <ul style="list-style-type: none"> • Separation of condensate • Pre-cooling to ambient temperature for water vapour inlet dew points >65°C • Improved performance of sample gas cooler • Suitable for high temperatures • Condensate removal with peristaltic pump SR25 • PVDF-hose fittings and mounting bracket • Corrosion resistant made of glass • Low wash out ratio 	<p>Description / Function</p> <p>The pre-separator is designed specifically for gas analysis technology to relief sample gas coolers at high inlet temperatures up to 160°C and high water vapour inlet dew points above 65°C</p>
<p>Sample Gas Pump</p> 	<p>Features</p> <ul style="list-style-type: none"> • Uncontaminated flow • Chemically resistance, maintenance-free • Flow adjustment (230V- Version) • Enclosed IP54-housing • Low pulsation, quiet operation • EPDM-or FKM-membrane/valves • Voltage 230V 50Hz, 115V 60Hz • Easy mounting and integration • External and internal Installation 	<p>Description / Function</p> <p>It is a robust vibrating armature diaphragm pump, which was developed specifically for the pumping of sample gas. Alternating current in electrical coils reverse the magnetic field induced around a magnetized rod at a rate determined by the supplied frequency.</p> <p>The pump operate absolutely oil free. The vibrating armature principle works without motor, motor shaft and bearing.</p>
<p>Moisture Sensor</p> 	<p>Features</p> <ul style="list-style-type: none"> • Protection against condensate breakthrough • Detection of smallest amounts of liquid • Line break monitoring • High chemical resistance • Optional electronic control 	<p>Description / Function</p> <p>The moisture sensor protects downstream analyzers against humidity. This monitoring device reliably signals a condensate breakthrough in case of failure of cooling devices or failure of condensate drains, thus avoiding costly downtime and high repair costs. The moisture sensor operates according to the principle of electric conductivity. Its design ensures that any condensate in the sample gas flow gets directly to the sensor surface by gravitational force.</p>

<p>Peristaltic Pump</p> 	<p>Features</p> <ul style="list-style-type: none"> • Self-suctioning • Synchronous motor • Return Stop • High chemical resistance • Wide range of performance and application • Very compact design • Low speed • Long-lasting pump hose 	<p>Description / Function</p> <p>The peristaltic pump is designed specifically for analysis technology applications for metering fluid media. Application include:</p> <ul style="list-style-type: none"> • Reliable continuous condensate drainage • Metered addition of acids and alkalis
<p>Teflon Depth Filter</p> 	<p>Features</p> <ul style="list-style-type: none"> • Reliable filtration of solid particles • Optic check of filtercartridge condition • Quick filtercartridge exchange • Small dead space • Can operate in any installed position 	<p>Description / Function</p> <p>In gas analytic systems occurring solid contaminants, especially fine particles up to 0.1 micron, are reliably filtrated by this teflon depth filter. the large filter surface of ca. 67m² of the cylindrical filtercartridge ensures a reliable micro-filtration and a long service life with low pressure drop. The contamination level of the filter can be visually checked through the large porthole.</p>

HM1000 is on-line automatic analyzer for heavy metal content measuring. the instrument through precise control related chemical reaction. The instrument uses the latest technology such as optical measurement, high temperature and high pressure digestion, color integration etc, has the feature of accurate measurement, low detection limit, high reliability and good adaptability, etc. It can measure Total Chromium, Hexavalent Chromium, Mercury. Zinc, Manganese, Silver, Arsenic, Copper, Nickel, and Lead.



Features

- Reliable, Easy maintenance
- Accurate measurement, unique design
- A variety of practical function, providing humanized operation
- Accuracy : $\leq \pm 5\%$
- Analogue Output : 4-20mA
- Relay Output : 4
- Power : 230VAC, 50/60Hz
- Power Consumption : 200W
- Interval : Continuous, 1,2,3...24 hours
- Communication Interface : RS485 Modbus RTU
- Working temperature : 5°C~40°C

Application

- Waste water discharge
- Sewerage Irrigation
- Heavy Metal Pollution produced in the process of metals production

Specification Parameter

Total Chromium (TCr)

Measuring Parameter	Total Chromium
Model	HM-TCR-1000
Principle	Potassium Permanganate Oxidation Diphenylcarbohydrazide Spectrophotometric

Hexavalent Chromium (Cr⁶⁺)

Measuring Parameter	Hexavalent Chromium
Model	HM-TCR6+-1000
Principle	Diphenylcarbohydrazide Spectrophotometric

Mercury (Hg)

Measuring Parameter	Mercury
Model	HM-Hg-1000
Principle	Cold Atomic Spectrophotometry

Zinc

Measuring Parameter	Zinc
Model	HM-ZN-1000
Principle	Zinc Reagent Spectrophotometry

Manganese

Measuring Parameter	Manganese
Model	HM-MN-1000
Principle	Formaldehyde Oxime Spectrophotometric

Silver

Measuring Parameter	Silver
Model	HM-AG-1000
Principle	Silver Salt Spectrophotometry

Arsenic

Measuring Parameter	Arsenic
Model	HM-AS-1000
Principle	Spectrophotometric

Copper

Measuring Parameter	Copper
Model	HM-CU-1000
Principle	Copper Bath spirit Colorimetric

Nickel

Measuring Parameter	Nickel
Model	HM-NI-1000
Principle	Dimethylglyoxime Spectrophotometry

Lead

Measuring Parameter	Lead
Model	HM-PB-1000
Principle	Porphyry Reagents Color Spectrophotometry

INSITU UV Water Analyzer is the full spectrum (200~800nm) immersion UV Analyzer. It can measure COD, BOD, UV254, Nitrate, TOC, DOC, Turbidity, TSS, Color and other indicator of surface water, groundwater, municipa wastewater.

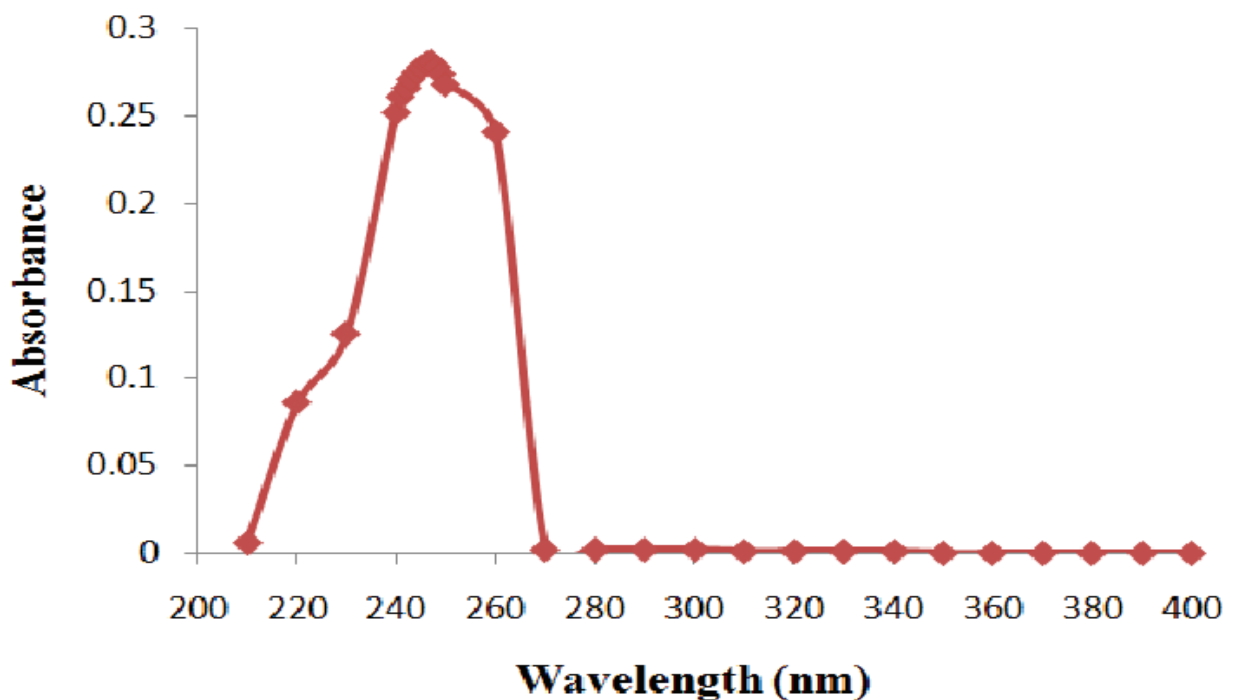


Features

- Full Spectrum (200~800nm) measurement technique and chemometric algorithm allows more parameters to be measured
- Automatic cleaning of gas probe with high pressure provides higher reliability than the mechanical blade
- No reagents, low maintenance costs
- Fast response, applicable to real time requirement of te occasion
- Interference free chlorine ion

Specification

- Principle : DOAS
- Accuracy: $\pm 2\%$ F.S
- Measurement Range : COD : 20mg/L (Optical path 20mm)
The maximum range: 5000mg/L (optical path 2mm)
- Measuring Cycle : The shortest 60 seconds, the cycle can be set
- Optical Drive : 2mm~20mm, continuously adjustable
- Water Temperature: 0°C ~ 45°C
- Probe Into Water Depth : <10m
- External Interface : RS485, 4-20mA output
- Power: 230VAC, 100W, 5-/60Hz



Immersion UV is not suitable for the occasion of poor water quality conditions, such as sewerage treatment plant, in these situation, the optical window surface is contaminated in a few minutes, every time the extraction UV water quality analyzer measure through extrating liquid into the measuring chamber by the peristaltic pump. after the measurement, the water can be discharged, and measuring pool should be cleaned by clean fluid.

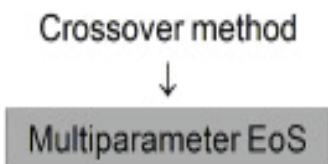


Features

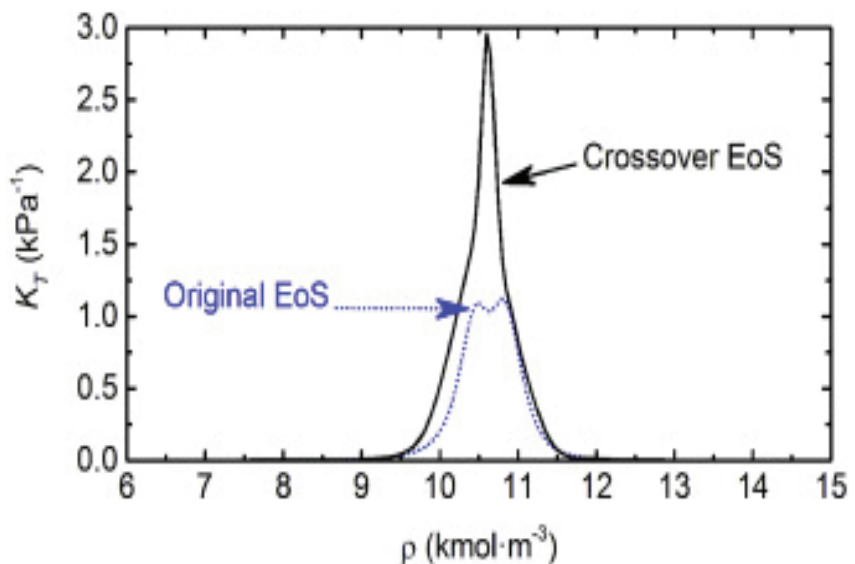
- Measuring pool immerse in the cleaning fluid at ordinary times, real time sampling, real time emptying, high adaptation to the poor water quality
- Automatic zero, no maintenance, no scale calibration, only regular cleaning fluid
- Full spectrum (200~800nm) measurement techniques and chemometric algorithms can be measure more parameter
- Can large range measurement (COD up to 10000 mg/L)
- Fast response is applicable to real time requirements of the occasion.
- Interference-free chlorine ion

Specification

- Principle : DOAS
- Accuracy: ±2%
- Measurement Range : COD : Lowest : 20mg/L (Optical path 16mm)
The maximum 10000mg/L (optical path 4mm)
- Water Temperature : 0°C ~ 45°C
- Measuring cycle : The shortest 60 seconds, the cycle can be set
- External Interface : RS232/ 485, 2 x 4-20mA Output
- Power : 230VAC, 50/60Hz



$$(\tau, \delta) \xrightarrow{Y} (\bar{\tau}, \bar{\delta})$$



MP-M1000 analyzer is a high level integration of multi parameter water quality analyzer, it use modular design, each parameter using independent sample and anlysis module, It can measure pH, DO, Total Suspended Solid and conductivity. t can be widely used in water pollution monitoring, industrial process water, industrial and municipal wastewater treatment and surface water monitoring.



Features

- Reliable, easy maintenance
- Modular design, more convenient combination
- A variety of practical function, providing humanized operation
- Can measure up to 4 parametes

Specification

- Measurement Parameter: pH, DO, Conductivity, TSS
- Accuracy : ±1%
- Output : 4-20mA
- Power : 230VAC, 50/60Hz
- Communication : RS485 Modbus RTU
- Protection : IP65
- Wall Mount / Panel Mount

Digital Sensor

 pH Sensor pH-1000	<ul style="list-style-type: none"> • Range : 0~14pH • Accuracy : ±0.5% • Cable Length : 5 meter • Power : 24VDC • Communication : RS485 Modbus RTU • Material : ABS 	 Conductivity Sensor C-1000	<ul style="list-style-type: none"> • Range : 0~2ms/cm,0-20ms/cm, 0-200ms/cm, 0-2000ms/cm • Accuracy : ±0.5% • Cable Length : 5 meter • Power : 24VDC • Communication : RS485 Modbus RTU • Material : ABS
 DO Sensor DO-1000	<ul style="list-style-type: none"> • Range : 0~20mg/L • Accuracy : ±0.3% • Cable Length : 5 meter • Power : 24VDC • Communication : RS485 Modbus RTU • Material : ABS 	 TSS Sensor TSS-1000	<ul style="list-style-type: none"> • Range : 0~100NTU, 0-500NTU, 0-3000NTU, 0-1000mg/L, 0-5000mg/L • Accuracy : ±0.5% • Output Signal : 4-20mA • Power : 12VDC • Material : 316L Stainless Steel • Temperature: 5~60°C

Company Introduction

LKS (M) Sdn Bhd was founded in 1988, and we are one of the global provider for CEMS and Water Quality Monitoring for all industrial application. We provide types of monitoring and measuring devices with advance technology such as Laser, NDIR, PID and Light Scattering for Emission Monitoring for parameter of SO₂, NO, NO₂, NO_x, CO, CO₂, HC, HCl, HF, CL₂, H₂S, NH₃, H₂O, NMVOC, O₂, we do produce the cloud Remote Monitoring System and unit for data transmission from analyzer to server or enforcement board.

An light technologies measurement for Water Analyzer principle also been produce for measuring the water quality for River, Industrial Effluent, Water Treatment plant for the parameter like COD, BOD, TSS, pH, Cr, As, AOx, Ammonical Nitrogen, Flouride, Phenol, Cyanide, Flow for open channel and close channel and temperature.

LKS products specialize and support in all industrial process application, such as Aluminium, Cement, Distillery, Dye and Dye intermediate, Chlor Alkali, Fertilizers, Iron & Steel, Oil Refinery, Petrochemical, Pesticides, Pharmaceuticals, Power Plant, Pulp & Paper, Sugar Refinery, Tannery, Zinc, Copper, Textile (GPI), Diary (GPI), Slaughter House, Automotive, Palm Oil, Rice Mill. Moreover, we provide solutions, design, installation, commissioning and system integration for Process Control and Environmental Online Monitoring.

We have today successfully completed numerous of significant project in world region, and we continue growing strong in global region. Our team is committed to providing the highest quality and best solutions for handling the demand in engineering industry.

Manufacturing + Sales

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