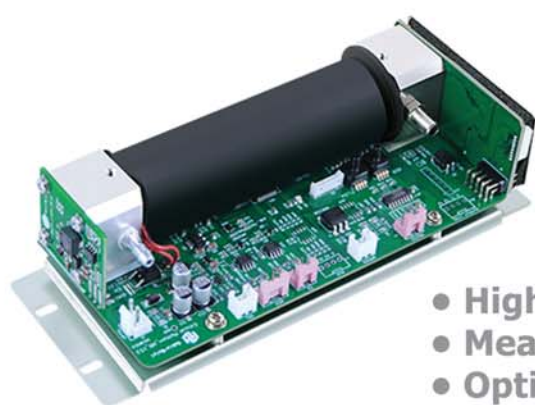


NDIR Gas Bench Gasboard-2000



GAS DETECTOR



Features

- High precision dual-beam NDIR technology
- Measurements of CO, CO₂, HC simultaneously
- Optional plug-in O₂, NO sensor interface can be integrated into emission gas analyzer
- Build-in Automatic constant temperature heating device
- Automatic temperature and pressure correction
- Modular design for easy integration & maintenance

Specifications

GAS	Range	Reading Error					
		Class 1		Class 0		Class 00	
		Rel. Error	Abs. Error	Rel. Error	Abs. Error	Rel. Error	Abs. Error
HC	(0~2000)X10 ⁻⁶	±12X10 ⁻⁵	±5%	±10X10 ⁻⁵	±5%	±4X10 ⁻⁵	±3%
	(2001~5000)X10 ⁻⁶	—	—	—	—	—	±5%
	(5001~9999)X10 ⁻⁶	—	±10%	—	±10%	—	±10%
CO	(0.00~10.00)X10 ⁻²	±0.06X10 ⁻²	±5%	±0.03X10 ⁻²	±5%	±0.02X10 ⁻²	±3%
	(10.01~14.00)X10 ⁻²	—	±10%	—	±10%	—	±5%
CO ₂	(0.0~16.0)X10 ⁻²	±0.5X10 ⁻²	±5%	±0.5X10 ⁻²	±5%	±0.3X10 ⁻²	±3%
	(16.01~18.0)X10 ⁻²	—	—	—	—	—	±5%
NO	(0~4000)X10 ⁻⁶	±25X10 ⁻⁵	±4%	±25X10 ⁻⁵	±4%	±25X10 ⁻⁵	±4%
	(4001~5000)X10 ⁻⁶	—	±8%	—	±8%	—	±8%
O ₂	(0.0~25)X10 ⁻²	±0.1X10 ⁻²	±5%	±0.1X10 ⁻²	±5%	±0.1X10 ⁻²	±5%
Remark: Gas bench can meet either the absolute or relative errors listed in the table.							
Resolution	HC/NO: 1ppm; CO/O ₂ : 0.01%; CO: 0.001%						
Response time	T ₉₀ ≤ 4.5s(NDIR)						
Communication	RS-232, compatible with Gasboard serials emission gas analyzer & opacity meter						
Power Supply	12V±0.2V, 3.2A						

Applications

- Environmental protection department
- Motor vehicle inspection station
- Automobile manufacturing plant
- Vehicle repair plant
- Research institution or laboratory
- The third-party testing agency

Automobile Emission Gas Analyzer

Gasboard-3000E



GAS DETECTOR

Features

- Simultaneous measuring CO, CO₂, NO, HC, O₂, Lambda
- Automatic calculation and display of Lambda and A/F
- LCD screen and keypad buttons for easier setting and operation.
- Selection of fuels: petro, LPG, Natural Gas, alcohol
- Selection of C3-C6 factor
- Automatic leakage test, blocking test and HC residue test of the sampling line
- Automatic zeroing and air purge before each measurement circle
- Optional various type RPM sensors
- Optional oil temperature measurement probe.
- Equipped with RS-232C digital serial interface and PC software.
- Meet GB 18285 standards latest 00 class measuring accuracy.

Specifications



General Parameter			
Measurement	CO ₂ , CO, HC, O ₂ , NO gases, Lambda display		
Technology	CO ₂ , CO, HC (NDIR), O ₂ (ECD)		
Measuring range	Range	Resolution	Relative error
Range	0-16%	0.01%	±3%
	16-18%	0.01%	±5%
CO	0-10%	0.01%	±3%
	10-14%	0.01%	±5%
HC	0-2000ppm	1ppm	±3%
	2001-5000ppm	1ppm	±5%
	5001-9999ppm	1ppm	±10%
O ₂	0-25%	0.01%	±5%
NO	0-4000ppm	1ppm	±4%
	4001-5000ppm	1ppm	±8%
Warm-up time	10 minutes		
Display	LCD display		
Power	110V±220V±10%, 50Hz±1Hz		
Operation temperature	0-40℃		
Dimension	260*180*360mm		
Net	6kg		
Flow rate	0.7-1.2L/min		

Automobile Emission Gas Analyzer

Gasboard-5020



GAS DETECTOR

Features

- Simultaneous measuring CO, CO₂, NO, HC, O₂, Lambda.
- Automatic calculation and display of Lambda and A/F.
- LCD screen and keypad buttons for easier setting and operation.
- Selection of C3-C6 factor.
- Automatic leakage test, blocking test and HC residue test of the sampling line.
- Optional various type RPM sensors.
- Optional oil temperature measurement probe.
- Equipped with RS-232 digital serial interface and PC software.
- Small size, light weight and most convenient for carry.

Specifications



General Parameter					
Measurement	CO ₂ , CO, HC, O ₂ , NO gases, Lambda display				
Technology	CO ₂ , CO, HC(NDIR), O ₂ , NO(ECD)				
Measuring range	CO ₂	CO	HC	O ₂	NO
	0-20%	0-10%	0-9999ppm	0-25%	0-5000ppm
Resolution	0.01%	0.01%	1ppm	0.01%	1ppm
Relative error	±4%	±3%	±5%	±3%	±5%
Absolute error	±0.4%	±0.06%	±12ppm	±0.1%	±25ppm
Warm-up time	10 minutes				
Display	LCD display				
Response time	TD+T90:10 second(NDIR), ECD:30 seconds				
Power	110V-220V±10% 50Hz±1Hz				
Operation temperature	0~40°C				
Dimension	260mm*180mm*360mm				
Net weight	6kg				
Flow rate	0.7-1.2L/min				
Standard accessories	Sampling pipe, sampling probe, RS-232 cable, standby filters, PC software				
Options	Oil temperature option, inbuilt printer, RPM sensor options				

Online Automobile Emission Gas Analyzer

Gasboard-5100



GAS DETECTOR

Features

1. Adopts advanced self-developed non-spectral UV and non-spectral infrared technology.
2. Higher accuracy, good stability, strong anti-interference and no contamination through moisture
3. Test NO, NO₂, NO_x directly, no NO_x converter needed
4. Multi-stage filtration system ensures longer lifetime
5. Specialized software for signal linear correction
6. Modular sensor design, easy maintenance
7. Automatic temp. and pressure compensation
8. Reserve oil temp. and tachometer ports



Specifications

Gas	Range	Reading permissible error	
		Abs. error	Rel. error
HC	(0~2000)×10 ⁻⁶ vol	±4×10 ⁻⁶ vol	±3%
	(2001~5000)×10 ⁻⁶ vol	---	±5%
	(5001~9999)×10 ⁻⁶ vol	---	±10%
CO	(0.00~10.00)×10 ⁻² vol	±0.02×10 ⁻² vol	±3%
	(10.01~14.00)×10 ⁻² vol	---	±5%
CO ₂	(0.0~16.0)×10 ⁻² vol	±0.3×10 ⁻² vol	±3%
	(16.01~18.0)×10 ⁻² vol	---	±5%
NO	(0~4000)×10 ⁻⁶ vol	±25×10 ⁻⁶ vol	±4%
	(4001~5000)×10 ⁻⁶ vol	---	±8%
NO ₂	(0~400)×10 ⁻⁶ vol	±25×10 ⁻⁶ vol	±4%
	(401~1000)×10 ⁻⁶ vol	---	±8%
O ₂	(0.0~25.0)×10 ⁻² vol	±0.1×10 ⁻² vol	±5%

Note: The absolute and relative errors listed in the table, meet one of the data is OK

Resolution	HC/NO/NO ₂ :1ppm; CO ₂ /CO/O ₂ :0.01%;
Response time	HC/CO/CO ₂ :T ₉₀ ≤8S; NO/NO ₂ :T ₉₀ ≤10S; O ₂ :T ₉₀ ≤12S
Warm-up time	<30 min
Communication	RS-232/RS-485 digital output, Can connect a series of exhaust gas and smoke analysis equipment
Power supply	AC100V~240V, 50Hz±2%

Online Automobile Emission Gas Analyzer

Gasboard-5200



GAS DETECTOR

Features

1. Complied with OIML R99 Class 00 standard
2. Combined micro-flow NDIR, NDUV & quad channel NDIR technology
3. Simultaneous measuring CO, CO₂, HC, O₂, NO, NO₂
4. Direct NO, NO₂ measuring without NO_x converter
5. Replacement of electrochemical NO
6. Auto temp. and pressure compensation
7. Multi-stage filtration system ensures longer lifetime
8. Optional oil temp. and tachometer

Specifications



Gas	Range	Reading permissible error	
		Abs. error	Rel. error
HC	(0~2000)×10 ⁻⁶ vol	±4×10 ⁻⁶ vol	±3%
	(2001~5000)×10 ⁻⁶ vol	---	±5%
	(5001~9999)×10 ⁻⁶ vol	---	±10%
CO	(0.00~10.00)×10 ⁻² vol	±0.02×10 ⁻² vol	±3%
	(10.01~14.00)×10 ⁻² vol	---	±5%
CO ₂	(0.0~16.0)×10 ⁻² vol	±0.3×10 ⁻² vol	±3%
	(16.01~18.0)×10 ⁻² vol	---	±5%
NO	(0~4000)×10 ⁻⁶ vol	±25×10 ⁻⁶ vol	±4%
	(4001~5000)×10 ⁻⁶ vol	---	±8%
NO ₂	(0~1000)×10 ⁻⁶ vol	±25×10 ⁻⁶ vol	±4%
O ₂	(0.0~25.0)×10 ⁻² vol	±0.1×10 ⁻² vol	±5%
Note: Whichever is larger			
Resolution	HC/NO/NO ₂ :1ppm ; CO ₂ /CO/O ₂ :0.01%;		
Response time	HC/CO/CO ₂ :T90≤8S ; NO/NO ₂ :T90≤10S;O ₂ :T90≤12S		
Warm-up time	30 min		
Communication	485 digital output, Can connect with any model of Gasboard series automobile emission gas analyzer and		
Power supply	AC100V~240V, 50Hz±2%		

Opacity Meter

Gasboard-6010



GAS DETECTOR

Features

- Measuring opacity degree N value and light absorption coefficient K of diesel engine.
- Real-time LCD display of N value and K value
- Outstanding accuracy, stability and durability
- Auto-zero calibration with fresh air
- Equipped with RS232 interface and provides PC softw
- Optional Built-in printer(option)
- Optional RPM/ Oil temp. measurements
- Complete standard necessary accessories package
- Low maintenance rate and easy to operate.



Specifications

General Parameter		
Measurement	Opacity degree K value, light absorption coefficient N value	
	Light absorption coefficient N value	
Technology	Partial flow sampling-type	
Measuring range	K Value	N Value
	0-100%	0-16m-1
Resolution	0.01%	0.10%
Accuracy	±3%FS	
Warm-up time	15 minutes	
Display	LCD display	
Response time	TD+T90:1 second	
Power	AC220V±10% 50Hz±1Hz	
Operation temperature	0~40℃	
Dimension	Display:450mm*260mm*180mm(L*W*H)	
	Opacity meter:460mm*230mm*465mm(L*W*H)	
Weight	Display:5kg, Opacity meter:7kg	
Standard accessories	Sampling pipe, sampling probe and handle, communication cable, RS-232 cable, power cable	
Options	Inbuilt printer, RPM measurement	

Vmas Emission Gas Flow Meter Gasboard-7800



GAS DETECTOR



Specifications

Items	Range	Resolution	Reading permissible error	
			Abs. error	Rel. error
Flow	(4~12) m ³ /min	0.01 m ³ /min	—	±4% (F·S)
O ₂	(0.3~25) ×10 ⁻²	0.1×10 ⁻²	±0.1×10 ⁻²	±5%
Temp.	-30°C~150°C	0.1 °C	±1 °C	—
Pressure	70.0kPa~110.0kPa	0.1 kPa	±0.5 kPa	±3%
Zero/span error	O ₂ : ±2.5%FS			
Repeatability	Flow: ±2%FS; O ₂ : Rel. error is not greater than 1.5%			
Response time	O ₂ : 5 s			
Warm-up time	<3 min			
RH	0~95%			
Power	AC220V±10%, 50Hz±1Hz			

Engine RPM Sensor Based on Cigar Lighter

Gasboard-8010



GAS DETECTOR

Features

- Used for engine's RPM measurement of gasoline, diesel, and natural gas.
- Directly connected to Cigar lighter or battery to measure its RPM without any sensor.
- RS-232 interface and LCD display
- Universal, connective to any exhaust gas analyzer and Opacity meter.
- Standard signal interface Such as TTL or RS232
- Standard accessories include cigar lighter connection cable 5m, clamp(battery), RS232 cable, user manual.

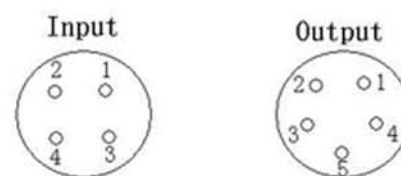


Front panel:

Button A: New Search

Button B: change cylinder number

Interfaces:



Specifications

General Parameter	
Engine type	2,4 stroke, 1-12 cylinder
Measuring range	400-9999RPM
Maximal error	20RPM or relative 1%
Response time	<1 second
Signal output	TTL or RS-232
Power supply	Cigar lighter or battery 9-15V DC
Working tempert	5~45°C
Dimension	144*98*40mm
Weight	350g

Automobile Emission Analysis System

Gasboard-9080



GAS DETECTOR

Features

- Adopts high-precision hydrogen flame ionization detection technology to test THC, and high-temperature heat tracing during the whole measuring process to prevent condensation loss, more accurate measurement meets large-scale, high-precision micro-current signal detection.
- Adopts constant-power heating sampling line, and configure the temperature controller to control the pipeline temperature, avoid gaseous pollutants condensation during sample gas transmission, ensure great measuring accuracy.
- Using independent intellectual property rights and international PCT patented micro-fluid infrared dual-chamber technology, non-dispersive ultraviolet absorption method (NDUV) analysis technology to detect NO_x, CO, and CO₂ concentration. The system obtains strong stability and is less affected by external interference and drifts, no cross interference between multi-component measurement gases with high measurement accuracy.
- Adopt German imported sampling pump to transmit power, configure a first-stage filter and electronic condenser to remove moisture from the sample gas, and implement two-stage filtration to ensure that the sample gas meets measuring requirements and ensure the instrument running online for long time.
- Supports network and system extension. Real time data can be transmitted to the higher-level centralized control system through a variety of output interfaces, providing real-time basis for remote and on-site emissions monitoring.



Specifications

Gas	Range		Indication error	
	Diesel range	Gasoline range	Resolution	Accuracy
HC	(0~500~5000)ppm	(0~5000)ppm or (0~50000)ppm	1 ppm	±2%FS
CO	(0~1000~5000)ppm	(0~10)%	1 ppm, 0.01%	±2%FS
No _x	(0~1000~5000)ppm	(0~4000)ppm	1 ppm	±2%FS
CO ₂	(0~20)%	(0~20)%	0.01%	±2%FS
O ₂	(0~25)%	(0~25)%	0.01%	±2%FS

Applications

- Small General Purpose Engine
- Heavy-duty diesel engines for off-road use
- Type approval of mobile machinery diesel engines and engines such as marine diesel engines
- Production consistency inspection and emission testing