



CUBIC-RUIYI



Automobile Emission Gas Analyzer Series

Hubei Cubic-Ruiyi Instrument Co., Ltd

[Http://www.gasanalyzer.com.cn](http://www.gasanalyzer.com.cn)

Email: info@gasanalyzer.com.cn

Automobile Emission Gas Analyzer

Gasboard-5020



Specification

Model		Gasboard-5020				
Measurements		CO ₂ , CO, HC, O ₂ , NO gases, Lambda display				
Technology		NDIR for CO ₂ , CO, HC; ECD for O ₂ , NO				
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
Error (which ever is greater)	rel.	±4%	±3%	±5%	±3%	±5%
	Abs.	±0.4%	±0.06%	±12ppm	±0.1%	±25ppm
Warm-up Time		10 minutes				
Display		LCD display				
Response Time		TD+T90:10 seconds (NDIR) ; ECD :30 seconds				
Power		110V-220V ± 10% 50Hz ± 1Hz				
Operation Tem.		0-40°C				
Dimension		260 × 180 × 360mm				
Net weight		6kg				
Flow rate		0.7-1.2L/min				
Standard accessories		Sampling probe, sampling pipe, RS-232 cable, standby filters, PC software				
Options		Oil temperature option, in-built printer, RPM sensor options				

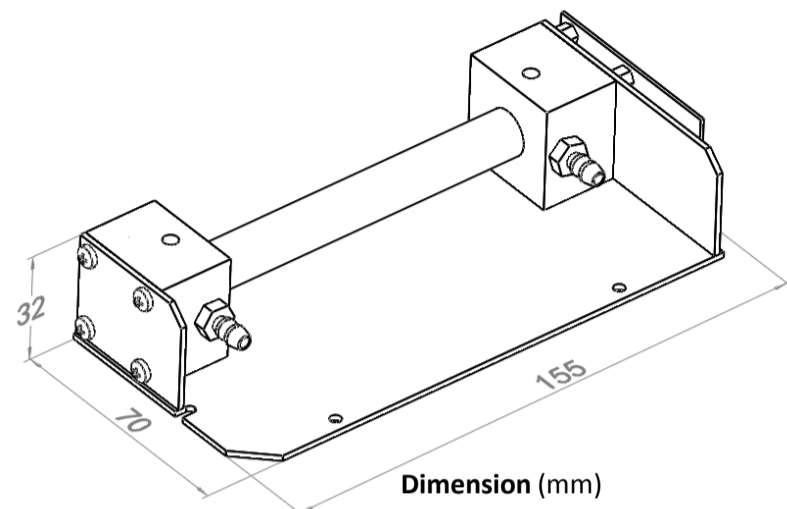
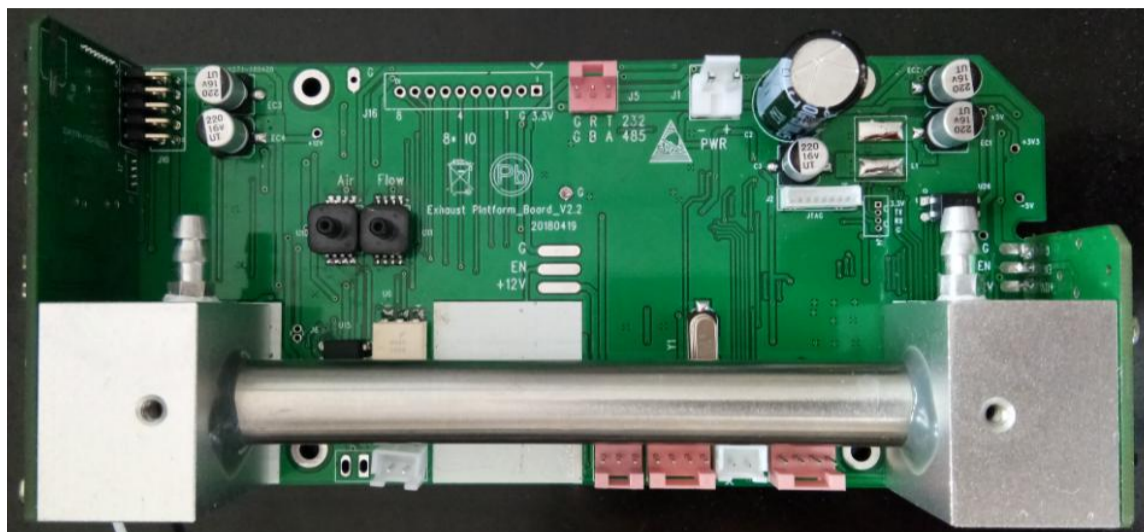
Application

Gasboard-5020 is an analyzer for control of exhaust gases from gasoline, petrol, alcohol or LPG engines. It integrates non dispersive infrared (NDIR) detectors for the measuring CO, CO₂, HC and electrochemical sensors (ECD) for O₂ and NO. It is an Ideal option for professional vehicle emission gas testing shops.

Features

- Simultaneous measuring CO, CO₂, HC, O₂, NO, 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.
- RS-232 digital serial interface and PC software.
- Small Size, light weight and most convenient for carry.





Specification

Model		Gasboard - 2000		
Measurements		CO ₂ , CO, HC gases		
Application		For automobile emission gas analyzer developing		
Technology		NDIR		
Measuring range		CO ₂	CO	HC
		0-20%	0-15%	0-9999ppm
Resolution		0.01%	0.01%	1ppm
Error (which ever is greater)	rel.	±4%	±3%	±5%
	Abs.	±0.4%	±0.03%	±10ppm
Warm-up time		10 minutes		
Response time		TD+T90:4 seconds (NDIR)		
Working condition:				
Power supply		DC 12V		
Operation Tem.		5-45°C		
Aver. consumption		≈ 5W		
Max. consumption		10W (检测器恒温模式)		
RH		10 ~ 90%RH (No condense water)		
Working pressure		70.0kPa ~ 106.0kPa		
Gas pre-treating:				
Dust separation		< 0.5μm		
Water separation		Condense water is separated sufficiently, don't allow the condense water enter into the sensor chamber and associated gas cycle		
Flow rate		0.7-1.2L/min		

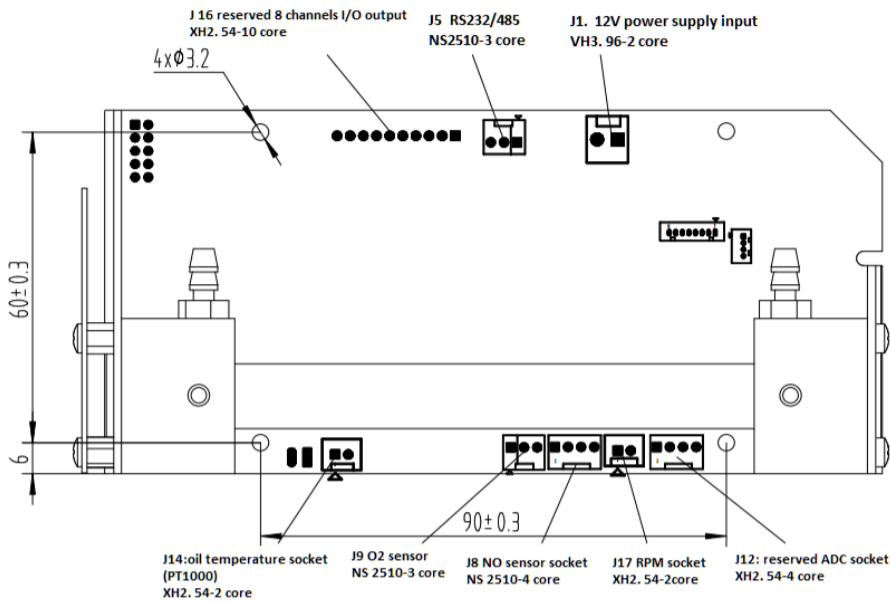
Application

Gasboard-2000 is a NDIR gas bench for measuring exhaust gases from gasoline, petrol, alcohol or LPG engines. It is designed based on dispersive infrared (NDIR) principle for measuring CO, CO₂, HC gases. It is an ideal option for kinds of automobile emission gas analyzer developing.

Features

- Simultaneous measuring CO, CO₂, HC
- Selection of fuels: petro, LPG, Natural Gas, alcohol
- Selection of C3-C6 factor
- Good accuracy, stable performance
- Reserved pressure sensors for leakage test, air pressure measurement.
- Reserved NO and O₂ sensor interfaces.
- Reserved oil temp. and RPM sensor interfaces.
- Complete communication protocol for software developing
- Small Size, light weight and easy integration

Interface definition

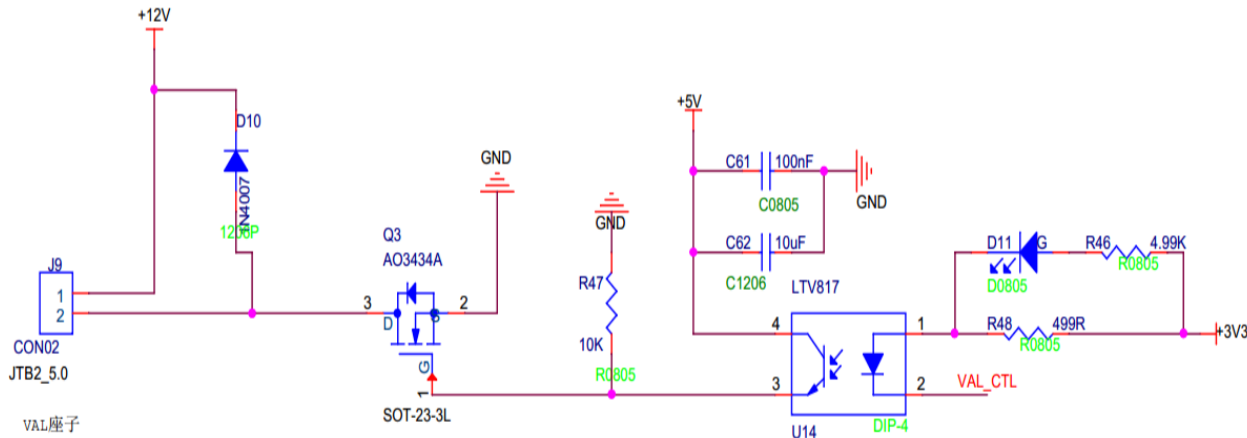


Notes:

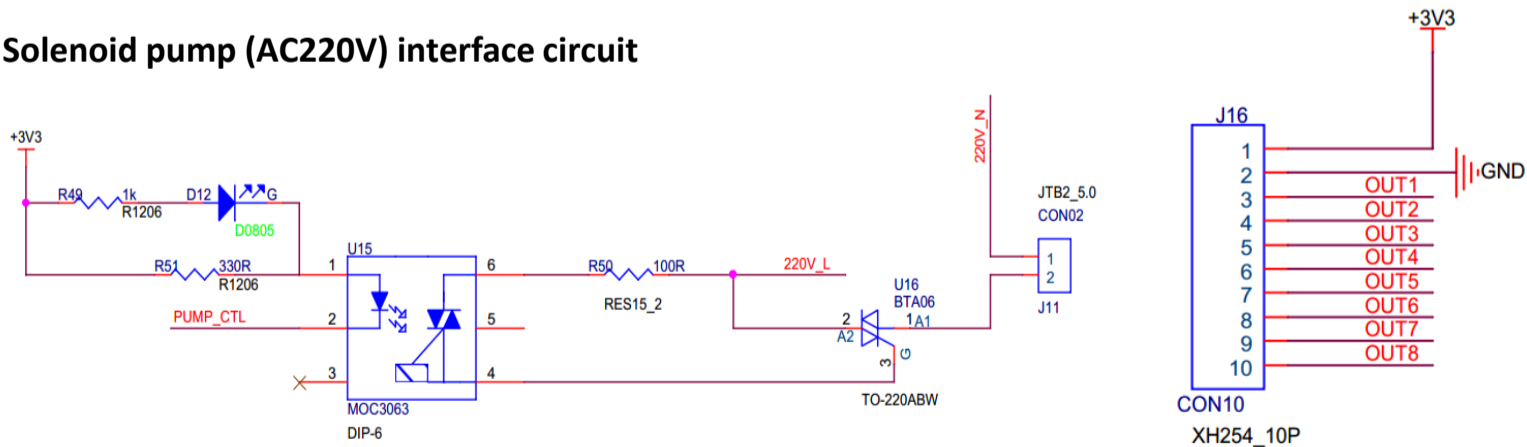
- J1(Power):DC12V power supply interface
- J5 RS232 communication interface (can choose either one between RS232 and RS485, default one is RS232)
- J16 :Peripheral I/O extension port (reserved 8 channels I/O)
- J17: RPM socket
- J9: O2 sensor socket
- J8: NO sensor socket
- J14: Oil temperature socket
- J12: Reserved ADC socket

Peripheral recommended circuit

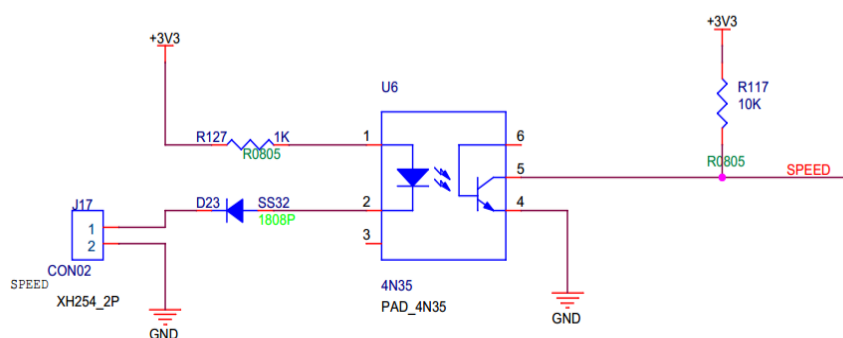
.Solenoid valve (DC12V) interface circuit



. Solenoid pump (AC220V) interface circuit



. RPM interface circuit





Specification

Model	Gasboard-6010	
Measurements	Opacity degree K value, Light absorption coefficient N value	
Technology	Partial flow sampling-type	
Measuring Range	K Value	N Value
	0-100%	0—16 m-1
Resolution	0.01%	0.1%
Accuracy	±3%FS	
Warm-up Time	15 minutes	
Display	LCD display	
Response Time	TD+T90: 1 Second	
Power	AC220V ± 10% 50Hz ± 1Hz	
Operation Tem.	0-40°C	
Dimension	260 × 180 × 360 mm	
Weight	Display: 5kg, Opacity meter: 7kg	
Dimension	Display: 260mm(W) × 450mm(L) × 180mm(H) Opacity meter: 460mm(L) × 230mm(W) × 465mm(H)	
Standard accessories	Sampling pipe, sampling probe and handle, communication cable, RS-232 cable, power cable,	
Options	Inbuilt printer, RPM measurement	

Application

Gasboard-6010 Opacity Meter provides a simple and accurate way to detect and measure the opacity of smoke emitted from a diesel engine and vehicle. This model can measure the complete opacity spectrum from 0-100% in either continuous or free acceleration test. The test results can be printed individually on the built-in printer.

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
- RS232 interface
- Optional Built-in printer
- Optional RPM/ Oil temp. measurements
- Complete standard necessary accessories package
- Low maintenance rate and easy to operate.



Specification

Model	Gasboard-8110
Engine type	4-stroke—diesel/gasoline
Measuring range	Gasoline: 450~8000 rpm Diesel: 450~6000 rpm
Signal output	serial output, analog voltage signal output; TTL signal pulse output; Induced pulse -analog ignition signal
Power supply	9~28 V DC, <350mA
Working temperature	5°C~45°C
Operating humidity	30%~90% RH
Dimension	200*40*140 mm
Weight	< 2Kg

Application

Gasboard—8110 Engine RPM Sensor Based on Vibration and Noise adopts advanced design of hardware together with integrated software analysis technology. Measure Petrol engine or diesel engine's RPM through analysis of vibration and audio spectrum signal. It is easy to operate, accurate and reliable.

Features

- Applied to engine types of 4-stroke-diesel/gasoline engines
- Measurement is on the basis of vibration and audio spectrum analysis
- Supports serial output, analog voltage signal output, TTL signal pulse output, induced pulse-analog ignition signal output.
- Can be connected to other emission analyzers or opacity meters through correspondent output
- Smart portable design and easy operation

Engine RPM Sensor Based on Cigar Lighter

Gasboard-8010



RS232 cable



clamp, power cable

Specification

Model	Gasboard-8010
Engine type	2,4 stroke,1-12 cylinder
Measuring range	400- 9,999 RPM
Maximal error	20 RPM or relative 1 %
Response time	< 1 second
Signal output	TTL or RS-232
Power supply	Cigar lighter or battery 9~15 V DC
Working temperature	5°C~45°C
Dimension	144 x 98 x 40 mm
Weight	350 g

Application

Gasboard—8010 can work independently or in combination with opacity meter and exhaust gas. It adopts advanced DSP technology together with signal spectrum analysis to detect engine rpm based on cigar lighter. This instrument is high-precision, reliable, easy to install.

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 RS23
- Standard accessories include cigar lighter connection cable 5m, clamp(battery), RS232 cable, user manual.



Vehicle repair plant



4S Service shop



Engine Factory



Exhaust Gas Monitoring



Traffic Inspection Station



Vehicle Inspection Line

Hubei Cubic-Ruiyi Instrument Co., Ltd. is a high technology company , who is specialized in development, production and sales of automotive emission gas analyzer, opacity meter and engine RPM sensor for vehicle exhaust detections, based on core sensor technology of infrared (NDIR), thermal conductivity TCD, ultrasonic, laser Raman developing. Over the years developing, all of our products have been exported worldwide and got very positive feedback. We are looking forward to reach cooperation with more professional partners.

Cubic-Ruiyi keep developing on performance upgrading, technology improving, to make vehicle exhaust monitoring more innovative and user-friendly. Our aim is make every effort to promote automotive exhaust monitoring and environment protection development.

Cubic Ruiyi is a wholly-owned subsidiary company of Wuhan Cubic Optoelectronics Co., Ltd www.gassensor.com.cn.



Finished Product Warehouse



Monitoring System Production Workshop

Honors

- National Level high-tech enterprises (GF201142000239)
- National and International standards meeting
- Director of China Instrument and Control Society
- Vice Chairman of China Analysis Instrument Society
- Hubei Gas analysis instrumentation & engineering technology research center
- Hubei provincial enterprise technology center



CUBIC-RUIYI



**For more information,
please CONTACT US !**

Hubei Cubic-Ruiyi Instrument Co., Ltd

TEL: +86-27- 81628831 FAX: +86-27-87401159

Email: info@gasalyzer.com.cn

Web: <http://www.gasalyzer.com.cn>

Add: Fenghuang No.3 Road, Fenghuang Industrial Park,
Eastlake Hi-tech Development Zone,
Wuhan, 430205, China