



Chemical Instrument

Hand held Single Gas Analyzer
H-BD5gas

Gas Analyzer

*Special Application Configuration for Industrial and Research Gas Analysis
Keep better accuracy and reliability under limited interfering gases*

Ref: HBD5gsIntE

Application Guide:

HBD5gas is always embedded with selective gas sensor for specific gas measurement application. It could be expanded to test of some other similar or correlated gases as well if it is existed in single gas. If you find out that there are two more gases of your user's gas listed in the usage list of this sensor, that means there is cross interference among these 2 gases when you are going to test the user's mixture gases. If separated analysis is pursued or emphasized, you have to choose pGas4814 series for better solution, or other more selective instrument.

For popular gas detector to more wide single gas detect, refer to HBD5-LEL, HBD5-TVOC.

- **Based on CPU Intelligence**
- **Rapid Test**
- **100 frame Data log**
- **LCD 2x16 Display**
- **RS232/485 Communication**
- **Full Function Keypad Operation**
- **Memo Driven Software**
- **User Configured Analyzer**
- **Temperature compensation embedded.**



<http://www.big-dipper.com.cn>

Advantages

- ◆ Extended gas parameters available
- ◆ 2 phase application supported (gas and water dissolved gas)

Application

- Industry process monitor
- Scientific laboratory experients
- Field project smart test

Functions

- LCD 2×16LCD Display
- RS232/RS485 serial port. Supporting STIMcom / Modbus communication
- Printer supported
- Data store and read out, or output
- User calibration
- Temperature compensation embedded
- Pump and/or Pressure sensor are optional to installation

Specifications

- Electronic unit: BD5CBD, ADC resolution: ppm of FS
- General information of Electro-Chemical Sensor

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P.o.Box 603 BDTI Beijing, China 100080 email: sales@fullsense.com web: <http://www.fullsense.com>

- Repeatability: 1-5% FS
- drift: <+/-10% /Year
- Startup time: <5min
- Response time: < 1min with 90% of change
- Sampling pressure:<1.2 kgf/cm²
- Sampling temperature: -10 °C to 50 °C

Environment Requirements:

Environmental Humidity:

Operating:10 to 90% RH, non-condensing

Storage:0 to 90% RH, non-condensing

Environmental Temperature Range:

N:Operating -10 °C to 50 °C

N:Storage -20 °C to 70°C

BD5CBD Analyzer

Environmental Temperature -10 to 60 °C

Environmental Humidity: 10-90%

Supply: 9V Rechargeable Cell or AC Adapter

Continuous running time: >24Hr/ each charge for cell sensor; >1Hr for MMOS or Combust Sensor.

Standby time: 7 days

Typical Available Instruments

Model	Ranges/(ppm)	Applications
HBD5gas2000-eVOC	Acetaldehyde:0.6-687 Acetylene:0.08-80 Acrylonitrile:0.3-367 Butadiene:0.16-160 Carbon disulphide:0.2-196 Carbon monoxide:0.3-275 Carbonyl sulphide:0.2-204 Dimethyl sulphide:0.2-183 Epichlorohydrin:0.5-550 Methy-ethyl-ketone:1-1000 i-propanol:0.35-350 Ethanol:0.15-150 Ethylene:0.12-125 Ethylene Oxide:0.1-100 Formaldehyde:0.08-83 Methanol:0.06-66 Methyl mercaptan:0.1-100 Thiophane:0.6-610 Vinyl acetate:0.1-137 Vinyl chloride:0.1-137 Toluene:0.5-500 alpha-pinene:0.3-312 Ethylacetate:0.7-695	Active organics' vapor detection, specific to active organics and some inorganics; Labor environ protection; Toxic gas detection; Leakage detection; Simple living environ air test; *the listed is only typical, more gases possible
HBD5gas4120-HC	C5H12:0-1.5%, CH4:0-4.3%, C3H8:0-1.5%, C4H10:0-1.7%, C6H14:0-2% C7H16:0-1.875%, C8H18:0-2.67%, CH3OH:0-1.2%, C2H5OH:0-1.7%, C3H7OH:0-1.9% (CH3)2CO:0-6%, MethyEthylKetonev:3.8%, Ethyl acetate: 0-2.5%, CycloHexane,C6H12:0-1.7% , Gas:0-2.7% Toluene::0-15%	All hydrocarbons detection, specific to organics; Combustible, explosives detection; Leakage detection; *the listed is only typical, more gases possible

HBD5gas2290 -VOCs	Isobutylene:1-1000ppm Acetaldehyde Acetone Ammonia Benzene Buatadiene Diesel Ethanol Ethylene Gasoline Hexane Jet fuel (JP8) Kerosene MEK Naptha Styrene Toluene Turpentine Vinyl chloride Xylene	All VOCs with an IP below 10.6eV, not specific; Labor environ protection; Toxic gas detection; Leakage detection; Simple living environ air test; *the listed is only typical, more gases possible
HBD5gas-3E50	Hydrides PH3:0.05-25ppm; SiH4:0.05-50ppm; AsH3:0.05-50ppb; B2H6:0.125-125ppm; GeH4:0.05-50ppm; ClO2:0.25-250ppm; HCN:0-2000ppm; SO2:0.25-250ppm; NO2:-0.33~-333ppm;	Fumigation gas monitoring; Semiconductor industry environ safe; Toxic leakage;
HBD5-Hydrides-3E1	AsH3:<20-500ppb PH3:<20-1000ppb SiH4:<50-1000ppb	Fumigation gas monitoring; Semiconductor industry environ safe; Toxic leakage;
HBD5-AsH3-2E1	AsH3:<20-500ppb PH3:<20-1000ppb B2H6: <20-500ppb	Fumigation gas monitoring; Semiconductor industry environ safe; Toxic leakage;
HBD5gs-Cl	CL2:0.1~250ppm ClO2:0.05~10/80ppm	Disinfection monitoring;
HBD5gs-Cl-P3.5	CLO2:0.1~250ppm ClO2:0.05~10/80ppm	Disinfection monitoring;
HBD5gs-Cl-2PH	Cl2:0-250ppm ClO2:0.05~10/80ppm DCLO2:0.027~137mg/L	Disinfection monitoring;
HBD5gs-Cl-2PH-P3.5	Cl2:0-250ppm ClO2:0.05~10/80ppm DCLO2:0.027~137mg/L	Disinfection monitoring;
HBD5-C0710	CO:1-50+ppm CH:1-500+ppm(C6) NO2: 10ppb-1+ppm	
HBD5-COSH	CO:1-500/1500 H2S:0.5-200/500	
HBD5gs-H2S-R10k	0-2000,max 10000ppm	
HBD5gs-CO-R10%	0-10000/100000ppm	SO2:0.1%;NO2:1%;H2:75%;C2H4:60%;H2S:0.1%;

General Application Configuration (Standard Basic Units)

Units	Model	Quant.	Information
Analyzer	H-BD5gs	1	basic system Full functioned instrument, include Micro-processor and electronics, LCD and keypad, and basic frames etc.
Temperature Sensor	TM36	1	Embedded in basic system
Gas sensors		1	Included
Air Sensor Holder	GasBar-A	1	Included. Environ dispersion sampling
Battery		1	Included in basic system

DC Adapter	1	Included in basic system, 220V AC to 12 VDC.
Package Box	1	Basic package. as trip box: 275(W)x222(T)x112(H) mm

Function Enhancement Accessories

Units	Model	Quant.	Information
Humidity Sensor	RH2123		Select
Pressure sensors	PS3.5		select
Printer	UP24p		select
Printer paper			Select, 12 coil/each package
Portable Soft Case			select

Optional Accessories

Air pump	GSuck0.9CFM	To suck air into the sensor
Pipe connector	GasBar-T	To connect to industrial device
Pressure conditioner		Pressure reducer kit/Mechanical; by user's order
Toxic kit	ToxicTreat-L01	Tools to collect toxic gas.
Filter		PM10,PM1.0 filter for particles big than 1 or 10 um.
Air cooler		For smoke application.

Possible Available Sensors

GAS	FULL-SCALE RANGES
Acetic Acid	100, 200 ppm
Acetone	100, 200, 500, 1000, 5000 ppm; % LEL
Acetonitrile	100 ppm
Acetylene	50 ppm; % LEL; 3% by Volume
Acrolein (Acrylaldehyde)	50 ppm
Acrylic Acid	100 ppm
Acrylonitrile	50, 60, 80, 100, 200, 500 ppm; % LEL
Allyl Alcohol	% LEL
Allyl Chloride	200 ppm
Ammonia	50, 70, 75, 100, 150, 200, 300, 400, 500, 1000, 2000, 2500, 4000, 5000 ppm; 1%, 2%, 10% by Vol., 10%, 25%, 100% LEL
Anisole	100 ppm
Arsenic Pentafluoride	5 ppm
Arsine	1, 10 ppm
Benzene	50, 75, 100, 1000 ppm; % LEL
Biphenyl	50%, 100% LEL
Boron Trichloride	500 ppm
Boron Trifluoride	500 ppm
Bromine	20 ppm
Butadiene	50, 100, 3000 ppm; % LEL
Butane	400, 1000 ppm; 100%, 200% LEL
Butanol	1000 ppm, 100% LEL
Butene	100% LEL
Butyl Acetate	100 ppm; % LEL
Carbon Disulfide	50, 60, 100 ppm; 5% by Volume
Carbon Monoxide	50, 100, 150, 200, 250, 300, 500, 1000, 3000, 5000 ppm; 3%, 5% by Volume, % LEL
Carbon Tetrachloride	50, 100, 10000 ppm
Cellosolve Acetate	100 ppm
Chlorine	10, 20, 50, 100, 200 ppm
Chlorine Dioxide	10, 20 ppm
Chlorobutadiene	100% LEL
Chloroethanol	200 ppm
Chloroform	50, 100, 200 ppm
Chlorotrifluoroethylene	100% LEL
Cumene	100% LEL
Cyanogen Chloride	20 ppm
Cyclohexane	100 ppm, 100% LEL
Cyclopentane	50 ppm
Deuterium	50%, 100% LEL

Diborane	10, 50 ppm
Dibromoethane	50 ppm
Dibutylamine	100% LEL
Dichlorobutene	1% by Volume
Dichloroethane (EDC)	50, 100 ppm, % LEL
Dichlorofluoroethane	100, 1000 ppm
Dichloropentadiene	50 ppm
Dichlorosilane	50, 100 ppm
Diesel Fuel	50 ppm; 100% LEL
Diethyl Benzene	100% LEL
Diethyl Sulfide	10 ppm
Difluorochloroethane	100% LEL
Difluoroethane (152A)	100% LEL
Dimethyl Ether	100% LEL
Dimethylamine (DMA)	30, 50 ppm
Epichlorohydrin	50, 100, 500, 1000 ppm
Ethane	1000 ppm
Ethanol	200, 1000, 2000 ppm; % LEL
Ethyl Acetate	200, 1000 ppm; % LEL
Ethyl Benzene	200 ppm; % LEL
Ethyl Chloride	100 ppm; % LEL
Ethyl Chlorocarbonate	1% by Volume
Ethyl Ether	100, 800, 1000 ppm; % LEL
Ethylene	100, 1000, 1200 ppm; % LEL
Ethylene Oxide	5, 10, 20, 30, 50, 75, 100, 150, 200, 300, 1000, 1500, 2000, 3000 ppm; % LEL
Fluorine	20, 100 ppm
Formaldehyde	15, 50, 100, 500, 1000 ppm
Freon-11	1000, 2000, 5000 ppm
Freon-12	1000, 2000, 3000 ppm
Freon-22	100, 200, 500, 1000, 2000 ppm
Freon-113	100, 200, 500, 1000, 2000 ppm; 1% by Vol.
Freon-114	1000, 2000, 20000 ppm
Freon-123	1000 ppm
Fuel Oil or Kerosene	100% LEL
Gasoline	100, 1000, 2000, 20000 ppm; % LEL
Germane	10, 50 ppm
Heptane	1000 ppm, % LEL
Hexane	50, 100, 200, 2000, 2500, 3000 ppm, % LEL
Hexene	% LEL
Hydrazine	5, 10, 20, 100, 1000 ppm, 1% by Volume
Dimethyl Hydrazine	5, 10, 20, 100, 1000 ppm, 1% by Volume
Hydrogen	50, 100, 200, 500, 1000, 2000, 5000 ppm; 3%, 5% by Vol., 2% to 100% LEL
Hydrogen Bromide	50 ppm
Hydrogen Chloride	50, 100, 200, 400, 500, 1000 ppm
Hydrogen Cyanide	20, 30, 50, 100, 200, 1000, 10000 ppm
Hydrogen Fluoride	20, 50, 100, 200 ppm
Hydrogen Sulfide	5, 10, 20, 30, 50, 100, 300, 1000 ppm; % LEL
Isobutane	1000, 3000 ppm, % LEL
Isobutylene	% LEL
Isopentane	1000 ppm
Isoprene	% LEL
Isopropanol	200, 400, 500, 1000 ppm; % LEL
Mercaptan (TBM)	0-50 mg/M3(0-14ppm)
Methane	100, 200, 1000, 1500, 2000, 5000 ppm; 1%, 2% by Volume, 100%, 200% LEL
Methanol	200, 300, 400, 500, 1000, 2000, 5000 ppm; 15%, 30%, 100% LEL
Methyl Acetate	30 ppm
Methyl Acrylate	60 ppm
Methyl Bromide	20, 50, 60, 100, 500, 1000, 10000; 40,000 ppm
Methyl Butanol	% LEL
Methyl Cellosolve	% LEL
Methyl Chloride	100, 200, 300, 2000, 10000 ppm; % LEL
Methyl Ethyl Ketone	100, 500, 1000, 4000 ppm; 100% LEL
Methyl Hydrazine	5 ppm
Methyl Isobutyl Ketone	200, 500, 2000 ppm; 50%, 100% LEL
Methyl Mercaptan	30 ppm

Methyl Methacrylate	100 ppm; % LEL
Methyl-Tert Butyl Ether	100% LEL
Methylene Chloride	20, 100, 200, 300, 400, 500, 600, 1000, 2000, 3000, 5000 ppm; % LEL
Mineral Spirits	200, 3000 ppm; % LEL
Monochlorobenzene	100% LEL
Monoethylamine	30, 100, 1000 ppm
Morpholine	500 ppm
Naptha	1000 ppm, 100% LEL
Natural Gas	1000, 2000 ppm; 2%, 4% by Volume, % LEL
Nitric Oxide	20, 50 ppm
Nitrogen Dioxide	20, 50, 100 ppm
Nitrogen Trifluoride	50, 500, 1000 ppm
Nonane	2000 ppm
Pentane	200, 1000 ppm, % LEL
Perchloroethylene	200, 1000, 2000, 20000 ppm
Phenol	100 ppm
Phosgene	50 ppm
Phosphine	3, 5, 10, 20, 30, 50 ppm
Phosphorus Oxychloride	200 ppm
Picoline	% LEL
Propane	100, 1000 ppm; 100% LEL
Propylene	100, 200, 1000, 5000 ppm; %LEL
Propylene Oxide	100 ppm,; % LEL
Silane	10, 20, 50 ppm
Silicon Tetrachloride	1000 ppm
Silicon Tetrafluoride	1000 ppm
Styrene	200, 300 ppm; % LEL
Sulfur Dioxide	50, 100 ppm
Tetrahydrofuran	200, 300, 1000 ppm; % LEL
Tetrahydrothiophene (THT)	0-50mg/M3
Tetraline	100 ppm
Toluene	50, 100, 200, 500, 2000, 5000 ppm; % LEL
Toluene Diisocyanate	15 ppm
Trichloroethane	50, 100, 500, 1000 ppm; 1% by Volume
Trichloroethylene	50, 100, 200, 300, 500, 1000, 2000 ppm; %LEL
Triethylamine (TEA)	100 ppm
Trifluoroethanol	25, 100 ppm
Trimethylamine (TMA)	50 ppm
Tungsten Hexafluoride	50 ppm
Turpentine	% LEL
Vinyl Acetate	1000 ppm; % LEL
Vinyl Chloride	20, 50, 100, 200, 400, 500, 1000, 4000, 10000 ppm; 10%, 100% LEL
Vinylidene Chloride	50 ppm
Xylene	100, 200, 300, 1000 ppm, 1% by Volume

For more accurate analysis of industry gas mixture, pGas2000 and simplified system pGas200 is recommended.