



Portable Gas Analyzer  
Model:pGas4810 (NIR)

# Portable Industry Gas Analyzer

Ref: pGas4810\_IntE

Version:1.3

Internet Information:

[http://www.big-dipper.us/Products/Gas/Portable/pGas4810\\_IntE.pdf](http://www.big-dipper.us/Products/Gas/Portable/pGas4810_IntE.pdf)

- Intelligent Analysis Based on Powerful CPU
- Rapid Test
- 100 frame Data log
- LCD 4x16 Display, Backlight Available
- RS232/485 Communication
- Full Function Keypad Operation
- Memo Driven Software
- Long life sensor designed
- Free of maintenance
- None of interferences of water vapor at most case.
- Nearly absolute identification.
- High selective is expected
- Solved gas detect is supported

## p-Gas4810 Industry Gas Analyzer

p-Gas4810 was special designed for industry gas qualitative and quantitative analysis, to distinguish one gas from gas mixture absolutely. It was based on high resolution photometer in NIR band. This instrument can serve some analysis case that being difficult to implement with GC,MS, or FT-IR. Especially pGas4810 is movable, convenient for industry field analysis and other fieldwork.

This is economic design for single specific gas analysis.

For professional multi-gas analysis. Refer to pGas4820 system. If 4820 can not solve the identification, then might use multi-channel system both of 4810 or 4820 for applications.

### Applications :

- Industry gas analysis
- Environ monitoring
  - Groundwater and soil contamination assessment
  - Tanker loading emissions monitoring
  - Occupational hygiene analysis
  - Detection of leaks from storage facilities
  - Odour investigations
  - Vehicle emissions
- Stack Emissions Monitoring
  - NO<sub>x</sub>, SO<sub>x</sub>, CO, CO<sub>2</sub>, VOC's (total and speciated) and O<sub>2</sub> Gas concentration
  - Dioxins and Furans
  - Gaseous HCl, HF and NH<sub>3</sub>
  - Trace micro pollutants such as PAHs and PCBs

\*Refer to pSmoke2000 Analyzer, pFlue2000 Analyzer, pAuto2000 Analyzer,



- Occupational Air Quality
  - Acid gases and odorous species SO<sub>2</sub>, NO<sub>2</sub>, H<sub>2</sub>S and NO
  - Light hydrocarbons and combustion products
  - Benzene, toluene, xylene and ethylbenzene
  - 1,3-butadiene
  - Ozone precursors
  - Chlorinated species
- Atmosphere Analysis and urban air pollution surveys
  - \*Refer to pAir4000 Analyzer
- Assessment and quantification of indoor air quality
  - \*Refer to pAir4000 Analyzer
- Odour Investigations and Effluvia Detect
  - \*Refer to pGas2000EFF Analyzer

## Instrumental Functions

- LCD 4 × 16 LCD Display, with backlight
- RS232/RS485 serial port. Supporting STIMcom / Modbus communication, and printer; USB support in new version
- Non-volatile memory supported data store and read out, or output to computer
- Built-in Sampling pump included, and suitable sample pre-process assembly
- Built-in alarm include LED flash, LCD indication, and Beep; Alarm limit setup supported, default to TWIN standard
- Sampling gun with filter/trap for dusts and condensed water drain.
- System diagnostic
  - Protection against accidental turn-off
  - Over-range protection for all installed sensors
  - Storage protection for sensors
- Flexible tubing for re-configuration
- User complete calibration, zero-adjust and essential data setup support
- Interfering gas compensation select
- Basal humidity and temperature detected for compensation and controlled for normal test. Over limit alarm support
- Rechargeable batteries to provide 100 hours of continuous operation
- 15-24 V DC powered. Local AD to DC adapter supported
- Basal intrinsically safe system, except parts of pump and heater. Special order for class 1 div. 1, groups a, b, c and d and class 2 div. 1, groups e, f and g for use in hazardous areas recommended.

## Specifications

### Instrument

Electronic unit: BD4CCD, ADC resolution: 0.025%FS

Startup time: <5min

Response time: < 100ms with 90% of change

Sampling pressure:<1.1 kgf/cm<sup>2</sup>

Sampling temperature: -10 °C to 50 °C

Protection against electromagnetic and radio frequencies interference

### Sensors

Optical path length (OPL): General Max <1 meter, OPL could be expanded to kilometers by Perrot Cell to get trace gas analysis.

Bandwidth: 0.1 to 10nm;

Start up time: <3 mins

Response time: Less than 2 seconds

Detection limit: Refer to Table 1.

Min. measuring range: Refer to Table 1.

Dynamic range: General 100:1; 1000 to 10000 :1 by cwP module.

Instrument span drift: < 4% of measuring range between maintenance intervals

Instrument zero drift: Negligible (<2% of measuring range between maintenance intervals)

Maintenance interval: Recommended every 3 months (no consumables needed)

Calibration: In situ with flow through cell, or in separate calibration tube

### Power Supply

Supply: 9V Rechargeable Cell or AC Adapter

Continuous running time: >24Hr/ each charge;

Standby time: 7 days

## Environment Requirements:

Environmental Humidity:

Operating: 0 to 100% RH, non-condensing

Storage: 0 to 90% RH, non-condensing

Environmental Temperature Range:

N: Operating -10 °C to 50 °C

N: Storage -40 °C to 125 °C

## Instrument Type:

*pGas4810-PS: Pump sampling*

*pGas4810-HH: Handheld Sensor*



## Series Products Designed

### Information for model code

#### **OPL1\_WMS01:**

OPL=1m, Spectral Line Width<0.1nm:

#### **OPL1\_PM:**

OPL=1m, Spectral Line Width 10-20nm:

This kind of instrument only recommended to application of mixture gases that has none of the interferences gases listed.

#### **OPL1\_TM:**

OPL=1m, Spectral Line Width 10-20nm:

This kind of instrument only recommended to application of mixture gases that has none of the interferences gases listed.

Gas		LDL/1M	Min/Typical range	Pressure	Temperature	Cross Interference Information	Application
VOCs	WMS01	0.1ppm	0-20 ppm/0-100%V	10atm	400	Most hydrocarbons, more sensitive to some inorganic	
VOCs	WMS01	0.1ppm	0-20 ppm/0-100%V	10atm	400	Most hydrocarbons, less sensitive to most inorganic	
CH/HC/VOC	TM	0.0012ppm	0-20 ppm/0-100%V	10atm	400	CH4(1000), CH3CH3(100), HCl(500), CH3SH(30), C2H4(50),CH3OH(30), HCl(20), O3(.1),NO2,	OPL<6m; H2O<10 <sup>4</sup> *HC
CH4	WMS1	<10ppm	0-10000 ppm	10atm	400	CH4, C2H2,CHF3, HCN, C4H2,O2,CHF3,H2,HF	
CH4	WMS01	0.12ppm	0-120ppm	10atm	400	NH3,CO2(w),	
CH4	WMS01	0.15ppm	0-180ppm	10atm	400	NH3,CO2(w),	
CH4	WMS01	0.06ppm	0-60ppm	10atm	400	CH3OH,DMS,HCs,	
CH4	WMS01	0.05ppm	0-50ppm	10atm	400	CH3OH,DMS,HCs,HF, CH3SH(1), CH3OH(2), NH3(3), CH4(25),CH3CH3(6), CO(1/3), C2H2(.2), C2H4(3), N2O(.1),NO2(+),H2CO(2), CS2(.2),	
CH4/HC	TM	0.03ppm	0-6 ppm	10atm	400	CH4(15), C2H6(0.8) ,HCl	Less interfered by HCL
CH3Br		10ppm	0-10000 ppm	10atm	400	C2H6,HCO,CH4,NO2,	
CH3OH	WMS01	0.9ppm	0-900ppm	10atm	400	CH3OH(12),water(13), CH3SH(.2),	
CH3OH	WMS01	2ppm	0-2000ppm	10atm	400	CH3OH(12),water(13), CH3SH(.2),	
CH3OH	WMS2	9ppm	0-900ppm	10atm	400	CO, CO2, H2S,HCN,H2CO, CS2, C2H2, NH3	
CH3OH	WMS1	1ppm	0-1000ppm	10atm	400	CH3OH(12),water(13), CH3SH(.2),	
CH3OH	WMS01	0.1ppm	0.1-100ppm	10atm	400	CH3OH(12),water(13), CH3SH(.2),	
CH3SH		0.01ppm	0-1000ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4	
CH3SH		0.06ppm	0-1000ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4	
CH3SH	WMS01	0.45ppm	0-450ppm	10atm	400	CH4, DMS, CH3OH,	
CH3SH	WMS01	0.2ppm	0.1-100ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4,many	
CH3SH	WMS01	0.45ppm	0-450ppm	10atm	400	NH3, CH4,CH3OH,HF,	
CH3SH		5ppm	0-5000ppm	10atm	400	C2H6,CH3OH,CH4	
CH3SH		0.9ppm	0-900ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4	
CH3SH		0.9ppm	0-900ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4	
CH3SH	WMS01	0.72ppm	0-750ppm	10atm	400	aromatic , CH4,NH3,CH3OH,	
CH3SH		0.9ppm	0-900ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4	
CH3SH	WMS1	2ppm	0-2400ppm	10atm	400	CH4,NH3,	
CH3SH		2ppm	0-2000ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4	
CH3SH		18ppm	0-2%V	10atm	400	CO, CO2, H2S,HCN,H2CO, CS2, C2H2, NH3	

CH3SCH3		0.008ppm	1-1000ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4
CH3SCH3		0.015ppm	1-1000ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4
CH3SCH3		2ppm	1-1000ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4
CH3SCH3	WMS01	0.4ppm	400ppm	10atm	400	HF,CH3SH, CH3OH
CH3SCH3	WMS01	0.18ppm	180ppm	10atm	400	CH4, CH3SH, CH3OH
CH3SCH3	WMS01	0.5ppm	1-500ppm	10atm	400	NH3, CH4, CH3SH, CH3OH,aromatic
CH3SCH3	WMS1	0.8ppm	1-800ppm	10atm	400	NH3, CH4, CH3SH, CH3OH,
CH3SSCH3			0.1-100ppm/0-10%V	10atm	400	C2H6,CH3OH,CH4
C2H2		10ppm	0-1000 ppm	10atm	400	
C2H2		10ppm	0-1000 ppm	10atm	400	O3(.2),
C2H2/C2H6		10ppm	0-1000 ppm	10atm	400	O3(.2),
C2H2		1ppm	0-100 ppm	10atm	400	
C2H4		1ppm	0-100 ppm	10atm	400	C3H6,SO2F2(),O3(0.1), H2S-, HO2-,
C2H4		10ppm	0-1000 ppm	10atm	400	SO2F2(),O3(0.1), H2S-, HO2-,
C2H4		0.1ppm	0-100 ppm	10atm	400	
C2H3Cl		0.1ppm	0-100 ppm	10atm	400	
C2H6/HC		0.05ppm	0-10 ppm/0-100%V	10atm	400	CH4(10),C2H6(2.5)
C2H5OH		1ppm	0-1000 ppm	10atm	400	CH4(10),C2H6(2.5)
C2H5OH		1ppm	0-1000 ppm	10atm	400	CH4(10),C2H6(2.5)
C2H5OH		0.5ppm	0-500 ppm	10atm	400	CH4(10),C2H6(2.5)
C2H5OC2H5		1ppm	0-1000 ppm	10atm	400	CH4(10),C2H6(2.5)
C2H5OC2H5		1ppm	0-1000 ppm	10atm	400	CH4(10),C2H6(2.5)
C2H6		10ppm	0-10000 ppm	10atm	400	H2O,
C2H6		10ppm	0-10000 ppm	10atm	400	H2O,C2H2,
C2H6		1ppm	0-1000 ppm	10atm	400	CFH(CF3)2
C2H6		0.3ppm	0-300 ppm	10atm	400	HCS
C2H6		0.4ppm	0-400ppm/0-100%V	10atm	400	
C2H6O		0.1ppm	0-100ppm	10atm	400	H2O, CO2,CH4-
C2H3CHO		0.1ppm	0-100ppm	10atm	400	SO2
C3H4		1ppm	0-10 0ppm	10atm	400	
C3H6		1ppm	0-10 0ppm	10atm	400	C2H4
C3H8	WMS1	1ppm	0-10 0ppm	10atm	400	C2H2, HCL , NO,C3H8, NO2,
C3H8	WMS01	1ppm	0-10 0ppm	10atm	400	HCS

C4H2		1ppm	0-10 0ppm	10atm	400		
iC4H10	PM30	1ppm	0-10 0ppm	10atm	400	HCl,C2H6,C2H2,C3H4,C3H8,C2H6O,CH4, H2O	
C4H10	WMS01	0.4ppm	0-400ppm	10atm	400	HCl,C2H6,C2H2,C3H4,C3H8,C2H6O,CH4, H2O	
C6H6	WMS1	1ppm	0-100ppm	10atm	400	CO2,NH3,SO2F2,CFH(CF3)2, HF(1.5), H2CO, O3(0.1),HOBr(0.25), H2S-, NH3(),CFH(CF3)2, C2H4,	
C6H6	PM	1ppm	0-100ppm	10atm	400	C6H6, H2S, HCN,NO2, NH3,CH4, CHCl2F(HCFC-21)	
C6H6	WMS01	1ppm	0-100ppm	10atm	400		
Aromatic	WMS01	1ppm	0-100ppm	10atm	400	NH3,CH4,Ar	
Aromatic	WMS1	1ppm	0-100ppm	10atm	400	H2O,CO2,NH3,	
Aromatic		1ppm	0-100ppm	10atm	400		
Aromatic		1ppm	0-100ppm	10atm	400		
ArOH		1ppm	0-100ppm	10atm	400	Aromatic	
ArOH		1ppm	0-100ppm	10atm	400	H2S,CH4, CHCl2F(HCFC-21),N2O	
CFH(CF3)2		1ppm	0-1000ppm	10atm	200	C2H6.N2O(-),	
CHBr3							
CHCl2F/HCFC-21							
CHF3				10atm	200		
Cl2	CWP	Cl2:80ppm SO2:10ppm O3:1ppm		10atm	200	O3,SO2,Cl2;	limited
O3	CWP	Cl2:80ppm SO2:10ppm O3:1ppm		10atm	200	O3,SO2,Cl2;	limited
ClO2		10ppm	0-10%,100%	10atm	200		
CO		0.002ppm	0-0.5/100ppm	10atm	400	CO(400), C2H2(1.7), CH3OH(.4), CH3SH/0.3, N2O(), HCN(.3), NH3(0.1), CO2(.1), C2H4(.4), N2O(.2), O3(.12), H2S(.007),	
CO	WMS001	0.2ppm	0-200ppm	10atm	400	H2CO,CH3CH2OH,DMS,CH3SH,CH4,C2H5OC2H5,HF(.2)	
CO	WMS2	20ppm	0-20%	10atm	400	CO, CO2, H2S,HCN,H2CO, CS2, C2H2, NH3	
CO				10atm	400	CO, CO2, H2S,HCN,H2CO, CS2, C2H2, NH3	
CO		100ppm	0-1%	10atm	400	NO;	
CO	WMS1	1000ppm	0-20%	10atm	400	O3(.15),NO(),	
CO2		0.001ppm	0-0.2 ppm, 0-100%V	10atm	400	CO2(800),CH3SH/0.4, CH3OH/0.5, NH3(1),H2O(10?), HCN(.2), H2S(4), N2O(1),	
CO2	WMS01	3ppm	0-3%V	10atm	400	H2S(), CO(),	
CO2	WMS01	3ppm	0-3%V	10atm	400	H2S(), CO(),	

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CO2		10ppm	0-3000ppm,%V	10atm	400	HBr, H2S,CH3SCH3,NH3, HCHO,
CO2		10ppm	0-3000ppm,%V	10atm	400	HBr, H2S,CH3SCH3,NH3, HCHO,
CO2	WMS1	30ppm	0-30%V	10atm	400	CO2, H2S, CO, HCN,H2CO, CS2, C2H2, NH3
CO2	WMS1	30ppm	0-30%V	10atm	400	CO2, H2S, CO, HCN,H2CO, CS2, C2H2, NH3
CO2	WMS1	1000ppm	0-20%V	10atm	400	COS,CH4, C4H2,O3(.15),
CO2	WMS1	1000ppm	0-20%V	10atm	400	COS, SO2F2, O3(.15), H2O(0.1),
CO2	WMS1	1000ppm	0-20%	10atm	400	CO2,HI,C4H2, H2O(0.07),C2H2,N2O,H2, SO2F2(), O3(.15), O3(0.1), HOBr(0.25),
COS		0.003ppm	0-1000ppm/0-10%V	10atm	400	
COS		0.5ppm	0-1000ppm/0-10%V	10atm	400	
COS		3ppm	0-1000ppm/0-10%V	10atm	400	
COS		10ppm	0-1000ppm/0-10%V	10atm	400	
COS		10ppm	0-1000ppm/0-10%V	10atm	400	
CS2		0.9ppm	0-1000ppm/0-10%V	10atm	400	
HCN		0.2ppm	0-200	10atm	400	O3(.3),C2H2;
HCO		1ppm	0-1000ppm	10atm	400	H2O, CO2,CH4-
HCL		0.005ppm	0-5ppm,	10atm	400	
HCL	WMS01	0.5ppm	0-1000ppm,	10atm	400	
HCL	WMS01	0.5ppm	0-1000ppm,	10atm	400	
HCL	WMS1	0.07ppm	0-15/8000ppm,	10atm	400	COS ,N2O(),
HCL		0.7ppm	0-15/8000ppm,	10atm	400	
HCL		1.4ppm	0-15/8000ppm,	10atm	400	
HCL	WMS1	1.4ppm	0-15/8000ppm,	10atm	400	C2H2,NO2, NH3, C2H6,H2O
HF	WMS01	0.03ppm	0-5/100 ppm	10atm	400	NH3 ,H2O
HF	WMS01	0.02ppm	0-5/100 ppm	10atm	400	
HF	WMS01	2ppm	0-1000 ppm	10atm	400	
HF	WMS04	0.01ppm	0-5/1000 ppm	10atm	400	
H2						NH3,NO2
H2				10atm	400	C3H4,CH4,CO2,H2O,COS, C2H2,C4H2, HCN,NH3, H2O2,O2
H2				10atm	400	C2H2, C4H2, HI,CO2
H2				10atm	400	COS, C2H4, C4H2
H2O		30ppm	0-100ppm,0-100%V	10atm	400	NO2+, O3(.3), NO2(33), HOBr(0.1), HO2(1),

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

H2O		50ppm	0-100ppm,0-100%V	10atm	400	C2H6O ,O3(.3), CO2,CH4-		
H2O		30 ppm	0-3%V,0-100%V	10atm	400	C4H2,N2O,CO2,HI,C4H2,C2H2,C4H2,H2		
H2O		15 ppm	0-1.5%V,0-100%V	10atm	400	CFH(CF3)2,N2O, H2S, C2H6,O3-,HF,		
H2O	WMS1	1 ppm	0-3000ppm,0-100%V	10atm	400	CH4,H2O2,O3-,		
H2O		0.12 ppm	0-120ppm,0-100%V	10atm	400	CO2,CH3OH		
H2O	TC1000	0.09 ppm	0-120ppm,0-100%V	10atm	400	water(25),CH3OH(1), CH3SH(.2), HCN(2), HCl(2),H2CO(2),NO<181>		
H2O	WMS01	0.04 ppm	0-120ppm,0-100%V	10atm	400	water(25),CH3OH(1), CH3SH(.2), HCN(2), HCl(2),H2CO(2),NO<181>		
H2S		0.1ppm	0-100 ppm,0-30%V	10atm	400	water(.1);		
H2S	WMS01	1ppm	0-1000 ppm,0-30%V	10atm	400	H2S, CO, CO2, HCN,H2CO, CS2, C2H2, NH3		
H2S	WMS2	4ppm	0-3000 ppm,0-30%V	10atm	400	H2S, CO, CO2, HCN,H2CO, CS2, C2H2, NH3		
H2CO		0.15ppm	0-30ppm/0-10%V	10atm	400	HCl(300),CH3OH(5), CH3SH(4?), NH3(0.2),CH3(3),CH3CH3(10), CH4(15), HCN(7-60?), C2H2(.5), H2S(0.3), N2O(3), NO2(.1), H2CO(60), CS2(1.5),		
H2CO		0.15ppm	0-30ppm/0-10%V	10atm	400	H2CO(13), C2H4(12), NH3(3), CH3OH(1), CH3SH(.1), N2O(.3), CS2(.25),		
HNO3		0.06ppm	0-60 ppm	10atm	400			
HNO3		1.2ppm	0-120 ppm	10atm	400			
NH3	WMS01	0.06ppm	0-60ppm	10atm	400	NH3(50), CH3OH(1), CH3SH(.2),H2CO(2), CS2(.25),		
NH3	WMS01	0.048ppm	0-50ppm	10atm	400	NH3(50), CO2(5), H2O		
NH3	WMS1	1.8ppm	0-2000ppm	10atm	400	NH3(50), DMS,CH3SH,CH4		
NH3	WMS1	0.72ppm	0-1000ppm	10atm	400	NH3(50), CO2, CH4,C2H4		
NH3	WMS1	0.3ppm	0-300ppm	10atm	400	HCN,CO2,H2CO,CH3SH,CO,H2S,	CO2 <3%	
NH3	WMS01	0.09ppm	0-100ppm	10atm	400			
NH3	WMS1	0.2ppm	0-200ppm	10atm	400			
NH3	WMS1	1ppm	0-1000ppm	10atm	400	O3(.3), NO2(33), HOBr(0.1), HO2(0.1),		
N2			0-100%			NH3()		
N2O		10ppm	0-1000ppm,	10atm	400	CH4,NH3		
N2O		2.2ppm	0-1000ppm,	10atm	400	CH4,NH3		
N2O		2.2ppm	0-1000ppm,	10atm	400			
N2O	WMS1	2.2ppm	0-1000ppm,	10atm	400	CH4,NH3,		
N2O	WMS1	10ppm	0-1000ppm,	10atm	400	NH3,HF, CFH(CF3)2,C2H4,H2,		
N2O	WMS1	10ppm	0-1000ppm,	10atm	400			



N2O	WMS1	10ppm	0-1000ppm,	10atm	400	H2O,
NO		10ppm	0-1%	10atm	400	NO(350),SO2(250),
NO	WMS01	5ppm	0-1000ppm	10atm	400	
NO	WMS01	10ppm	0-1000ppm,	10atm	400	
NO	WMS1	1ppm	0-1000ppm,	10atm	400	C2H2, CO,H2O
NO2	WMS01	10ppb	0-1ppm,	10atm	400	
NO2		10ppb	0-1ppm,	10atm	400	
NO2		10ppb	0-1ppm,	10atm	400	
NO2		10ppb	0-1ppm,	10atm	400	
NO2		10ppb	0-1ppm,	10atm	400	
NO2	WMS04	10ppb	0-1ppm,	10atm	400	O2,
NO2	WMS1	0.1ppm	0-100ppm,	10atm	400	
NO2		10ppb	0-1ppm,	10atm	400	
NO2	WMS30	10ppb	0-1ppm,	10atm	400	
NO2		10ppb	0-1ppm,	10atm	400	
O2		100ppm	0-30/100%V	10atm	400	
O2		100ppm	0-30/100%V	10atm	400	
O2	WMS01	100ppm	0-30/100%V	10atm	400	
O2	WMS1	100ppm	0-30/100%V	10atm	400	NO2
O2	WMS01	100ppm	0-30/100%V	10atm	400	
O2	WMS1	100ppm	0-30/100%V	10atm	400	NO2
O3		4.5ppm	0-5000ppm	10atm	400	H2Ovw
Ar-OH		1ppm	0-500ppm	10atm	200	CH3, protein, ArNH2
Ar-OH		1ppm	0-500ppm	10atm	200	Aromatic, CH2, ROH, sucrose,starch
SO2	WMS01	0.002ppm	0-1ppm	10atm	400	
SO2	WMS01	0.09ppm	0-1ppm	10atm	400	
SO2	PM	0.001ppm	0-1ppm	10atm	400	CH3SH(8), CH3OH/2.5, NH3(0.5), CH4(3), HCN(.3-3), C2H2(1), H2S(.3), N2O(2?), H2CO(50),
SO2	PM	0.01ppm	0-10ppm	10atm	400	C2H3CHO,NO2,O3

SO2	PM	0.01ppm	0-10ppm	10atm	400	NO2,O3	
SO3	WMS1	0.1ppm					①
SiCl4	WMS1	1ppm					①
SiHCl3	WMS01	0.1ppm					①
SiH2Cl2	WMS01	0.1ppm					①
SiH3Cl	WMS01	0.1ppm					①

\*The range data is with 1 m optical path cell, unless other where specified with OL.

\*analyzer for unlisted gases might be designed by requirements. Such as Acetylene (C2H2), Allene (CH2CCH2), Ammonia (NH3), Butadiyne (C4H2), Butene (CH2CHCH2CH3), Carbon dioxide (CO2), Carbon disulfide (CS2), Carbon monoxide (CO), Carbon tetrachloride (CCl4), Carbonyl fluoride (COF2), Carbonyl sulfide (COS), Chlorine nitrate (ClONO2), Chlorine oxide (ClO), Chlorosulfonyl isocyanate (CSI) (ClSO2NCO), Cyanogen (C2N2), Cyclopropane (C3H6), Dimethyl sulfide (DMS) (H3CSCH3), Dimethyl sulfoxide (DMSO) (H3CSOCH3), Ethane (CH3CH3), Ethylene (C2H4), Formaldehyde (H2CO), Formic acid (HCO2H), Hydrazine (N2H4), Hydrogen (H2), Hydrogen bromide (HBr), Hydrogen chloride (HCl), Hydrogen cyanide (HCN), Hydrogen fluoride (HF), Hydrogen iodide (HI), Hydrogen peroxide (H2O2), Hydrogen sulfide (H2S), Hydroperoxy radical (HO2), Hypobromous acid (HOBr), Hypochlorous acid (HOCl), Isobutene ((CH3)2CCH2), Methane (CH4), Methanesulfonyl chloride (CH3SO2Cl), Methanol (CH3OH), Methylamine (CH3NH2), Methyl chloride (CH3Cl), Methyl fluoride (CH3F), Methyl mercaptan (CH3SH), Nitric acid (HNO3), Nitric oxide (NO), Nitrogen (N2), Nitrogen dioxide (NO2), Nitrogen oxide cation(NO+), Nitrous oxide (N2O), Oxygen (O), Oxygen (O2), Ozone (O3), Phosphine (PH3), Propane (C3H8), Propylene (C3H6), Propyne (CH3C2H), Sulfur dioxide (SO2), Sulfur hexafluoride (SF6), Sulfuryl chloride (SO2Cl2), Sulfuryl fluoride (SO2F2), Thiophosphoryl chloride (SPCl3), Water (H2O)..

## Ordering Attentions:

- 1) This instrument is guaranteed to use in special gas analysis in the defined mixture, based on information from user.
- 2) Application system in unsafe area, must order special Anti-explosive Extension

## BigDipper Technochem Institute

Call : 010-8264.0226;

Fax: 010-8264.0221;8264.0238;

P.o.Box 603 BDTI Beijing, China 100080

email: [sales@fullsense.com](mailto:sales@fullsense.com) [suncns@hotmail.com](mailto:suncns@hotmail.com) web: <http://www.fullsense.com>