



Portable Gas Analyzer  
Model:pAir4810-EAP (NIR Laser Spectrum Gas Analyzer)

## Portable Environ Air Pollutions Analyzer

Ref: pAir4810\_EAP\_IntE

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Information: [http://www.fullsense.com/Products/Gas/Portable/pGas4810\\_IntE.pdf](http://www.fullsense.com/Products/Gas/Portable/pGas4810_IntE.pdf)

- *Intelligent Analysis Based on Powerful CPU*
- *Rapid Test in Seconds*
- *Sub-ppm or ppm detection of over 120 gases possible*
- *100 frame Data log*
- *LCD 8x20 Display, Backlight Available*
- *RS232/485 Communication*
- *Full Function Keypad Operation*
- *Memo Driven Software, Easy to use; easy to train new operators*
- *Lightweight and easily portable*
- *Long life sensor designed*
- *Free of maintenance*
- *None of interferences of water vapor at most case*
- *High selective is expected*
- *Versatile and up-gradable to suit your needs(Spectral Scanning upgrade permits collection of spectral fingerprint of unknowns, for further in-depth analysis and identification)*
- *ISO 14000 / ISO 14001 ENVIRONMENTAL MANAGEMENT Analyzer*

### High reliable, Free from Interferences

p-Air4810 was special designed for industry general gas analysis. It was based on high resolution TDLAs NIR spectroscopy technology.

pAir4810-IAQ Malodorous Compounds Analyzer is specially designed for environ order detection.

### Applications:

- Groundwater and soil contamination assessment
- Tanker loading emissions monitoring
- Occupational hygiene analysis
- Detection of leaks from storage facilities
- Stack Emissions Monitoring
- Atmosphere Analysis. pAir4810-MP4-OPL10k-ASM-HAP is for trace pollutants analysis.
- Environ monitoring, and urban air pollution surveys. pAir4810-MP4-OPL36-ASM-EAP is the design for popular environ hazardous gases analysis.
- Odor investigations and Effluviium Detect
- Assessment and quantification of indoor air quality
- Indoor Air Quality Studies  
The pAir4810-MP4-OPL36-ASM-EAP makes precise spot measurements for compounds such as CO<sub>2</sub>, CO, formaldehyde, or organic vapors.
- Occupational Air Quality
- Industrial Hygiene  
Real-time detection of vapors in job environments promotes safe work habits. pAir4810-MP4-OPL10k-ASM-HAP



analyzers monitor at typical government-regulated levels.

- Waste Anesthetic Gases  
Service technicians can identify leaks on anesthetic delivery systems by using the pAir4810-MP4-OPL36-ASM-EAP Ambient Air Analyzer as a part of Preventative Maintenance (PM) work.
- Emergency Response Analysis  
The pAir4810-MP4-OPL36-PSED assists emergency response personnel in qualifying hazardous spills and emissions.
- Fume Hood/Tracer Gas Analysis  
When the handling of toxic substances is performed in fume hoods, worker safety can be jeopardized. The pAir4810-MP4-OPL10-PSED serves as an effective monitor for evaluating fume containment of laboratory hoods.
- Air contaminants detection of scuba diving tank.
- Air contaminants detection of aerostat.
- Atmosphere analysis of universe space
- War fairs, chemical agents, bio agents detection
- Drugs detection
- Public safety monitor, explosive and hazardous materials detection

## Instrumental Functions

- LCD 320×240 Graphic 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

Electronic unit: BD6, ADC resolution: 0.0015%FS

Protection against electromagnetic and radio frequencies interference

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

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

Identification set by high pure gas only.

Storage or standby would not decay the system. Long life supported.

Detector Type	Single beam near infrared spectrophotometer
Optics	Bandwidth: 0.1 to 0.001nm; Refer to Laser list
Dynamic range:	General 1000 to 100000 :1
Accuracy:	2% of reading or LDL whichever is great
Pump Flow Rate	1-15 liters/ minute
Analysis Time	1-20s;
Alarms	User Definable
Readout	8 line x 40 character LCD

Start up:	3mins
Response Time	T90:1-10 seconds to 90% of final reading
Optical Path length (OPL)	OPL1: 0.5m to 1.00m OPL10: 10m OPL36k:36km OPL could be expanded to kilometers by Perrot Cell for trace gas analysis.
Sample Cell Volume	2.0 liters
Instrument span drift:	< 4% of measuring range between maintenance intervals
Instrument zero drift:	Negligible (<2% of measuring range between maintenance intervals)
Sampling pressure:	Atmosphere $\pm$ 20% (Standard sampling condition)
Sampling temperature:	-10 °C to 50 °C(Standard sampling condition)
Battery	Internal, rechargeable NiCd. 12V nominal; 2 Ah Capacity. Recharge time 4 to 8 hours Continuous running time: >24Hr/ each charge; Standby time: 7 days
Output	0-2.5Vdc, Serial RS232 or RS485
Dimensions	553mm (W) x 365mm (H) x 193mm (D) Mass 15 kg
Intrinsic Safety	User specified models are certified for CENELEC, Groups IIC, Zone 1 and 2
Certifications	ETL (Class I, Div 1, Groups B, C, & D, Temperature Class T4; ETL-C (Class I, Div. 1, Groups, B, C, & D, Temperature Class T4); CENELEC (EEx ib d IIB + H2 T4)

## 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 70 °C

## Available Models

### pGas4810-OPL100-MP8-EAP Parameters

No.	Gases	Formulae	Range	Tech	Life	Pro
1	Ammonia	NH <sub>3</sub>	0.03-30ppm	TDLAS	5y	◆
2	Trimethyl amine	N(CH <sub>3</sub> ) <sub>3</sub>	0.02-20mg/m <sup>3</sup>	TDLAS	5y	◆
3	Hydrogen sulfide	H <sub>2</sub> S	0.03-30mg/m <sup>3</sup>	TDLAS	5y	◆
4	Methyl mercaptan	CH <sub>3</sub> SH	0.02-20mg/Nm <sup>3</sup>	TDLAS	5y	◆
5	Dimethyl sulfide (DMS)	H <sub>3</sub> CSCH <sub>3</sub>	0.01-10mg/m <sup>3</sup>	TDLAS	5y	◆
6	Dimethyl disulfide (DMDS)	H <sub>3</sub> CSSCH <sub>3</sub>	0.02-20mg/m <sup>3</sup>	TDLAS	5y	◆
7	Carbon disulfide	CS <sub>2</sub>	1-100mg/m <sup>3</sup>	TDLAS	5y	◆
8	Styrene	C <sub>6</sub> H <sub>5</sub> C <sub>2</sub> H <sub>3</sub>	0.02-20mg/m <sup>3</sup>	TDLAS	5y	◆
9	Sniffable dilution ratio	SDR <sup>②</sup>	0-500	Calculated		

### pGas4810-OPL30-MP4-EAP Parameters

No.	Gases	Formulae	Range	Tech	Life	Pro
1	Ammonia	NH <sub>3</sub>	0.1-20ppm	TDLAS	5y	◆
2	Trimethyl amine	N(CH <sub>3</sub> ) <sub>3</sub>	0.07-30mg/m <sup>3</sup>	TDLAS	5y	◆
3	Hydrogen sulfide	H <sub>2</sub> S	0.1-100mg/m <sup>3</sup>	TDLAS	5y	◆
4	Methyl mercaptan	CH <sub>3</sub> SH	0.05-50mg/Nm <sup>3</sup>	TDLAS	5y	◆
5	Dimethyl sulfide (DMS)	H <sub>3</sub> CSCH <sub>3</sub>	0.03-30mg/m <sup>3</sup>	TDLAS	5y	◆
6	Dimethyl disulfide (DMDS)	H <sub>3</sub> CSSCH <sub>3</sub>	0.05-50mg/m <sup>3</sup>	TDLAS	5y	◆
7	Carbon disulfide	CS <sub>2</sub>	3-300mg/m <sup>3</sup>	TDLAS	5y	◆
8	Styrene	C <sub>6</sub> H <sub>5</sub> C <sub>2</sub> H <sub>3</sub>	0.05-50mg/m <sup>3</sup>	TDLAS	5y	◆
9	Sniffable dilution ratio	SDR <sup>②</sup>	0-500	Calculated		

① Not available ② Specially ③ refer to GB/T14675

### pGas4810-OPL1-L22 -EAP Parameters

No.	Gases	Formulae	Range/L22	Tech	Life	Pro
1	Ammonia	NH <sub>3</sub>	0.06-60ppm	TDLAS_L22	5y	◆
2	Trimethyl amine	N(CH <sub>3</sub> ) <sub>3</sub>	0.07-30mg/m <sup>3</sup>	TDLAS_L22	5y	◆
3	Hydrogen sulfide	H <sub>2</sub> S	12-1200mg/m <sup>3</sup>	TDLAS_L22	5y	◆
4	Methyl mercaptan	CH <sub>3</sub> SH	0.6-600mg/Nm <sup>3</sup>	TDLAS-L22	5y	◆
5	Dimethyl sulfide (DMS)	H <sub>3</sub> CSCH <sub>3</sub>	0.24-240mg/m <sup>3</sup>	TDLAS_L22	5y	◆
6	Dimethyl disulfide (DMDS)	H <sub>3</sub> CSSCH <sub>3</sub>	0.6-660mg/m <sup>3</sup>	TDLAS_L22	5y	◆
7	Carbon disulfide	CS <sub>2</sub>	3.4-340mg/m <sup>3</sup>	TDLAS_L22	5y	◆
8	Styrene	C <sub>6</sub> H <sub>5</sub> C <sub>2</sub> H <sub>3</sub>	0.5-50mg/m <sup>3</sup>	TDLAS_L22	5y	◆
9	EVOC	EVOC	0.1-100ppm	EC	2y	◆
9	Sniffable dilution ratio	SDR <sup>②</sup>	0-500	Calculated		