



Portable Gas Analyzer
Model:pGas4810 (LNIR)

Portable Industry Gas Analyzer

Ref: pGas4810_DS_E

Version:2005-02-03

Date:June 17, 2005

Information: http://www.fullsense.com/Products/Gas/Portable/pGas4810_IntE.pdf

- High selectivity from gases mixture is expected, None of interferences of water vapor
- More gases detection is supported
- Dissolved gas detect is supported with DGA software
- Intelligent Analysis Based on Powerful CPU
- Rapid Test in Seconds
- Sub-ppm or ppm detection of over 120 gases
- 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
- 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

p-Gas4810 was special designed for industry general gas analysis. It was based on high resolution TDLAs MFS- NIR spectroscopy technology. The resolution of the spectrum is <10nm between 350-470nm; <3-5nm between 400-700nm;<14nm between 700-800nm;<0.4nm between 760-980nm;<3nm between 1060nm; <20MHz between 1200-1580nm; <20MHz between 1400-1650nm; <30MHz between 1400-2050nm, <80MHz between 1.65-2.4um;

Applications:

- Industry gas analysis.
- Leak Detection for process maintenance
- Natural gas analysis;
- Calorimeter;

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

pGas4810-Series Products

Model	Professional	Specifications	Application
OPL01-MP1-FGA	Natural Analyzer	GasCH ₄ : 0-100%; C ₂ H ₆ : 0-100%; C ₃ H ₈ : 0-100%; iC ₄ H ₁₀ : 0-100%;	Natural gas analysis; Calorimeter; Leakage detector
OPL1-MP4-FGA	Natural Analyzer	GasCH ₄ : 0-100%; C ₂ H ₆ : 0-100%; C ₃ H ₈ : 0-100%; iC ₄ H ₁₀ : 0-100%; O ₂ : 0-25%; H ₂ S:0-500ppm; H ₂ :0.1-70%; N ₂ :0.1-100%;	Natural gas analysis; Calorimeter; Leakage detector

*for difficulty to keep standard gases for rare contaminants. Only calibrations sum gases would be verified for the special instruments. If user has more requirements, it would be extra charged.

*special system analyzer, might add extra cost.

Assembly Units:

Unit	Type	Quat.	Information	Sa	Sp	Ha	Hp
Analyzer		1	BD5-GA4814	1	1	1	1
Photometer Parts							
Light source	NIRL						
Light source	NIRL-WF			1	1	1	1
Light source	NIRL-TDL						
Light source	MIRL						
Light source	FIRL						
Control unit	for WMS		For better selection and stability;				
Light source							
Control unit	for FMS		Spectroscopy analysis				
Light source							
Photometer	NIRP			1	1	1	1
Photometer	MIRP						
Photometer	FIRP						
Environ control	for EC photometer						
Control	for CC photometer cell						
Optical control unit	OC						
Cell	SPC10		1 to 10cm	1	1		
Cell	SPC50		10 to 50cm				
	RFC100		50-100cm				
Cell	HC30		<36m, Parrot			1	1
Cell	HC30		<100m, Parrot				
Basic Sampling Unit							
Sampler	pGSG		For industry pipe		1		1
Sampler	aGSG		For atmosphere	1		1	
Sampler gas pipe	GP			1	1	1	1
Sampler Wire	EW			1	1	1	1
Pump	GP9V			1		1	
Dissolved gas kit	DGD-Kit		Hardware and software; Pump must be installed				
Simple Filter Unit							
SPM filter	SPMF			1	1	1	1
Water vapor filter	WF						
Water drain	Wdrain						
Sample Conditioning Unit							

Air cooler temperature controller	HTAC TC	Industry pipe or container Inter control, adaptation to environ.					
Pressure conditioner	HPMC	Industry pipe or container	1				1
Pressure controller	PC	Inter control, to stable flow for high accuracy					
Chemical Processor							
Reaction converter							
Catalyst converter							
Absorption converter	CF						
Molecule filter	CF						
Filter controller	FC						
Toxic collector							
General Units							
Charger	1	110/220 AC to 12 DC	1	1	1	1	
Small printer	1	Pan type					
Package	1		1	1			
Package	1				1	1	

Sampling Accessories

Items			Introduction
Sampler Gun	AGS	1	For normal air
Sampler	SGS	1	For user defined
Pump	6V	1	For atmosphere sampling
Pump	9V	1	For smoke sampling
Toxic gas Trap			Collect of toxic gas before exhaust
Chemical Filter			Collect interfering gas that influence accuracy of sensors selected. Plant recommended
Heater		1	For outdoor air application in north area, or cold gas process
Filter		1	To filtrate industrial level dust
Gas dilutor	DM2.0L-Auto		To expand the test range based on the basic sensors. It was supported to operate manually or automatically; The manual mode can expand range to hundreds times. The auto mode only allow 10-20 times.
Pipe fitter			For easy connect to pipe line
Pressure Conditioner			To reduce and regulate sample pressure to fit testing requirements
Extended Wiring and piping			Attached to sample gun. Deafult length is 7m.

Calibration Accessories

		Introduction
Standard gas	0	4L bottle, 9.5MPa
Cal tool kit	1	regulator
Cal tool kit	1	Switch
Cal tool kit	1	connector

Consumables

Paper	For printer
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Other Accessories

		Introduction
pAirWin V1.0		PC window 2000 application, STIM data acquisition
pAirWin Pro V1.0		PC window 2000 application
RS485 Kit		Append RS485 port, and Connector to RS232 port of PC
?		User defined, need consultation

Instrument Guaranteed: 1 years.

Ordering Attentions:

- 1) Application system in unsafe area, must order special Anti-explosive Extension
- 2) Non-standard system would be charged extra design fee of 30% of total budget based on the price list of this file.
3 suits up would be free of this special charge.

BigDipper Technochem Institute

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