

Gasboard-3100P

Portable infrared syngas analyzer



Modular Design



CO%+CO₂%+CH₄%+C_nH_m%+H₂%+O₂%
 +C₂H₂%+C₂H₄%+Heating Value calculation
 +N₂ calculation

Gasboard-3100P

is the portable version of Gasboard-3100. With its small size, high accuracy, short response time, simple operation, rechargeable lithium battery power supply system, Gasboard-3100P is an ideal measurement solution for direct sampling from pipe at industrial sites and gas-bag sampling analysis in laboratory, etc.

Applications

Energy production

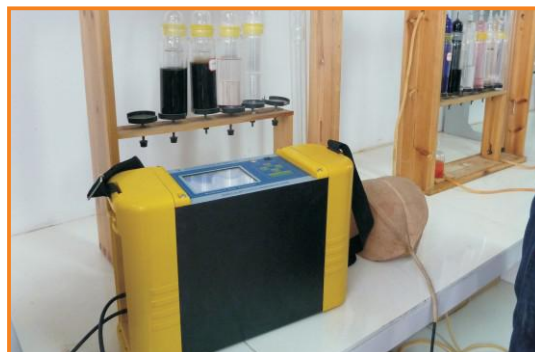
- › Gasification /Pyrolysis
- › Waste to Energy
- › Plasma gasification

Chemical conversion

- › Synthetic Ammonia/Carbamide
- › Hydrogen reforming
- › Coal to Gasoline/ Methanol/ DME/ Ethylene Glycol...
- › Calcium carbide furnace tail gas

Steel making

- › Blast furnace
- › Converter
- › Coking
- › Direct iron ore smelting reduction processes
- › Heat treatment
- › Endogas/Exogas

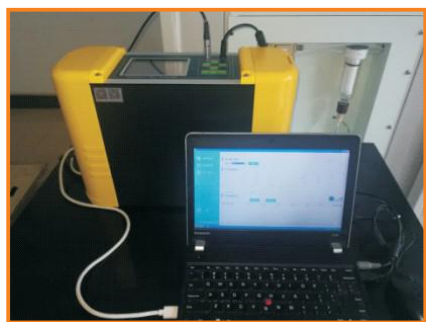


Design Features

- › Modular sensor design ensures easy & cost effective maintenance.
- › Up to 8 gases measurement of CO, CO₂, H₂, O₂, CH₄, C_nH_m, C₂H₂, C₂H₄.
- › Patented technology to detect CH₄ in C₄+ hydrocarbon presence.
- › Precise C_nH_m measurement with correction based on CH₄ measurement.
- › TCD sensor with linear correction from other background gases.
- › Patented diffusion sampling structure ensures stable H₂ reading without influence from gas flow fluctuation.
- › Online composition measurement and real time gas heating value calculation.
- › Constant temperature enclosure to avoid temperature influence.
- › Auto-zeroing with air, efficiently control the zero drift.
- › Bluetooth module with smart phone APP to realize remote diagnosis function.
- › Compact and robust design with light weight, convenient for different sites usage.
- › With LCD display to indicate all data index and tactile keypad easy for operation.
- › In-built sampling pump for low pressure application.
- › External safety filter to protect analyzer from impurities.
- › Internal rechargeable Li-ion battery for over 4hrs full function operation.
- › Internal data logger for up to 1500 sets of data and RS232 COM port for data output.

Standard accessories

- › Nylon carrying bag for analyzer and accessories
- › Gas in/Gas out tubing
- › Power cable and adaptor 220 VAC/12,6 VDC-3A
- › RS232/DB9 cable



Optional accessories

Portable gas pre-treatment unit

- 2X refillable water scrubber for tar & dust washing;
- 1X refillable active carbon filter;
- 1X precision filter with replaceable 0.3µm filter element;
- For dust/tar/moisture removal from the sample gas.
- Maximum allowed tar load: <1g/Nm³

Data logging software

Connect PC and analyzer with RS232 cable, install real time data logging software, users can download history data from analyzer storage and read real time data on the PC.

Specifications

Items	Parameters
Measurement	CO, CO ₂ , CH ₄ , C _n H _m , O ₂ , H ₂ , C ₂ H ₂ , C ₂ H ₄ , + Heating Value & N ₂ calculation
Calculation	High Heating Value or Low Heating Value in MJ/m ³ or kcal/m ³ N ₂ calculation by balance (Optional)
Technology	CO, CO ₂ , CH ₄ , C _n H _m , C ₂ H ₂ , C ₂ H ₄ : proprietary dual beam NDIR detectors O ₂ : industrial use long lifetime electrochemical cell (ECD) H ₂ : proprietary thermal conductivity detector (TCD)
Ranges	CO: 0-10%, or 20%, or 50%, or 75%, or 100% CO ₂ : 0-5%, or 10%, or 20%, or 50%, or 75%, or 100% CH ₄ : 0-5%, or 10%, or 20%, or 50%, or 75%, or 100% H ₂ : 0-5%, or 10%, or 20%, or 50%, or 75%, or 100% O ₂ : 0-5%, or 25% C _n H _m /C ₂ H ₂ /C ₂ H ₄ : 0-5%, or 20% ***Can be customized with above available ranges.
Accuracy	≤2% FS (NDIR); ≤3% FS (TCD and ECD);
Repeatability	≤1%
Sampling	In-built sampling pump
Zero	Auto-zeroing function with fresh air
Gas conditions at analyzer inlet	Flow: 0.7~1.2L/min, Pressure: 2~50kPa, No dust, moisture, tar
Operating conditions	Tamb : 0-50°C / Pamb : 86 to 108 kPa / RH : 0-95% non condensing
Response time (T90)	≤10 sec (NDIR)
Warm-up time	800 seconds (auto-zeroing cycle during the last 120 seconds)
Communication interface	RS232 (real time monitor and memory data download software available)
Power supply	External 220 VAC-50Hz ; In-built rechargeable battery and charger
Data logging	Up to 1500 sets of data; Logging rate adjustable from 3 to 99 sec ; Possibility to identify 10 different sites and up to 100 measuring points
Display	LCD 320 x 240 display with back-lit function Simultaneous indication of the 6 measures + 2 calculation index
Casing	Robust casing in ABS/PC and shoulder strap (delivered with protective carrying bag)