

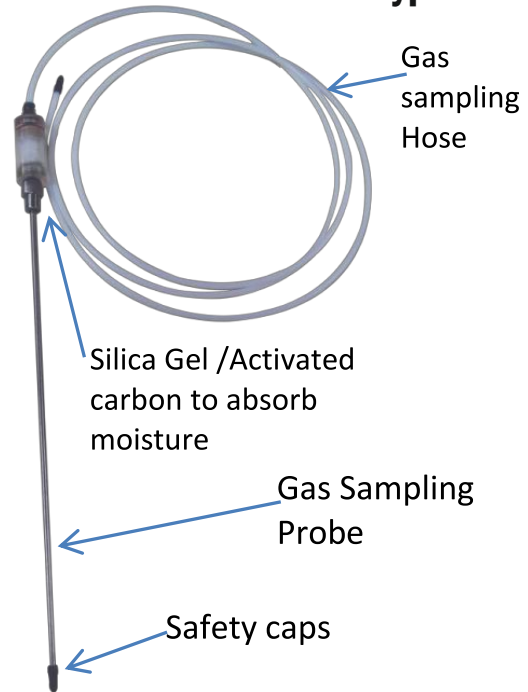
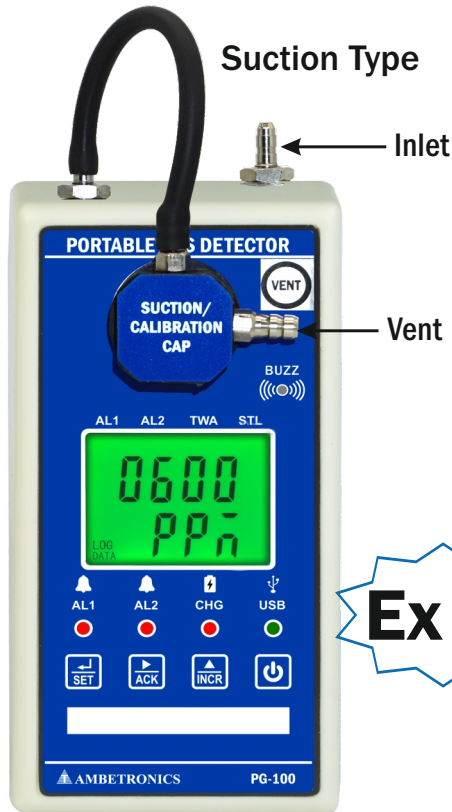
PG-100-S

Single Channel Portable Gas Detector



AMBETRONICS
AN ISO 9001:2015 CERTIFIED COMPANY

Gas Sampling Hose & Probe for Suction Type



Ex ia

Features

- The Plug-in Sensor provides a full year of warranted protection against hazardous gases
- The Portable Detector detects smallest gas leak on service line and joints
- Easy handling and programming with 3 keys and one key for power ON/OFF
- Easy software calibration by using front keys
- Digital display of Gas Concentration in %V/V or %LEL or PPM or PPB or $\mu\text{g}/\text{m}^3$ or mg/m^3 on LCD with backlight unit are adjustable by user setting
- User settable Alarm 1 and Alarm 2 LCD display alert with 5 colors Red / Blue /Yellow/ Cyan / Violet
- Password protected function menu
- LOW, HIGH, TWA & STEL configurable alarms with buzzer, vibrator alerts & LED indications with multi-color display
- "Calibration due" indication and alert
- "Sensor Open/Over" Range Indication In sensor open & over range condition device keep flashing with blue & white colors.
- Optional Data logging & Downloading facility. Downloaded data available in ASCII format (Max: 50,000 records)
- Battery status indication on the LCD with battery charging LED indication & LOW BAT indication with Buzzer Beep sound
- Unit conversion user setting
- Power supply with rechargeable battery
- Small, compact and light-weight
- Pump blockage detection facility in suction type

*Actual image and size may slightly differ

CERTIFICATE & APPROVALS

INTRINSICALLY SAFE

- CIMFR TR NO. : IN/CIMFR/TR21/R/1341
DATE : 06/08/2021
- BIS MARK LICENCE NO. : 7800047118
- PESO CERT. NO. : P543659/1
DATE : 11/08/2022
- Ex ia IIC T6 Ga : Suitable for Hazardous Gas
- Atmospheres Zone : Zone 1 and Zone 2,
- Including Gas Groups : IIA, IIB & IIC
- IS/IEC 60079-0 : 2011
- IS/IEC 60079-11 : 2006
- IS/IEC 60529 : 2001



Applications

- Emergency response to gas leak
- Incoming Cylinder inspection
- Equipment maintenance
- Pre entry check quality control process
- Waste water treatment plants
- Pulp & Paper Industry
- Steel mills
- Ambient monitoring
- Personal Monitoring
- Refineries & Petrochemical plant including
- Offshore drilling and plant shutdowns

Intrinsically Safe



PESO Approved

EN-50270
EN 61000-6-4
Compliance



MAKE IN INDIA

TECHNICAL SPECIFICATIONS

GENERAL

| | |
|---|---|
| Sensors | : Electrochemical/Catalytic / Pellistor / NDIR / PID |
| Range/Resolution | : As specified in the table |
| Detection Method | : Suction |
| Response Time | : Less than 10 Sec |
| Parameter Setting | : Setting by 3 keys i.e. (SET, SHIFT, INCR) |
| Alarm Set Point | : Two independent set points, AL1 & AL2 with LED indication |
| User settable Alarm 1 and Alarm 2 LCD display | alert with |
| Settable display | 5 colors Red / Blue / Yellow / Cyan / Violet Indicated by Integrated Vibrator & Buzzer (85dB Audible from 1 feet) |
| Display | :2-line LCD with backlit. Normal mode White/ Green in colour |

ACCURACY

| Sr. No. | SENSOR TECHNOLOGY | CAL ACCURACY |
|---------|------------------------|---|
| 1 | Electrochemical | ± 2 % FS |
| 2 | Catalytic / Pellister | ± 2 % FS |
| 3 | NDIR - CH ₄ | ± 0.2 % V/V OR ± 5% of applied gas whichever is max |
| 4 | NDIR - CO ₂ | ± 10 % of applied gas |
| 5 | PID Range | 0 to 5000 PPM ± 10% of applied gas |
| | | 0 to 1000 PPM ± 5% of applied gas |
| | | 0 to 50 PPM ± 3% of applied gas |

ENVIRONMENTAL

| | |
|-----------------|--------------------------------|
| Operating Temp. | : -10°C to +55°C |
| Storage Temp. | : -10°C to +60°C |
| Humidity | : Below 95% RH, Non condensing |

ELECTRICAL : 3.7V LI-PO RECHARGEABLE BATTERY

| BACK UP DETAILS | | | |
|-----------------|---|---------------|----------------|
| Sr. No | DETECTOR TYPE | W/O VIOLATION | WITH VIOLATION |
| 1 | Toxic/ O ₂ / N ₂ | 10 DAYS | 24 HOURS |
| 2 | PID/NDIR (CO ₂ / CH ₄) | 2 DAYS | 18 HOURS |
| 3 | Catalytic / Pellistor | 4 HOURS | 2 HOURS |

COMMON DELIVARABLES

- Test calibration certificate
- Reference calibration gas certificate
- User Manual
- AC Charger Adaptor
- Protection rubber cover
- USB cable (only for data logging option)
- Calibration Cap for Diffusion type

SUCTION ACCESSORIES

- Calibration & Suction cap
- Gas Sensing Probe : Std. size 13", Above 13" available on request
- Gas Sampling Hose : PVC

OPTIONAL DATA LOGGING

| | |
|------------------|---|
| Logging Capacity | : 50,000 records with data available in ASCII format |
| Data Download | : To the PC Through USB interface using Terminal software |

DIMENSIONS & WEIGHT

| | |
|--------------|-----------------------------------|
| Material | : ABS Plastic |
| Size | |
| Suction Type | : 150 mm(H) x 70 mm(W) x 50 mm(D) |
| Weight | |
| Suction Type | : 260 Grams |

LIST OF AVAILABLE GASES WITH RANGE & RESOLUTION

ELECTROCHEMICAL SENSOR TECHNOLOGY

| SR. NO. | GASES | | RANGE | UNIT | RES. |
|-------------|-------------------|--------------------|-------|-------------------|------|
| 01 | Oxygen | (O ₂) | 25 | % V/V | 0.01 |
| 02 | Oxygen | (O ₂) | 100 | % V/V | 0.1 |
| NT1 | Nitrogen | (N ₂) | 100 | % V/V | 0.1 |
| TOXIC GASES | | | | | |
| T1 | Ammonia | (NH ₃) | 100 | PPM | 1 |
| T2 | Ammonia | (NH ₃) | 1000 | PPM | 1 |
| T3 | Bromine | (Br ₂) | 10 | PPM | 0.1 |
| T4 | Carbon Monoxide | (CO) | 1000 | PPM | 1 |
| T5 | Carbon Monoxide | (CO) | 99.99 | mg/m ³ | 1 |
| T6 | Chlorine | (Cl ₂) | 20 | PPM | 0.1 |
| T7 | Hydrogen | (H ₂) | 2000 | PPM | 1 |
| T8 | Hydrogen Bromide | (HBr) | 100 | PPM | 1 |
| T9 | Hydrogen Chloride | (HCL) | 100 | PPM | 1 |
| T10 | Hydrogen Cyanide | (HCN) | 100 | PPM | 1 |

| SR. NO. | GASES | | RANGE | UNIT | RES. |
|---------|-------------------|-----------------------------------|-------|-------------------|------|
| T11 | Ethylene Oxide | (C ₂ H ₄ O) | 250 | PPM | 1 |
| T12 | Hydrogen Fluoride | (HF) | 10 | PPM | 0.1 |
| T13 | Hydrogen Fluoride | (HF) | 100 | PPM | 1 |
| T14 | Hydrogen Sulfide | (H ₂ S) | 100 | PPM | 1 |
| T15 | Ozone | (O ₃) | 20 | PPM | 0.1 |
| T16 | Ozone | (O ₃) | 9999 | µg/m ³ | 1 |
| T17 | Phosphine | (PH ₃) | 10 | PPM | 0.1 |
| T18 | Nitrogen Dioxide | (NO ₂) | 20 | PPM | 0.1 |
| T19 | Nitrogen Dioxide | (NO ₂) | 9999 | µg/m ³ | 1 |
| T20 | Nitric Oxide | (NO) | 250 | PPM | 0.1 |
| T21 | Sulphur Dioxide | (SO ₂) | 50 | PPM | 0.1 |
| T22 | Sulphur Dioxide | (SO ₂) | 2000 | PPM | 1 |
| T23 | Sulphur Dioxide | (SO ₂) | 9999 | µg/m ³ | 1 |

NDIR SENSOR TECHNOLOGY

| SR. NO. | GASES | | RANGE | UNIT | RES. |
|---------|----------------|--------------------|-------|-------|------|
| N1 | Carbon Dioxide | (CO ₂) | 5000 | PPM | 1 |
| N2 | Carbon Dioxide | (CO ₂) | 2000 | PPM | 1 |
| N2 | Carbon Dioxide | (CO ₂) | 5 | % V/V | 0.1 |
| N3 | Carbon Dioxide | (CO ₂) | 100 | % V/V | 1 |
| N4 | Methane | (CH ₄) | 100 | % LEL | 1 |
| N5 | Methane | (CH ₄) | 5 | % V/V | 0.1 |
| N6 | Methane | (CH ₄) | 100 | % V/V | 1 |

| SR. NO. | GASES | | RANGE | UNIT | RES. |
|---------|-----------------------|----------------------------------|-------|-------|------|
| N7 | Propane / LPG | (C ₃ H ₈) | 100 | % LEL | 1 |
| N8 | Propane / LPG | (C ₃ H ₈) | 5 | % V/V | 0.1 |
| N9 | Propane / LPG | (C ₃ H ₈) | 100 | % V/V | 1 |
| N10 | NITRUS OXIDE | (N ₂ O) | 1000 | PPM | 1 |
| N11 | Sulphur Hexa Fluoride | (SF ₆) | 1000 | PPM | 1 |
| N12 | Refrigerant | (R-134a) | 1000 | PPM | 1 |

LIST OF AVAILABLE GASES WITH RANGE & RESOLUTION

CATALYTIC/PELLISTOR SENSOR TECHNOLOGY

COMBUSTIBLE GASES

| SR. NO. | GASES | | RANGE | UNIT | RES. |
|---------|---------------------------------------|--|-------|-------|------|
| C1 | Acetone | (CH ₃) ₂ CO | 100 | % LEL | 1 |
| C2 | Acetylene | (C ₂ H ₂) | 100 | % LEL | 1 |
| C3 | Ammonia | (NH ₃) | 100 | % LEL | 1 |
| C4 | Butane / n-Butane | (C ₄ H ₁₀) | 100 | % LEL | 1 |
| C5 | Carbon Monoxide | (CO) | 100 | % LEL | 1 |
| C6 | Ethanol | (C ₂ H ₅ OH) | 100 | % LEL | 1 |
| C7 | Ethyl Acetate | (C ₄ H ₈ O ₂) | 100 | % LEL | 1 |
| C8 | Ethylene | (C ₂ H ₄) | 100 | % LEL | 1 |
| C9 | Ethylene Oxide | (C ₂ H ₄ O) | 100 | % LEL | 1 |
| C9 | Hexane/n-Hexane | (C ₆ H ₁₄) | 100 | % LEL | 1 |
| C10 | Hydrogen | (H ₂) | 100 | % LEL | 1 |
| C11 | Isopropanol | (CH ₃ C ₂ H ₄ OH) | 100 | % LEL | 1 |
| C12 | Methane | (CH ₄)/(HC) | 100 | % LEL | 1 |
| C13 | Methyl Ethyl Ketone | (C ₄ H ₈ O) | 100 | % LEL | 1 |
| C14 | Methanol | (CH ₃ OH) | 100 | % LEL | 1 |
| C15 | N-Heptane | (C ₇ H ₁₆) | 100 | % LEL | 1 |
| C16 | N-Pentane | (C ₅ H ₁₂) | 100 | % LEL | 1 |
| C17 | Pentane/n-Pentane | (C ₅ H ₁₂) | 100 | % LEL | 1 |
| C18 | Propane/n-Propane/LPG | (C ₃ H ₈) | 100 | % LEL | 1 |
| C19 | Toluene | (C ₇ H ₈) | 100 | % LEL | 1 |
| C20 | Unleaded Petrol | | 100 | % LEL | 1 |
| C21 | CNG/LNG/LPG/Natural Gas/Flammable Gas | | 100 | % LEL | 1 |

PID SENSOR TECHNOLOGY

| SR. NO. | GASES | RANGE | UNIT | RES. |
|---------|---|-------|------|------|
| P1 | Isobutylene (C ₄ H ₈)/ Other VOC | 50 | PPM | 0.1 |
| P2 | Isobutylene (C ₄ H ₈)/ Other VOC | 1000 | PPM | 1 |
| P3 | Isobutylene (SPAN C ₄ H ₈)/Other VOC | 5000 | PPM | 1 |

NOTE:

- In above table, range of gases start from zero.
- Confirm Gas sampling Hose length by enquiry & it is available only for Suction type detector.
- Gases which are not listed, are available on request & for other details contact factory.
- All VOC's are available in PID detection principle in PPM ranges.
- PID detector will be provided by calibration with Isobutylene gas.
- In PID detector, VOC other than Isobutylene is calibrated with Isobutylene gas by setting VOC correction factor,
- In Calibration Report, VOC factor with respect to Isobutylene gas will be mentioned.
- Detection value of VOC = Isobutylene gas concentration value x factor.

ORDERING INFORMATION

| MODEL NO | DETECTION METHOD | DATA LOGGING OPTION | GAS NUMBER, RANGE, RESOLUTION |
|----------|------------------|--------------------------------|-------------------------------|
| PG - 100 | 1) S = Suction | 1) No Suffix = No Data Logging | Refer Gas List |

Manufactured by :



CIMFR



PESO



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