

SINGLE GAS DETECTOR (PROFESSIONAL SERIES) **FORENSICS DETECTORS™**

**FORENSICS
DETECTORS**



**** WARNING ****

- KEEP DETECTOR **AWAY** FROM ELECTROMAGNETIC & MAGNETIC INTERFERENCES (i.e. PHONES & MAGNETS)
- STORE DETECTOR **WITHIN SPECIFICATIONS**
- IF UNWELL, SEEK CLEAN AIR & MEDICAL HELP.
- **DO NOT** OPEN THE UNIT
- **KEEP AWAY** FROM DUST & PARTICULATE
- **DO NOT EXPOSE TO EXHAUST GAS** or HARSH VAPORS, CHEMICALS OR EXCEED MAX RANGE AS IT WILL POISON THE SENSOR
- **CALIBRATE AT EVERY 6 MONTHS**
- **BUMP TEST** WHEN FIRST UNPACKING TO CONFIRM DETECTOR OPERATION
- **BUMP TEST** BEFORE USE TO CONFIRM DETECTOR OPERATION

INTRODUCTION

You have purchased the **SINGLE GAS DETECTOR** by **FORENSICS DETECTORS™**. Confirm you purchased the correct specific gas as marked on the detector label. The detector has a temperature indicator, time, alarm functionality, adjustable alarms and calibration friendly for industrial, business, home or R&D applications.

OPERATION

ON/OFF: Press POWER button for 5 seconds. After self check, normal operation begins and the gas level is shown.

MENU MODE: Press the POWER button to enter the main MENU SELECTION. Use UP and DOWN buttons to make your selection, then press POWER button to select.

MENU OPTIONS

Gas Zero: Expose to ZERO air for 2 minutes using certified gas or fresh air (only for O2 Detectors, expose to pure N2). Maintain a flow of about 0.5L/min when using gas bottles and use the sensor cap provided to deliver the gas to the detector. Then press Save to register the Zero reading.

Gas Calib: Enter passcode 8888. Enter CAL gas concentration – usually mid point of detection range or lowest alarm level. Expose to CAL air for 2 minutes using certified gas. For O2 detectors, simply expose the detector to fresh air that has 20.9% of O2. Maintain a flow of 0.5L/min when using gas bottles and use the sensor cap provided to deliver the gas to the detector.

Set Time: Follow screen instructions. Move cursor and adjust time digits as desired.

Record: Time-stamped history of alarm activation.



LA Set: Low Alarm set point. Follow screen instructions. Move cursor and adjust alarm levels.

HA Set: High Alarm set point. Follow screen instructions. Move cursor and adjust alarm levels.

Unit Set: Allows user to select between ppm or mg/m3. Note: For O2, unit is measured in %vol

ESC: Exit menu options and back to normal operation.

BATTERY CHARGING

The product has a built-in lithium battery and is charged via micro-USB. When the battery mark on the screen is full, charging is completed. To Operate the Detector whilst charging, plug the charging cable whilst detector is ON. **DO NOT charge in dangerous test locations to avoid fire or explosions.**

SPECIFICATIONS

Sensor: Electrochemical Sensor

Sensor Life: 2-3 years (comes with calibration certificate)

Detection Range: see Table 1

Error: <±5% F.S. of detection range [see Table 1]

Recovery/ Response Time: < 30 seconds

Storage / Operating Temperature: 14°F - 122°F

Storage / Operating Humidity: <95%RH

Battery: DC3.7V Li-Ion battery 1500mAh

Dimension/Weight: 4.3x2.3x1.7 inches & 5.4oz

Rating: ATEX certified Ex ib IIB T3 Gb. IP65 certified.

Charging Time: 3 hours, Operating Time: >24 hours

Contact Us

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Table 1: Professional Series Model FD-90A gas detectors offered by FORENSICS DETECTORS™

Gas	Range	Low Alarm	High Alarm
H ₂	0-1000ppm	35ppm	250ppm
H ₂ S	0-100ppm	10ppm	15ppm
CO	1000ppm	50ppm	200ppm
CO ₂	0-5,000ppm	1000ppm	2000ppm
C ₂ H ₄ O	0-20ppm	10ppm	15ppm
O ₂	0-30%	19.5%	23.5%
NH ₃	0-100ppm	25ppm	50ppm
Cl ₂	0-50ppm	5ppm	10ppm
O ₃	0-20ppm	5ppm	10ppm
SO ₂	0-20ppm	2ppm	5ppm
PH ₃	0-20ppm	0.3ppm	5ppm
NO	0-250ppm	20ppm	50ppm
NO ₂	0-20ppm	5ppm	10ppm
HCN	0-500ppm	10ppm	20ppm
HCl	0-50ppm	10ppm	20ppm
CH ₂ O	0-10ppm	2ppm	5ppm
VOC	0-100ppm	20ppm	50ppm

What is CALIBRATION?

Your detector comes already calibrated, ready to use. Turn ON and GO. However, calibration is an important function to be performed to ensure your gas detector operates accurately (EVERY 6 MONTHS). Accuracy and Calibration drift can happen over time because of chemical degradation of sensors and the natural drift in electronic components. There are two parts to the calibration, ZERO Calibration and SPAN Calibration.

ZERO CALIBRATION: Ensures a good baseline to ZERO target gas exposure. This ensures the detector reads a true ZERO. For example, for CO detectors, this is performed in fresh air, with NO carbon monoxide present.

SPAN CALIBRATION: Ensures accurate gas concentration reading (i.e. ensure that the display reading in ppm is accurate and true). For example, an OSHA safety officer using a CO detector used in the field would want to calibrate to a concentration of 50ppm, since ambient CO is usually in the lower range. The span calibration gas concentration chosen is best chosen to represent the concentration that the sensor typically is exposed to, as to ensure maximum accuracy for daily application usage.

What is Bump Testing?

Bump testing is to expose the gas detector to a small amount "blast" of target gas to ensure the detector operates and alarms as programmed. The function of this test is to verify detection operation and build user confidence, particularly in hazardous and critical user applications. Recommended to bump test when first purchased and unpacking detector and weekly thereafter.

GAS SAMPLING PUMP

Not required but may be need when performing continuous monitoring, point sampling or gas sampling in isolated areas (hard to get to areas) such as sewers, silos, tanks or shafts.

Sold Separately.



ROBUST WORK DESIGN

The professional series detector is a robustly designed unit. It arrives with a sling, calibration cap and cable charger with an attached metal belt clip. The detector conforms to a variety of qualifications:
CE ATEX certified Ex ib IIB T3 Gb
IP65 certified



Product Tested, Calibrated, QA/QC in California, USA
Product Packaged in California, USA
Product Made in China
See our Product Demos on our [YouTube Channel](#)



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