

INTRODUCTION

You have purchased the **GAS LEAK DETECTOR FD-91** by **FORENSICS DETECTORS™**. The FD-91 comes in three models and are differentiated by their color. They all have the same functional operation.



FD-91-RED
Combustibles
Gas Leak
Detector

FD-91-YELLOW
Sewer
Gas Leak
Detector

FD-91-BLACK
Refrigerant
Gas Leak
Detector

Gas Sensitivity:
Combustibles & Sewer Gases that include Acetone, Acetylene, Alcohols, Ammonia, Benzene, Butane, Ethanol, Diesel, Gasoline, Hexane, Hydrogen Sulfide, Methane, Naptha, Natural Gas, Paint Thinners, Propane and Solvents

Gas Sensitivity:
Halogenated Gases, Freon Gases CFCs, HFCs, HCFCs, HCs, HFOs, R134a/R11/R22/R404a/R410a/R600a/R12 34yf and Blends such as AZ-50, HP62, MP39

Range:
(Calibrated to methane per best practice):
0-9999ppm
00 - 20.00%LEL

Range:
0-9999ppm

** ATTENTION **

- KEEP DETECTOR AWAY FROM EMI SOURCES
- STORE DETECTOR WITHIN SPECIFICATIONS
- DO NOT INHALE ANY GAS LEAKS
- IF UNWELL, SEEK CLEAN AIR & HELP
- KEEP AWAY FROM DUST
- BE VERY CAREFULLY WHEN UNDERTAKING A MEASUREMENT OF GAS LEAKS
- NOT A PERSONAL PROTECTION DEVICE
- IF UNSURE CALL YOUR GAS COMPANY OR 911

PPM or LEL

Solid
Gooseneck

Bar Graph
Level &
Numeric

Sensor
Head

Made in
Japan
Metal Oxide
Sensor

Large Color
Display

Fast ZERO
Function

Rubber
Buttons

3 x AAA
Batteries



SPECIFICATIONS

Accuracy: 5% F.S.

Response Time: < 2 seconds

Warm up: 30 seconds

Display: Color LCD, numeric ppm or %LEL, bar graph

Alarm: Visible and Audible

Alarm Point: 1000ppm or 2%LEL

Zero Calibration: Auto and Manual

Auto Off: Yes after 10 minutes

Dimensions: 6 x 2.4 x 1.2 inches

Weight: 11 oz

Power: 3 x AAA 1.5V Batteries

Temperature: 30-122F

Working Humidity: 10%-90%RH

Gooseneck Length: 10 inches

Packing Items: Detector, Manual & Batteries

Sensor FD-91-RED: Semiconducting Metal Oxide

Sensor FD-91-YELLOW: Semiconducting Metal Oxide

Sensor FD-91-BLACK: Heated Semiconducting Diode



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INTRODUCTION

You have purchased the **GAS LEAK DETECTOR FD-91** by **FORENSICS DETECTORS™**. The FD-91 comes in three models and are differentiated by their color. They all have the same basic operation.

- Gas Leak Detectors are used to find gas leaks.
- The FD-91 model series is made with a flexible gooseneck and sensor with a protecting metal cover.
- The objective of the gooseneck is to place the sensor close to suspected gas leak locations and for the gooseneck to allow for easier access at hard-to-reach locations.

OPERATION & TIPS

1. Press the **POWER** [red] button to begin. Ensure turn-on occurs in fresh air [this is very important – fresh air].
2. A 30 second countdown will begin. Before taking a measurement, ensure the display is reading 00.00 %LEL or 0000 ppm.
3. If it is not, allow the unit to remain in fresh air for 5 minutes. The unit is made up of a sensitive sensor, so thermal equilibrium may take longer depending on environmental factors.
4. If it has yet to reach zero, then a ZERO calibration is required. Press the **ZERO** button and then depress it, the display will now read 0000 and detection can begin.
5. The unit is now ready to find a gas leak. Select **SENS-H** if you are seeking the most sensitive option for small leaks and switch to **PPM** for the most sensitive scale.
6. Slowly approach the suspected gas leak area. Adjust the gooseneck so the sensor head is directed on the suspected location. Place the sensor head as close to the area of inspection and hold for a few seconds. Move around connections, piping, and other areas very slowly.
7. Depending on the size of the leak, reaction times will vary depending on gas, leak size, ventilation, dilution effects and many others. If a crosswind or draft is present, slower more careful measurements are needed.
8. If a reading and/or alarm is triggered take the gas leak seriously. Act responsibly and be safe.
9. Press the **POWER** [red] button to turn OFF.

BATTERY POWER

Your gas leak detector is powered by 3 x AAA 1.5V. To preserve power, the unit has AUTO-OFF after 10 minutes. **Since it has AUTO-OFF, DO NOT rely on this as continuous monitoring for combustible personal protection equipment.**



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BUTTON FUNCTIONS

PPM/%LEL button: Change the unit of measure to display either part per million (ppm) or %LEL (lower explosive limit). Note the device is calibrated to methane CH₄ and correcting factors to the displays will be necessary if detecting other combustibles such as propane, butane, or others. See product listing on the FD website for correcting factors.

SENS button: SENS-L and SENS-H, adjust sensitivity. If max sensitivity is required, ensure on SENS-H.

C/F button: changes the temperature unit of measure

ZERO button: press to undertake a ZERO calibration.

SPEAKER button: enables /disables audible alarm. Alarm triggers when reading > 1000ppm or 2%LEL.

APPLICATION NOTES

NATURAL GAS LEAKS: Gas leak detectors are used to find leaks in natural gas pipes, fittings, and connectors. Gas leaks tend to occur with natural gas or propane supplied to the home or business. They can also happen with propane when cooking on the grill, in an RV, or camping with heater products. Gas leak detectors are used to monitor leaks in confined spaces, silos, and tanks for any combustible gas and vapor build up.

SEWER GAS LEAKS: Sewer gas is composed of hydrogen sulfide, ammonia, carbon dioxide, and methane. It is a natural by-product of human waste and becomes a problem for homeowners when there are leaks, clogged vents, or broken pipes. Most term this the "*rotten egg smell*" found commonly in older sewer plumbing and buildings. Sewer detectors are made for plumbers, inspectors, water works, HVAC, contractors, and maintenance engineers.

REFRIGERANT GAS LEAKS: Refrigerant gas is used in refrigeration systems to transfer heat and cool the air. Leaks occur as seals and joints in the refrigeration system may become worn and corroded, allowing the refrigerant gas to leak out. Gas Leak Detectors also allow for confirmation of proper connections. Problems can also occur when the refrigerant is not at the correct pressure, adding stress on the seals and joints.