

INSTRUCTION MANUAL

COMBUSTIBLE GAS LEAK DETECTOR

CD100A



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Introduction

The CD100A Combustible Gas Leak Detector is capable of sensing many combustible, non combustible and toxic gases that include but are not limited to the following:

Acetone	Industrial Solvents
Alcohol	Jet Fuel
Ammonia	Lacquer Thinners
Benzene	Methane
Butane	Naphtha
Ethylene Oxide	Natural Gas
Gasoline-Petrol	Propane
Halon	Refrigerants
Hydrogen Sulfide	Toluene

NOTE: This leak detector is factory calibrated for methane in air.



WARNING!

This unit should not be used for detection of Carbon Monoxide.

Features include

- Fully adjustable steady tic rate accelerates as the sensor tip approaches a leak (the adjustment knob is located on the side of the unit)
- "Tip-Light" in sensor cover used to see around the are of leak in a dark environment
- Long 18" flexible gooseneck
- Audible and visual leak indicator
- Low battery indicator and separate battery compartment for easy replacement
- Power On light
- Solid state semiconductor sensor provides instantaneous detection
- Sensor cover to protect sensor
- Ruggedized protective rubber boot
- Socket for optional earphone
- One year limited warranty

Safety Tips

Before using this detector, read all safety information carefully. In this manual the word "**WARNING**" is used to indicate conditions or actions that may pose physical hazards to the user. The word "**CAUTION**" is used to indicate conditions or actions that may damage this instrument.



WARNING!

Charging or discharging batteries may give off an explosive gas. Keep away from open flame and sources of ignition from the battery at all times.

International Symbols

Dangerous Voltage	Ground
AC- Alternating Current	See Explanation
DC-Direct Current	Double Insulation (Protection Class II)
Either DC or AC	Fuse

Instructions

1. Turn the instrument on by rotating the thumbwheel downward in a non-contaminated environment (fresh air).
2. The green power LED will be illuminated when the unit is turned on. If the battery level is low, the red LED will be steady and the tic will not be adjustable. The battery will need replacing.
3. Adjust to slow uniform tic rate with the use of the thumbwheel (approximately two tics per second). This sets the instrument to the background level. Start your testing by setting the instrument in fresh air. The red LED indicator will flash in correspondence with the tic rate. Allow about 10 seconds for the sensor to stabilize indicated by a steady tic rate. (It may require up to two minutes to stabilize).
4. The unit responds to gas with a variable audible tic sound. The audible tic increases in volume when exposed to gases with 50 parts per million or more. When gas is detected, the tic rate will increase, rotate the thumbwheel back to the steady tic, resetting the instrument to this new background level. Move the instrument into higher concentrations of gas (indicated by increase tic rate) until the leak is found.
5. The "Tip-Light" is used to see around the area of the leak in a dark environment.
6. When this instrument is used in noisy environments, look at the red LED, which flashes more rapidly as the tic rate increases. The optional earphone can be plugged into the side of the unit, if there is high background noise or the operator does not want to disturb other people. This also disables the speaker.
7. If the tic rate becomes uncontrollable, it may be necessary to change the sensor.
8. The detector will respond to some leak finding solution (soap), so use your detector first. If over exposed to some gases, the detector may take an extended period of time to return to normal.

Battery Replacement

1. Turn off the power and remove the battery case cover.
2. Remove and dispose of old 9V alkaline battery promptly in a manner consistent with disposal regulations. Always use a 9V alkaline battery. Ensure the polarity of the battery matches that shown in the compartment.
3. Replace the battery case cover.

Sensor Filter and Sensor Replacement

The sensor is housed at the tip of the gooseneck assembly, and has a life of more than three years.

To remove the sensor:

1. Turn the unit off.
2. Pull off the top half of the sensor housing. (Pushing to one side aids removal)
3. With care, move the "Tip-Light" LED to one side to gain access to the sensor (small silver can).
4. Unplug the sensor and replace it with a new one.

NOTE: The sensor can be fitted in either one of two ways without affecting instrument operation.

5. Realign the LED, ensuring it sits above the sensor.
6. Replace the sensor cover, by pushing it firmly in place. Note the locating pin between the body and sensor cap.

Specifications

Power supply:	1 x 9V battery
Sensor:	Solid state semi conductor
Sensitivity:	< 50 ppm methane
Indicators:	Audible: Adjustable tic rate Visual: Flashing LED
Warm-up:	10 seconds
Response Time:	Instantaneous
Duty Cycle:	Continuous
Battery Life:	5 hrs. typical use
Dimensions:	8" (H) x 4" (W) x 1/2" (D)
Weight:	205mm x 100mm x 36mm
Probe Length:	15oz. / 400mm
Operative:	0 - 50°C / +32 - 122°F

Protection against electric shock in accordance with EN 61010-1: 1993

This instrument is designated as Class III, SELV.

Replacement Parts

Battery	AB10
Replacement Sensor	RS1000
Replacement Sensor Cap	RS1010

Optional Accessories

Headset Earphones	HE1000
Hard Carrying Case	AC501

Electromagnetic Compatibility

The European Council Directive 89/366/EEC requires that electronic equipment does not generate electromagnetic disturbances that exceed defined levels and has an adequate level of immunity to enable it to be operated as intended. The specific standards applicable to this product are detailed in the appendices.

Since there are many electrical products in use that pre-date this Directive and may emit electromagnetic radiation in excess of the standards defined in the Directive, it may be appropriate to check the analyzer prior to use. The following procedure should be adopted:

1. Go through the normal start sequence in the location where the equipment is to be used.
2. Switch on all localized electrical equipment that might cause interference.
3. Check that all readings are as expected. (Generally, a low disturbance is acceptable.) If not, adjust the position of the instrument to minimize interference or switch off the offending equipment during the test. There has been no awareness of any field based situation where such interference has ever occurred since the writing of this manual (April 1998). This advice is only given to satisfy the requirements of the Directive.

This product has been tested for compliance with the following generic standards, and it is certified to be compliant.

EN 50081-1
EN 50082-1

Specifications EC/EMC/K1/CD100A details the specific test configuration, performance and conditions of use.

Warranty

IMR Environmental Equipment, Inc. states the following:

IMR hereby grants the following worldwide IMR warranty for an IMR analyzer purchased from an authorized dealer.

1. The IMR warranty shall entitle every IMR customer to demand a free replacement or repair of the defective parts from any IMR dealer authorized for the respective IMR unit.
2. The IMR warranty shall be granted on the factory new unit and shall commence on the date of the delivery of the original IMR unit to the customer. It shall last for a period of twelve months regardless of the type and the intensity of use and regardless of any change of owner, which may occur during this warranty period.
3. The IMR warranty shall refer to absence of faults with respect to the state of the art nature of the sold unit in terms of material and finish. The warranty for all parts fitted during the twelve-month warranty period shall end with the unit warranty.
4. After the establishment of a material or production fault by IMR or the authorized IMR dealer, the faults will be eliminated by means of free repair or replacement. Replaced parts shall become the property of IMR.
5. No warranty claims may be made for maintenance and setting work, cleaning or other utility materials required for the function of the unit and other wear parts unless they have a direct bearing on work performed under the warranty.
6. The terms and conditions for the acknowledgement of this warranty shall be the presentation of the fully completed warranty card, which must contain the confirmation from the authorized IMR dealer on its delivery and, if applicable, the prescribed maintenance work.
7. The IMR warranty shall only be applicable if
 - a. The analyzer has been maintained in accordance with the instructions issued by the manufacturers and the operating instructions by an authorized IMR dealer.
 - b. Only original IMR spare parts have been used for any repairs.
 - c. The unit has been used properly, the operating instructions observed and the unit has not been used for a purpose other than the one for which it has been designed.
 - d. The IMR unit has been left in its original design and meets the original IMR specifications.
 - e. The fault is not due to external influences or use for a purpose other than the one for which it has been designed.
 - f. Exclusively authorized IMR dealers have made repairs to the IMR unit.
 - g. The IMR unit has been sent to an authorized IMR dealer immediately after the fault was discovered.
8. Warranty time for the analyzer, including electrochemical sensors is 12 months.

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