



CGD100A

Combustible Gas Detector

Background and Purpose

The CGD100A Combustible Gas Detector offers significantly improved hydrocarbon detection while featuring visual concentration indicators and battery operation in a reliable safe enclosure. The Combustible Gas Detector indicates the strength of the vapor source on a six LED bar graph display along with an audible “ticking” signal (similar to a Geiger counter), whose frequency increases as the concentration of the combustible gas increases. The CGD100A’s sensitivity is adjustable and thus is an excellent instrument for pinpointing minute concentrations of combustible hydrocarbons and the presence of hazardous vapors to levels as low as one PPM (parts per million).

100 HUNTER PLACE, YOUNGSVILLE, NC 27596 USA

Ph: (919) 554-2244, (800) 356-7311 • Fax: (919) 554-2266, (800) 899-8181

• Web: www.sirchie.com • Email: sirchieinfo@sirchie.com

Unpacking / Set-up

Before using the CGD100A, it is necessary to install a 9v battery.

1. On the back side of the instrument, unclip and remove the battery compartment cover. A tool is not required to remove the cover.
2. Insert the battery into the instrument's battery connector. Observe the correct polarity (indicted in the battery compartment floor).
3. Reinstall the battery compartment cover.



Remove battery cover (back side of instrument)



Plug-in the 9v battery

The instrument is supplied with rechargeable batteries, a USB-powered battery charger and a suitable USB cable. Before first use of the instrument, please fully charge the batteries.



- Place the batteries into the charger, observing the polarity markings on the charger.
- Plug the smaller end of the USB cable into the charger. Plug the larger end of the USB cable into a computer or a USB power converter.

Safety Precautions

CAUTION: To prevent personal injury:

- Always ensure that the rubber boot is installed on the instrument. Failure to do so may impair the intrinsic safety of the instrument — without the rubber boot in place, there is a possibility of static charge leading to explosion.

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Controls / Operation



Once the charged 9v battery is installed in the instrument, the CGD100A is ready to use.

- Move the instrument to a known, non-contaminated atmosphere.
- Turn the instrument ON by rotating the thumbwheel downward. The green power LED will illuminate, and the tic sound should stabilize to about two per second.
- 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).
- 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.
- 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.

NOTE: Joint compounds used on newly installed piping may contain combustible solvents and could cause a false alarm.

Status Indicators and Control

LED status indicators are located on the front of the instrument.

Power (green): Illuminated when the instrument is ON.

TIC/Low Battery (red): Illuminated steady when a battery charge is needed. The battery must be fully recharged before the instrument is used again.

Normal operation: Flashes in conjunction with the audible tic.

Thumbwheel: On/Off and Tic rate (sensitivity) adjustment.

Cleaning and Maintenance

- Do not allow dirt or grease to obstruct the earphone jack on the side of the instrument.
- Use only a soft cloth dampened with mild soap to clean the body of the instrument.
- Do not subject the instrument to extreme mechanical shock, exposure to strong magnetic fields or extreme temperatures.
- Never immerse the instrument or the probe into a liquid.

Instrument Service

If the instrument does not sound an alarm in the presence of a known leak, it will require service. Discontinue using the instrument, remove the battery and return the instrument to SIRCHIE for Calibration Service.

Technical Specifications

Power Supply:	9v rechargeable battery (9v alkaline battery also suitable)
Continuous Operation:	Up to 5 hours (fully charged battery)
Warm-up Period:	Approximately 10 seconds
Duty Cycle:	Continuous; no limitation
Response Time:	Instantaneous
Sensitivity:	Variable; as low as 1 ppm (gasoline vapor)
Operating Environment:	32°F to 125°F (0°C to 52°C)
Dimensions:	8 in. x 4 in. x 1/2 in. (20.3 cm x 10.16 cm x 1.3 cm)
Weight:	Approximately 15 ounces (425 grams)
Probe Length:	18 in. (~46 cm)

Calibration

To ensure proper operation and to maintain NIST traceability, the sensor must be replaced every two years. Frequently check the “calibration due date” sticker located on the back panel and return to SIRCHIE for Calibration Service before the date has expired. Contact Customer Service at customerservice@sirchie.com or call 919-554-2244 or 800-356-7311.

Trouble Shooting Guidelines

Before returning the instrument to SIRCHIE for repair, carefully review these Trouble Shooting steps to determine if the problem can be solved. If the instrument still fails to work correctly, contact SIRCHIE at (800) 356-7311 to arrange an **RMA** to return it for service.

Symptom	Possible Causes	Actions
Power indicator LED does not light; instrument is non-responsive.	Battery not charged.	Charge battery. Insert charged battery into instrument.
Instrument does not seem operable; does not alarm in the presence of known combustible gas.	Sensor failure. Instrument failure.	Attempt to verify operation on known combustible gas leak source. If no response, return the instrument to Sirchie for service.
Battery life is less than 5 hours of operation.	Battery needs to be replaced.	Replace the battery
Instrument does not operate or battery charge cycle will not complete	Defective battery.	Replace battery.

CAUTION: This instrument should be serviced only by SIRCHIE. Failure to do so may impair the intrinsic safety of the device. Do not open the case of the instrument. There are no user-serviceable parts inside.

Only the battery compartment section of the case may be opened to insert or remove the battery pack. Do not open the case of the instrument – doing so will void the warranty.