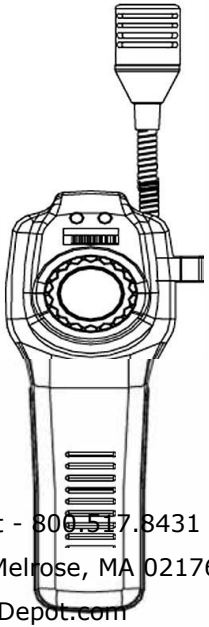
BESANTEK

User's Manual

Combustible Gas Leak Detector

Model BST-MG03



Introduction

BESANTEK BST-MG03 Combustible Gas Leak Detector has a long, slim gooseneck probe to find leaks in tight areas. It's adjustable alarm, easy one-hand operation and impact resistance storage case add up to value and convenience

Applications and Features include

Easily operate the Combustible Gas Leak Detector with one hand to detect presence of combustible gases. Audible and visual indicators help pinpoint leak source. Adjustable "tic" rate helps eliminate background gas concentration in contaminated environments.

- Higher Sensitivity
- Adjustable tick rate to locate leaks quickly and easily
- Visual leak detection by LED indicators
- Precision sensor detects even the smallest leaks
- Fast response of less than two seconds to 40% LEL
- Includes earphone Jack
- 16" gooseneck

Safety Tips

Before using this Instrument, 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.

If you are using your Combustible Gas Leak Detector as a result of a service call, chances are someone has either smelled a combustible gas leak or someone has reason to believe gas may be leaking. While your Combustible Gas Leak Detector is designed to function without producing sparks or otherwise igniting the gasses it detects, the environment you are responding to probably has no such safeguards. Most combustible gas leaks are noticed long before concentration levels build up to the point that explosion hazards exist.

WARNING!

If you feel an explosion hazard exists:
• Arrange for evacuation of people in the area
• Call proper authorities from a safe location
• Shut off gas source is possible
• Ventilate enclosed areas if possible to do so without risk of ignition
• DO NOT switch power switches on in area of question

As a matter of routine, ventilate the area you plan to work in. Ventilation will help ensure the gas does not accumulate in large volume where it can attain its Lower Explosive Limit (LEL)*

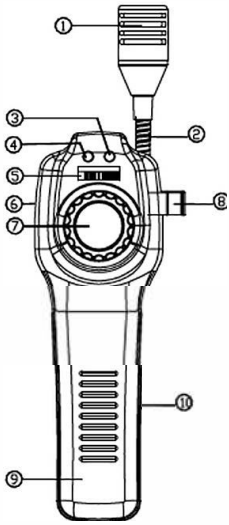
LEL: Lower Explosive Limit - The point at which a combustible gas, when mixed with air, has developed the minimum concentration to combust when exposed to a source of ignition. The LEL is usually stated as a percentage of gas in air, as a fuel-air-ratio, or as parts-per-million (PPM) in a

International Symbols

Important Information; see manual

CE Conforms to European Union directives

Controls and Indicators



1. Sensor Tip Guard & Sensor (internal)
2. Gooseneck Probe
3. Alarm Light
4. Ready Light (Power-On)
5. Power ON/OFF Slide Switch
6. Earphone Jack
7. Tic Rate (Sensitivity) Adjustment
8. Probe Clip
9. Hand handle
10. Batteries cover

Instructions

Switch on the gas-leak detector by sliding the ON/OFF button and the READY light is glowing. The Combustible Gas Leak Detector runs through a

one-minute warm-up and self-zeroing sequence when it is first turned on in fresh air. The alarm of the instrument may very loud without contact any gas. That is caused by the high Tic Rate preset in rotary wheel.

Rate (Sensitivity) Adjustment

Each time the instrument is put into service, you should conduct a quick functional test. Adjust the Tic Rate to non-alarm level. Then, simply expose the sensor to a known leak, like a cigarette lighter, or pass the probe over a drop of combustible fluid. After the initial warm-up, the instrument can be used to detect combustible gasses. When the sensor in the probe tip detects a combustible gas, the tic rate will increase and the instrument sounds a warbling tone while the ALARM light. As the concentration of gas increases so does the tic rate.

If the situation calls for quiet operation, or if background noise makes it difficult to hear the built-in speaker, you can use an earphone. The jack is at the top of the instrument. Note that listening to the alarm or tic through the earphone is very loud.

If the **READY** light is off, the batteries are low. They should be replaced immediately. Low batteries will adversely affect the instrument's reliability. See the replacement procedures.

Adjusting the Tic Rate(Sensitivity)

The tic rate tells you when the sensor (in the tip of the instrument) is getting close to a leaking gas. You can control the tic rate using the rotary wheel in the center of the instrument.

- Move the wheel clockwise to increase the frequency
- Move the wheel counter-clockwise to decrease the frequency

A tic rate of 4 to 8 tics per second, in fresh air, is typical. As the sensor comes near a combustible gas source, the tic rate increases. In order to isolate the source of a leak, you may need to move the wheel counter clockwise, decreasing the sensitivity, as the sensor moves closer.

Replacing the Batteries

Replace your 1.5 volt /size R14C(B) alkaline batteries when:

• The green **READY** light off

• No light or other activity occurs upon turning the instrument on

To replace the batteries:

1. Lay the instrument face-down on a back face.
2. Remove the battery cover. Apply upward pressure to the tab at the bottom of the battery cover while lifting it out.
3. Remove the batteries using a coin or screwdriver,

if necessary, to pry them out.
4. Replace all three batteries with new ones.

Replacing the Sensor

Although the sensor is designed to offer many years of reliable service, it may become inoperable if it is submerged in liquid or otherwise physically damaged.

To replace sensor:

1. Turn the instrument off
2. Remove the upper tip guard by pressing straight up from the alignment notch that separates the two halves of the tip guard.
3. This is a sturdy component, but use caution bending its leads.
4. Pull the sensor straight up from its tip housing.
5. Replace the sensor, pressing it straight in.
6. Reassemble in reverse order.

Specifications

Sensitivity…….. 50 ppm methane
Sensor Type……. Low power semiconductor
Warm Up Time…….. Approx.60 seconds
Response Time……. Less than 2sec. (up to 40% LEL)
Duty Cycle…….. Continuous
Probe Length…….. 16"
Power Supply……. 3”C” cell batteries
Battery Life……. 8 hours continuous use, typical
Alarm……Visible & Audible at 10% LEL for Methane. Can be calibrated for other concentrations or gases.
Warranty…….. 1 year

Operating Conditions

To ensure accurate readings use it only when ambient air is within this range:
Temperature: 32 to 120°F
Humidity: 10 to 90% RH (non condensing)

Gasses Detected

The GAS detects a wide variety of gasses, including some toxic gasses, and nuisance vapors. The following lists represents only a portion of the more common gasses it will detect.

Combustible:

- Natural Gas
- Propane
- Butane
- Methane
- Acetone
- Alcohol
- Ammonia
- Steam
- Carbon Monoxide (not to quantify)
- Gasoline
- Jet Fuel
- Hydrogen Sulfide
- Smoke
- Industrial Solvents
- Lacquer Thinner
- Naphtha