

System Studies Incorporated Hydrogen Leak Detector Operating Instructions

- 3) The unit is also supplied with an earphone (14) to help with leak locating in noisy environments where the audible signal may become drowned out. In these applications, plug in the earphone using the supplied cable and jack. The earphone input (13) is located on the bottom left side of the unit near the touch pad controls. If you would like to turn off the acoustic signal to the earphone, press and hold the SET button (10) until you hear the beep.

Note: This same earphone input (13) is used to attach the power connector when charging the batteries (refer to step 6).

- 4) When searching for nitrogen/hydrogen tracer gas escaping through a cable leak, the speed of the acoustic signal accelerates as you move closer to the leak. Correspondingly, upward ramping LED displays also provide a visual reference as you approach the leak. The LEDs represent the following parts per million of detected hydrogen gas:

| | | |
|--------------|-----|----------|
| Green LED | (9) | 0 ppm |
| Yellow LED 1 | (8) | 10 ppm |
| Yellow LED 2 | (7) | 20 ppm |
| Red LED 1 | (6) | 100 ppm |
| Red LED 2 | (5) | 200 ppm. |

Note: For optimum leak detection, hold the sensor head (3) as close as possible over the cable sheath, splice case, or area to be checked, and move it slowly to more accurately identify the highest concentration of escaping gas. When a leak is indicated, remove the sensor head away from the leak for approximately five seconds. Then check the identified leak location again to verify the reading (It may be necessary to repeat this procedure two or three times.) If the red LED 2 (5) is flashing, this indicates that the background concentration has been automatically suppressed. In this case, hold the leak detector in an uncontaminated area for as long as it takes for the read LED 2 (5) to stop flashing.

- 5) When you have finished leak locating, turn the hydrogen detector off by pressing and holding the ON/OFF button (11) until the LEDs no longer light.
- 6) The Hydrogen Leak Detector's batteries can be charged by plugging the battery charger (15), with A.C. adapter attached, into a wall outlet. Insert the male jack on the opposite end into the unit's earphone input (13). If the batteries are completely discharged, it may take up to 12 hours to fully charge the batteries.

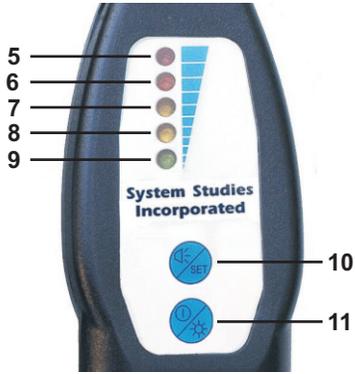


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1. Measuring sensor
2. Touch pad controls
3. Sensor head
4. Sensor safety cap
5. Red LED 2
6. Red LED 1
7. Yellow LED 2
8. Yellow LED 1
9. Green LED
10. SET button
11. ON/OFF button
12. LED lamp
13. Earphone input
14. Earphone
15. Battery charger



Hydrogen Leak Detector (Part No. 9800-0042)

These instructions pertain specifically to the operation of the Part No. 9800-0042 Hydrogen Leak Detector. Please note that this instrument is intended to be used only with a commercially available, green label mixture of 5% hydrogen (H₂) and 95% nitrogen (N₂). The hydrogen is traced by the detector, and the nitrogen acts as a safety buffer. This mixture of gases is a completely safe, transportable and effective tracer gas to use for pressurized cable system leak locating. The gas is totally nonflammable as long as it contains less than 5.7% hydrogen (per ISO 10156:1996).

If you have any concerns or questions about obtaining or using the recommended tracer gas, please contact your company procurement department or call System Studies Incorporated.

Operating Instructions

- 1) Switch the Hydrogen Leak Detector ON by pressing and holding the ON/OFF button (11) until you hear a sustained beep. Before you begin, remove the sensor safety cap (4) from the sensor head (3).

Note: If the instrument has not been used for a long period of time or if it has been exposed to air contaminated with dust, dirt and other debris, deposits may settle on the sensor. This can lead to the display of a non-existing gas concentration. Switching the device on frequently and letting it heat up cleans the sensor. It will then return to its original zero setting and be ready for normal operation.

If the green LED (9) flashes after the heating-up phase, this indicates that the rechargeable batteries need to be charged. Even with the green LED flashing, however, you will be able to use the leak detector for approximately 15 minutes. If the yellow LED 2 (7) flashes, this indicates that the sensor is defective. Please contact System Studies.

- 2) The Hydrogen Leak Detector is supplied with a LED light (12) to assist with leak locating in dark environments. To switch the LED light on, press and hold the ON/OFF (11) button until you hear a short beep. The LED light will remain on until you turn it off by pressing the ON/OFF button briefly a second time, or you turn off power to the unit (described in step 5).