INSTRUCTION MANUAL

SENSIT® GOLD G2

Gas Detection Instrument

For use with combustible gases and optionally available oxygen and toxic gases.

Read and understand instructions before use.

CE 2812 ⟨Ex⟩ II 2 G

Ex ib IIB T3
IP54
ATEX Cert. No. TRAC11ATEX21304X

(SGS)US

710183
UL913

Intrinsically Safe for Use in
Class I, Groups C and D, T3
Hazardous Locations

⚠ **Warning:**
To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.

SENSIT Technologies
851 Transport Drive • Valparaiso, IN 46383 (USA)
Phone: 219.465.2700 • www.gasleaksensors.com

FOR YOUR SAFETY

NOTICE: ⚠ CAUTION: This safety symbol is used to indicate a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

⚠ **NOTICE:** LEL sensor should be checked for accuracy after exposure to any gases containing silicones, high sulfur content, high concentrations of CO (above 10,000ppm) or automotive exhaust gases.

Continuously low calibration check results or fluctuation of zero readings may indicate sensor end of life or failure. Consult SENSIT Technologies with any questions.

For best accuracy always zero in clean air environments similar in temperature and relative humidity to the environment where the instrument will be used.

When continuously exposed to combustible gas concentrations beyond LEL for longer than 5 minutes always perform a calibration check prior to the next use.

FOR YOUR SAFETY

⚠ **Warning:** To reduce the risk of ignition of a flammable atmosphere, batteries must only be changed in an area known to be nonflammable.

⚠ **Warning:** Use only DURACELL® PROCELL, Type PC1400 Alkaline Batteries (or equivalent). **(Applies to UL913 Approval)**

⚠ **Warning:** Use only DURACELL® PROCELL, Type PC1400 Alkaline Batteries. **(Applies to ATEX Approval)**

⚠ **Warning:** Use only SENSIT PowerStick (310-00022) optional.

⚠ **Warning:** Do not mix batteries of different age or type.

⚠ **Warning:** Not for use in atmospheres of oxygen greater than 21%.

⚠ **Warning:** ONLY zero instrument in a gas free environment.

⚠ **Warning:** To maintain intrinsic safety, service must be performed by factory authorized technicians with approved replacement parts only. No substitution of components is permitted.

⚠ **Warning:** All Accessories are to be used in an area known to be non-flammable.

The appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

Only use the detachable power supply unit supplied by SENSIT Technologies.

The house symbol on the power supply, indicates "for indoor use only".

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SENSIT GOLD G2 MODELS (Sensors Included)

Model No.	LEL	%Vol	O2	CO	H2S	HCN
911-00000-01	•					
911-00000-02	•			•		
911-00000-03	•		•			
911-00000-04	•				•	
911-00000-05	•		•	•		
911-00000-06	•			•	•	
911-00000-07	•		•		•	
911-00000-08	•		•	•	•	
911-00000-09	•		•	•		•
911-00000-51	•	•				
911-00000-52	•	•		•		
911-00000-53	•	•	•			
911-00000-54	•	•			•	
911-00000-55	•	•	•	•		
911-00000-56	•	•		•	•	
911-00000-57	•	•	•		•	
911-00000-58	•	•	•	•	•	
911-00000-59	•	•	•	•		•

PARTS AND ACCESSORIES

Standard Accessories (Included)

872-00001	Hard Carrying Case
360-00040	Wrist Strap
870-00018	Extra Sensor Cap with O-Rings
360-00105	T10 Torx Wrench
750-00039	Instruction Manual
310-00004	3"C" Alkaline Batteries
883-00036	2 Piece Polycarbonate Probe Assembly

Accessories and Replacement Parts

870-00018	Sensor Cap with "O" Rings
870-00012	Extension Adapter
873-00016	Hydrocarbon Filter (1)
883-00023	Hot Air Probe Assembly
883-00021	32" Heavy Duty Fiberglass Probe
883-00015	Confined Space Probe with Tubing
883-00019	32" Fiberglass Probe
873-00013	Inline "Mini" Hydrocarbon Filter (1)
883-00018	30" Brass Probe
883-00030	Purge Probe
874-00001	Leak Survey Drag Tube Assembly
883-00046	Telescopic Survey Probe
870-00004	IR Printer
870-00039	IR Link Interface w/ SmartLink Software
914-00000-01	Smart-Cal Automatic Calibration Station
871-00076	PowerStick with Charger

Calibration Kits

Contact us with instrument model number for correct Calibration Kit.

GENERAL DESCRIPTION

The **SENSIT® GOLD G2** is designed to detect combustible gases, oxygen content and toxic gases when so equipped with the available sensors. Each model of the **SENSIT® GOLD G2** provides specific detection features based on approved sensor options. Each **SENSIT® GOLD G2** can be re-configured or upgraded by the manufacturer for an additional charge should your sensing requirements change. **SENSIT® GOLD G2** configurations include measuring PPM, LEL and/or % volume of combustible gases, measurement of oxygen, carbon monoxide, and/or hydrogen sulfide or hydrogen cyanide gas(es).

SENSIT® GOLD G2 instruments incorporate an advanced low power semiconductor sensor to measure combustible gases in the LEL (Lower Explosive Limit) range and a thermal conductivity style sensor to measure combustible gases in the percent volume range. The user may select either methane or propane gas readings from a user menu depending on the sensing requirements. An automatically backlit display shows all gas concentrations being measured. LEDs located on the front of the instrument indicate preset visual warnings of increased gas concentration. All gases are continuously sampled with the use of an internal pump. Audible and visual alarms warn the operator of hazardous conditions being sensed.

GENERAL DESCRIPTION

The preset alarms are indicated by a red flashing LED, display indicator and alarm sound. The combustible gas alarm is preset for 50% LEL. When equipped with the optional percent volume sensor, alarms remain activated up to 17% V/V methane (12% V/V propane). The carbon monoxide (CO) alarm is factory preset at 35ppm. The oxygen (O2) alarms are preset at below 19.5% and above 23.5%. The hydrogen sulfide (H2S) alarm is preset at 10ppm. The hydrogen cyanide (HCN) alarm is set to 5ppm.

The **SENSIT® GOLD G2** instrument is approved ATEX Zone 1 intrinsically safe Ex ib IIB T3 IP54 and UL CL1, Div I Groups C & D, T3 hazardous locations. Consult Sensit Technologies for certificate details.

Per FCC Part 15, this device must accept any interference received, including interference that may cause undesired operation.

SPECIFICATIONS

SENSOR SPECIFICATIONS

TYPE	RESOLUTION	RANGE	ACCURACY
LEL	0.1% up to 2% increments	0-100% LEL	±10%
% GAS	0.1%	5-100% METHANE 2.2-100% PROPANE	±5%
PPM	1ppm or 10ppm	0-10,000ppm	±10%
O_2	0.1%	0-25%	±0.2% or 10%**
CO	1ppm	0-2000ppm	±5ppm or 5%**
H_2S	1ppm	0-100ppm	±2ppm or 5%**
HCN	1ppm	0-30ppm	±2ppm or 5%**

** Whichever is greater

PRODUCT SPECIFICATIONS

Size:	11.5 x 3 x 2.3 in (292 x 76 x 59 mm)
Weight:	1.2 lb. (544 g)
Operational Temp:	-4 to 104° F (-20 to 40° C)
Storage Temp:	-22 to 140°F (-30 to 60° C)
Storage Temp (PowerStick):	-4 to 104°F (-20 to 40° C)
Battery Life:	Alkaline: approximately 14 hrs. continuous
Battery Life:	PowerStick: >9 hrs. continuous (68° F / 20° C)

CE 2812 ⟨Ex⟩ II 2 G

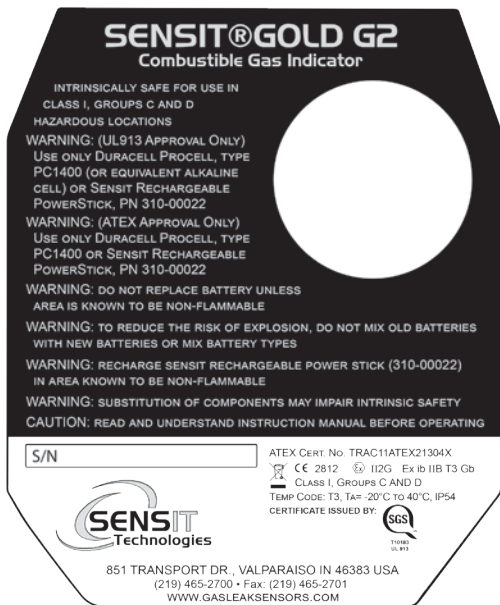Ex ib IIB T3
IP54
ATEX Cert. No. TRAC11ATEX21304X

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UL913

Intrinsically Safe for Use in Class I, Groups C and D, T3 Hazardous Locations
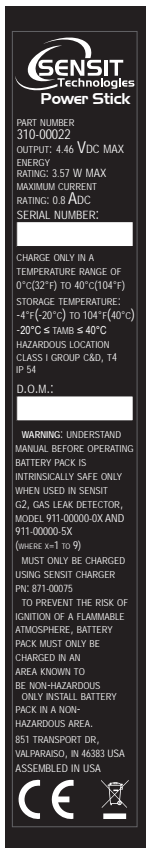
PRODUCT FEATURES

LUER PROBE CONNECTOR

SENSOR CAP

LEL / PPM SENSOR

INFRARED COMMUNICATIONS

GRAPHIC DISPLAY

ALARM LEDs

OPERATION BUTTONS

WATER-RESISTANT HOUSING

FLEXIBLE GOOSENECK

BATTERY COMPARTMENT

PRODUCT FEATURES

SENSIT®GOLD G2
Combustible Gas Indicator

INTRINSICALLY SAFE FOR USE IN
CLASS I, GROUPS C AND D
HAZARDOUS LOCATIONS

WARNING: (UL913 Approval Only)
Use only Duracell Procell, Type
PC1400 (or equivalent alkaline
cell) or Sensit Rechargeable
PowerStick, PN 310-00022

WARNING: (ATEX Approval Only)
Use only Duracell Procell, Type
PC1400 or Sensit Rechargeable
PowerStick, PN 310-00022

WARNING: DO NOT REPLACE BATTERY UNLESS
AREA IS KNOWN TO BE NON-FLAMMABLE

WARNING: TO REDUCE THE RISK OF EXPLOSION, DO NOT MIX OLD BATTERIES
WITH NEW BATTERIES OR MIX BATTERY TYPES

WARNING: RECHARGE SENSIT RECHARGEABLE POWER STICK (310-00022)
IN AREA KNOWN TO BE NON-FLAMMABLE

WARNING: SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY

CAUTION: READ AND UNDERSTAND INSTRUCTION MANUAL BEFORE OPERATING

S/N

ATEX Cert. No. TRAC11ATEX21304X
CE 2812   II2G   Ex ib IIB T3 Gb
Class I, Groups C AND D
Temp Code: T3, TA= -20°C to 40°C, IP54
CERTIFICATE ISSUED BY: SGS
T10183
UL 913

SENSIT Technologies

851 TRANSPORT DR., VALPARAISO IN 46383 USA
(219) 465-2700 • Fax: (219) 465-2701
WWW.GASLEAKSENSORS.COM

SENSIT GOLD G2 Label

SENSIT Technologies
Power Stick

PART NUMBER
310-00022
OUTPUT: 4.46 VDC MAX
ENERGY
RATING: 3.57 W MAX
MAXIMUM CURRENT
RATING: 0.8 ADC
SERIAL NUMBER:

CHARGE ONLY IN A
TEMPERATURE RANGE OF
0°C(32°F) TO 40°C(104°F)
STORAGE TEMPERATURE:
-4°F(-20°C) TO 104°F(40°C)
-20°C ≤ TAMB ≤ 40°C
HAZARDOUS LOCATION
CLASS I GROUP C&D, T4
IP 54

D.O.M.:

WARNING: UNDERSTAND
MANUAL BEFORE OPERATING
BATTERY PACK IS
INTRINSICALLY SAFE ONLY
WHEN USED IN SENSIT
G2, GAS LEAK DETECTOR,
MODEL 911-00000-0X AND
911-00000-5X
(WHERE x=1 TO 9)
MUST ONLY BE CHARGED
USING SENSIT CHARGER
PN: 871-00075
TO PREVENT THE RISK OF
IGNITION OF A FLAMMABLE
ATMOSPHERE, BATTERY
PACK MUST ONLY BE
CHARGED IN AN
AREA KNOWN TO
BE NON-HAZARDOUS
ONLY INSTALL BATTERY
PACK IN A NON-
HAZARDOUS AREA.
851 TRANSPORT DR,
VALPARAISO, IN 46383 USA
ASSEMBLED IN USA

CE

PowerStick Label
(Optional Battery Pack)

PRODUCT FEATURES

SENSIT® GOLD G2 instruments are constructed of durable ABS plastic to withstand the rigors of field use.

Incorporated in the hand grip area is the battery compartment. All **SENSIT® GOLD G2** instruments require 3 "C" type alkaline batteries or SENSIT PowerStick (310-00022).

Use only DURACELL® PROCELL, Type PC1400 Alkaline Batteries (or equivalent). **(Applies to UL913 Approval)**

Use only DURACELL® PROCELL, Type PC1400 Alkaline Batteries. **(Applies to ATEX Approval)**

The tick can be easily heard with the speaker located in the back of the instrument.

An infrared communication window is located on the right side to allow the **SENSIT® GOLD G2** instrument to download calibration data, readings the operator has elected manually to save to the on board memory, as well as communicate with the Smart-Cal Calibration Station and IR Link computer interface with SmartLink software.

A flexible gooseneck is used to assist in locating the source of gas leaks and remote sampling. A water/dirt trap is located at the end with a convenient luer style connector to attach sampling and probe accessories.

PRODUCT FEATURES

A graphic display continuously updates the operator of all available gas concentrations and alarms simultaneously as well as indicates internal functions such as air flow pressure and battery power.

Below the display is a series of LEDs that are preset to indicate combustible gas concentrations. The red LED (HAZARD 3) on the right side will flash during any alarm condition. In darkened environments the backlight will illuminate in red during alarm conditions.

There are 3 operational button pads on the front of all **SENSIT® GOLD G2** instruments.

BUTTON (A) POWER/MUTE
Operates POWER, MUTE and Smart-Cal features and exit menu items.

BUTTON (B) TICK/MENU
Operates the Tick Rate Control, Bar Hole and other Test modes, and to enter, change and select menu items.

BUTTON (C) SAVE/ZERO
Use for save data feature, manually zero sensors, scroll and change menu items.

SENSOR TYPES AND PUMPS

Combustible Gas Sensor

All **SENSIT® GOLD G2** instruments incorporate a highly sensitive and uniquely designed semiconductor sensor. The function and accuracy of the sensor are monitored and controlled by specialized circuitry and a microprocessor. This sensor is capable of measuring concentrations of as low as 1ppm methane up to 100% LEL. When equipped with the percent volume sensor, concentrations above 70% LEL are monitored or measured simultaneously with a state-of-the-art thermal conductivity sensor (TC). This sensor is capable of measuring high concentrations of gas quickly and accurately. All readings are automatically switched between the scales of PPM (if so equipped), LEL and percent volume.

Electrochemical Sensors (optional)

All **SENSIT® GOLD G2** instruments when equipped with the following optional sensors, microprocessor and associated circuitry will measure oxygen (O2) levels from 0-25%, measure carbon monoxide (CO) levels from 0-2000ppm and measure hydrogen sulfide (H2S) levels from 0-100ppm or hydrogen cyanide (HCN) levels from 0-30ppm. All gases are displayed simultaneously on the display.

NOTE: H2S and HCN sensors cannot be simultaneously equipped.

The Pump

The **SENSIT® GOLD G2** instruments are equipped with a powerful and efficient pump. A water/dirt filter at the end of the gooseneck protects the pump from foreign material. An additional internal filter also helps to protect the pump from damaging debris. There are audible and visual indicators that will show a blocked or improperly operating pump.

NOTE: Operating the instrument without a sensor cap or with an altered sensor cap can cause damage to the instrument and void the warranty.

ALKALINE BATTERY

INSTALLATION/REPLACEMENT

⚠ **WARNING: Always change batteries in a non-hazardous location.**

⚠ **WARNING: Never mix batteries of different type or age.**

A battery strength icon is located at the lower right corner of the display which indicates the approximate battery capacity. Battery replacement is necessary when the display icon displays an empty battery silhouette and flashes a countdown timer in seconds indicating the maximum time before instrument shut down. This timer begins at 300 seconds and decreases to 0. During the low power indications the green LED will flash and a warning beep will be sounded. Prior to shut down the display will show BAT LOW in the main display.

Remove the battery sleeve cover by removing the retaining screw (#10 Torx). Depressing the locking tab on the front of the handle with a coin or flat object and pull the handle away from the top or display area of the instrument.

NOTE: Do not twist the battery sleeve or otherwise manipulate in order to unlatch. Damage may occur. Always depress the locking tab.

NOTE: Observe the polarity markings on the inside of the battery holder. Instrument will not operate with improperly installed batteries.

ALKALINE BATTERY

INSTALLATION/REPLACEMENT

Place three (3) approved batteries into the battery holder. For best results hold the battery compartment so that it lays in one of your hands. With your other hand slide the first battery with the negative (-) contact toward the battery spring. Insert the remaining batteries in the same direction. The last battery will contact the positive (+) tab at the end of the holder. If you do not use one of your hands to hold the bottom of the battery compartment the batteries may come out.

Replace the battery sleeve and allow the locking tab to snap into position. Replace and secure the retaining screw. Check to be sure the handle is secure to the instrument body by firmly pulling the handle away.

Use only DURACELL® PROCELL, Type PC1400 Alkaline Batteries (or equivalent). **(Applies to UL913 Approval)**

Use only DURACELL® PROCELL, Type PC1400 Alkaline Batteries. **(Applies to ATEX Approval)**

POWERSTICK (310-00022)

INSTALLATION / REPLACEMENT

⚠ **WARNING: Intrinsically Safe for Use in Class I, Groups C and D, T3 Hazardous Locations when used in a SENSIT Technologies Gas Leak Detector 911-00000-XX.**

⚠ **WARNING: Use only SENSIT Charger (871-00075).**

⚠ **WARNING: Charge only in a temperature range of 0° to 40° C (32° to 104° F).**

⚠ **WARNING: To prevent risk of ignition of a flammable atmosphere, battery pack must only be charged in an area known to be non-hazardous.**

⚠ **WARNING:To prevent ignition of a flammable or combustible atmosphere, disconnect power before servicing.**

⚠ **WARNING:: Charging must be done in a dry/dust free environment.**

⚠ **WARNING:: Inspect vent cover of the PowerStick for damage or separation from the housing. If any damage is observed or separation, the PowerStick must be removed from service.**

⚠ **WARNING: To reduce the risk of ignition of a flammable atmosphere, battery pack must only be changed in an area known to be non-flammable.**

POWERSTICK (310-00022)

INSTALLATION

Positive Side   Negative Side

Recharging the PowerStick is necessary when the display icon displays an empty battery silhouette and flashes a countdown timer in seconds indicating the maximum time before instrument shut down. This can be done while the PowerStick is installed in the instrument or independently.

Remove the battery sleeve cover by removing the retaining screw (#10 Torx). Depressing the locking tab on the front of the handle with a coin or flat object and pull the handle away from the top or display area of the instrument.

With the charging port facing up, insert the negative side of the PowerStick at an angle, from the top side while in a downward motion, until the positive side makes a connection.

Replace the battery sleeve and allow the locking tab to snap into position. Replace and secure the retaining screw. Check to be sure the handle is secure to the instrument body by firmly pulling the handle away.

NOTE: Battery sleeve and screw MUST be installed before use in a hazardous environment.

POWERSTICK

REMOVAL

Remove the battery sleeve cover by removing the retaining screw (#10 Torx). Depressing the locking tab on the front of the handle with a coin or flat object and pull the handle away from the top or display area of the instrument.

To remove the powerstick, push in the upward direction from the bottom side of the battery compartment until the positive clears the plastic housing. Slide out at an angle to clear the battery sleeve tab and remove.
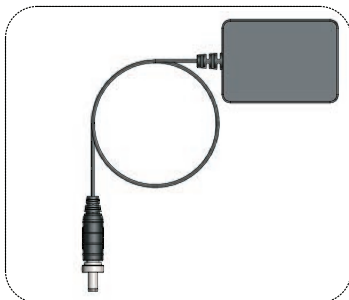
POWERSTICK CHARGING

POWERSTICK CHARGING

Intrinsic Safety Control Drawing

AD/DC Adapter Assembly:
   * Mfg pn: PhiHong PSAC12R-120
   * SENSIT PN:
       871-00077 (International adapters)
       871-00078 (North American adapter)
   * Input: 100-240VAC, 0.5A, 50/60Hz
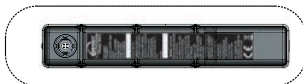   * Output: 12VDC

SENSIT Battery Charger:
   * SENSIT PN: 871-00075

SENSIT PowerStick:
   * SENSIT PN: 310-00022

POWERSTICK CHARGING

⚠ **WARNING: Use only SENSIT Charger (871-00075).**

⚠ **WARNING: To prevent risk of ignition of a flammable atmosphere, battery pack must only be charged in an area known to be non-hazardous.**

⚠ **WARNING:: Charging must be done in a dry/dust free environment.**

⚠ **WARNING: Charge only in a temperature range of 0° to 40° C (32° to 104° F).**

Locate the "Red" indexing tab on both the charger plug and the PowerStick jack. Align and plug in until it locks in and a red or green light activates on the charger. The light scheme is represented below.

YELLOW (solid)   = Power Connected to Charger

RED (solid)   = Charging

RED (blinking)   = Charge Suspended

                   (outside allowable charging temperature range)

GREEN (solid)   = Fully Charged

Once charging is complete (typically <6 hours), remove the charger plug by sliding the collar of the plug away from the PowerStick to disengage the locking mechanism. Reinstall the battery sleeve and retaining screw.

For additional information, reference the SENSIT Battery Charger Manual. Part # 750-00089

OPERATION AND USE

⚠ **CAUTION: Always start any SENSIT® GOLD G2 in a gas free environment to ensure a proper zero.**

1. Push the POWER/MUTE BUTTON (A) until the instrument beeps and the display illuminates. Each of the following will be displayed:

   a. Sensit Technologies Logo
   b. System check that includes:
      i.   LED check
      ii.   Backlight check
      iii.   Memory check
      iv.   Pump check
      v.   Battery check
      vi.   Microprocessor check
      vii.   Pressure sensor check
      viii. Clock check
      ix.   Auto Log Check (alert at 50 records remaining
             before memory is full and overwrites)
   c. Display all active sensors
   d. Display "SENSIT GOLD G2, Configuration Number and Software revision".
   e. Date and Time
   f. Gas Type (indicating type of calibration gas)
   g. Serial Number
   h. Cal Due (up coming), Last Cal (if activated) or Cal Past Due
   i. Sensor Warm Up and Please Wait
   j. Autozero (all gases and pressure sensor)
   k. Auto Bump Test (optional)
   l. Working display showing all gases sensed and battery power remaining

OPERATION AND USE

2. If the display fails to illuminate or BAT LOW is shown on the display, replace the batteries or recharge the PowerStick.

3. If any sensor is past the intended calibration cycle, CAL DUE will appear during the start-up sequence. The instrument will also show which sensor is due for calibration at that time.

During "Autozero" all sensors will be displayed with the zeroing result (passed or failed).

4. If after the warm-up period, the instrument determines that a sensor is inoperable, an ERROR message will flash for that sensor. Then FAIL will show on the display for the corresponding sensor. Attempt to manually zero by pressing & holding the SAVE/ZERO BUTTON(C) until AUTOZERO appears at the top of the screen.

5. The display will indicate the type of gas used for calibration (i.e. Nat or Pro) and the unit of measure (i.e.: LEL, PPM, % VOL) below all readings.

If PPM display is selected, the measurement auto-ranges to LEL at levels above 2000ppm (factory adjustable). When equipped with the optional percent volume sensor the measurement auto-ranges at 100% LEL. The display will indicate by changing the unit of measure below the reading to "%v/v".

OPERATION AND USE

6. Prior to use, test the integrity of the sensor cap and tubing. Use your finger to block the inlet of the sensor cap for 4-5 seconds. The display will read FLOW BLOCKED if all seals are intact. This must also be done anytime a probe or other attachment is used, by similarly blocking the inlet(s) of the accessory, to ensure they are operating properly.

If this does not occur, change the sensor cap and "O" rings. A spare sensor cap and "O" rings are supplied with each instrument. During pump flow block, a beep will occur every 2 seconds and the green LED will flash until adequate flow is present.

7. It may be necessary to manually zero the instrument based on company practices and environmental conditions. To do so, press & hold the SAVE/ZERO BUTTON (C) until AUTOZERO appears at the top of the screen. Always zero the instrument in a clean air environment.

8. When testing areas with elevated temperatures such as appliance vents or flues, always attach the optional hot air probe to the end of the sensor cap. These connections need only be finger tight. Failure to use the approved probe can result in damage to the instrument and may void the warranty.

NOTE: Always perform a flow block check when using any probe or attachment.

⚠ **CAUTION: Do not handle the steel portion of any hot air probe after use. Burns may occur!**

OPERATION AND USE

9. When sampling high areas or overhead lines the use of the optional extension adapter will allow a broom handle or painters stick to extend the instrument to the area where sensing must be accomplished. This adapter slides onto the battery sleeve and is held in place by the locking nut assembly. Optionally, the instrument may be configured with the "Work Display Peak Readings" mode. This will capture the highest readings for the current session and hold them on the screen until cleared.

10. When sampling the appropriate sensors will cause the display to update when a gas is encountered. Additionally, if a combustible gas is encountered a series of LEDs on the front of the instrument will illuminate when the preset concentrations are reached. If any alarm condition exists for any sensor, based on their preset alarm points, the red (HAZARD 3) LED will flash and the alarm will sound unless it is muted.

Additionally, the reading for the gas exceeding the alarm set point will also flash.

OPERATION AND USE

The standard factory preset LED indicators and alarm points are:

a. Combustible gas: Methane, audio and visual alarm indicators
   from 5% LEL to 100% LEL.

   i. Green LED/Ready = 0% - 4.9% LEL Methane
   ii. Amber LED/Low = 5% - 9.9% LEL Methane
   iii. Red LED/Haz1 = 10.0% - 24.9% LEL Methane
   iv. Red LED/Haz2 = 25.0% - 49.9% LEL Methane
   v. Red Flashing LED/Haz3
      METHANE: 50% LEL Methane to 17% volume* Methane
      (LED indicator only above 17% volume Methane)
      PROPANE: 50% LEL Propane to 12% volume* Propane
      (LED indicator only above 12% volume Propane)
   *When equipped with percent volume sensor.

b. Oxygen - below 19.5% and above 23.5%
c. Carbon Monoxide - 35ppm per utility industry standards
d. Hydrogen Sulfide - 10ppm and above per Federal OSHA guidelines
e. Hydrogen Cyanide - 5ppm and above

⚠ **Caution: There are gases that can poison or be cross sensitive to the combustible gas sensor. Contact SENSIT Technologies for cross-sensitivity information.**

OPERATION AND USE

11. To disable the alarm, quickly press & release the POWER/MUTE BUTTON (A).

To enable the alarm press & release the same button again. During an alarm the gas that has exceeded the preset alarm point will flash on the display and the HAZARD 3 LED will flash indicating a potentially unsafe condition.

When combustible gas readings exceed the alarm range, all LEDs (except green and red HAZ3) will turn off. If the alarm condition no longer exists, the alarm sound will activate if a new alarm condition is encountered.

12. To assist in locating small leaks press and release the TICK/MENU BUTTON (B). The SELECT TEST TICK is displayed. Push the TICK/MENU BUTTON (B) to activate the tick.

Upon activation a tick can be heard and a full bar graph is displayed. As the sensor head is moved toward a leak source the tick will increase.

At any time press the TICK/MENU BUTTON (B) to reset the speed of the tick to the slow, steady rate. The bar graph will decrease in size indicating a decreasing range of tick rate sensitivity. Each bar division (there are 5) represents approximately 5000ppm (0.5%V/V) methane or 2200ppm (0.22% V/V) propane.

Press & release the MENU BUTTON (B) to reset the tick so that it is audible. Pressing & releasing the POWER/MUTE BUTTON (A) disables the tick.

NOTE: Whenever possible use the instrument prior to using a leak detection solution.

OPERATION AND USE

13. At any time the operator may save the readings on the display by pressing and releasing the ZERO/SAVE BUTTON (C). This will save all readings for download at a later time. The memory is factory set to store events. This can be adjusted from 1-100 (6 events by default) at the factory. The most recent save is first during download. An optional Auto log software of extended memory can store up to 1,600 records. (Consult factory for details.)

14. Following Federal, State, Municipal and/or Company procedures move to the areas where gas readings are suspected or must be tested. Use necessary accessories to draw samples from areas not accessible with the instrument itself, such as confined spaces or flues. During sampling, the respective readings may change. Audible and visual alarms will activate when the preset limits are reached.

15. When equipped with the percent volume sensor, if the instrument encounters a gas it is not calibrated to, it may read "NSR" or "NSC" followed by a number. If the instrument is calibrated for natural gas, "NSR" (Non Standard Response) likely indicates a heavy non combustible gas (i.e.: heavier than air, such as carbon dioxide, etc.). If the response is "NSC" Non Standard Combustible) the gas is likely a heavy hydrocarbon, such as gasoline, propane, butane, etc. If the instrument is calibrated for propane, "NSR" likely indicates gas lighter than air such as helium . "NSC" may indicate methane, hydrogen or natural gas.

16. When being used in dark areas an automatic backlight will illuminate the display.

17. To turn instrument off, press & hold the POWER/MUTE BUTTON (A) until the beeping sound stops and POWER OFF appears on the display. Release the button and shut down will occur after the purge time.

BAR HOLE TEST

For percent volume equipped units

To assist pinpointing the location of underground leaks, the Bar Hole Test feature may be used. This feature will draw a timed sample (45 seconds, factory adjustable) and display sustained and peak readings.

NOTE: Use an approved barhole probe with filter to prevent damage to the instrument when conducting bar hole surveys.

To Conduct a BAR HOLE Test:

Prior to the test, attach the approved bar hole probe to an operating instrument. Block the inlets of the probe to test for any air leakage. The instrument will show FLOW BLOCKED in approximately 10 seconds if all seals are good. If flow block is not detected, check the integrity of the O-ring seals and connections on the probe and instrument. If flow block can not be achieved, contact the factory for assistance. An air tight system is crucial for accurate readings.

From the working display, press & release the TICK/MENU BUTTON (B). SELECT TEST will appear on the top line of the display. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads BH Test. Press & release TICK/MENU BUTTON (B) to enter the BH menu. Insert the bar hole probe into the location for the survey. Press & release the TICK/MENU BUTTON (B) once more to start the test. A 45 second countdown for the test will begin. The current percent of gas by volume detected will be displayed on the top. The peak percent of gas by volume detected will be displayed on the bottom. At the conclusion of the test, the pump will shut off and any sustained and peak readings will be shown and recorded.

NOTE: The Bar Hole test mode will always display all results in the percent volume (%V/V) scale (non-adjustable).

BAR HOLE TEST

If you have another test to take, press & hold the SAVE/ZERO BUTTON (C). This will restart the pump and clear the last readings. When the readings have returned to zero, release the SAVE/ZERO BUTTON (C). The countdown timer will restart.

You may encounter NSR (Non-Standard Response) or NSC (Non-Standard Combustible) readings during the bar hole test. Changing the GAS TYPE, a selection in the USER MENU, may help to identify a questionable vapor.

A hydrocarbon filter kit is available to help screen if contact with heavy hydrocarbons is suspected.

Please consult the factory for details. If you wish to cancel during a test or return to the working display, press & release the POWER/MUTE BUTTON (A).

LEAK SEARCH (OPTIONAL)

To conduct a LEAK SEARCH (LS):

To enter the LEAK SEARCH mode from the working display, press & release the TICK/MENU BUTTON (B). Press & release the SAVE/ZERO BUTTON (C) until LS is displayed on the bottom of the screen. Press & release the TICK/MENU BUTTON (B). LEAK SEARCH will be displayed on the top of the screen with 0 PPM on the bottom screen.

Attach a drag tube assembly or telescoping survey probe. The instrument has a preset alarm of 10ppm (adjustable, contact Sensit for details.) The instrument will read in 1ppm increments up to 5000ppm, auto range to LEL and then to %v/v (if so equipped).

To zero the instrument in the LS mode, press & hold the SAVE/ZERO BUTTON (C) until "AUTOZERO" is displayed. Any alarm can be muted by pressing & releasing the POWER/MUTE BUTTON (A) once. If the alarm sound is turned off before an alarm condition is met, the alarm will remain off until activated by pressing & releasing the POWER/MUTE BUTTON (A). If the alarm sound is muted during an alarm condition and the concentration of gas is below the alarm threshold, the alarm will activate if the concentration exceeds the alarm threshold again.

To exit the LS mode and return to the working display, press & hold the POWER/MUTE BUTTON (A) for 2-3 seconds.

PURGE MODE

For percent volume equipped units only

To conduct a PURGE:

NOTE: This feature is for purging lines into service only. For purging lines out of service with an inert gas, see section about INERT PURGE MODE, or contact the factory for more information. For purging lines out of service with air, use the normal working display.

To enter the PURGE mode from the working display, press & release the TICK/MENU BUTTON (B). Press and release the SAVE/ZERO BUTTON (C) until PURGE is displayed on the bottom of the screen.

Press & release the TICK/MENU BUTTON (B). PURGE TEST will be displayed on the top of the screen with %v/v on the bottom left side of the screen and O2 % on the bottom right side of the screen. If O2 (oxygen) is not installed, an "X" will appear.

Attach a purge probe. Before use, perform a flow block check by blocking the inlets of the probe to test for any air leakage. FLOW BLOCKED should appear on the screen within a few seconds. If flow block is not detected, check the integrity of the O-ring seals and connections on the probe and instrument. If flow block cannot be achieved, contact the factory for assistance. An airtight system is crucial for accurate readings.Do not create a tight seal where the purge probe is inserted for sampling. Allow for blow by so the unit does not get over pressurized.

The LEL sensor is turned off during this mode to prevent unnecessary exposure to high levels of gas for an extended period time. The O2 readings (if equipped) will reflect the amount of oxygen in the line.

To exit the PURGE mode and return to the working display, press & release the POWER/MUTE BUTTON (A). A "PLEASE WAIT" message will flash (the LEL sensor is being powered back on) for a minimum of 5 seconds up to a maximum of 5 minutes.

INERT PURGE MODE (OPTIONAL)

For Oxygen (O2) equipped units only

NOTE: This feature is for purging lines out of service with an inert gas only and requires the dilution tube accessory. For purging lines out of service using air, use the normal working display. For purging lines into service, see the section on PURGE MODE.

To Conduct an INERT PURGE:

From the working display, press and release the TICK/MENU BUTTON (B). The top line will read SELECT TEST. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads IM. Press & release the TICK/MENU BUTTON (B).

The display will prompt to install the dilution tube. Install it on the end of the gooseneck and the purge probe on the end of the dilution tube. Acknowledge this has been done by pressing & releasing the TICK/MENU BUTTON (B). The display will read 0.0 NAT or PRO (depending on GAS TYPE selection) %LEL INERT MODE.

Fully close the needle valve on the dilution tube and block the inlets of the purge probe to check for air leakage. After a few seconds, FLOW BLOCKED should appear on the display of the instrument if all seals are good. If flow block is not detected, check the integrity of the O-ring seals and connections on the probe, dilution tube, and instrument. If flow block cannot be achieved, contact the factory for assistance. Air airtight system is crucial for accurate readings.

INERT PURGE MODE (OPTIONAL)

Insert the purge probe into the gas stream. Allow the sample to be drawn for a minimum of 1 minute. Adjust the needle valve counterclockwise to induce oxygen and clockwise to restrict oxygen.

Open or close the valve until 8.0% to 9.0% O2 readings are being displayed.

CAUTION: Ensure that the intake of the dilution tube is pulling air from a gas free environment.

Purge the line until the desired gas reading is displayed. Be sure to maintain the 8.0% to 9.0% O2 readings. To exit the INERT MODE, press & hold the POWER/MUTE BUTTON (A) for 3-4 ticks of the speaker. The display will prompt to remove the dilution tube. Remove the dilution tube and acknowledge by pressing & releasing the TICK/MENU BUTTON (B). The gas reading on the display will now read 0.0 NAT or PRO %LEL

NOTE: You must exit INERT MODE to gain access to the other QUICK MENU features.

If the purge probe cannot be used because of application restrictions, the tubing with dilution tube (no purge probe) can be used for sampling. The tubing must be vinyl and the flow must be restricted to 0.3 lpm – 0.5 lpm (liters per minute) at the point of sampling.

WORK DISPLAY PEAK READINGS (OPTIONAL)

To enter the WORK DISPLAY PEAK READINGS mode from the working display, press and release the TICK/MENU BUTTON (B). Press & release the SAVE/ZERO BUTTON (C) until WDPK is displayed on the bottom of the screen.

Press & release the TICK/MENU BUTTON (B). The unit will exit back to the working display with the peak readings logged under the real time readings.

To reset the peak readings, press and hold the SAVE/ZERO BUTTON (C) until "AUTOZERO" is displayed on the top of the screen (Note: this should always be done in a gas free environment).

To exit the WDPK mode and return to the working display without peak readings, press & hold the POWER/MUTE BUTTON (A) for 2-3 seconds.

CONFINED SPACE MODE (OPTIONAL)

To enter CONFINED SPACE MODE from the working display. Press & release the TICK/MENU BUTTON (B). The top line will read SELECT TEST. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads CNSP.

Press & release the TICK/MENU BUTTON (B). The unit will exit back to the working display in confined space mode, indicated by CNSP on the bottom of the display.

This mode enables three features: the ready light on the front of the instrument will blink off and back on once every 30 seconds (factory adjustable), an audible tone will sound every 30 seconds (factory default), and the standard power off feature will be disabled, so that the only way the instrument will power off is if the user manually does so.

To exit CONFINED SPACE MODE, press & hold the POWER/MUTE BUTTON (A) for 3-4 clicks of the speaker and then release. CNSP will be removed from the bottom of the display.

CO TEST (OPTIONAL)

From the working display, press & release the TICK/MENU BUTTON (B). The top line will read SELECT TEST. once, SELECT TEST will appear on the top line of the display. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads CO.

Press & release the TICK/MENU BUTTON (B) again to enter the CO test menu. Press & release the TICK/MENU BUTTON (B) once more to start the test.

A 180 second timed test will begin. (The time for this test is factory adjustable.) A countdown timer will show the remaining seconds of the test.

During this test period, the detected ppm CO level will be displayed on the left. Simultaneously, the peak ppm CO level detected will be displayed and recorded on the right.

The test number, date, time and both sustained and peak ppm CO level will be automatically stored by the instrument for display or printout at a later date.

Press & release the TICK/MENU BUTTON (B) to repeat the test. Press & release the POWER/MUTE BUTTON (A) to return to the working display.

CF TEST

Only available as an option for instruments with CO and O2 sensors.

To Conduct a CF Test

NOTE: The hot air flue probe must be used with the instrument when conducting this test to prevent damage to the instrument and to receive proper calculations.

> **IMPORTANT:** Air free CO levels or CF readings are calculated by the instrument based on CO and O2 levels detected during flue gas sampling of gas fired appliances.

From the working display, press & release TICK/MENU BUTTON (B). The top line of the display will read SELECT TEST. Press & release the SAVE/ZERO BUTTON (C) until CF is displayed.

Press & release the TICK/MENU BUTTON (B) again and the instrument will auto-zero and then enter the CF test menu. Press & release the TICK/MENU BUTTON (B) once more to start the test.

A 180 second timed test will begin. (The time for this test is factory adjustable.) A countdown timer will show the remaining seconds of the test. The peak CF reading will start to flash "0PK". It will continue to flash until 20 seconds after the oxygen level drops below 18.9%. At this point, conditions are acceptable for a valid test calculation.

CF TEST

If this segment continues to flash during the test period, conditions for a proper test were not possible. In this case any test results are invalid. The display and printout will show N/A for the peak CF reading. The test should be repeated.

During the test period, the detected ppm CO level will be displayed on the left side of the screen. Simultaneously, the calculated ppm CF reading and the calculated peak ppm CF level will be displayed on the right side of the screen.

If the proper conditions for an accurate test existed (O2 below 18.9%), the detected CO level, calculated CF level and the peak CF level will remain on the display at the end of the test.

The CF readings are automatically recorded by the instrument and can be viewed at a later date. In addition, the peak CF reading will be stored for a printout report.

Press & release the TICK/MENU BUTTON (B) to repeat the test. Press & release the POWER/MUTE BUTTON (A) to return to the working display.

CF TEST

To Show a CF Test
From the working display, press & hold TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads CF LOG.

Press & release the TICK/MENU BUTTON (B). CF TEST 1 will appear. This represents the most recent CF test data stored.

Invalid test data will show as "N/A" for the peak CF level. Data from previous test can be viewed by scrolling with the SAVE/ZERO BUTTON (C). Press & release the POWER/MUTE BUTTON (A) to return to the working display.

To Print a CF Test
From the working display, press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) until PRINT is displayed.

Press & release the TICK/MENU BUTTON (B) to enter this menu. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads CF LOG.

Prepare the optional IR printer. Aim the IR window on the right side of the instrument at the printer. Press & release the TICK/MENU BUTTON (B) to print the CF test data.

Invalid test data will show as "N/A" for the peak CF level. Press & release the POWER/MUTE BUTTON (A) to return to the working display.

CALIBRATION CHECK

To verify the accuracy of any **SENSIT® GOLD G2**, it must be exposed to a known concentration of test gas that will test any sensor combination included in your particular model.

Any sensor that does not meet the specifications listed in this manual may require calibration or repair. A calibration check does not update the calibration due date. Full calibration is required to update these times.

A calibration past due message will illuminate during warm-up if calibration has not been performed per your company specified interval. Any time it is suspected that the **SENSIT® GOLD G2** is not working properly, check calibration.

USER MENU

The **SENSIT® GOLD G2** has several categories within the User Menu. The first twelve fields are standard with all instruments. The last two are optional test modes that are not available by default.

SHOW TIME: Displays current date and time.
(Cannot be changed from this location.)

SET CLOCK: Set date and time. Displayed using a 24 hour clock.
(User adjustable)

PRINT: Print Session Logs, Cal Log, access Smart-Cal communication, (print CO test or print CF test is optional with some extended memory units).

BUMP TEST: Perform automatic test for sensors response to calibration gas within 60 seconds or less. A response of 80% or greater indicates a successful test.

CAL: Calibrate all sensors, access AUTO CAL and manual calibration procedures.

O2 TEST: 20 second test to check depletion of the O2 sensor when exposed to the proper gas, such as 100% methane.

GAS TYPE: Change between Natural Gas (methane) and Propane.

CAL LOG: Display last calibration of all sensors.

SES LOG: Display saved gas readings with the corresponding date and time.

USER MENU

BH LOG: Display Bar Hole logs with the corresponding date and time. (Not available by default)

SMART CAL: Communication mode used in conjunction with the SMART-CAL Calibration Station and with the IR-Link with SmartLink software. Can be accessed either through the USER MENU or the working display.

CAL DUE: Display future calibration due dates for all sensors.

NOTE: Factory default LOG size is 6 events but up to 100 records can be stored per session, BH Test, CO Test and CF test.

NOTE: These additional fields are optional and not available by default.

NOTE: Instruments cannot be configured with both CO and CF Test modes (and logs) simultaneously.

AUTO LOG: Display automatic storage of peak gas readings of up to 1,600 events. (Not available by default)

CO LOG: Display sustained and peak CO readings recorded during timed test. (Not available by default)

CF LOG: Display calculated AIR FREE CO levels recorded during timed test. (Not available by default)

USER MENU

SHOW TIME
From the working display, access the menu by pressing and holding the TICK/MENU BUTTON (B) until the display reads USER MENU/SHOW TIME. Press & release the TICK/MENU BUTTON (B) to display the time and date. Press & release any button to return to the USER MENU.

SET CLOCK
From the working display access the menu by pressing & holding the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads SET CLOCK.

Press & release the TICK/MENU BUTTON (B) to enter the menu. The day section will be flashingon the display. To adjust this section, press & release the TICK/MENU BUTTON (B). Press & release the SAVE/ZERO BUTTON (C) to advance to the next section (month, year or time).

To save and exit this menu, ensure that the year section is not flashing and press & release the POWER/MUTE BUTTON (A).

USER MENU

PRINT

For all printing operations, the printer is only to be used in non-hazardous locations.

From the working display access the USER MENU by pressing & holding the TICK/MENU BUTTON (B) until the top line of the display reads USER MENU. The bottom line will read SHOW TIME.

Press & release the SAVE/ZERO BUTTON (C) until "PRINT" is displayed. Press & release the TICK/MENU BUTTON (B) to enter the menu.

Prepare the optional IR printer. Aim the IR window (on the right side of the instrument) at the IR window on the printer.

Press & release the SAVE/ZERO BUTTON (C) to scroll to the item you want to print. Press & release the TICK/MENU BUTTON (B) to print that item. To exit this menu, press & release the POWER/MUTE BUTTON (A) until the instrument returns to the working display.

USER MENU

BUMP TEST

From the working display, press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads BUMP TEST.

Prepare the appropriate certified gas mixture for your instrument model (see proper gas mixtures listed in the Calibration section).

Press & release the TICK/MENU BUTTON (B) to start the BUMP TEST. Apply the appropriate gas to the instrument, as indicated on the display.

The display will show the gas value being tested on the top line with registered gas value and a 45-60 second countdown on the bottom line. The instrument will automatically check the LEL sensor and also the CO and H2S sensors, if they are installed.

If each sensor tested reads at least 80% of the value of the gas, within the time period required, the display will flash BUMP TEST PASS before returning to the USER MENU automatically. Press & release the POWER/MUTE BUTTON (A) to exit and return to the working display.

If any sensor fails, the display will show BUMP TEST FAILED. This means that calibration is required. If calibration is unsuccessful, remove the instrument from service. Consult the factory in the event of any failure.

To exit this menu and return to the working display, press & release the POWER/MUTE BUTTON (A).

USER MENU

CAL

See Calibration section on Page 44.

O2 TEST

From the working display press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads O2 TEST.

Apply recommended gas mixture void of oxygen, such as 100% Methane or 100% Nitrogen and press & release the TICK/MENU BUTTON (B) to start the test.

A 20 second countdown will begin. If the sensor shows proper depletion within this period, PASSED will flash on the display.

Press & release the POWER/MUTE BUTTON (A) to return to the working display.

If the O2 sensor does not respond properly within the 20 second test, FAILED will appear on the display. Remove the instrument from service. Consult the factory in the event of any failure.

To exit this menu, press & release the POWER/MUTE BUTTON (A) to return to the working display.

USER MENU

GAS TYPE

From the working display press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads GAS TYPE. Press & release the TICK/MENU BUTTON (B).

To change the gas type, press & release either button (B) or (C). You can select either NAT natural gas (methane) or PRO (propane) as your primary gas. Once you have made your selection, press & release the POWER/MUTE BUTTON (A) to save and exit to the USER MENU. Press & release the POWER/MUTE BUTTON (A) again to return to the working display.

NOTE: Prior to use, confirm that the instrument is reading accurately when switching gas types. Verification is recommended by conducting a Bump Test or Calibration.

USER MENU

CAL LOG

To Show a Calibration Log

From the working display press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads CAL LOG.

Press & release the TICK/MENU BUTTON (B) to enter the menu. The most recent successful calibration date will be displayed for each sensor. To exit this menu and return to the USER MENU, press & release the POWER/MUTE BUTTON (A).

NOTE: LEL-N and LEL-P refer natural gas and propane. Unless you are specifically calibrating for both gas types, only one will be updated during calibration. The other will have the last date of factory calibration.

To Print a Calibration Log

From the working display, press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads PRINT. Press & release the TICK/MENU BUTTON (B) to enter the menu. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads CAL LOG.

Prepare the optional IR printer. Aim the IR window on the right side of the instrument at the IR printer. Press & release the TICK/MENU BUTTON (B) to print the log.

To exit this menu and return to the working display, press & release the POWER/MUTE BUTTON (A).

USER MENU

SESSION LOG

To Show a Session Log

From the working display, press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads SES LOG. Press & release the TICK/MENU BUTTON (B) to enter the menu. SESSION 1 will be displayed.

This is the most recent data saved. Press & release the SAVE/ZERO BUTTON (C) to scroll to the session number you want to view. The SAVE/ZERO BUTTON (C) will advance to the next session and the TICK/MENU BUTTON (B) will go back to the previous session.

The standard number of available stored sessions is factory set at 6 but is adjustable up to 100. To exit this menu and return to the working display, press & release the POWER/MUTE BUTTON (A).

To Print a Session Log

From the working display, press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads PRINT. Press & release the TICK/MENU BUTTON (B) to enter the menu. SES LOG will be displayed.

Prepare the optional IR printer. Aim the IR window, on the right side of the instrument, at the IR printer. Press & release the TICK/MENU BUTTON (B) to print the log.

To exit this menu and return to the working display, press & release the POWER/MUTE BUTTON (A).

USER MENU

SHOW BH LOG

NOTE: This menu item is not available by default.

From the working display access the USER MENU by pressing and holding the TICK/MENU BUTTON (B) until the top line of the display reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads BH LOG.

Press & release the TICK/MENU BUTTON (B) to select this feature. The last record will be displayed. The heading will display BH LOG: XXX (indicating the record number) and the date/time of the record. Below will include the recorded peak (PK) and sustained (ON) concentrations. The SAVE/ZERO BUTTON (C) advances to the next record and pressing & releasing the TICK/MENU BUTTON (B) returns to the previous record. Press & release the POWER/MUTE BUTTON (A) to return to the USER MENU.

USER MENU

SMART-CAL

From the working display, access the USER MENU by pressing & holding the TICK/MENU BUTTON (B) until the top line of the display reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads SMART CAL. Press & release the TICK/MENU BUTTON (B) to select. The display will read SMART CAL.

Alternatively, from the working display, press & hold the POWER/MUTE BUTTON (A) for 3-4 clicks of the speaker. The display will read SMART CAL.

For Smart-Cal Calibration Station:

Place the instrument into the cradle on the left side of the Smart-Cal Calibration Station. Attach the tubing from the station to the instrument. Press & release the CALIBRATE button on the Smart -Cal and calibration will begin automatically. If successful, CALIBRATION PASSED will show on display. If unsuccessful, CALIBRATION FAILED will show.

Let the instrument clear and repeat the calibration process.If the instrument will not pass, remove the instrument from service. Consult the factory in the event of any failure.

Aim the IR window of the instrument at the IR window of the IR-Link. Select "Sensit G2/Trak-IT IIIa" and "IR-Link" at the top of the screen within SmartLink software. Hit "SELECT" followed by "Search Port". A connection successful message should appear. Put the instrument back into SMART-CAL mode and select the appropriate log file on the left side of the screen. Contact the factory or refer to the help file within SmartLink software for more details.

USER MENU

CAL DUE

From the working display access the USER MENU by pressing & holding the TICK/MENU BUTTON (B) until the top line of the display reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads CAL DUE.

Press & release the TICK/MENU BUTTON (B) to select this feature. The heading will display CAL DUE if the sensor is past calibration or NEXT CAL indicating when each sensor is due. Press & release the POWER/MUTE BUTTON (A) to return to the USER MENU.

AUTOLOG

NOTE: This feature is not available by default.

With this feature the instrument will automatically save the peak readings of all sensors while the unit is operating in the working display. This is only done once per "session". The session can be reset either by performing an AUTOZERO by pressing & holding the SAVE/ZERO BUTTON (C) or by pressing & releasing the SAVE/ZERO BUTTON (C) to manually save data. These peak readings are stored in Events with a maximum capacity of 1,600 events. They are stored accumulatively throughout day to day use until the maximum capacity is reached. Each use of the SAVE/ZERO BUTTON (C) to make a manual save will also record one event.

USER MENU

To Retrieve Autolog Events:
Stored autolog events can be downloaded, in a non-hazardous area, to a PC using the infared computer interface IR LINK with SmartLink software (order #870-00039). Please contact the factory for more information on this accessory.

Autolog Events can also be viewed through the USER MENU. From the working display, enter the USER MENU by pressing & holding the TICK/MENU BUTTON (B) until the top line of the display reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads AUTO LOG. Press & release the TICK/MENU BUTTON (B) to enter the menu. Session 1 will be displayed.

This is the most recent data stored. Press & release the SAVE/ZERO BUTTON (C) to scroll to the session number you want to view. You can also use the date and time as a reference. The SAVE/ZERO BUTTON (C) will advance to the next session and the TICK/MENU BUTTON (B) will go back to the previous session.

CALIBRATION

Calibration is the process of setting the readings of the instrument to equal the value of certified calibration gases. Prior to calibration allow the instrument to operate for 5 to 10 minutes in a room environment free of combustible, CO, H2S or HCN gases.

Manually zero the instrument prior to beginning the calibration process.

NOTE: Using calibration kits other than recommended by SENSIT TECHNOLOGIES may cause inaccurate readings. Repairs are required if any sensor fails to calibrate. Consult the factory for details.

NOTE: Calibration points are fixed at specific values and are not adjustable by either the customer or the factory.

NOTE: When calibrating, the numbers shown on the display represent the numbers seen by the microprocessor and should not be confused with actual gas readings.

These readings will update every 5 seconds during calibration.

Definitions
AUTO CAL is an automatic calibration process not requiring a docking station.
2.5% V/V is the calibration point for the low end of the 100% volume sensor and LEL/PPM sensor.
1.1% V/V is the calibration point for the low end of the 100% volume sensor and LEL/PPM sensor.
100 PPM CO indicates the calibration point of the carbon monoxide sensor.
25 PPM H2S indicates the calibration point of the hydrogen sulfide sensor.
10 PPM HCN indicates the calibration point of the hydrogen cyanide sensor.
SMART-CAL is the automatic calibration system using IR communication and requires a docking station.

CALIBRATION

Prior to starting calibration prepare the necessary gases per the sensor configuration.

From the working display access the USER MENU by pressing and holding the TICK/MENU BUTTON (B) until the top line of the display reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) to scroll until the bottom line reads CAL.

Press & release the TICK/MENU BUTTON (B) to enter the calibration menu. The display will now show CAL AUTO CAL. Pressing & releasing the SAVE/ZERO BUTTON (C) will scroll through the menu and show all other modes of calibration.

AUTO CAL

AUTO CAL automatically calibrates the instrument to all gases detected by the sensors installed. From the AUTO CAL menu, press & release the TICK/MENU BUTTON (B) to being the calibration process. Attach the prepared gas as listed on the display. A countdown timer shows the time remaining to connect . Failure to connect will result in a FAIL message and an alarm sound (press any button to continue).

During the test, the gas type, the target concentration and digital output of the sensor (not concentration) will be displayed. Following each gas tested OK SAVED (passed) or FAILED will be displayed. It is possible to manually stop the test once it is started by pressing & releasing the POWER/MUTE BUTTON (A).

At the end of the test the results will be saved and the screen will read CAL AUTO CAL. Pressing & releasing the POWER/MUTE BUTTON (A) will return to the USER MENU.

CALIBRATION

AUTO CAL (Continued)

NOTE: A calibration failure is indicated on the display by FAILED. Re-calibration should be attempted. Any instrument that does not accept calibration should be taken out of service.

Please contact SENSIT TECHNOLOGIES for any needed repairs.

MANUAL CALIBRATION

*The following instructions pertain to manual calibration of the SENSIT®
GOLD G2. If you are using the automatic Smart-Cal Calibration System,
the procedure is different. See the Smart-Cal sections of this manual or
consult the Smart-Cal instruction manual for details.*

CARBON MONOXIDE (CO) CALIBRATION (100PPM CO/AIR)

From the working display, press & hold the TICK/MENU BUTTON (B)
until the top line reads USER MENU. Press & release the SAVE/ZERO
BUTTON (C) until the bottom line reads CAL.

Press & release the TICK/MENU BUTTON (B). The bottom line will read
AUTO CAL. Press & release the SAVE/ZERO BUTTON (C) until CO
100PPM is displayed. Apply 100ppm CO/Air calibration gas and press &
release the TICK/MENU BUTTON (B) to start CO calibration.

When the reading is satisfactory, the display will flash OK SAVED
indicating that calibration is complete for that sensor. The date for CAL
PAST DUE is automatically reset for that sensor as well.

Scroll by pressing & releasing the SAVE/ZERO BUTTON (C) if you need
to calibrate another sensor. When finished, remove and shut off the gas
supply. Press & release the POWER/MUTE BUTTON (A) once to return
to the USER MENU and twice to return to the working display.

NOTE: A calibration failure is indicated on the display by FAILED.
Recalibration should be attempted. Any instrument that does not accept
calibration should be taken out of service. Please contact the factory for
any needed repairs.

MANUAL CALIBRATION

HYDROGEN SULFIDE (H2S) CALIBRATION (H2S 25 PPM/AIR)

From the working display press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads CAL.

Press & release the TICK/MENU BUTTON (B). The bottom line will read AUTO CAL. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads H2S 25ppm.

Apply 25ppm H2S/Air calibration gas to the instrument and press & release the TICK/MENU BUTTON (B) to start H2S calibration.

When the reading is satisfactory, the display will flash OK SAVED indicating that calibration is complete for that sensor. The date for CAL PAST DUE is automatically reset for that sensor as well.

Scroll by pressing & releasing the SAVE/ZERO BUTTON (C) if you need to calibrate another sensor. When finished, remove and shut off the gas supply. Press & release the POWER/MUTE BUTTON (A) once to return to the USER MENU and twice to return to the working display.

NOTE: A calibration failure is indicated on the display by FAILED. Recalibration should be attempted. Any instrument that does not accept calibration should be taken out of service. Please contact the factory for any needed repairs.

MANUAL CALIBRATION

HYDROGEN CYANIDE (HCN) CALIBRATION (HCN 10 PPM/N2)

From the working display press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads CAL.

Press & release the TICK/MENU BUTTON (B). The bottom line will read AUTO CAL. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads HCN 10ppm.

Apply 10ppm HCN/N2 calibration gas to the instrument and press & release the TICK/MENU BUTTON (B) to start HCN calibration. When the reading is satisfactory, the display will flash OK SAVED, indicating that calibration is complete for that sensor.

The date for CAL PAST DUE is automatically reset for that sensor as well. Scroll by pressing & releasing the SAVE/ZERO BUTTON (C) if you need to calibrate another sensor. When finished, remove and shut off the gas supply. Press & release the POWER/MUTE BUTTON (A) once to return to the USER MENU and twice to return to the working display.

NOTE: A calibration failure is indicated on the display by FAILED. Recalibration should be attempted. Any instrument that does not accept calibration should be taken out of service. Please contact the factory for any needed repairs.

MANUAL CALIBRATION

COMBUSTIBLE GAS CALIBRATION
(2.5%V/V METHANE/AIR)

From the working display press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads CAL.

Press & release the TICK/MENU BUTTON (B). The bottom line will read AUTO CAL. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads 2.5%V/V. Apply 2.5%V/V methane/air calibration gas to the instrument and press & release the TICK/MENU BUTTON (B) to start 2.5%V/V calibration.

When the readings is satisfactory, the display will read OK SAVED indicating calibration is complete for that sensor. Do not remove the gas until the second OKSAVED flashes. Two calibrations take place during the 2.5%V/V Methane calibration. The date for CAL PAST DUE is automatically reset for that sensor as well.

Scroll by pressing & releasing the SAVE/ZERO BUTTON (C) if you need to calibrate another sensor. When finished, remove and shut off the gas supply. Press & release the POWER/MUTE BUTTON (A) once to return to the USER MENU and to return to the working display.

NOTE: A calibration failure is indicated on the display by FAILED. Recalibration should be attempted. Any instrument that does not accept calibration should be taken out of service. Please contact the factory for any needed repairs.

MANUAL CALIBRATION

COMBUSTIBLE GAS CALIBRATION (100%V/V METHANE)

NOTE: After calibration of 100%V/V Methane, it is recommended to auto-zero the unit in an environment known to be gas free before use.

From the working display press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads CAL. Press & release the TICK/MENU BUTTON (B). The bottom line will read AUTO CAL.

Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads 100%V/V. Apply 100%V/V methane calibration gas to the instrument and press & release the TICK/MENU BUTTON (B) to start 100% methane calibration.

When the reading is satisfactory, the display will flash OK SAVED indicating that calibration is complete for that sensor. The date for CAL PAST DUE is automatically reset for that sensor as well.

Scroll by pressing & releasing the SAVE/ZERO BUTTON (C) if you need to calibrate another sensor. When finished, remove and shut off the gas supply. Press & release the POWER/MUTE BUTTON (A) once to return to the USER MENU and twice to return to the working display.

NOTE: A calibration failure is indicated on the display by FAILED. Recalibration should be attempted. Any instrument that does not accept calibration should be taken out of service. Please contact the factory for any needed repairs.

MANUAL CALIBRATION

COMBUSTIBLE GAS CALIBRATION
(1.1%V/V PROPANE/AIR)

From the working display press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads CAL. Press & release the TICK/MENU BUTTON (B). The bottom line will read AUTO CAL.

Press & release the SAVE/ZERO BUTTON (C) until the bottom line reads 1.1%V/V. Apply 1.1%V/V propane calibration gas to the instrument and press & release the TICK/MENU BUTTON (B) to start propane calibration.

When the reading is satisfactory, the display will flash OK SAVED indicating that calibration is complete for that sensor. Do not remove the gas until the second DATA SAVED flashes. Two calibrations take place during the 1.1%V/V propane calibration.

The date for CAL PAST DUE is automatically reset for that sensor as well. Scroll by pressing & releasing the SAVE/ZERO BUTTON (C) if you need to calibrate another sensor. When finished, remove and shut off the gas supply. Press & release the POWER/MUTE BUTTON (A) once to return to the USER MENU and twice to return to the working display.

NOTE: A calibration failure is indicated on the display by FAILED. Recalibration should be attempted. Any instrument that does not accept calibration should be taken out of service. Please contact the factory for any needed repairs.

MANUAL CALIBRATION

OXYGEN SENSOR TEST

To determine if the O2 sensor is working properly, verify the sensors reaction by exposing it to a calibration gas void of oxygen, such as 100% methane or 100% nitrogen.

From the working display press & hold the TICK/MENU BUTTON (B) until the top line reads USER MENU. Scroll with SAVE/ZERO BUTTON (C) until the bottom line reads O2 TEST.

Apply the proper gas and press & release the TICK/MENU BUTTON (B) to start the test. A 20 second countdown will begin. If the sensor shows proper depletion within this period, PASSED will flash on the display. Press & release the POWER/MUTE BUTTON (A) to return to the working display.

If the O2 sensor does not respond properly within the 20 second test, FAILED will appear on the display.

Consult the factory in the event of any failure. Press & release the POWER/MUTE BUTTON (A) to return to the working display.

NOTE: A calibration failure is indicated on the display by FAILED. Re-calibration should be attempted. Any instrument that does not accept calibration should be taken out of service. Please contact the factory for any needed repairs.

EXPERT MENU FEATURE DEFINITIONS

SERVICE: Menu that contains service related items (see below).

CONTRAST: Set display contrast for better viewing

TEMP FZ: Set factory zero of TC sensor (temperature compensation)

FLOW CAL: Automatic adjustment of pump flow block limit

TICK MODE: Set normal speed of tick rate when resetting

%LEL MODE: Set %LEL or %V/V in working display for combustible

100% LEL N: Set the value of 100% LEL, between 4-5% methane

100% LEL P: Set the value of 100% LEL, between 1.8-2.2% propane

RESOLUTION: Set reading increments on display for combustible

CAL DUE: Set calibration cycle, between 30 and 365 days

DUE ACK: Requires operator to push a button when cal is overdue

N2 FOR O2: Requires oxygen test using N2

SHOW SES: Allow user to view session log in the user menu

SHOW BH: Allow user to view BH log in the user menu

SHOW CF/CO: Allow user to view CF/CO log(s) in the user menu

SHOW AUTO: Allow user to view AUTO LOG in the user menu

ALARM: Adjustment for default alarm points

LOW LED: Concentration when first LED (front face) illuminates

EXPERT MENU FEATURE DEFINITIONS

POWER OFF: Automatic shut off time

PURGE TIME: Run time before instrument shut down after power off

BH TIME: Adjustment for the bar hole test time

CF/CO TIME: Adjustment for the CF/CO test time

ERASE AUTO: Erase the AUTO LOG

NG FACTOR: Factor for methane content in 100% natural gas

NSR: Disable non-standard response gas distinguishing software

NSC: Disable non-standard combustible / inert identifier

NSC LEL: Concentration to activate NCS control

AUTO BUMP: Enable required bump test

MUTE LATCH: Mute can remain enabled until reactivated

ERASE LOG: Erase all sessions, BH, CO/CF Logs

LANGUAGE: Change display language

GAS TYPE EN: Allow user to change gas type in the user menu

SET CLOCK: Clock adjustment

CN SP TIME: Adjustment for confined space mode alert time

EXPERT FEATURE CHART

FEATURE	SETTINGS	DEFAULT
SERVICE:		
CONTRAST	0-63	30
TEMP FZ	n/a	n/a
FLOW CAL	n/a	n/a
TICK MODE	OFF, LO, MED, HIGH	MED
%LEL MODE	ON/OFF	ON
100% LEL N	4.0-5.0%V/V	5.0%V/V
100% LEL P	1.8-2.2%V/V	2.2%V/V
RESOLUTION	0.0-2.0%LEL	0.0%LEL
CAL DUE	30, 45, 60, 90, 180, 360 DAYS	30 DAYS
DUE ACK	ON/OFF	OFF
N2 FOR O2	ON/OFF	OFF
SHOW SES	ON/OFF	ON
SHOW BH	ON/OFF	OFF
SHOW CF/CO	ON/OFF	OFF
SHOW AUTO	ON/OFF	OFF
ALARM:		
LOW O2	17.5-20.5%	19.5%
HIGH O2	21.5-23.5%	23.5%
CO	5-300ppm	35ppm
H2S	2-30ppm	10ppm
HCN	2-20ppm	5ppm

FEATURE	SETTINGS	DEFAULT
LEL	0.1-99.0%LEL	50%LEL
NAT	5.0-100%V/V	17.0%V/V
PRO	2.2-100%V/V	12.0%V/V
PPM	0-2000ppm	0ppm (off)
LKSRCH ALM	0-500ppm	0ppm (off)
LOW LED	0.1-8.0%LEL	5.0%LEL
POWER OFF	0-480 min (0 = off)	60 min
PURGE TIME	0-120 sec	0 sec (off)
BH TIME	5-120 sec	45 sec
CF/CO TIME	0-300 sec (0 indefinite)	180 sec
ERASE AUTO	n/a	PASSWORD REQ.
NG FACTOR	50-100%V/V	100%V/V
NSR	ON/OFF	ON
NSC	ON/OFF	ON
NSC LEL	1.0-10.0%LEL	2.0%LEL
AUTO BUMP	0-30 DAYS	0 DAYS (off)
MUTE LATCH	ON/OFF	OFF
ERASE LOG	n/a	PASSWORD REQ.
LANGUAGE	ENGLISH/TURKISH	
ENGLISH/CHINESE	ENGLISH	
GAS TYPE EN	ON/OFF	ON
SET CLOCK	n/a	n/a
CN SP TIME	5-60 sec	30 sec

LEL SENSOR INSTALLATION INSTRUCTIONS
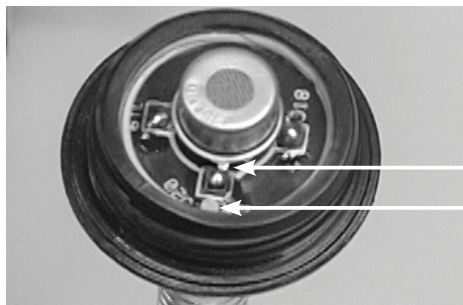
Tab on the Sensor must align with the mark on the sensor board.

AFTER SENSOR INSTALLATION AND PRIOR TO USE:

1. Allow instrument to operate for 15 Minutes.
2. Calibrate per instrument's operation instructions.

EU WASTE ELECTRICAL AND ELECTRONIC

EQUIPMENT (WEEE) DIRECTIVE

In August of 2005, the European Union (EU) implemented the EU WEEE Directive 2002/96/EC and later the WEEE Recast Directive 2012/19/EU requiring Producers of electronic and electrical equipment (EEE) to manage and finance the collection, reuse, recycling and to appropriately treat WEEE that the Producer places on the EU market after August 13, 2005. The goal of this directive is to minimize the volume of electrical and electronic waste disposal and to encourage re-use and recycling at the end of life.

Sensit Technologies LLC has met its national obligations to the EU WEEE Directive. Sensit Technologies LLC has also elected to join WEEE Compliance Schemes in some countries to help manage customer returns at end-of-life. If you have purchased. Sensit Technologies LLC branded electrical or electronic products in the EU and are intending to discard these products at the end of their useful life, please do not dispose of them with your other household or municipal waste. Sensit Technologies LLC has labeled its branded electronic products with the WEEE Symbol (figure above) to alert our customers that products bearing this label should not be disposed of in a landfill or with municipal or household waste in the EU.

WARRANTY

Your **SENSIT® GOLD G2** is warranted to be free from defects in materials and workmanship for a period of two years after purchase (excluding calibration and batteries). The circuit board and percent gas sensor (TC) are warranted for 5 years. If within the warranty period, your instrument should become inoperative from such defects, the unit will be repaired or replaced at our option.

This warranty covers normal use and does not cover damage which occurs in shipment or failure which results from alteration, tampering, accident, misuse, abuse, neglect or improper maintenance. Proof of purchase may be required before warranty is rendered. Units out of warranty will be repaired for a service charge. Internal repair or maintenance must be completed by a SENSIT Technologies authorized technician. Violation will void warranty. Units must be returned postpaid, insured and to the attention of the Service Dept. for warranty or repair.

This warranty gives you specific legal rights and you may have other rights which vary from state to state.

MADE IN THE USA
WITH GLOBALLY SOURCED COMPONENTS