GAS•TRAC® LZ30

INSTRUCTION MANUAL



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SENSIT Technologies is in compliance with ISO 9001:2008

FOR YOUR SAFETY



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



WARNING: Read and understand this manual fully before use.



WARNING: Disassembly and maintenance is forbidden in explosive atmosphere.



WARNING: Any disassembly or repair of the instrument must be done by a factory certified technician.



WARNING: Follow the manual instructions and testing methods.



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



CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



CAUTION: Do not point the instrument towards the sun, or other extreme sources of light/heat. Damage may occur.



DANGER: Do not use the device in an explosive environment.



DANGER: Avoid direct eye exposure to the laser and do not point in the direction of others. Visible and Invisible Lasers are deployed by this instrument.

FOR YOUR SAFETY

CAUTION: Laser radiation. Avoid direct eye exposure. Class 3R laser product.

LASER WARNING LABEL LOCATION

The laser warning label is located on the back of the instrument. Refer to the label pictured in the lower right for details.



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PARTS AND ACCESSORIES

STANDARD ACCESSORIES (INCLUDED)

330-00049	D-ring
331-00155	D-ring screw
360-00040	Wrist Strap
750-00080	Instruction Manual (English)
-01	French
-02	German
-03	Italian
-04	Polish
-05	Spanish
870-00098	Shock Protective Boot
871-00074	Charging Kit (charging base + power supply, for units with shock protective boot)
872-00035	Hard Carrying Case (for units with shock protective boot)
882-00150-SN	Calibration/Bump Test Cell

ACCESSORIES AND REPLACEMENT PARTS

871-00062	Charging Base (for units without shock protective boot)
871-00063	Multi-Blade Power Supply for Charging Base
871-00072	Charging Base (for units with shock protective boot)
871-00064	Charging Kit (charging base + power supply, for units without shock protective boot)
882-00157	Shock Protective Boot Upgrade Kit

GENERAL DESCRIPTION

The **GAS•TRAC LZ-30** is a methane selective, laser-based gas detector. The device is based on world-leading photonic technology and is designed using the effect that methane gas absorbs a certain laser wavelength, and the absorbing strength is related to the concentration of the methane.

The device is a handheld gas detector, for the remote detection of methane and gases containing methane (natural gas and naturally occurring sources of methane). By pointing its beam of laser light to the testing target, a concentration result can be read immediately within a distance of 0.5 to 30 meters. By sending the beam of the laser to the target destination, the device measures the laser signal returned from the target destination. The methane concentration along the reflected beam path will be calculated and displayed.

In addition, the **GAS•TRAC LZ-30** measures the total distance to the target and displays the result in real-time along with the gas reading.

The laser modules specifications are Class IIIR, with a power output of less than 5mW for the distance detection laser and spotter laser, and a power output of less than 50mW for the IR (gas detection) laser.



SPECIFICATIONS

Detection Technology:	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
Methane Detection Range:	0-50,000ppm•m in 1ppm•m increments
Sensitivity:	5ppm•m ≤15m (50ft)/10ppm•m ≤30m (100ft) @ ≥ 300ppm•m
Response Time:	≤0.1 seconds
Detection Distance:	0.5m to 30m (1.5' to 100')
	Distance may vary slightly depending on reflection
Distance Indicator:	0.2m to 30m (6" to 100')
	Range may vary slightly depending on reflection
Beam Dimension:	Conical, 20cm diameter at 30m (8" at 100')
Alarms:	Adjustable threshold alarm with baseline: Visual, audible, and tactile (vibrating motor) Default: 100ppm•m
Warnings:	Low Reflection, High Reflection, Low Battery, High Methane
Calibration/Self check:	Built-in self-test/bump test and calibration with test cell incorporated in carrying case
Laser classifications:	IR laser (methane detection) Class IIIR
	Target laser (green) Class IIIR
	Distance laser (red) Class IIIR
Communication:	Bluetooth, supported by Android
Display:	OLED

SPECIFICATIONS

Operational Temp:	-20C to 50C (-4F to 122F)
Storage Temp:	-40C to 60C (-40F to 140F)
Humidity:	≤98% non-condensing
Enclosure:	Designed to meet IP54
Intrinsic Safety:	Designed to meet US and ATEX
Weight:	300g (0.7lbs)
Size:	164mm (6.5”) x 78mm (3.0”) x 36mm (1.5”)
Power Source:	Internal Lithium Ion, 2000mAh
Battery Life:	6 Hours Continuous
Recharge Time:	3 to 4 Hours

PRODUCT FEATURES

GAS•TRAC LZ-30 instruments are constructed of durable flame-retardant polycarbonate plastic to withstand the rigors of field use.

The housing contains a rechargeable Lithium Ion battery, which is charged by inserting the instrument into the charging base.

Open-path TDLAS technology ensures that gas detection is instantaneous, accurate, and methane specific – up to a distance of 30m (100ft).

The operator will be given real-time gas readings on an easy to read OLED display, displayed in ppm•m by default, along with a distance measurement for the current target.

The alarm comes in the form of an audible tone, a visual indication via a red backlight on the measure button, as well as a vibrating motor. There is 1 adjustable alarm threshold, and 2 varying types of alarms at 50% and 100% of this threshold (low and high). When the high alarm is reached, the frequency of the audible tone will increase and the vibrating motor will turn on.



DETECTION LASER (IR, NOT VISIBLE)
DISTANCE LASER (RED)
TARGETING LASER (GREEN)

BACKLIT OLED DISPLAY

DURABLE, FLAME-RETARDANT POLYCARBONATE HOUSING

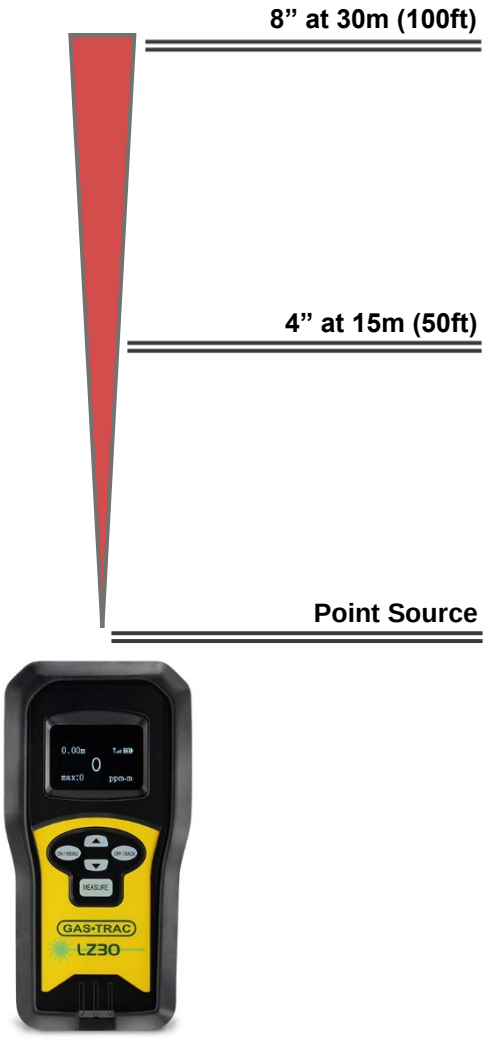
OPERATION BUTTONS

CHARGING PINS FOR INTERNAL RECHARGEABLE BATTERY

PRODUCT FEATURES

BEAM DIMENSIONS

The **GAS•TRAC LZ-30** produces a conical beam of laser light, that starts from the front of the instrument and gradually spreads as the distance increases. At the maximum detection distance, 30m, this beam is 8” in diameter. This is depicted in the image below (not to scale).



SENSOR TECHNOLOGY

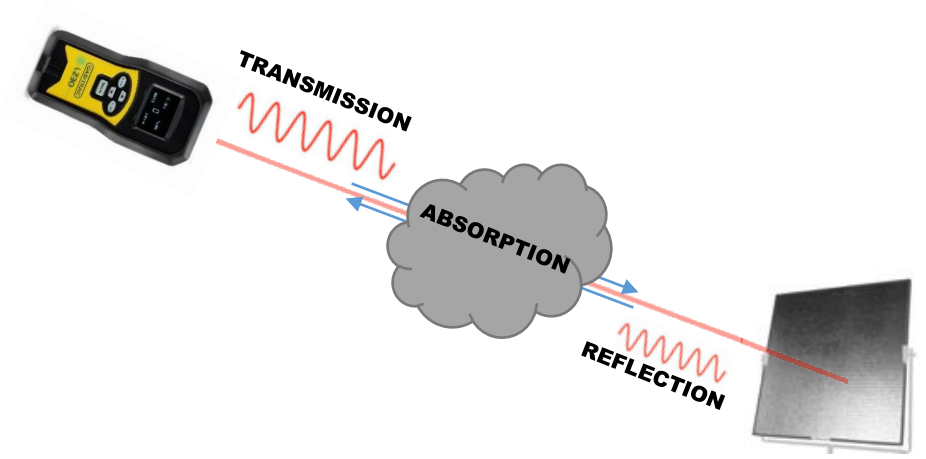
GAS DETECTION

The **GAS•TRAC LZ-30** uses open path TDLAS (tunable diode laser absorption spectroscopy) technology. The laser generates a specific wavelength of light that is sent through the gas monitoring area, partially absorbed by any methane source, and reflected back to the instrument by the reflection surface. The higher the methane concentration, the larger the absorption will be, resulting in a higher reading. Using this technology in an open path allows for the instrument to detect gas remotely, simply by pointing at the target anywhere from 0.5 to 30 meters away from the operator.

DISTANCE DETECTION

There is a separate laser that is used specifically for distance detection. It sends a laser pulse to the target in a narrow beam and measures the time taken from when it leaves the instrument to when it returns, from the reflection surface. Using this time measurement, the distance is determined based on the speed of light.

Both the distance and gas detection rely on a surface that is reflective enough to return the signal to the instrument. Most solid surfaces will work. Changes in reflectivity can cause variance in both the gas and distance measurements.

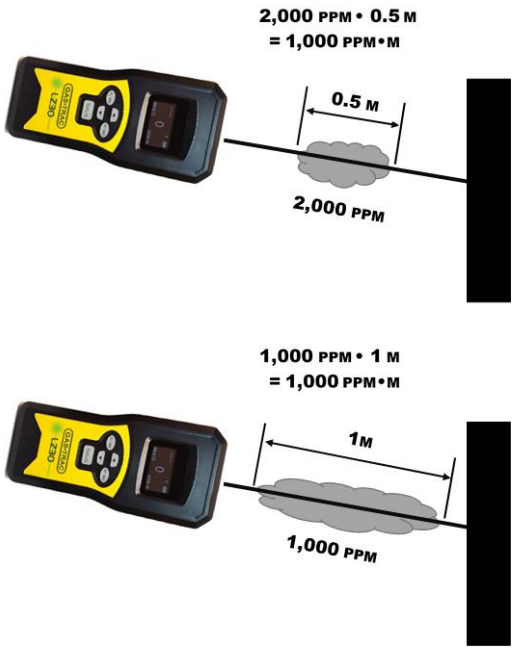


EXPLANATION OF PPM•M

The **GAS•TRAC LZ-30** displays its readings in parts per million meter (ppm•m). This is a representation of the average gas concentration over 1 meter, or roughly 3.3 feet.

The detection laser of the **GAS•TRAC LZ-30** measures the amount of light absorbed by a concentration of gas. However, there is no way of knowing the size of the plume. Because of this, higher concentrations over a small area or smaller concentrations over a large area can give the same reading on the screen. While point and shoot technology of this nature is a great indication tool, and can be used to pinpoint the source of a leak by comparing readings, it cannot be used to quantify a gas leak.

See the diagram to the right. On the top, there is a gas plume 0.5 meter in length with a concentration of 2,000 ppm methane. On the bottom, there is a gas plume 1 meter in length with a concentration of 1,000 ppm methane. The **GAS•TRAC LZ-30** will see the same amount of absorption in both scenarios, and therefore give the same reading of 1,000 ppm•m.



In addition, in a real-world scenario there will be some small amount of background methane in ambient air. This is generally about 2 ppm•m. So for a reading at 30m (100ft), the reading on the screen would be about 60 ppm•m higher.

BATTERY CHARGING

The **GAS•TRAC LZ-30** has an internal, rechargeable lithium-ion battery pack, and includes a recharging base. This battery is not user replaceable.

To recharge the internal battery, ensure that the charging base is plugged in and insert the instrument into the base, bottom first. Contacts on the bottom of the instrument touch spring loaded pins in the bottom of the charging base to make an electrical connection.

The LED on the front of the charging base indicates the charging status:

Solid Green & Red flicker:	No connection
Solid Red:	Instrument charging
Solid Green:	Instrument fully charged

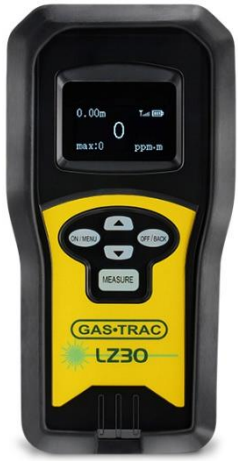
Charging takes approximately 3 to 4 hours if the battery is fully depleted.



OPERATION AND USE

WARNING: When the **GAS•TRAC LZ-30** is powered on, the laser module(s) will be energized.

1. Press and hold the **ON/MENU** button until the screen illuminates. The software version will be displayed during a brief warmup period (~15 seconds).



2. If the displays fails to illuminate or a low battery indication is show, place the instrument in the charging base to charge the battery.

3. After warmup, the instrument will show the following on what is called the work display:

   a. (Upper left)
      Distance measurement

   b. (Upper right)
      Fuel gauge

   c. (Center)
      Current methane reading

   d. (Lower left)
      Peak methane reading

   e. (Lower right)
      Measurement unit/scale

4. A bump test can be performed before each use. See the "Calibration Check (Bump Test)" section on page 22 of this manual for more information.

5. To begin an investigation, press and release the **MEASURE** button. During measurement, the targeting laser (green) will flash on and off continuously, as well as an audible beeping to alert the operator that a measurement is active. A distance measurement and the current and peak methane readings will be displayed on the screen.

6. Using the visible targeting laser, survey the area according to federal, state, municipal, and/or company procedures. Observe the readings on the display and any alarm conditions that should occur. In general, it is good practice to conduct investigations using an 'S' or 'Z' pattern to maximize the area that is scanned.

7. If at any time the instrument gives a low or high reflection warning, indicated by **REF/L** or **REF/H** on the display as well as an audible tone, try a different angle, position, or distance in order to increase or decrease the amount of reflected light. These messages indicate that the instrument is not getting an appropriate amount of reflected light. Be aware that not all surfaces may be suitable for reflection.

   NOTE: The relative signal strength of the reflected signal is indicated on the display next to the fuel gauge.



8. If at any time the instrument displays **HIGH METHANE**, this is an overload message indicating that you are detecting gas greater than the upper detection limit of the instrument (50,000 ppm•m).

9. To stop a measurement, press and release the **MEASURE** button again.

10. To access the user menu, press and release the **ON/MENU** button. The user menu cannot be accessed if a measurement is currently active. See the User Menu section of this manual for more details.

11. To power off the instrument, press and hold the **OFF/BACK** button. A brief animation will show. Keep the button held down until the screen goes blank.

OPERATION AND USE TIPS

Factors such as line of sight, wind, and sunlight conditions are not something that most operators have had to take into account in the past. This section gives a few tips and tricks for getting the most out of the **GAS•TRAC LZ-30**.

NOTE: Federal, state, municipal, and/or company procedures supersede what is outlined in this section.

INVESTIGATING THROUGH WINDOWS

The laser technology used in the **GAS•TRAC LZ-30** allows the instrument to detect through standard window glass. This is a big advantage as it allows the user to investigate the inside of a building (for example) when he/she otherwise might not have been able to gain access.

In order to get the best results in this type of a scenario, follow these steps:

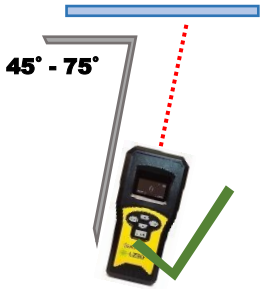
1. Maintain an angle of attack that is less than 90˚ to your target, and ideally between 45˚ and 75˚. This is depicted in the image to the right.

   This greatly reduces the chance of what is known as “specular reflections”, which is when a portion of the laser reflects off of the surface of the window. It is also especially helpful for double-pane windows where the laser might reflect/bounce multiple times between the panes.



2. Use the distance measurement on-screen to help determine if the lasers are actually passing through the window. For example, if the distance measurement on a wall next to the window reads 15m and on the window reads 20m, you can be reasonably sure you are detecting through the window.

   If instead they are the same distance, the laser is just reflecting off of the window. An anti-reflective coating on the glass may cause this.



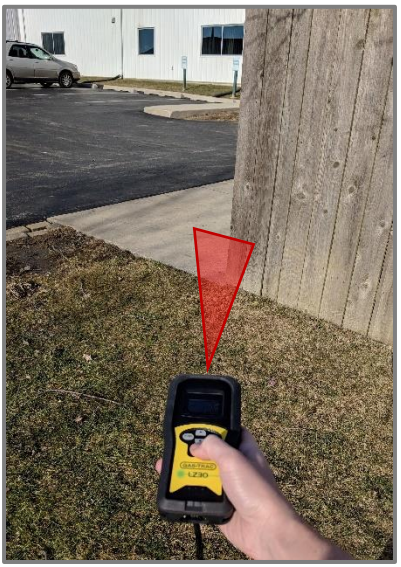
OPERATION AND USE TIPS

SHAPE OF THE DETECTION BEAM AND LINE OF SIGHT

Due to the **GAS•TRAC LZ-30** using a point of light for targeting, it can be easy to forget that the actual detection path is in the shape of a cone, which starts from a point (the instrument) and gets wider on the path to the target. At a distance of 30m (100ft.), this width is 20cm (8in.).The operator will get the most consistent results if he/she keeps as much of this path in/over the target as possible.

Because of this, some situations can present a challenge, such as if part of the beam is reflecting off of a different surface than another. This is known as "beam skipping". The operator will get the most consistent results if he/she keeps as much of this beam in/over the target as possible.

In the picture to the right (beam not to scale), part of the beam is partially blocked by the fence, potentially causing reduced sensitivity, or in some cases, false positives. The operator should simply move slightly to the left, ensuring that the full width of the beam will make it to the target.

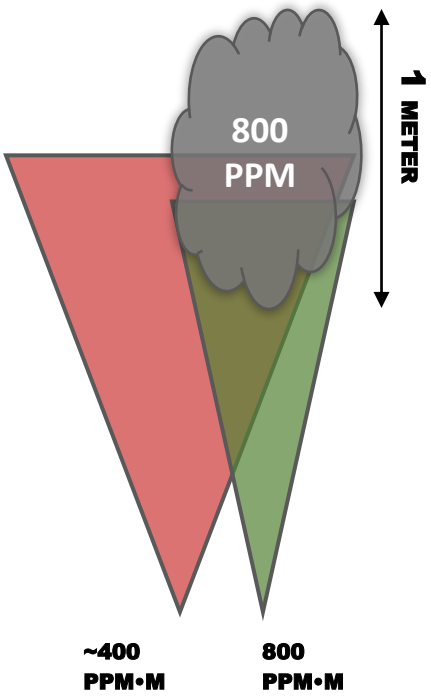


If the operator were surveying the ground behind the fence, this wouldn't be too great of a mismatch, but if the target was the face of the building in the background, there would be a very large difference in return signal between the portion of the beam that is hitting the building and the portion that is hitting the fence.

SHAPE OF THE DETECTION BEAM AND LINE OF SIGHT

Another thing to consider is that the size of the beam can affect the reading that the instrument gives, depending on the size of the plume.

Consider the picture to the right: the green colored beam is roughly the same size as the plume of gas, which means that the instrument will be reading only that plume. In the case of the red beam, only half of it is traveling through the plume, meaning that the result on-screen is going to be lower because part of what is being analyzed is gas-free air.



What this means is that the distance between the operator and the plume can potentially affect the reading, because the beam expands with distance. Realistically, though, it is unlikely to cause a noticeable effect due to the gas plume naturally dispersing over a (relatively) large area. Where this might be more noticeable is if the operator is far away from a very small pinpoint leak. Most of the beam will not be hitting the plume, and will lower the reading.

In a real-world scenario, a gas plume doesn't have strictly defined edges like this, and the operator obviously won't be aware of where it is to begin with. However, what this illustrates is that technology of this nature makes it near-impossible to get true quantitative results. There are simply too many variables. Qualitative investigation and pinpointing is where it shines.

WIND CONDITIONS AND PLUME SIZE

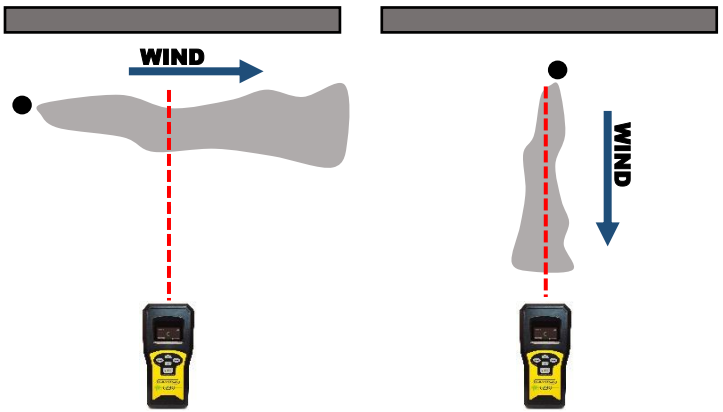
Since the path of the laser has to pass through the methane plume for detection, wind conditions can greatly affect how the instrument operates. Because of this, especially when scanning a large area, it makes sense to have a plan of attack.

Ensuring the laser is passing through the plume from downwind or upwind will generally result in much higher readings, because the path-distance through the gas is much greater than from crosswind. However, higher readings do not always mean there is also a higher chance for detection. Many times a crosswind scenario would yield a much higher chance that the gas will be detected, because a much larger portion of the user's field of view, or scan-able area, will contain gas.

The picture below shows an example with a top-down view. If the user is scanning the entire area, there is a greater chance for detection in the crosswind case because a larger portion of the field of view contains gas. Anywhere the LZ-30 is moved across the frame, the plume will be detected. However, in the upwind case, if the user points straight through the plume, the entire distance from the instrument to the source will contain gas, and so the reading on-screen will be much higher. Anywhere else that the LZ-30 is pointed will result in the plume being missed.

This is a very simplified example, but this behavior is an important aspect of remote investigation.

NOTE: This is not about the size of the response, but greatest chance of detection.



OPERATION AND USE TIPS

LOCATING TARGETING LASER

With bright sunlight, the targeting laser may be difficult for some to see. This is unfortunately a downside of any technology of this nature. There are a few things that can help with this.

One thing that might help in this scenario is to begin tracking the laser from a location where you can see it clearly. For example, point the instrument at the ground in front of your feet, and gradually sweep it forward, away from you, to your target. Your eyes will have a much easier time following a moving target than finding a missing one.

Additionally, the operator can use laser enhancement glasses. This can increase the contrast of the targeting laser, making it easier to see against certain backgrounds. Below is a view with and without these glasses.





CALIBRATION CHECK (BUMP TEST)

WARNING: The built-in calibration cell in the carrying case must be used for bump testing. The calibration gas in the cell is certified for 3 years (labeled on the cell), after which it is considered to be expired. Cells can be sent into SENSIT Technologies to be refilled and recertified.

To verify the accuracy of any **GAS•TRAC LZ-30**, a bump test must be performed. This is done using the calibration cell, which is built into the hard carrying case. A bump test can be performed before each use since it is so quick to do and uses no consumables.

A sensor that does not meet the specification listed below may require calibration or repair. Any time it is suspected that the **GAS•TRAC LZ-30** is not working properly, perform a bump test.

Power on the instrument and allow the warmup process to complete before proceeding.

STEP 1: Place the instrument in the carry case. Ensure both the instrument and calibration cell are fully seated. Ensure there are no obstructions in the path between the instrument and cell.

STEP 2: Press and release the **MEASURE** button to begin a measurement. Allow the unit to read for a few seconds.

STEP 3: Press and release the **MEASURE** button again to stop the measurement. The reading on the center of the screen should be 1,500 ppm•m or greater for a successful test.

NOTE: If the result is less than 1,500 ppm•m, attempt the bump test again. If still unsuccessful, perform a calibration.

CALIBRATION

WARNING: The built-in calibration cell in the carrying case must be used for calibration. Using any other calibration kits or gas may cause inaccurate readings. Repairs may be required if the instrument fails to calibrate. Consult SENSIT Technologies for details. The calibration gas in the cell is certified for 3 years (labeled on the cell), after which it is considered to be expired. Cells can be sent into SENSIT Technologies to be refilled and recertified.

Calibration is the process of setting the reading of the instrument equal to the value of the certified calibration gas inside the calibration cell. Power on the instrument and allow the warmup process to complete before proceeding.

STEP 1: Place the instrument in the carry case. Ensure both the instrument and calibration cell are fully seated. Ensure there are no obstructions in the path between the instrument and cell. Do not remove the instrument until "Pass" is displayed in step 5.

STEP 2: Press and release the **MEASURE** button to begin a measurement. Allow the unit to read for a few seconds.

STEP 3: Press and release the **MEASURE** button again to stop the measurement. The current reading of the calibration cell will remain on the screen.

STEP 4: Press and release the on/menu button to enter the user menu. **CALIBRATION 2000 PPM•M** should be shown on the display. If not, continue to press and release the button until it is shown.

STEP 5: Press and release the measure button. If the calibration is successful, "Pass" will be displayed on the screen.

NOTE: If instead "Fail" is displayed, the calibration was unsuccessful. Attempt calibration again from step 2. After two consecutive failures an advanced calibration will be automatically performed. This is shown as "Wavelength Advance Cal." on the display and can take up to 5 minutes to complete.

If the advanced calibration fails, a "Service Required" message will be displayed. Any instrument that cannot be successfully calibrated should be taken out of service. Please contact SENSIT Technologies for further assistance.

USER MENU

The user menu gives the user access to the calibration menu and various settings, including the alarm point and turning the indication lasers on or off.

To access the user menu, press and release the **ON/MENU** button from the work display. The first menu item, **CALIBRATION**, will be displayed.

NOTE: The menu is not accessible if the measurement function is activated.

NOTE: Some options in the user menu are password protected. They are noted as such above each description. Contact SENSIT Technologies if you need to make adjustments to these settings.

To scroll through this menu, continue to press and release the **ON/MENU** button. The arrow buttons will adjust/change the current setting on the screen.

To exit the user menu, press and release the **OFF/BACK** button.



USER MENU

CALIBRATION



WARNING: Using calibration kits other than recommended by SENSIT Technologies may cause inaccurate readings. Repairs are required if the instrument fails to calibrate. Consult the factory for details.

Calibrate the instrument using the built-in calibration cell in the carrying case. See the calibration section in this manual for instructions on how calibrate the instrument.

Press and release the **ON/MENU** button again to scroll to the next menu item. Press and release the **OFF/BACK** button to exit the menu.

BLUETOOTH ID

Displays the Bluetooth ID number. Currently this number is not used for anything.

SET ALARM

Password protected.

Allows the user to adjust the alarm threshold. By default, this is 100ppm•m. To adjust, use the **UP** and **DOWN ARROW** buttons until the desired number is reached. Adjustments are made in increments of 100ppm•m, 1%LEL•m, or 0.01%VOL•m, depending on the unit display setting. Once correct, press and release the **MEASURE** button to save the setting and return to the work display.

The **GAS•TRAC LZ-30** has 3 different alarm stages: 20%, 50%, and 100% of the alarm threshold. The frequency of the vibration and audible alarms will increases as the reading reaches each stage.

NOTE: The "3 Tier Alarm" option determines whether the 20% alarm stage will be enabled. If 3 tier is off, only the 50% and 100% stages will be enabled.

To discard any changes you have made, press and release the **ON/MENU** button to scroll to the next menu item or press and release the **OFF/BACK** button to exit the menu.

SET RED LASER

Password protected.

Toggles whether the distance measurement (red) laser is on or off during measurement. Unlike the green laser, turning this off *will* turn off the distance measurement. Use the **UP** and **DOWN ARROW** buttons to change between **ON** and **OFF**. Press and release the **MEASURE** button to save the setting and return to the work display.

To discard any changes you have made, press and release the **ON/MENU** button to scroll to the next menu item or press and release the **OFF/BACK** button to exit the menu.

SET GREEN LASER

Password protected.

Toggles whether the green targeting laser is on or off during measurement. This laser is only used for targeting purposes, to assist the user, and does not affect the gas or distance measurement. It is recommended to leave this on. Use the **UP** and **DOWN ARROW** buttons to change between **ON** and **OFF**. Press and release the **MEASURE** button to save the setting and return to the work display.

To discard any changes you have made, press and release the **ON/MENU** button to scroll to the next menu item or press and release the **OFF/BACK** button to exit the menu.

USER MENU

SET UNIT

Password protected.

Changes the display unit used during measurement (**PPM•M** / **%LEL•M** / **%VOL•M**). Use the **UP** and **DOWN ARROW** buttons to adjust. Press and release the **MEASURE** button to save the setting and return to the work display.

This setting affects the units used both for display and for the alarm point.

To discard any changes you have made, press and release the **ON/MENU** button to scroll to the next menu item or press and release the **OFF/BACK** button to exit the menu.

DISTANCE UNITS

Password protected.

Changes the distance unit used displayed measurement between either meters or feet (**M** / **FT**). Use the **UP** and **DOWN** arrow buttons to adjust. Press and release the **MEASURE** button to save the setting and return to the work display.

NOTE: This setting does not affect the measurement unit, which will always be shown in terms of meters, not feet.

To discard any changes you have made, press and release the **ON/MENU** button to scroll to the next menu item or press and release the **OFF/BACK** button to exit the menu.

3 TIER ALARM

Password protected.

Allows the user to choose between having a “2 tier” or “3 tier” alarm system. By default, and when this setting is **OFF**, there will only be two stages to the alarm: 50% and 100% of the threshold. When the setting is **ON**, there will be three stages to the alarm: 20%, 50%, and 100% of the threshold. At each stage, the frequency of the vibration and audible alarms will increase.

NOTE: It is not recommended to have this setting enabled unless the alarm threshold is set to 200 ppm•m or higher.

Use the **UP** and **DOWN** arrow buttons to adjust. Press and release the **MEASURE** button to save the setting and return to the work display.

To discard any changes you have made, press and release the **ON/MENU** button to scroll to the next menu item or press and release the **OFF/BACK** button to exit the menu.

RESET

Password protected.



WARNING: Use this function with caution and only if you are sure you want to restore default settings.



WARNING: Calibration must be performed after use of this function.

Resets the settings to factory defaults. Use the **UP** and **DOWN ARROW** button to toggle between **NO** and **YES**. If you want to reset to factory defaults, toggle to **YES** and then press and release the **MEASURE** button.

Press and release the **ON/MENU** button again to scroll to the next menu item. Press and release the **OFF/BACK** button to exit the menu.

MAINTENANCE AND CARE

The **GAS•TRAC LZ-30** is virtually maintenance free when cared for properly. Here are some common things to avoid in order to keep your instrument in proper working order.

Keep the optics at the front of the instrument as clean as possible, and avoid water, dirt, or other debris from making contact. If anything does build up and needs to be cleaned, use canned air/duster to avoid contact with the optics.

Keep the charging contacts at the bottom of the instrument as clean as possible. Any dirt build up may impede charging. If dirt builds up and needs to be cleaned do not use a conductive brush to do so, as this will damage the battery.

If the body of the instrument needs to be cleaned, use an all-purpose cleaner such as Simple Green. Avoid solvents such as acetone, or any other chemical that could damage ABS plastic.

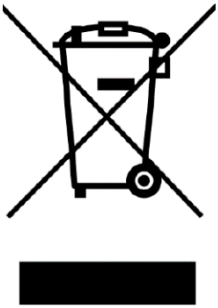
Do not point the instrument at the sun, as this could damage the optics or the laser modules.

Only use the wall transformer supplied by SENSIT Technologies for use with the charging base. Using other transformers may damage the base or the instrument.

NOTES

REQUIREMENTS UNDER WEEE REGULATIONS

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 **GAS•TRAC® LZ-30** is warranted to be free from defects in materials and workmanship for a period of two years after purchase, including the battery (excluding calibration). 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.

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