

DIGITAL HANDHELD GAS LEAKAGE DETECTOR

- Powered with 6 x 1,5V AAA alkaline batteries
- User configurable parameters
- Acoustic and optical indication in case of alarm
- Auto-shut-off function

DETECTOR DIGITAL PORTÁTIL DE FUGAS DE GAS

- Alimentación con 6 baterías de 1,5 V AAA alcalinas
- Posibilidad de configuración de los principales parámetros
- Indicador acústico y visivo en caso de alarma
- Dotado de función de auto-apagado

DÉTECTEUR NUMÉRIQUE PORTABLE DE FUITES DE GAZ

- Alimentation avec 6 batteries alcalines de 1,5V AAA
- Possibilité de configuration des paramètres principaux
- Avertisseur acoustique et optique en cas d'alarme
- Fonction Arrêt automatique

DETECTOR DIGITAL PORTÁTIL DE FUGAS DE GÁS

- Alimentação mediante 6 baterias alcalinas de 1,5V AAA
- Possibilidade de configuração dos parâmetros principais
- Sinalador acústico e óptico em caso de alarme
- Função de desligamento automático

RILEVATORE PORTATILE DI FUGHE DI GAS DIGITALE

- Alimentazione tramite 6 batterie da 1,5V AAA alcaline
- Possibilità di configurazione dei principali parametri
- Segnalatore acustico e visivo in caso di allarme
- Dotato di funzione di autospegnimento

TRAGBARER DIGITALER GASDETEKTOR

- Versorgung durch 6 1,5V-AAA-Alkali-Batterien
- Hauptparameter einstellbar
- Akustischer und optischer Alarm bei Messbereichüberschreitung
- Automatische Selbstabschaltung

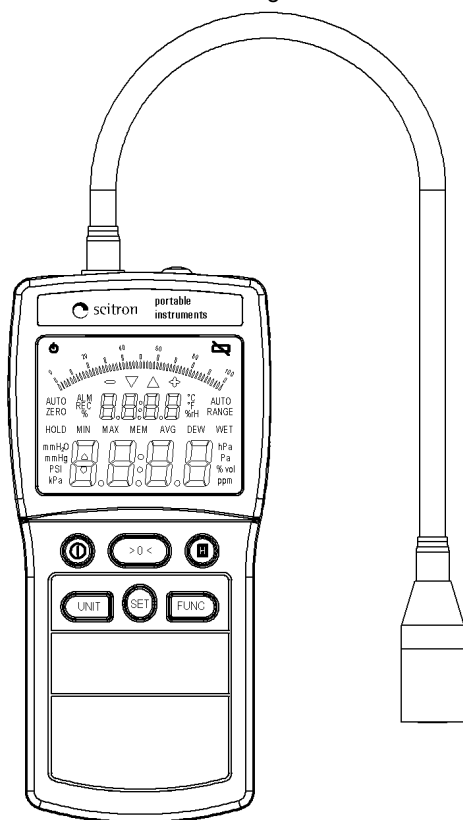


Fig. 1: External appearance / **Aspecto exterior** / Aspect extérieur
Aspecto exterior / Aspetto esteriore
Abb. 1: Außenansicht.

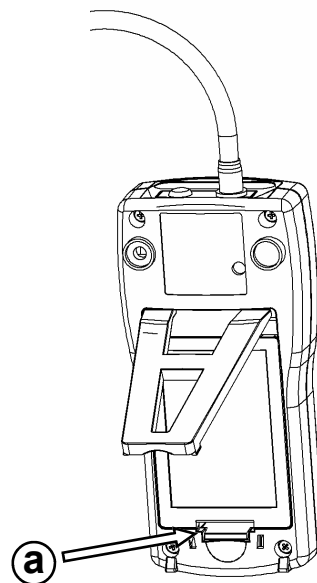
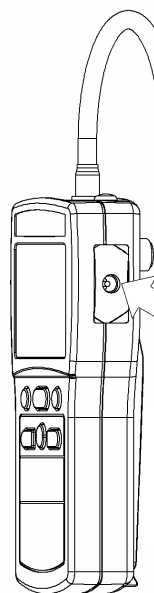


Fig. 2: Battery compartment / **Acceso compartimiento pilas** / Accès au logement des batteries / **Accesso ao compartimento das pilhas** / Accesso vano pile
Abb. 2: Zugang zum Batteriefach



Power supply input Polarity:
Polaridad conector de alimentación:
 Polarité du connecteur d'alimentation :
Polaridade do conector de alimentação:
 Polarità connettore di alimentazione:
Polarität Stecker des Speisegeräts:

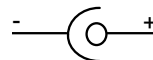


Fig. 3: Power supply input/
Conector alimentación /
 Connecteur d'alimentation /
Conector de alimentação /
 Connettore alimentazione /
Abb. 3: Der Stecker des Speisegeräts



ENGLISH

OVERVIEW

This device is a digital handheld gas leakage detector, equipped with an external whip (for reaching the point in which the leakage is likely to happen) at whose end is mounted a gas semiconductor sensor for detection of low concentrations of hydrocarbons in gas appliances and pipes.

WARNING: This device is not a measurement instrument.

This device can detect either Methane (CH₄) or LPG (a mixture of isoButane and isoPropane, but generally to several types of Hydrocarbons).

The gas concentration is shown through the 4-digits LCD, as well as through a bar-graph ranging from 0 to 100% of the full scale.

The detector can be operated either with alkaline batteries or rechargeable batteries; in addition to this the operation with a 12V external power adaptor is also available (optional).

When the latter is used the eventual batteries installed in the relevant compartment are disconnected; moreover please consider that the external adaptor does not recharge the batteries.

In order to recharge the batteries a proper (external) battery charger must be used, which is suitable for the type of the battery used.

Further to this the instrument features autozero and auto-shut-off functionality.

OPERATION

PRELIMINARY CHECK

Before the instrument is first used, it is mandatory to take the following actions:

- Insert the batteries in the relevant compartment. In order to open the plastic door please apply a slight pressure with a finger or with the help of a small screwdriver on the plastic tooth (see 'a' in Fig. 2); then insert batteries paying attention to the correct polarity.
- Alternatively insert the external adaptor (optional) plug in the connector (see Fig. 3), then plug the adaptor in the mains socket.

COMMANDS DESCRIPTION

' On/Off key

In order to turn the instrument On or Off press the ' ' key. When the instrument is turned on the instrument plays a short beeping sound and starts the sensor pre-heating phase, which



lasts 45 seconds.

During this phase the instrument displays the word 'HEAT' and the remaining time before the end of it.

When the pre-heating is terminated the auto-zero phase is initiated, lasting 6 seconds and identified with another short beeping sound. Once also this is terminated, another prolonged beeping sound indicates the full functionality of the instrument.

During normal operation, while no gas is detected, the instrument will issue a short beep every 2 seconds.

In case a leakage is detected, the rate of the sound will be higher accordingly to the measured concentration.

The instrument is factory set with the auto-shut-off feature turned on and the relevant time set to 10 minutes.

This means that the instrument will automatically turn off after ten minutes from turn-on.

A temporary turn-off for this feature (until the first manual turn-off) can be accomplished by pressing the '⊙' key for at least 4 seconds during the turn-on phase. In order to turn the instrument off please press the '⊙' key: the action is confirmed with three short beeps issued in sequence.

'>0<' AUTOZERO key.

When this key is pressed (an the instrument is on) the auto-zero procedure is initiated.

As previously explained, the auto-zero time is 6 seconds long, stressed with a beeping sound and with 4 '0.000' digits flashing on the LCD.

During this phase the instrument samples the actual gas concentration and assumes that as a zero baseline for any following measurement.

When this phase is terminated, the instrument will sound a prolonged beeping sound.

AUTOMATIC Zero drift adjustment

In absence of gas the instrument continuously checks its zero level and performs an automatic drift adjustment, provided the variation is maintained within some limits.

This compensation is transparent for the user and it is performed every 2 seconds in order to compensate any possible sensor drift mostly due to temperature variations.

When the sensor detects the presence of gas it abandons this compensation procedure and switches to the gas detection operation.

'H' Hold key

When the 'H' key is depressed, the 'HOLD' mode is started, during which the actual read value is 'frozen' on the lower 4 digits display. When in this mode the instrument turns the label 'HOLD' on and issues a short beep.

During this mode the upper 4-digits display will keep on showing the current measured concentration value (thus following the concentration variations), meanwhile the lower 4-digits display shows the 'frozen' value.

If the 'H' key is again depressed the instrument will exit from the 'HOLD' mode, sounding a short beep as a confirmation.

'UNIT' Measurement Unit Key.

When this key is depressed the measurement unit in which the display reading is expressed is selected.

Every time the 'UNIT' key is further depressed, the instrument will cycle among the available measurement units, according to the following sequence (Starting with the unit currently selected):

=> ppm => %vol => % L.E.L. => ppm =>

every time the unit is changed, the choice is automatically stored in the instrument memory, so that during the next instrument turn-on this will be the default unit.

'SET' key

When this key is kept depressed for at least 3 seconds a mode is entered in which the user can set the general parameters for the instrument operation.

These parameters are three and the user can switch between

one and the following by pressing the 'SET' key. Once a parameter is selected, its value can be modified with the following keys:

'FUNC' Key: Increases the value (if numerical) or switches between On and Off cyclically (if non-numerical).

'UNIT' Key: Decreases the value (if numerical) or switches between On and Off cyclically (if non-numerical).

Parameters which can be adjusted are the following:

P1: Acoustic Feedback Enable/Disable

This parameter is identified with the label 'SET 1'.

Its value enables or disables the internal buzzer for the acoustic feedback.

Press the 'UNIT' or the 'FUNC' key to change the actual value. The instrument is factory set with the feedback enabled (Set 1=On).

P2: Auto-Shut-Off Time.

From parameter 'Set 1' if the key 'SET' is further depressed once, the user gets access to parameter 'SET 2' which allows to change the auto-shut-off time. The 'UNIT' key decreases the current value, meanwhile the 'FUNC' key increases it.

The allowed values for this parameter are in the range 1 .. 30 minutes in 1 minute steps.

In order to disable this feature (instrument turned on until a manual turn-off) the user must increase or decrease the parameter value until the label 'OFF' is set.

P3: Buzzer on Alarm Enable/Disable.

From parameter 'Set 2' if the key 'SET' is further depressed once, the user gets access to parameter 'SET 3' which allows to enable or disable the buzzer sound in case of an alarm.

Press the 'UNIT' or the 'FUNC' key to change the actual value.

The instrument is factory set with the alarm buzzer enabled (Set 3=On).

From this parameter a further action on the 'SET' key results in quitting the parameters configuration mode, together with the storage in the instrument memory of the preferences just set.

OVERRANGE FUNCTION

This function, active any time, continuously checks for the measured concentration to remain within the instrument full range limits. Should the full range value be exceeded, the internal buzzer will start beeping at the maximum repetition rate and, at the same time, the 'ALM' symbol will be turned on and the lower display will show the label 'OFL' (overflow).

LOWBATT FUNCTION

The instrument continuously analyses the battery level and, in case this is found below a certain value, the low-level battery icon '⚡' is shown in the upper right side of the display.

When this symbol is turned-on, the instrument is still perfectly operational.

After this, when the battery voltage falls below another critical level, the words 'Lo bAtt' are shown on the display and the operation of the instrument is stopped: the only action allowed to the user is the turn-off.

When the instrument is further turned-on, if the supply voltage is in the valid range, all the functions are enabled again.

For batteries replacement please follow the directions explained in the paragraph 'Preliminary Operations'.

BUZZER

This instrument features an internal buzzer for both the purpose of an acoustic indication of the measured concentration and for an acoustic feedback on some user actions.

When the instrument is detecting a gas concentration higher than zero, the repetition rate of the 'beeps' increases according to the concentration level.

SENSOR FAIL

The instrument periodically checks the sensor status. In case the latter is found defective, the buzzer sound is set to continuous (when the Buzzer Alarm feature is Enabled) and the words '**SEnS FAIL**' are shown on the display.

TECHNICAL FEATURES

Power supply:	9V, 6x1,6V AAA alkaline batteries
External power supply:	12 Vcc, 100 mA
Battery life:	4 hours minimum
Battery '  ' level:	6.00 V (instr. operational)
Low-Batt level:	5.50 V (instr. stopped)
Sensor type:	Semiconductor
Pre-heating time:	max. 45 seconds fixed
Auto-shut-off time:	OFF, 1 .. 30 minutes
Display:	LCD TN
Protection grade:	IP 20
Operating temperature:	0°C .. +40°C
Storage temperature:	-10°C .. +50°C
Humidity limits:	20% .. 80% RH non condensating
Enclosure:	
Material:	ABS HB self-extinguishing
Color:	Dark blue
Dimensions:	72 x 151 x 37mm. (W x H x D)
Weight:	~ 312 gr.
Sensor whip length:	270 mm
Accessories:	External adaptor 230V~/12V= 100mA (available upon request)

WARRANTY

In the view of a constant development of their products, the manufacturer reserves the right for changing technical data and features without prior notice. The consumer is guaranteed against any lack of conformity according to the European Directive 1999/44/EC as well as to the manufacturer's document about the warranty policy. The full text of warranty is available on request from the seller.