



- Leak Testing -

SniffIT X1[®] Digital Pro

SniffIT X1[®] Digital Lite

OPERATOR'S MANUAL





Due to our continuing program of product improvements,
specifications are subject to change without notice.

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General Information

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SniffIT X1® Digital Pro and SniffIT X1® Digital Lite - Product Introduction

SniffIT X1® is fully digitalized with a screen that shows both quantitative numeric measurement values as well as graphical leak indications.

SniffIT X1® utilizes temperature, pressure and humidity sensors to ensure accurate measurements and a high level of sensitivity.

The instrument can log and store large amounts of measurement data. By attaching the sniffer to a computer via USB, data can easily be transferred. Software upgrades are available through Nolek's website, and are easy to install by connecting the SniffIT X1® to the computer.

Technical Data

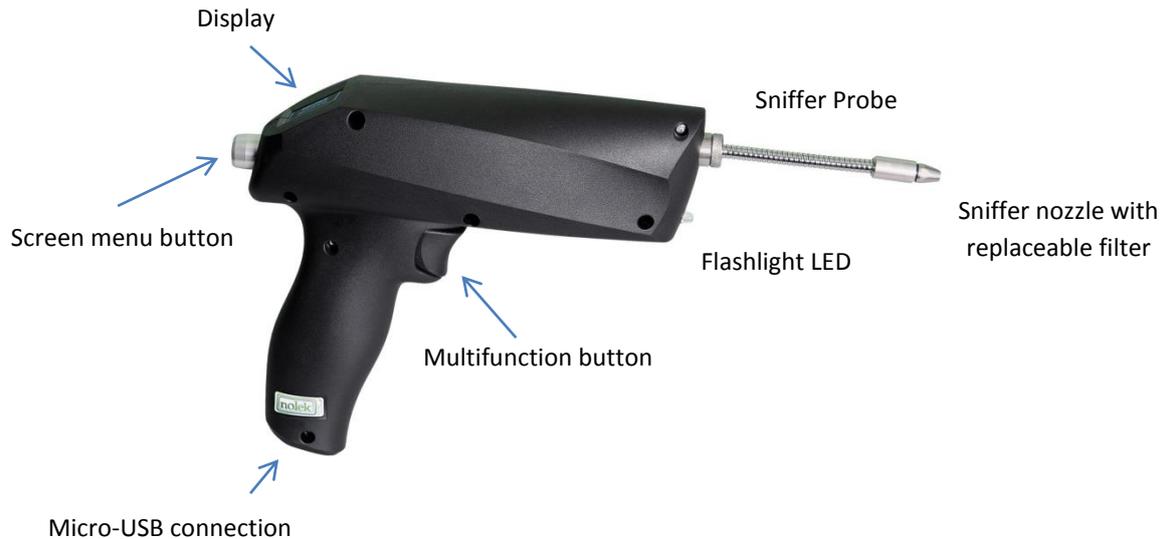
Technical Data - SniffIT X1®	
Battery Capacity	10 hours
Charging Time	2 hours
Dimensions (HxWxD)	149x238x55mm (5.86x9.37x2.17")
Weight	320 grams
Detectable Gases	Helium and Hydrogen
Recommended Concentration and Mixture	Helium: 5-100% He Hydrogen: 5% H ₂ , 95% N ₂
Sensitivity Helium	1·10 ⁻⁶ mbarl/s
Sensitivity Hydrogen	1·10 ⁻⁶ mbarl/s
Response Time	< 0,1 second
Recovery Time	< 1 second
Operating Temperature	0 to 40°C (32 to 104°F)
Storage Temperature	-10 to 60°C (14 to 140°F)
Humidity	85% RH NC
Input Voltage	5 V (dc)
Input Current	500 mA (max)
Signal Presentation	OLED screen with various GUI options
Probe Lengths incl. In Package	50mm (1.97") and 350mm (13.77") are included
Package	Airtight weather case included

Operate the SniffIT X1® Digital Pro and SniffIT X1® Digital Lite

SniffIT X1® has six main menus. Five main menus are available for the daily use: “Shut down”, “Measure”, “Settings”, “Info” and “Language”. To enter the menu “Settings”, a password is required.

The sixth menu, “Service”, is protected by a password and is for Nolek service staff only.

SniffIT X1® At a Glance



Screen menu button

Press the screen menu button and hold to turn the SniffIT X1® on. In the menu “Shut down”, press the screen menu button and hold for 9 seconds to turn the SniffIT X1® off.

Turn the button in order to switch between the menus. To switch between the menus: turn the Screen menu button to choose menu and press on the button to enter the menu. Press and hold the button to leave the menu.

Note! If the SniffIT X1® should need a restart, this can be performed by pressing the Screen menu button and hold for 9 seconds and then press the button again.

Display

The display is an OLED screen and presents the result of the leak detection as a graph or as numeric values.

The result of the leak detection is presented on the display as a graph or as a numeric value, depending on the chosen setting.

Multifunction button

Performs three different functions during measurement:

- Press the multifunction button quick to zero the measurement and perform background compensation. Do not keep the button pressed in since it will distort the measurement.

- Double click on the multifunction button to stop logging at the current location and start logging at the next measuring place.
Note! For this function to work “Graph” or “Numeric Log” has to be chosen in the “Measure” menu and log values have to be specified in the “Settings” menu.
- Press and hold the multifunction button to activate or deactivate the LED lamp.
Note! For this function to work, “LED” has to be activated in the “Settings” menu.

Micro-USB Connection

Connect the SniffIT X1® to a computer between measurements and export the compiled measurement data. The data is presented in txt-format, but is also Excel compatible.

Note! Make sure that the “log” functions are deactivated when the SniffIT X1® is connected to the computer.

The Menus

Table 1 below shows the existing menus for the SniffIT X1® Digital Pro:

Shut down	Measure	Settings	Service	Info	Language
Shut down	Graphic	LED		System data	English
	Numeric	RTC		System data	Swedish
	Measure Log	Auto off time		Alarms	
		Hlrange			
		Calib			
		Leak unit			
		Gas type			
		Log			
		Password			
		Vibrate			
		Sound			
		RejValue			
		Config			

For SniffIT X1® Digital Lite, the main menus are the same as above, but some of the submenus are not available.



Note! For a more accurate leak detection it is recommended to rest the SniffIT X1® in measuring mode for approximately 10 minutes. This way the sniffer stabilizes against the environment.

Menu: Shut down

Switch on the SniffIT X1[®] by pressing and holding the Screen menu button until the Nolek logo shows up. In the menu “Shut down”, press the Screen menu button and hold for 9 seconds to turn the SniffIT X1[®] off.

Menu: Measure

This menu is the one to use for performing the leak detection. The result of the leak detection can be presented either as a graph or as a numeric value for SniffIT X1[®] Digital Pro. On the SniffIT X1[®] Digital Lite only the graph presentation is available.

To perform a leak detection: Start the SniffIT X1[®] and let it stabilize for 10 minutes before sniffing. Choose the menu “Graphic” or “Numeric” mode in “Measure” menu. Hold the sniffer nozzle away from the test object and press the multifunction button shortly to perform background compensation (“zero”). Then, move the nozzle to the test object. The left of the display should now show a low green bar graph or a value with a “<” symbol in front.

Sweep the SniffIT X1[®] nozzle along the object. In case of a leakage the display will show an increasing bar graph coloured yellow and red or a number larger than the number displayed after the “<” symbol. There is also a possibility to get a sound and/or vibration for indicating a leak as well. This is chosen in the “Settings” submenus “Sound” and “Vibration”.



The left sample shows the SniffIT X1-PRO[®] display in numeric High sensitivity mode. The actual leak rate reading shown is less than 5,0E-07 mbar*I/s. The sample in the middle shows the SniffIT X1-PRO[®] display in numeric Low sensitivity mode. The actual leak rate reading shown is less than 1,0E-04 mbar*I/s. The sample on the right shows SniffIT X1-PRO[®] display in graphic High sensitivity mode. The instrument is showing a small leakage close to the lower measurement range limit.

If there is a decrease or increase in background gas concentration, this will be shown on the graphical display as a decrease or increase of signal even though the sniffer isn't held against the test object. Press the multifunction button to zero the instrument. Now only the green field will be shown on the display as the background is compensated. On the numerical display, the result of zeroing the instrument is shown as the lowest number of leak rate (= the highest sensitivity).

The H or L in the header of the display tells whether the measuring is performed in the high or low sensitivity range. Press the screen menu button quickly to change from H to L range and vice versa. In the header the battery status is shown as well.

Measure Log

SniffIT X1® Digital Pro has a log function (Graphic and/or Numeric log) which stores the measuring data. The stored data can be collected from the USB memory by a connection between the SniffIT X1's Micro USB connection and a computer. In the "Settings" submenu "Log", the conditions such as number of measuring points, filename and maximum time for measurement are specified.

When in the menu Graphic or Numeric log, a number will be shown in the head of the display. This number represents the number of the actual measuring point. The specified name for the current measurement is shown on the screen until the measurement begins. The measurement continues for as long time as specified in the "Settings" menu. It is possible to cancel the measurement and start the next earlier by double clicking on the multifunction button.

The data from the USB is presented in txt-format and is Excel compatible as well. In the document, the following will be stated in the following order (without titles):

Filename – Type – Time – Value – Reject Value– Rejected

"Filename", "Type" and "Time" is described under the heading "Menu: Settings" in this manual.

"Value" is the leak value, shown in the chosen unit.

"Reject value" is the alarm limit, stated in the Settings submenu "Reject Value".

"Rejected" shows the result of the measurement. 0 means an approved object, while 1 means that the rejected value is reached and that the object is leaking.

There will be one file created for each filename. If a new filename is stated, a new file will be created. If an old stored name is repeated, the old file will be resumed. In each file there will be a new row added for each measurement.

Menu: Settings

The menu "Settings" is only available with a password. The default menu access password is "000". The submenus will here be introduced individually.

LED

If the leak detection is going to be conducted in narrow and dark areas, the LED-light can be switched on by choosing "5 minutes" in the menu "LED". The lamp will then be on for 5 minutes. To switch the light off, choose "OFF" in the LED-menu.

Another way to turn the LED-light on/off is to press the multifunction button and hold until the light is on/off. This mode can be set by selecting "Toggle" in "LED" menu. The light will be on until the user presses and holds on the multifunction button again.

RTC

RTC stands for "Real Time Clock". This is for adjusting or resetting the time and date settings.

Auto off time

Using the integrated accelerometer after the set time the SniffIT X1® Digital will shut itself down to save battery. Setting this value to "0" disables the function.

HLrange

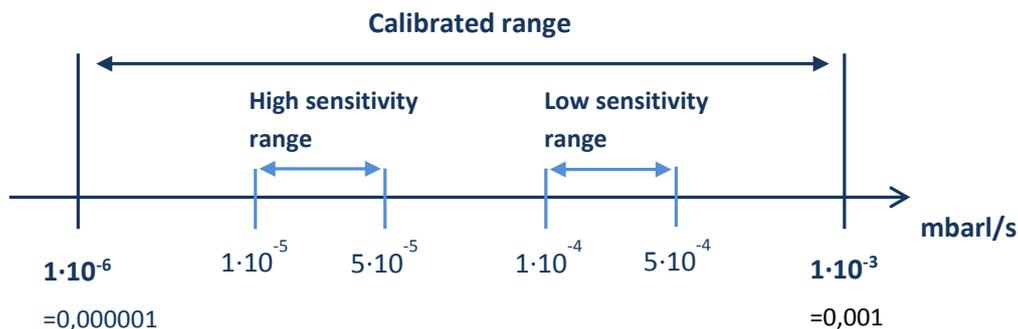
In this menu, the user decides which measuring ranges should be used by stating a high sensitivity range for fine measurement and/or a low sensitivity range for rough measurement. Both the sensitivity ranges must be stated within the - by NOlek - calibrated range with a low value and a high value. For SniffIT X1® Digital Lite, a fixed low sensitivity range is stated and cannot be changed.

The unit of measurement is selected by the user in the menu "Leak unit".

Example: Set High and Low sensitivity ranges on the SniffIT X1® Digital Pro in the unit of mbarl/s.

Note! Make sure that the SniffIT X1® Digital Pro is calibrated before the following steps take place:

1. Switch on the SniffIT X1® Digital Pro by pressing the screen menu button.
2. Press the screen button and turn it until finding the menu "Settings". Press and turn the button again and choose the menu "Leak unit"
3. Choose the unit mbarl/s.
4. Leave the "Leak unit" menu by pressing and holding the Screen menu button.
5. Choose the submenu "HLrange".
6. Choose "High_Min". Enter the desired minimum value, for example $1 \cdot 10^{-5}$, by turning the Screen menu button until $1.00e-05$ is shown on the display. Press and hold the Screen menu button to store value and leave the submenu.
Choose "High_Max". Enter the desired maximum value, for example $5 \cdot 10^{-5}$, by turning the Screen menu button until $5.00e-05$ is shown on the display. Press and hold the Screen menu button to store value and leave the submenu.
7. Choose "Low_Min". Enter the desired minimum value, for example $1 \cdot 10^{-4}$, by turning the Screen menu button until $1.00e-04$ is shown on the display. Press and hold the Screen menu button to store value and leave the submenu.
Choose "Low_Max". Enter the desired maximum value, for example $5 \cdot 10^{-4}$, by turning the Screen menu button until $5.00e-04$ is shown on the display. Press and hold the Screen menu button to store value and leave the submenu.



Note! High/Low in the menu HLrange refers to high/low sensitivity. High sensitivity means that the measurement can result in detection of smaller flows and should therefore always have lower values than low sensitivity.

Calib

Unimplemented function.

Leak unit

In the menu “Leak unit”, the user chooses the desired unit. Supported units are:

- mbarl/s (millibar litres per second)
- ppm

Gas type

(Only available for SniffIT X1® Digital Pro)

Choose which tracer gas to use: Helium (He) or Hydrogen gas (H₂).

Log

In this menu users can specify the conditions for storage of data from the measurements. Detailed description is available in section “Menu: Measure”.

There are four available options:

N:	Specify the chosen number of measuring points. 1-9 pcs.
Filename:	Name each of the measuring points, up to 9 detection places.
Time:	Specify the maximum time (1-180 seconds) for measurement at each measuring point. The chosen time limit is valid for all of the measuring points. Note! When measuring, it is possible to terminate the ongoing measurement and go to the next measuring point by double clicking on the multifunction button.
Type:	Choose to record all measuring values or to record only the peak value.

Password

Define a new password for accessing the “Settings” menu. The password must be of 3 digits. The default menu access password is “000”.

Vibrate

Enables (Vibrator On) or disables (Vibrator Off) vibrating alarm when the detected leak rate exceeds the pre-set rejection value.

Sound

Enables (Enable / Sound On) or disables (Enable / Sound Off) audible alarm when the detected leak rate exceeds the pre-set rejection value. The volume can be adjusted in percentage.

RejValue

The value set in this menu in the leak unit is considered as a rejection value. Leak rates detected above this limit will trigger visible alarm and vibrating/audible alarm when enabled.

Config

All settings can be saved to the internal memory in a txt-format file. This file can be transferred to the computer as a back-up and can be useful to restore all settings in the unlikely case of data loss or after a firmware upgrade.

To export the setting to the internal memory select “SD Store”.

To load saved settings from the internal memory select “SD Load”.

Menu: Service

This menu is for Nolek service personnel only.

Menu: Info

On the first page information is available about the SniffIT X1[®]'s current firmware version, serial number, pre-set date and time. Battery charge is displayed in volts.

On the second page the selected tracer gas and the leak rate unit is displayed.

Menu: Language

Available languages are:

- English
 - Swedish
-

Software Update

Nolek will continuously release software updates. In order to update your SniffIT X1® Digital, first select menu “Settings” – “Config” – “SD Store” to save current device settings.

Connect the SniffIT X1® to a computer via the Micro USB connection on the sniffer to the USB connection on the computer. Use the cable for the charger. After connecting the SniffIT X1® to the computer, the computer will automatically open, or you have to open the SniffIT X1® device folder. Select subfolder “app” then “load”.

In order to retrieve the new firmware visit our support web site at:

<http://www.nolek.com/sniffitupdate>.

Copy the downloaded firmware file in the “load” folder and delete old file. Use your operating system’s “Safely remove mass storage device” function to disconnect SniffIT X1® from the computer.

Disconnect the USB cable and shut down your SniffIT X1®. Then, restart the SniffIT X1® while at the same time pressing the multifunction button. Select “update” on the menu screen of the SniffIT X1®. When the update procedure is completed press and hold the Screen menu button to return to the Update menu.

Shut down SniffIT X1®. After powering up the unit again the new firmware version will be loaded and the SniffIT X1® can now be used again.

Select “Settings” – “Config” – “SD Load” menu to reload your previously saved settings.

Operator’s Manual Update

Nolek will continuously release Operators Manual Updates. In order to update the SniffIT X1® with the latest manual, first connect the SniffIT X1® to a computer via the Micro USB connection on the sniffer to the USB connection on the computer. Use the cable for the charger.

After connecting your SniffIT X1® to the computer, the computer will automatically open, or you have to open the SniffIT X1® device folder. In the folder first select “manual”. Copy the downloaded manual file in the “manual” folder and delete the old one.

In order to retrieve the new user manual visit our support web site at:

<http://www.nolek.com/sniffitupdate>.



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