Sensistor XRS9012

Hydrogen Leak Detector

Maintenance manual

INFICON

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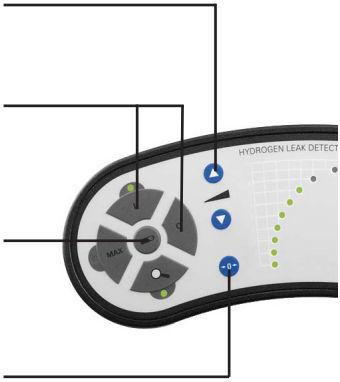
1 Maintenance and repair

The Sensistor XRS9012 is maintenance free, except for battery replacement (normally every three years). This section describes the functions of the instrument and gives advice as how to function tests should be carried out.

1.1 Function and controls

Following functions are controlled from the panel:
- Sensitivity: can be varied in 10 steps, each step doubles the sensitivity.



- On/Off: the detector has an automatic switch-off aftr 30 minutes of no activity.

- Battery Check: At least 8 of the light emitting diods (LED) will illuminate at full charge. Full charge takes one hour.

- Zero: the detector has an automatic zeroing function. The ZERO button allows the operator to force the signal to zero instantaneously.

- Sound level: the volume can be changed in 64 steps.

- Earphone output

- MAX: this is a peak-hold function allowing the operator to compare the maximum gas signal in two different places.

- SEARCH (default): this is the normal mode where the signal follows the gas concentration. The detector always starts in this

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1.1.2 Battery charger

The voltage range for charging is 9 - 15VDC. To operate on mains voltage a voltage converter is connected to the power input at the back of the unit. There is also a possibility to connect the unit to the car cigarettelighter, which enables the unit to be charged in the car.

1.1.3 Probe attachment

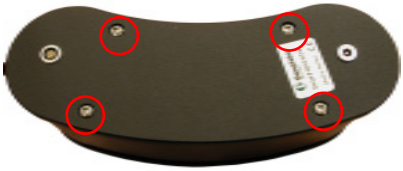
All probes are attached to the Leak Detector Sensistor XRS9012 via cable C21 to the socket at the back of the unit.

1.2 Changing batteries

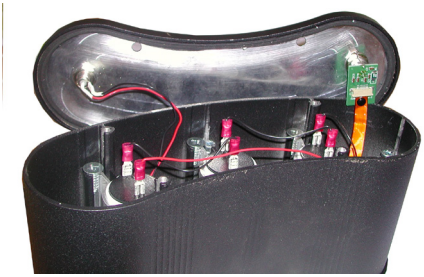
Before reading this section, please see picture on page 11 to get an overview of the assembly.

We recommend changing batteries every three years (batteries will normaly last for several more years but operation time is shortened).
Follow the procedure described below. The batteries are placed inside the Leak Detector.

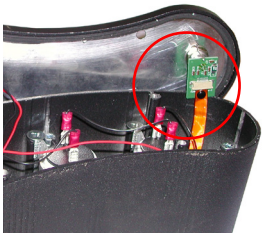
Remove the four screws holding the back cover



Remove the cover carefully



Disconnect the flexible cable from the probe connector circuit board (see next page)



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1.2.1 Removing flex cable

Be very careful when removing the flexible cable in order not to demage the rivet, the cable or the circuit board. Read the whole section 1.2.1 before commencing work.

- First remove the rivet by carefully pulling it upwards.
- Thereafter pull the holder the same way.

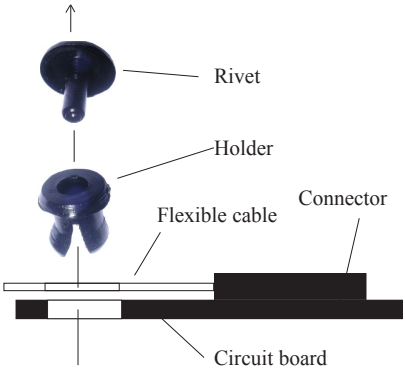


Figure 1, Rivet and holder in place

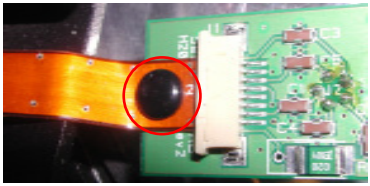


Figure 1

Figure 2, Rivet is removed holder still in place

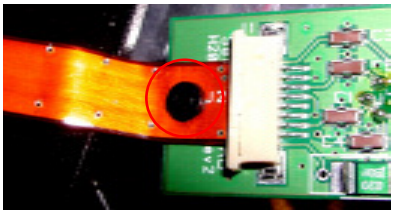


Figure 2

Figure 3, Rivet and holder removed

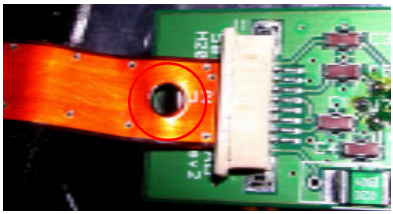
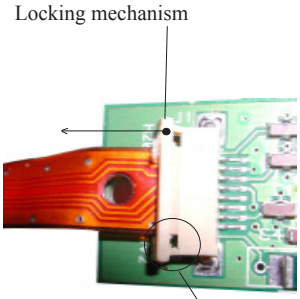


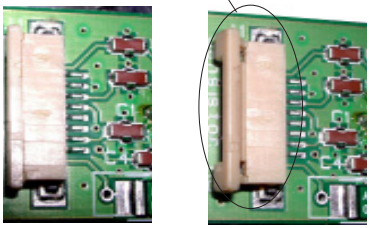
Figure 3

Next step before pulling out the flexible cable is opening the circuit board connector (see next page).

To open the connector, pull the locking mechanism away from the connector body



Pull the cable straight out of the connector



The interior of the Leak Detector is now accessible. It is now possible to loosen the front cover.

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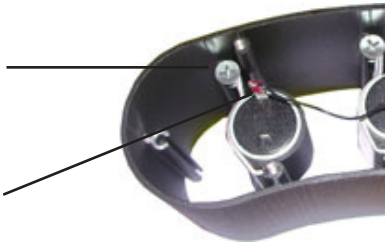
1.2.2 Removing front cover

Remove the four front panel screws from inside and the front cover carefully.
NB: the power supply cable from the back cover is still attached to the circuit board on the front cover

Diconnect the power supply cable from its connector on the circuit board

Front and back covers removed

Disconnect the cables attached to the batteries, one battery at the time. Remove the screws holding the battery (see figure).
NB: there are two screws holding each battery.



Replace the battery, connect the cables and tighten the screw. Repeat this for all three batteries

Re-assemble the Leak Detector

The new batteries should be charged for >12 hours to be fully charged. The Sensistor XRS9012 Leak Detector is ready for use.

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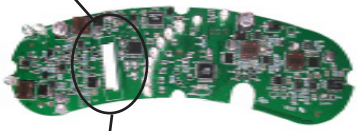
1.2.3 Replacing the circuit board

Open the detector following the instruction in section 1.2

Loosen and remove the screws holding the circuit board to the front cover. Disconnect the speaker and earphone connector. Lift the circuit board carefully so that there is access to the connector from the circuit board to the touch pad panel. Loosen the connector carefully. Replace the circuit board.

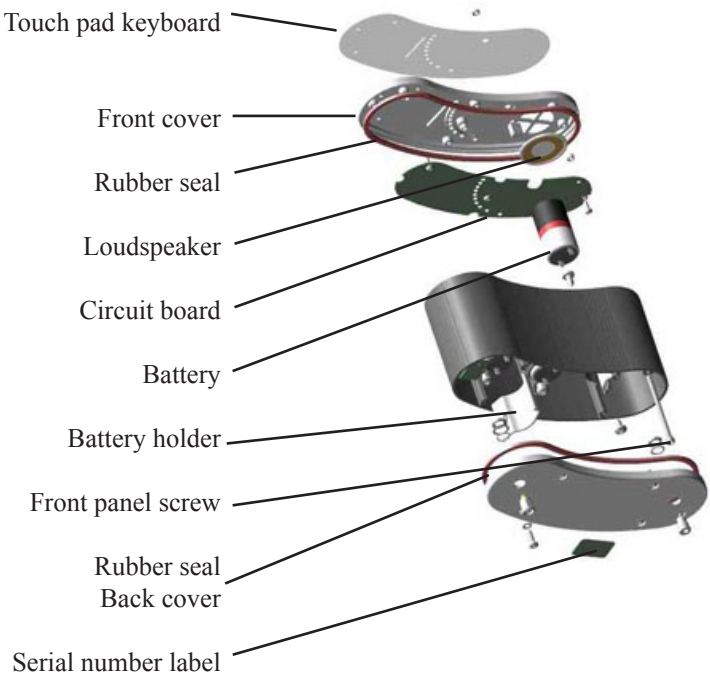
Circuit board front side



Front cover without circuit board

Circuit board backside

1.3 Product information



Product facts:

Sensitivity:	0,7ppm H2 in air
Response time:	< 1sec
Start-up time:	6 sec
Outputs:	
- Display	10 level LED bar graph
- Speaker	5-1600 Hz
- Earphones	std earphones, 3,5mm jack, > 8ohm

Power Supply:	Rechargeble lead batteries
Battery capacity:	13h @ 20o C
Protection:	IP55
Size & weight:	250x120x85 mm, 1,9kg 260x220x95 mm, 2,5 kg (incl. carrying case)

1.4 Spare part list

	Part no.
Battery	591-294
Earphones	591-443
Carrying case	591-304
Charger AC	(591-300) 591-301 SV, 591-302 USA, 591-303 UK
Charger car	591-361
Hand Probe H21	590-200
Cable C21	590-150
Circuit board	591-293

1.5 Function check

Action	**Result**
Connect charger	The instrument starts
Disconnect	The instruments turns off
Change sensitivety	The LED's indicates corresponding sensitivity
Adjust the volume	The volume should change
Press "Battery Check" button	The LED should indicate Battery status
Disconnect Hand Probe	The ON LED should flash red and an audio signal appear

1.6 Sensitivity check

Action	**Result**
Start XRS9012	The instruments starts and indicates sensitivity 5
Adjust the sensistivity to 10	The no. 10 LED is flashing
Apply 10ppm Hydrogen	Signal should indicate: minimum LED 1

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