Sprint Pro Refrigerant Leak Probe

Refrigerant Leak Detection Accessory

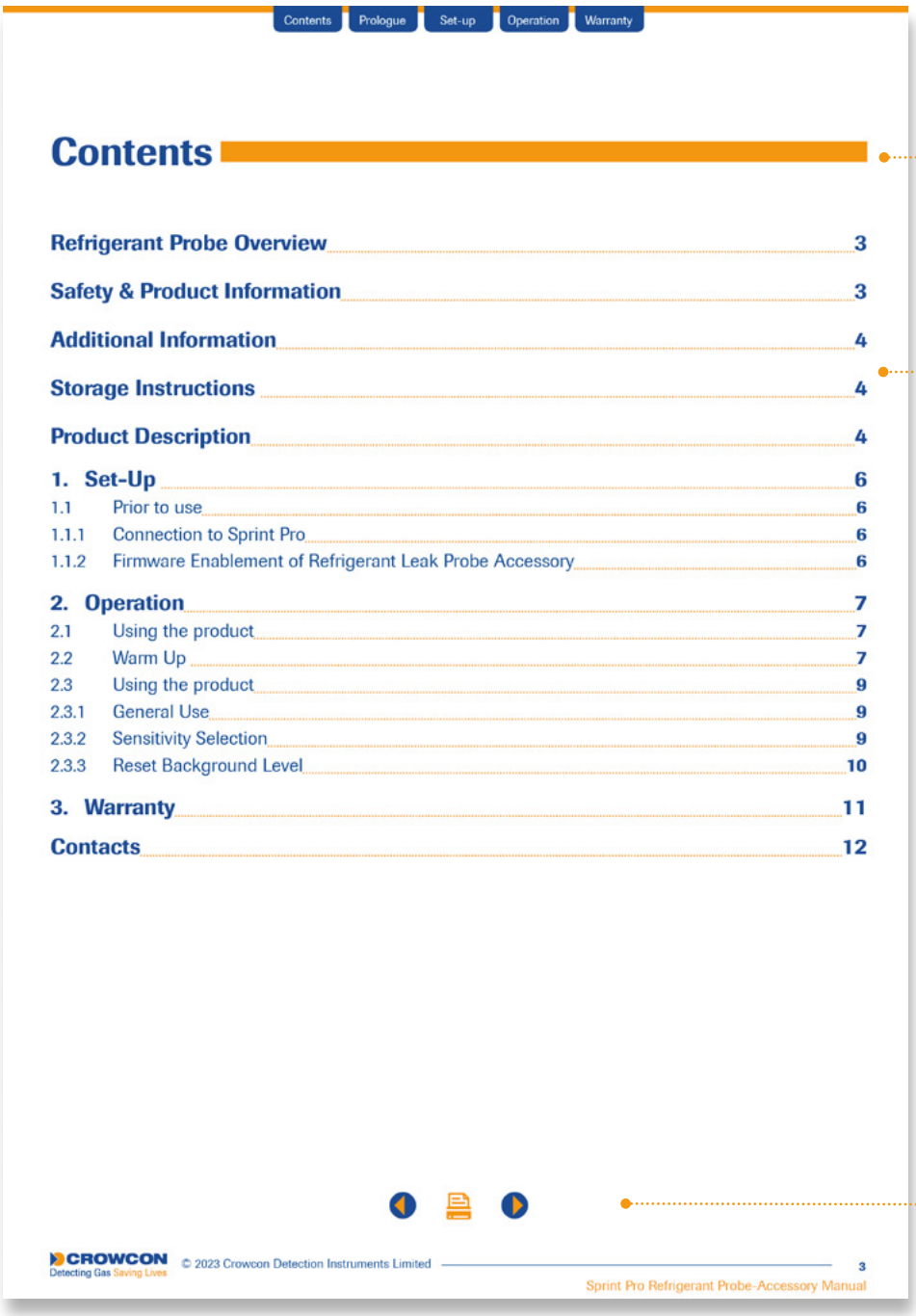
Accessory Manual

Issue 1 April 2024

CROWCON
Detecting Gas Saving Lives

Navigation

Main navigation
Click on any button to go to the page.



Page navigation

Click on any page number go to the page.

Next and previous navigation

Display previous page

Display next page

Print document

esc Press the Esc key to display normal Acrobat© Controls

Contents

Prologue

Refrigerant Leak Probe Overview

Thank you for purchasing the new **Refrigerant Leak Probe** for your Sprint Pro Flue Gas Analyser. At Crowcon we recognise the need for reliable and robust leak detection systems for use by gas engineers.

The Sprint Pro **Refrigerant Leak Probe** accessory is a leak detection device of leakages in refrigeration systems and heat pumps. Typical applications may include Light to medium duty, automotive and more importantly refrigeration systems.

The **Refrigerant Leak Probe** is a low cost accessory to help create the all-in-one multi-tool product for use by all HVAC Engineers.

Do not use the Sprint Pro Refrigerant Leak Probe as a personal safety monitor.

Safety & Product Information

The following safety & product information should be understood prior to using the Sprint Pro **Refrigerant Leak Probe**.

- Read and understand all instructions in the operation section of this manual before use.
- Observe all warnings and instructions marked on Sprint Pro, or as prompted by the analyser and within this manual.
- Before use ensure Sprint Pro is in good repair and do not use if damaged or if calibration has expired.
- Sprint Pro is designed for use in ambient temperatures in the range -10°C to 50°C and should not be used outside
- this range.
- Sprint Pro contains a re-chargeable Lithium ion battery.
- Sprint Pro's battery must not be charged at temperatures below 10°C or above 40°C.
- If Sprint Po is damaged do not use and return to a qualified service centre for repair/replacement.
- Service, calibration & repair of Sprint Pro must only be undertaken by a qualified service centre.
- Do not substitute components as this may impair safety and invalidate warranty.
- If this product is not working properly, read the troubleshooting guide or contact the service centre.
- Batteries are non-replaceable by the user and must only be replaced by authorised service centres.
- Sprint Pro battery is rechargeable via a USB-C input connector.
- Sprint Pro must be charged via a USB charger that meets the specification as detailed in the user manual.
- Sprint Pro is not a safety alarm.
- Only use probes, leads and accessories supplied by the manufacture.
- Do not subject the product to cleaning fluids, such as those containing high concentrations of acetone and silicone compounds (such as silicone grease).
- Do not immerse in water.

Additional Information

- It is highly recommended that users are fully conversant with local regulations when using a flue gas analyser for servicing or installing a boiler system.
- If the Sprint Pro has not been used for more than 6 months, it should be put on charge for at least 4 hours without use. This will allow the oxygen channel and if present the NO channel, to read correctly. Failure to do this may cause the oxygen measurement, the NO measurement and any calculations depending upon them to be incorrect.
- Magnets on the reverse of Sprint Pro can be used to place the Sprint Pro in location on the boiler system for easy hands-free operation.
- We reserve the right to update and enhance the software at times of service without prior knowledge.
- WARNING: Take care not to place items which may be sensitive to strong magnetic fields near this magnet, e.g., credit cards or magnetic storage devices like computer hard drives.

Storage Instructions

Cold Environment Precautions

It is important to keep the **Refrigerant Leak Probe** in a warm environment overnight. Condensation may form inside the product when left in a cold environment for extended periods of time, i.e., left in a vehicle overnight, followed by a transition to a warm environment the next morning. Such condensation can affect the product's performance & cause permanent damage. Metal Oxide sensors can be affected by condensation or water. For products impacted by condensation or water ingress, leave the **Refrigerant Leak Probe** permanently powered for a few hours.

Product Description

The key features of the **Refrigerant Leak Probe** are as follows;

1. Handle
2. Flexible gooseneck
3. 3.5mm DC Jack connection (to Sprint Pro)
4. Probe Head (with gas sensor & LED)

1. Set-Up

1.1 Prior to use

1.1.1 Connection to Sprint Pro

The **Refrigerant Leak Probe** accessory can be connected to Sprint Pro Jack connector located to the bottom left side of the device. This connection is common to the Gas escape probe offered for Sprint Pro. See below illustration.

Note: The Refrigerant Leak Probe accessory does not become powered until entering the *Refrigerant Detection* test menu.

1.1.2 Firmware Enablement of Refrigerant Leak Probe Accessory

Sprint Pro devices with firmware version i1.27 / i1.27 (S) or later are compatible with the Refrigerant Leak Probe accessory. Devices older than the stated firmware versions are not compatible for Refrigerant Leak Detection. Please contact Crowcon Technical Support for further details on how to update get your Sprint Pro device.

Refrigerant Leak Probe compatibility is only available on Sprint Pro versions 2–6 i.e. Sprint Pro 1 is not compatible with Refrigerant Leak Probe.

2. Operation

2.1 Using the product

Navigate to ***Leak Detection*** from the Test Menu. Select Refrigerant Detection from the ***Leak Detection*** Test Menu. Connect the **Refrigerant Leak Probe** to the jack connector located on the Sprint Pro device. The light will 'slow-flash' on the probe during its warm-up process.

The Sprint Pro will display a warning if the probe is not connected, or the wrong probe has been connected for the selected leak detection test menu. i.e., ***Flammable detection*** test menu selected, though **Refrigerant Leak Probe** has been connected.

Sprint Pro will display 'Checking Sensor' for approximately 20 seconds.

Press ESC to quit the test.

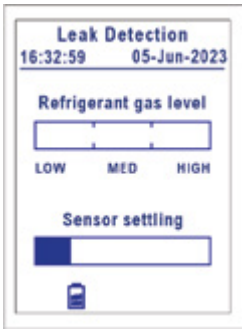
As with many types of instrumentation the **Refrigerant Leak Probe** may be damaged by impact. If the probe is dropped or suffers significant impact in another way check its operation by first plugging it into the Sprint Pro and confirming that it is recognized by the analyser.

If the Sprint Pro detects a fault with the **Refrigerant Leak Probe**, it will display a warning advising that the **Refrigerant Leak Probe** is faulty, and the test will be aborted.

If the **Refrigerant Leak Probe** was subjected to a large impact, does not pass the described test above or is physically damaged please return to a qualified service centre for replacement.

2.2 Warm Up

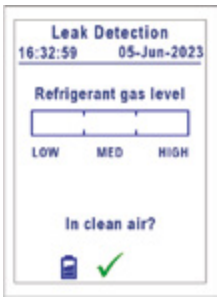
After the device has completed its 'Checking Sensor' phase, the Sprint Pro device will enter a 'warm-up' period of 120secs. The next screen will appear on the Sprint Pro device stating 'Sensor Settling' message with a progress bar. **The Refrigerant Leak Probe** LED will illuminate solid during this time.



Following completion of the 'Sensor Settling' phase. **The Refrigerant Leak Detection** screen will appear on the device followed by an audible beep.

The device will ask to ensure whether you are in clean air? Press the centre soft key to zero. The Sprint Pro will display a bar graph on the screen as gas levels are monitored.

The **Refrigerant Leak Probe** LED will illuminate solid upon warm-up completion.

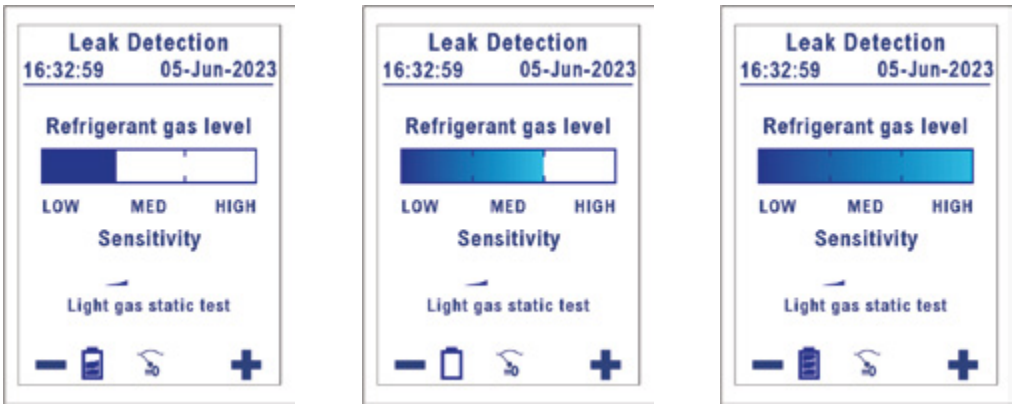


2.3 Using the product

2.3.1 General Use

Place the probe in the area of inspection for several seconds before moving it to other locations. Move the probe head as close as possible, and as slowly as possible across the examined areas. An advised movement of the probe of the area is 3 - 5cm per second. Sprint Pro will emit continuous clicks like a Geiger counter. If higher gas levels are detected the bar graph will increase in readings and the sounder will increase in pitch.

Press ESC to quit the test.



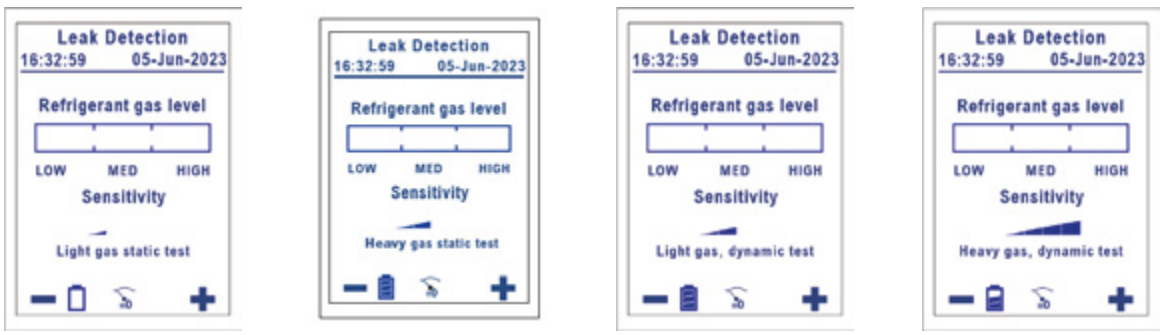
2.3.2 Sensitivity Selection

The Sprint Pro Refrigerant Leak Detection Test option facilitates a 'Sensitivity Selection' setting to allow the user to increase the sensitivity of the probe for detection of heavier refrigerant gases or identification of leaks in a localised area/dynamic mode.

Lower sensitivity would be suitable for detection of lighter refrigerant gases or identification of leaks from a known source/ static mode operation.

The four levels of sensitivity selection are;

1. Light Gas, Static Test (Lowest Sensitivity)
2. Heavy Gas, Static Test
3. Light Gas, Dynamic Test
4. Heavy Gas, Dynamic Test (Highest Sensitivity)



Refrigerants Group	Detectable	Sensitivity Selection
CFC	✓	Heavy Gas
H-CFC	✓	Heavy Gas
HFC	✓	Light Gas
R22	✓	Light Gas
R32	✓	Light Gas
R125	✓	Heavy Gas
R134a	✓	Heavy Gas
R152	✓	Light Gas
R404a	✓	Light Gas
R407a	✓	Heavy Gas
R410a	✓	Light Gas
R1234yf	✓	Heavy Gas
R290	✓	Heavy Gas
R600A	✓	Heavy Gas

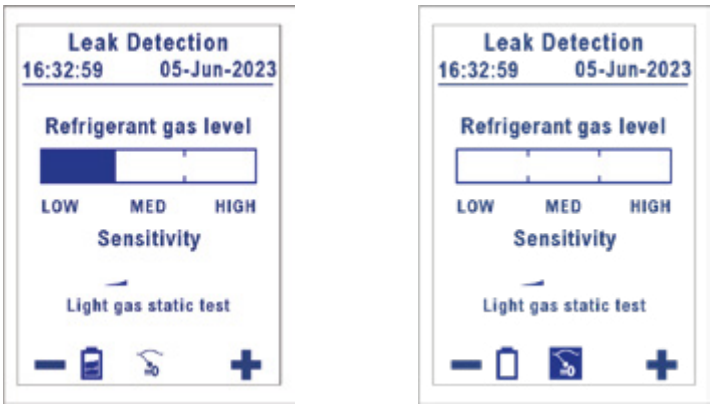
2.3.3 Reset Background Level

In instances whereby a background level of refrigerant is potentially present in the local environment, the reset feature allows the on-screen scale to be reset back to zero for improved detection of the actual leak source.

This option can be accesses using the centre button key.

Press the centre soft key to adjust scale to zero; press again to turn off this reset operation.

The button image will revert to indicate when offset zero is activated. See illustration below.



The reset to background level may also be useful for faster detection of refrigerant leaks. The reset operation may be used after passing over a leak to reset the previously detected response. The Refrigerant Leak Probe can then be passed back over the leak source before initial probe recovery.

3. Warranty

This equipment leaves Crowcon's factory fully tested and calibrated. If within the warranty period of 1 year from despatch, the equipment which includes battery and common sensors is proved to be defective by reason of faulty workmanship or material, we undertake at our option either to repair or replace it free of charge, subject to the conditions below.

Warranty Procedure

To facilitate efficient processing of any claim, contact your local Crowcon agent/distributor, a Crowcon regional office or our global customer support team (English working language) on +44 (0)1235 557711 or email customersupport@crowcon.com to obtain a returns form for identification and traceability purposes. This form may be downloaded from our website and requires the following information:

- Your company name, contact name, phone number and email address.
- Description and quantity of goods being returned, including any accessories.
- Instrument serial number(s).
- Reason for return.

The item will not be accepted for warranty without a Crowcon Returns Number (CRN). It is essential that the address label is securely attached to the outer packaging of the returned goods.

The guarantee will be rendered invalid if the detector is found to have been altered, modified, dismantled, tampered with, or has not used Crowcon spares for replacement parts (including sensors) or has been serviced or repaired by any party not authorised and certified by Crowcon to do so. The warranty does not cover misuse or abuse of the unit including use outside of specified limits.

Warranty Disclaimer

Crowcon accept no liability for consequential or indirect loss or damage howsoever arising (including any loss or damage arising out of the use of the detector) and all liability in respect of any third party is expressly excluded. This warranty does not cover the accuracy of the calibration of the unit or the cosmetic finish of the product. The unit must be maintained in accordance with the instructions in this manual.

The warranty on replacement consumable items supplied under warranty to replace faulty items, will be limited to the unexpired warranty of the original supplied item.

Crowcon reserves the right to determine a reduced warranty period or decline a warranty period for any sensor supplied for use in an environment or for an application known to carry risk of degradation or damage to the sensor.

Our liability in respect of defective equipment shall be limited to the obligations set out in the guarantee and any extended warranty, condition, or statement, express or implied statutory or otherwise as to the merchantable quality of our equipment or its fitness for any particular purpose is excluded except as prohibited by statute. This guarantee shall not affect a customer's statutory rights.

Crowcon reserves the right to apply a handling and carriage charge whereby units returned as faulty, are found to require only normal calibration or servicing, which the customer then declines to proceed with.

For warranty and technical support enquiries please contact:

Customer Support

Tel: +44 (0) 1235 557711

Fax: +44 (0) 1235 557722

Email: customersupport@crowcon.com

Contacts

UK Head Office

172 Brook Drive, Milton Park, Abingdon,
Oxfordshire, OX14 4SD

+44 (0) 01235 557700

Crowcon Detection Instruments Ltd.

Singapore Office

Block 194 Pandan Loop, # 06-20 Pantech Business Hub, Singapore, 128383

+65 6745 2936

Crowcon Detection Instruments Ltd.

USA Office

5690 Eighteen Mile Road, Sterling Heights,
MI 48314, USA

800-527-6926 (800-5-**CROWCON**)

Crowcon Detection Instruments Ltd.

Middle East Office

48 Sheikh Zayed Road, City Tower 2, 8th Floor,
Dubai, UAE

+971 (0) 0662 0105

Crowcon Detection Instruments Middle East

China Office

Floor 3, Building 7, No.156, 4th Jinghai Rd, BDA,
Beijing, P.R. China. 101111

+86 (0)10 6787 0335

crowcon.com.cn

Crowcon Detection Instruments Limited Company

CROWCON
Detecting Gas Saving Lives

Halma