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## **INFICON D-TEK PRO Refrigerant Leak Detector**



## **Disclaimer and Copyright**

### **Disclaimer**

The information contained in this manual is believed to be accurate and reliable. However, INFICON assumes no responsibility for its use and shall not be liable for any special, incidental, or consequential damages related to the use of this product. Due to our continuing program of product improvements, specifications are subject to change without notice.

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## **Cautions and Warnings**

Read this manual carefully before using the instrument. Pay particular attention to WARNINGS, CAUTIONS, and NOTICES. Using the product in any way other than specified in this manual may impair any protections provided by the product. Use only accessories that have been supplied or recommended by INFICON.

### **Cautions:**

- Only use a certified charger/cord with an output of 12V(dc), 2 A.
- The battery is not user serviceable. Battery replacement should only be done by INFICON or an authorised service centre.
- Keep the device out of extremely high or low temperature locations.
- Do not expose the battery to liquid.
- Do not use the device if you notice any damage to the battery.
- Do not disassemble or modify the battery.
- Handle and dispose of the battery per local regulations.
- If the recharging operation fails to complete, even when the specified recharging time has elapsed, immediately stop further recharging.
- Do not leave the battery unattended while charging.
- Unplug the charger when the battery is fully charged.
- Improper use or disposal of lithium-ion batteries can cause a fire.
- High RF environments may cause a false alarm.
- Do not charge the battery below 0°C (32°F).
- Charging above room temperature is not recommended as it can reduce the battery performance and overall battery life.

### **WARNING**

This symbol alerts the user to the presence of important operating and maintenance (servicing) instructions.

### **WARNING**

Exposure to high concentrations of CO<sub>2</sub> or refrigerants is dangerous and can be life-threatening. The instrument is not for use in toxic or hazardous environments. It is not a personal protection or life-saving device. Always exercise extreme caution in potentially toxic or hazardous environments.

## **FCCC Statement**

### **WARNING**

This product is not intrinsically safe and should not be used in the presence of explosive fumes, explosive dust, or other explosive chemicals. Use in an environment with flammable refrigerant concentration approaching the LEL (lower explosive limit) could cause an explosion or fire resulting in serious injury, death, or damage to property. This device complies with Part 15 of the FCC Rules. The device meets the requirements for modular transmitter approval as detailed in FCC public Notice DA00-1407 transmitter. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-

located or operating to conjunction with any other antenna or transmitter.

## Specifications

Usage	Indoor or outdoor
Sensor type	Infrared
Compatible refrigerants	All CFCs, HCFCs, HFCs, HFOs, and blends (including A2Ls)
Sensitivity (tested to EN14624 standard)	
• R134a	0.02 oz./yr (0.5 g/yr)
• R1234yf	0.02 oz./yr (0.5 g/yr)
Display resolution	0.1 ppm
Display range	0-10000 ppm
Accuracy	± 0.5 ppm ± 10% of reading
Operating temperature	-20 to 50°C (-4 to 122°F) <sup>1</sup>
Storage temperature	-20 to 60°C (-4 to 140°F) <sup>2</sup>
Charging temperature	0 to 45°C (32 to 113°F)
Humidity	90% RH, Non-condensing
Altitude	2000 m (6500 ft.)
Battery type	Lithium ion rechargeable battery
Battery life	~14 hours
Charging input type	Barrell connector
Charging time	~3 hours
Input voltage	12 V (dc)
Input current	2.0 A
Sensor life	5000 hours of operation typical
Ingress protection	IP40
Pollution degree	2
Overvoltage category	2
Weight (without probe and hose)	3.02 lb (1.37 kg)

1. Use in temperatures below 0°C (32°F) or above 40°C (104°F) should be limited.  
Extended warm-up time is recommended before use in low temperature environments.
2. For extended storage over 1 month, recommended max storage temp is 23°C (74°F).

## Patents

- Pat. US 10352848B2
- Pat. EP 3163299B1
- Pat. CN 108603871B

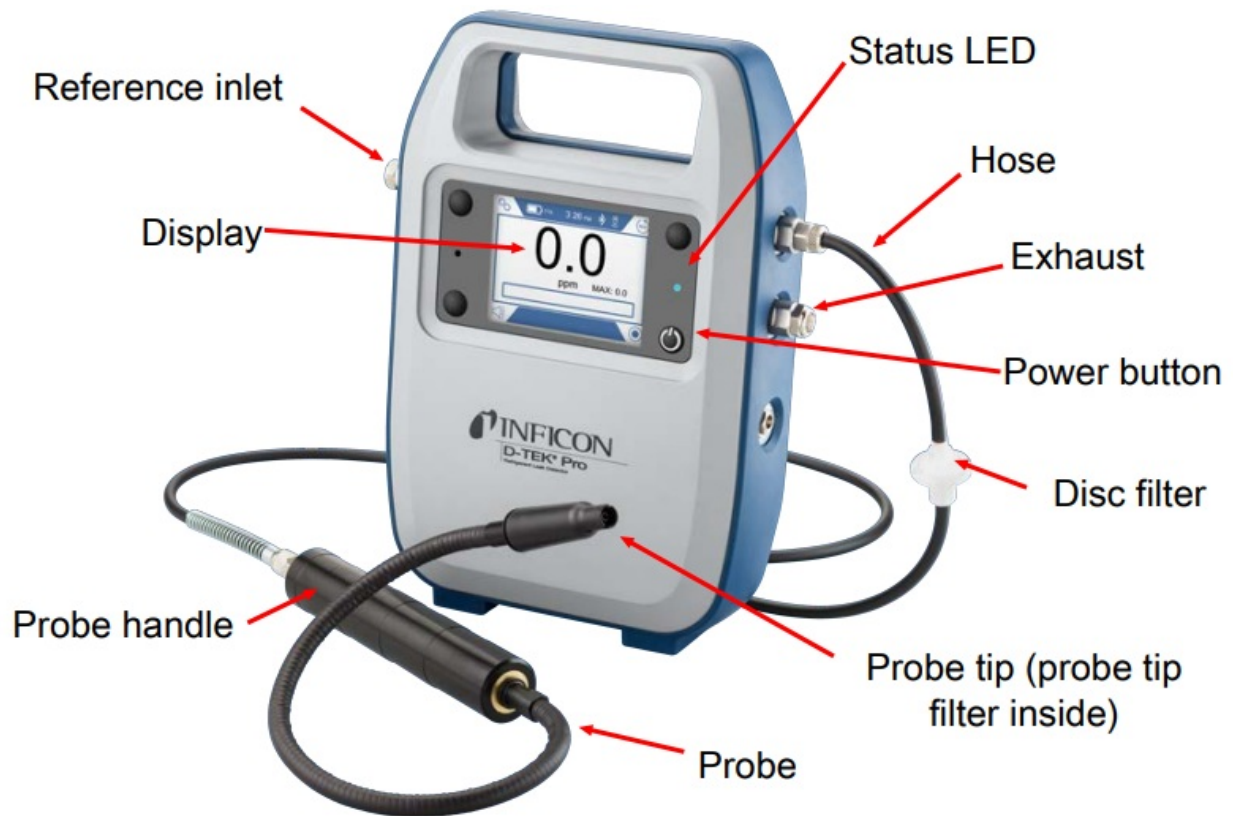
- Pat. JP 6789290B2
- Pat. CN 108885198A
- Pat. EP 3163166B1
- Pat. JP 7042742B2
- Pat. US 10866225B2
- Pat. CN 108885198B

## **What is Cloud Hunting?**

When refrigerant leaks from a system, it does not disperse evenly in the air. The concentration of refrigerant is usually higher near the source of the leak. The density of refrigerants is also different than that of air, so it tends to form “clouds” in the air, typically closer to the floor. These clouds are colorless and odorless for most refrigerants. When leak checking with a traditional leak detector, it will likely alarm when walking into a refrigerant cloud. This does not help you find the leak, because the cloud may not be near the leak source. INFICON’s Cloud Hunting® leak detectors like D-TEK Stratus® and DTEK Pro use patented technology to display the refrigerant concentration in the air in parts per million (ppm). This allows you to read the display and follow the number to find areas of higher concentration, leading you straight to the leak source.

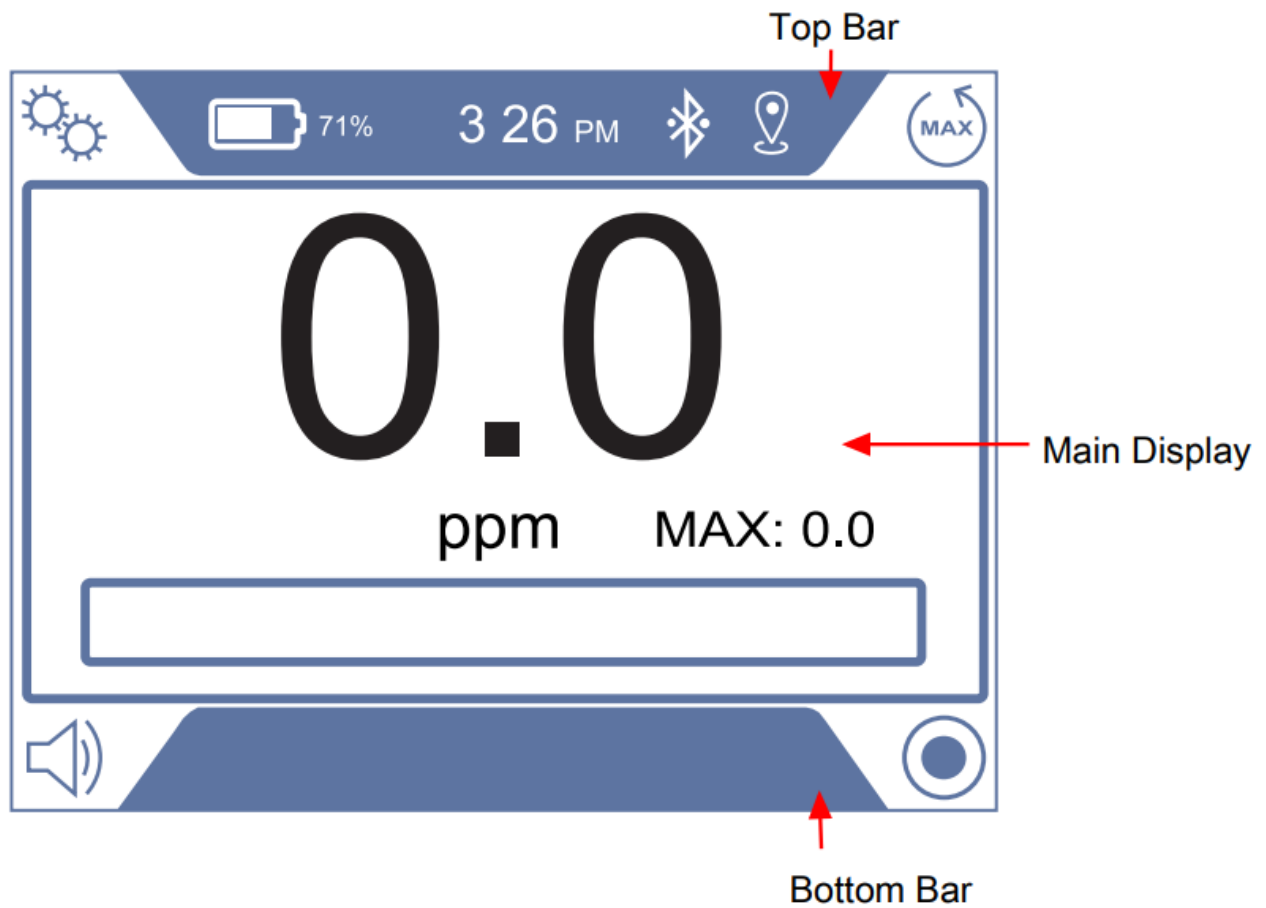
## **D-TEK Pro**

D-TEK Pro is a high-sensitivity refrigerant leak detector and portable monitor designed to find refrigerant clouds and detect the smallest of refrigerant leaks using just a single mode. Continue reading this manual for more information on operating your new D-TEK Pro.






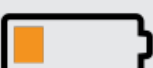





## Screen Layout and Symbols

D-TEK Pro uses the display screen for nearly all indicators and information. The display consists of a top bar, main display, and a bottom bar. Symbols displayed in each of the 4 corners indicate the current function of the corresponding button.



Top bar: The top bar includes the battery symbol and charge %, time, GPS, and bluetooth status.









Symbol	Description
	Battery charge is 75–100%
	Battery charge is 50–74%
	Battery charge is 30–49%
	Battery charge is 10–29%
	Battery charge is <10%
	Battery is charging
	Bluetooth is turned on
	Bluetooth device is connected
	GPS signal active; symbol flashes when searching for GPS signal

NOTE: Battery percentages are approximate estimates.

- Main display: The main display shows relevant information for the current screen. D-TEK Pro starts up in the home screen, which also functions as the operate screen for regular use.
- Bottom bar: The bottom bar displays information about the current display screen.

## Navigation Symbols

Symbol	Description
	Enter the settings menu or return to the settings menu
	Scroll left/right/up/down through options
	Enter the selected settings menu or sub-menu; accept and save a setting change
	Return to the home screen
	Start logging data
	Stop a current log

## Status LED

Color	Meaning
Yellow	Startup process is running.
Green	Unit is powered off and battery is charging. Extinguishes when fully charged.
Blue	Unit is on and running normally.
Red	Indicates an error or failure is present.

## Operation

### Getting Started

#### Charging the Battery

D-TEK Pro uses a rechargeable lithium-ion battery. Using the supplied charger, a dead battery can be charged to 100% in approximately 3 hours. A full charge typically lasts about 14 hours of operation, depending on the \operating temperature. An on-screen indicator displays the battery charge \level.

D-TEK Pro must be charged before initial use. The unit cannot be operated the first time

until it is charged.

### **Connecting the Sampling Hose and Probe Assembly**

D-TEK Pro ships with the hose and probe assembly already connected, but if you need to remove and reattach the hose, follow these instructions.

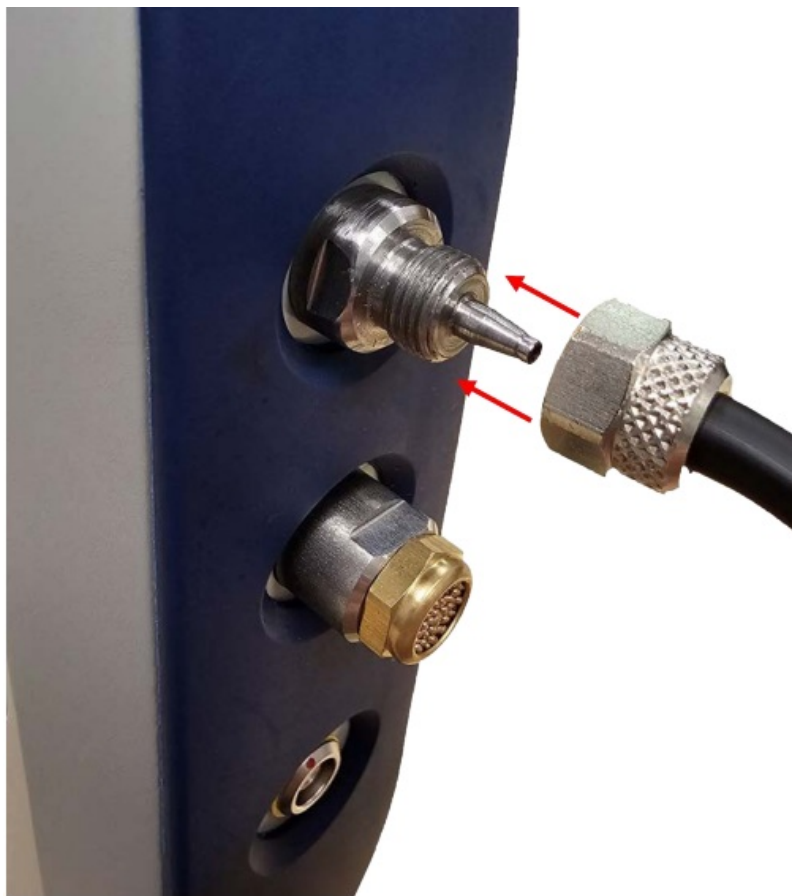
NOTE: It's best to always perform a visual inspection of all components before assembling and turning on the unit. Check all filters and hoses for debris or moisture and replace if necessary.

### **CAUTION**

Never operate D-TEK Pro without complete hose and probe assembly connected with all filters in place. Failure to do so may result in damage to the unit not covered under warranty.

1. Carefully place the hose with nut over the inlet fitting on D-TEK Pro.

NOTE: If the nut falls off of the hose, push the end of the hose back through the hole in the nut.



2. Hand-tighten the nut. Be careful not to over-tighten.



Turning On the Instrument and Preparing for Use Long press the power button (bottom right button) to turn D-TEK Pro On or Off. D-TEK Pro will briefly display the firmware version on startup, then continue through a warmup and self diagnosis. If the screen does not turn on, the battery may need charging.

### **Home Screen**

D-TEK Pro starts up automatically in the home screen and will immediately display background refrigerant in parts per million (ppm).



On the home screen, press the corresponding button to perform the following actions:

Symbol	Description
	Reset the max value to zero
	Mute or unmute
	Enter the settings menu
	Start logging data

## Checking for Leaks

D-TEK Pro uses a single mode and sensitivity setting, making leak checking easier than ever.

## Cloud Hunting

1. Slowly move through the suspect areas and observe the ppm reading.
2. Follow the ppm reading to find areas of higher refrigerant concentration. The higher the number, the higher the concentration.
3. The maximum reading is saved on the screen next to MAX. To reset the maximum reading, press the MAX reset button.

## **Pinpointing Leaks**

1. Place the probe tip as close as possible to the suspected leak (do not block the air flow).
2. Slowly move the probe past each possible leak point.  
If a leak is detected, D-TEK Pro alarms and ppm indicator will increase.
3. When a leak is identified, pull the probe away from the leak for a few seconds and then recheck the spot to verify the leak.

## **CAUTION**

If the probe tip is exposed to liquid, it may block the air flow and cause a flow error. If this occurs, first disconnect the disc filter to release any vacuum in the sampling tube, then remove the probe tip with the tip facing down and shake out any excess liquid. Clean with dry nitrogen if needed and replace the filter.

D-TEK Pro uses a patented switching valve to constantly compare the sample from the tip of the probe with the air inside the body of the leak detector (the reference sample).

This technology is what allows D-TEK Pro to work without the use of a carbon filter.

Lingering for several minutes in an area with a high concentration of refrigerant may cause the reference sample to become contaminated with refrigerant, which causes the ppm reading to settle back toward zero. If this occurs, allow D-TEK Pro to run in an area with clean air for a few minutes to allow the reference sample to become clean again.

## **Settings Menu**

Use the arrows in the settings menu to select and enter the settings for specific functions. The currently selected sub-menu is highlighted in dark blue.



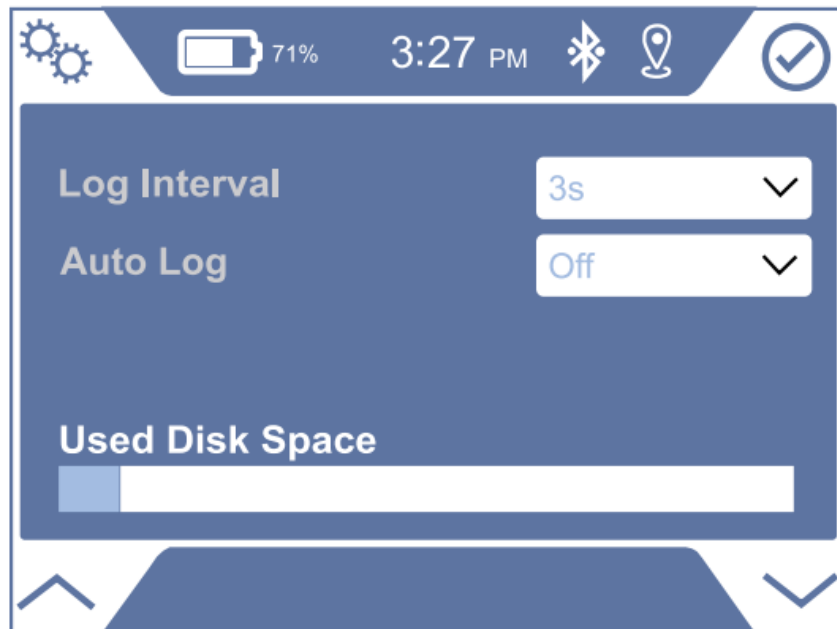
Symbol	Description
	Initiate fresh air zero. See Fresh Air Zero [► 13] for more information.
	Set the date and time NOTE: Date and time will be lost if D-TEK pro is not charged for 3 months.
	View or edit data log settings. See Data Log Settings [► 13] for more information.
	Connectivity menu - Enable or disable Bluetooth® or GPS. See Connectivity Settings [► 14] for more information.
	Info/about menu - Displays basic info about D-TEK Pro, including firmware version and FCC info.

## Fresh Air Zero

Due to the high sensitivity of D-TEK Pro's sensor, it's possible for the sensor to drift slightly and the unit may read a small non-zero number in fresh air. If this occurs, fresh air zero allows the user to reset the zero point. When selected, D-TEK Pro will prompt the user to move to an area with fresh air. Once confirmed, the zero point will be reset.

## Data Log Settings

The Data Log Settings menu allows you to customize how D-TEK Pro logs data.



### Log Interval

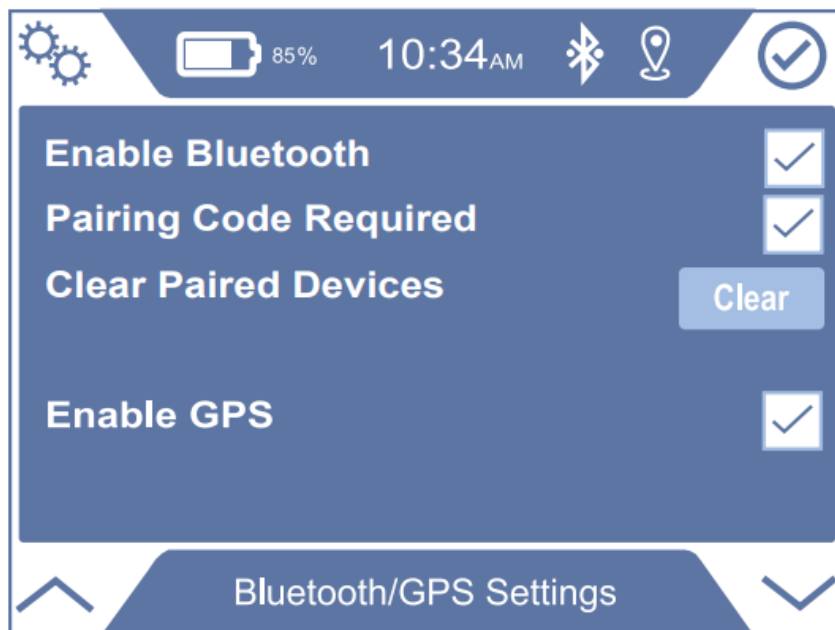
Choose how often the device should capture ppm readings in the log.

### Auto log

Allows the user to either automatically begin logging on startup or to enable a prompt on startup to begin logging.

### Connectivity Settings

This menu allows you to enable or disable Bluetooth or GPS.



### Pairing Code Required

When enabled, a code will be displayed on both the D-TEK Pro display and the D-TEK Pro App to confirm you are pairing to the correct device.



## **Clear Paired Devices**

Select this option to clear all paired devices in D-TEK Pro's memory.

## **App**

Download the free D-TEK Pro app for your smartphone or tablet for additional functions.



**The D-TEK Pro app allows you to:**

- View real-time data on the app
- Save and share job logs including pictures, GPS pin, and customer information
- Update D-TEK Pro software

The app is available for download on the App Store® or on Google Play™.

## **Accessories**

### **Phone Mount**

D-TEK Pro includes a phone mount that can mount your phone directly to the handpiece. This allows you to use your phone as an additional display to see real-time data while leak checking.



### **Soft Case with Shoulder Strap**

This included accessory provides additional protection and allows you to easily carry D-TEK Pro while leak checking and climbing up and down ladders.

### **Leak Detection Pro Kit**

D-TEK Pro is compatible with all parts included in the INFICON Leak Detection Pro Kit (part number 724-712-G1), sold separately.



Reference	Description
A	I-Tip XL
B	Needle probe
C	I-Tip
D	Rubber refills
E	Spare filters

Needle probe extension – Allows for leak checking in tight spots and insulation. This probe is pointed to easily puncture or split underneath insulation and fit into small areas. I-Tip and I-Tip XL – Isolates the leak to a smaller volume and eliminates wind. Allows for leak checking around pipes and tubing in windy environments. Also allows for leak checking joints behind pipes.

### To install the needle probe extension, I-Tip, or I-Tip XL:

1. Unscrew the probe tip. Leave the filter in place on the probe.
2. Place the accessory over the filter.
3. Screw the accessory onto the probe. Do not overtighten.

### NOTICE

#### Important!

Do not use D-TEK Pro without a filter. Use without a filter can damage the sensor.

## Maintenance

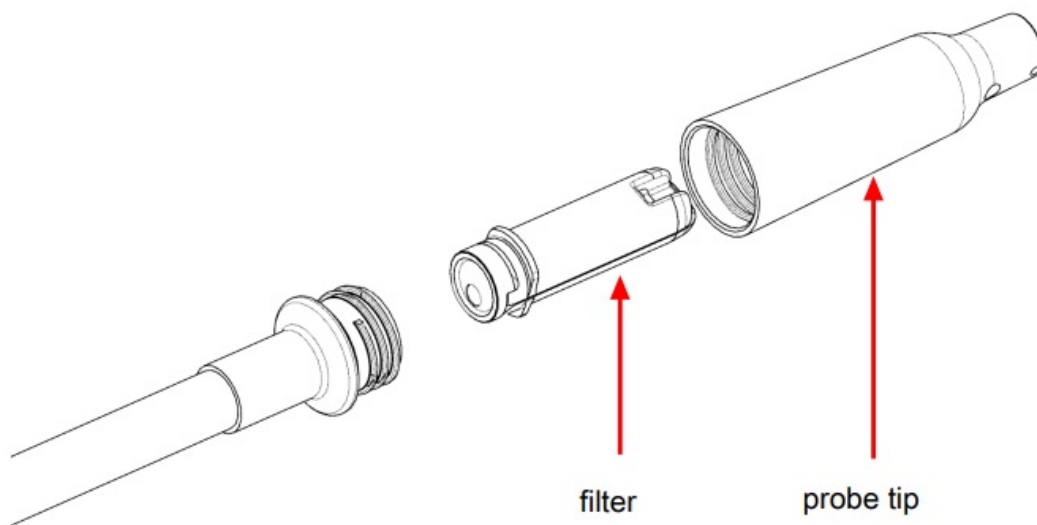
D-TEK Pro does not contain user serviceable sensors or battery. The only user serviceable parts are described in the section below.

### Replacing Filters

D-TEK Pro uses two filter types in order to keep the internals clean. Do not use D-TEK Pro without both clean filters in place.

#### Probe Filter

Unscrew the probe tip and examine the white cloth to determine if the filter needs to be changed. If the cloth appears discolored, install a new filter. Changing the filter is also an easy troubleshooting step if you suspect your leak detector is not properly detecting refrigerants. A clogged air filter can limit the sample air flow.



Exposing the filter to water or oil can block air flow. If this occurs, first disconnect the disc filter to release any vacuum in the sample tube. Then remove the filter with the unit turned off and the probe facing down to avoid getting contaminants in the probe and install a new filter. If the filter is wet, it can be reused once it dries.

### CAUTION

Never use the instrument without a probe tip and filter.

#### Disc Filter

To replace the disc filter, unscrew the plastic fitting on each side of the disc and screw in the new filter. Do not overtighten



## Replacing the Probe

D-TEK Pro has a replaceable probe and is also compatible with the optional Extra-Long Probe accessory (part number 721-611-G1) for hard-to-reach areas.

### To change the probe:

1. Inspect the area around the base of the probe for debris to ensure nothing will fall into the tube. Clean if necessary.
2. Unscrew the probe from the D-TEK Pro probe handle using a 10 mm wrench.
3. Screw on the new probe to approximately 35 in·lb (4 N·m). Do not overtighten.
4. Unscrew the probe tip from the old probe and remove the filter (or use a new one).
5. Insert the filter into the new probe.
6. Screw the probe tip onto the new probe. Do not overtighten.

## CAUTION

Always remove the probe with a 10 mm wrench at the base of the probe. Unscrewing the probe in any way other than the specified method can cause damage to the probe.




## **Cleaning and Storage**

D-TEK Pro can be cleaned with mild detergent or isopropyl alcohol. Care should be taken to prevent cleaner from entering the probe, tubing, or inlet. Do not clean with gasoline, acetone, or other aggressive solvents as they may damage the plastic or display.

## **Replacement Parts and Accessories**

- Replacement hose/hand probe assembly 508-700-G1
- Replacement probe 724-703-G1
- Extra-long probe 721-611-G1
- Replacement probe cap 712-705-G1
- Spare probe filters 712-707-G1
- Spare disc filters 508-701-G1
- Phone holder 508-702-P1
- Shoulder strap 508-703-P1
- Replacement wall charger 508-704-P1
- Needle probe extension 721-612-G1
- Leak detection pro kit 724-712-G1

## **Troubleshooting Guide**

Problem	Cause	Remedy
The status LED illuminates red.	An internal error has occurred. This can be caused by a failed battery.	Contact INFICON or your local distributor for service.
<b>Sensor error</b> or the following symbol is displayed: 	A sensor error has occurred. This may indicate the sensor has been contaminated or has reached end of life.	Contact INFICON or your local distributor for service.
The display does not turn on after long-pressing the power button.	The battery level is critically low.	Charge the battery.
The unit turns on, but does not detect refrigerant.	The filter is clogged, restricting the air flow.	Replace the filter cartridge and/or disc filter. See Replacing Filters.
	The pump has failed.	Listen for the pump sound. If the pump is not making a sound and the battery has a proper charge, contact INFICON.
	The reference sample is contaminated.	Let run in clean air for up to five minutes.

Problem	Cause	Remedy
The ppm falls to zero in an area known to be contaminated.	The reference sample may be contaminated.	Let run in clean air for several minutes.
The pump is not making a sound.	The pump has failed.	If the battery has a proper charge, contact INFICON.
Error message "Flow error - Ensure hose and filters are in place" is displayed.	Flow rate is too high. Filters or hose may have been removed or hose may be leaking or damaged.	Ensure all hoses and filters are in place and connections are tight. Check hose for damage and replace if damaged.
Error message "Flow error - Check filters and probe tip for debris" is displayed.	Flow rate is too low. Filters or probe tip may be clogged.	Check filters and replace if dirty or wet. Check probe tip for debris and clean if necessary.

## Warranty and Liability-Limitation

INFICON warrants your instrument to be free from defects of materials or workmanship

for one or two years (depending on region) from the date of purchase. INFICON does not warrant items that deteriorate under normal use, including batteries, sensors, and filters. In addition, INFICON does not warrant any instrument that has been subjected to misuse, negligence, or accident, or has been repaired or altered by anyone other than INFICON. INFICON liability is limited to instruments returned to INFICON, transportation prepaid, not later than thirty (30) days after the warranty period expires, and which INFICON judges to have malfunctioned because of defective materials or workmanship. INFICON liability is limited to, at its option, repairing or replacing the defective instrument or part. This warranty is in lieu of all other warranties, express or implied, whether of MERCHANTABILITY or of FITNESS FOR A PARTICULAR PURPOSE or otherwise. All such other warranties are expressly disclaimed. INFICON shall have no liability in excess of the price paid to INFICON for the instrument plus return transportation charges prepaid. INFICON shall have no liability for any incidental or consequential damages. All such liabilities are EXCLUDED.

### **Returning the Instrument for Warranty or Repair**

Contact your wholesaler for warranty evaluation or out-of-warranty repair. Do not return the unit to INFICON directly. All instruments and parts returned to INFICON for repair or credit must be properly packaged, insured, shipped transportation charges prepaid, and must have a Return Material Authorization (RMA) number issued before the material is returned. The RMA number must be marked on all shipping labels and packing slips. Please see your INFICON distributor for assistance. If you have any questions, contact INFICON at [800-344-3304](tel:800-344-3304), or contact your local INFICON sales office.

### **Frequently Asked Questions**

Q: Can the D-TEK PRO be used outdoors?

A: Yes, the D-TEK PRO can be used both indoors and outdoors.

Q: What is the battery life of the D-TEK PRO?

A: The D-TEK PRO has a battery life of approximately 14 hours.



Q: How often should the sensor be replaced?

A: The sensor typically lasts for 5000 hours of operation before needing replacement.

## Documents / Resources



[INFICON D-TEK PRO Refrigerant Leak Detector](#) [[pdf](#)] Instruction Manual  
074-839-P16-A, D-TEK PRO Refrigerant Leak Detector, D-TEK PRO, Refrigerant Leak Detector, Leak Detector, Detector

## References

- [User Manual](#)

INFICON

074-839-P16-A, D-TEK PRO, D-TEK PRO Refrigerant Leak Detector, Detector, INFICON, Leak Detector, Refrigerant Leak Detector

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