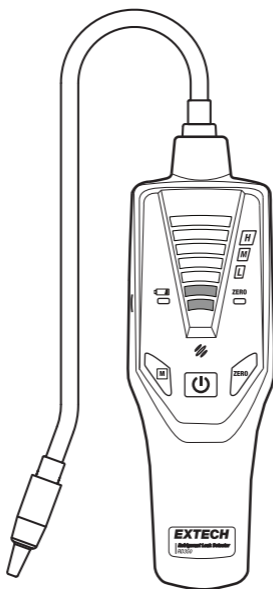


EXTECH[®] USER MANUAL

Refrigerant Leak Detector

Model RD350



Introduction

Thank you for purchasing the RD350 Refrigerant Leak Detector. The RD350 is intended for use in the servicing and maintenance of cooling systems that use compressors and refrigerants.

The RD350 features the latest sensor technology, offering high sensitivity. Additional features listed below.

- Heated diode sensor
- Stainless Steel flexible probe
- Brushless DC fan
- Three levels of sensitivity
- Colour-coded LED measurement indicator
- Battery operated with Auto Power OFF (APO)
- Low battery indication
- USB 5V/1A power connectivity for continuous monitoring (USB cable not supplied)
- Auto/Manual Zero (reset) with background ambient compensation
- Meets SAE J1627 and CE
- Includes hard carrying case, reference leak source, batteries, and documentation

Safety

WARNING! The RD350 must not be used in explosive atmospheres. The RD350 is not designed with anti-explosive protections.

CAUTION! Erroneous readings can occur in environments with high pollutant and particle counts, large temperature fluctuations, high velocity wind, organic solvents, adhesive vapour, fuel, gas, large concentrations of Freon, and vesicant.

Power Supply

The RD350 can be powered by four (4) alkaline AA batteries or by connecting the meter to a 5V/1A source via its USB jack (cable not included). Connecting the meter to a USB port on a PC is not recommended.

The red LED low battery indicator will light when battery power is low.

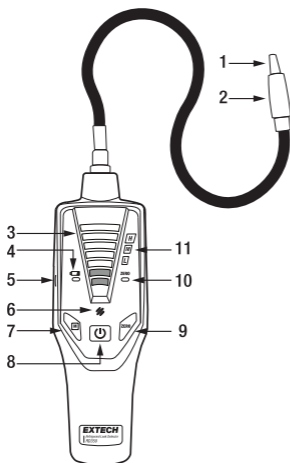
Press the power button to switch the meter ON, the display will flash, and the sensor will warm up for 45 seconds. Long press the power button to switch the meter OFF.

The APO feature switches the meter OFF after 10 minutes of inactivity. To disable APO, hold the **M** button while powering the meter. Release the button when the meter beeps twice. On the next power cycle, APO will be enabled again.

To replace the batteries, refer to the Maintenance section.

Descriptions

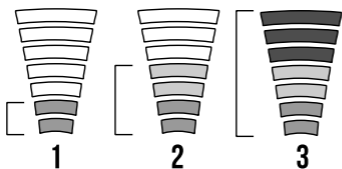
METER



1. Sensor tip
2. Protective cap
3. Leak bar graph indicator
4. Low battery LED
5. USB power jack (cable not supplied)
6. Beeper speaker
7. Sensitivity mode button
8. Power button
9. Zero (reset) button
10. Zero LED indicator
11. Low, Medium, High sensitivity indicators


Note: The battery compartment is located on the rear of meter as shown in the Maintenance section.

MEASUREMENT INDICATOR BARS



1. Normal concentration (up to 2 green LED)
2. Moderate level (2 green and up to 2 orange LED)
3. High level (2 green, 2 orange and up to 3 red LED)

CONTROL BUTTONS

	Short press: power ON; Long press: power OFF
M	Press to select sensitivity (L, M, or H)
ZERO	Long press to disable Auto Zero. With Auto Zero disabled, short press at any time to perform a Manual Zero.

Auto/Manual Zero (Reset)

CAUTION! The zero function forces the meter to ignore refrigerant detected at the sensor tip when it is switched ON. This allows the user to accurately target the source of leaks with the highest concentrations.

By default, auto zero is enabled and the sensitivity is set to medium. Upon power up, the unit ignores the level of refrigerant present at the tip. Only a level, or concentration, greater than this will cause an alarm.

To disable auto zero, long press the **ZERO** button (the ZERO LED will switch OFF). With auto zero disabled, manually zero (reset) the meter at any time by short pressing **ZERO**.

To maximize sensitivity, move the meter to fresh air when resetting. Resetting the meter with no refrigerant present, allows any level, above zero, to be detected.

Auto zero is most useful when tracing an area, searching for leaks. Once a leak is detected, disable the auto zero function (long press **ZERO**).

Auto zero should be disabled when using the meter in a fixed position.

Sensitivity Adjustment

To set the sensitivity, use the sensitivity button (**M**) to select Low (L), Medium (M), or High (H) as indicated by the respective sensitivity LED (L-M-H). The meter defaults to the Medium (M) setting.

Finding Leaks

WARNING! Do not operate this meter in the presence of gasoline, natural gas, propane, or in other combustible atmospheres.

IMPORTANT! Moving the probe tip quickly through air, or blowing into the tip, will cause the meter to sound an alarm.

1. Switch the meter ON.
2. The auto zero (default) will monitor ambient conditions and perform a fine tuning.
3. Press the **M** button to set the sensitivity to High (H).
4. To verify proper operation, open the supplied leak check bottle and slowly move it towards the sensor tip.

5. If the measurement increases from low to high, the meter is working correctly.
6. Place the tip of the sensor within 6 mm (0.25 in.) of the suspected leak point.
7. Slowly move the sensor past each possible leak point.
8. When a leak is detected, the beeper will sound, and the visual indicators will light from green to orange to red, as the concentration increases. The beeper will sound with more urgency as the sensor moves closer to a leak.
9. When a leak is detected, move the sensor away from the leak and then back to the leak, to verify the leak and its location. If the leak is large, setting the sensitivity to Low (L) will help find the exact leak point. Return the sensitivity to High (H) before searching for more leaks.
10. When finished, switch the meter OFF by long pressing the power button.

Maintenance

CLEANING

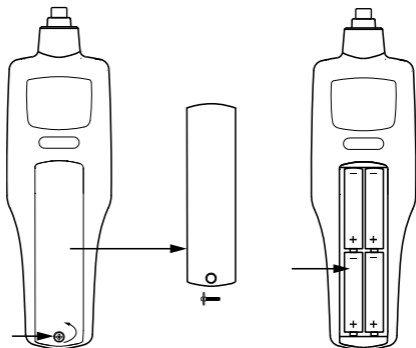
WARNING! Isopropyl alcohol can damage the sensor, do not clean the sensor with Isopropyl alcohol.

The meter housing can be wiped with a damp cloth and mild detergent. Isopropyl alcohol can also be used, if necessary, but do not clean the sensor with Isopropyl alcohol. Do not use abrasives or solvents to clean any part of the meter.

BATTERY REPLACEMENT

The battery compartment is located on the back of the meter.

1. Remove the one screw that secures the compartment and remove the cover.
2. Replace/install four (4) 'AA' 1.5 V batteries, observing correct polarity.
3. Secure the battery compartment before use.





Never dispose of used batteries or rechargeable batteries in household waste. As consumers, users are legally required to take used batteries to appropriate collection sites, the retail store where the batteries were purchased, or wherever batteries are sold.

Disposal: Do not dispose of this instrument in household waste. The user is obligated to take end-of-life devices to a designated collection point for the disposal of electrical and electronic equipment.

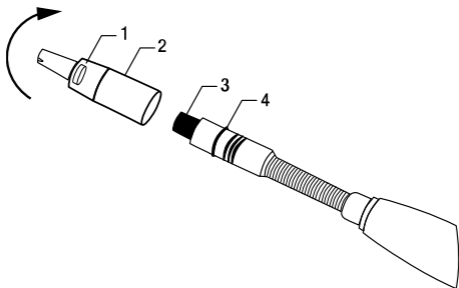
SENSOR REPLACEMENT

WARNING! To avoid burns, use protection when replacing the sensor, the worn sensor may be hot.

The sensor life is limited and affected by use. Under normal use, the expected sensor life is one year.

Exposing the sensor to > 3000 ppm of coolant will shorten sensor life. Ensure that the sensor is kept free of condensation, vapour, oil, grease, dust, and other contaminants.

- Switch the meter OFF.
- Remove the protective sensor cap (2) by turning it counterclockwise.
- Remove the worn sensor (3) and insert a new one.
- Affix the protective sensor cap.
- If the filter (1) is soiled or if the O-ring (4) is damaged, replace these also.



Specifications

Sensor	Heated diode type
Detectable gases	R-134a R-404a R-407c R-410a R-22 R-32 R-290 All CFC, HCFC, HFC types HFO-1224yf
Sensitivity	For R-22 High: 4g/year Medium: 20g/year (typical) Low: 40g/year (typical) For all others High: 3g/year Medium: 15g/year (typical) Low: 30g/year (typical)
Measurement indicator	Tri-colour LED bar graph
Leak alarm alert	Audible beeper
Power	Four (4) x AA batteries or USB power connection (5V/1A)
Battery life	12 hours (approx.)
Auto Power OFF	After 10 minutes
Warm-up time	45 seconds
Operating conditions	0 to 40°C (32 to 104°F) < 80% RH
Storage conditions	-10 to 60°C (-4 to 140°F) <70% RH
Altitude	2000 m (6500 ft.)
Dimensions (meter)	221 x 74 x 47 mm (8.7 x 2.9 x 1.6 in.)
Probe cable length	40 cm (15.5 in.)
Weight	421 g (14.8 oz.)

2-Year Warranty

Teledyne FLIR warrants this Extech brand instrument to be free of defects in parts and workmanship for two years from date of shipment. To view the full warranty text please visit:

<https://www.flir.com/support-center/warranty/instruments/extech-product-warranty/>

Calibration and Repair Services

Teledyne FLIR offers calibration and repair services for the Extech brand products we sell. We offer NIST traceable calibration for most of our products.

Customer Support

Local Telephone Support List:

<https://support.flir.com/contact>

Return Material Authorization (RMA):

<https://customer.flir.com/Home>

Customer Service:

<https://support.flir.com/ContactService>

Technical Support: <https://support.flir.com>

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