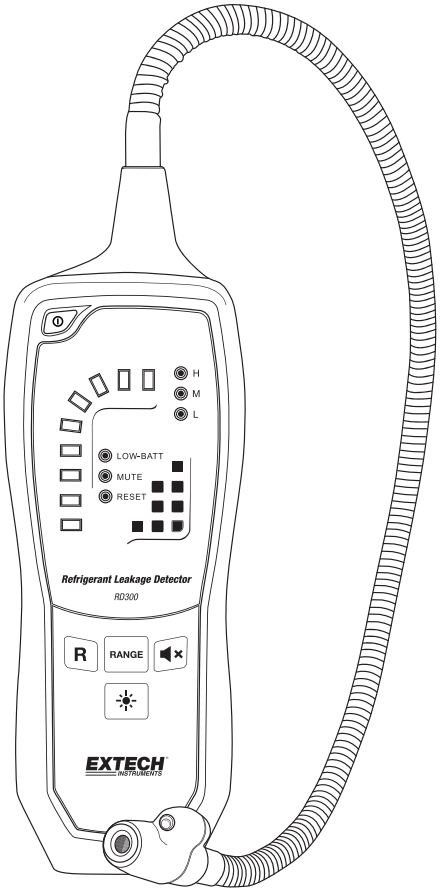
EXTECH INSTRUMENTS

User Guide

Refrigerant Leakage Detector

Model RD300



Safety

Please read the following safety information carefully before attempting to operate or service the meter. Only qualified personnel should attempt repairs.

Safety symbols

CE CE Certification

This instrument complies with the following standards:

EN61326	Electrical equipment for measurement, control and laboratory use equipment EMC test.
IEC61000-4-2	ESD immunity test
IEC61000-4-3	Radiated, radio-frequency, electromagnetic field, immunity test
IEC61000-4-8	Power frequency magnetic field immunity test

Be sure to follow the safety points below. Failure to do so could cause personal injury or damage to the meter.

- Please read this manual carefully to ensure safe and correct use of this meter before using.
- Do not attempt to repair this device; only qualified personnel should repair this device.
- Do not force the flexible tube to bend over its angle limit. Doing so can damage the device.
- Do not subject the probe tip to shock or severe vibration.
- Do not use this device near fire or in flammable/explosive environments.
- Do not use this device in ambient conditions outside of the following limits: 0°C to 50°C (32 to 122^{O}F).
- Never use organic solvents to clean the meter

Introduction

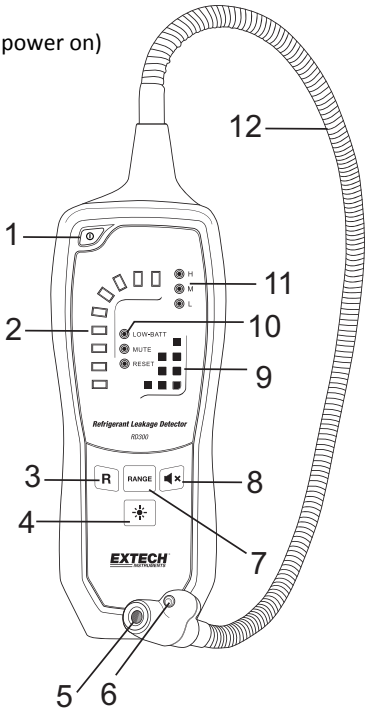
Congratulations on your purchase of the Extech RD300 Leakage Detector. This handheld meter measures leakage from air conditioning or cooling systems that use refrigerant. The LED work lights allow for viewing in dark or dimly lit environments. This meter is shipped fully tested and calibrated and, with proper use, will provide years of reliable service. Please visit our website to check for the latest version of this User Guide, Product Updates, and Customer Support.

Features

- Detects all existing refrigerants using a heated diode sensor
- LED work lights with on/off switch to allow viewing in dark environments
- High/Medium/Low color coded LED indication with sensitivity of 0.25 oz./year
- Audible and visual alerts with mute button
- Low battery indication
- Field replacement sensor and LED work light tip

Meter Description

1. ON/OFF button (hold for 2 seconds)
2. Color coded LED Level Indicators (bottom LED indicates power on)
3. Reset button
4. LED work light on/off button
5. Probe tip sensor
6. LED work light
7. Sensitivity Range select button
8. Mute sound button
9. Loudspeaker
10. Low battery, Mute, and Reset status lights
11. High, Med, and Low sensitivity indicators
12. Flexible probe

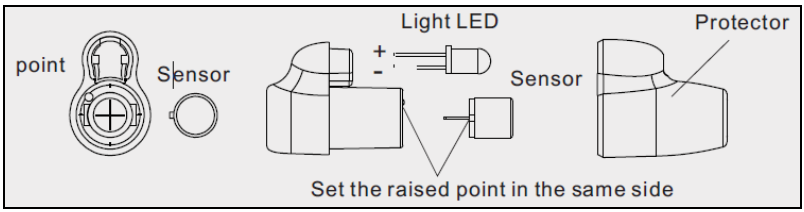


Operation

1. **Power Button:** Press and hold the power button for 2 seconds to turn power ON. All LEDs will light and the start-up tone will sound. Press and hold power button for 2 seconds to turn off the meter. Check the battery if the meter does not switch ON.
2. **Warm-Up:** The detector will automatically start heating the sensor after power-on. During the 90 second warm-up, the Leak Level LEDs and Power LED will be lit in cyclic fashion and the meter. After the warm-up, the audible tone will sound and the Power LED will remain lit. At this time the detector is ready to find leaks.
3. **Sensitivity Range Button:** Press the Sensitivity Range button to change sensitivity levels. The High, medium, or low LED will light depending upon the user's selection. The detector will automatically default to the previous sensitivity level after warm-up.
4. **Reset Button:** Press the 'R' button once to reset the meter; the reset LED will flash once.
5. **Mute button:** Press the Mute button to toggle the audio on and off. The mute LED is on when the audio is switched OFF (muted).
6. **Tip Work Light LED Button:** Press tip light LED button to switch the probe tip work light ON or OFF.
7. Pass the sensor tip near the potential source of leak and gage the meter's response by observing the color coded LEDs. Green LEDs represent the absence of a leak or a very small leak, yellow LEDs represent a moderate leak, and red LEDs represent the detection of a large leak.

Probe and LED Work Light Replacement

To replace the 3V LED work light or the sensor please refer to the diagram below. Please switch off the detector before removing sensor.
Diode sensor tip - part number RD300-S. LED work light - part number RD300-L.



Notes:

1. The life of the sensor is 1 year under normal use; if a sensor is exposed to a 100 ppm refrigerant, the sensitivity characteristics of the sensor may be affected.
2. Make sure there are no water droplets or dust on the surface of the sensor.

Maintenance

Cleaning

1. Wipe the meter housing with a damp sponge or soft cloth. Use only mild soap and water.
2. Never use organic solvents to clean the meter (such as thinner, benzene, etc.) as they can damage the sensor.

Battery Replacement

When the low battery LED is lit, the 9V battery must be replaced.

1. The battery compartment is located on the rear of the meter.
2. Open the rear battery cover and replace the battery.
3. Make sure the battery cover is snapped into place securely before operating the meter.

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.

Specifications

General Specifications

Detectable Refrigerants	R-22, R-134a, R-404a, R-410a, and all CFCs, HCFCs and HFCs
Sensor	Heated Diode
Sensitivity Levels	High 0.25oz/yr (7g/yr) Medium 0.5oz/yr (14g/yr) Low 0.99oz/yr (28g/yr)
Warm up Time	90 seconds
Auto Power OFF	Automatic shut off after 10 minutes
Low Battery Indication	LOW-BATT light switches ON
Power Supply	9V Battery
Battery Life	13 hours of continuous use
Operating Conditions	0°C to 50°C (32°F to 122°F) <80%RH
Storage Conditions	-10°C to 60°C (14°F to 140°F) <70%RH
Flexible Probe Length	450mm (18")
Dimensions / Weight	184 x 70 x 40 mm (7.2" x 2.8" x 1.6 ")
Weight	280g (10.0 oz.)