

RD-em

Issue: 04/14

Refrigerant Leak Detector

The RD-em provides a discreet and stylish product ideally suited to identification of refrigerant leaks in hotel rooms, offices and residential properties. The RD-em sits inside a flush mount electrical back box with a range of cover plates to compliment the electrical switches and sockets fitted in the room. Each microprocessor controlled RD-em is provided fully configured ready to monitor the environment for refrigerant leaks before health and safety limits are exceeded.

A unique feature of the RD-em is its dual alarm operation which enables it to fulfil the requirements of EN378:2008 and the long term exposure limits outlined in the COSSH data sheets for refrigerant 410a, which is typically employed in modern air-conditioning applications. For safety purposes the alarm relay in the RD-em is energised during normal operation and de-energised in the event of a fault or alarm to provide a fail-safe feature.

After power up the green LED will flash during the warm up phase and after approximately 5 minutes will be permanently illuminated to indicate normal operation. In the event of a refrigerant leak the status LED will alternately flash red/amber and the buzzer will sound. In addition the alarm relay will be de-energised to provide remote indication. If the sensor fails the RD-em will also indicate a fault condition. A pre-alarm level is also configured for testing purposes which initiates a flashing status LED, however the relay state remains unchanged. When the refrigerant concentration subsides the alarm on the RD-em will automatically reset.

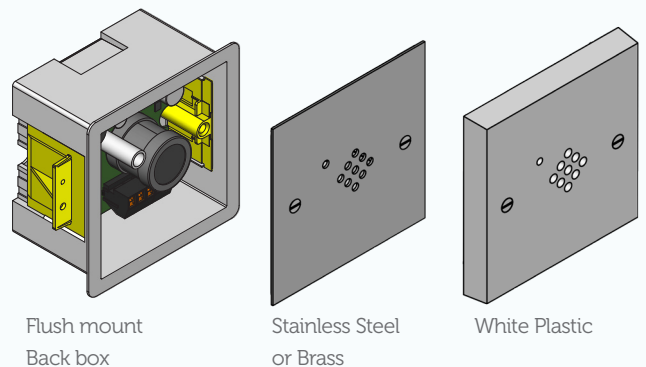


Technical Information

Cover Plate	White, Stainless steel, Brass
Electrical back box dimensions	Standard profile x 30/40mm deep depending on faceplate
Voltage	12-24V AC/DC
Current @ 24V AC	Steady state 100mA, Start-up 250mA
Status/Alarm indication	Tri-colour LED
Alarm relay	Energised healthy. NO/NC contacts. Rated 24v AC/1amp
Buzzer	85dB, 2300Hz (+/- 300Hz)
Certification	CE

Features at a glance

- » Stylish aesthetic faceplate design
- » Fits inside standard electrical back box
- » Visual status/alarm indication
- » Audible alarm
- » Fail safe relay contacts
- » Surface finish to match electrical faceplates
- » Unique twin alarm feature
- » Factory calibrated
- » Fulfils requirements of EN378:2008



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Technical Overview

Two Alarm Thresholds

The RD-em is configured for two alarm thresholds; a small leak for a long period of time which could contravene the COSHH quoted limits OR a larger leak for a short period of time which could contravene the limits outlined in EN378:2008.

Location

To identify a refrigerant leak and protect personnel it is essential the RD-em is located appropriately. As HFC's are significantly heavier than air, any leaking refrigerant will accumulate at low level and hence the RD-em needs to be located where it will be most efficient. Detectors should be located in the room installed with the air-conditioning unit, away from windows and doors. In bedrooms an ideal location is beside the bed at low level.

Test Equipment

To test and monitor the performance of the RD-em refrigerant leak detectors, test gas and diagnostic tools are available.

It is recommended that each RD-em is annually tested to verify its performance and operation.

Accessories

IMEC-RAD

Up to 32 RD-em refrigerant leak detectors can be connected to an Imec-RAD panel which will provide low voltage power and visual indication of alarm status. The Imec-RAD offers clear indication via a green/red LED combination of alarm status for each room detector and provides a common alarm relay to activate a buzzer/secondary alarm typically located in a hotel reception, concierge's office or maintenance location.

A web server in the Imec-RAD also enables the room status to be viewed from a remote PC with a web browser.

