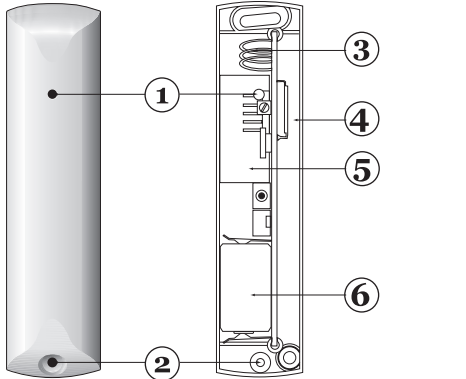


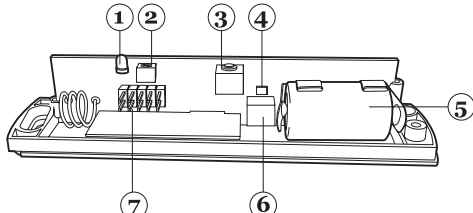
DET-RDCS

Door Contact Shock Sensor



- 1. Activity LED
- 2. Cover screw
- 3. Aerial
- 4. Sensors (vibration and magnetic)
- 5. Transmitter module
- 6. Battery

Fig. 1



- 1. Activity/Learn LED
- 2. VR1. Sensitivity potentiometer
- 3. Lid tamper switch
- 4. Calibration LED
- 5. Battery
- 6. Back tamper switch
- 7. Mode jumpers

Fig. 2

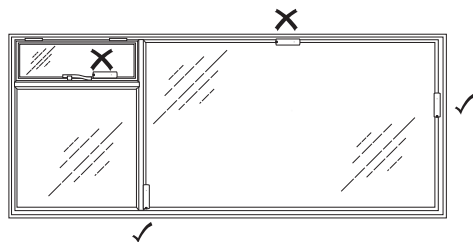
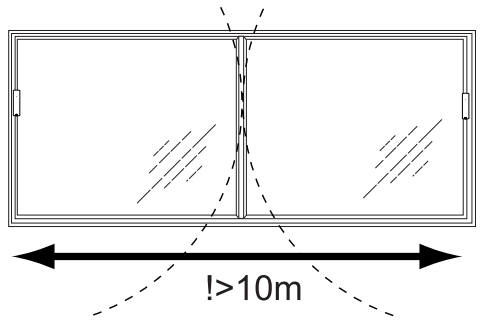


Fig. 3



Note: Range shown for guidance only.
Sensitivity may vary on different surfaces.

Fig. 4

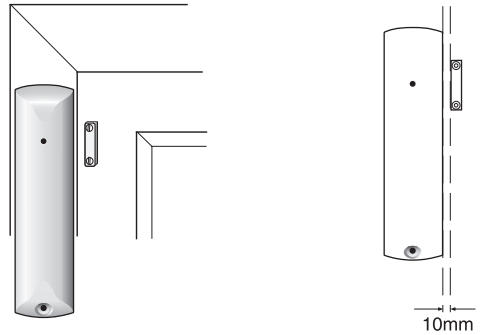


Fig. 5

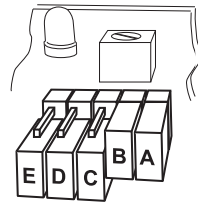


Fig. 6

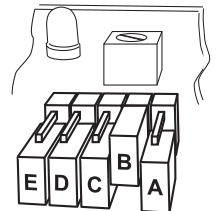


Fig. 7

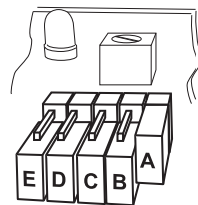


Fig. 8

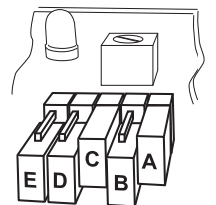


Fig. 9

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Introduction

The DET-RDCS is a vibration and shock sensor with added door-contact option capable of transmitting alarm information for a single zone using Cooper Security's 868MHz narrow band technology. The unit can report to any compatible Cooper Security receiver. The receivers can learn the unique identity of each DET-RDCS through either an infra-red LED or radio transmissions.

The vibration sensing element within the unit uses proprietary vibration sensor technology from Elmendene International. The installer can adjust the sensitivity of the unit from Low to High.

The door contact reed switch can be enabled to add the ability to sense the movement of a standard door contact magnet.

The installer can disable the indicator LED to hide the unit's activity.

Technical Specification

Part No.	DET-RDCS
Zones	Single zone (alarm and tamper channels)
Radio range	Up to 1000m in free space, depending upon conditions and receiving equipment.
Power Supply	
Battery Life	Two years
Temperature Range	-10 to +55 °C
Tamper	Front and rear
Dimensions	118 x 30 x 27 (H x W x D)
Weight	46 gms (with battery fitted)
Compliance	EN50131-1 Security Grade 2 EN50130-5 Environmental class II

Figure 1 shows the external appearance and internal layout of the unit. Figure 2 shows the indicators and controls on the unit's printed circuit board.

Note:

a) This unit will not produce a confirmed alarm even if both the door contact and vibration sensor are activated.

b) Do not use for Entry/Exit zones.

Compatible Equipment

762r, 768r/769r	Multichannel receivers
790rEUR-00	Signal Strength Meter
RFX08/RFX16, MRNODE,	
EXP-R10, EXP-R30	Radio frequency expanders
7510r	Domestic radio control unit
i-on16, i-on40	i-on Hybrid control units

Installation

Siting

To ensure the radio transmitter works correctly, do NOT mount the unit:

- Near the floor.
- Close to or on large metal structures.
- Closer than one meter to mains wiring, or metal water (or gas) pipes.
- Inside metal enclosures.
- Next to electronic equipment, particularly computers, photocopiers or other radio equipment.
- Upside down.

Figures 3 and 4 show further considerations when using the unit as a shock sensor to monitor, for example, windows.

DO NOT mount the unit on moving panels.

When monitoring large windows with several sections make sure that the units are no more than 10m apart in order to ensure full coverage.

Figure 5 shows the recommended method of mounting as a door contact. DO NOT mount the unit on the hinge side of the door, or on the door itself.

Preparing for Installation

- Open the case by removing the cover screw and pivoting the cover up from the bottom.
- Remove the PCB by sliding the PCB up out of the PCB brackets.
- Install one 3V CR2 Li/MnO₂ battery (supplied) in the battery holder on the PCB.

Learning

- Make sure the receiver is in learn mode (see the Installation and Programming Guide for the receiver) before starting.
- Make sure both back and lid tamper switches are closed.
- Trigger either the lid or back tamper.

For receivers that use infrared learn hold the transmitter's activity LED no more than 50mm away from the infra-red learn sensor on the receiver.

Physical Installation

Mount the back

- Hold the back in the chosen location.
- Mark two holes through the fixing slots in the back.
- Secure the back to the surface using the screws provided.
- Make sure the back is flush against the surface and pushes the tamper

bar in far enough to activate the back tamper switch.

- Re-fit the PCB into the back of the case.

Commissioning

The DET-RDCS has several different operating modes. To select the required mode you must place the jumpers as follows:

Jumper Function

A Sensitivity Range Selection

Jumper A selects the high or low sensitivity range. Fit the jumper to select the low sensitivity range. Remove the jumper to select the high sensitivity range. The on-board potentiometer VR1 allows you to adjust the sensitivity within each range.

B Sustain Mode

When removed, jumper B selects Sustain mode. This mode improves the ability of the DET-RDCS to discriminate between alarm events and non-alarm shocks (for example bird strikes or heavy background noise from busy roads or nearby railways).

C Calibration Mode

Fit jumper C in order to adjust the sensitivity or confirm correct operation. Remove jumper C to put the DET-RDCS into normal operation. Note that the DET-RDCS can only enter calibration mode when the lid tamper switch is open. (See "To Commission the DET-RDCS" below.)

D Discrete

Fit jumper D to disable the Activity LED. Remove jumper D to enable the Activity LED.

E Reed Disable

Fit jumper E to disable the reed switch (door contact sensor). Remove jumper to enable the reed switch.

Note: When delivered from the factory the jumpers are fitted as follows: A: Removed (high sensitivity), B: Fitted (no sustain), C: Removed (normal operation), D: Removed (Activity LED enabled), E: Fitted (reed disabled).

Example Jumper Settings

Reduced Sensitivity (see Fig 6). Use on: hardwood or metal window and door frames, or on masonry walls.

Normal (see Fig 7). Use on: softwood or plastic window and door frames, where there is excess paint, a long distance from glass, or around large glass windows. Note that this is the default setting when the unit is delivered from the factory.

Improved Discrimination (see Fig 8). Use in installations with high background noise, for example near to busy roads or railway lines. If the shock sensor is not triggered then remove jumper A to select High Sensitivity. Re-calibrate.

Note: In the above examples, if the shock sensor is not triggered turn pot VR1 clockwise to make more sensitive and re-calibrate.

To commission the DET-RDCS:

- Fit jumper C and A to put the unit into calibration mode at low sensitivity (see Fig 9).

Note: If the battery is low then the Calibration LED flashes continuously. Fit a new battery.

- Turn VR1 fully anti-clockwise. The unit is now at its lowest sensitivity.
- Strike the extremities of the area you wish the unit to guard. Use a blunt, hard-surfaced tool, for example a screw driver handle.

The calibration LED flashes when the sensor detects the shock: once for a small shock, twice for an alarm level shock, and three times for a very large shock.

- Adjust the sensitivity until the calibration LED flashes twice for each blow on the extremity of the area you wish to guard.
- Remove the sensitivity link (jumper A) if the sensor is unable to detect shocks from the whole of the area you wish to guard.
- Remove the calibration link (jumper C) once you have achieved the desired sensitivity. This places the unit in its normal operating mode.

Maintenance

Cooper Security recommend that you regularly check the calibration of the unit, see Commissioning.

Change the battery every 24 months, or when the control unit indicates low detector battery.

The unit indicates low battery by sending a message to the receiver. In addition, the Activity LED will not operate if the battery is low (even if jumper D is removed).

When the battery is finished, replace it with a fresh 3V CR2 Li/MnO₂ battery. Before inserting the new battery, briefly short together the terminals of the battery holder with a screw driver or short length of wire. This ensures that the processor restarts correctly when you insert the fresh battery.

Battery Care

DO NOT: Short circuit or attempt to recharge.

Dispose of used batteries in accordance with the current local regulations. DO NOT incinerate, crush, or puncture.