

# Rentokil



## RADAR

Applicable to: **Single / Dual Variants**  
**Standard / Connect Variants**

This manual is based on the latest information and is provided subject to alteration. We reserve the right to change the construction and/or configuration of the product and versions at any time without obligation.

All rights reserved. No part of this document may be reproduced, stored in a database or any other retrieval system, or published, in any form or way, electronically, mechanically, digitally per photo print or microfilm or any other way without written permission from the author.

# Contents

## Introduction

◦	Safety Instruction	3
◦	Caution	3
◦	Attention	3
◦	Product Description	3
◦	Product Function (Connect Variants Only)	4
◦	Limitation of Liability & Damages	4
◦	Product Disposal	5
◦	Environmental Restrictions	6
◦	Product Range	7

## Installation

1.	Site Installation	8
2.	Site Survey (Connect Variants Only)	8
3.	Prior to RADAR Installation	9
4.	Open Catch Tray	9
5.	Fitting the Battery	10
6.	Setting the Trigger Mechanism	11
7.	Fitting CO <sub>2</sub> Canister	11
8.	Setting the Trap	11
9.	Refitting the Catch Tray	12
10.	Arming the Module	12

## Servicing & Maintenance

1.	Enter Service Mode	13
2.	Open Catch Tray	13
3.	Cleaning	13
4.	Removing a used CO <sub>2</sub> Canister	14
5.	Fitting a new CO <sub>2</sub> Canister	14
6.	Setting the Trap	15
7.	Refitting the Catch Tray	15
8.	Reactivate the Trap	15

## Operating the UI

◦	Operating the User Interface (UI)	16
◦	Error Codes	17

## Further Information

◦	Technical Details	18
◦	Product Code Summary	19
◦	Approvals	19

# Introduction

RADAR is a discreet, humane and non-toxic solution to mouse control. Designed specifically for high risk market segments where even a single mouse cannot be tolerated. RADAR is suitable for food and pharmaceutical manufacturers, hospitality, educational and health establishments.

## Safety Instructions

- Only use the Battery Pack that is supplied by Rentokil.
- Do not use the trapping device if it is damaged.
- Do not expose the trapping device to corrosive liquids.
- Do not use this trapping device near to water sources.
- This trapping device contains Radio Emitting devices and should not be used near to life support systems.
- This trapping device contains a pressurised Carbon Dioxide (CO<sub>2</sub>) canister and should not be heated or incinerated.
- Only “approved” RADAR 8g (0.28oz) gas canisters are used in the trapping device.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

**Note: A.** If the equipment is used in a manner not specified by the manufacturer then the protection provided by the equipment may be impaired.  
**B.** Save these instructions.

## Caution

Only personnel with appropriate skills and training must install or service this trapping device. Do not install this trapping device in areas where dangerous concentrations of inflammable or explosive substances may be present in the air. Only install this product indoors in a dry location that is shielded from direct sunlight. Do not install the trapping device in a barn, stable, or similar location. Children must not play with this trapping device. The appliance is to be kept out of reach of children.

## Attention

Users can perform the maintenance tasks described in this document. Users must not perform any other repairs or maintenance.

The canister can only be used once. RADAR requires no maintenance other than cleaning and management of the batteries and CO<sub>2</sub> canisters.

# Product Description

RADAR is a stand alone, battery powered trapping device that has been designed to capture, kill and contain mice efficiently, hygienically and humanely. It is designed primarily for high risk customers, such as food processing plants, pharmaceutical manufacturing and computer suites, where there is zero pest tolerance or conventional baiting is not allowed. However, the many product features of RADAR make it suitable for a wide range of customers as it can operate in a variety of environments. Intruding mice are captured as soon as they are detected, immediately reducing the risk to the customer. They are then killed by concentrated release of carbon dioxide (CO<sub>2</sub>) into the air tight trapping device. CO<sub>2</sub> is capable of killing mice extremely rapidly and is widely recognised as a humane method of control. The mouse is unconscious within 15-20 seconds and fatal levels are reached within 45 seconds of the trapping device's activation. Currently, under existing legislation, CO<sub>2</sub> is approved for use as a rodenticide or exempt from registration in many countries. CO<sub>2</sub> is being fully supported by Rentokil for this use under the European Biocidal Products Regulation (BPR).

RADAR has been designed by Rentokil to exploit the travelling habits of mice as opposed to more traditional methods which target their feeding behaviours, e.g. baiting. Correctly installed trapping devices will typically be placed at wall / floor junctions, relying on a mouse's natural curiosity and tendency to run against walls. RADAR Single has one entrance at the front of the trap. When the mouse reaches the end of the internal compartment, it breaks an infrared beam, which triggers the mechanism to immediately close the door, trapping the mouse inside a tightly sealed chamber. Simultaneously, a pressurised gas canister is pierced to fill the trapping device with carbon dioxide. The RADAR Dual contains two completely separate trapping chambers.

The customer is provided with 24/7 pest control and can be reassured that the product is both effective and humane, reducing the risk to their stock and premises.

It is recommended to replace batteries at 12 monthly intervals (all at the same time) to maximise the installed system performance. There are some system limitations that should be kept in mind, although typically should only occur in very large systems:

## Product Functions (Connect Variants Only)

RADAR signals the capture of a mouse sending a message to the Connect Control Panel and then Server. A technician will receive an alert and arrive promptly to empty, clean, service and reset the trapping device. Rigorous testing and quality controls have been implemented at every stage of the manufacturing process to ensure that RADAR is a high quality product that is capable of supporting a high quality service proposition.

The Long Reach radio system ensures reliable connectivity over large distances to the control panels. Beacon signals are emitted from the Control Panels, so the RADAR will connect to the Control Panel with the best

connection. In an system with multiple Control Panels, the RADAR will select an alternative if the connection to the initial one fails.

The loss of connection to the radio system will cause Sensors to retry the connection and attempt to make a new one if it can. If connection continues to be unsuccessful the software automatically increases the time between attempts to conserve battery life.

The maximum number of trapping devices that can be connected to a Control Panel is 300 and so if more trapping devices are required then an additional control panel will be required.

# Limitation of Liability & Damages

The product and the softwares within are provided on an “as is” basis. The manufacturer and manufacturer’s resellers (collectively known as “The Sellers”) disclaim all warranties, express, implied or statutory, including and without limitation the implied warranties of non-infringement, merchantability or fitness for a particular purpose, or any warranties arising from course of dealing, course of performance, or usage of trade. In no event will the sellers be liable for damages or loss, including but not limited to direct, indirect, special, wilful, punitive, incidental, exemplary or consequential damages, damages for loss of business profits, or damages for loss of business of any customer or third party arising out of the use or the inability to use the product, including but not limited to those resulting from defects in the product or documentation. In no event shall the sellers’ total cumulative liability of each and every kind in relation to the product exceed the cost to replace.

The product described in this manual is subject to continuous development and improvement and Rentokil reserve the right to alter the specification or design without prior notice. Rentokil cannot accept any liability for any loss or damage arising from the use of any information contained within this manual, or from any incorrect use of the product described herein. Rentokil can accept no liability whatsoever for any loss or damage arising from the product being serviced maintained or repaired by unauthorised personnel.

## Product Disposal

The Waste of Electrical and Electronic Equipment WEEE Directive 2012/19/EU has been put in place to recycle products using best available recovery and recycling techniques to minimise the impact on the environment, treat any hazardous substances and avoid increasing landfill. The symbol shown above and on the product means that the product is classed as Electrical or Electronic Equipment and you should not put it into your domestic waste bin. When you have no more use for it, please dispose of the product according to your local authority’s recycling scheme. For more information, please contact your local authority or the retailer where you bought the product.



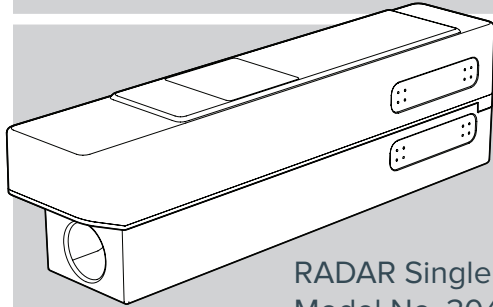
# Environmental Restrictions

Environmental Restrictions	Details
High levels of surface water	The system electronics can be damaged by water. Take care to locate trapping devices away from areas where local high pressure washing or hosing down operations are carried out.
High levels of dust / grease	It is important that trapping devices are kept clean, especially if installed in areas where high levels of dust or grease are present. Cleaning guidelines must be followed to prevent damage to the trapping devices.
Knocking / Kicking	Care must be taken to locate trapping devices away from pedestrian traffic to avoid false activation. This can be prevented by mounting trapping devices on fixing brackets.
Extreme Temp <0°C (32°F)	Extremely low temperatures (i.e. unheated warehouses) could affect RADAR's performance and may result in the trapping device entering low battery status mode.
High humidity (> 80% ) condensation	High humidity and / or condensation could result in damage to the trapping device's control electronics and result in false activations.
High levels of vibration	High vibration due to localised machinery / fridge compressors etc could affect the performance of the trapping device and result in false activations.
Outdoor Use	RADAR has been specifically designed for indoor applications only. The product is not suitable for outdoor use.

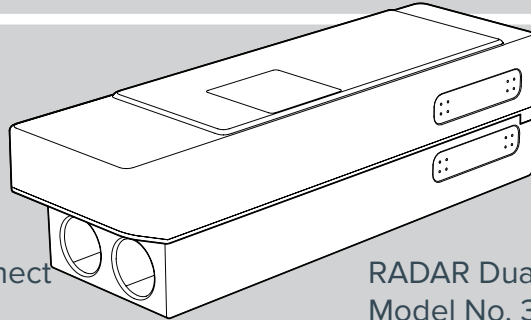
# Product Range

## i. SKU Variants

### Connect Trapping Devices

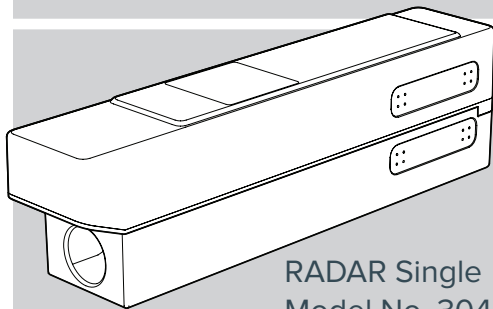


RADAR Single Connect  
Model No. 304838  
Serial No: 913 . . .

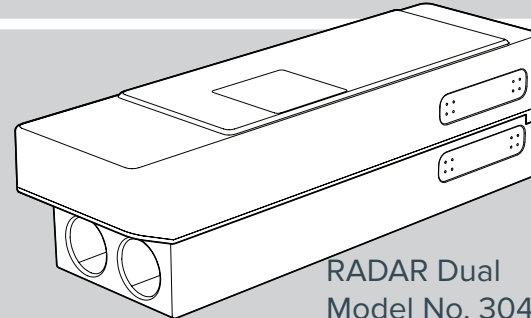


RADAR Dual Connect  
Model No. 304840  
Serial No: 914 . . .

### Standard Trapping Devices



RADAR Single  
Model No. 304837  
Serial No: 119 . . .



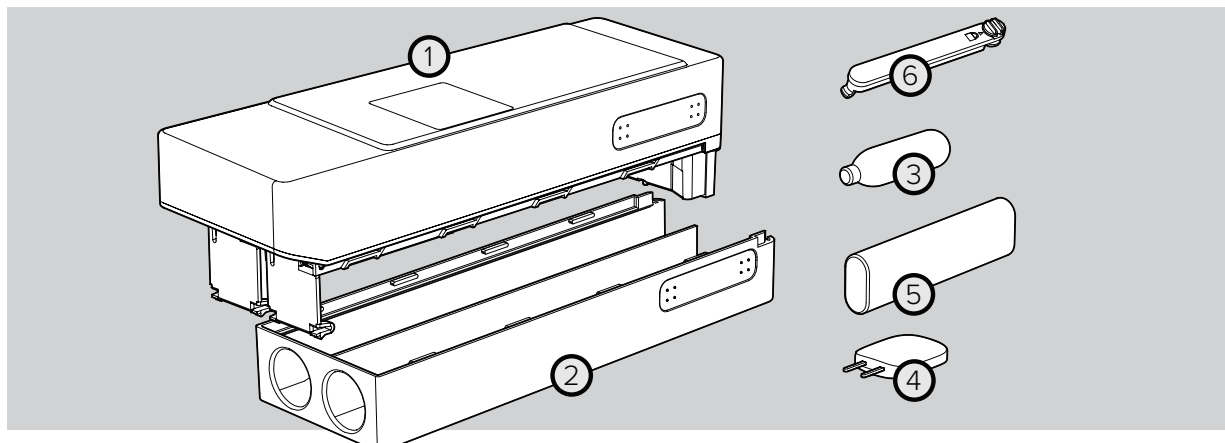
RADAR Dual  
Model No. 304839  
Serial No: 120 . . .

## ii. Component Parts for Installation

1. Main Trapping Device  
2. Catch Tray

3. CO<sub>2</sub> Canister  
4. RI Service Key

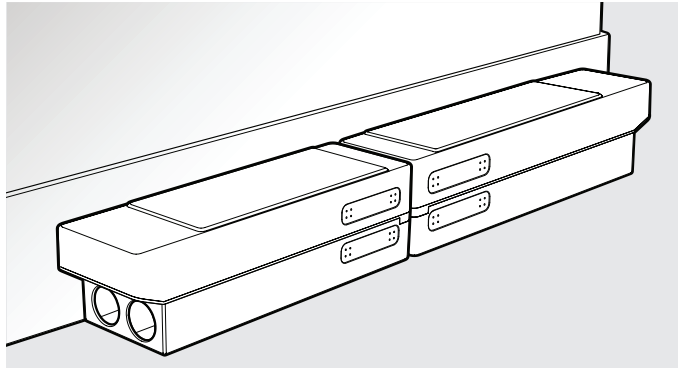
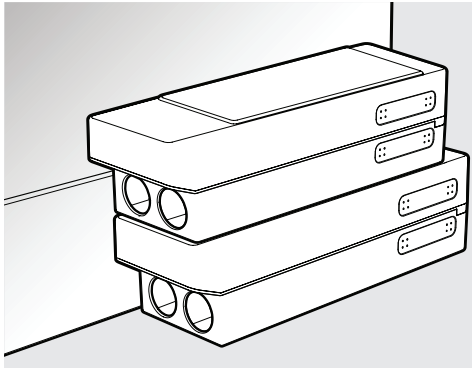
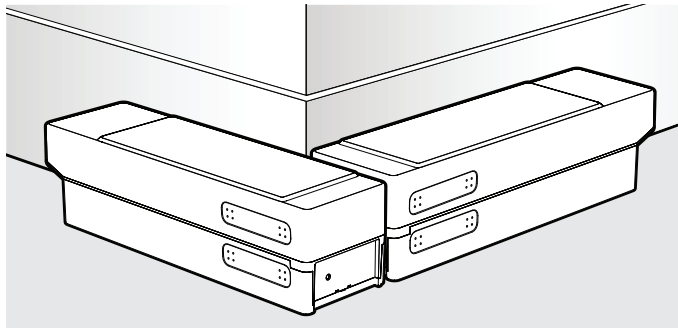
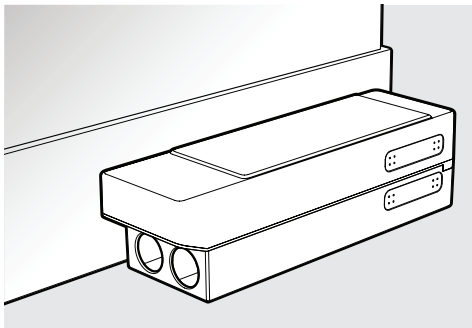
5. Battery  
6. Battery Door Cover



# Installation


## 1. Site Installation

RADAR trapping devices should be sited along wall / floor junctions, behind machinery and equipment, i.e. anywhere where bait boxes and mouse monitor units (MMU's) would normally be placed. Trapping devices should be secured with fixing brackets if possible to prevent the trapping device being accidentally moved, knocked or removed by unauthorised persons.



## 2. Site Survey (Connect Variants Only)

To assess network signal strength and the number of control panels required for a site, the Range Check Mode can be used.

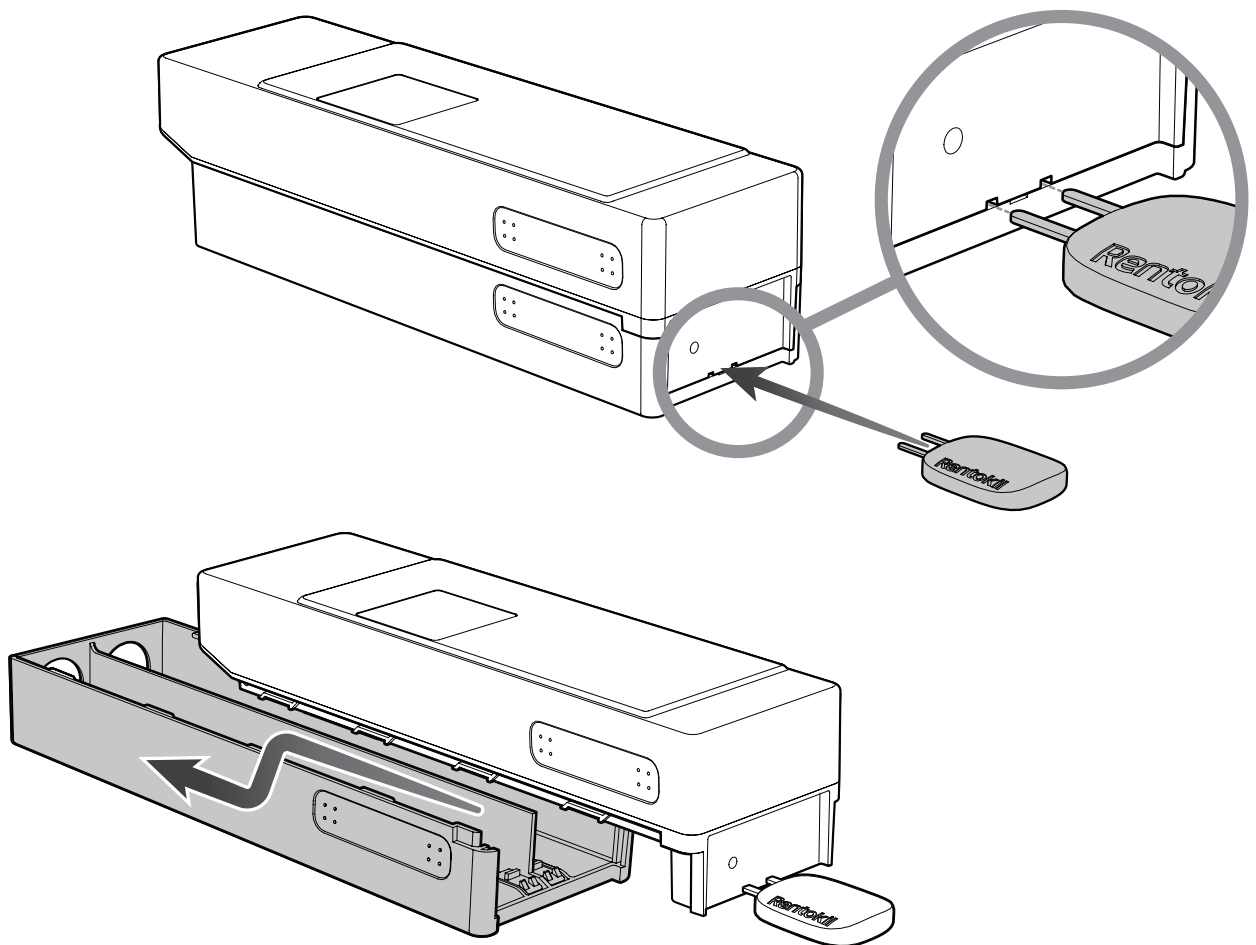
With Signal Strength displayed (Icon 5 ) , hold the **RI Service Key Magnet** over the sensor for 3 seconds and Range Check Mode will be enabled. The bottom LED will start to flash to show this and give a reading R1 - R9. The signal strength will show for 1 hour to allow technician to survey the site.



### 3. Prior to RADAR Installation

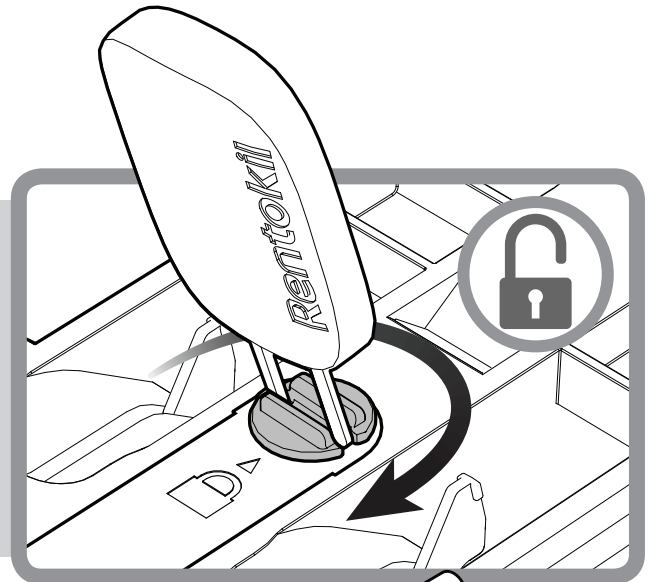
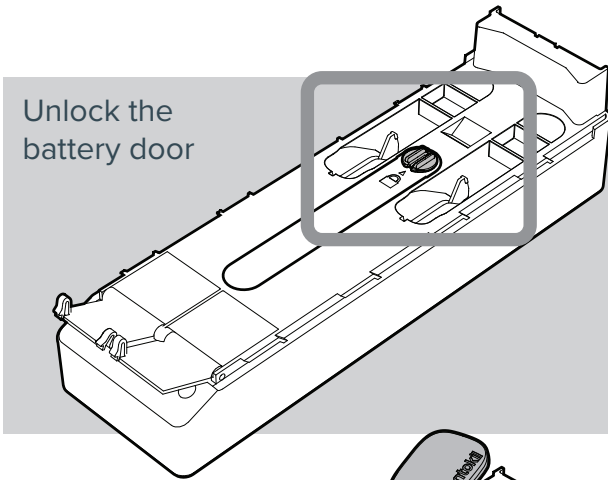
While unpacking, check for any signs of shipment damage and, if found, notify both transporter and supplier in writing within eight days of receipt with full details of the damage that has occurred. Retain the equipment and packing materials for inspection. Check that all parts have been received as ordered. Make sure that all packaging is removed from the trapping device before use.

### 4. Open Catch Tray

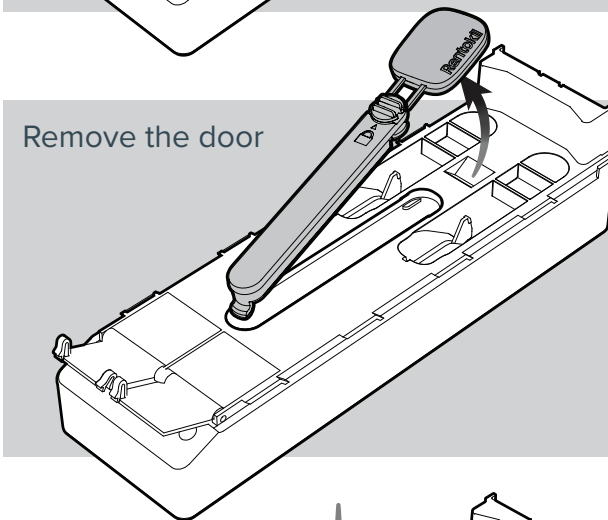


## 5. Fitting the Battery

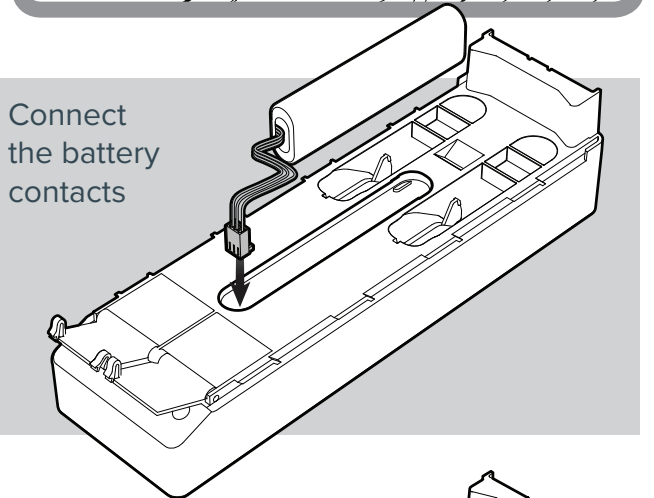
Unlock the battery door



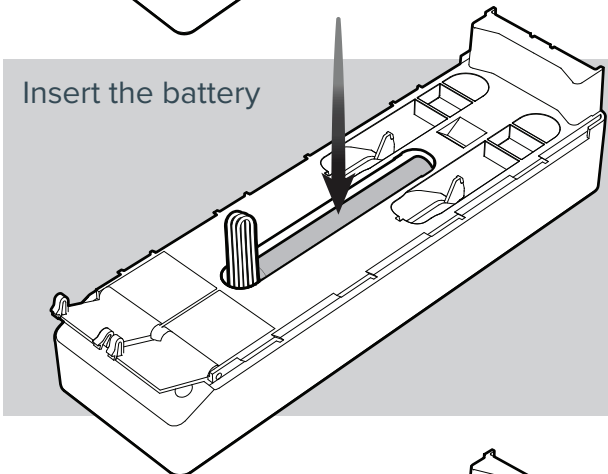
Remove the door



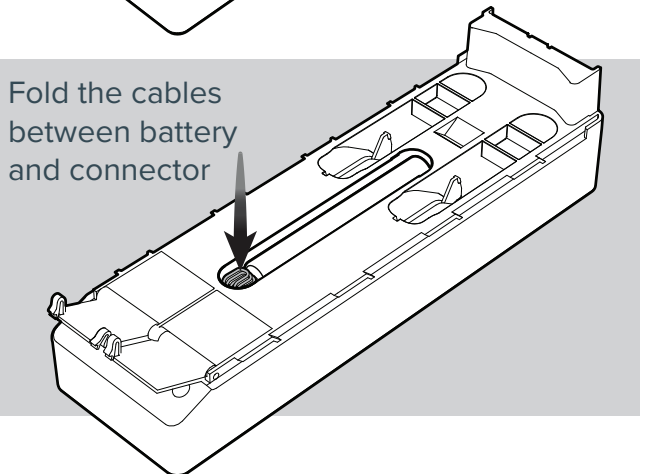
Connect the battery contacts



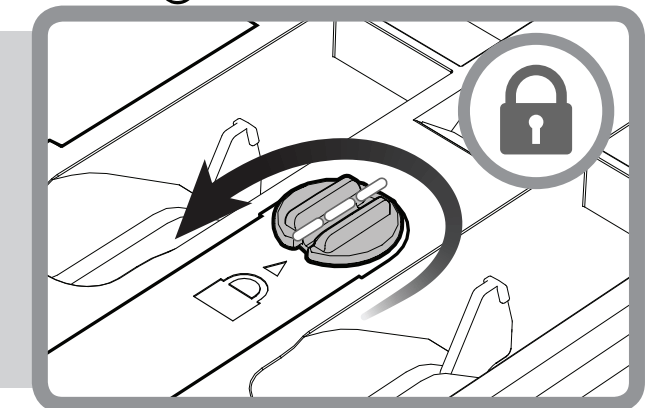
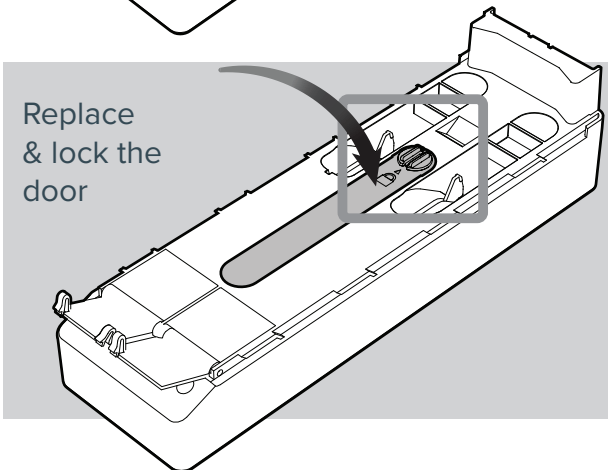
Insert the battery



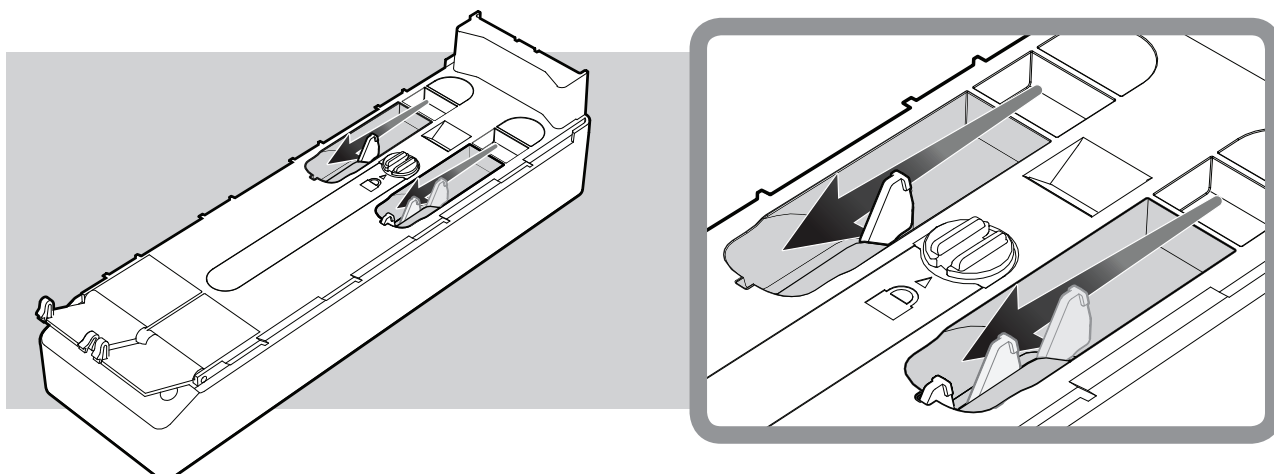
Fold the cables between battery and connector



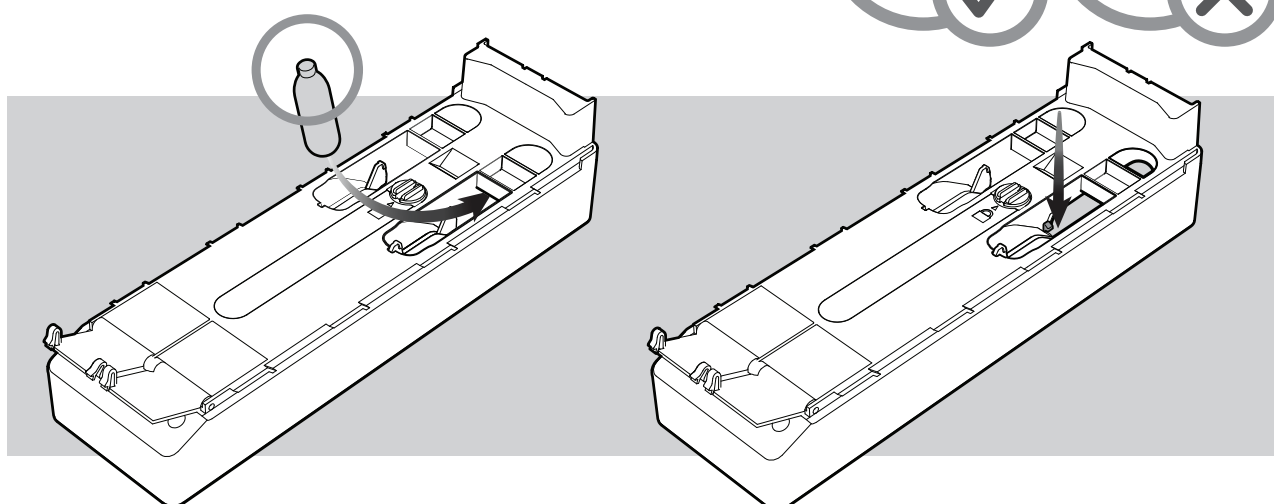
Replace & lock the door



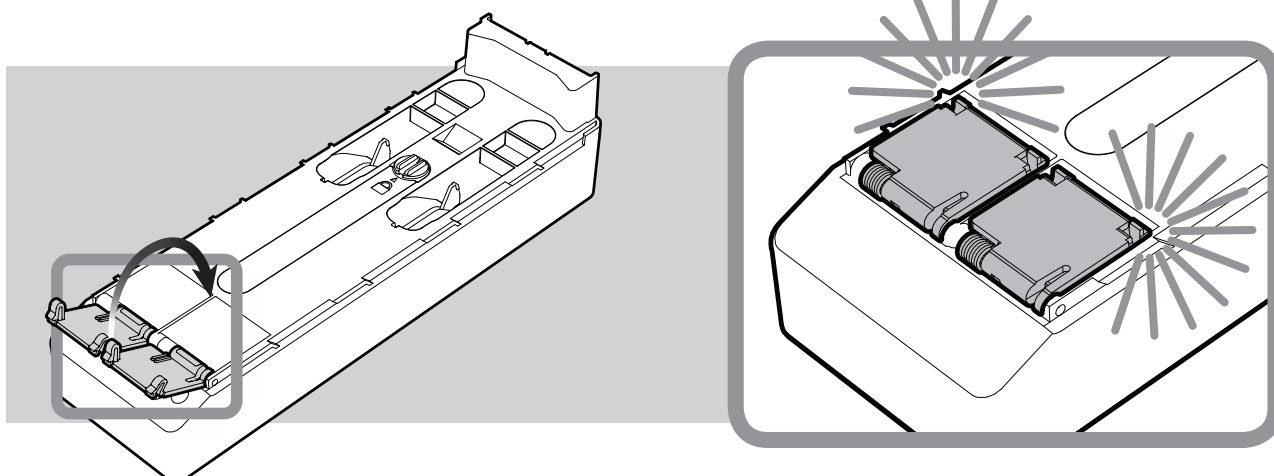
## 6. Setting the Trigger Mechanism



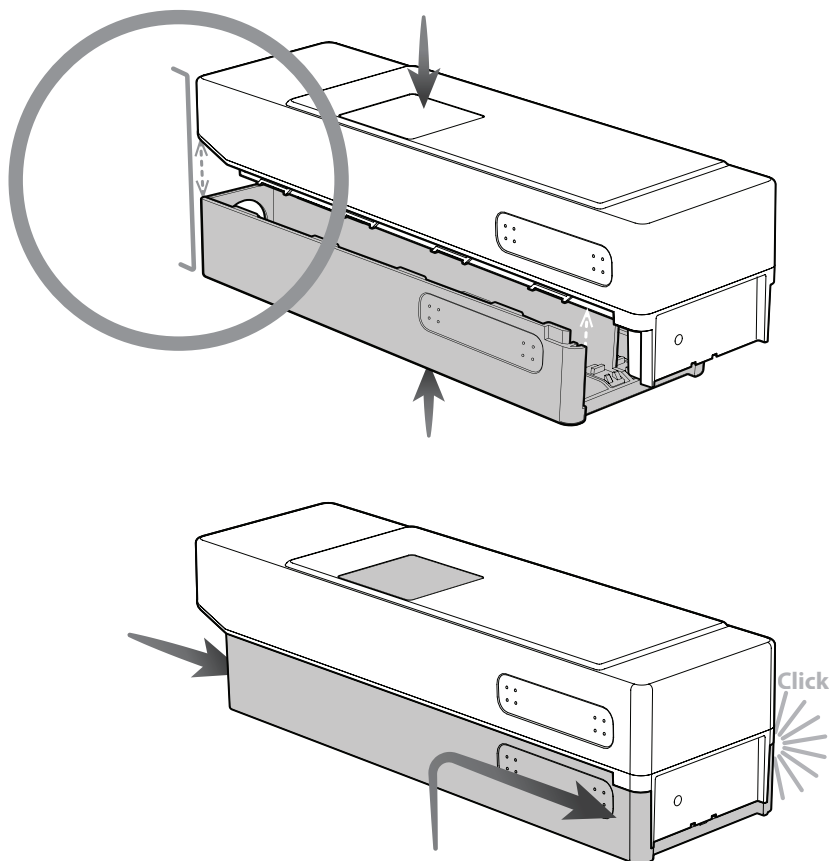
## 7. Fitting CO<sub>2</sub> Canister



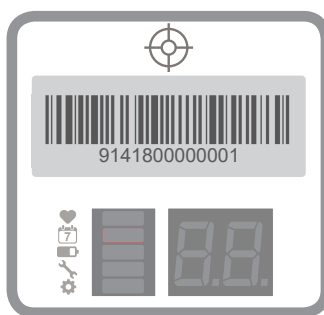
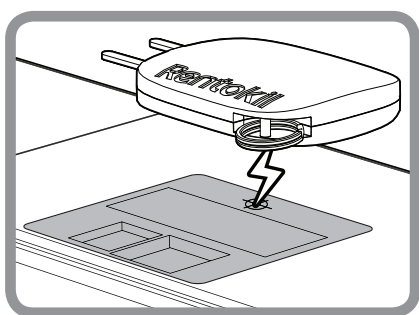
## 8. Setting the Trap



## 9. Refitting the Catch Tray



## 10. Arming the Module



Swipe the RI Key magnet to step through the Interface to arm the RADAR.

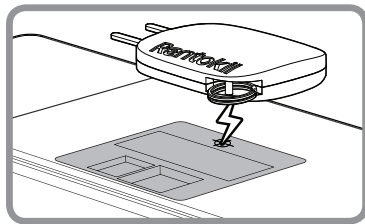
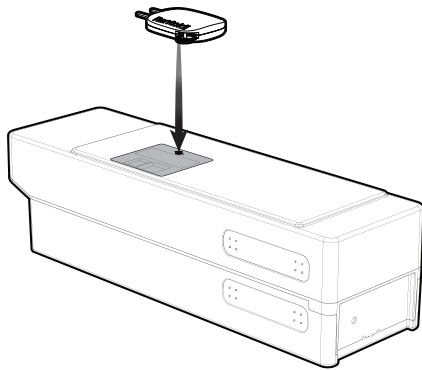
See **Page 16** for more details on the Interface.




# Servicing & Maintenance

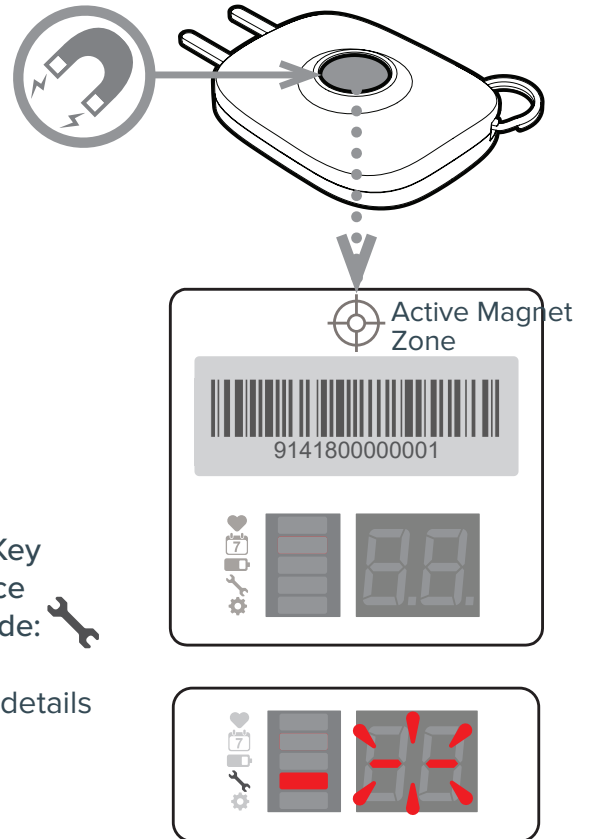
## 1. Enter Service Mode

Use the RI Key Magnet to activate the Interface

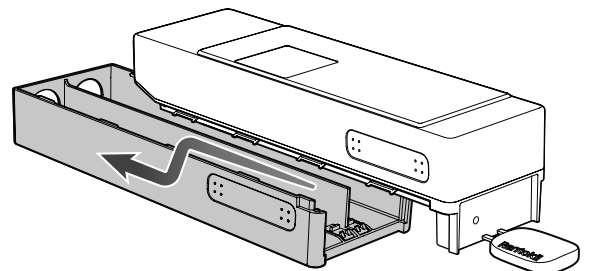
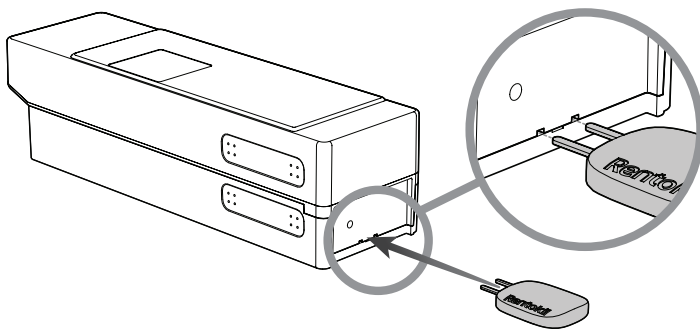


Swipe the RI Service Key Magnet over the device to put into service mode: 

See Page 16 for more details on the Interface.



## 2. Open Catch Tray



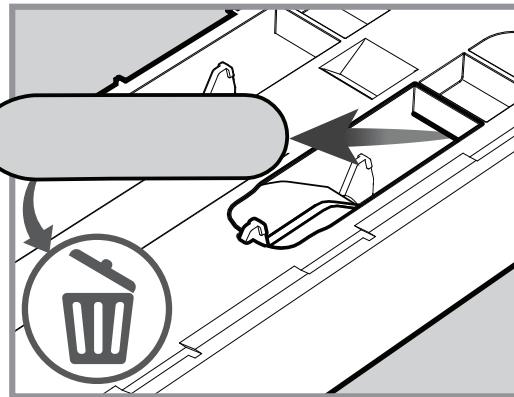
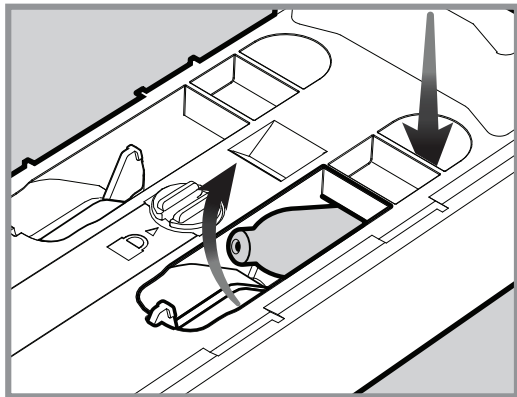
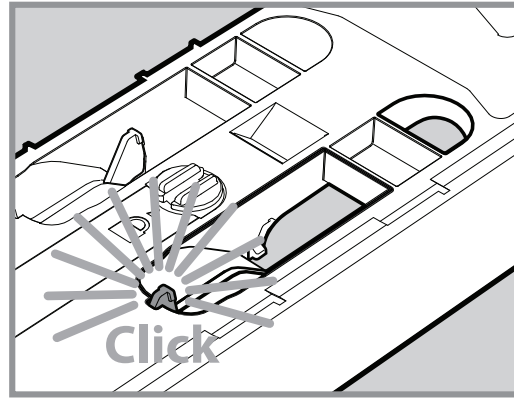
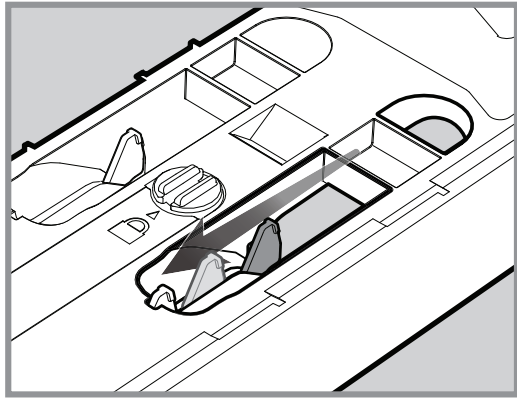
## 3. Cleaning

RADAR units should NOT be cleaned internally with water or wet cloths, or any form of spray cleaner. Externally the units can be cleaned with a dry cloth, and internally a dry cloth or dry soft brush only.

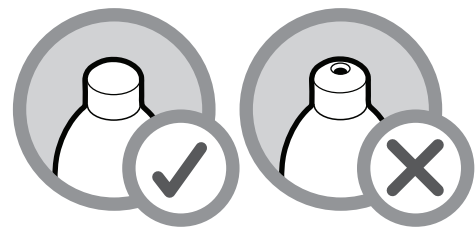
Ensure that you wear protective gloves during the cleaning of the unit.

Remove the dead mouse and dispose of it in accordance to standard protocol. Remove any external dirt, paying particular attention to any accumulated dirt on the underside of the unit. Clean the inside of the unit, cleaning any fur, urine, droppings, etc.

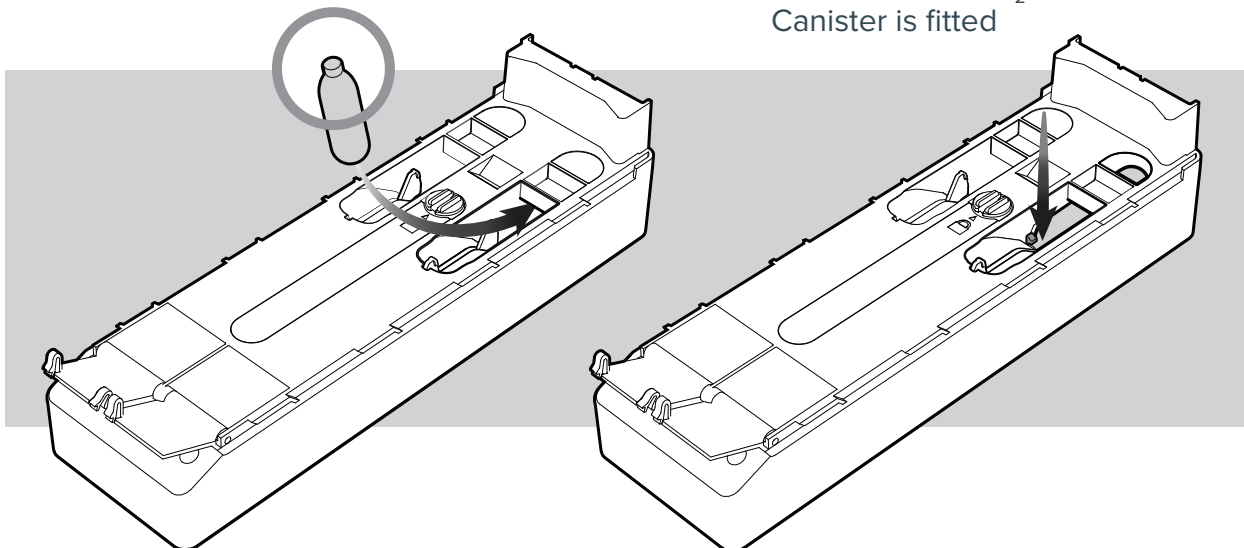
## 4. Removing a used CO<sub>2</sub> Canister



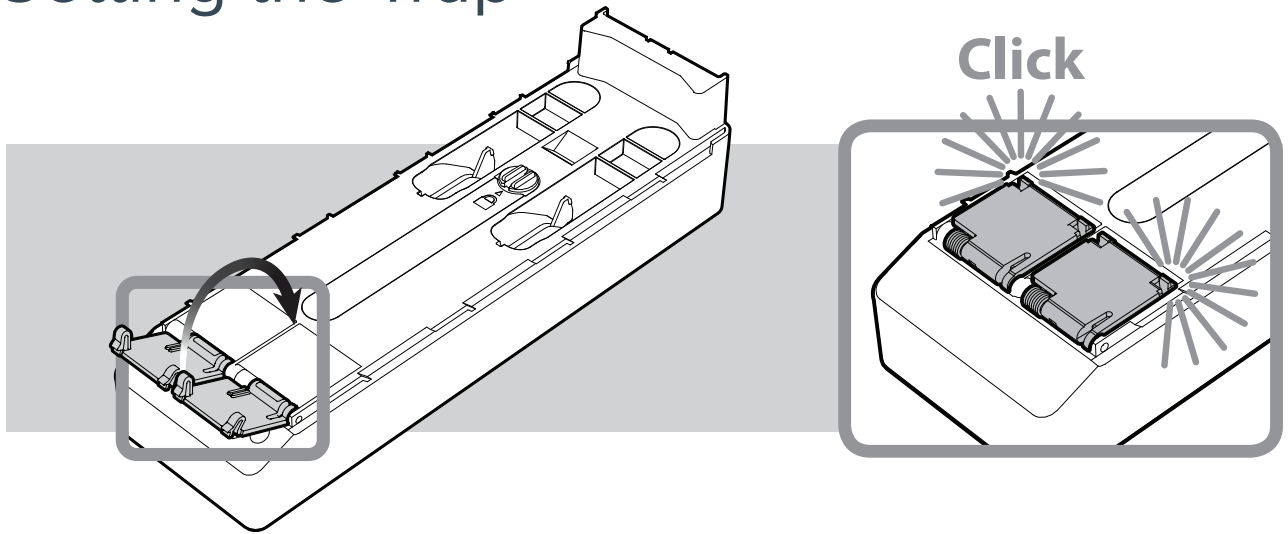
## 5. Fitting a new CO<sub>2</sub> Canister



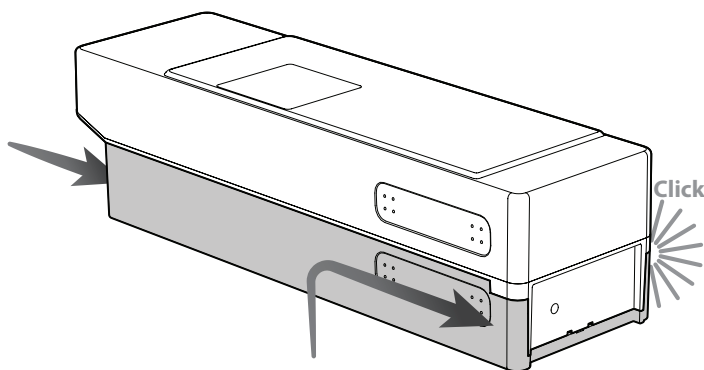
Ensure a new CO<sub>2</sub> Canister is fitted



## 6. Setting the Trap



## 7. Refitting the Catch Tray



## 8. Reactivate the Trap



**Standard RADAR:**  
Once refitted, RADAR will self-test & re-arm.



**Connect RADAR:**  
Once refitted, RADAR will self-test & display signal strength. Swipe with the **RI Service Key Magnet** to re-arm unit.



Once fully armed, the screen will go blank

# Operating the User Interface (UI)

1

## Device Status \*



Armed but not triggered  
(Solid LED)



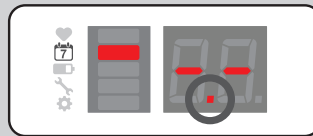
Device triggered  
(Flashing LED)

2

## Catch Duration \*



Number of days since  
each chamber has  
been activated



Dot will identify which  
chamber has activated



Eg: Right chamber  
activated 3 days ago

3

## Battery Level \*



Percentage of battery  
capacity remaining



4

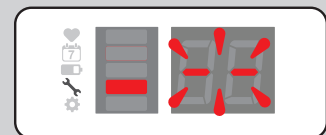
## Service Mode



Catch tray can now  
be removed & unit  
serviced.



Catch tray can be  
removed & unit serviced



When refitted, the unit will  
automatically self-test &  
flash all LED's

5

## Radio Connection \*

CONNECT devices only



R1 - R9 = Radio signal strength Level 1 - 9

Flashing right ● = Beacon detected from Control Panel

Solid right ● *only* = Control Panel heard, but not connected



6

## Range Check Mode

CONNECT devices only



### NOTE:

Will time out after  
1 hour



R1 - R9 = Radio signal strength Level 1 - 9

Flashing right ● = Beacon detected from Control Panel

Solid right ● *only* = Control Panel heard, but not connected



\* **NOTE:** Will time out after 60 seconds



# Error Codes

If RADAR detects an error, it will self diagnose and display an Error Code in either:  
Device Status (1) or Service Mode (4).



Error Code	Status	Action
E1	Motor Error	Remove and refit battery.
E2	IR Sensor Error	Clean sensors.
E3	Unit triggered but failed to detect temperature drop (Possible CO <sub>2</sub> error)	<b>Warning:</b> Trap could contain live catch.
E4	Unit Triggered by high temperature	Replace CO <sub>2</sub> Canister and reconsider site placement.
E5	Device moved (Anti-Tamper)	Assess trapping device for damage.
E6	Catch Tray removed	Service trapping device as normal.
E7 E8 E9 EA	Internal Failure	Return trapping device.

# Further Information

## Technical Details

Power Supply	
Battery Details	Use only Rentokil-Initial battery pack FR18 6v output - 4 x AA cell Alkaline battery pack -20°C to 50°C ( -4°F to 122°F) Operating Temperature range
Physical	
Dimensions (Single)	272mm x 77mm x 55mm (10.70" x 3.03" x 2.17")
Dimensions (Dual)	272mm x 77mm x 82mm (10.70" x 3.03" x 3.23")
Weight (Single)	565g (19.93 oz) [Including gas canister and battery]
Weight (Dual)	810g (28.57oz) [Including gas canister and battery]
Material	PC/ABS (ABS family)
Operating Temperature	-20°C to 50°C ( -4°F to 122°F)
Storage Temperature	-20°C to 50°C ( -4°F to 149°F)
Environmental rating	IP65
CO <sub>2</sub> Gas Canister	Use only Rentokil-Initial approved 8g CO <sub>2</sub> gas canister.
Connect Only	
Interface	868-928MHz depending on local Approvals Rentokil Initial Proprietary Application Layer Protocol
Max Number of RADAR per control panel	300

## Product Code Summary

SKU	Product
304837	RADAR Single
304839	RADAR Dual
304838	RADAR Single Connect
304840	RADAR Dual Connect

SKU	Accessories
FR18	RADAR Battery Pack
304751	Pest Key
304875	RADAR Single Tray
304876	RADAR Dual Tray
304877	Retractable Lanyard
304878	RADAR Wall Mounting Fixing Assembly Kit

# Approvals

FCC PART15 CLASS B, CE and RoHS compliant

## FCC Warning Statement:

- This device complies with Part 15 of the FCC Rules.  
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 complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- This equipment contains: FCC ID: 2AK3PGSD-500349 and IC ID: 22407-GSD500349.

## ISED Warning Statement:

- This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:  
(1) This device may not cause interference; and  
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

## Industry Canada

- L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:  
1) L'appareil ne doit pas produire de brouillage;  
2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.



# Rentokil

## Why Choose Rentokil?

Rentokil is the global leader in pest control, bringing expert, reliable and professional service to commercial and residential customers in over 60 countries worldwide. As the experts in pest control, we work closely with you to:

Give you peace of mind.

With over 12,000 qualified technicians worldwide, we have extensive experience across a wide range of industry sectors. Our experts work proactively in partnership with you to minimise the threat of pest infestations in your business.

Safeguard your reputation

We take a dual approach, incorporating both preventative and responsive strategies to enhance protection for your business through a consistent, continuous pest control programme.

Neither the whole nor any part of the information described in this manual, nor the product therein described, may be adapted or reproduced in any form without prior written approval of Rentokil.

The product described in this manual is subject to continuous development and improvement and Rentokil reserve the right to alter the specification or design without prior notice. Rentokil cannot accept any liability for any loss or damage arising from the use of any information contained within this manual, or from any incorrect use of the product described herein. Rentokil can accept no liability whatsoever for any loss or damage arising from the product being serviced maintained or repaired by unauthorised personnel.

For more information about Rentokil visit [www.rentokil.com](http://www.rentokil.com)  
Registered Design - refer to [www.rentokil-initial.com/ip](http://www.rentokil-initial.com/ip)

© 2018 RENTOKIL INITIAL PLC ALL RIGHTS RESERVED

2018 Rentokil Initial plc. Registered in England 5393279.  
Registered office: Riverbank, Meadows Business Park,  
Blackwater, Camberley, Surrey, GU17 9AB  
The names Rentokil® and Initial® are registered trademarks