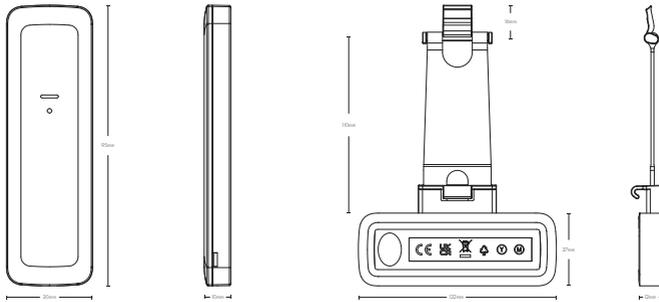


# CAR DEFENDER

PARTCODE: CARDEFENDER-WE



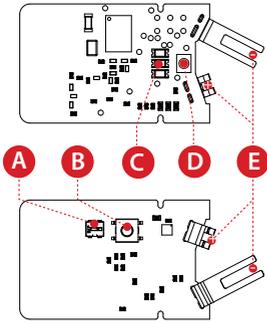
## Specification

## Value

Dimensions and weight (W x H x D)	Device - 30 x 95 x 10mm, 30g Holder - 122 x 163 x 12mm, 35g
Casing / Colour	Device - 2mm polycarbonate-ABS, anthracite Holder - Silicone strap, yellow   UV Additive RIASORB UV-329 holder, black
LED colours	Red, blue and green
Transmission frequency	868MHz FM transceiver narrow band
Transmission method	Fully encrypted rolling code
Detection methods	Shock only   tilt only   tilt or shock
Tilt alarm threshold	~4°
Shock sensitivity	Low, medium and high
Battery	2 x lithium CR2450R, 3V,500mAh with a 50mA pulse
Low battery threshold	2.2V +/-5% @ 25°C
Temperature	Storage: -20°C to 50°C Operating: -10°C to 40°C
Standards	EN50131-2-6-2008 EN50131-2-8-2016
RoHS Directive	EU 2015/853   UK RoHS regulation 2012
RE Directive	2014/53/EU   Radio Equipment Regulations 2017 (RED)
Emissions	EN 55032:2015+A11:2020 Class B
Immunity compliance	EN 50130-4:2011+A1:2014
Environmental class	II



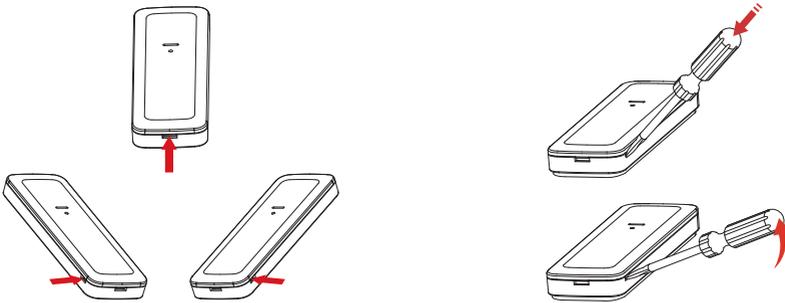
# PCB



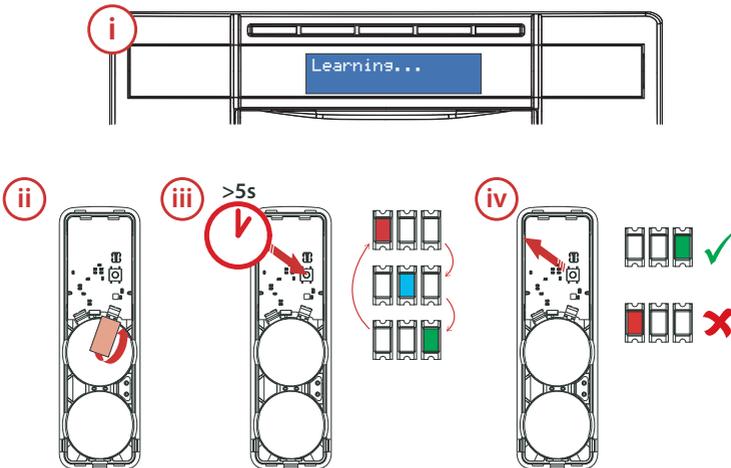
- A. Setting activation button
- B. Learn button
- C. LEDs
- D. Multi-functional button
- E. Battery contacts

## WIRELESS DEVICE CONTROL

### Removing the Cover



Before learning the device, the cover needs to be removed to expose the learn button and batteries. The device's case has 3 opening points; using a flat bladed screwdriver, carefully push into 1 of these points and prise open.



- i. Prepare the system for pairing with the device.
  - Please refer to control panel instructions.
- ii. Remove the piece of polyester film that is separating the battery from the battery contacts.
- iii. Press and hold the 'learn button' on the device for at least 5 seconds and then release.
  - The three LEDs will cycle through on the device whilst the button is held.
- iv. On releasing the learn button, the device attempts to pair with the system and will indicate via the LEDs whether it has been successful or failed.
  -  The green LED will illuminate to indicate the device has successfully paired with the system and has adequate signal.
  -  If the device fails to pair with the system the red LED will illuminate, and then will return to the alternating flashing green and red.

## PROGRAMMING



Once learnt to the system, the zone needs to be programmed so that the system responds as specified when the device is triggered.



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**Please note: Refer to the installation or programming guides provided with the control panel for advice**

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### Programming advice

#### Intruder/Instant zone type - typical zone type

This zone type will only notify the user when the area it is designated to is armed. This will typically be the best zone type for this device as the system can be armed and disarmed relative to when the device is within or out of range.

#### Day Alarm/24 Hour zone type

This zone type is constantly active and will notify the user whether the system is armed or disarmed. The device should only be programmed as this zone type if the car being protected will always be in range of the system and is required to notify every time the device is triggered.



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**Please note: In both cases, if the panel is programmed to signal an ARC, then the alarm event will be reported to the ARC.**

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## POLLING AND SUPERVISION

The device will poll the system every 5 minutes to see whether it is within range. As this device is unsupervised (allowing for the device to be taken away from the property) the system will not display any supervision fault messages if the system does not receive any supervision signals from the device. A signal can be sent from the device notifying the system that the it is back within range, please see B2H section of the multi-functional button.

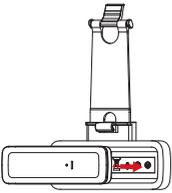
# INSTALLATION

This device can either be installed into the holder and then attached to the vehicle it is protecting or it can be permanently fixed to a surface using screws, or with the adhesive pad provided. Alternatively, the device can be relocated whenever necessary as long as the control panel is disarmed (depending on control panel programming).



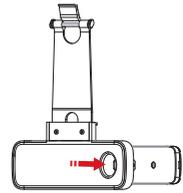
**Please note: To achieve optimum battery life, locate in environments that are typically room temperature and adhere to installation advice. Battery life will be reduced if left in environments with temperatures 0° and below for extended periods of time.**

## Inserting and Removing the Device from the Holder

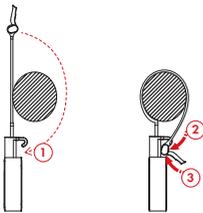


To insert the device into the holder, it just needs to be firmly pushed in.

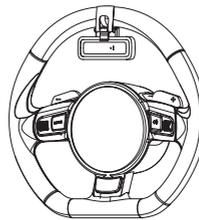
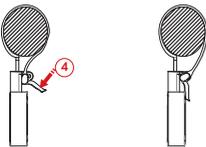
To remove the device from the holder, the device requires pushing out via the hole in the back of the holder.



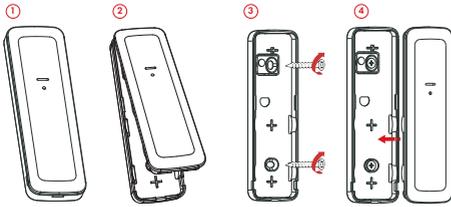
## Attaching Holder to Steering Wheel



1. First, wrap the strap around the wheel.
2. Then, insert the locking mechanism under the hook.
3. Push the locking mechanism up around the back of the hook.
4. To lock in place, push the tab of the locking mechanism down so that the top slides into the hook.

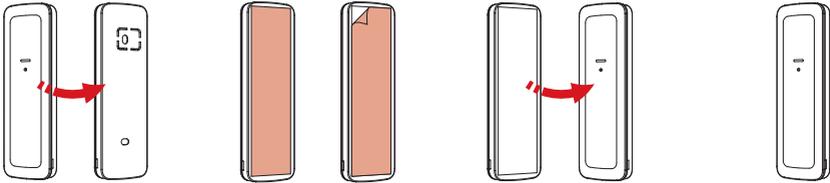


## Permanent Fixing Using Screws



1. Use a flat bladed screwdriver to prise the cover off the device
2. Remove the front cover and PCB
3. Screw the back of the device to the installation surface.
4. Put the front and the PCB back.

## Permanent Fixing Using Adhesive Strip



Rotate the device 180° so that the rear of the device is now facing.

Affix the adhesive pad firmly to the rear of the device and peel the backing paper layer away.

Rotate the device so that the rear is facing the surface it is to be attached to.

Press the device firmly against the surface.

In order to minimise the risk of false alarms, it is recommended that this device is not installed in any of the following locations:

- Close proximity to sources of vibration.
- Within 1m of a device emitting a sound pressure equal to or above 100 decibels

## LED VISIBILITY

**Please note: The enabling and disabling the LEDs only relates to 'Detection Mode Setting' and 'Detection Mode Check'. The B2H function will still operate**

### Auto-disable

The calibration status LEDs will turn off after a period of 10 minutes and the blue alarm LED will turn off after a period of 1 hour from:

- Device is powered up.
- The case being closed (which presses the 'setting activation button' in).
- Conducting a wireless signal strength test

### Re-activating the LEDs

The calibration and alarm LEDs can be reactivated by any of the following methods.

- Power cycling the product.
- Opening the case (activating the setting activation button on the device).
- Conducting a wireless signal strength test.

# MULTI-FUNCTIONAL BUTTON

## Overview



### Detection mode setting

A 6 second press puts the device into detection mode setting where the sensitivity can be changed.

### Detection mode check

A 3 second press is used to check the configuration setting the device is currently set to.

### Back to Home (B2H)

Short press (less than 1 second). Polls the panel to check whether the device is in range.

## Detection Mode Setting

A 6 second press puts the device into configuration mode where the sensitivity can be changed

Description	Sensitivity Level	Blink	RED	Green	Blue
Tilt only	Fixed 4°	1 all LEDs	✓	✓	✓
Shock only	Low	1	✓		
	Medium	2	✓		
	High	3	✓		
Tilt or Shock	Low	1		✓	
	Medium	2		✓	
	High	3		✓	

### Tilt Only

There is one sensitivity setting for the tilt mode. The angle of tilt required to trigger the detector is ~4°.

### Shock Only

There are 3 sensitivity settings for the shock mode, low, medium, and high.

Shock is someone hitting the vehicle or an intruder attempting to break a window or a lock. If set to high, the device is more sensitive to shock activation.

### Tilt or Shock

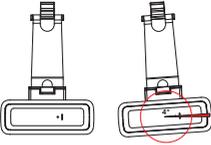
In this mode, if the device is triggered via tilt or shock, it will signal an alarm.

## Note

The 10 minute detection mode setting timer (along with the LEDs) can be restarted by either:

- Power cycling the product.
- Tampering the device.
- Conducting a wireless signal strength test.

## Tilt Detection



When movement is detected, it is then analysed by the unit and if the movement threshold angle is exceeded, an alarm will be generated. Tilt or movement more than  $\sim 4^\circ$  on the x or y axis from the “home position” will constitute as movement.



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**Please note: The degree of angle given to constitute movement is an approximation.**

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## Detection Mode Check

If the button is pressed and held for 3 seconds, the LEDs will indicate what the detection mode is set to.



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**Please note: In order for detection mode to work, the LEDs must be activated.**

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## Back to Home (B2H)

If the button is pressed for 1 second and released, the device polls the panel to check whether the device is in range of the system.

This is the only function relating to the LEDs that will still function after the 1 hour timer has expired.

**Blue flash then green**



Indicates the device is within range of the system and has good signal strength.

**Blue flash then red**



Indicates the device is within range of the system but has bad signal strength.

**Blue flash only**



The device has polled the system but has not had a response therefore it is out of range.

## HOME POSITION

The “Home Position” is the installation position of the device. Once a “Home Position” has been determined by the device, if the device is triggered, it will signal to the system it has been triggered.

The device will calibrate its “Home Position” after the following scenarios:

- After a period of 4 seconds once the case is closed.
- After a period of 10 seconds following an alarm activation.

The device can be relocated wherever the user sees fit when the system is disarmed (providing the zone is not programmed as 24 hour or day alarm).

# TESTING, TRIGGERING AND DOUBLE KNOCK

## Testing, Triggering and Double Knock

To test the device, the system can be put in walk test mode and the device activated. Whilst in walk test mode, the system will chime when the device is triggered for the first time.



**Please note: As the device can only be triggered once before needing to be recalibrated to a "Home Position", it can't be used with the double knock attribute enabled.**

## BATTERY INFORMATION



The batteries supplied have been chosen to provide long service life whilst, for safety reasons, having limited output current.



The battery is protected on purchase by a piece of plastic that must be removed for operation. When disposing of the product, the battery must be removed and disposed of separately in accordance with the local regulations.

## REPLACING THE BATTERIES



**Important: When replacing the batteries in the device, both batteries must be replaced at the same time.**

## PRODUCT WARNING INFORMATION

For electrical products sold within the European Community. At the end of the electrical products life, it should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice in your country.

To prevent possible damage to components, any static charge on your body needs to be eliminated before touching the inside of the unit. This can be accomplished by touching some grounded/earthed metallic conductor such as a radiator/pipework immediately before replacing the batteries.

## WARRANTY

This product is sold subject to our standard warranty conditions and is warranted against defects in workmanship for a period of two years (battery excluded). In the interest of continuing care and design, Pyronix Ltd reserves the right to amend specifications, without giving prior notice. Please see the control panel programming manuals for further information or visit: [www.pyronix.com/uk/terms-conditions-sales/](http://www.pyronix.com/uk/terms-conditions-sales/)



**CARDEFENDER-WE**

Software revision V3.50

Field trial guide V1.0

08/12/22

Pyronix Limited

Secure House, Braithwell Way, Hellaby, Rotherham, S66 8QY, United Kingdom