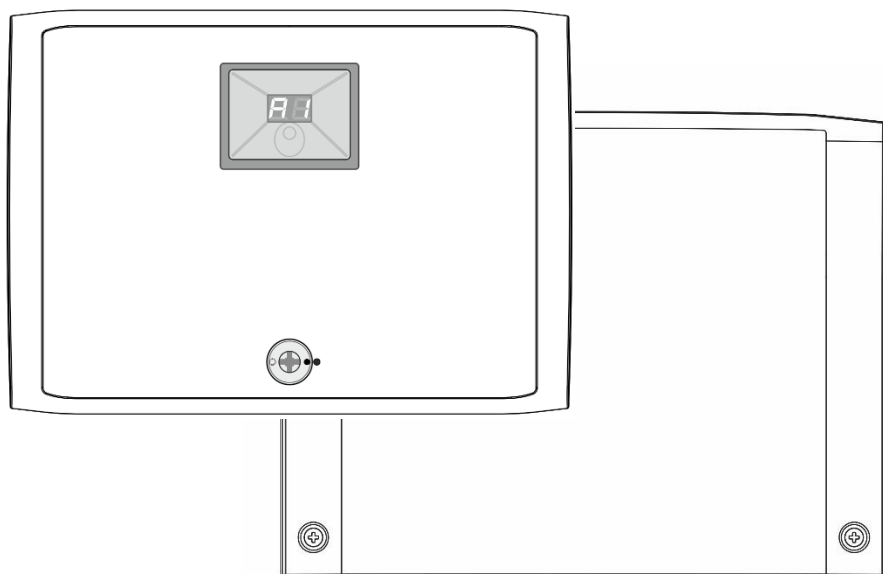




# **ZX-10 & ZX-10-PLUS Zone Expander**

## **Installation Manual**



**Designed and Manufactured  
in the United Kingdom**

**[www.orisec.co.uk](http://www.orisec.co.uk)**



# 1. Introduction

The ZX-10 is a 10 zone input and output expander for use with Orisec control panels.

The ZX-10-PLUS is the same expander in a larger housing to provide more wiring space.

## Key Features

- ▶ 10 Zone inputs
- ▶ 10 Outputs
- ▶ Speaker connections
- ▶ Onboard Piezo
- ▶ 7 Segment Display
- ▶ RJ45 Support
- ▶ Network IN and OUT connections

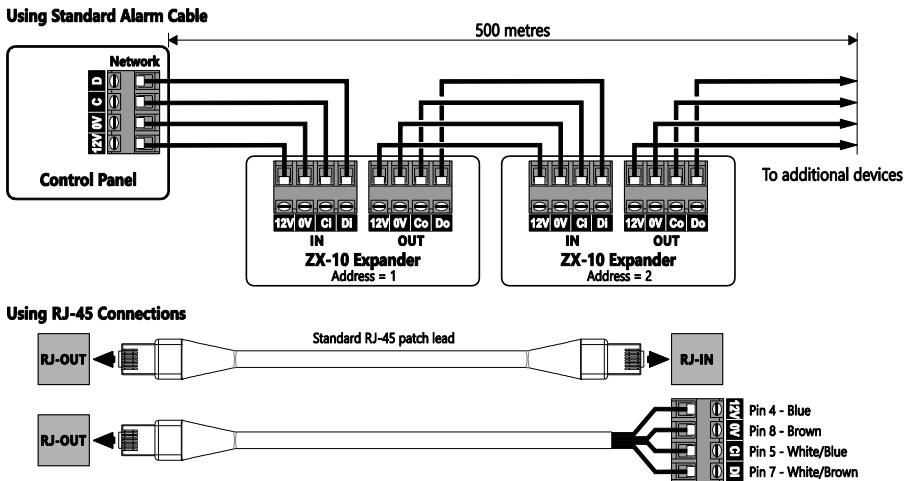
## 2. Installation

The ZX-10/ZX-10-PLUS may be connected in any combination of star or daisy chain through the network and can also be connected to the RJ45 connections on Orisec control panel and expansion modules.

## Wiring

Ensure the system is powered down and the battery is disconnected before wiring the ZX-10/ZX-10-PLUS.

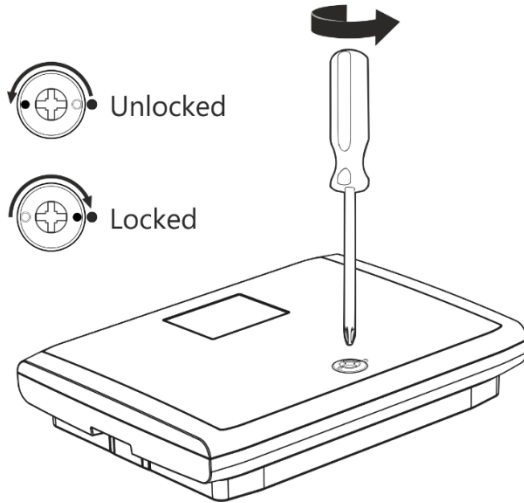
The network terminals are made up of four terminals integrating power and data. To ensure correct operation, all terminals must be connected to the corresponding terminals on the control panel or previous device.



# ZX-10 Installation

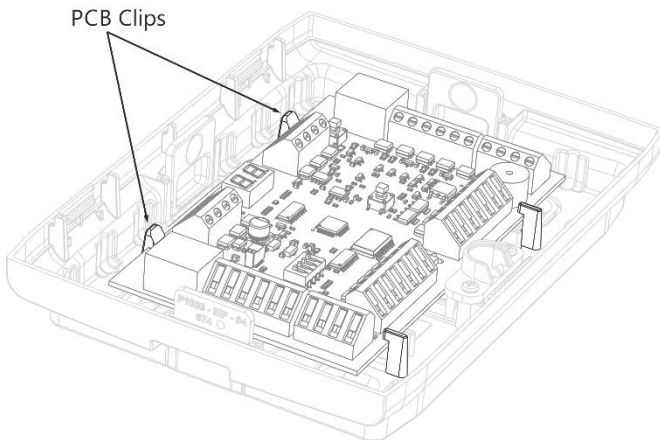
## Removing the front cover

Simply turn the front cover locking cam half a turn to the left (anti-clockwise) to unlock the front cover. Now remove the cover from the back, lifting from the bottom first:

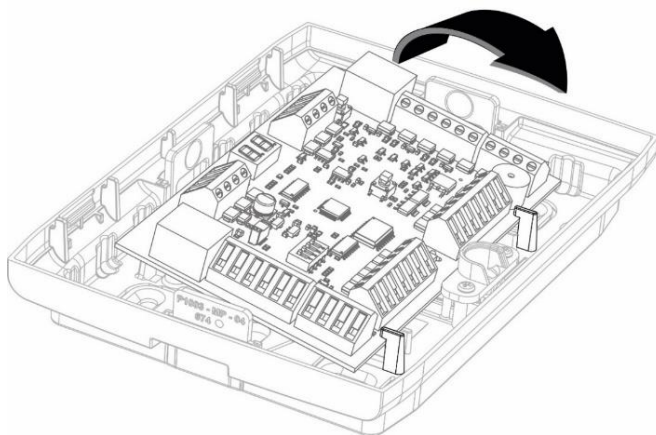


## Removing the PCB

The PCB is held in the back by two flexible clips on the top edge.



To remove the PCB bend the clips upwards and pull the PCB forward:

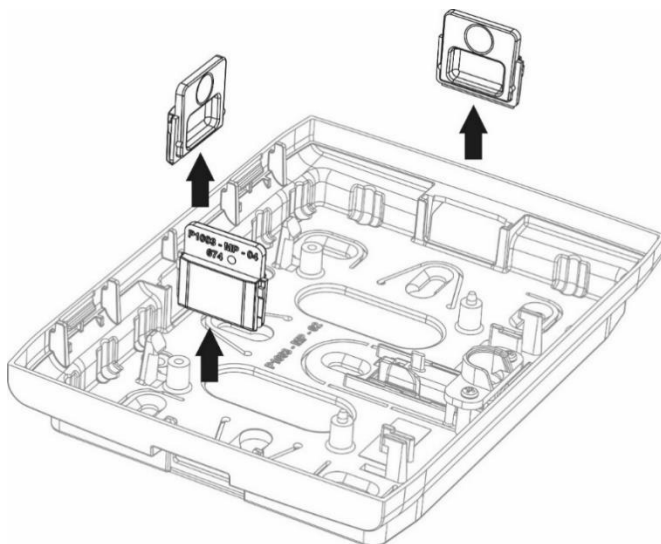


Follow the reverse procedure to fit the PCB and secure the front cover.

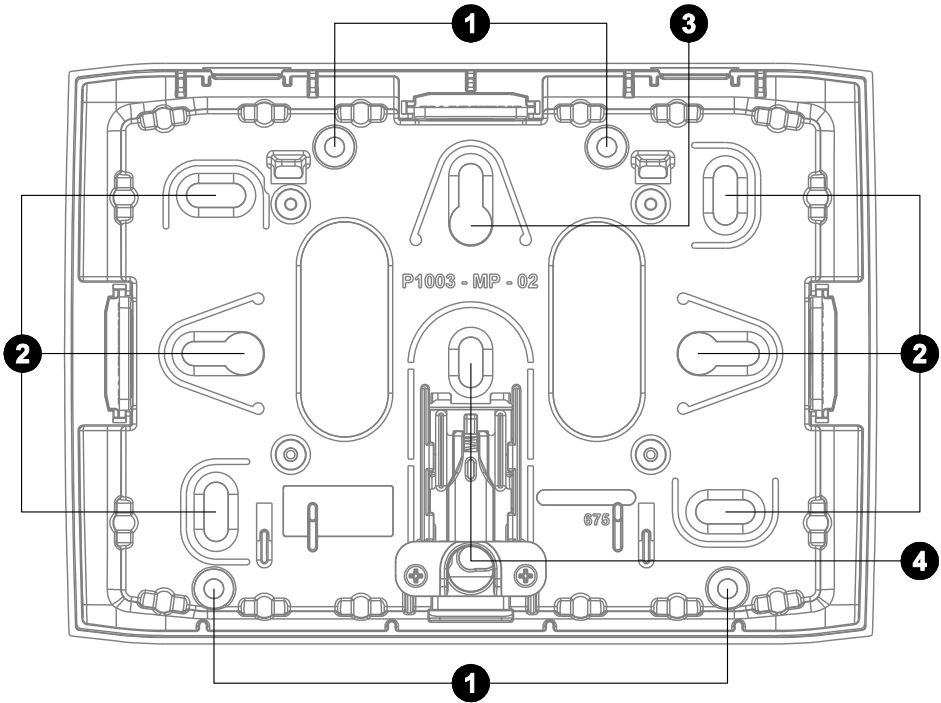
Note: The PCB may also be secured to the back using the enclosed screws.

## Removing tabs for cable trunking

The ZX-10 has three tabs which may be removed to provide access for cable trunking:



# Fitting the ZX-10 to the wall

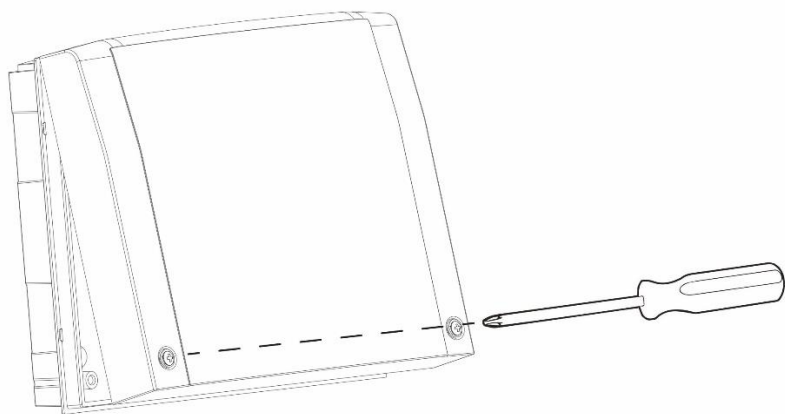


- 1. Additional mounting holes
- 2. Mounting holes
- 3. Keyhole
- 4. Rear tamper fixing hole (required for Grade 3)

# ZX-10-PLUS Installation

## Removing the front cover

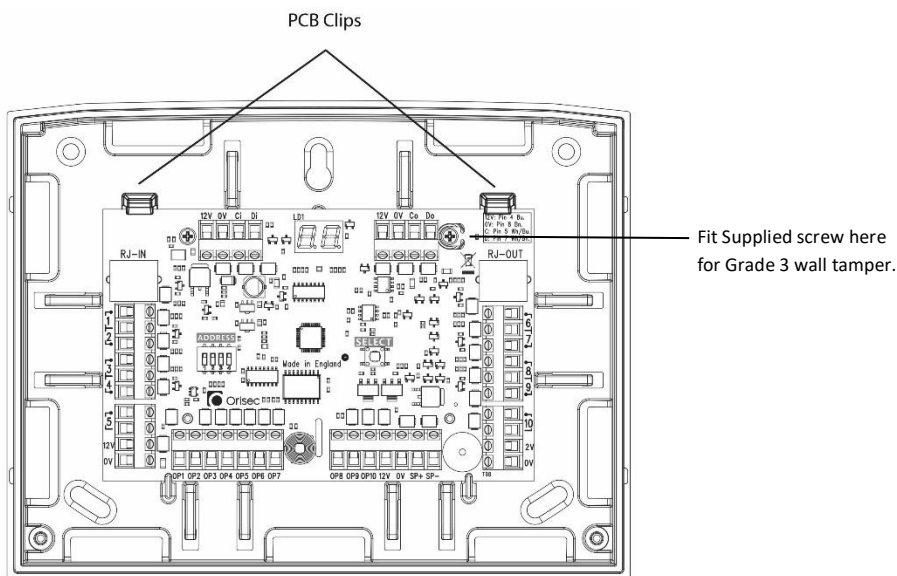
Undo the two screws and lift the front cover away from the bottom.



## Removing the PCB

The PCB is held in the back by two flexible clips on the top edge.

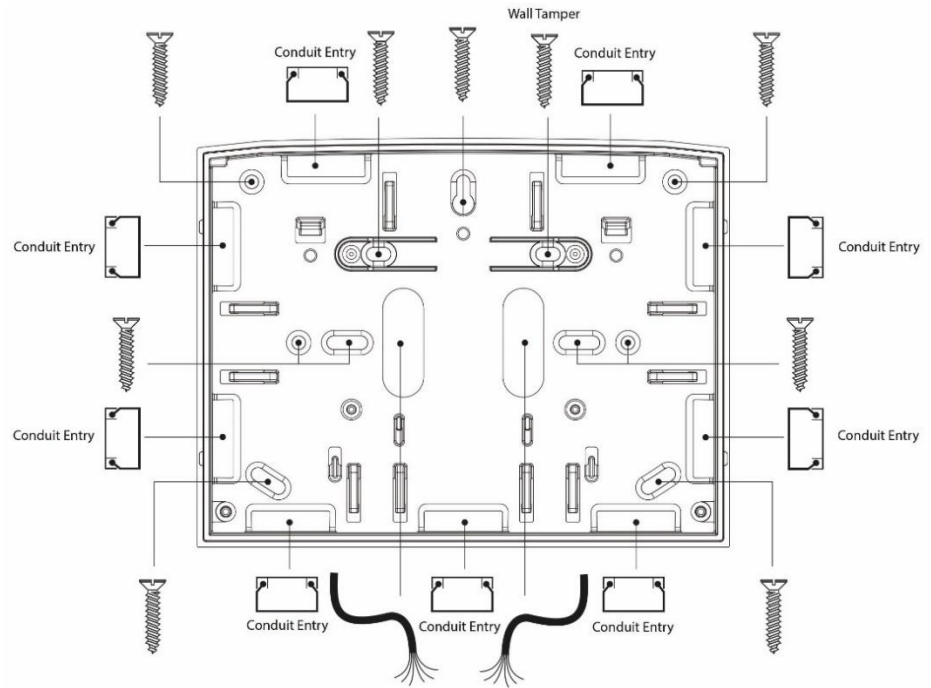
To remove the PCB bend the clips upwards and pull the PCB forward.



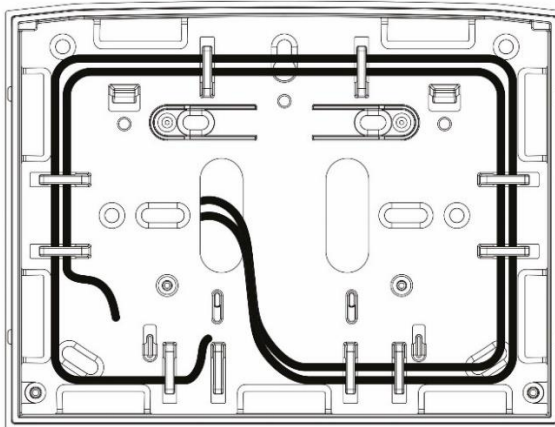


# Fitting the ZX-10-PLUS to the wall

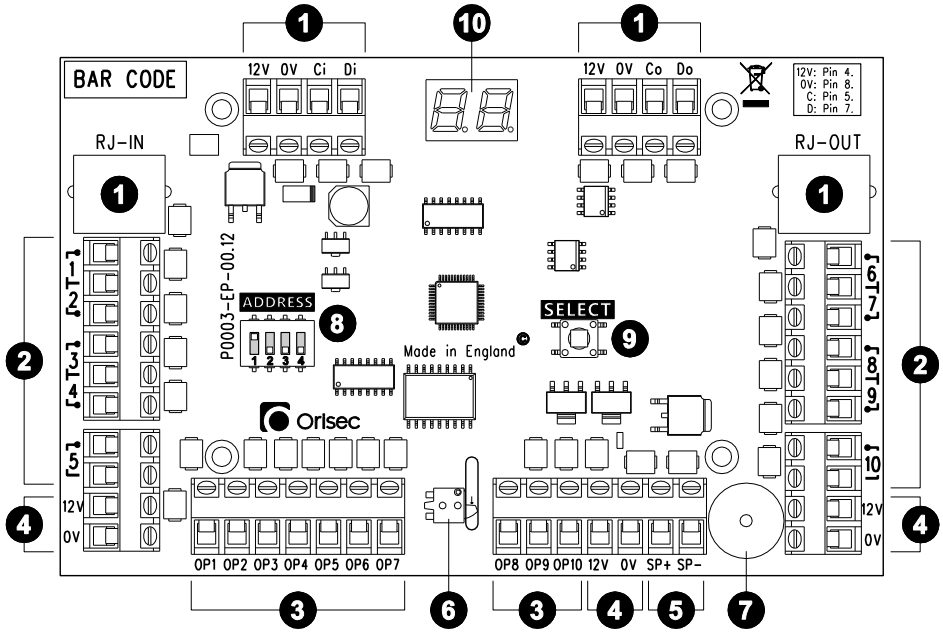
Multiple mounting screw and cable entry locations are provided. For Grade 3 Installations fit a screw in the Wall Tamper position.



Cable hooks are provided to aid routing.



### 3. PCB Layout



#### 1. Network Connections

The ZX-10 has Network In and Network Out connections both accessible via conventional terminal blocks and RJ-45 sockets. Any network devices connected to the ZX-10 should be connected to the Network Out connections.

#### 2. Zone inputs 1-10

Detection devices such as movement sensors, vibration and door contacts are connected to the zone input terminals.

#### 3. ZX-10 outputs 1-10

Fully programmable, switched negative outputs. Each output can be independently programmed. For full specifications, please see Section 5.

#### 4. Auxiliary 12V

Used for powering detection devices, the output is protected by a self-resetting fuse (500mA PTC).

#### 5. Speaker

Used for driving 16 Ohm extension speakers. Each type of tone can be enabled or disabled per each ZX-10.

## 6. Tamper Switch

The ZX-10E features a patented combined lid, screw and wall tamper switch here. The ZX-10E-PLUS features a lid tamper switch here and a separate wall tamper switch which requires fitting of the supplied PCB screw (see page 8).

## 7. Piezo Sounder

The piezo sounder generates low level alarm, key press, and warning tones. Each type of tone can be enabled or disabled per each ZX-10.

## 8. Address DIP Switch

Each ZX-10 must be assigned a different address using the Address DIP switch. Set the DIP switch to the required position. If addressed as 0, the address is defined by software utilising the 'SELECT' button, See Section 4 for more details.



Address 0  
(Software address)



Address 1



Address 2



Address 3



Address 4



Address 5



Address 6



Address 7



Address 8



Address 9



Address 10

## 9. Select button

The local select button allows for local programming and addressing of the ZX-10 through the on-board 7-segment display. The 7-segment display will show the following, which are toggled via the select button; Address, Current, Zone Status, Outputs, Sounders Test, CRC Errors and Lost Packets.

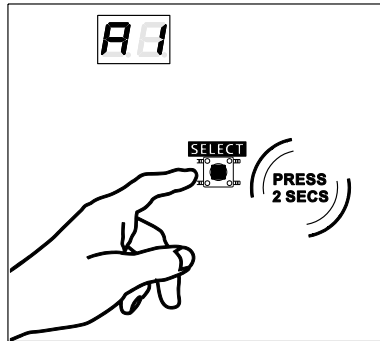
## 10. Dual 7-Segment Display

The 7-segment display will show the expander address when the control panel is in engineer's mode and scroll through the outer segments when operating normally. The display is also used in conjunction the select button to perform local programming and diagnostics, see Section 4 for more details.

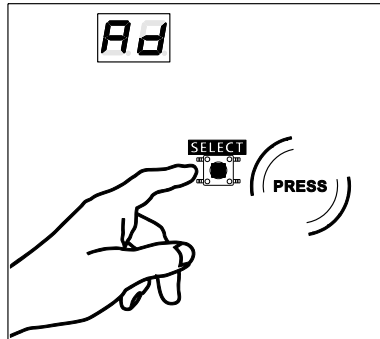
## 4. 7-Segment display & Select button

The 7-segment display shows the ZX-10 network address when the control panel is in engineer's mode and scrolls through the outer segments when operating normally.

1. With the system is in engineer's mode press and hold the 'SELECT' button' for 2 seconds for the main menu.



2. To scroll through the menu options, press the 'SELECT' button.



3. To select the displayed option, press the 'SELECT' button' for 2 seconds.

The menus are as follows;



**Ad - (Address)**

This menu allows for the expanders address to be set via software as opposed to hard addressed by DIP switches (Dip switches MUST be set as 0 to software address)



**Cu - (Current)**

This menu will show the current being drawn through the expander in mA (milliamp's) i.e. 460 mA will show as 46.

Please note the expander is not a calibrated meter for standards and regulations. Only take these readings as an indication.



**Ct - (Zone Status)**

This menu will show the current zone status as either H (Healthy) or A (Active) for the selected zone i.e. 4A indicates zone 4 on the expander is currently Active.



**Op - (Outputs)**

This menu will allow for the outputs on the expander to be inverted for testing purposes. To scroll to the required output, select the output that is required for testing. This will then show one of two states; N (Normal) or I (Inverted).



**St - (Sounder Test)**

This menu is for testing the on-board piezo and speaker terminals.

There are two different stages, F (Off) or O (On). When ON the piezo and speaker will be activated until switched OFF.



**Er - (CRC Errors)**

This menu will show the current CRC errors on the expander. Errors can be caused by voltage fluctuations, high resistance and disconnections.



**LP - (Lost Packet)**

This menu will show the number times that communication with the control panel has been lost.

# 5. Specifications

## Electrical

Input Voltage:	10 – 15Vdc
Current Consumption:	42mA
Zone Inputs:	10 fully programmable
Outputs:	10 fully programmable
Loudspeaker Output:	Minimum load of 16 Ohm
Auxiliary 12V:	Protected by 500mA electronic fuse (PTC)

## Environmental

Operating Temperature:	-10°C to +55°C
Storage Temperature:	-20°C to +60°C
Max. Humidity:	95% non-condensing
EMC:	Residential, Commercial, Light Industrial & Industrial

## ZX-10 Physical

Dimensions:	185mm x 132mm x 37mm
Housing:	3mm Acrylonitrile Styrene Acrylate (ASA)
Packed Weight:	400g

## ZX-10-PLUS Physical

Dimensions:	195mm x 151mm x 50mm
Housing:	3mm Acrylonitrile Styrene Acrylate (ASA)
Packed Weight:	450g



## Standards

## Security

PD 6662:2017

EN 50131-1:2006+A2:2017

EN 50131-3:2009

Grade 3, Class II

## EMC

Conforms to European Union (EU) Electro-Magnetic Compatibility (EMC) Directive 2014/30/EU and EN 50130-4:2011+A1:2014

EMC Environment: Residential / Commercial / Light Industrial / Industrial



CE: You can view the product EC Declaration of Conformity here:  
[www.orisec.co.uk/compliance](http://www.orisec.co.uk/compliance)



WEEE Directive: 2012/19/EU Compliant: This symbol indicates that according to local laws and regulations, this product should not be disposed of as municipal/household waste. Instead, it should be disposed of at the appropriate collection points designated for the recycling of electrical and electronic equipment, or returned to Orisec upon purchase of new replacement products. This will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

## RoHS

RoHS Directive: 2011/65/EU Compliant:

Orisec declares that this product complies with and conforms to RoHS legislation that it does not contain more than the agreed levels of: Lead (Pb), Cadmium (Cd), Mercury (Hg), Hexavalent chromium (Cr6+), Polybrominated biphenyls (PBB), Polybrominated diphenyl ethers (PBDE)

Manufacturer: Orisec Ltd, 1 St Crispin Way, Haslingden, Lancashire. BB4 4PW. United Kingdom.

## Warranty

The ZX-10 and ZX-10-PLUS are guaranteed against defects in material or faulty workmanship for a period of 2 years from the date of purchase.

Disclaimer: Orisec will not accept any liability based on a claim that the zone expander failed to perform correctly as it is a component part of an installation and not a complete intruder alarm system.

**[www.orisec.co.uk](http://www.orisec.co.uk)**

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