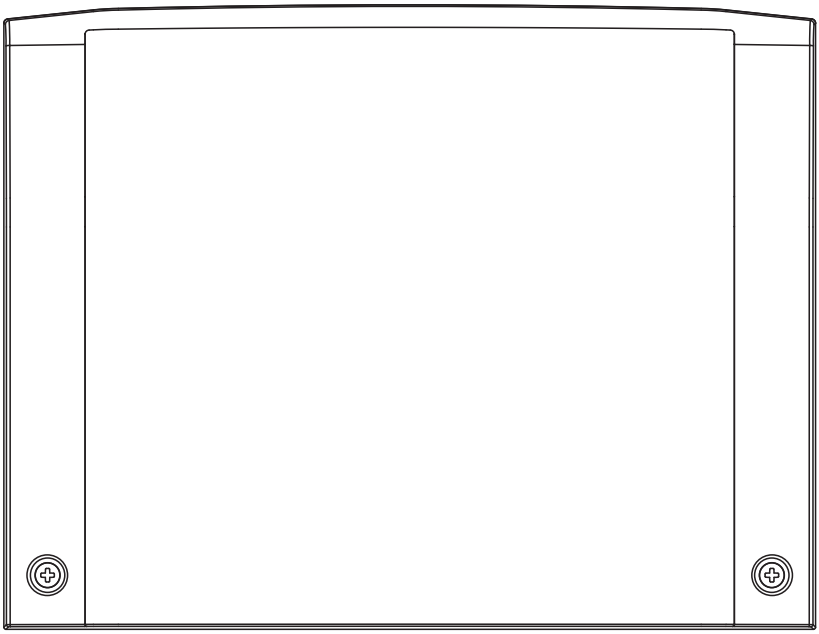
Orisec

# ROX-10

## Installation Instructions



Designed and Manufactured
in the United Kingdom

www.orisec.co.uk

# Introduction

The ROX-10 is a 10-way relay output module with additional connections for zones, 16 Ohm speaker, external prox reader and an Orisec W-AP (Wireless Access Point).
The ROX-10 is for use with Orisec control panels via the panel's network connections or via a wireless connection (Using the W-AP).
Additionally, the ROX-10 can also be used standalone for connections to 3rd party devices utilising the inputs as triggers.

## Features

- 10x 1A 24V NO/NC Relay Outputs
- 10 Wired Zone Inputs
- 2 Way Wireless Communications*
- Simple Enrolment*
- Frequency Hopping Technology*
- Stand-alone or with Orisec Panel Operation
- Learn up to 20 Remote Key Fobs*
- Weigand Interface for optional connection to Orisec PRX-EXT prox reader
- Learn up to 20 Weigand cards when using the PRX-EXT
- Grade 3/2*
- Can Act as a Wireless Repeater*
- Onboard Piezo
- 16 Ohm Speaker Connections

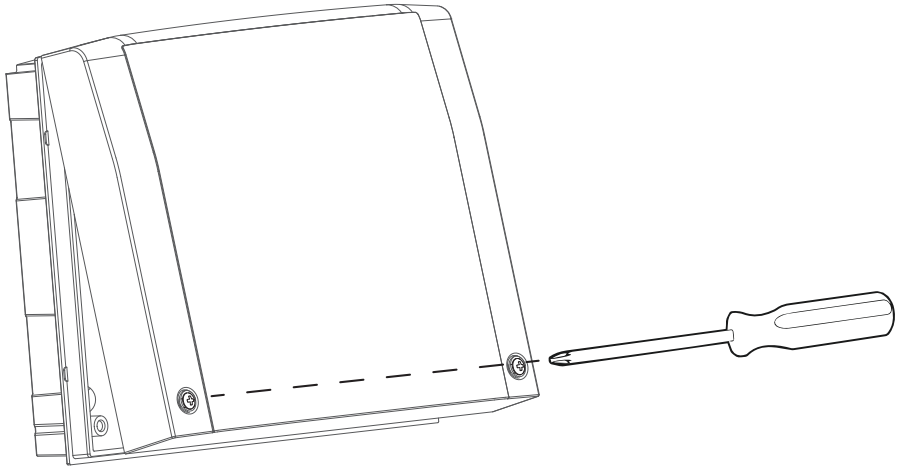
*When used with an Orisec W-AP.

## Usage Examples

- CCTV
- Garage Doors
- Sprinklers
- Outdoor Lighting
- Outdoor Siren
- Electric Gate
- Outdoor Christmas Tree Lights
- Heating
- Stop Tap
- Remotely Trigger Digital Communicators, eg CSL Dual Com

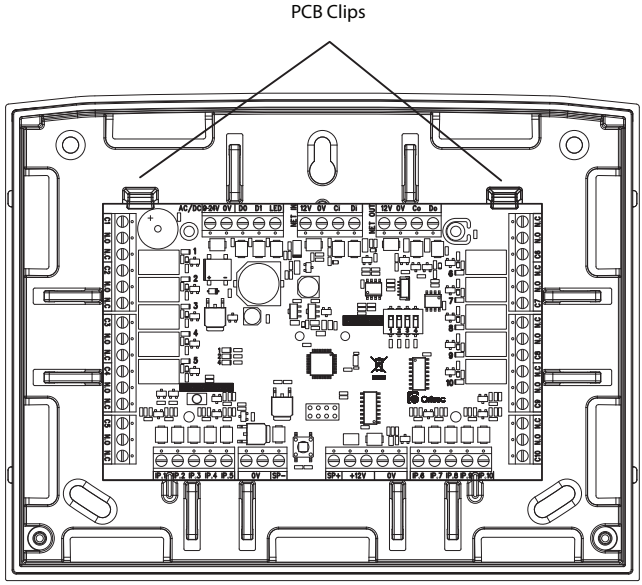
# ❶ Removing the Front Cover

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



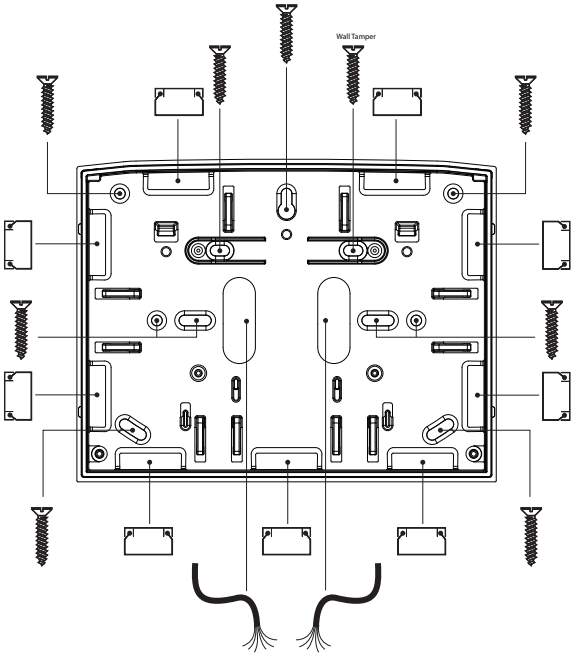
# ❷ Removing the PCB

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.

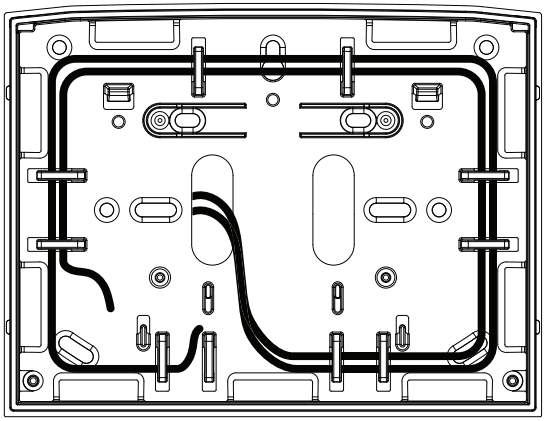


# ❸ Fitting the ROX-10 to the Wall

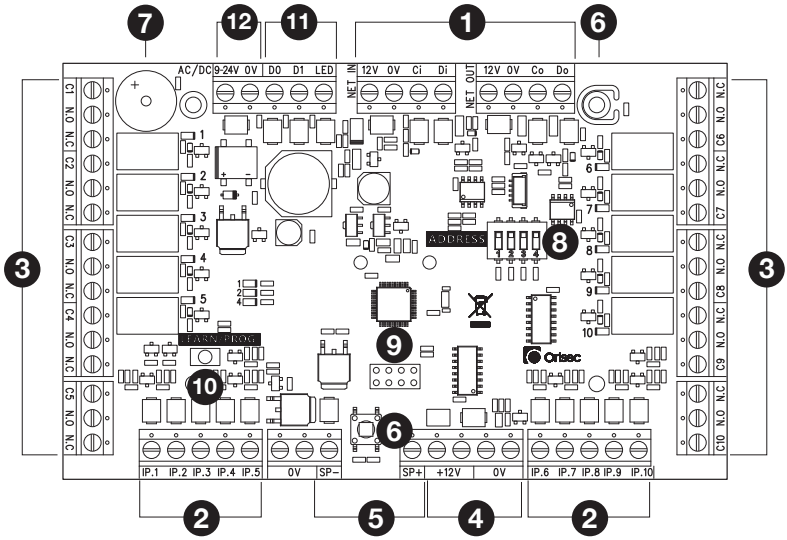
Multiple mounting screw and cable entry locations are provided. For Grade 3 Installations fit a screw in the Wall Tamper position.




Cable hooks are provided to aid routing.



# 4 PCB Layout




1. Network Connections

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

2. Trigger/ Zone inputs 1-10

Can be used as standard zone inputs (when connected via the Orisec network or via the W-AP) or as triggers for the relays in stand alone mode. The inputs can be configured for use.

3. Relay outputs 1-10

Fully programmable, 10 x 1A 24V NO/NC Relay Outputs.

4. Auxiliary 12V

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

5. Speaker

Used for driving 16 Ohm extension speakers when connected in network mode.

6. Tamper Switch
The ROX-10 features a lid tamper switch here and a separate wall tamper detection which requires fitting of the supplied PCB screw.

7. Piezo Sounder
The piezo sounder generates low level alarms, entry/exit tones and warning tones when connected in network mode.

8. Address/Menu DIP Switch
Network mode - Each ROX-10 or expander (ZX-10/ PZX-10) must be assigned a different address using the address DIP switch. Set the DIP switch to the required position.
Standalone mode – The address bit switch is used to program the ROX-10, set wiring types, relay timeouts, Wiegand output and zone debounce timers.

9. Optional W-AP
The Orisec W-AP can be added to the ROX-10 by plugging the W-AP on to this connector. If using a W-AP the ROX-10 is then wireless back to an Orisec control panel, acts as a repeater and allows 2 zone inputs to be used for hard wired zone connections.

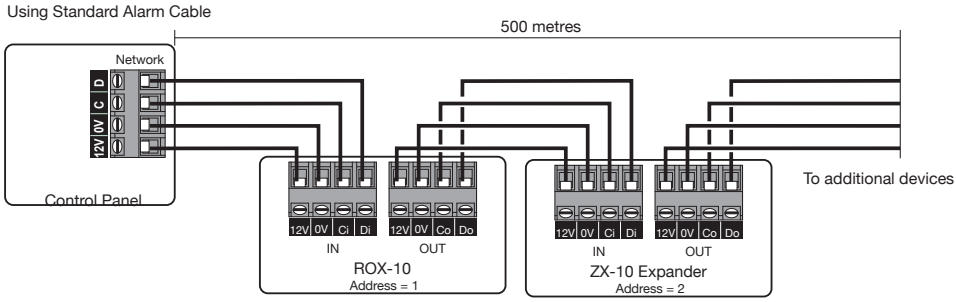
10. Learn/Program button
Wireless mode – This button is used to learn in the ROX-10
Standalone mode – This button is used to alter an option when used with the address switch.

11. External Prox connections
Used for connecting 3rd Party external prox units or Orisec PRX-EXT (recommend)

12. 12-24V Connections for Standalone and Wireless modes
Used for powering the ROX-10 in standalone and wireless modes.

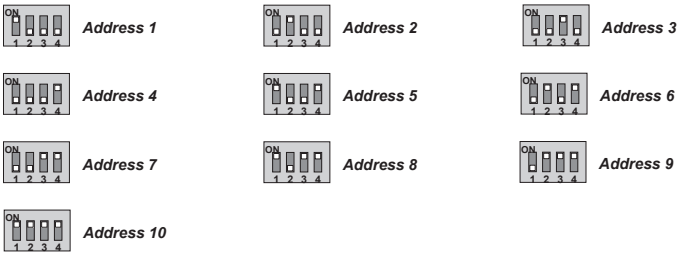
# 5 Network Mode

Ensure the system is powered down and the battery is disconnected before wiring the ROX-10. 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.




**Address setting**

Set the address as required, the ROX-10 takes a zone expander space on the control panel.




N.B. The control panel determines how many ROX-10s can be installed –
CP-10, CK-10, CT-10 = 0
CP-20, CK-20, CT-20 = 1
CP-30 = 2
W-CP-40 E/K/T = 3
CP-50 = 4
CP-60, CK-60, CT-60 = 5
CP-100 = 9
CP-200 = 19

Please refer to the relevant control panel installation manual for programming outputs and zone inputs.

**Relay Programming**

To program the Relays on the ROX-10 please refer to the “Zone to Output Map” in order to determine the output allocation, e.g., if the ROX-10 is learnt to Zone 11 on the CP-20 then the relay is programmed via Expander 1 Output 1. Please refer to the relevant control panel installation manual for details on output programming.

**Zone Programming**

The ROX-10 can use 2 zone inputs when used in wireless mode.

To enable the zone inputs on the ROX-10 select the “Setup Wireless Zones” menu then select the zone that the ROX-10 is assigned to. Scroll down and enable the “Contact 1” and/or “Contact 2” option.
The zone inputs will now operate as a Normally Closed zone. If Normally Open operation is required scroll down and enable the “Con 1 N/O” option. (only available for zone 1).

Program the zones as required in the “Zone Programming” menu. Please refer to the relevant control panel installation manual for further details.

**Zone to Output Map**

| | CP-10 | CP-20 | CP-30 | CP-50 |
|---|---|---|---|---|
| Zone 1 | Panel output 1 - 3 | Panel output 1 - 5 | Panel output 1 - 10 | Panel output 1 - 10 |
| Zone 2 | Panel output 2 - 3 | Panel output 2 - 5 | Panel output 2 - 10 | Panel output 2 - 11 |
| --- | | | | |
| Zone 11 | N/A | Expander 1 outputs 1 - 10 | Expander 1 outputs 1 - 10 | Panel output 11 - 20 |

# 6 Wireless Mode

**Enrolling onto the Control Panel**

Ensure the ROX-10 with W-AP is powered from a suitable 12-24 VDC power source.
The ROX-10 is then learnt onto the control panel as follows:

- Enter engineering mode
- Select “Setup Wireless Zones”
- Navigate to an available zone – see “Zone to Output Map”
- Scroll down to “ID”
- Press the “Learn” button on the ROX-10 for 1-2 seconds.

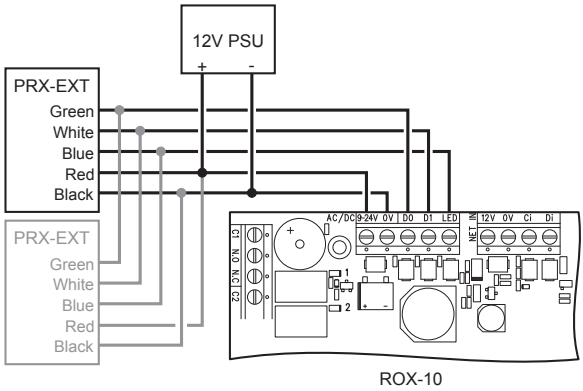
Once the ROX-10 has been learned to the control panel it will automatically operate as a wireless repeater. Products that can act as repeaters cannot themselves be repeated. For a full list of products that can be repeated please see this link: www.orisec.co.uk/compatible-products

NOTE: The ROX-10 can only be assigned to zones 1-50 on the control panel. It is highly recommended to leave an available slot each side of the ROX-10. For Tamper monitoring on the ROX-10 the zone type must be programmed as “Wireless Tamper”. On the keypad: Enter engineering mode, Select “Programming menu”, Select “Zone programming”, Scroll to the ROX-10 zone, Select Zone Type 32 “Wireless Tamper”

# 7 External Prox Reader

One or more PRX-EXT can be connected to the ROX-10 to provide wireless connectivity of the external prox reader(s). Once connected the following features are available:

- Arm and Disarm using Orisec Prox tags
- Activate the ROX-10 relay when a valid tag is presented (can be used to trigger a door strike)



ROX-10

# 8 Standalone Mode

Ensure the ROX-10 is powered from a suitable 12-24 VDC power source.
Once powered the device can be programmed utilising the ‘Address’ switch and ‘Learn/Prog’ button.
To toggle through the options simply press the ‘Learn/Prog’ button until you get the desired colour selection.

**Locally Learning Cards & Fobs to Relays**

1. Set dip switch to 0
2. Press and hold “Learn/Prog” button for 3 seconds LED 2 (yellow LED) will start flashing.
3. Select the relay number to be controlled via the keyfob/ prox tag using dipswitch (1-10)
4. The LED 4 (Green LED) will flash to indicate it is in learn mode (pulse)
5. Once the keyfob/ prox tag has been learnt LED 1 (Red LED) and LED 4 (Green LED) will be flashing.
    a. Press the “Learn/Prog” to switch to latching relay (LED 1 – Red and LED 4 – Green) or pulsed (LED 4 – GREEN)
6. Once the device is learnt set the dipswitch back to 0 and allow 10 seconds for the menu to timeout.

**Locally Deleting Cards & Fobs from the ROX-10**

1. Set dip switch to 0
2. Press and hold “Learn/Prog” button for 3 seconds LED 2 (yellow LED) will start flashing.
3. Select the relay number to be deleted via the keyfob/ prox tag using dipswitch (1-10)
4. LED 1 – Red and LED 4 – Green will be flashing.
5. Press the “Learn/Prog” for 3 seconds
6. The LED 4 will be flashing.
7. To exit the menu, set the dipswitch back to 0 and allow 10 seconds for the menu to timeout.

# 9 Programming Settings

| Address Switch | Menu | Options (Default setting in bold) | LED |
|---|---|---|---|
| 0 | Run Mode | | |
| 1 | Default Zone Wiring | Normally Closed:<br>Normally Open:<br>**2K2/4K7:**<br>4K7/6K8:<br>3K3/3K3:<br>1K0/1K0:<br>8K0/8K0: |  |
| 2 | Zone Debounce Time | 50 mS:<br>100 mS:<br>**250 mS:**<br>400 mS:<br>1 Sec: |  |
| 3 | Wiegand Output Mode | **26 BIT:**<br>34 BIT: |  |
| 4 | Relays 1 - 5 Pulse time | Latching:<br>3 Seconds:<br>**5 Seconds**:<br>10 Seconds:<br>30 Seconds:<br>60 Seconds:<br>90 Seconds: |  |
| 5 | Relays 6 - 10 Pulse time | Latching:<br>3 Seconds:<br>**5 Seconds**:<br>10 Seconds:<br>30 Seconds:<br>60 Seconds:<br>90 Seconds: |  |
| 6 | Spare | Spare: |  |
| 7 | Spare | Spare: |  |
| 8 | Spare | Spare: |  |
| 9 | Spare | Spare: |  |
| 10 | Spare | Spare: |  |

Once the required programming selections have been made set the address switch back to 0 (run mode).

# Specifications

| | |
|---|---|
| Electrical | |
| Supply Voltage: | 12 - 24 V AC or DC |
| Current Consumption: | |
| Relays off: | 42mA |
| Relays on: | 142mA |
| Relay Ratings: | 10x 1A - 24V, NO/NC |
| Loudspeaker Output: | Minimum load of 16Ohm |
| Auxilary 12v: | Protected by 500ma electronic fuse |
| Frequency: | 868.65 MHz and 869.15 MHz*. |
| Typical Wireless Range: | > 150m line of sight* |
| | |
| Environmental | |
| Operating Temperature: | -20°C to +55°C |
| Storage Temperature: | -35°C to +60°C |
| Max. Humidity: | 95% non-condensing |
| | |
| Physical | |
| Product Weight: | 370g |
| Packed Weight: | 470g |
| Dims: (hwd) mm | 151 x 195 x 50 |
| Material: | 3mm ASA |
| Maximum Humidity: | 95% non-condensing |

* When used with W-AP

BS EN ISO 9001 : 2015 Registered Firm
Certificate No. GB2005228

International Accreditation Board
Registration No. 0044/1

**www.orisec.co.uk**


UK Based Technical Support:
t: +44 (0) 1706 398740
e: support@orisec.co.uk


# Standards

Security

PD 6662:2017

EN 50131-1:2006+A3:2019 / BS EN 50131-1:2006+A3:2020

EN 50131-3:2009

Grade 3, Class II (or Grade 2 if W-AP is used)

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 UKCA

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 ROX-10 is 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 ROX-10 failed to perform correctly as it is a component part of an installation and not a complete intruder alarm system.



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