



## **Rugged Remote Control**

**'One Transmitter' can control 'Many Receivers'**

**Receiver Unit Has '4' Switched Outputs**

**Waterproof Receiver to IP68 (3m depth!)**

**Transmitters Available with 1, 2, 4, 8, 16 Switches.**

### **Description**

A Rugged Radio Release system, designed for continuous operation 365 days of the year. This design incorporates IP rated enclosures with 'resin dipped' circuit boards for protection against water ingress.

Each receiver has four independent outputs which can easily be paired with individual switches from one or several transmitters. Building a bespoke control system is easy with transmitters containing up to 16 switches.

Supplied ready to operate, the only connections required are to the receiver/decoder. All connections are via screw terminals.

## Part Numbers



Part Number	Description	Freq (MHz)	Range* (Metres)
FireTRAP-S1	FM RC System 1 ch	433.92	200
FireTRAP-S2	FM RC System 2 ch	433.92	200
FireTRAP-S4	FM RC System 4 ch	433.92	200

## Additional Transmitters



Part Number	Description	Freq (MHz)	Range* (Metres)
FireTRAP-TX1	Transmitter 1 switch	433.92	200
FireTRAP-TX2	Transmitter 2 switch	433.92	200
FireTRAP-TX4	Transmitter 4 switch	433.92	200
FireTRAP-TX8	Transmitter 8 switch	433.92	200



Part Number	Description	Freq (MHz)	Range* (Metres)
205C16-433F	Transmitter 16 switch	433.92	200

\* Range stated is optimum, direct line of sight. In worst conditions this can be reduced significantly.

## Installation Notes

Firmly fix the receiver unit approx. 2 metres from the ground, ideally in direct sight of the transmitter. Obstacles between transmitter and receiver will reduce range!

## Pairing a Transmitter to a Receiver

Each transmitter has a unique identity. Each time a switch is pressed, the transmitter emits a highly secure RF signal (appears as a random encrypted data stream). The Receiver can learn this encrypted signal and allocate to an output.

Any transmitter switch may be paired to one or many of the receiver's outputs, or a transmitter single switch may be paired to any number of receiver's outputs to enable a powerful and flexible remote control system.

The only limitation is that each receiver has a maximum capacity of 15 pairings, these can be from the same or any number of transmitters.

Hint: the same transmitter may be taught to any number of receivers to create 'master keys'.

## To learn a new transmitter switch follow these procedures;

Any transmitter button can be learnt to one or many of the receiver output relays. Each button must be learnt to each relay individually by following this procedure:

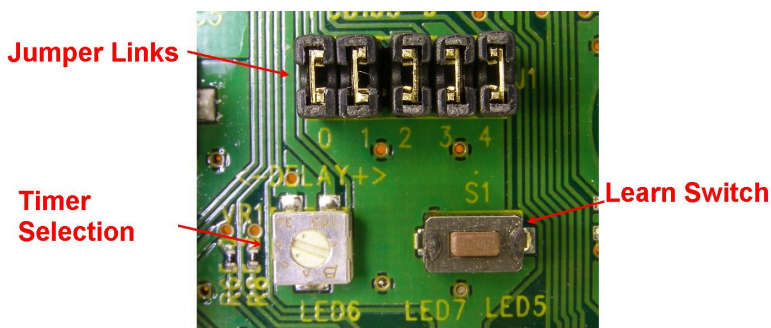
1. To select the receiver output relay to learn to:
  - a. Briefly press the receiver Learn switch (SW1) once
  - b. The Learn LED will flash once to indicate output relay 1 is selected
  - c. After the LED stops flashing, press the Learn switch again to select the next relay channel
  - d. Repeat step c until the required output relay is selected.
2. Press the button on the transmitter you want to learn to the relay output.
3. The Learn LED will then illuminate, press the same transmitter button again.
4. The Learn LED will then flash to indicate learning is complete.
5. To test the operation, press the transmitter button again and you will hear the relay 'click' as it operates.

## Erasing Receivers Memory

1. Press and hold the receiver Learn Switch for approx 10 seconds.
2. When the Learn LED turns OFF all memory is erased

**NOTE:** You cannot erase individual Transmitter encoders

## Receiver Outputs



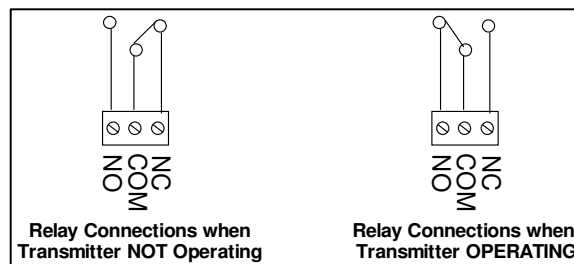
The jumper links configure the outputs to be Momentary, Latching or Timed.  
The jumper links are made / removed by a small link 'cap' placed over the pin header.

Jumper Links (LK2 - 4)	Outputs 2 - 4
Open	<b>Mom</b> (The Output operates for as long as the transmitter switch is held on)
Connected	<b>Latch</b> (The Output changes state each time the Transmitter is operated)

LK0	LK1	Relay Outputs
Open	Open	Output 1 Momentary
Open	Connected	Output 1 Latching
Connected	Open	<b>All Outputs</b> fixed to 1/2 Second Momentary o/p
Connected	Connected	Output 1, 0 to 5 minutes using Timer selection Potentiometer.

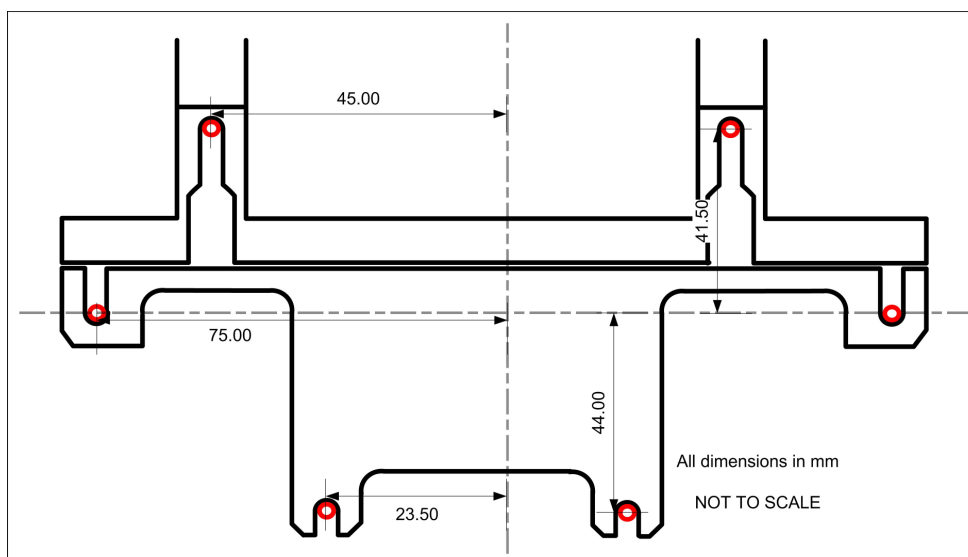
### Relay Output Connections

Upto 4 relays are provided on the receiver output. The relay output provides a 'switch' output which operates when the transmitter switch is pressed. Each relay has the connections as below.



The outputs are driven from a Microcontroller and can be customised to specific requirements.

### Receiver Mechanical Dimensions



# RadioTrap 'FIRETRAP' RADIO RELEASE

## Notes for use when connecting the Remote Control System to a Clay Trap Release

This system is supplied complete with cable in order to connect to the Clay Trap Release.

**Warning : Not all Clay Traps have the same wiring convention!**

The system is pre-wired (as diagram below) to operate with most trap releases, before connecting, CHECK YOUR CONNECTIONS. (using a voltmeter) if you are in any doubt, DO NOT CONNECT THE SYSTEM, consult a qualified Electrician. Although the system operates on 12/24V damage may occur to the receiver unit if wrong connections are made.

### Installation Notes

1. **Connect Power to the Receiver unit.**

The receiver unit requires the following connections to operate

12V supply (Brown wire as supplied)

0V Supply (Yell/GRN wire as supplied)

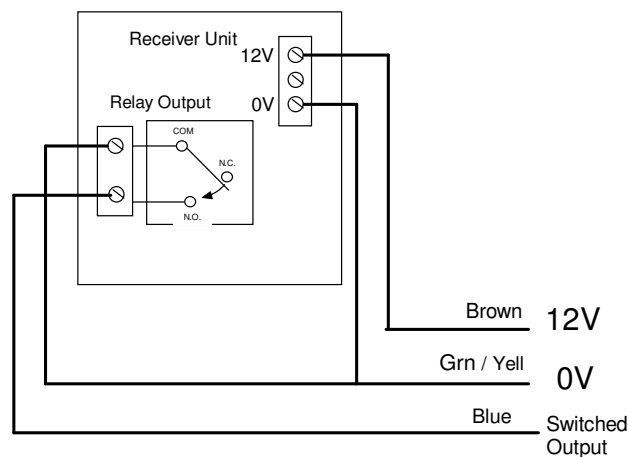
These may not match the wire colours on your Trap!

2. When the Receiver unit has power connected the Power LED will illuminate. This must be 'on' for the system to operate.

3. Follow the learn procedure detailed on page 3 to learn the transmitter to the receiver unit

4. **Check the Wiring to the Trap**

The receiver has been pre-wired to the following Circuit



5. When operated, the receiver provides an output (Blue Wire) which momentarily connects to 0V.

6. **Alternative Wiring** : The switched output may be connected in several ways, please see the 'Relay Output Connections' section. If in doubt consult a qualified electrician.

## Technical Specifications

### FireTRAP Transmitter

Enclosure Rating: Standard IP40 (TBC)  
 Battery Type: CR2032 (supplied)  
 Dimensions: 90 x 54 x 27 mm (not including antenna)

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage		3V		V
Supply Current				mA
Frequency: FireFLY: Wideband FireBLADE: Narrowband	432.90 434.450	433.920 434.525	434.10 434.600	MHz
RF Output Power (ERP) @ 433 MHz	-	3	10	mW

### Receiver Decoder

Enclosure Rating IP68  
 Dimensions 169 x 132 x 85mm (not including antenna)  
 Storage Temperature: -10 to +70° Celsius.  
 Operating Temperature: 0 to +55° Celsius.

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Supply Voltage for +12 v	10	12.0	16	Vdc
Supply Voltage for +24 v	22	24.0	28	Vdc
Relay Rating* (230Vac / 30Vdc ) RLY1-4		5	12	A
Supply Current : Quiescent All relays operating*		16 140		mA
Time delay from Tx on Switch to Rx Relay operation			100	mS
Time delay from Tx sw relax to Rx Relay release			300	MS

**\*The relay contacts in this unit are for functional use only and must not be used for isolation purposes**

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