



Features

- 1,2,4 or 8 Channel Systems
- 12 - 30Vdc Supply
- Range up to 100 metres
- Reliable FM Technology
- High Security RF Protocol
- 'Easy Learn' Tx Encoder Feature
- Easy Installation Via Screw Terminals.
- 4 Relays 6A @ 230Vac
- Momentary / Latched Outputs
- Any Switch 'Maps to Any Relay Output
- Receiver Rated IP68
- Versatile operation modes: Many to Many, One to Many, Many to One.
- EMC and FCC part15 compliant

Applications

- Lighting Control
- General Purpose Remote Switching
- Industrial remote Switching
- Access Control

Description

A Range of general purpose remote control systems

Installation simply requires connections to power supply and the output relay screw terminals. The output relays are activated by the button press on the transmitter encoder.

Housed in a rugged IP68 weatherproof enclosure, the receiver has the capacity to learn up to 15 transmitter button pairings. These are memorised even if the power is removed.
Each individual switch on each of the transmitters may be paired with any or all of the receiver relay outputs.
The decoder is supplied in an IP68 rated enclosure with Cable Gland and wall mounting lugs.

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HORNET Systems LOS Range 100m



Part Number	Description	Freq (MHz)	Range** (Metres)
HORNET-S1	FM RC System 1 ch	433.92	100
HORNET -S2	FM RC System 2 ch	433.92	100
HORNET -S4	FM RC System 4 ch	433.92	100

Additional HORNET Transmitters



Part Number	Description	Freq (MHz)	Range** (Metres)
HORNET-TX1	Transmitter 1 switch	433.92	100
HORNET -TX2	Transmitter 2 switch	433.92	100
HORNET –TX3	Transmitter 3 switch	433.92	100
HORNET -TX-IPKIT	'O' Ring, Seals Transmitter to IP65		

VIPER Systems LOS Range 100m



Part Number	Description	Freq (MHz)	Range** (Metres)
VIPER-S1	FM RC System 1 ch	433.92	100
VIPER -S2	FM RC System 2 ch	433.92	100
VIPER -S4	FM RC System 4 ch	433.92	100

Additional Transmitters for use with VIPER Systems



Part Number	Description	Freq (MHz)	Range** (Metres)
FIREFLY-TX1	Transmitter 1 switch	433.92	100
FIREFLY-TX2	Transmitter 2 switch	433.92	100
FIREFLY-TX4	Transmitter 4 switch	433.92	100
FIREFLY-TX16	Transmitter 15 switch	433.92	100
FIREFLY-TX-IPKIT	Belt Clip and 'O' Ring, Seals Transmitter to IP67		

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

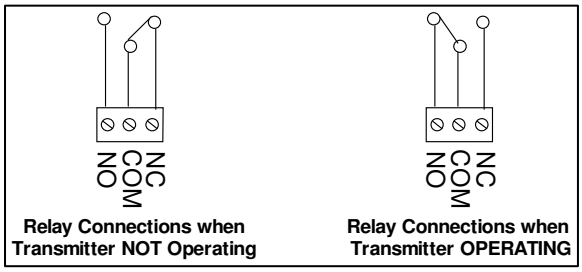
Custom Options

These systems may be supplied as OEM units. Both transmitter and receiver use overlay stickers as part of the assembly which may easily be customised to incorporate any other logo etc. Please contact our sales dept for further information.

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Data Outputs

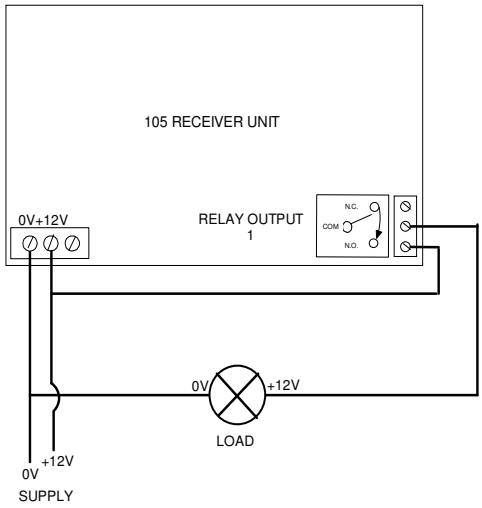
Each output relay provides an isolated switch. Connections are Common (COM), Normally Open (NO) and Normally Closed (NC).



Connecting a Relay output to an Application

Below is a simple example showing one possible way to wire a relay in order to give switched power to an external load:

When the relay is energised the 'COM' connects to 'NO' and power is applied to the Load.



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'.

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To Learn a New Transmitter switch follow this procedure

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. 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

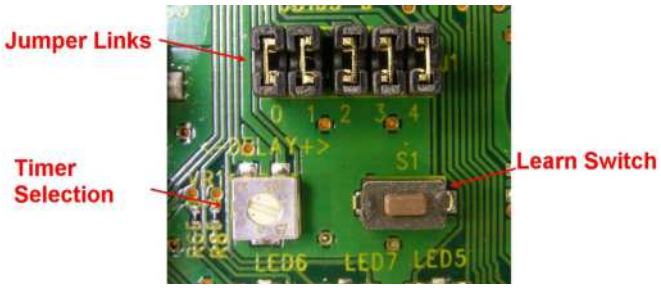
1. Press and hold the receiver Learn Switch for approx 10 seconds.
2. When the Learn LED turns OFF all memory is erased
3. This is factory default state which is indicated by all output LED's flashing together.

NOTE: You cannot erase individual Tx encoders

Configuring 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	Outputs 1 - 4
Open	**Mom** (The Output operates for as long as the transmitter switch is held on)
Connected	**Latch** (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**	**All Outputs** fixed to ½ Second Momentary o/p
Connected	**Connected**	

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Technical Specifications

Transmitters : HORNET

Enclosure Rating: Standard IP40 (TBC)
With IPKit IP65 (TBC)
Battery Type: GP23AE, (supplied)
Dimensions: 66 x 36 x 17mm

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage		12		V
Supply Current (transmitting)		8		mA
Frequency:	432.90	433.920	434.10	MHz
RF Output Power (ERP) @ 433 MHz	-	3	10	mW

Transmitters : FireFly

Enclosure Rating: Standard IP40 (TBC)
With IPKit IP65 (TBC)
Battery Type: CR2032 (supplied)
Dimensions: 90 x 54 x 27 mm

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

Receiver Decoder

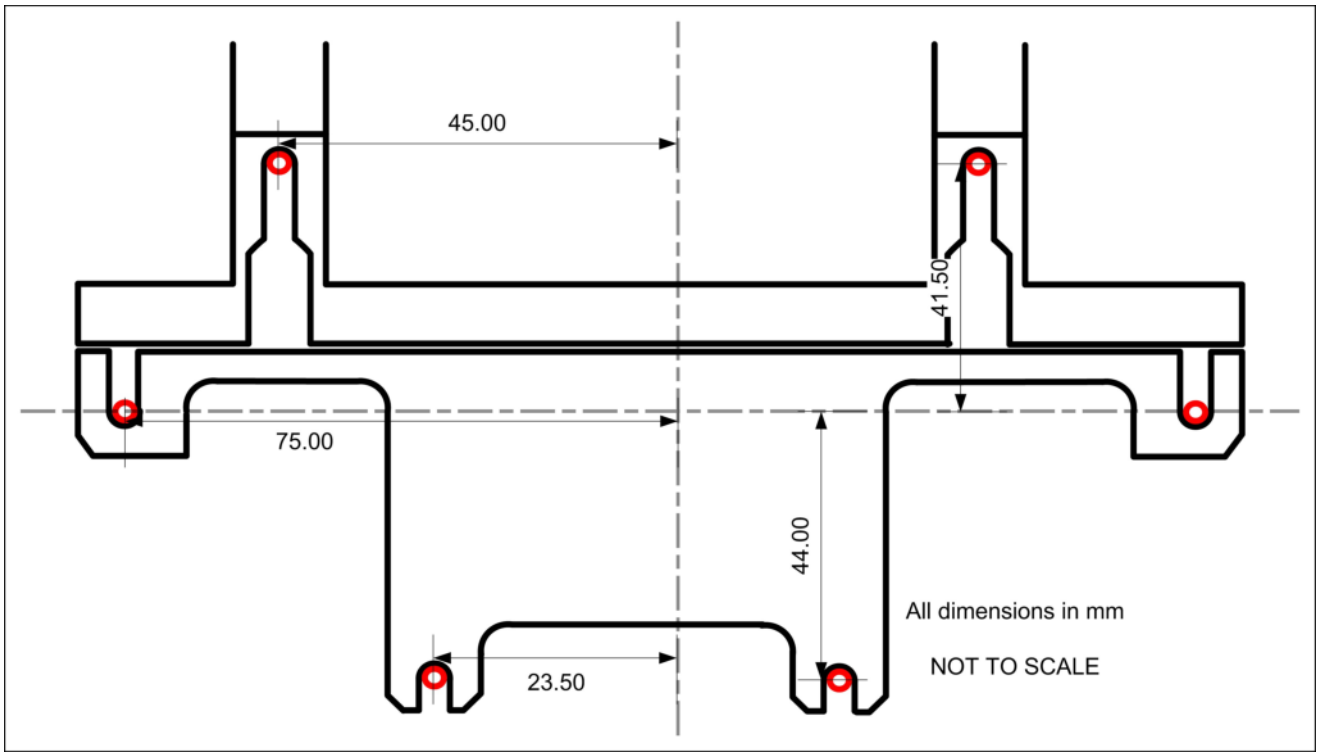
Enclosure Rating IP68
Dimensions 169 x 132 x 85mm (not including antenna)
Storage Temperature: -10 to +70° Celsius.
Operating Temperature: 0 to +55° Celsius.

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Supply Voltage for +12 v	10		30	Vdc
Relay Rating* (230Vac) RLY1-4		5	12	A
Supply Current : Quiescent All relays operating*		10 140		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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Receiver Mechanical Dimensions



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