



VIPER Remote Control Systems

- 433MHz FM Technology
- 1 – 4 Channels each 1000W Rated
- upto 150metres Range
- 12-30Vdc / 230Vac supply
- Waterproof (IP68)
- High Security RF Protocol
- 4 Relays 5A @ 230Vac
- Outputs Momentary or Latching
- Any Switch Map to Any Relay Output
- Systems supplied 'ready to Go'
- EMC / FCC Compliant for Europe / USA



Applications

- General Purpose Remote Switching
- Garage Doors
- Electric Gates, Shutters
- All known Lighting types (LED, fluorescent, halogen, tungsten, xenon; basically all lighting types).
- Access Control

Description

Housed in a rugged IP68 weatherproof enclosure, The VIPER system is ideally suited to any outside Remote switch requirement.

Each receiver has 4 relays, using the 'easy-learn' process each relay can be controlled from any switch on any transmitter.

Installation is by screw terminals to the power supply, and the output relay contacts. The output relays are activated by the button press on the transmitter encoder.



VIPER Remote Control Systems

System Part Numbering

Operating from 12-30Vdc



Part Number	Description	Receiver Power Supply	Range** (Metres)
VIPER-S1	System 1 channel	12-30Vdc	150
VIPER-S2	System 2 channel	12-30Vdc	150
VIPER-S4	System 4 channel	12-30Vdc	150

Systems Operating from 230Vac

Part Number	Description	Receiver Power Supply	Range** (Metres)
VIPER-S1M	System 1 channel	230Vac	150
VIPER-S2M	System 2 channel	230Vac	150

**Range stated is optimum, direct line of sight. In worst conditions this can be reduced by over 50%

Additional Transmitters



Transmitters ship with; Wall Mounting Cradle, and Lanyard

Part Number	Description
FIREFLY-TX1	Transmitter 1 switch
FIREFLY-TX2	Transmitter 2 switch
FIREFLY-TX4	Transmitter 4 switch
FIREFLY-TX8	Transmitter 8 switch
FIREFLY-TX16	Transmitter 16 switch (8Sw + Shift Key)
FIREFLY -TX-IPKIT	'O' Ring, Seals Transmitter to IP68

Custom Version

To create a custom version requires just a Sticker!
Please contact Sales for further info.

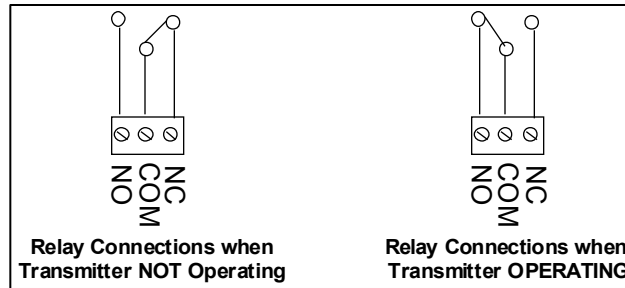




VIPER Remote Control Systems

Data Outputs

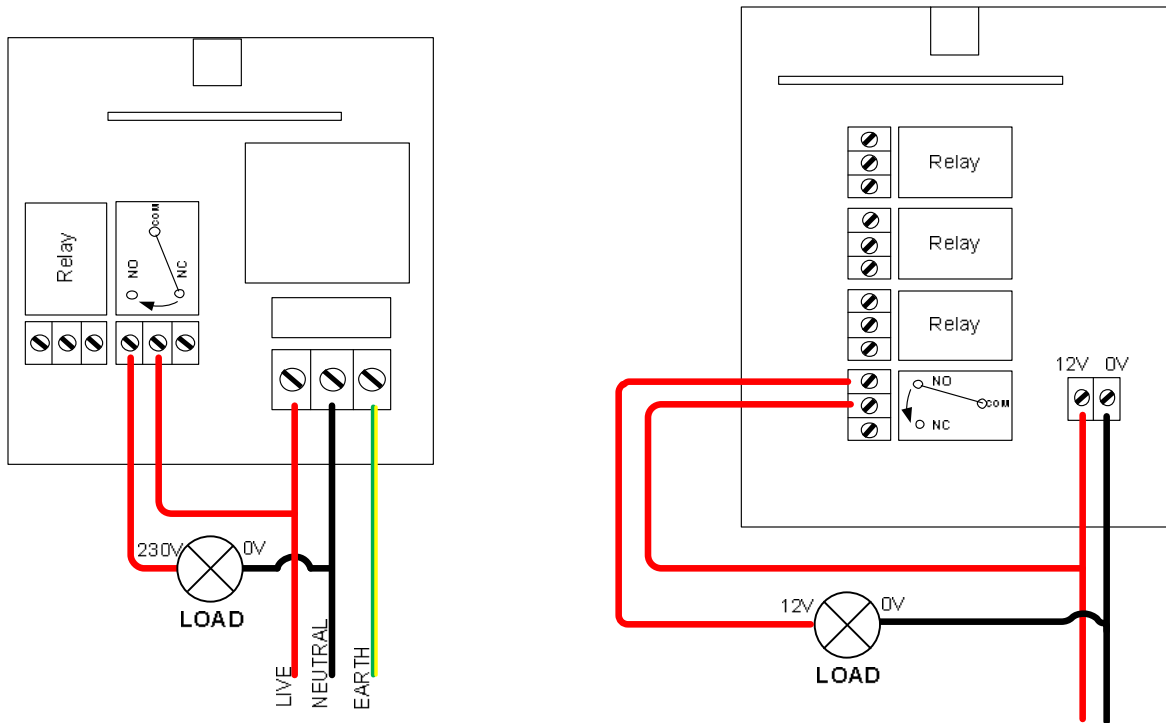
Each output relay provides an isolated switch. Connections are Common (COM), Normally Open (NO) and Normally Closed (NC).



Installation

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.



HORNET 230V Systems
 230V Switched Output Example –
 Only to be used by a competent
 person

HORNET 12 - 32V Systems
 12V Switched Output Example –
 Only to be used by a competent
 person

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VIPER Remote Control Systems

Pairing a Transmitter to a Receiver

Each transmitter has a unique identity. Each time a transmitter Switch is operated, it emits a secure RF signal. The Receiver can learn this signal and allocate to any of its outputs.

The only limitation is that each receiver has a maximum memory for up to 40 pairings, these can be from the same or any number of transmitters.

Hint: the same transmitter may be taught to different receivers to create 'master keys'.

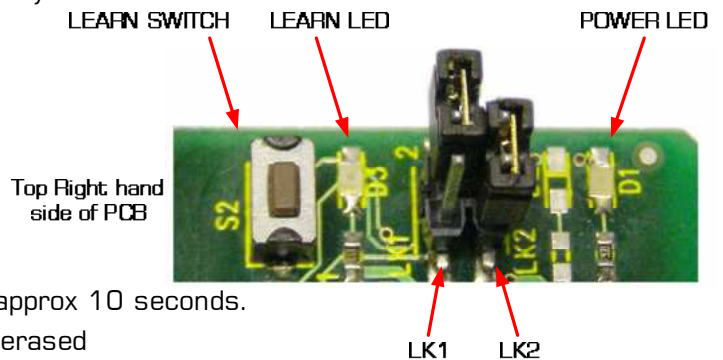
VIPER-S1 / VIPER-S2 / VIPER-S4 (12-30Vdc Receivers)

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:
 2. Briefly press the receiver Learn switch (S2) once
 3. The Learn LED will flash once to indicate output relay 1 is selected
 4. After the LED stops flashing, press the Learn switch again to select the next relay channel
 5. Repeat step 2 until the required output relay is selected.
6. Press the button on the transmitter you want to learn to the relay output.
7. The Learn LED will then illuminate, press the same transmitter button again.
8. The Learn LED will then flash to indicate learning is complete.
9. The transmitter button will now operate the relay.



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 Tx encoders

Configuring Receiver Outputs

The jumper links configure the outputs to be Momentary or Latching.

The jumper links are made / removed by the small link 'cap' placed over the pin header.

Link Positions		Relay Outputs			
LK1	LK2	RLY 1	RLY 2	RLY 3	RLY 4
Closed	Closed	Mom	Mom	Mom	Mom
Closed	Open	Mom	Mom	Latch	Latch
Open	Closed	Mom	Latch	Latch	Latch
Open	Open	Latch	Latch	Latch	Latch

(The configuration shown in the picture above represents the third row of the table)



VIPER Remote Control Systems

VIPER-S1M / VIPER S2M (230Vac Powered Receivers)

Please Note: During Learn and Erase the relays operate at high speed. They should be isolated from sensitive equipment during this process.

To Pair a Transmitter button to receiver Output Relay #1

1. Apply power the receiver and wait 10secs for the unit to enter 'normal operation' mode.
2. Switch the receiver unit OFF and then ON again in ~1sec intervals **FOUR** times finally leaving the unit powered.
3. After 5 seconds the receiver emits a single 'buzz' The unit is now in 'learn' Mode
5. Press the chosen transmitter button.
6. The receiver will acknowledge by sounding the a single 'buzz'
7. Press the same transmitter button again, to confirm OK. The receiver will "buz" again to confirm.
8. Learn Process complete. After 10 seconds the unit will return to 'normal operation' mode.

To Pair a Transmitter button to receiver Output Relay #2

1. Apply power the receiver and wait 10secs for the unit to enter 'normal operation' mode.
2. Switch the receiver unit OFF and then ON again in ~1sec intervals **SIX** times finally leaving the unit powered.
3. After 5 seconds the receiver emits a double 'buzz' The unit is now in 'learn' Mode
5. Press the chosen transmitter button.
6. The receiver will acknowledge by sounding the a double 'buzz'
7. Press the same transmitter button again, to confirm OK. The receiver will double "buzz" again to confirm.
8. Learn Process complete. After 10 seconds the unit will return to 'normal operation' mode.

Erasing Receivers Memory

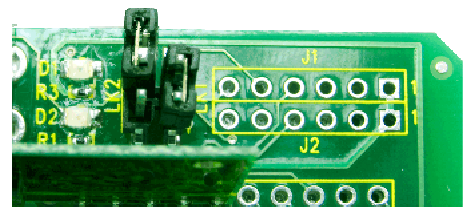
1. Power the receiver unit up and wait 10 seconds for the unit to enter 'normal operation' mode.
2. Switch the unit off and then on again at ~1 second intervals **TEN** times, leaving the unit powered.
3. Wait 5 seconds until a 'clicking' sound is heard for a period of 10 seconds.
4. Wait 10 seconds for the receiver unit to return to 'normal' mode

Configuring Receiver Outputs

The jumper links configure the outputs to be Momentary or Latching.

The jumper links are made/removed by the small link 'cap' placed over the pin header.

Link Positions - Relay Outputs			
LK1	Relay #1	LK2	Relay #2
Open	Mom	Open	Mom
Closed	Latch	Closed	Latch



(the above image shows, RLY2 Momentary, RLY1 Latched)



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Technical Specifications

Transmitters: FIREFLY-TXn

Enclosure Rating: Standard IPx8
 Battery Type: CR2032 (supplied)
 Dimensions: 90 x 54 x 27 mm

Changing the Battery: Remove the six fixing screws, remove battery and replace note polarity

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 130 x 112 x 42 mm (not including antenna)
 Storage Temperature: -10 to +70° Celsius.
 Operating Temperature: -10 to +50° Celsius.

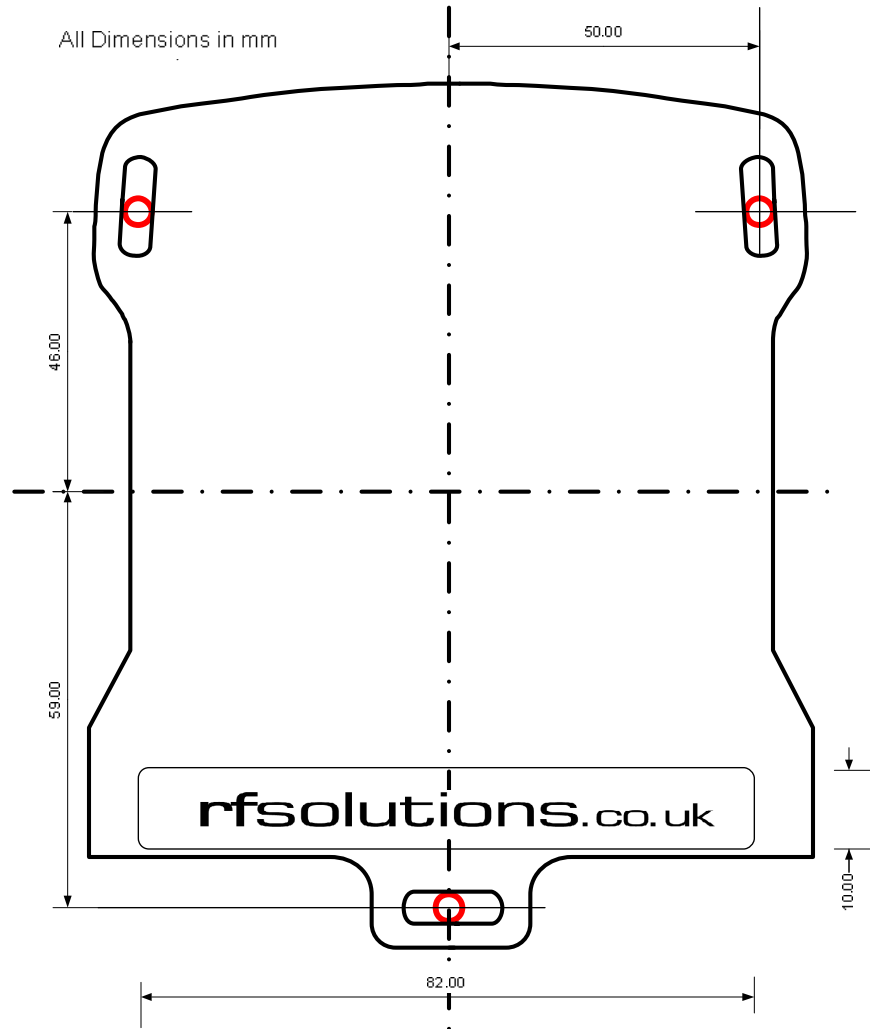
ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Supply Voltage for +12 v	10.5		30	Vdc
Relay Rating* (230Vac) RLY1-4		5	12	A
Supply Current : Quiescent		10		
All relays operating*		140		mA
Time delay from Tx on Switch to Rx Relay operation			100	mS
Time delay from Tx sw relax to Rx Relay release			300	MS

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





VIPER Remote Control Systems



<p>RF Solutions Ltd RECYCLING NOTICE rfsolutions.co.uk Meets the following EC Directives</p> 
<p>DO NOT Discard with normal waste, please recycle.</p>
<p>ROHS Directive 2002/95/EC Specifies certain limits for hazardous substances.</p>
<p>WEEE Directive 2002/96/EC Waste Electrical & Electronic Equipment. This product must be disposed of through a licensed WEEE collection point. RF Solutions Ltd fulfils its WEEE obligations by membership of an approved compliance scheme. Environment Agency producer registration number WEE180149WY</p>
<p>Waste Batteries and Accumulators Directive 2006/66/EC Where batteries are fitted, before recycling the product, the batteries must be removed and disposed of at a licensed collection point.</p>

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