



# HORNET Remote Control Systems

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- 433MHz FM Technology
- 1 – 3 Channels
- 1,000W per Output channel
- Relays Rated 5A @ 230Vac
- Up to 150metres Range
- 12-30Vdc Or 230Vac versions available
- Waterproof Receiver (IP68)
- High Security RF Protocol
- Outputs Momentary or Latching
- Any Switch Map to Any Relay Output
- Systems supplied 'ready to Go'



## 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

Supplied complete ready to go the HORNET is a rugged IP68 weatherproof remote control system. Installation is easy via screw Terminals for Power and outputs.

Each receiver has 3 relay outputs, each capable of switching 1000watts. Each output can be momentary or latching action.

Additional transmitters may be added using the 'easy-learn' process, any button on the transmitter can be used to control one or many outputs of the receiver.



# HORNET Remote Control Systems

## Systems Part Numbers

Operating from 12-30Vdc



Part Number	Description	Frequency (MHz)	Range** (Metres)
HORNET-S1	System 1 channel	433.92	150
HORNET-S2	System 2 channel	433.92	150
HORNET-S3	System 3 channel	433.92	150

Systems Operating at 230Vac(see DS-HORNETMAINS)

Part Number	Description	Frequency (MHz)	Range** (Metres)
HORNET-S1M	System 1 channel	433.92	150
HORNET-S2M	System 2 channel	433.92	150

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

## Additional Transmitters



Part Number	Description
HORNET-TX1	Transmitter 1 switch
HORNET-TX2	Transmitter 2 switch
HORNET-TX3	Transmitter 3 switch
HORNET -TX-IPKIT	'O' Ring, Seals Transmitter to IP65

## Bespoke Versions

Custom versions available with your own logo and or protocol.

Please contact Sales for further info.

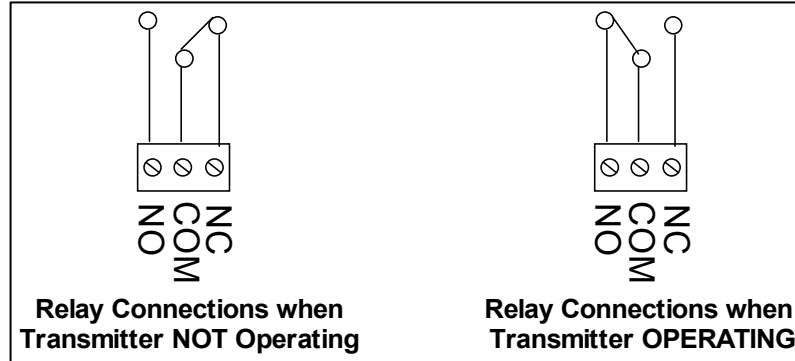




# HORNET Remote Control Systems

## Data Outputs

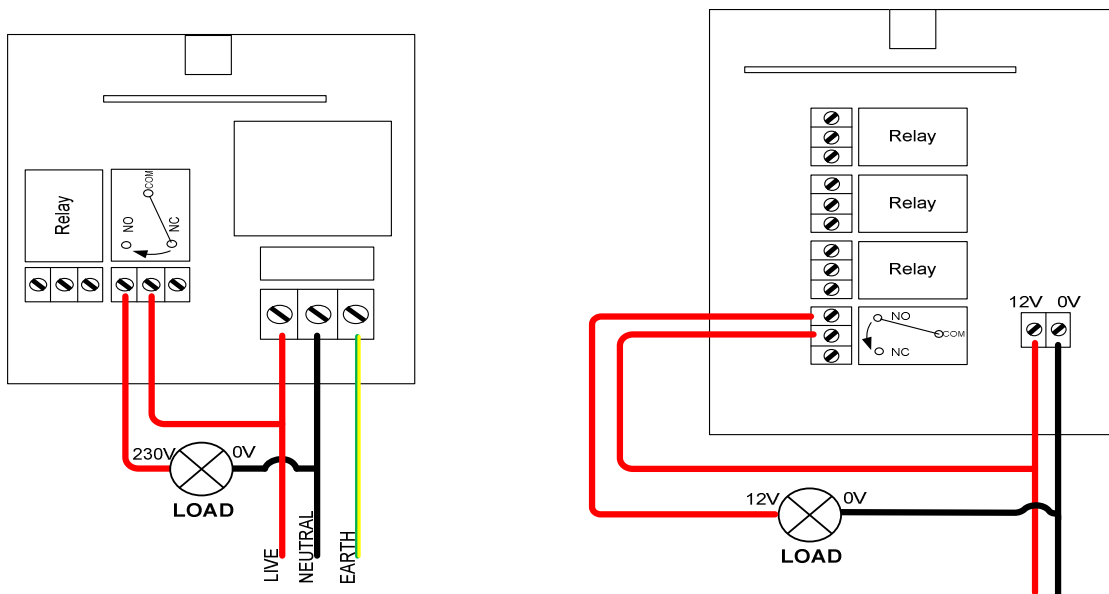
Each output relay provides an isolated switch. Connections are Common (COM), Normally Open (NO) and Normally Closed (NC).



## 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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# HORNET 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 upto 40 pairings, these can be from the same or any number of transmitters.

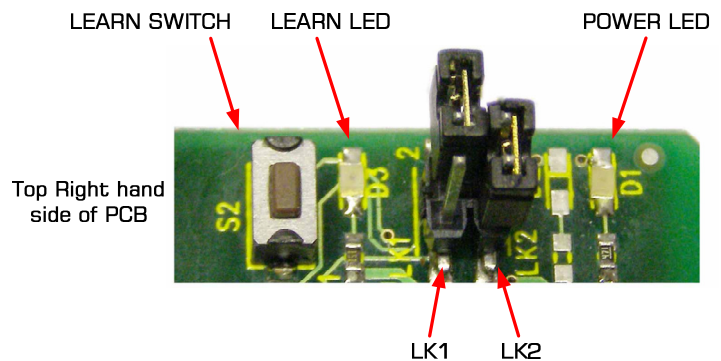
Hint: the same transmitter may be taught to different receivers to create 'master keys'.

## HORNET-S1 / HORNET-S2 / HORNET-S3 (12-30Vdc Receivers)

### To Learn a New Transmitter switch follow this procedure

Any transmitter button can be learnt any of the receiver output relays. Pair each Transmitter switch with a receiver relay 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 4 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 illuminate, press the same transmitter button again.
8. The Learn LED will flash to indicate learning is complete.



## 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)



# HORNET Remote Control Systems

## HORNET-S1M / HORNET 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

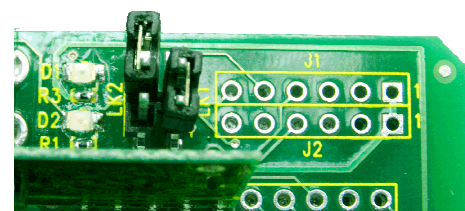
1. Power the receiver unit up and wait 10 seconds for the unit to enter 'normal operation' mode.
2. Switch the unit off and then on again at ~1 second intervals **TEN** times, leaving the unit powered.
3. Wait 5 seconds until a 'clicking' sound is heard for a period of 10 seconds.
4. Wait 10 seconds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

### 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)



# HORNET Remote Control Systems

## Technical Specifications

### Transmitters: HORNET

Enclosure Rating: Standard (TBA)  
With IPKit IP65

Battery Type: GP23AE, (supplied)

Dimensions: 66 x 36 x 17mm

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

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

### 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	Units
Supply Voltage for 12-30V versions	10.5	12	30	Vdc
Supply Voltage for Mains versions		230		Vac
Relay Rating* (230Vac) RLY1-4		5(rms)	12(peak)	A
Supply Current : Quiescent @12V All relays operating*		10 140		mA
Supply Current @ 230V		~13		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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