Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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Remote Control System

Features

- Up to 100metres Range

- 1 – 3 Button versions

- 12-30Vdc or 230Vac versions

- Reliable FM Technology

- Four 1000W Changeover Relay Contacts

- Waterproof Receiver (IP68)

- Momentary or Latching Relays

- Any Switch Map to Any Relay Output

- CE / FCC Compliant

Applications

- General Purpose Remote Switching

- Electric Gates

- Roller Shutter Doors

- Garden Lighting

Description

Supplied complete ready to operate without any user configuration required. The HORNET is a rugged IP68 weatherproof remote control system. Built in mounting points and easy wiring using High Quality screw Terminals.

With a range of up to100m the HORNET is ideal for a wide variety of switching applications.

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

FM76316

HORNET

HORNET-S1 / HORNET-S2 / HORNET-S3 (12-32Vdc Receivers)

The HORNET system is supplied ready to use straight out of the box. No Configuration is required.

1. Open the enclosure by removing the two fixing screws from the base of the enclosure and remove the antenna, the circuit board will then slide out.

2. Wire the power as shown below

3. Wire your chosen relay output switch as required

4. Once the receiver is set-up; transmitter button 1 will switch relay 1 (button two to relay two and so on). Each button press will change the state of the relay (i.e. one press for on, one press for off).

HORNET 12 - 32V Systems
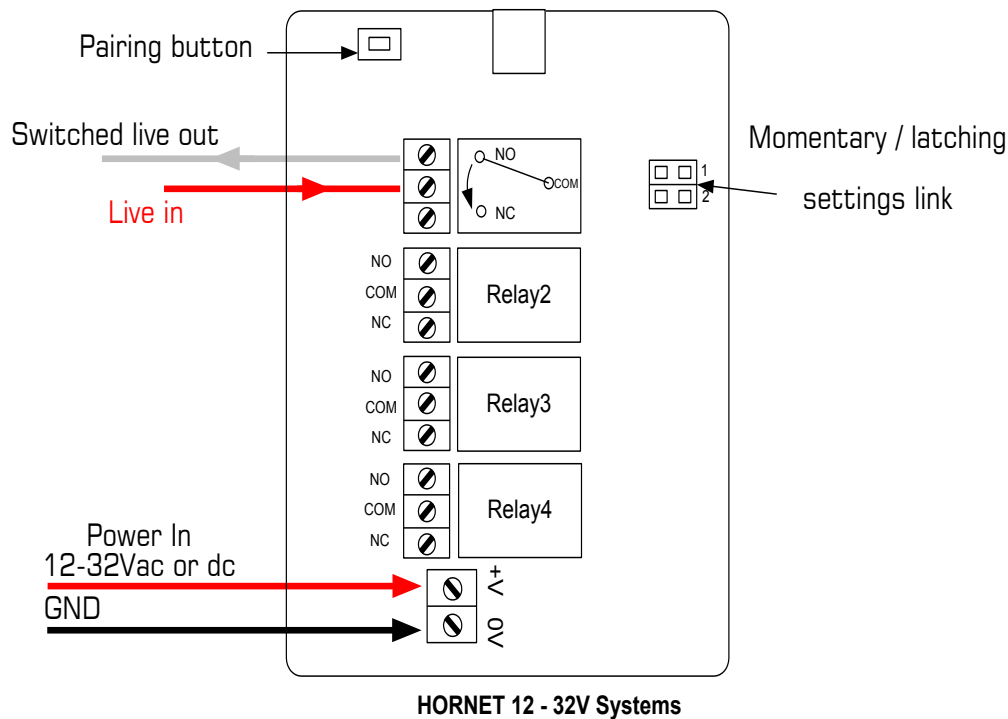
Configuring Output Relays Momentary or Latching

These are set by the Jumper Links

Momentary = operates as long as transmitter is operated

Latching = Relay changes state each time transmitter is pressed

Link Positions		Relays			
LK1	LK2	RLY 1	RLY 2	RLY 3	RLY 4
Fitted	Fitted	Mom	Mom	Mom	Mom
Fitted	Open	Mom	Mom	Latch	Latch
Open	Fitted	Mom	Latch	Latch	Latch
Open	Open	Latch	Latch	Latch	Latch

HORNET

Advanced Operation

Please note that the HORNET Systems are provided ready to operate and Pairing a transmitter to a receiver is only required when replacing or adding a new transmitter.

To pair a new transmitter switch follow this procedure

Note!: Any transmitter button can be configured to operate any of the receiver relays.

1. Select the receiver output relay to learn to:
2. Briefly press the receiver Pairing switch (S2) once
3. The Learn LED will flash once to indicate 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 relay is selected.
6. Press the button on the transmitter you want to learn to the chosen relay.
7. The Learn LED will flash to indicate Pairing is complete.

Pairing a Transmitter to a Receiver

The only limitation is that each receiver has a maximum memory for up to 30 pairings, these can be from the same or any number of transmitters.

Erasing Receivers Memory

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

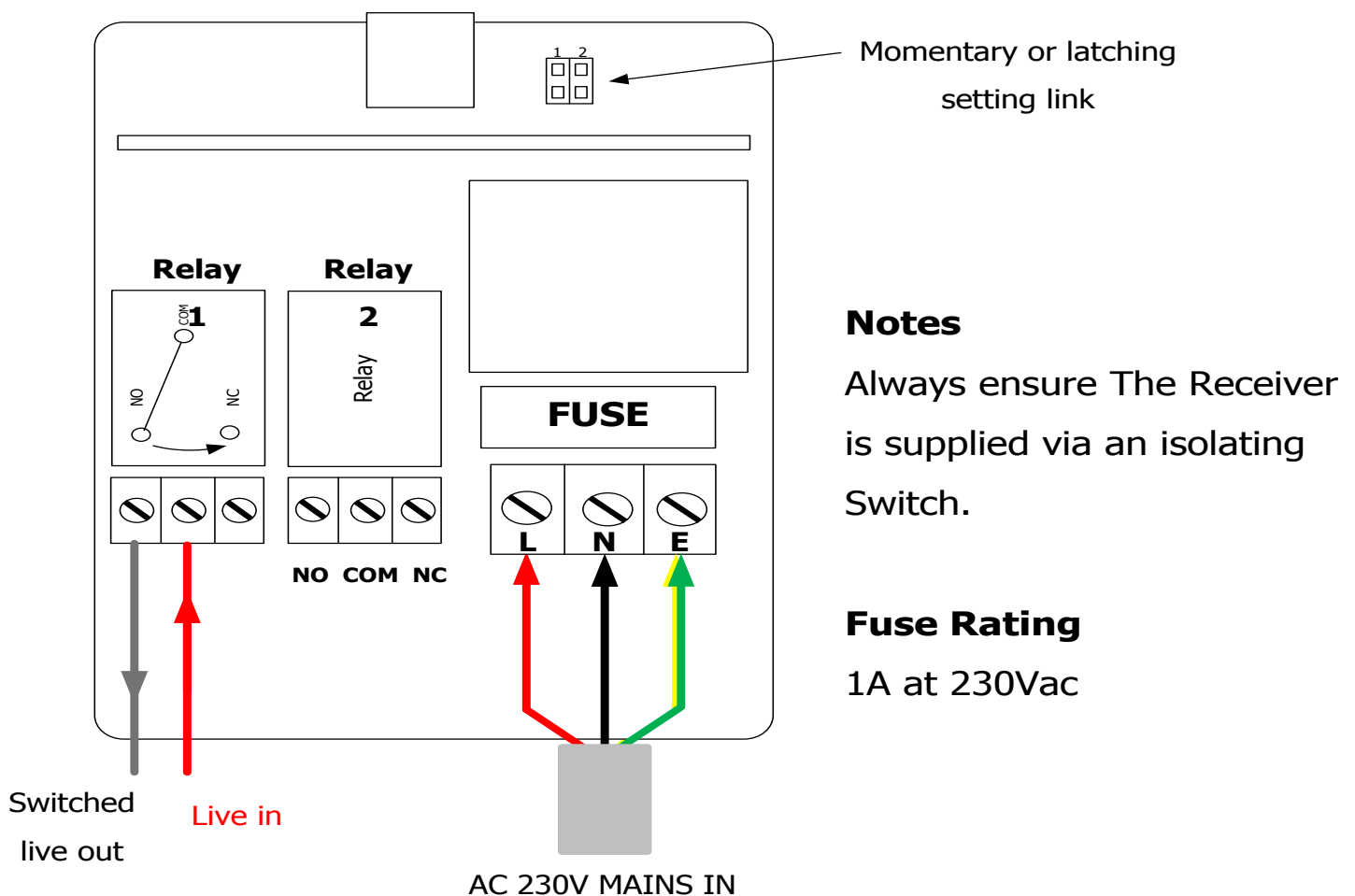**NOTE**: You cannot erase individual Tx encoders

HORNET

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

The HORNET system provides up to 2 isolated switches each capable of switching up to 6A @230V continuous (12A peak)

1. Open the enclosure by removing the two fixing screws from the base of the enclosure and the antenna, the board should then slide out.

2. Wire the power as shown on Fig 1.2

3. Wire your chosen switch as required

4. Once the receiver is set-up transmitter button 1 will switch relay 1 (button two relay two and so on). Each button will change the state of the relay (i.e. one press for on, one press for off).

Warning!

The Receiver unit is designed to be a fixed installation, connected to a mains supply. Before removing the cover ensure that the mains input supply is removed. Any operation of the product that involves removal of the cover should only be carried out by a competent person or qualified electrician.

Momentary or latching
setting link

Relay **1**

COM

NO   NC

Relay **2**

Relay

FUSE

NO   COM   NC

L   N   E

Switched
live out

Live in

AC 230V MAINS IN

Notes

Always ensure The Receiver
is supplied via an isolating
Switch.

Fuse Rating

1A at 230Vac

HORNET

Advanced Operation

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

To Pair additional Transmitter buttons to receiver 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. The receiver emits a continuous 'Click' to confirm it is now in 'learn' Mode
4. Press the chosen transmitter button.
5. The receiver will acknowledge by sounding the a single 'buzz'
6. Learn Process complete.

To Pair additional Transmitter buttons to receiver 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. The receiver emits a continuous 'Click' to confirm it is now in 'learn' Mode
4. Press the chosen transmitter button.
5. The receiver will acknowledge by sounding the two 'buzzes'
6. Learn Process complete.

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. The receiver confirms Erase cycle complete by giving three short 'Buzzes'
4. The unit has now erased all encoder data.

NOTE: You cannot erase individual Tx encoders

Configuring Receiver Relays

The jumper links set the outputs to be Momentary (operates as long as transmitter is operated)
or Latching (Relay changes state each time transmitter is pressed).

The jumper links are made/removed by the small link 'cap' placed over the pin header.
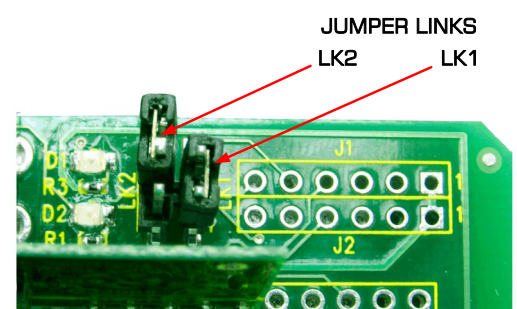
Link1 controls relay Output #1
Link2 controls relay Output #2

Link FITTED = MOMENTARY
Link OPEN   = LATCHING

Image shows, RLY1 Momentary,
RLY2 Latching.

HORNET

System Part Numbers

Operating from 12-30Vdc

Part Number	Description	Frequency (MHz)	Range** (Metres)
HORNET-S1	System 1 channel	433.92	100
HORNET-S2	System 2 channel	433.92	100
HORNET-S3	System 3 channel	433.92	100

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

Part Number	Description	Frequency (MHz)	Range** (Metres)
HORNET-S1M	System 1 channel	433.92	100
HORNET-S2M	System 2 channel	433.92	100

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

Additional Transmitters

Operating at 230Vac

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

Low Battery Indication

When the battery on the HORNET-TX becomes low (<2.1V) the LED will indicate this by pulsing on and off and one second intervals. The battery should be changed at this point. When the battery reaches this level the HORNET-TX may continue to operate but the range will be reduced and the LED will dim.

Technical Specifications

Transmitters: HORNET

Enclosure Rating:	Standard**(TBA)** With IP Kit **IP65**
Battery Type:	**CR2032** Revision 2 - Post May 2010
	GP23AE Revision 1 - Pre May 2010
Battery Life Est.	**3 Years (Calculated as 50 operations per day)**
Dimensions:	66 x 36 x 17mm
Changing Batteries:	Remove Two fixing screws, remove battery and replace, note polarity!

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage (Rev1)		3 (12)		V
Supply Current (transmitting)		0.47 (16)		uA (mA)
Frequency:	432.90	433.920	434.10	MHz
RF Output Power (ERP) @ 433 MHz	-	3		mW
Packet length		68		ms

Transmitter FCC Notice

This device complies with part 15 of the FCC rules.
Operation is subject to the following two conditions.
- This device may not cause harmful interference AND
- This device must accept any interference received including interference that may cause undesirable operation.

Warning to user

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC NOTE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide
reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio
communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television
reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

HORNET

Receiver Decoder HORNET-RX

Enclosure Rating   IP68
Dimensions   130 x 112 x 42 mm (not including antenna)
Storage Temperature: -10 to +70º Celsius.   Operating Temperature: -10 to +50º 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		10		
@12V All relays operating*		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

Installation diagram

All Dimensions in mm

50.00

46.00

59.00

10.00

82.00

rfsolutions.co.uk

RF Solutions Ltd. Recycling Notice

Meets the following EC Directives:

DO NOT

Discard with normal waste, please recycle.

ROHS Directive 2002/95/EC

Specifies certain limits for hazardous substances.

WEEE Directive 2002/96/EC

Waste electrical & electronic equipment. This product must be disposed of through a licensed WEEE collection point. RF Solutions Ltd., fulfills its WEEE obligations by membership of an approved compliance scheme.

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.

Environment Agency producer registration number: WEE/JB0104WV.

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