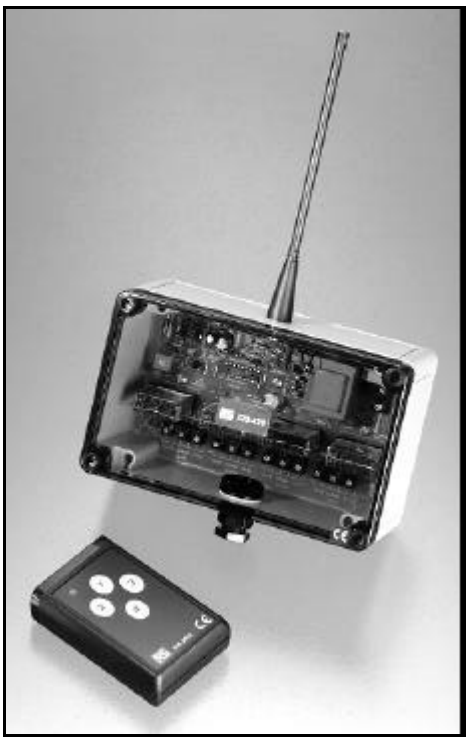
FM REMOTE CONTROL SYSTEM. FM-RCHN-XXXRS

FEATURES



- COMPLETE REMOTE CONTROL SYSTEM
- IP64 RATED DEC ENCLOSURE.
- MINIMAL INSTALLATION VIA SCREW TERMINALS.
- 240Vac OR 12Vdc SUPPLY.
- UP TO 4 CHANNELS.
- LED INDICATION OF TRANSMISSION.
- LED INDICATION OF EACH OUTPUT CHANNEL.
- 2 MOMENTARY 2 TOGGLED OUTPUTS
- 1 PROGRAMMABLE TIMED OUTPUTS (10secs-5mins).
- RELAY CONTACTS 5A@ 240Vac.
- REQUIRES NO RADIO LICENCE.
- RANGE UP TO 200 METRES
- HIGH SECURITY PROTOCOL.
- IP64 RATED ENCLOSURE
- CAN BE USED WITH FM-ECA AUTO Tx.

DESCRIPTION

The FM-RCXC-XXXRS is a complete remote control system supplied ready to operate. Installation requires connections to be made only to the power supply which can be 240Vac or 12Vdc.

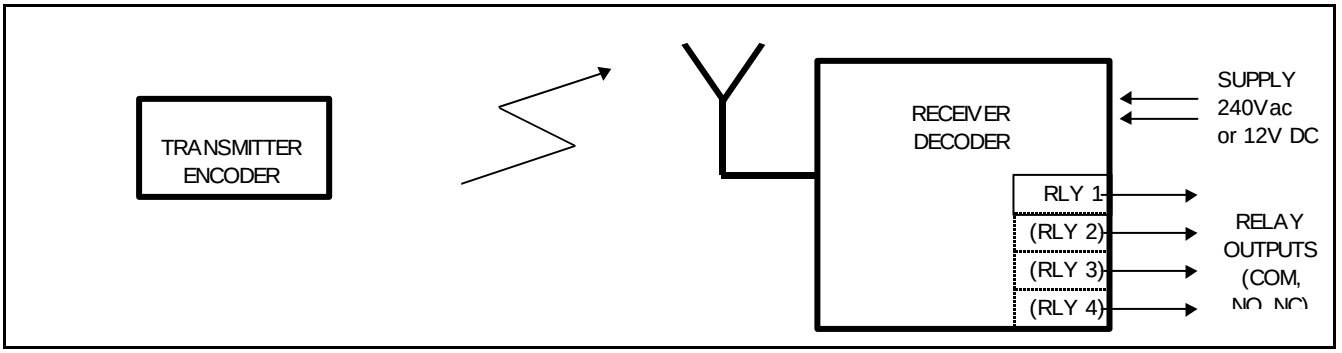
Available in options of 1 - 4 channels. It provides 5A rated relays at 240Vac with either momentary or latching operation. The system incorporates a highly secure 'code hopping' transmission protocol to prevent grabbing and scanning of the data.

The outputs may be programmed to operate in latching or momentary mode. (there is a maximum of two momentary outputs). A timed output feature is also available on output four.

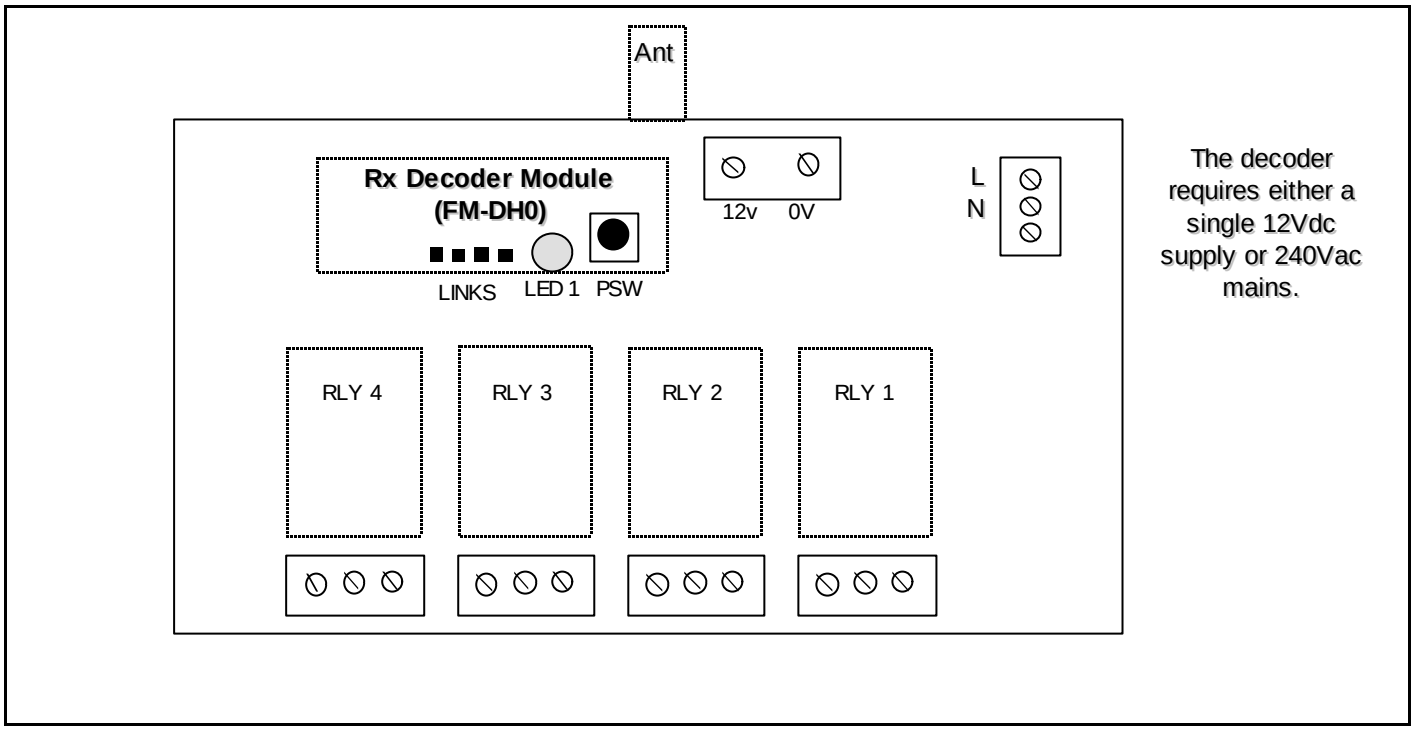
The system has a range of up to 200 metres in direct line of sight, and requires minimal installation. The decoder has an easy learn feature which enables it to learn the 'signature code' of individual transmitter/encoders switches.(These are memorised even if the power is removed).

The decoder may also be used in conjunction with the FM-ECAC auto transmitting encoder. (RS Stock code 226-3398)

The system is supplied ready to operate with the remote transmitter/encoder. The decoder is supplied in an IP64 rated enclosure.



BLOCK DIAGRAM



DECODER CONNECTIONS

WARNING

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

DATA OUTPUTS

Output 4 has a variable timed output which maybe adjusted from 10secs to 5 minutes. This is controlled by the adjustable pot RV1.
Outputs 1 & 2 may be configured as momentary or latching operation by link 2 on the FM-DH0-418 decoder module.
For use as a standard remote Control system Link 1 MUST be fitted.

RF DECODER LINKS 1 & 2

These links configure the mode of operation.

Configuration	Link 1	Link 2	O/P1	O/P2	O/P3	O/P4
Remote Control	Connected	Open	Latch	Latch	Mom	Timed
Remote Control	Connected	Connected	Mom	Mom	Mom	Timed
For use with FM-ECAC Auto Transmitting Encoder	Open	Don't Care	Auto O/P	N/A	Low Battery	Trig I/P's

Note : The Link status are read only on power up, after changing the links please remember to remove and re-apply power.

LEARNING A NEW TRANSMITTER SWITCH

These decoders are capable of 'learning' the transmitter/Encoder signature code, and individual switch number. The decoder allocates a specific transmitter/encoder's switch, against the chosen decoder output. The decoder has a maximum memory capacity of learning up to eight unique encoder switches. These may be from a single or many different encoders and be allocated to a single output or a combination of all the outputs on the decoder.

To learn a new transmitter switch follow these procedures;

1. Firstly determine which switch on the encoder and which output channel on the decoder you wish to allocate to each other.
2. In order to select the appropriate decoder output channel, the user must step through the outputs until the desired channel is selected (these may be 1, through 4).
3. Each time the decoders programming switch is briefly pressed and released, the LED will flash a number of times to indicate which channel is currently selected.
4. If the desired channel is overstepped or missed, simply wait for 5 seconds and the decoder will start from channel 1 again, or step right through the outputs, and the decoder will automatically return to channel 1.
5. Note that after flashing 4 times to select channel 4, the decoder flashes 9 times. This is normal and is detailed below in the "Erase memory" section.
6. To enter "Programming mode" the user must hold down the programming switch whilst the desired channel (indicated by the appropriate number of flashes) is currently selected. After flashing the required number of flashes, the LED will go out for approx. 4 seconds and then illuminate. The decoder is now in learn mode. (Keep the programming switch depressed)
7. Depress the transmitter once, LED on the decoder will flash. (PSW is still depressed).
8. Wait for LED to stop flashing.
9. Depress the transmitter again, LED will turn off. (PSW is still depressed).
10. Release the programming switch (PSW).
11. The decoder has now learnt the encoder switch and will now operate the system.

Note: Do not teach the same switch to more than one output of the same decoder!

ERASING THE DECODER'S MEMORY

To completely erase the FM-ECAC signature code form the FM-DH0 decoder's memory;

1. Press the FM-DH0 decoder SW briefly. (The LED will flash once).
2. Press the FM-DH0 decoder SW again briefly. (The LED will flash twice).
3. Press the FM-DH0 decoder SW again briefly. (The LED will flash three times).
4. Press the FM-DH0 decoder SW again briefly. (The LED will flash four times).
5. Press the FM-DH0 decoder SW and hold. (The LED will flash nine times, go out for several seconds then illuminate again.
6. The FM-DH0 decoder switch may be released. (When the LED goes out, the FM-DH0 decoder memory is erased)

SYNCHRONISATION (Hopping Models only)

This equipment requires the transmitter and receiver to be synchronised. If the transmitter has been pressed more than 50 times outside the range of the receiver, the receiver will loose synchronisation with the transmitter.
To re-synchronise: Press the transmitter key for two seconds within range of the receiver,
Release the key momentarily, and press the key again.

TECHNICAL SPECIFICATIONS

Storage Temperature; -10 to +70° Celsius. Operating Temperature; 0 to +55° Celsius.

Dimension	FM Transmitter	Decoder Enclosure
Length	107mm	112mm
Width	60mm	83mm
Depth	22mm	38mm

FM TRANSMITTER/ENCODER

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Supply Voltage	8.5	9	12	V
Supply Current ; Quiescent		0		mA
Supply Current ; Operating		18		mA

RECEIVER / DECODER

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Supply Voltage for +12 v	11	12.0	16.0	V
Supply Current :				
Quiescent		25		mA
All Relays operating		400		mA
Relay Rating (240Vac)			5	A see note

Note : The relays are rated 15A @240Vac, however the PCB track from the relay to screw terminals is rated 5A. Care must be taken to ensure that the power ratings not overloaded.
The Relays output connections are totally isolated from the Decoder circuitry.

PART No	DESCRIPTION	RS Stock Code
FM-RC1C-418RS	FM Remote control System 1 Channel, 418MHz	226-3499
FM-RC2C-418RS	FM Remote control System 2 Channel, 418MHz	226-3506
FM-RC4C-418RS	FM Remote control System 4 Channel, 418MHz	226-3512

PART No	DESCRIPTION	RS Stock Code
FM-RC1C-433RS	FM Remote control System 1 Channel, 433MHz	250-0596
FM-RC2C-433RS	FM Remote control System 2 Channel, 433MHz	250-0603
FM-RC4C-433RS	FM Remote control System 4 Channel, 433MHz	250-0619

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