

# FMR15101240

1-Channel 151MHz FM Receiver with mains AC supply

## Features

- Supply voltage 110-240VAC
- High capacity output relay
- Pluggable type terminal blocks for easy installation
- Output modes can be selected by the user.
- Also available in IP66 rated case (C1020) for outdoor installations.

## Applications

- Pump Control
- Long distance light control
- On/Off applications in agricultural devices
- Basic Telemetry eg. Water level indication
- Security alarm

## Description

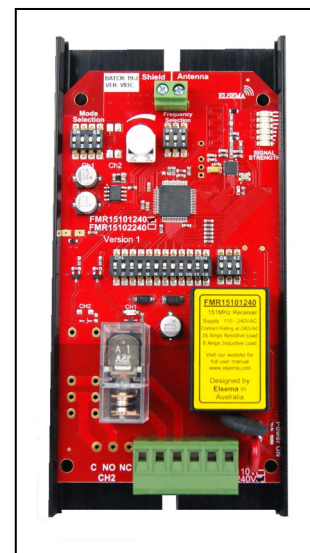
This receiver can be connected directly to the mains supply, 110VAC or 240VAC. The relay output is rated at 8 amps at 240VAC. The relay mode can be set to momentary, latching, security latching or adjustable timed off delays.



The user can select 8 different narrow band frequencies and program unlimited number of transmitters to the receiver. With the narrow band FM 151MHz signal from the transmitter a line of sight operating range of 5000 metres is possible. The receiver uses a crystal oscillator circuit that ensures high frequency stability allowing optimal performance in the receiving range.

Connecting wires to the receiver has been made easier by the pluggable type terminal block. An on board LED indicates when power is connected and the relay is being activated.

The receiver comes with a Quick Mount or in a weatherproof case with an IP66 rating.

## Available with Options



	
<p align="center"><b>FMR15101240</b> 1- Channel 240VAC Supply</p>	<p align="center"><b>FMR15101240E</b> 1- Channel 240VAC Supply in an IP66 rated.</p>

## Different Modes for the Output

### 4-Way DIP Switch Mode Settings

The output relay will respond in the following manner when receiving the correct signal from a transmitter

<div> <div>1 2 3 4</div> </div>	"Momentary": Relay on, only while correct signal is received
<div> </div>	"Latching": Relay alternates at every correct incoming signal
<div> </div>	"Delayed Off 1": Relay on, but delayed off for 1-10 seconds, adjustable by trimpot
<div> </div>	"Delayed Off 2": Relay on, but delayed off for 10-300 seconds, adjustable by trimpot
<div> </div>	"Pulsing": Relay will pulse at 1Hz for 10-300 seconds, adjustable by trimpot
<div> </div>	"Security latching On": Relay will energize until supply to receiver is momentarily interrupted
<div> </div>	"On-Off": This mode requires a 2-channel Tx. Channel 1 will always energize the relay Channel 2 will always de-energize the relay
<div> </div>	" <b>Instant OFF</b> " Same as " <b>Delayed Off</b> " except relay will switch "OFF" as soon as the transmitter input is deactivated. (Delayed off time is 2.5 – 150 seconds).
<div> </div>	"Test": Relay is energized, for test purpose only

## Coding

The 12 way dip switch on the receiver sets the 12 bit unique code for the system. This has to match the transmitter. **Do not use the factory default code.**

Apart from the 12 way dip switch there will be an additional dip switch depending upon the receiver type:

- Single channel receiver will have a 3 way dip switch.

This DIP switch on the right side of the 12 way dip switch denotes the channel. See table below.

## FMR15101

### 3-Way DIP Switch & Single Relay Output

SW13	SW14	SW15	Channel
OFF	OFF	OFF	1
OFF	OFF	ON	2
OFF	ON	OFF	3
OFF	ON	ON	4
ON	OFF	OFF	5
ON	OFF	ON	6
ON	ON	OFF	7
ON	ON	ON	8

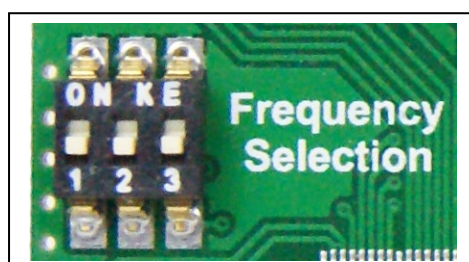
## Signal Strength Indicator

The 151MHz receivers have green signal strength LED's on the board. The table below indicates the level of the valid transmitted signal.

6 LED's on	-70dBm	Very Strong signal	Very Reliable operating conditions
5 LED's on	-75dBm	Very Strong signal	Very Reliable operating conditions
4 LED's on	-80dBm	Very Strong signal	Very Reliable operating conditions
3 LED's on	-90dBm	Strong signal	Very Reliable operating conditions
2 LED on	-100dBm	Good signal	Reliable operating conditions

## Noise Strength Indicator

If more than 2 led is "ON" without a valid transmission, this indicates that there is noise on the frequency selected. Change the **3-way dipswitch** on the **receiver module** to select a different frequency. Following is a table with the Dipswitch settings and the corresponding frequencies.

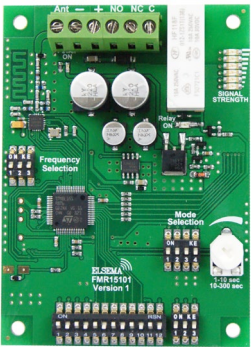
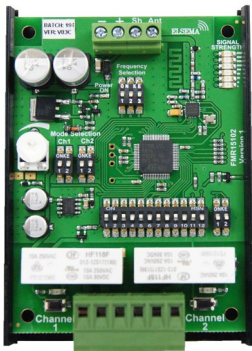


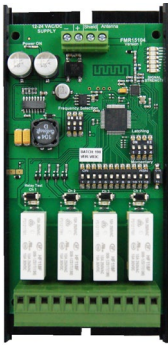

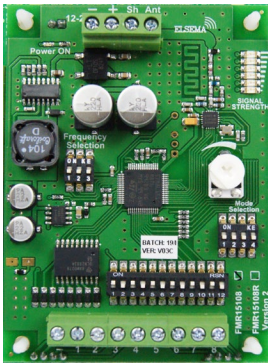
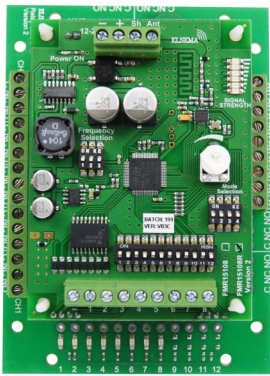


Frequency	1	2	3
151.600 MHz	On	On	On
152.375 MHz	Off	On	On
151.775 MHz	On	Off	On
151.400 MHz	Off	Off	On
151.175MHz	On	On	Off
151.025 MHz	Off	On	Off
150.900 MHz	On	Off	Off
150.825 MHz	Off	Off	Off

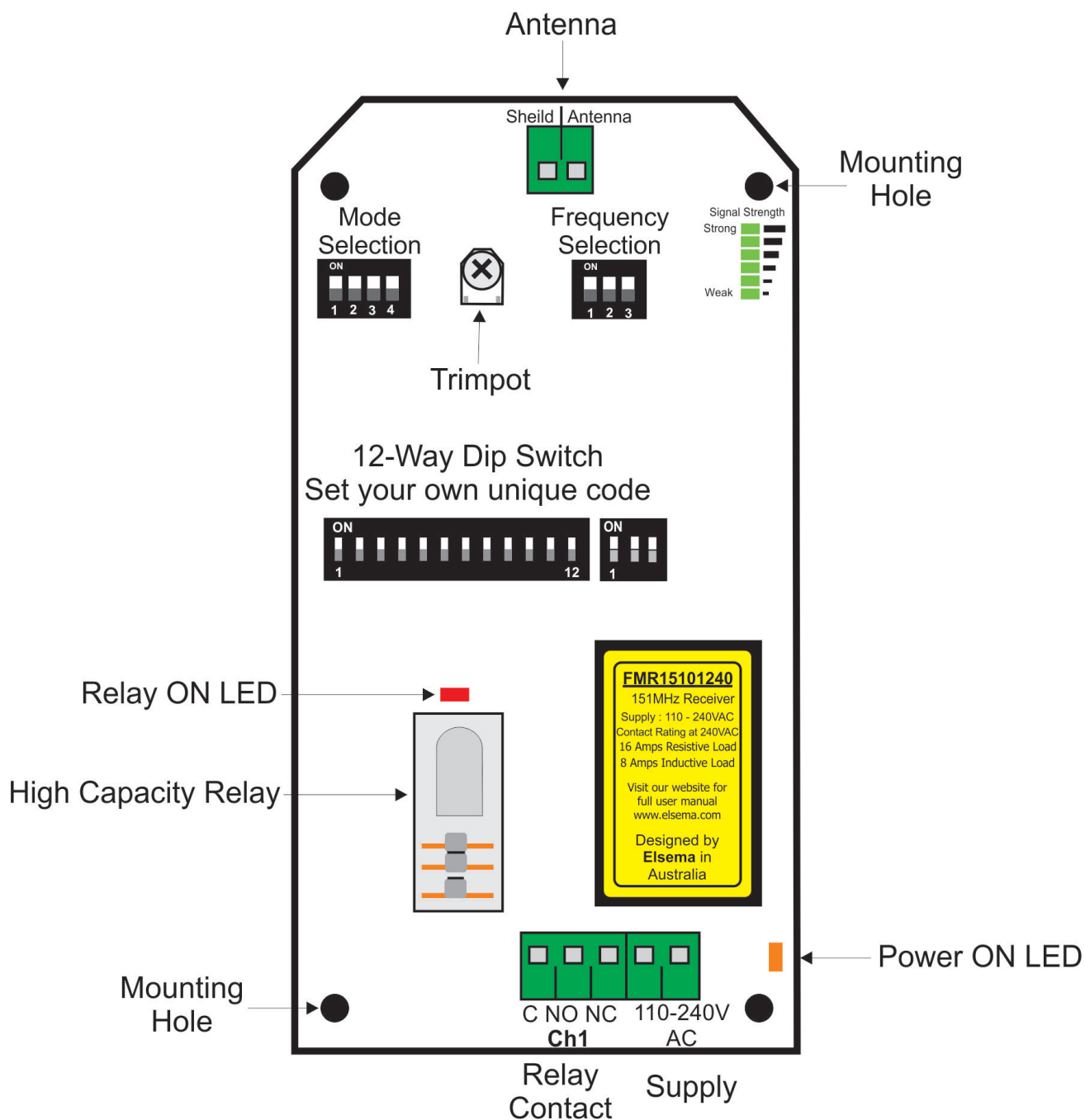
## Technical Data

Supply Voltage	110 - 240Volts AC Mains
Current Consumption	18mA at 240V AC
Receiving Frequency	151.6MHz (8 selectable frequencies. See table above) 161MHz for New Zealand 154MHz for United States of America and Canada
Operating Temperature Range	-5 to 50°C
Connection	Supply & Output - pluggable type terminal blocks
Output	Change over relay output, rated at 16 Amps of resistive load and up to 8 Amps of inductive load
Antenna	50Ω, 151MHz Antenna, Elsema ANT151M for maximum performance
Dimensions	130 x 70 x 37mm
Mounting Hole Size	3.97mm or 5/32"
Useable Transmitters	All FMT151 series (with correct frequency setting) refer to the table above

## Products in the Range

			
<p><b>FMR15101</b> 1-Channel</p>	<p><b>FMR15102</b> 2-Channel</p>	<p><b>FMR15101240</b> 1- Channel 240VAC Supply</p>	<p><b>FMR15102240</b> 2- Channel 240VAC Supply</p>
			
<p><b>FMR15104</b> 4-Channel</p>	<p><b>FMR15104240</b> 4- Channel 240VAC Supply</p>	<p><b>FMR15108</b> 8-Channel with Open Collector Outputs</p>	<p><b>FMR15108R</b> 8-Channel with relay outputs</p>

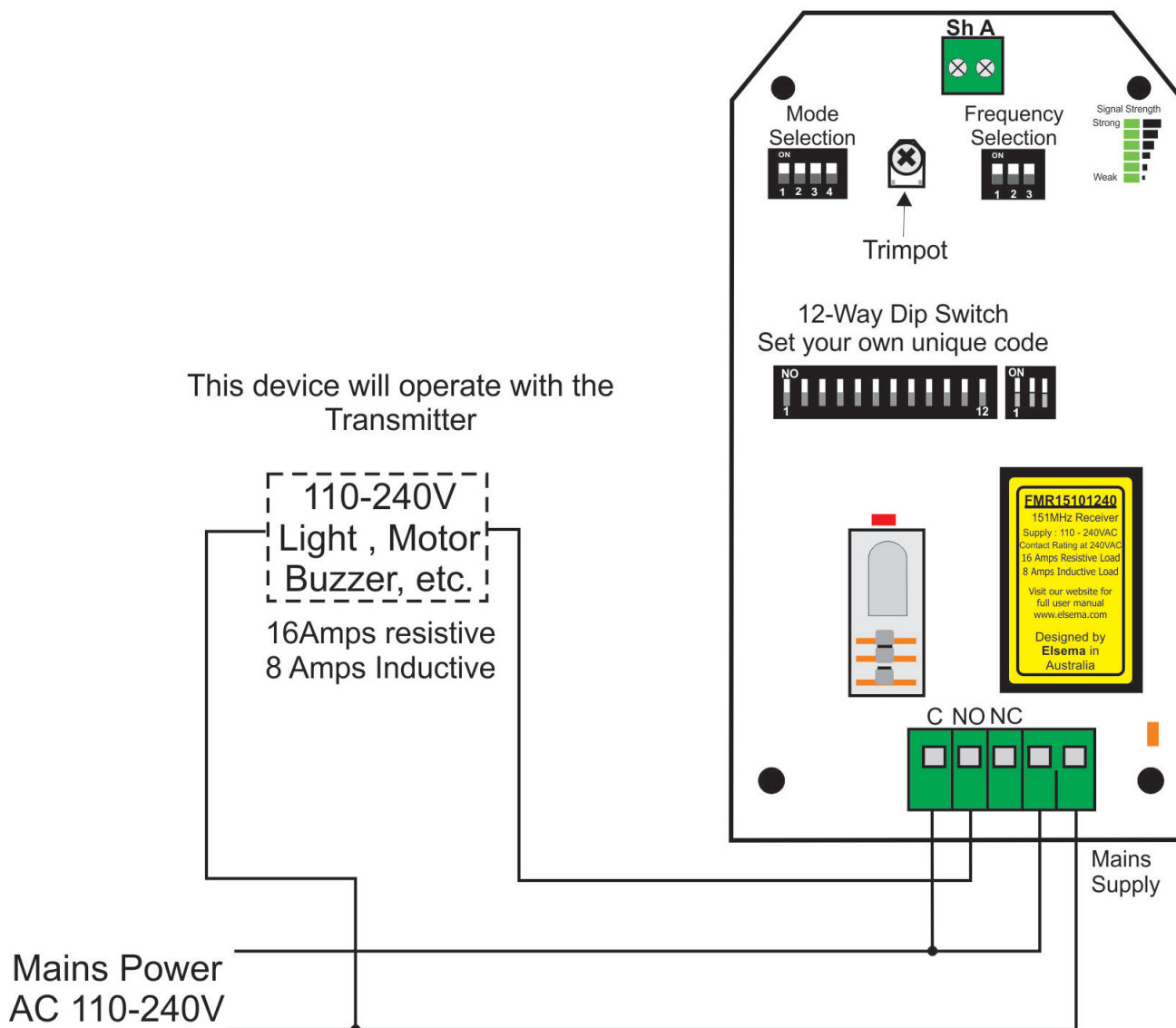
## Block Diagram



Relay output is voltage free contact

## Application Diagram

### FMR15101240



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