



**FMR15101**

3-Way DIP Switch & Relay Output

SW13	SW14	SW15	Relay
OFF	OFF	OFF	Ch1
OFF	OFF	ON	Ch2
OFF	ON	OFF	Ch3
OFF	ON	ON	Ch4
ON	OFF	OFF	Ch5
ON	OFF	ON	Ch6
ON	ON	OFF	Ch7
ON	ON	ON	Ch8

**Different Modes for the Output**

Modes are user selectable from the 4-way dip switch, shown below.

<b>4-Way Dip Switch Mode Settings</b>	
The output relay will respond in the following manner when receiving the correct signal from a transmitter	
	<p><b>Momentary</b> Relay on, only while correct signal is received.</p>
	<p><b>Flip- Flop</b> Relay alternates at every correct incoming signal.</p>
	<p><b>Delayed Off 1</b> Relay on, but delayed off for 1-10 seconds, adjustable by trimpot.</p>
	<p><b>Delayed Off 2</b> Relay on, but delayed off for 10-300 seconds, adjustable by trimpot.</p>
	<p><b>Pulsing</b> Relay will pulse at 1 Hz for 10 - 300 seconds, adjustable by trimpot.</p>
	<p><b>Latching on</b> Relay will energize until supply to receiver is momentarily interrupted.</p>
	<p><b>On-Off</b> This mode requires a 2-channel Tx. Channel 1 will always energize the relay. Channel 2 will always de-energize the relay.</p>
	<p><b>Custom</b> This mode is reserved for specific customers' requirements.</p>
	<p><b>Test</b> Relay is energized, for test purpose only.</p>

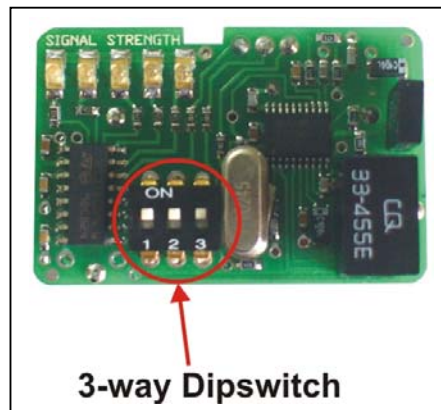
**Signal Strength Indicator**

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

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

**Noise Strength Indicator**

If more than 1 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

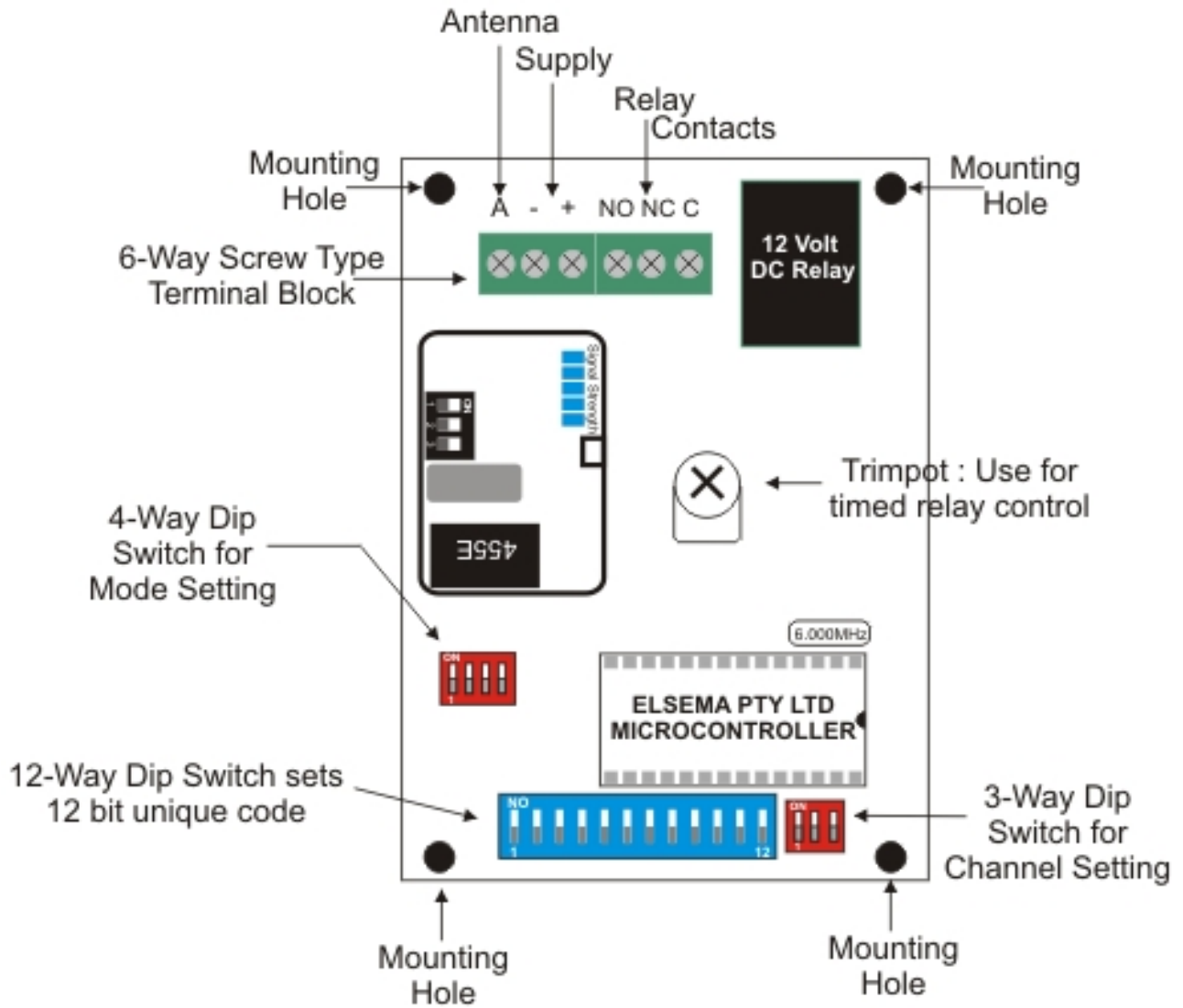
**Technical Data**

Supply Voltage	11.0 - 28.0 VDC 10.0 - 28.0 VAC Can use Elsema AC power pack (PP12 / PP24) Supply lines should be less than 3m long to comply with radio frequency authorities
Current Consumption	35mA Standby at 12VDC 67mA when relay "ON" at 12VDC
Receiver Type	Single Conversion Superheterodyne
Receiving Frequency	151.6MHz (8 selectable frequencies. See table above)
Oscillation System	VCO with 10ppm crystal controlled reference oscillator
Operating Temperature Range	-5 to 50°C
IF Frequency	10.7MHz
Sensitivity	Better than 0.5uV (For relay to activate)
Selectivity	Better than -6dB at ±25kHz
Type of Demodulation	Narrow-Bandwidth Frequency Modulation (FM)
Occupied Bandwidth	25kHz at -20dB
Connection	Supply, Antenna & Outputs - Screw type terminal block
Antenna	50Ω, 151MHz Antenna, Elsema ANT151M for maximum performance A piece of approximately 1metre wire can be used for short range applications
Dimensions	95 x 70 x 20mm
Mounting Hole Size	3.97mm or 5/32"
Weight	83g
Useable Transmitters	All FMT151 series (with correct setting on the dip switch). See Transmitter datasheet for details.
Useable operating range	Up to 5000 metres, depending on installation and type of antenna used. Recommended Antenna is Elsema ANT151M

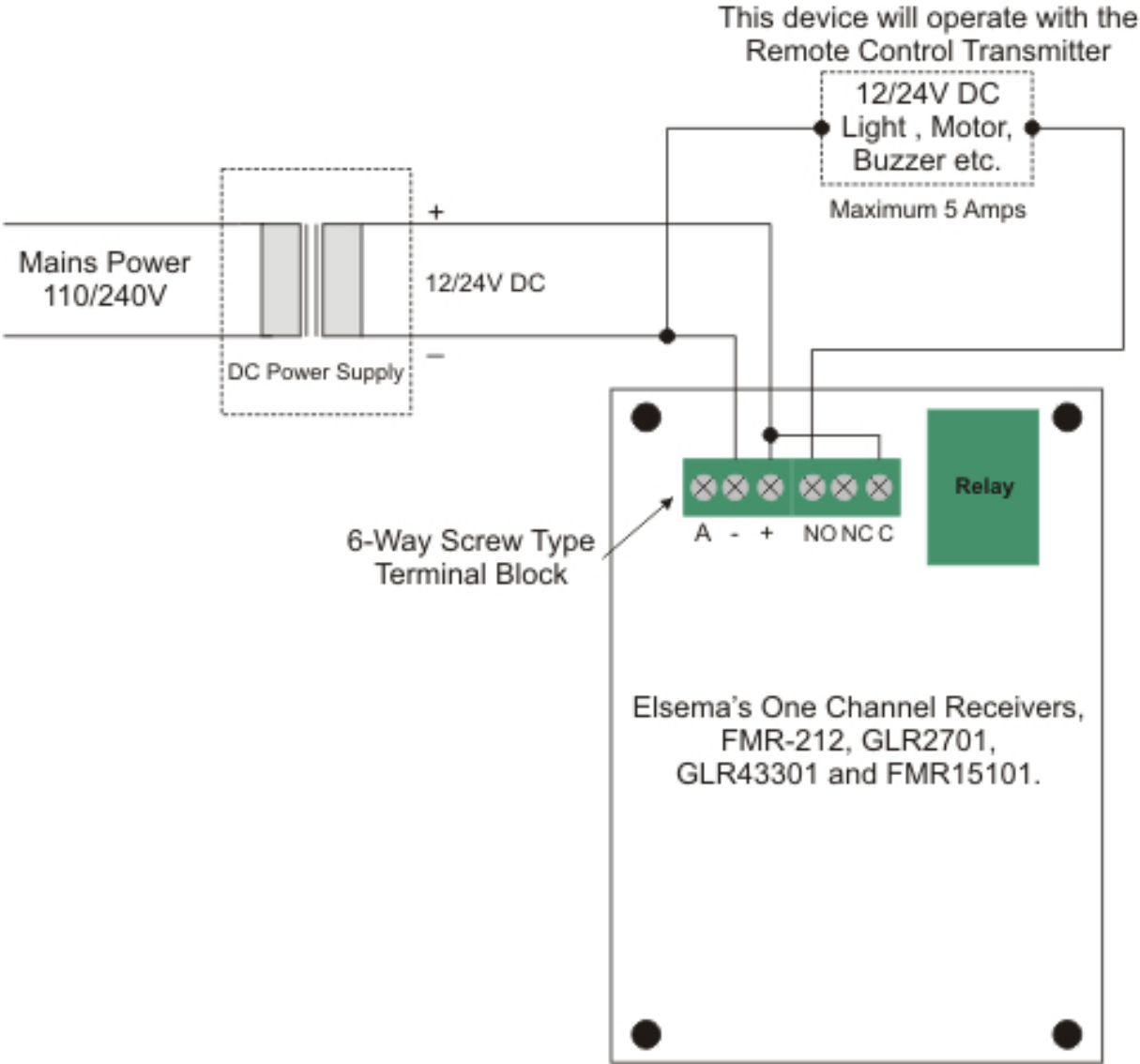
**Products in the Range**

			
<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>FMR15108</b> 8-Channel</p>	<p><b>FMR1510812R</b> 8-Channel, 12V Supply</p>	<p><b>FMR1510824R</b> 8-Channel, 24V Supply</p>

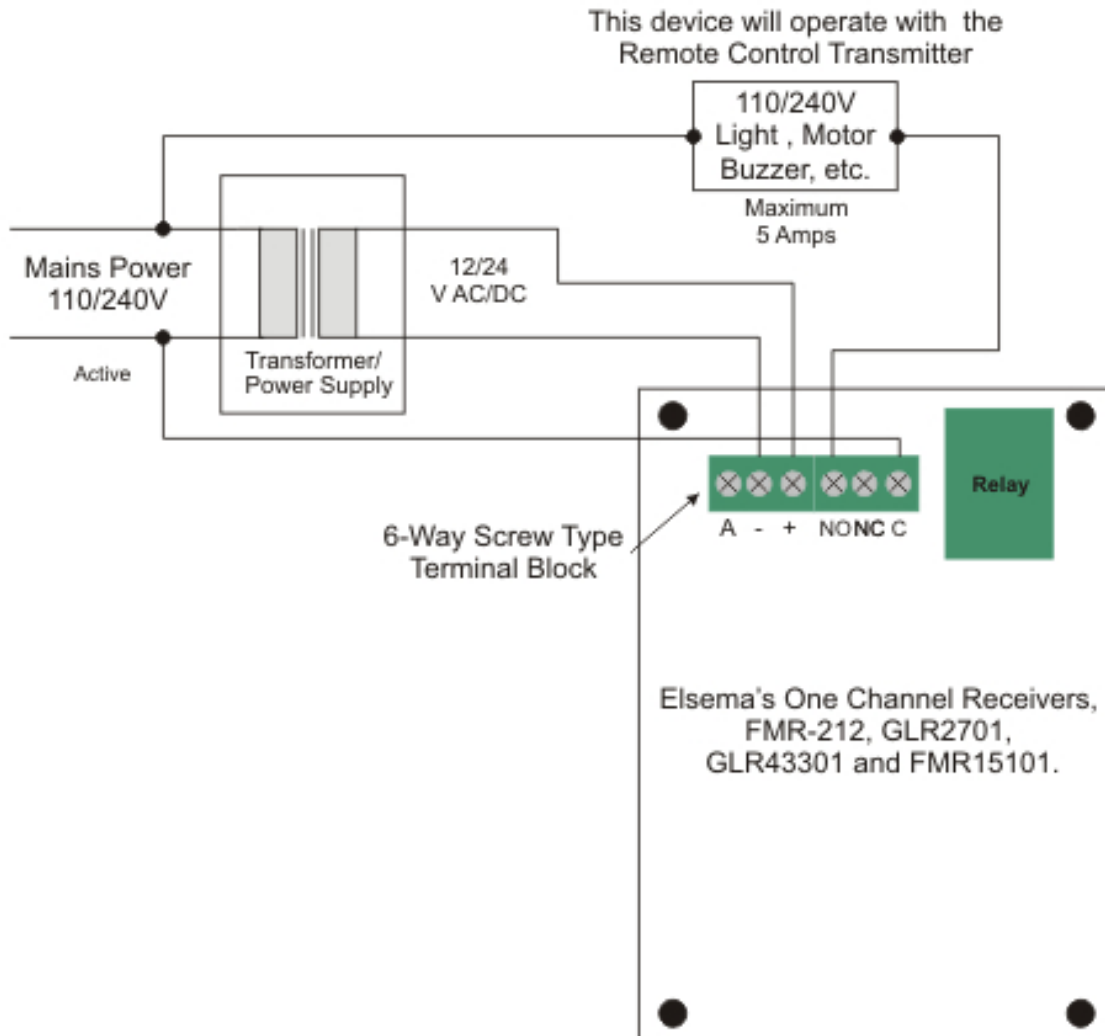
Block Diagram



FMR15101 12/24 VAC/DC Application



**FMR15101 110/240 VAC Application**



**Manufactured by**

**Elsesma Pty Ltd**  
3/10 Hume Rd, Smithfield  
NSW 2164  
Ph: 02 9609 4668  
Fax: 02 9725 2663  
Website: <http://www.elsema.com>

Distributed by: