

# FMT15101E, FMT15108E (Enclosed version)

## FMT15108 (No Case version)

1 & 8-Channel 151MHz Transmitter

### Features

- Long range – up to 5,000 meters
- Not affected by Natural or man-made electrical interference
- Specially programmed micro-controller
- Simultaneous channel transmission is possible; i.e. more than one channel can be activated at a time.

### Application

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



### Description

The FMT151 series gives a controlled range of up to 5,000 meters. The controlled operation can be any electronic or electrical operated device when used with the FMR151... series of receivers

The channels are activated via screw type terminals onto which the user can connect reed switches, toggle switches, push buttons or any form of normally open (**NO**) contact. **The input should be voltage free contact closure only.**

The 151MHz transmitter is suitable for industrial applications where you would have a high level of electrical interference. This transmitter is not affected by man made or electrical interference. This makes FMT151... an ideal choice for use in heavy industrial environment.

Each transmitter channel is individually transmitted to the receiver making it possible to do simultaneous channel transmission. This means that up to 8 different functions can be done at the same time. Each channel can operate any FMR151... series receivers making it possible to transmit each channel to different single channel receivers or to multi channel receivers.

The transmitter uses a specially programmed micro-controller which ensures the highest reliability, low standby current consumption and greater flexibility.

External supply connection and SO239 antenna socket is provided with the transmitter.

## Compatible Products



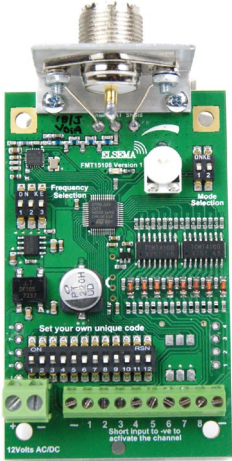


### Receivers:

- FMR15101            1-Channel Receiver with Relay Output
- FMR15101240      1-Channel Receiver with 240VAC Supply and with Relay Output
- FMR15102           2-Channel Receiver with Relay Output
- FMR15102240      2-Channel, Receiver with 240VAC Supply and with 2-Relay Outputs
- FMR15104           4-Channel Receiver with 4-Relay Outputs
- FMR15104240      4-Channel, Receiver with 240VAC Supply and with 4-Relay Outputs
- FMR15108           8-Channel Receiver with 8 Open Collector Outputs
- FMR15108R         8-Channel Receiver with 8-Relay Outputs

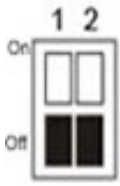
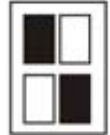


### Antenna:

- ANT151M - 1m 151MHz Antenna

## Products in the Range

|   |   |  |
|---|---|--|
|   |   |  |
| <p><b>FMT15101E</b> – 1 channel</p>   | <p><b>FMT15108E</b> – 8 channel</p>   | <p><b>FMT15108</b> – 8 channel<br/>(No Case version)</p>                             |
|  |  |  |
| <p><b>FMT15104H</b> – 4 channel</p>   | <p><b>FMT15108H</b> – 8 channel</p>   |  |

**Transmitter Modes**

|   |   |
|---|---|
|   | <p><i>Off Delay 2 – 62 seconds</i><br/>                 Transmitter will transmit a 1.5 second transmission burst and then stop for the "off delay" time selected. The "off delay" time is user selectable between 2 to 62 seconds by adjusting trimpot on the transmitter board. If the inputs change during the "off delay" period, the new code will be transmitted immediately.</p> |
|   | <p><i>Off Delay 1 – 10 minutes</i><br/>                 Same as mode 1 except the "off delay" is user selectable between 1 to 10 minutes.</p>   |
|   | <p><i>Continuous Transmission</i><br/>                 Transmitter will transmit continuously, if at least one input is activated and supply is connected. A transmission limit of five minutes is used to comply with local radio regulations.</p>   |
|  | <p><i>1.5 – 10 seconds one burst transmission</i><br/>                 Transmitter will transmit one burst and then go to standby or sleep mode. Adjusting the trimpot will vary the burst length. When the input is changed and supply is connected, transmitter will transmit one new burst of the new code.</p>  |

*(Black illustrates the position of the DIP switches)*

**Keeping the receiver ON indefinitely**

Set the transmitter to transmit every 10 sec while the input is activated (Off-delay on the transmitter) and set the delay on the receiver to more than 30 sec (more than x3). When the transmitter stops transmitting (Input is deactivated) the receiver will wait for 30 sec before turning Off. Every 10sec pulse from the transmitter will keep extending the 30sec delay on the receiver so the relay stays ON.

The times are just examples and can be adjusted. The longer the delay on the receiver, the better it is. It means the receiver should miss multiple signals before turning OFF. This will also mean that when the transmitter stops, the receiver will wait for it's delay time before turning off.

Make sure to choose the receiver which has the OFF Delay mode.

**Coding Instructions**

*Do not use the factory default code* on the 12-way dip switch. Set you own random code. Set the dip switch on the receiver to match the transmitter code. To access the 12-way dip switch, you will need to open the transmitter cover.

**Apart from the 12-way dip** switch there is an additional 3-way dip switch on the FMT15101E. This 3-way dip switch selects the receiver channel.

If you are using 8 x 1-channel transmitters with a single 8-channel receiver and each transmitter should activate a different channel on the receiver, then the setting of the 3-way dip switch will have to be different on each transmitter (3-way dip switch will give you 8 combinations). See table below.

| Transmitter | SW13 | SW14 | SW15 | Receiver channel |
|-------------|------|------|------|------------------|
| 1           | OFF  | OFF  | OFF  | CH1              |
| 2           | OFF  | OFF  | ON   | CH2              |
| 3           | OFF  | ON   | OFF  | CH3              |
| 4           | OFF  | ON   | ON   | CH4              |
| 5           | ON   | OFF  | OFF  | CH5              |
| 6           | ON   | OFF  | ON   | CH6              |
| 7           | ON   | ON   | OFF  | CH7              |
| 8           | ON   | ON   | ON   | CH8              |

**Operating Frequency**

There are 8 selectable frequencies available. This is achieved by setting the 3-way dipswitch. The default setting is for 151.6MHz (All 3 dipswitches “ON”). Following is a table with the Dipswitch settings and the corresponding frequencies.



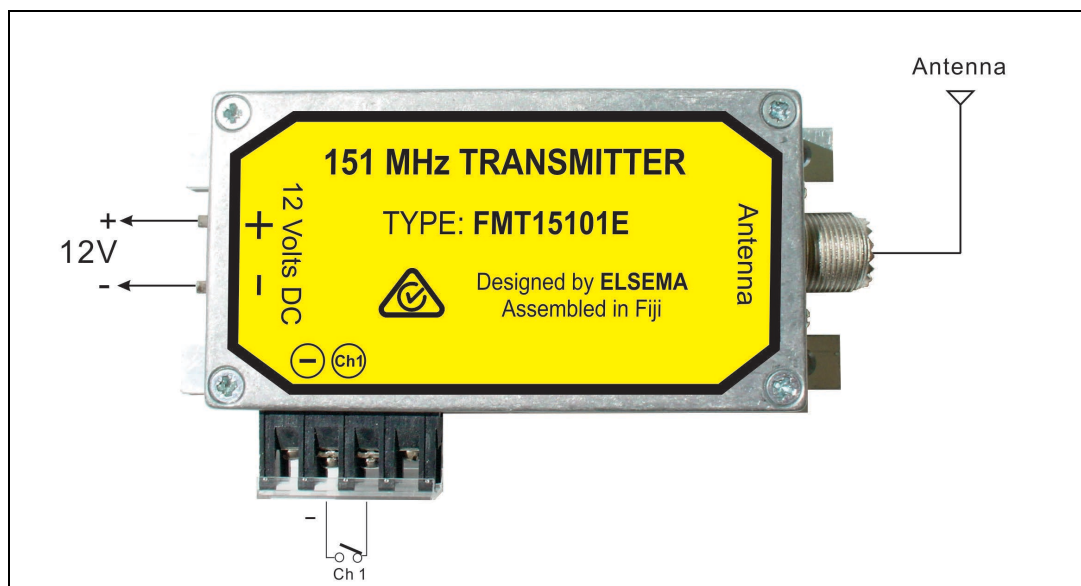
| Frequency   | 1   | 2   | 3   |
|-------------|-----|-----|-----|
| 151.600 MHz | On  | On  | On  |
| 152.375 MHz | Off | On  | On  |
| 151.775 MHz | On  | Off | On  |
| 151.400 MHz | Off | Off | On  |
| 151.175MHz  | On  | On  | Off |
| 151.025 MHz | Off | On  | Off |
| 150.900 MHz | On  | Off | Off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

**Technical Data**

|                             |   |                              |
|-----------------------------|---|------------------------------|
| Power Supply                | 12VDC. Absolute maximum 14VDC.  |                              |
| Current Consumption         | Nominal 85mA at 12VDC supply (Transmitting)<br>Nominal 12mA on standby (10uA on sleep mode, all inputs off)     |                              |
| Operating Frequency         | 151.6MHz (8 selectable frequencies. See table above)  |                              |
| Operating Temperature Range | 0 - 50°C  |                              |
| Digital Coding System       | On-board 12-way Code Switch   |                              |
| Antenna                     | Elsema ANT151M antenna  |                              |
| Dimension                   | 90 X 56 X 15 mm (PCB Assembly)  | 140 X 60 X 34 mm (Enclosed). |
| Useable Operating Range     | Up to 5000 meters, depending on installation and type of antenna used.<br>Recommended Antenna is Elsema ANT151M |                              |
| Compatible Receivers        | All Elsema type FMR-151... series   |                              |

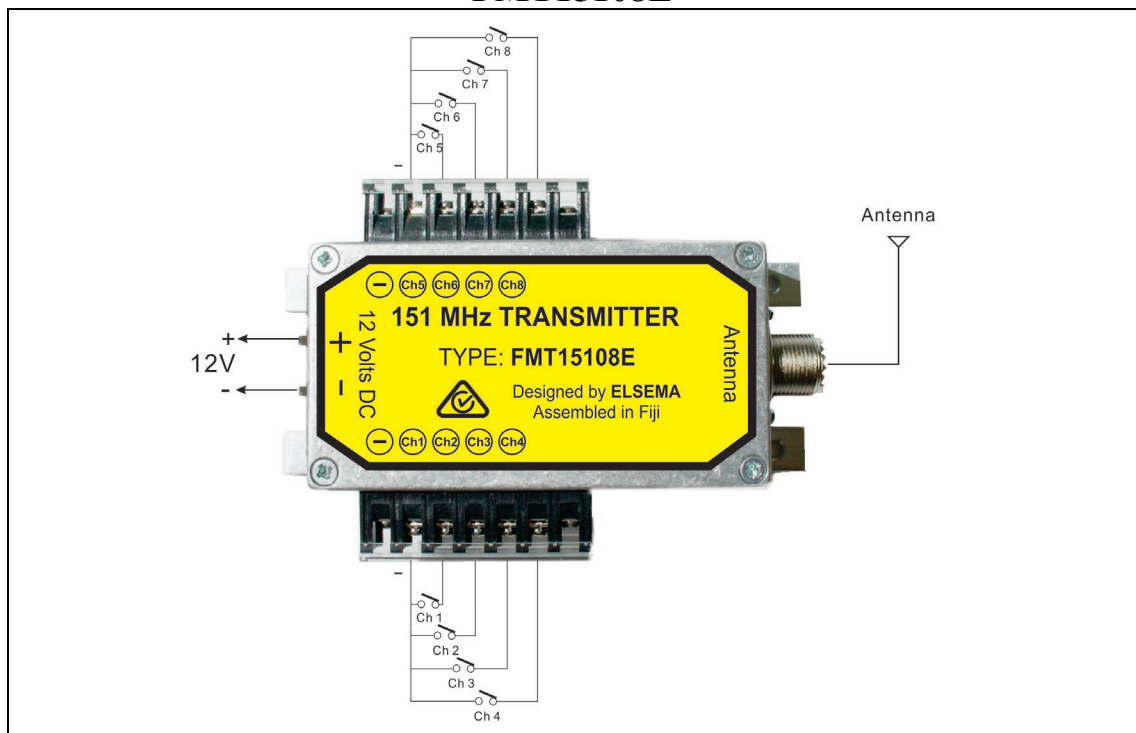
**Wiring Diagrams**

**FMT15101E**



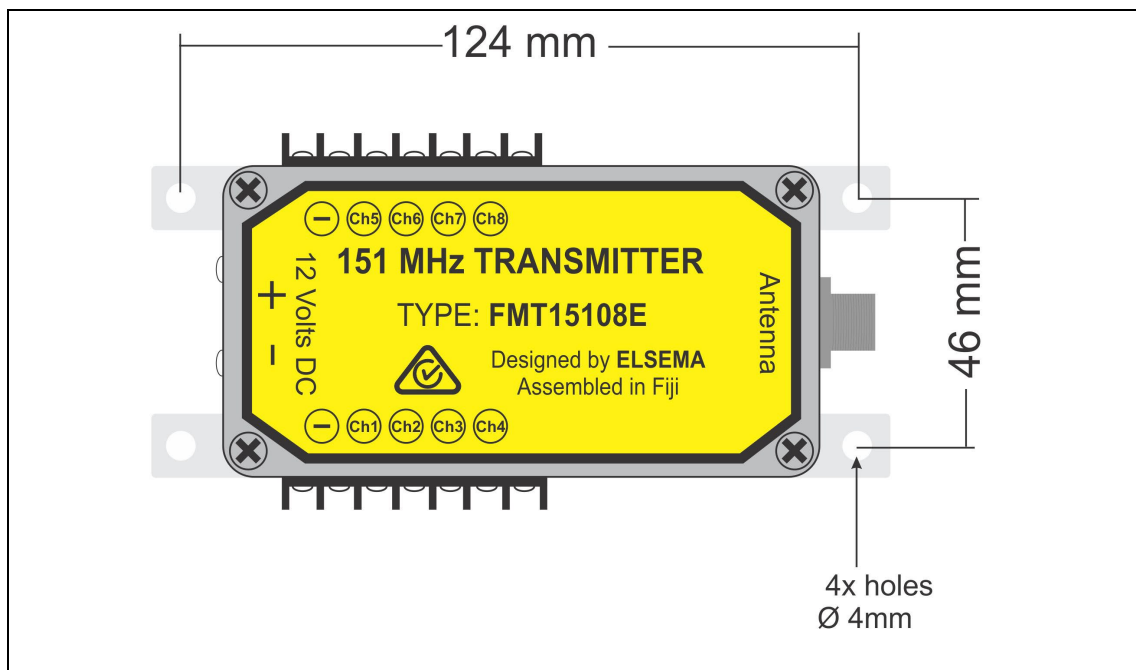
Inputs of the transmitter should be voltage free contact closure only.

**FMT15108E**



Inputs of the transmitter should be voltage free contact closure only.

**Dimension**



**Manufactured by**

**Elsema Pty Ltd**  
 31 Tarlington Place, Smithfield  
 NSW 2164, Australia.  
 Ph: 02 9609 4668  
 Website: <http://www.elsema.com>

**Distributed by**

