

FMT15404E

FMT15408E

FMT15408 (No Case version)

154 MHz Transmitter

Features

- Long range – up to 3 miles (5Km)
- 4 or 8 channels
- 100mW Transmitter
- FCC Approved
- 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 FMT154... has a transmission power of 100mWatt. It gives a controlled range of up to 3 miles. The controlled operation can be any electronic or electrical operated device when used with the FMR154... 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 transmitter uses a frequency of 154MHz and a modulation type of Narrow Band Width FM which makes it 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 FMT154... an ideal choice for use in heavy industrial environment.

Each transmitter button 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 input can operate any FMR154... series receivers making it possible to transmit each button 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 (10uA) and greater flexibility. The greater flexibility allows customers to contact Elsema and request custom written software for special functions.

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

Antenna:

- ANT154M - 1m 154MHz Antenna

Technical Data

Power Supply	11 to 13.6 VDC (for constant RF-Output), screw type terminal. Absolute maximum 14VDC.	
Current Consumption	Nominal 85mA at 12VDC supply (Transmitting) 10uA on sleep mode	
Operating Frequency	154.6MHz	
Operating Temperature Range	0 - 50°C	
Type of Emission	Narrow-band-width Frequency Modulation	
R.F. Output Power	100mWatt	
Digital Coding System	On-board 12-way Code Switch	
Antenna	SO239 socket is provided. Optimum performance use Elsema ANT154M antenna	
Dimension	90 X 56 X 15 mm (PCB Assembly)	140 X 60 X 34 mm (Enclosed).
Mounting Hole Size	4.00 mm or 5/32 " (PCB Assembly)	4.76 mm or 3/16"
Mounting Hole Spacing	Length 76 mm (3.00") Width 45 mm (1.77") (PCB Assembly)	Length 125 mm (4.92") Width 45 mm (1.77") (Enclosed).
Weight	85 grams (PCB Assembly)	225 grams (Enclosed).
Useable Operating Range	Up to 3 miles, depending on installation and type of antenna used. Recommended Antenna is Elsema ANT154M	
Compatible Receivers	All Elsema type FMR154... series	

Ordering Codes

Part Number	Description
FMT15404E	154MHz Transmitter enclosed in a case with 4 external inputs
FMT15408E	154MHz Transmitter enclosed in a case with 8 external inputs
FMT15408	154MHz Transmitter PCB assembly only with 8 external inputs
ANT154M	1 metre, 154MHz antenna with coaxial cable and PL259 connector
Receiver	
FMR15404	4-Channel receiver with relay output
FMR15408R	8-Channel receiver with relay output

Transmitter Modes

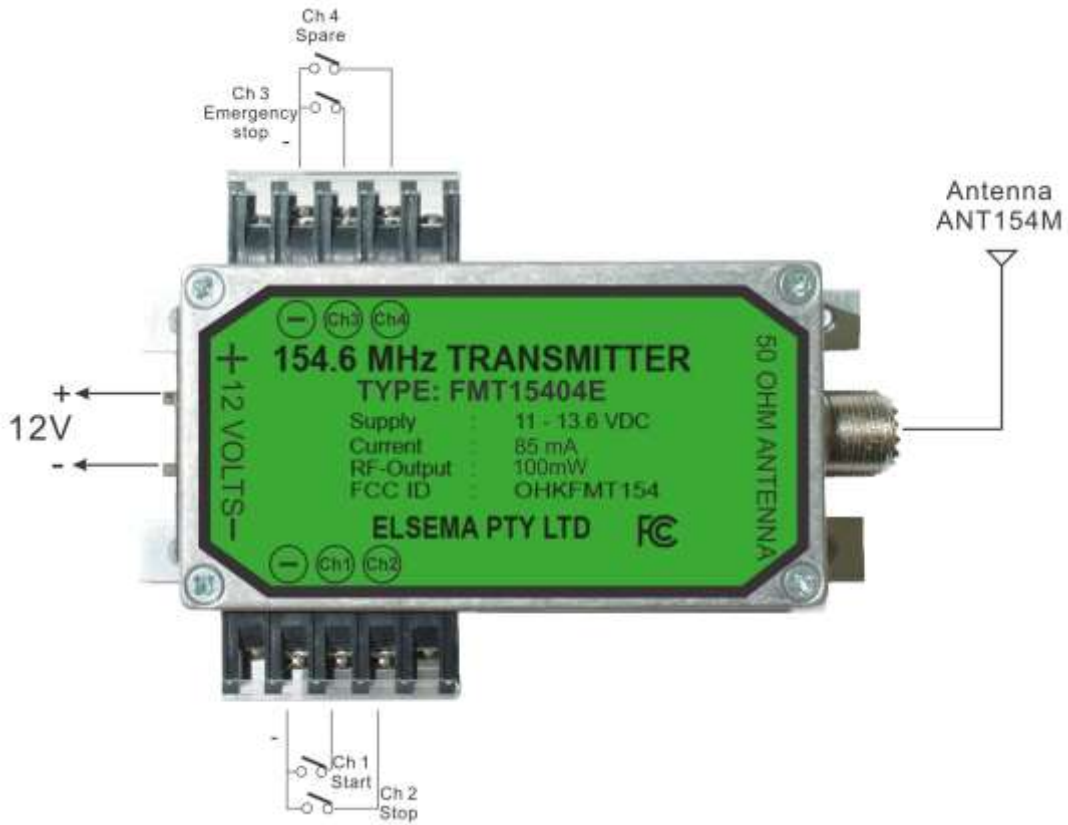
	<p><i>Off Delay 2 – 62 seconds</i> Transmitter will transmit a 1.5 second transmission burst and then stop for the "off delay" time selected. The "off delay" time is user selectable between 2 to 62 seconds by adjusting trimpot on the transmitter board. If the inputs change during the "off delay" period, the new code will be transmitted immediately. When the "off delay" time lapses, transmitter will transmit another burst. The transmitter will cycle (transmission and off delay) indefinitely, if at least one input is ON and supply is connected.</p>
	<p><i>Off Delay 1 – 10 minutes</i> Same as mode 1 except the "off delay" is user selectable between 1 to 10 minutes.</p>
	<p><i>Continuous Transmission*</i> 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. To activate a receiver longer than 5 minutes, use a delay off feature in the receiver (FMR15101) and transmitter. The delay off feature in the receiver needs to be set <u>more</u> than the transmitter. This ensures that the transmitter keeps resetting the off delay in the receiver.</p>
	<p><i>1.5 – 10 seconds one burst transmission</i> 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>
<p>Sleep mode (10 uA) is activated when all inputs are OFF; this applies to all four modes</p>	

(Grey illustrates the position of the DIP switches)

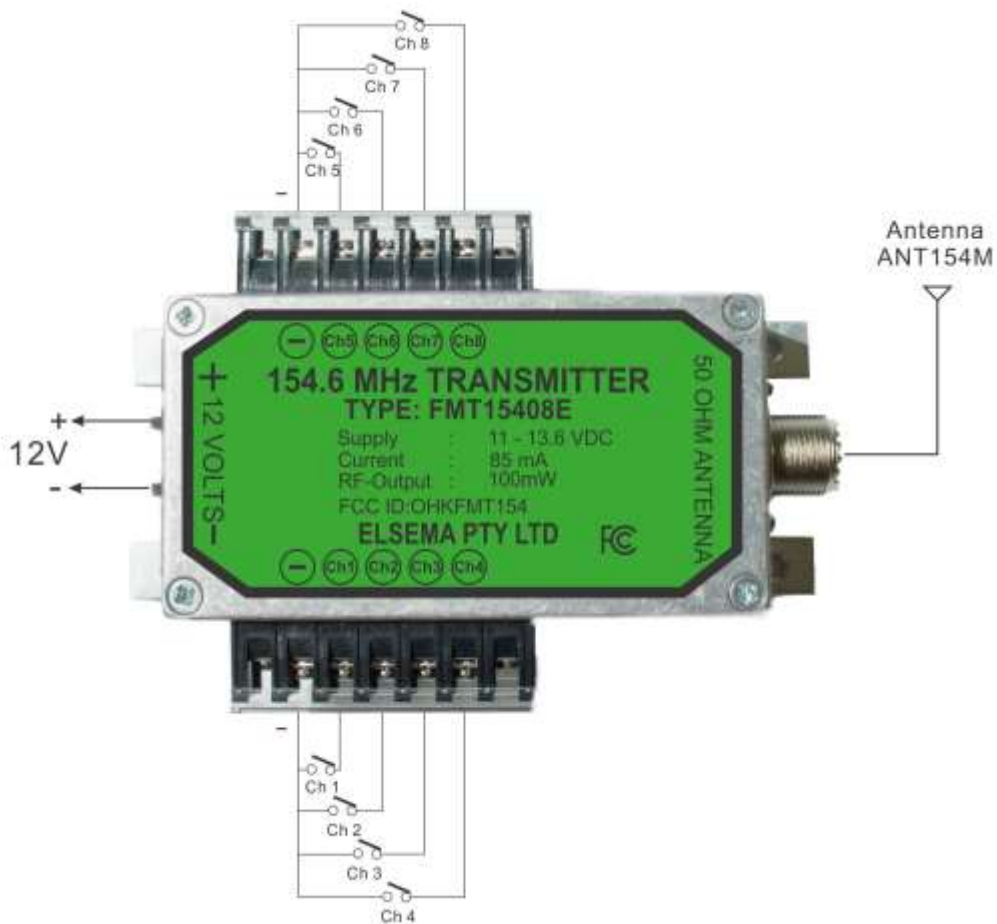
- Refer to the website for further details. <https://www.elsema.com/contitrans.htm>

Wiring Diagrams

FMT15404E



FMT15408E



TCB

**GRANT OF EQUIPMENT
AUTHORIZATION**

TCB

**Certification
Issued Under the Authority of the
Federal Communications Commission
By:**

**Bay Area Compliance Laboratory Corp.
1274 Anvilwood Avenue
Sunnyvale, CA 94089**

**Date of Grant: 03/22/2013
Application Dated: 03/22/2013**

**South Pacific Electronics Ltd.
PO Box 9417
Nadi Airport,
Fiji**

Attention: Richard Eigner , Managing Director

NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified hereon for use under the Commission's Rules and Regulations listed below.

FCC IDENTIFIER: OHKFMT154
Name of Grantee: South Pacific Electronics Ltd.
Equipment Class: Licensed Non-Broadcast Station Transmitter
Notes: 154.6 MHz Transmitter

<u>Grant Notes</u>	<u>FCC Rule Parts</u>	<u>Frequency Range (MHZ)</u>	<u>Output Watts</u>	<u>Frequency Tolerance</u>	<u>Emission Designator</u>
	95J	154.6 - 154.6	1.0	5.0 PM	20K0F1D

Output power listed is conducted. The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. Users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.



REGULATORY COMPLIANCE STATEMENTS

American Users

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Notice

This device 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 device generates, uses, and can radiate radio frequency energy and, if installed and used in accordance with the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, 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.

Caution: Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.