

FMT16108E

161 MHz Transmitter

Features

- Long range – up to 5 Km
- 8 channels
- 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 FMT16108E series of long-range transmitters offers an impressive operating range of up to 5Km, making it a robust and reliable solution specifically designed for industrial applications in the New Zealand market. These transmitters are built to deliver secure control across a variety of demanding environments, ensuring dependable performance where it matters most.

Ideal for operations such as pump control, floodlight management, sports field lighting, solar-powered systems, and grain silo control, the FMT16108E series is engineered to meet the rigorous demands of critical industrial tasks. Operating on the 161MHz frequency band, the FMT16108E series guarantees robust and stable communication, making it the perfect choice for long-distance operations across expansive sites where consistent performance is essential.

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.**

Fully compatible with the FMR series of receivers (151MHz series converted to 161MHz), the FMT16108E transmitters allow for seamless integration into both single-channel and multi-channel systems. This versatility ensures that a single transmitter can control various types of equipment, providing maximum flexibility in managing your industrial processes across a wide range of applications.

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

Antenna:

- ANT161M - 1m, 161MHz 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	160.2 – 160.5 MHz
Operating Temperature Range	0 - 50°C
Digital Coding System	On-board 12-way Code Switch
Antenna	SO239 socket is provided. Optimum performance use Elsema ANT154M antenna
Dimension	140 X 60 X 34 mm
Mounting Hole Size	4.76 mm or 3/16"
Mounting Hole Spacing	Length 125 mm (4.92") Width 45 mm (1.77")
Useable Operating Range	Up to 5,000 meters. Recommended Antenna is Elsema ANT161M
Compatible Receivers	All Elsema type FMR161... series

Ordering Codes

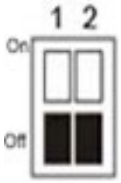
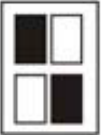
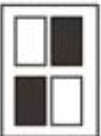
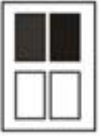
Part Number	Description
FMT16108E	161MHz Transmitter enclosed in a case with 8 external inputs
FMT16108NC	161MHz Transmitter enclosed without case
ANT161M	1 metre, 161MHz antenna with coaxial cable and PL259 connector
Receiver	
FMR16108R	8-Channel receiver with relay output

Operating Frequency

There are 4 selectable frequencies available. This is achieved by setting the 3-way dipswitch labelled as "Frequency Selection". The default setting is 160.200MHz. Following is a table with the Dipswitch settings and the corresponding frequencies. *Dip-switch 3 is reserved – not used*

Frequency	1	2	3
160.500 MHz	On	On	Off
160.400 MHz	Off	On	Off
160.300 MHz	On	Off	Off
160.200 MHz	Off	Off	Off

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)

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.