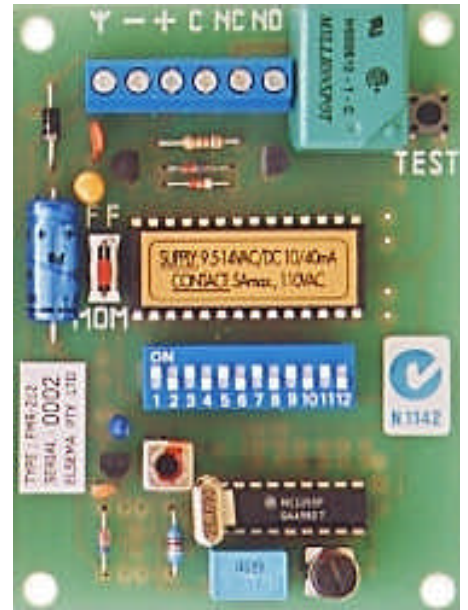


FMR-212 and FMR-224 27MHz FM RECEIVER, FOR 12/24 VOLT SUPPLY

The FMR-212/24 is a crystal controlled single channel receiver, comprising of receiving, decoding and relay-output sections. A specially designed LARGE SCALE INTEGRATED CIRCUIT (LSI) is employed in the decoder section, which ensures operation at low supply voltage, highest reliability, associated with very low power drain.

The receiver works on a digitally encoded 27 MHz frequency modulated (FM) signal. It may be used in applications such as the remote control of garage doors, gates, lights, alarms or in any other new or existing installations where the use of conventional wiring is difficult or impossible to accomplish.

If the code of the input signal (from a transmitter) matches the setting of the coding switch on the receiver (up to 4096 combinations), an output is obtained i.e. the relay operates. This relay provides a clean set of contacts for switching DC current up to 5 Amps.



Connection to the receiver is via a six-way screw-type terminal block. The receiver can be mounted to a Quick Mount or in a black UBB case.

As an antenna, a piece of any type of wire, approximately one meter long, will be sufficient for a reliable control range of up to 400 metres, with our FMT... hand transmitters. A longer wire or a proper 27 MHz CB-Antenna should further improve control range. If a CB-Antenna is used, the shield of the cable must be connected to the "minus terminal".

A push Button (designated as "TEST") is provided for relay output testing.

In the momentary mode (MOM) the relay is only activated while the correct signal is received. When changing the slide switch from "MOM" to "FF" (flip/flop mode) the output relay is toggled with every correct incoming signal. This enables the direct use for switching on/off lights etc. In flip/flop mode, the relay always energises at the initial "power-up".

If a "latching-on" output is required, for example receiver is used together with a "Panic Button", a wire link is to be fitted as shown below. In such a case the relay can only be reset again by momentarily interrupting the supply.



Another feature available is a "delayed-off" output. To facilitate it, a small time unit DU-3 is to be fitted into the four unused holes. When ordering receivers with this function, please specify length of which may be between 1 second to 60 minutes. In this mode the relay energises when a correct code is received or the "TEST" is pushed, and de-energises after the time unit.

Care must be taken, not to bring a receiver near strong magnetic fields, such as DC-Motors, speakers, magnets for reed switches, transformers etc. as it would magnetise the coils and may cause severe de-tuning.

TECHNICAL DATA ON FMR-212/24

SUPPLY VOLTAGE

FMR-212 :	9.5 to 14 VAC/DC. Can use Elsema 12-Volt AC Power Supply (PP12).
FMR-224 :	20 to 28 VAC/DC. Can use Elsema 24-Volt AC Power Supply (PP24).

CURRENT CONSUMPTION

FMR-212 :	10mA standby, 40mA if relay on.
FMR-224 :	10mA stand by, 25mA if relay on.

RECEIVING FREQUENCY : 27.145 MHz (Other frequencies available on 27.045, 27.195 and 27.455 MHz. The 27.455 frequency is not available for Australia).

TYPE OF CRYSTAL USED : 26.690 MHz, 3rd overtone, 20 pf, 30ppm at 0 to 50°C.

IF FREQUENCY : 455 KHz

SELECTIVITY : At least -40 dB at + - 10 KHz.

SENSITIVITY : Better than 1 μ V (For relay to switch on).

TYPE OF DEMODULATION : Narrow-band-width Frequency Modulation (FM).

BAND WIDTH : + - 2.5 KHz

DECODING SYSTEM : On board 12-way coding switch (4096 Digital Channels).

OUTPUT : Change over relay output, rated at 5 Amps/240V

RELAY CONTACTS : Common (C) Normally Close (NC) and Normally Open (NO)

CONNECTIONS : 6-way screw type terminal block.

ANTENNA : 50 ohms, 27 MHz CB-Antenna or piece of approximately 1 metre of wire.

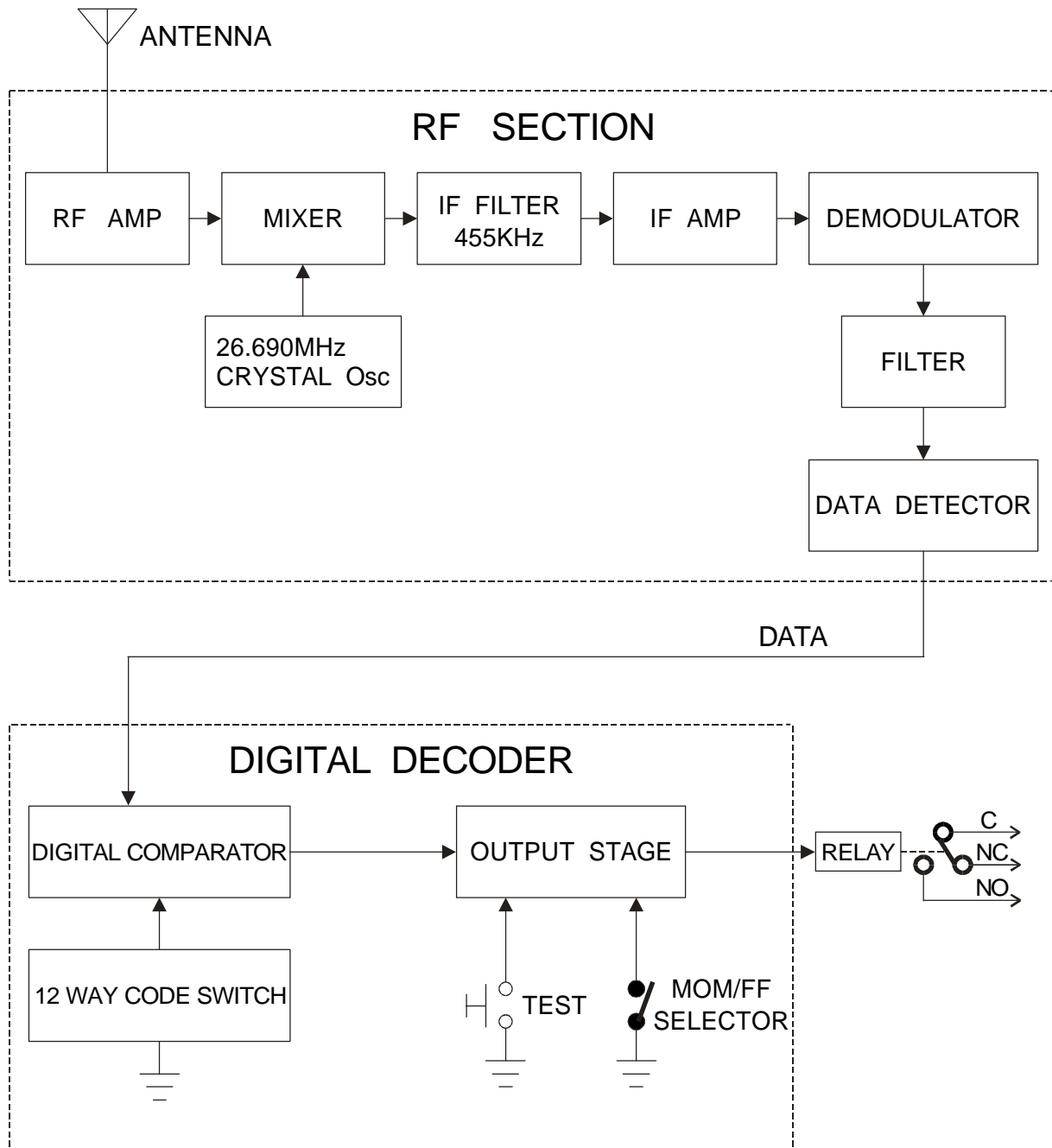
DIMENSIONS : 96 X 70 X 20 mm

MOUNTING : Clip into a QM100 Quick Mount or UBB plastic case

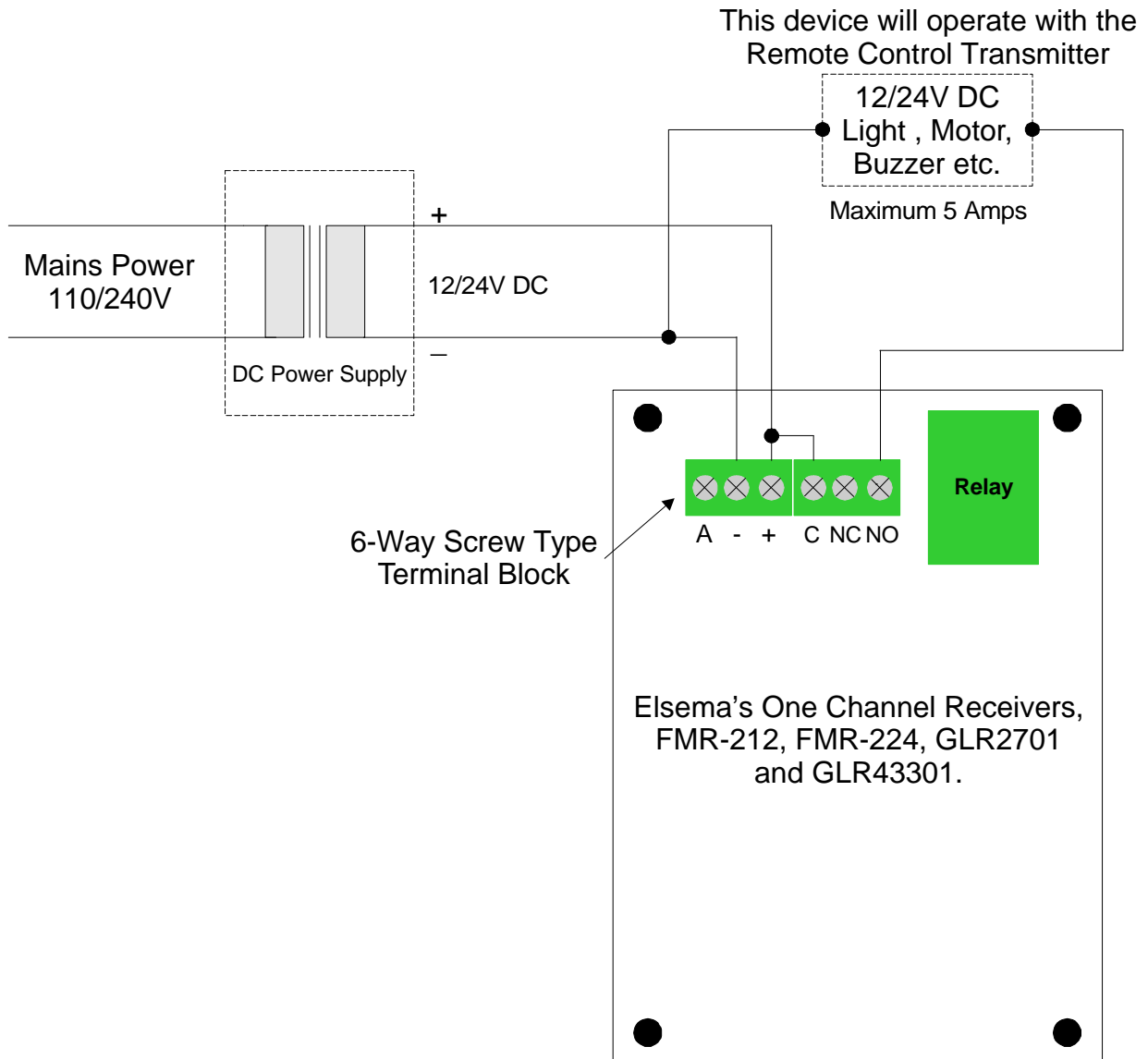
WEIGHT : 58 grams

USEABLE TRANSMITTERS : All Elsema type FMT-... series.

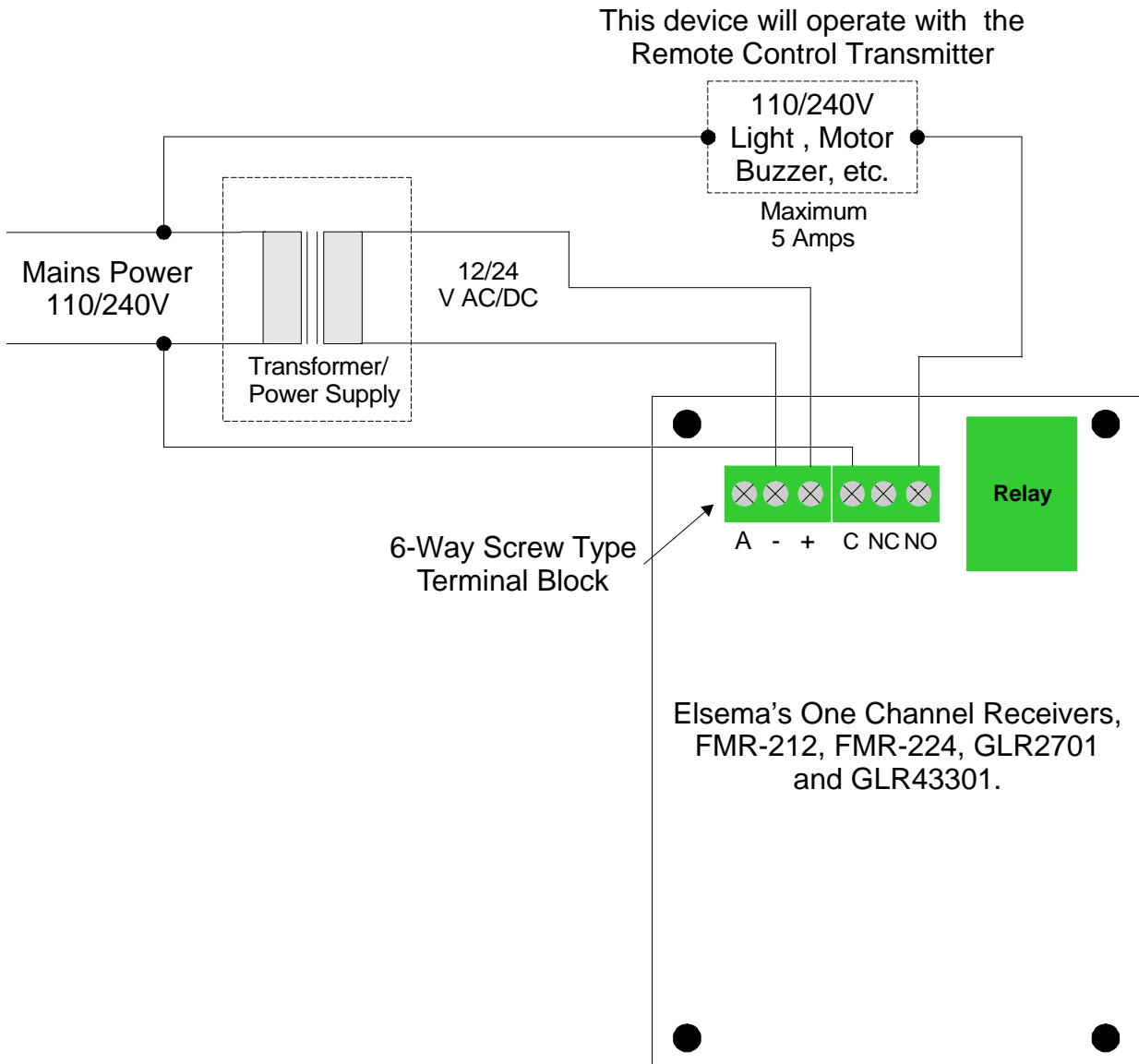
FMR-212/24 BLOCK DIAGRAM



FMR-212/24 12/24 VAC/DC APPLICATION

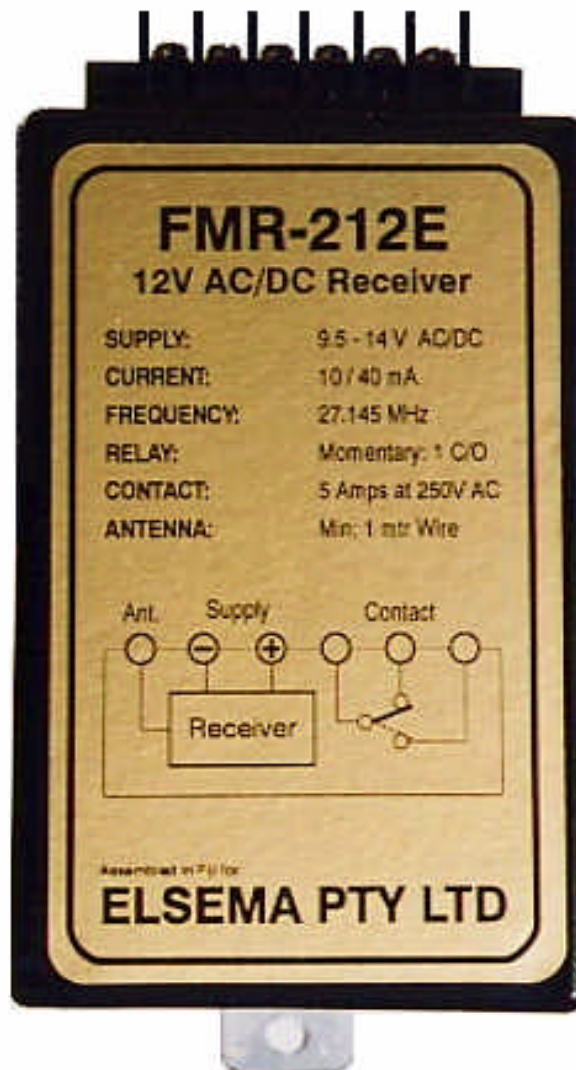


FMR-212/24 240/110 VAC APPLICATION



FMR-212E AND FMR-224E RECEIVER WITH UBB PLASTIC CASE

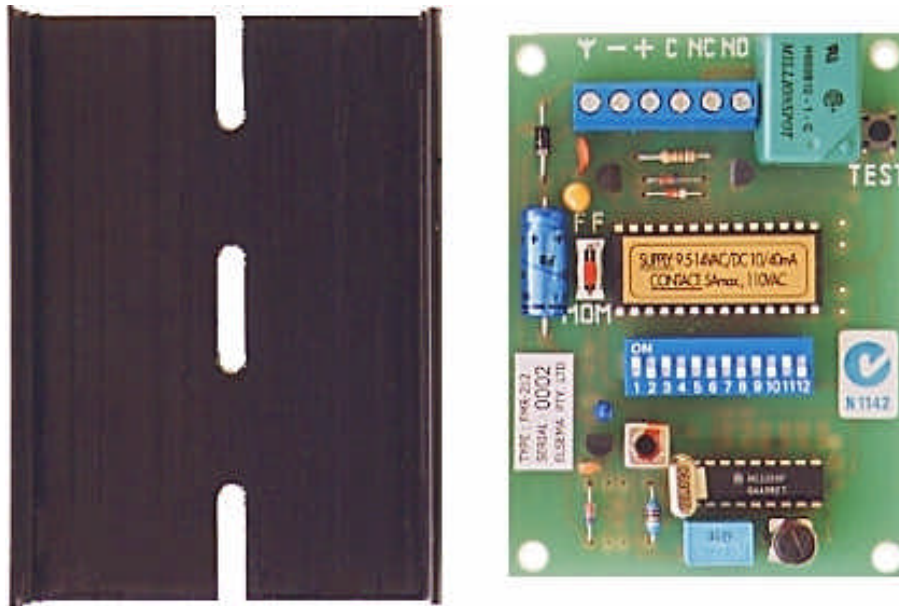
The FMR-212 and FMR-224 are available in an attractive UBB plastic case with an aluminum-mounting bracket. This aluminum bracket has a keyhole, to enable easy mounting of the receiver on walls, roofs etc.



Above is the FMR-212 in a UBB Plastic Case

Not to Scale

FMR-212Q AND FMR-224Q RECEIVER WITH QM100 QUICK MOUNT



The FMR-212 and FMR-224 can be clipped into the quick mount. The quick mount has slots to enable easy mounting of the receiver on walls, roofs etc.