

# MCT-234

Wireless CodeSecure™ Keyfob Transmitter



Visonic

Installation Instructions

## 1. INTRODUCTION

The MCT-234 is a miniature CodeSecure™ 4-button (4-function) transmitter, designed for use with advanced, high-security alarm and remote control systems such as the Visonic Ltd. UL-listed model PowerMax. For UL installations, use UL listed control panel, model PowerMax+ only.

Transmission is initiated by pressing any one of the four recessed pushbuttons. Upon pressing a specific button, the MCT-234 transmits a CodeSecure™ digital sequence identifiable by compatible CodeSecure™ receivers, and a 4-bit function code associated with the button that was pressed.

The next time a button is pressed, the MCT-234 will transmit a digital sequence that differs from the one used in the previous transmission and the respective function code. As a result, malicious "code grabbing" is virtually impossible.

Operating power is obtained from an internal 12 V alkaline battery. A red LED lights during transmission as long as the battery voltage exceeds 8.6 V. If the LED flashes during transmission, the battery must be replaced without delay. In addition, a "low battery" report will be transmitted with the outgoing digital message. Compatible receivers are designed to identify this report and operate a corresponding output.

Each transmitter is supplied with a small key ring.



Figure 1. MCT-234

## 2. SPECIFICATIONS

**Frequency (MHz):** 315, 433.92, 868.95, or other per local requirements (UL has only investigated at 315 MHz).

**Modulation:** ASK (ON-OFF keying)

**Coding:** 28-bit ID, 4-bit function code and 32-bit rolling code.

**Transmission Duration:** Each button press causes transmission for up to 2 seconds.

**Power Supply:** 12 V alkaline battery, type GP 23A or equivalent. For UL installations, use battery manufactured By GP.

**Current Consumption:** 11 mA (during transmission)

**Battery Life Expectancy:** 1 year (for typical use)

### Battery Supervision:

Good battery - LED lights steadily upon transmission.

Low battery - LED flickers upon transmission.

**Note:** If transmission is still possible despite the battery condition, the unit will send a low battery signal to the receiver.

**Operating Temperature:** 0° to 49°C (32° to 120°F).

**Dimensions:** 53.5 x 31.5 x 12.5 mm (2-1/8 x 1-1/4 x 1/2 in.).

**Weight (including battery):** 21 g (3/4 oz).

**Color:** Black

**Compliance with Standards:** FCC Part 15, MPT1349 and Directive 1999/5/EC

## 3. TESTING AND MAINTENANCE

### 3.1 Testing a New Unit

Since the MCT-234 is supplied with the battery already installed, the unit is practically ready to be tested.

**IMPORTANT! Before testing, "teach" the target receiver the ID code of the MCT-234, as instructed in the receiver's programming manual.**

- Stand 3 m (10 ft) away from a target receiver (or wireless control panel) and press the MCT-234 button marked with a closed padlock icon. Verify that the transmit LED lights.
- Make sure that the receiver (or control panel) responds as programmed and as stated in the receiver's instruction manual.
- Operate the transmitter from various locations within the area covered by the receiver to determine "dead" locations, where transmission is blocked by walls and large objects, or affected by structural materials.

**Note:** If dead/marginal zones are a problem, relocating the receiver may improve the performance.

### 3.2 Replacing the Battery

The battery should be replaced once every 12 months or upon observing that the LED flickers when transmitting. A replacement 12 V alkaline battery, such as Vinnic L1028, is available from hardware and electrical supply stores. For UL installations, use battery manufactured By GP. Replace the battery as follows:

- Use a small Phillips screwdriver to open the miniature screw at the back of the unit. Take care not to lose the screw.
- Put the unit down and extract the battery from its holder (see Figure 2).

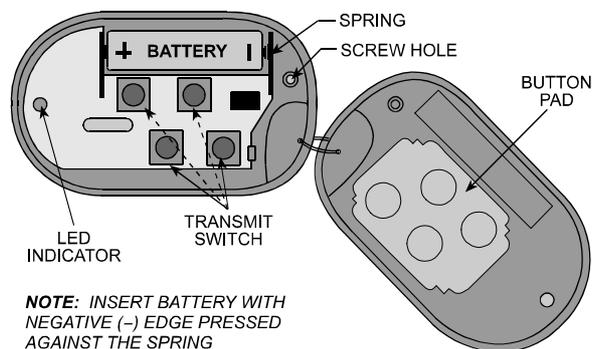


Figure 2. Inside View with Cover Removed

**Note:** Make sure the elastic pad within the cover remains in place. Put it back in place if it falls off.

- Insert the new battery, observe polarity.
- Test the unit by momentarily pressing one of the transmit switches. The LED indicator should light.
- Put the cover back on and re-attach it with the screw.

### 3.3 Cleaning

The transmitter may get dirty if touched with greasy fingers. Clean it only with a soft cloth or sponge moistened lightly with a mixture of water and mild detergent, and wipe it dry immediately.

**The use of abrasives of any kind is strictly forbidden. Also never use solvents such as kerosene, acetone or thinner.**

## 4. MISCELLANEOUS COMMENTS

### 4.1 Product Limitations

Visonic Ltd. wireless systems are very reliable and are tested to high standards. However, due to their low transmitting power and limited range (required by FCC and other regulatory authorities), there are some limitations to be considered:

- A. Receivers may be blocked by radio signals occurring on or near their operating frequencies, regardless of the code selected.
- B. A receiver can only respond to one transmitted signal at a time.
- C. Wireless equipment should be tested regularly to determine whether there are sources of interference and to protect against faults.

### 4.2 Compliance with Standards

This device complies with the essential requirements and provisions of Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio and telecommunications terminal equipment.

The 315 MHz model of 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 that may be received, including interference that may cause undesired operation.

**The user is cautioned that changes or modifications to the unit, not expressly approved by Visonic Ltd., could void the user's FCC authority to operate the equipment.**

### 4.3 Frequency Allocations for Wireless Devices in European (EU) Countries

- 433.92 MHz has no restriction in any EU member state.
- 315 MHz is not allowed in any EU member state
- 868.95 MHz (wide band) is allowed in all EU member states
- 869.2625 MHz (narrow band) is not restricted in any EU member state.

#### WARRANTY

Visonic Ltd. and/or its subsidiaries and its affiliates ("the Manufacturer") warrants its products hereinafter referred to as "the Product" or "Products" to be in conformance with its own plans and specifications and to be free of defects in materials and workmanship under normal use and service for a period of twelve months from the date of shipment by the Manufacturer. The Manufacturer's obligations shall be limited within the warranty period, at its option, to repair or replace the product or any part thereof. The Manufacturer shall not be responsible for dismantling and/or reinstallation charges. To exercise the warranty the product must be returned to the Manufacturer freight prepaid and insured.

**This warranty does not apply in the following cases:** improper installation, misuse, failure to follow installation and operating instructions, alteration, abuse, accident or tampering, and repair by anyone other than the Manufacturer.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express or implied, including any warranty of merchantability or fitness for a particular purpose, or otherwise. In no case shall the Manufacturer be liable to anyone for any consequential or incidental damages for breach of this warranty or any other warranties whatsoever, as aforesaid.

This warranty shall not be modified, varied or extended, and the Manufacturer does not authorize any person to act on its behalf in the modification, variation or extension of this warranty. This warranty shall apply to the Product only. All products, accessories or attachments of others used in conjunction with the Product, including batteries, shall be covered solely by their own warranty, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, caused by the malfunction of the Product due to products, accessories, or attachments of others, including batteries, used in conjunction with the Products.

The Manufacturer does not represent that its Product may not be compromised and/or circumvented, or that the Product will prevent any death, personal and/or bodily injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product will in all cases provide adequate warning or protection. User understands that a properly installed and maintained alarm may only reduce the risk of events such as burglary, robbery, and fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no death, personal damage and/or damage to property as a result.

**The Manufacturer shall have no liability for any death, personal and/or bodily injury and/or damage to property or other loss whether direct, indirect, incidental, consequential or otherwise, based on a claim that the Product failed to function.** However, if the Manufacturer is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, the Manufacturer's maximum liability shall not in any case exceed the purchase price of the Product, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive remedy against the Manufacturer.

**Warning:** The user should follow the installation and operation instructions and among other things test the Product and the whole system at least once a week. For various reasons, including, but not limited to, changes in environmental conditions, electric or electronic disruptions and tampering, the Product may not perform as expected. The user is advised to take all necessary precautions for his /her safety and the protection of his/her property.

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