

# MCT-101, 102, 104 (3v)

## Hand-Held PowerCode Transmitters



# Visonic

## Installation Instructions

### 1. INTRODUCTION

The MCT-101 (one button), MCT-102 (2 buttons) and MCT-104 (4 buttons) are hand-held, PowerCode UHF transmitters, especially designed for use in supervised alarm and remote control systems.

Transmission is activated by pressing any one of the transmit pushbuttons on the unit. When pressed, each button initiates transmission of a unique 24-bit PowerCode ID which identifies it to the target receiver as if it were a separate transmitter. Each unique ID code is factory-selected from 16 million possible combinations.

A built-in mode selector allows choosing between continuous transmission for as long as the button is pressed and timed 3-second transmission, no matter how long the button is pressed. Another built-in mode selector is used to enable/disable a once-per-fifteen-minute supervision message (once-per-hour for the 315 MHz model), or according to local standards.

Since messages transmitted by the MCT-101, -102 and -104 might collide with other messages sent by other PowerCode transmitters, a smart anti-collision transmission sequence is used.

Operating power is obtained from an internal long-life 3-volt lithium thionyl chloride battery. An LED lights during transmission, indicating the battery voltage condition. If the LED flashes during

transmission, the battery must be replaced immediately. In addition, a transmitter with a weak battery will automatically add a "low battery" code to each transmission. Compatible receivers are designed to identify this code and activate a corresponding output.

Each transmitter of this series is supplied with a belt clip that can be optionally attached to the unit (see Figure 5).

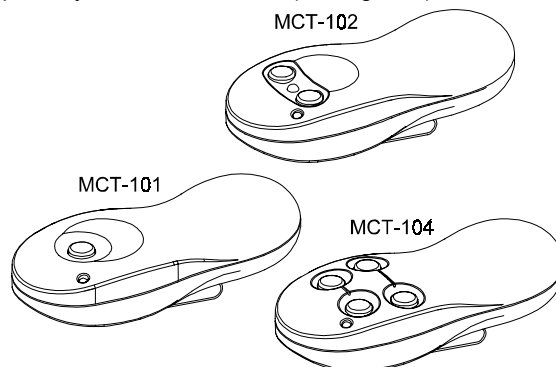


Figure 1. MCT-101, MCT-102 and MCT-104

### 2. SPECIFICATIONS

**Frequency (MHz):** 315, 433.92, 868.95, 869.2625 or other frequencies according to local requirements.

**Encoding:** 24-bit digital word, over 16 million combinations.

**Transmission duration:** As long as the button is kept pressed, or 3-seconds (depending on DIP switch setting).

**Power Source:** 3 V battery, Panasonic type CR-2 or equivalent.

**Battery Supervision:** Automatic reporting of battery condition data as part of any transmission.

**Battery Life Expectancy:** 3 years (for typical use)

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

**Dimensions:** 104 x 44 x 24 mm (4-1/8 x 1-3/4 x 15/16 in.).

**Weight:** 50 g (1-3/4 oz).

**Color:** Dark gray.

**Compliance with Standards:**

This device complies with Part 15 of the FCC Rules and RSS-210 of Industry and Science Canada. 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.

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.

### 3. PREPARATION FOR USE

#### 3.1 Battery Installation

- Remove the screw at the back of the unit.
- Insert a 1/8 inch screwdriver in the slot either at the top or at the bottom of the case. Rotate the screwdriver handle slightly until one edge of the cover disengages from the base.
- Swing up the free end of the cover and separate the cover from the base.

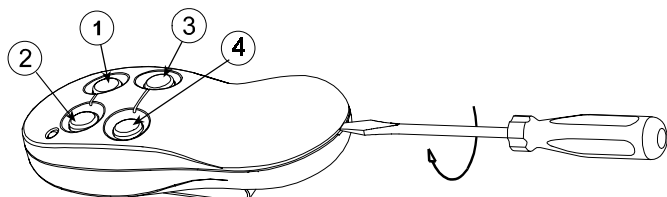


Figure 2. Opening the Case

- Extract the transmitter module from the base by grasping the battery holder and pulling out.

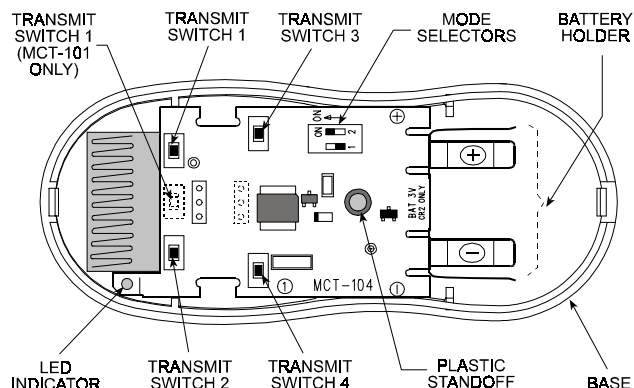


Figure 3. Component Layout

- E. Insert the 3 volt Lithium battery (Panasonic CR-2 or equivalent) into the battery holder, so that the (+) and (-) markings on the battery coincide with the markings on the printed circuit board (close to each battery clip).
- F. Gently press one pushbutton switch and verify that the LED lights, indicating good battery condition.

### 3.2 Setting the Mode Selectors

Two DIP switches on the unit's printed circuit board allow you to choose between operating modes, as portrayed in Figure 4.

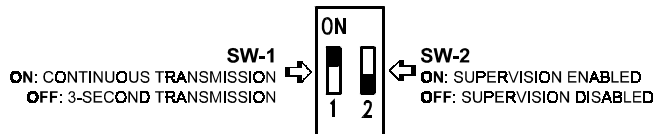


Figure 4. Mode Switch Tasks and Positions

The factory default settings are as shown in Figure 4. To change modes, shift the proper switch to the opposite position.

**IMPORTANT! Due to a 6-second mode-update delay, wait 6 seconds before testing a newly selected mode.**

### 3.3 Closing the Case

- A. Carefully engage the ridge at the top of the base with the dent at the top of the cover. Press the bottom ends of both halves of the case together until they click shut.
- B. Re-insert and tighten the screw at the back of the unit.

**Note:** If the user needs the belt clip (included), position the belt clip as shown in Figure 5 and insert the screw through the hole in the clip.

### 3.4 Learning and Testing

- A. Refer to the target receiver's installation instructions, and let the receiver "learn" the ID codes associated with each pushbutton of the transmitter. You may test the unit's effect on the system in which it works only after having conducted the learning session.

**Since the supervision message is always sent with the first button's ID, it is mandatory to learn the first button's ID. Failure to do so will disable the supervision function.**

**ATTENTION!** Because each pushbutton acts as an independent transmitter with an individual ID, make sure that all IDs are learned by the receiver.

With the target receiver in the LEARN mode, an alarm transmission from each pushbutton will enroll the button's ID in the receiver's memory.

- B. Stand 3 m (10 ft) away from the receiver and operate the transmitter.
- C. Verify that the transmitter LED lights, indicating good battery condition. Also verify that the system responds to your transmission by performing the desired function.

- D. Operate the transmitter from various locations within the area covered by the receiver to determine "dead" locations, where transmission is obstructed by walls and large objects, or affected by structural materials.

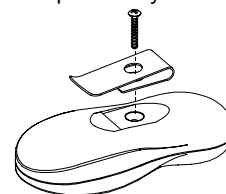


Figure 5. Belt Clip Installation

## 4. PRODUCT LIMITATIONS

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

- A. Receivers may be blocked by radio signals 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 (at least once a week) to determine whether there are sources of interference and to protect against faults.

**WARNING:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### 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.

#### 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 state.
- 869.2625 MHz (narrow band) is not restricted in any EU member state.

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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VISONIC LTD. (ISRAEL): P.O.B 22020 TEL-AVIV 61220 ISRAEL. PHONE: (972-3) 645-6789, FAX: (972-3) 645-6788  
 VISONIC INC. (U.S.A.): 10 NORTHWOOD DRIVE, BLOOMFIELD CT. 06002-1911. PHONE: (860) 243-0833, (800) 223-0020 FAX: (860) 242-8094  
 VISONIC LTD. (UK): FRASER ROAD, PRIORY BUSINESS PARK, BEDFORD MK44 3WH. PHONE: (0870) 7300800 FAX: (0870) 7300801  
 INTERNET: WWW.VISONIC.COM

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