

# MCT-211

## Waterproof PowerCode Wrist Transmitter



## Installation Instructions

### 1. INTRODUCTION

The MCT-211 is a miniature waterproof wrist-worn transmitter, designed for use in advanced, high security alarm and remote control systems. Transmission is initiated by depressing the pushbutton at the center of the unit. When activated, the transmitter sends out a 24-bit ID code and an alarm code, both identifiable by compatible PowerCode type receivers. The ID code assigned to each transmitter is factory-selected from over 16 million possible combinations, and is therefore unique and virtually impossible to reproduce.

All MCT-211 units are supplied with a wrist band, to be worn like a regular watch. Operating power is obtained from a coin-type, 3-volt lithium battery that can last up to 10 years.

An LED lights during transmission, indicating that the battery voltage exceeds 2.4 V approximately.

If the LED does not light (in 315 & 433 MHz versions) or flashes (in 868.95 MHz version) during transmission, the battery must be replaced immediately. In addition, a transmitter in which the battery is low will automatically add a "low battery" code to its outgoing digital message. Compatible receivers are designed to identify this code and operate audible, visual or other alert devices

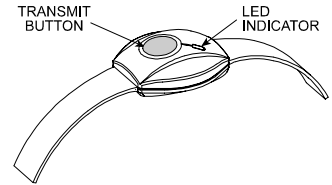


Figure 1. MCT-211, General View

### 2. SPECIFICATIONS

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

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

**Transmitter ID:** 24-bit digital word, over 16 million possible code combinations, pulse width modulation.

**Total Message Length:** 36 bits

**Minimum Transmit Duration:** 2 sec

**Power Supply:** 3-volt Lithium cell (Sanyo type CR-2025 or equivalent).

**Nominal Battery Capacity:** 150 mAh

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

**Battery Supervision:**

Good battery - LED lights steadily upon activation.

Low battery - LED **does not light** (in 315 & 433 MHz versions) upon activation.

- LED **flashes** (in 868.95 MHz version) upon activation.

**Note:** If transmission is still possible despite the battery condition, the MCT-211 will send a low battery report to the receiver.

**Operating Temperature:** 0° to 50°C (32° to 122°F).

**Dimensions:** Ø 35 mm (1.4 in.).

**Weight:** 25 g (0.9 oz).

**Color:** Black (Purple button)

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.

**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.

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. TESTING AND MAINTENANCE

#### 3.1 Testing a New Unit

Since the MCT-211 is supplied with the battery already installed, the unit is practically ready to be tested.

A. "Teach" the target receiver the ID code of the tested transmitter, as instructed in the target receiver's installation manual.

B. Stand 3 m (10 ft) away from a target receiver and operate the MCT-211 by depressing its transmit pushbutton. Verify that the transmitter LED lights, indicating good battery condition.

**Note:** The LED will light for 2 seconds even if you press the button for a shorter duration.

C. Observe that the receiver's LED lights, and make sure that the receiver reacts as programmed.

D. Operate the transmitter from various locations within the area covered by the target 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 Battery Replacement

The original battery supplied with the transmitter can be used for 3 years (for single transmission per day).

Battery replacement will therefore be needed very rarely. To replace the battery proceed as in 3.3, 3.4, 3.5, below.

#### 3.3 Opening the Case

A. Put the transmitter face down.

B. Loosen and remove the 4 screws shown in Figure 2. Take care not to lose the screws.

C. Turn the transmitter over. Hold the base between the fingers of one hand, and pull the cover off.

D. Make sure that the rubber ring that serves as a seal is in place around the rim of the base. If it comes loose, save it for later use together with the screws.

**Note:** The strap pivots are seated in open grooves at the two edges of the base. If you put the base on the table "on its back", the pivots and the two sections of the strap will remain in place.

Upon removing the cover, the top side of the transmitter module is viewed (Fig. 3). The battery clip and battery will be out of sight - they are both located on the bottom (hidden) side of the module.

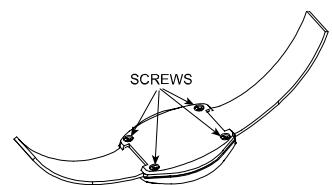


Figure 2. Opening the Case

### 3.4 Replacing the Battery

- Grasp the **transmit switch**, lift the transmitter module out of the base and turn it over. The bottom side can now be viewed.
- Slide the old battery from under the clip in the opposite direction to the arrow shown in Figure 4.
- Hold the 3-volt replacement battery (type CR-2025 or equivalent) with the positive (+) side up. Slide the battery all the way in under the battery clip until it stops.
- Turn the transmitter module over and briefly press the transmit switch (Fig. 3). The on-board LED should light brightly for 2 seconds.
- Align the positioning dent (Figure 3) with the guide pin in

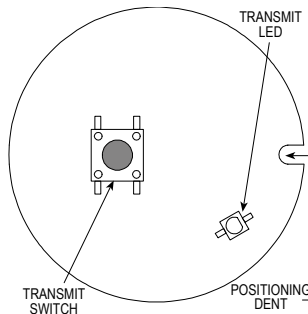


Figure 3. Transmitter Module - Top Side

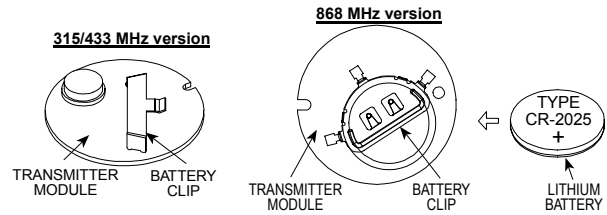


Figure 4. Battery Insertion

the base and place the module within the base. Then close the case as instructed in Para. 3.5 below.

### 3.5 Closing the Case

- Check that the rubber ring is in place around the rim of the base. If not, place it carefully around the rim.
- Align the cover with the base: make sure that the transparent lens is over the transmit LED and the transmit pushbutton is over the transmit switch (Fig. 3). Then press the cover and the base together between your fingers.
- Turn the reassembled unit upside down, and while keeping both halves of the case pressed together, insert the four screws and tighten them well.

## 4. GENERAL COMMENTS

### 4.1 Product Limitations

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

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

### 4.2 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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#### W.E.E. Product Recycling Declaration

For information regarding the recycling of this product you must contact the company from which you originally purchased it. If you are discarding this product and not returning it for repair then you must ensure that it is returned as identified by your supplier. **This product is not to be thrown away with everyday waste.** Directive 2002/96/EC Waste Electrical and Electronic Equipment.



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.): 65 WEST DUDLEY TOWN ROAD, 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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