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D-306082

MP-840

ZigBee Home Automation 1.2
Wireless Digital Pet Immune PIR Detector

Visonic

Installation Instructions

1. INTRODUCTION

The MP-840 (pet immune) is a microprocessor-controlled wireless digital PIR detector supported by H.A 1.2 panels using ZigBee Home Automation.
The detector's features are as follows:

- Fresnel and cylindrical lenses with uniform detection sensitivity throughout its operating range, up to 12 meters (39 ft).
- Target Specific Imaging™ (TSI) technology is used for distinction between humans and pets weighing up to 38 kg (85lb).
- The advanced True Motion Recognition™ algorithm (patented) allows distinguishing between the true motion of an intruder and any other disturbances which may cause false alarms.
- No vertical adjustment is needed.
- An on-board motion event jumper determines whether 1 or 2 consecutive motion events trigger an alarm.
- After detection, the detector disarms itself to save battery power. It rearms (reverts to the ready state) if there is no subsequent detection throughout the following 2-minute period.
- Very low current consumption.
- Microprocessor-controlled temperature compensation.
- White light protection.
- Front and back tamper protection.
- Elegantly styled, sturdy case.
- The device support on temperature's report according to HA1.2's panel.

For UL installations: The detector is for use with UL listed control unit only. Pet immunity has not been evaluated by UL.
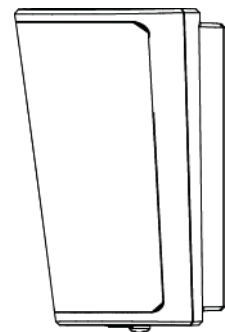

Figure 1: MP-840

2. SPECIFICATIONS

Detector Type	Dual element low-noise pyroelectric sensor
OPTICAL	
Lens Data	27 Fresnel "far" lenses (54 sensitivity "beams") 18 cylinder "mid" curtain lenses (36 sensitivity "curtains") 10 cylinder "close" curtain lenses (20 sensitivity "creep curtains")
Max. Coverage	12 x 12 m, (39 x 39 ft) / 90°
Pet Immunity (pet version)	Up to 38 kg (85 lb)
ELECTRICAL	
Internal Battery	3V Lithium battery, type CR-123A. For UL installations, use Panasonic and GP only
Nominal Battery Capacity	1450 mAh
Battery Life (with LED on)	Typically over 5 years *Note: Inability to connect with wireless network, or wireless link quality no higher than 20% may significantly reduce the expected battery life.*
Battery Power Test	Performed immediately upon battery insertion and periodically after every several hours
FUNCTIONAL	
True Motion Event Verification	2 position selector - 1 (OFF) or 2 (ON) motion events
Alarm Period	2 seconds
LED Switch	LED Enable (red LED lights for 2 sec. upon Alarm detection) LED Disable: No indication. (LED is always enabled during Walk-Test mode)
Rearm Timer	Rearms the detector 2 minutes after the last alarm. Timer disabled in the walk test mode

WIRELESS

Supported Network	ZigBee H.A 1.2
Frequency	2.405 – 2.480 Ghz as per IEEE 802.15.4
Tamper Alert	Reported when a tamper event occurs and in any subsequent message, until the tamper switch is restored

MOUNTING

Height	1.8-2.4 m (6 - 8 ft). For pet rejection, the optimal height is 2.1 m (7 ft)
Installation Options	Surface or corner

ENVIRONMENTAL

RFI Protection	>20 V/m up to 1000 MHz
Operating Temperatures	-10°C to 50°C (14°F to 122°F
Storage Temperatures	-20°C to 60°C (-4°F to 140°F)
Humidity	Average relative humidity of up to approximately 75% non-condensing. For 30 days per year the relative humidity may vary between 85% and 95% non-condensing.

PHYSICAL

Size (H x W x D)	83 x 61 x 42 mm (3.27 x 2.4 x 1.66")
Weight (with battery)	90 g (3.17 oz)
Color	White
PATENTS	U.S. Patents 5,693,943 ● 6,211,522

3. INSTALLATION

3.1 General Guidance

1. Keep away from heat sources.
2. Do not expose to air drafts.
3. Do not install outdoors.
4. Avoid direct sunshine.
5. Do not install near high-voltage electrical lines.
6. Do not install behind partitions.
7. Mount on solid stable surface.

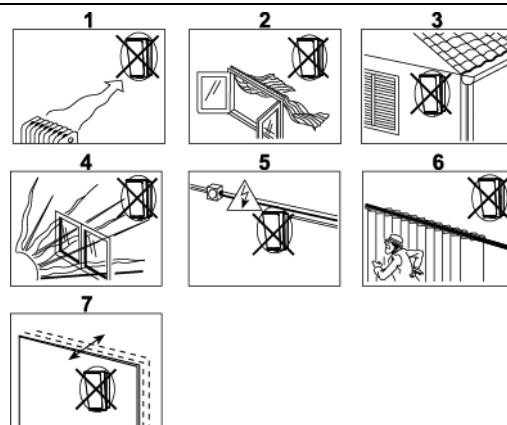*Warning!* Do not obscure partially or completely the detector's field of view.

Figure 2. General Guidelines

Important! The pet detector is tolerant to 38 kg (85 lb) animals moving on the floor or climbing on furniture as long as the activity takes place below 1 m (3 ft). Above the 1 m (3 ft) height limit, the detector is tolerant to 19 kg (42 lb) pets, but the pet immunity will decrease as the pet gets closer to the detector. It is therefore recommended to select a mounting location that minimizes potential close proximity of animals.
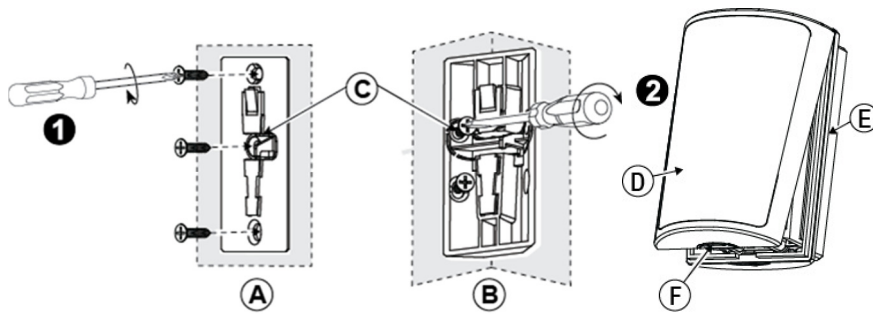
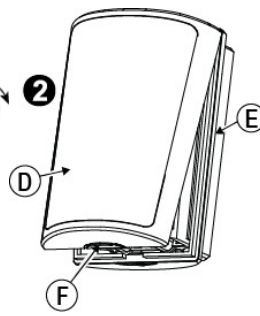## 3.2 Installation Procedure

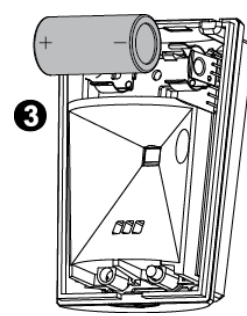*Figure 3 – Bracket Mounting*

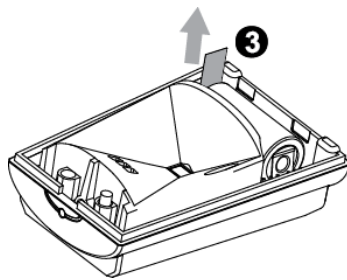*Figure 4 – Opening the Unit*

Figure 5a – Battery Insertion

Figure 5b – Battery Activation

Figure 6 – Replacing Cover

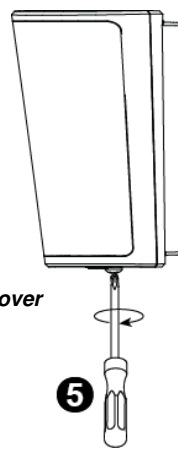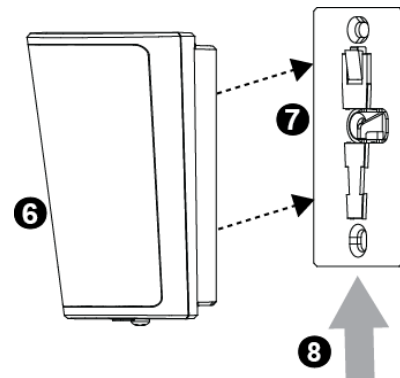*Figure 8 – Mounting Detector on Bracket*

Figure 7 – Securing with Screw

1.   Mount the bracket on the wall
2.   Press in the point marked "F" in the drawing and separate the cover from the base
3.   Insert the battery while observing polarity.
     -OR-
     If battery is already installed, pull the activation strip that protrudes from the front of the detector.
4.   Return the cover to the base until a click is heard (the snap is closed).
5.   Secure detector with screw (optional).
6.   Align the detector with the bracket.
7.   Slide the detector upward until a click is heard.

A. Surface mounting
B. Corner mounting
C. For back tamper
D. Cover
E. Base
F. Press in this point

Note: It is recommended to wait about 1 minute after battery removal, before inserting the new battery.

Caution! Risk of explosion if battery is replaced by an incorrect type. Dispose of used battery according to the manufacturer's instructions
MP-840 shall be installed in accordance with the Standard for Installation and Classification of Burglar and Holdup Alarm Systems, UL 681
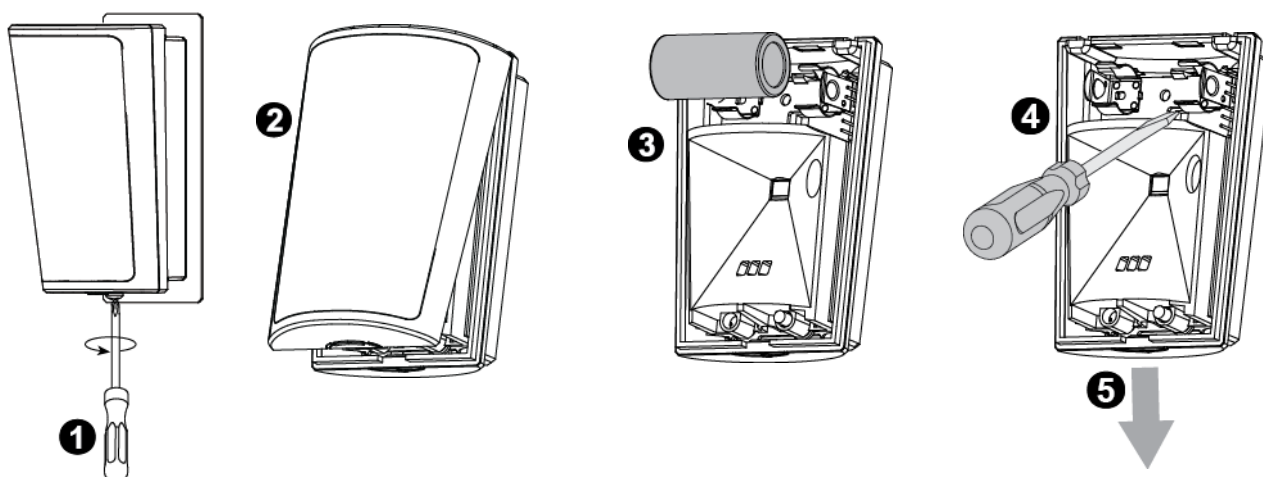
3.3 Removing the Pet Mask

Remove the plastic (pet mask) in case of no need for pet immunity
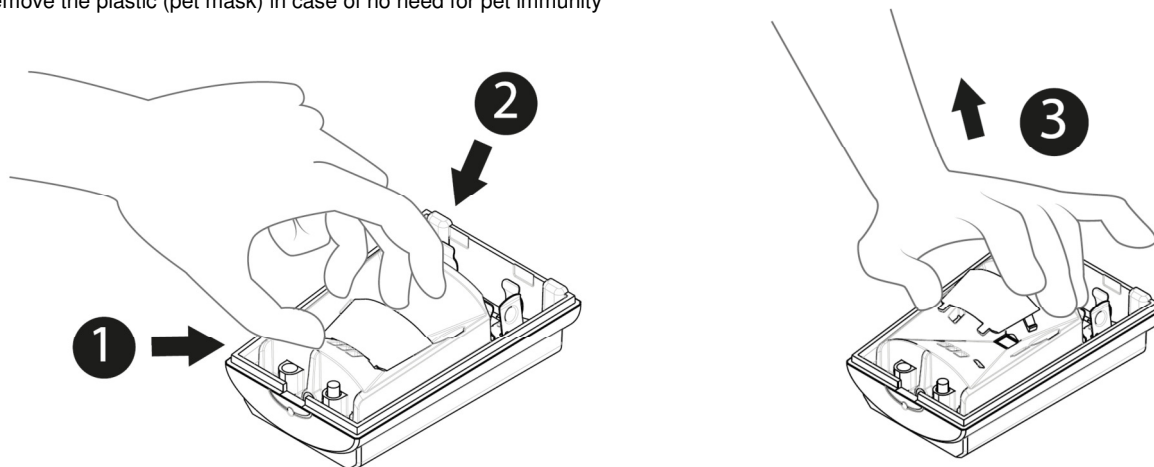
1. Place your thumb at the base of the Pet Mask.
2. Place your fingers at the top of the Pet Mask..
3. Lift the Pet Mask to remove.

Figure 9 – Removing the Pet Mask

3.4 Disassembly from Bracket

1. Release screw (optional).
2. Separate the cover from the base.
3. Remove battery.
4. Press on the stopper snap to release the base from the bracket.
5. Slide the base downward to remove.

Figure 10 – Disassembly from Bracket

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3.5 Activating and Pairing the Detector

To pair the detector to the control panel, you must set it to pairing mode.

1. First set the panel to pairing mode and then the detector.
2. To activate, pull the activation strip that protrudes from the back of the detector (see Figure 5). The device power-up stabilization procedure begins.
3 The red LED blinks every 5 seconds followed by the green LED which blinks 3 times to indicate that the detector is searching for a control panel.

Note: If detector pairing is not successful during the searching process – by tripping the motion detector or by pressing the tamper switch – the searching process will restart.

4. Complete the pairing procedure on the control panel (see the pairing instructions in the control panel's installation guide).

Note: Pairing should be performed before installation.

3.6 Rebooting the Detector

You can reboot the detector, as follows.
1. Remove the cover.
2. Close the battery cover.

3.7 Defaulting the Detector

CAUTION! The defaulting process removes the device from the network and enables re-pairing.

Separate the cover from the base to remove the battery (see Figure 7).
1. Press and hold down the detector's tamper switch (see Figure 10).
2. Insert the battery into the detector while observing battery polarity.
3. Release the tamper switch within 4 seconds (the red LED blinks once every 5 seconds followed by three blinks of the green LED).
4. To re-pair the detector, follow the instructions in section 3.5.
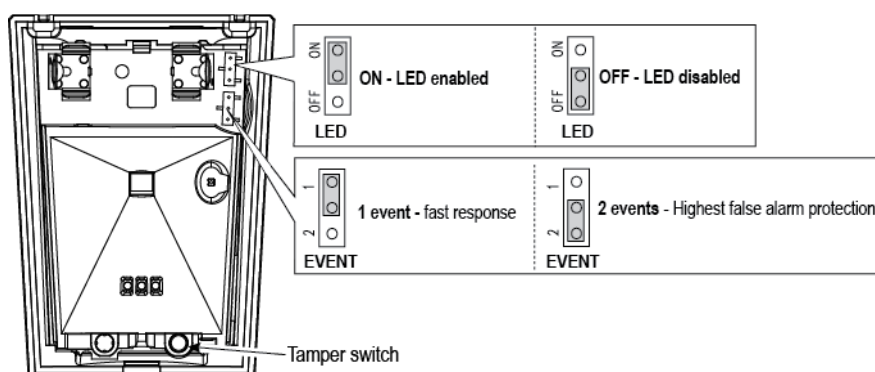
3.8 Jumper Settings

Figure 11 - Jumper Settings

3.9 Walk Testing

Walk-test the coverage area (see Figure 11) by walking across the far end of the coverage pattern in both directions. The red LED lights each time your motion is detected followed by steady LED signal strength indication.

LED response	Reception
3 Green LED blinks	No network
Green LED blinks once	Strong
Orange LED blinks once	Good
Red LED blinks once	Poor
No blinks	No communication

Important! Instruct the user to walk test at least once a week to verify proper function of the detector.

Note: Upon battery insertion or closing the cover (which results in closing the tamper switch) the LED flashes for 2 minutes and the detector goes into walk-test mode for 15 minutes. In walk-test mode, regardless of the LED jumper position, the LED lights upon every motion detection. After 15 minutes the detector automatically enters normal mode in which the LED functions according to the LED control jumper position.
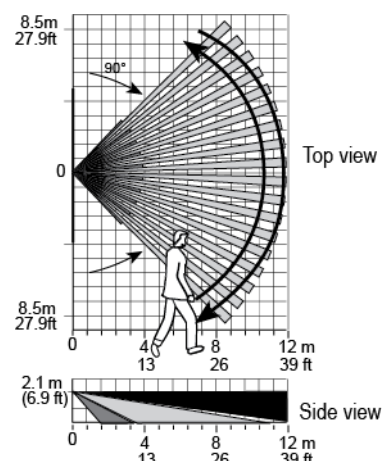

Figure 12 - Coverage Pattern Walk-Test

TROUBLESHOOTING

If you encounter one of the following problems with the MP-840, perform the suggested remedy:

Problem	Remedy
Attempt to pair the sensor is unsuccessful.	Make sure that the sensor has been defaulted and is set to pairing mode (see section 3.5)
The sensor and the panel do not communicate.	Perform the signal strength testing procedure described in the control panel installation manual. Make sure that the signal is sufficient. If necessary, replace the sensor's battery.
The sensor sends a Low Battery indication.	To ensure continuous proper operation, replace the battery within two weeks of the first Low Battery indication.
Panel does not arm because of an unrecognized sensor malfunction	**Consult with your installer or system provider before you disable a zone.** Disable the sensor zone (see the control panel user manual). Note that disabling a sensor zone lowers the overall security level of your system.

4. COMPLIANCE WITH STANDARDS

The MP-840 complies with the following standards:

Europe : EN 300328, EN 301489, EN 60950-1, EN 50130-4, EN 50131-1, EN 50131-2-2 Grade 2 Class II.

The MP-840 is compatible with the RTTE requirements - Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999

USA: FCC-CFR 47 Part 15, UL- UL 639

Canada: IC-RSS 247, ULC – S306

This device complies with Part 15 of the FCC Rules and RSS-247 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

WARNING! Changes or modifications to this unit not expressly approved by the party responsible for compliance (Visonic Ltd.) could void the user's authority to operate the equipment.

To comply with FCC Section 1.1310 for human exposure to radio frequency fields and IC requirements, implement the following instruction: A distance of at least 20cm. between the equipment and all persons should be maintained during the operation of the equipment.

Le dispositif doit être placé à une distance d'au moins 20 cm à partir de toutes les personnes au cours de son fonctionnement normal. Les antennes utilisées pour ce produit ne doivent pas être situés ou exploités conjointement avec une autre antenne ou transmetteur.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

Cet équipement a été testé et jugé conforme aux limites s'appliquant à un appareil numérique de classe B, conformément à la Partie 15 des réglementations de la FCC. Ces limites ont été élaborées pour offrir une protection raisonnable contre les interferences nuisibles dans une installation résidentille.
Cet équipement génère, utilize et peut émettre de l'énergie de fréquence radio et, s'il n'est pas installé et utilize conformément aux instructions du fabricant, peut provoquer des interférences dangereuses pour les communications radio. Toutefois, rien ne garantit l'absence d'interférences dans une installation particulié**re. Si cet** équipement provoque des interférences nuisibles au niveau de la réception radio ou television, ce qui peut étre determine par la mise hors, puis sous tension de l'équipment, vous étes invite à essayer de corriger les interferences en pregnant les mesures suivantes:

- Réorientez ou déplaces l'antenne réceptrice.

- Augmentez la distance qui sépare l'équipement et le récepteur.

- Branchez l'équipement à une prise d'un circuit different de celui auquel est branché le récepteur.

- Consultez le revendeur ou un technician radio/television expérimenté pour obtenir de l'aide

5. SPECIAL COMMENTS

Even the most sophisticated detectors can sometimes be defeated or may fail to warn due to: DC power failure / improper connection, malicious masking of the lens, tampering with the optical system, decreased sensitivity in ambient temperatures close to that of the human body and unexpected failure of a component part.
The above list includes the most common reasons for failure to detect intrusion, but is by no means comprehensive. It is therefore recommended that the detector and the entire alarm system be checked weekly, to ensure proper performance.
An alarm system should not be regarded as a substitute for insurance. Home and property owners or renters should be prudent enough to continue insuring their lives and property, even though they are protected by an alarm system.

Visonic

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