

# TOWER-32AM PG2 / TOWER-32AM K9 PG2

Wireless PowerG, Dual Technology, Mirror,  
PIR Motion Detector with Anti-mask



**Visonic**

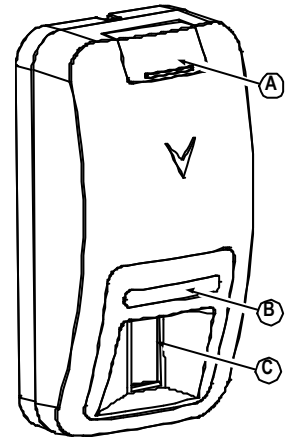
A Tyco International Company

## Installation Instructions

### 1. INTRODUCTION

The TOWER-32AM PG2 and TOWER-32AM K9 PG2 (pet-immune) Dual Technology are 2-way, microprocessor-controlled, wireless digital mirror PIR detectors which include the following features:

- Adaptive Active Infra-Red Anti-Masking technology providing the most advanced reliable protection against intentional masking attempts (patent pending)
- Includes a fully supervised PowerG transceiver.
- 24 GHz K-band microwave module.
- Incorporates patent pending black mirrors for extremely high white light immunity.
- Advanced elliptical / parabolic mirror technology (patent pending)
- Provides multiple curtain coverage (patent pending)
- V-slot® optic technology (patent pending) for improved robustness, anti-vandalism and for very high reliability.
- Creep zone protection
- TOWER-32AM K9 PG2 can distinguish between human beings and pets weighing up to 18 kg (40 lb)
- 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.
- Built-in auto diagnostic for both PIR and microwave detectors.
- Built-in link quality indicators; no need for the installer to physically approach the control panel thus making installation faster and easier.
- No vertical adjustment is needed.
- Motion event counter determines whether 1 or 2 consecutive motion events will trigger an alarm.
- Automatic termination of walk-test after 15 minutes.
- Microprocessor controlled, digital TMR signal processing with dual-slope digital temperature compensation.
- Sealed chamber protects the optical system.
- Front and back tamper protection.
- Microwave anti-masking
- Disguise mode that detects an intruder who cloaks his IR radiation



A. Screw cover

B. LED

C. PIR optical window

Figure 1. General View

### 2. INSTALLATION

#### 2.1 General Guidance (see Fig. 2)

1. Keep away from heat sources.
2. Do not expose to air drafts.
3. Do not install outdoors.
4. Avoid direct sunshine.
5. Keep wiring away from power cables.
6. Do not install behind partitions.
7. Mount on solid stable surface.

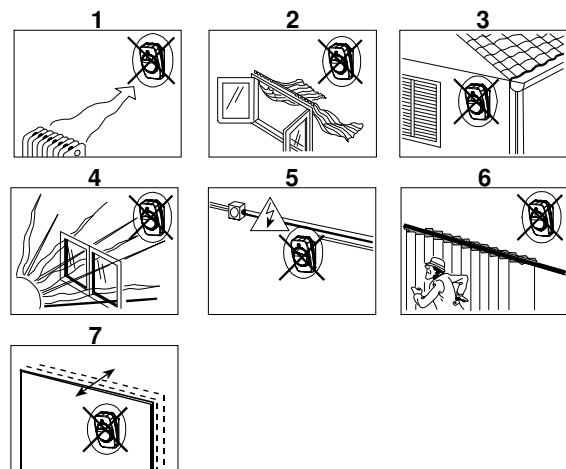


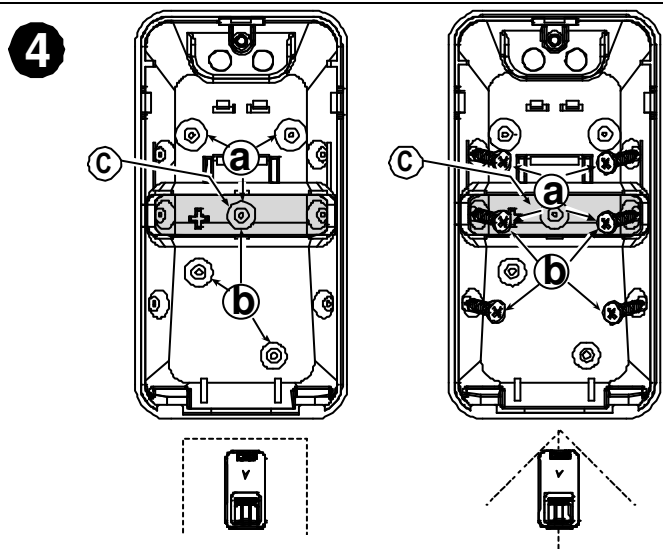
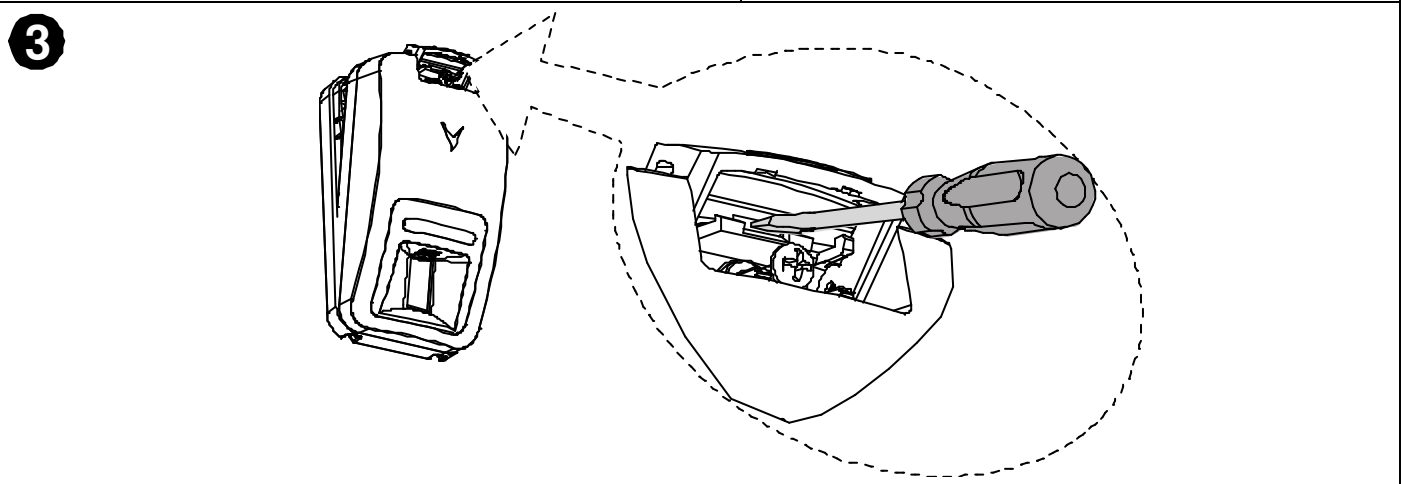
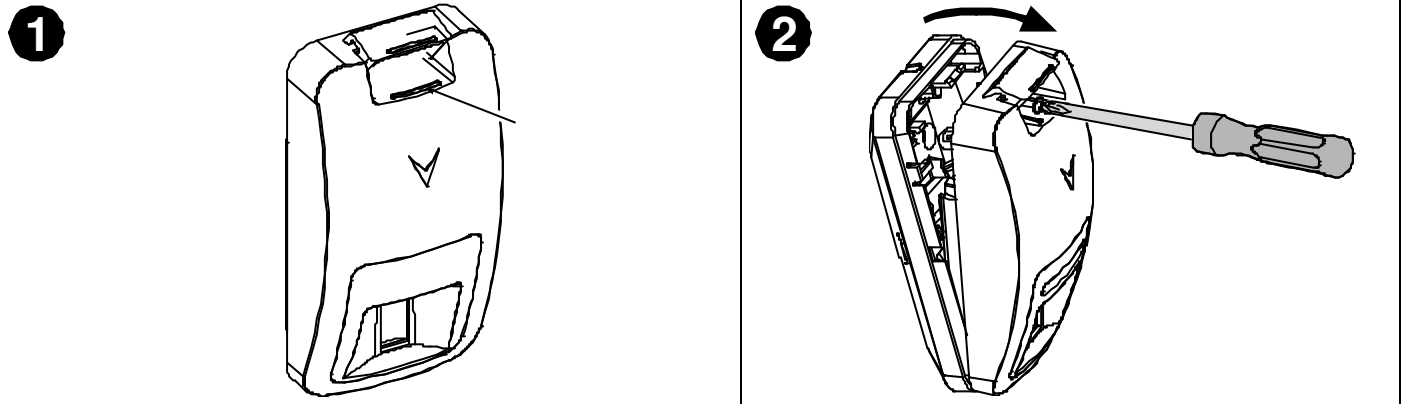
Figure 2. General Guidelines



**Important!** The detector is immune 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 immune 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.

**WARNING!** To comply with FCC and IC RF exposure compliance requirements, the PIR detector should be located at a distance of at least 20 cm from all persons during normal operation. The antennas used for this product must not be co-located or operated in conjunction with any other antenna or transmitter.

## 2.2 Mounting

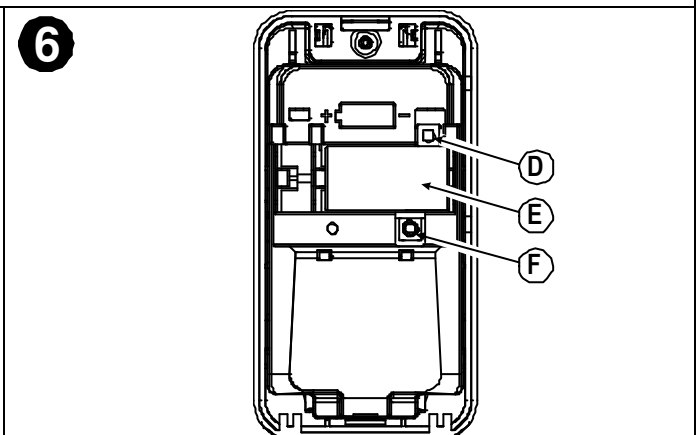
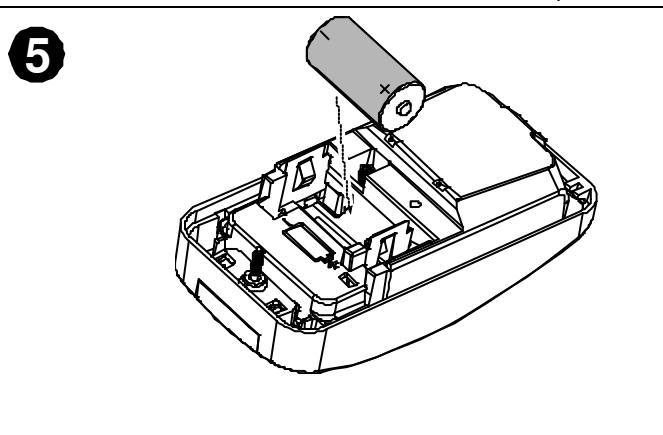


**Note:** For the desired detector's range and height, use mounting holes (a) or (b), as specified in the table.

ft		m				A
10	3.0	b	b	b	b	B
9	2.7	b	b	b	a	
8	2.4	b	b	a	a	
7	2.1	b	a	a	a	
6	1.8	b	a	a	a	
		6	9	12	15	

a – upper surface (without downward tilt)

b – lower surface (with downward tilt)



1. On the indicated location, lift the screw cover upward using your thumb.
2. Release the screw and open the cover in the direction shown by the arrow.
3. Insert a screwdriver into the slot and then push inward to separate the base from the cover.
4. Set the desired detector range.
5. Insert battery while observing polarity.

- A. Mounting height
- B. Coverage range
- C. Break-away base segment (shaded)
- D. Enroll button (use a screwdriver to press the recessed button)
- E. Battery
- F. Tamper switch

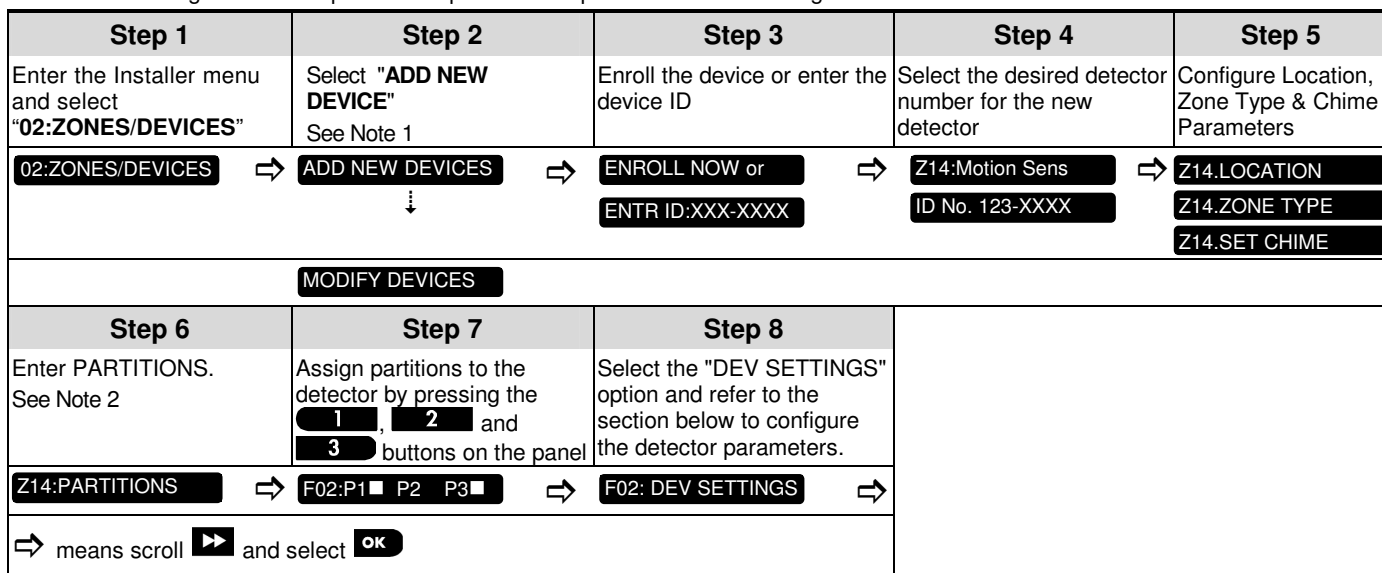
**CAUTION! THE BACK TAMPER SWITCH WILL NOT PROTECT THE UNIT UNLESS THE BREAK-AWAY BASE SEGMENT IS SECURED TO THE WALL WITH AT LEAST ONE SCREW.**

**CAUTION! RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERY ACCORDING TO MANUFACTURER'S INSTRUCTIONS.**

**Figure 3. Mounting**

## 2.3. Enrollment

Refer to the PowerMaster control panel's Installer Guide and follow the procedure under the "02:ZONES/DEVICES" option of the Installer Menu. A general description of the procedure is provided in the following flow chart.



**Notes:**

1. If the detector is already enrolled, you can configure the detector parameters and assign partitions via the "Modify Devices" option – see Step 2.
2. PARTITIONS will appear only if PARTITIONING was previously enabled in a panel that supports the Partitioning feature (for further details, see "Partitioning" in the PowerMaster Installer Guide).

## 2.4. Configuring the Detector Parameters

Enter the **DEVICE SETTINGS** menu and follow the configuration instructions for the TOWER-32AM PG2 PIR detector as described in the following table.

Option	Configuration Instructions
Alarm LED	Define whether or not the alarm LED indication will be activated. Optional settings: <b>ON</b> (default) and <b>OFF</b> .
MW RANGE	Define the detection range of the microwave channel. Optional settings: <b>Maximum</b> (default); <b>Medium</b> and <b>Minimum</b> .
Event Counter	Define whether an alarm will be activated upon continued motion (low sensitivity) or upon a single alarm event (high sensitivity). Optional settings: <b>LOW sensitive</b> (default) and <b>HIGH sensitive</b> .
DISARM Activity	Define whether or not to set the activity time during disarm. Optional settings: <b>NOT Active</b> (default), <b>YES – no delay</b> , <b>YES + 5s delay</b> , <b>YES + 15s delay</b> , <b>YES + 30s delay</b> , <b>YES + 1m delay</b> , <b>YES + 2m delay</b> , <b>YES + 5m delay</b> , <b>YES + 10m delay</b> , <b>YES + 20m delay</b> and <b>YES + 60m delay</b> .

**ANTI MASKING**

Define the activity and the sensitivity level of the PIR anti-masking.

Optional settings: **LOW sensitive** (default), **HIGH sensitive** and **disabled**.

**MW ANTI MASKING**

Define whether to enable or disable the anti-masking of the microwave sensor.

Optional settings: **disabled** (default), and **enabled**.

**DISGUISE MODE**

Disguise mode is used to detect movement of an intruder who cloaks his IR radiation to avoid detection. Define whether to enable or disable this mode.

Optional settings: **disabled** (default), and **enabled**.

**3. LOCAL DIAGNOSTICS TEST**

- A. Separate the base from the cover (see Fig. 3).
- B. Put back the cover to return the tamper switch to its normal (undisturbed) position, and then secure the front cover to the base with the case closure screw.
- C. The TOWER-32AM PG2 will enter a 2 min. stability period. During this time the red LED blinks.
- D. Walk-test the coverage area - see Figure 4. Walk across the far end of coverage pattern in both directions; the red LED lights each time your motion is detected followed by 3 LED blinks.

The following table indicates the received signal strength indication.

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

**IMPORTANT!** Reliable reception must be assured. Therefore, "poor" signal strength is not acceptable. If you receive a "poor" signal from the detector, re-locate it and re-test until a "good" or "strong" signal strength is received.

**Note:** For detailed Diagnostics Test instructions refer to the control panel Installer Guide.

**4. EVENT INDICATIONS**

LED Indications	Event
Red LED blinks	Stabilization (warm-up 120 sec)
Red LED ON 0.2 sec.	Tamper open / close
Red on 2 sec.	Intruder alarm
Yellow LED on	AM detection – diagnostic mode
Yellow LED blinks slowly (0.2 sec. ON, 30 sec. OFF)	AM detection – Normal mode
Yellow and red LED blink simultaneously (0.2 sec. ON [both], 0.2 sec. OFF)	Self-test failure – Diagnostic mode
Yellow and red LED blink simultaneously slowly (0.2 sec. ON [both], 30 sec. OFF)	Self-test failure – Normal mode
Green LED blinks	PIR detection – Diagnostic mode
Green LED on	Microwave detection – diagnostic mode

**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.

This device 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 residential installations. 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 and television reception.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device off and on, the user is encouraged to eliminate the interference by one or more of the following measures:

- Re-orient or re-locate the receiving antenna.
- Increase the distance between the device and the receiver.
- Connect the device to an outlet on a circuit different from the one that supplies power to the receiver.
- Consult the dealer or an experienced radio/TV technician.

**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 FCC Rules Part 15 and with Industry Canada licence-exempt RSS standard(s). Operation is subject to two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference that may be received or that may cause undesired operation.

## 6. COMPLIANCE WITH STANDARDS

### Compliance with Standards



**Europe (CE):** EN 300220, EN 301489, EN 60950, EN 50130-4, EN 50130-5, EN 50131-2-2, EN 50131-6, EN 50131-1 Grade 3 Class 2  
**USA:** CFR 47 Part 15 (FCC)  
**Canada:** RSS 210

The PowerG peripheral devices have two-way communication functionality, providing additional benefits as described in the technical brochure. This functionality has not been tested to comply with the respective technical requirements and should therefore be considered outside the scope of the product's certification.

The technical documentation as required by the European Conformity Assessment procedure is kept at:  
 UNIT 6 MADINGLEY COURT CHIPPENHAM DRIVE KINGSTON MILTON KEYNES MK10 0BZ. TEL: (0845) 0755800 FAX: (0845) 0755801

**W.E.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.

## APPENDIX: SPECIFICATIONS

### GENERAL

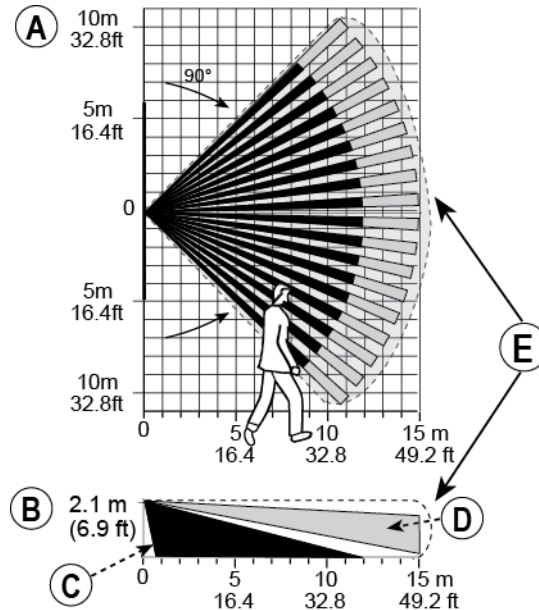
**Detector Type**  
**Lens Data**

Dual element low-noise pyroelectric sensor

**No. of Beam Elements:**  
 18x3=54 far parabolic mirror segments  
**No. of Curtain Elements:**  
 18

### MW Coverage

**Maximum:** 15 m (49 ft) / 90°  
**Medium:** 10 m (33 ft) / 90°  
**Minimum:** 5 m (16 ft) / 90°



- A. Horizontal view
- B. Vertical view
- C. 18 near curtains
- D. 18 far curtains
- E. Microwave coverage

**Figure 4. Coverage Pattern & Walk-test**

Up to 38 kg (85 lb)

### Pet Immunity (only)

### ELECTRICAL

**Sensor Type**  
**Power Supply**  
**Internal Battery**

K-Band Doppler module: 24 GHz  
 Type C  
 3V Lithium battery, type CR-123A or equivalent  
**Note:** For UL installations use Panasonic, Sanyo, GP or Varta only. Use only the above battery.

**Nominal Battery Capacity**  
**Battery Life (for typical use)**

1450 mA/h  
 5 years

### FUNCTIONAL

**True Motion Event**  
**Verification**  
**Alarm Period**

2 remote selections - 1 (OFF) or 2 (ON) motion events  
 2 seconds

**WIRELESS**  
Frequency Band (MHz)  
Communication Protocol  
Supervision  
Tamper Alert

Europe and rest of world: 433-434, 868-869 USA: 912-919  
PowerG  
Signaling at 4-min. intervals  
Reported when a tamper event occurs and in any subsequent message, until the tamper switch is restored

**MOUNTING**  
Height  
Installation Options  
**ACCESSORIES**

1.8 – 3.0 m (6 - 10 ft).  
Surface or corner  
**BR-1:** Surface mounted swivel bracket, adjustable 30° down and 45° left/45° right.  
**BR-2:** BR-1 with a corner adapter  
**BR-3:** BR-1 with a ceiling adapter

**ENVIRONMENTAL**  
RFI Protection  
Operating Temperatures  
Storage Temperatures  
Humidity

>20 V/m up to 2000 MHz, excluding inband frequencies  
-10°C to 50°C (14°F to 122°F) indoor  
-20°C to 60°C (-4°F to 140°F)  
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)  
Weight (with battery)  
Color

115 x 60 x 48 mm (4-1/2 x 2-5/16 x 1-15/16")  
90 g (3 oz).  
White

**PATENTS**

U.S. Patents 5,693,943 ● 6,211,522 ● D445,709 (another patent pending)

#### WARRANTY

Visonic Limited (the "Manufacturer") warrants this product only (the "Product") to the original purchaser only (the "Purchaser") against defective workmanship and materials under normal use of the Product for a period of twelve (12) months from the date of shipment by the Manufacturer.

This Warranty is absolutely conditional upon the Product having been properly installed, maintained and operated under conditions of normal use in accordance with the Manufacturers recommended installation and operation instructions. Products which have become defective for any other reason, according to the Manufacturers discretion, such as improper installation, failure to follow recommended installation and operational instructions, neglect, willful damage, misuse or vandalism, accidental damage, alteration or tampering, or repair by anyone other than the manufacturer, are not covered by this Warranty.

The Manufacturer does not represent that this Product may not be compromised and/or circumvented or that the Product will prevent any death and/or personal 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. The Product, properly installed and maintained, only reduces the risk of such events without warning and it is not a guarantee or insurance that such events will not occur.

**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.**

**THE MANUFACTURER SHALL IN NO EVENT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES OR FOR LOSS, DAMAGE, OR EXPENSE, INCLUDING LOSS OF USE, PROFITS, REVENUE, OR GOODWILL, DIRECTLY OR INDIRECTLY ARISING FROM PURCHASER'S USE OR INABILITY TO USE THE PRODUCT, OR FOR LOSS OR DESTRUCTION OF OTHER PROPERTY OR FROM ANY OTHER CAUSE, EVEN IF MANUFACTURER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.**

**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, **THE MANUFACTURER'S MAXIMUM LIABILITY (IF ANY) 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.

When accepting the delivery of the Product, the Purchaser agrees to the said conditions of sale and warranty and he recognizes having been informed of.

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so these limitations may not apply under certain circumstances.

The Manufacturer shall be under no liability whatsoever arising out of the corruption and/or malfunctioning of any telecommunication or electronic equipment or any programs.

The Manufacturers obligations under this Warranty are limited solely to repair and/or replace at the Manufacturer's discretion any Product or part thereof that may prove defective. Any repair and/or replacement shall not extend the original Warranty period. The Manufacturer shall not be responsible for dismantling and/or reinstallation costs. To exercise this Warranty the Product must be returned to the Manufacturer freight pre-paid and insured. All freight and insurance costs are the responsibility of the Purchaser and are not included in this Warranty.

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. This Warranty is exclusive to the original Purchaser and is not assignable.

This Warranty is in addition to and does not affect your legal rights. Any provision in this warranty which is contrary to the Law in the state or country where the Product is supplied shall not apply.

**Warning:** The user must follow the Manufacturer's installation and operational instructions including testing the Product and its whole system at least once a week and to take all necessary precautions for his/her safety and the protection of his/her property.

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VISONIC INC. (U.S.A.): 65 WEST DUDLEY TOWN ROAD, BLOOMFIELD CT. 06002-1376. PHONE: (860) 243-0833, (800) 223-0020. FAX: (860) 242-8094  
VISONIC LTD. (UK): UNIT 6 MADINGLEY COURT CHIPPENHAM DRIVE KINGSTON MILTON KEYNES MK10 0BZ. TEL: (0845) 0755800 FAX: (0845) 0755801.

PRODUCT SUPPORT: (0845) 0755802

VISONIC GmbH (D-A-CH): KIRCHFELDSTR. 118, D-40215 DÜSSELDORF, TEL.: +49 (0)211 600696-0, FAX: +49 (0)211 600696-19

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