



D-303780

English

TOWER-32AM PG2 / TOWER-32AM K9-90 PG2

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

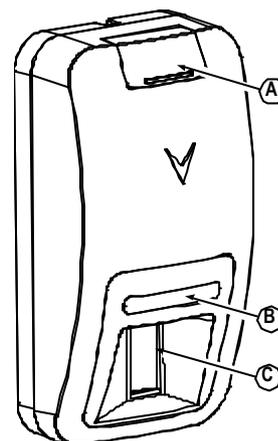


Installation Instructions

1. INTRODUCTION

The TOWER-32AM PG2 and TOWER-32AM K9-90 PG2 (pet-immune) Dual Technology are 2-way, microprocessor-controlled, wireless digital mirror PIR detectors interfacing with PowerMaster-10 and PowerMaster-30 control panels (version 16 and higher) and 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 K9-90 PG2 can distinguish between human beings and pets weighing up to 40 kg (90 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.
8. Install the detector in an upright position.

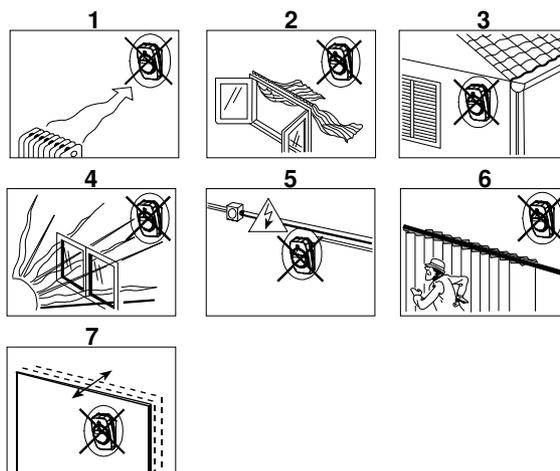


Figure 2. General Guidelines

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

Important! The detector is immune to 40 kg (90 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 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.

2.2 Mounting

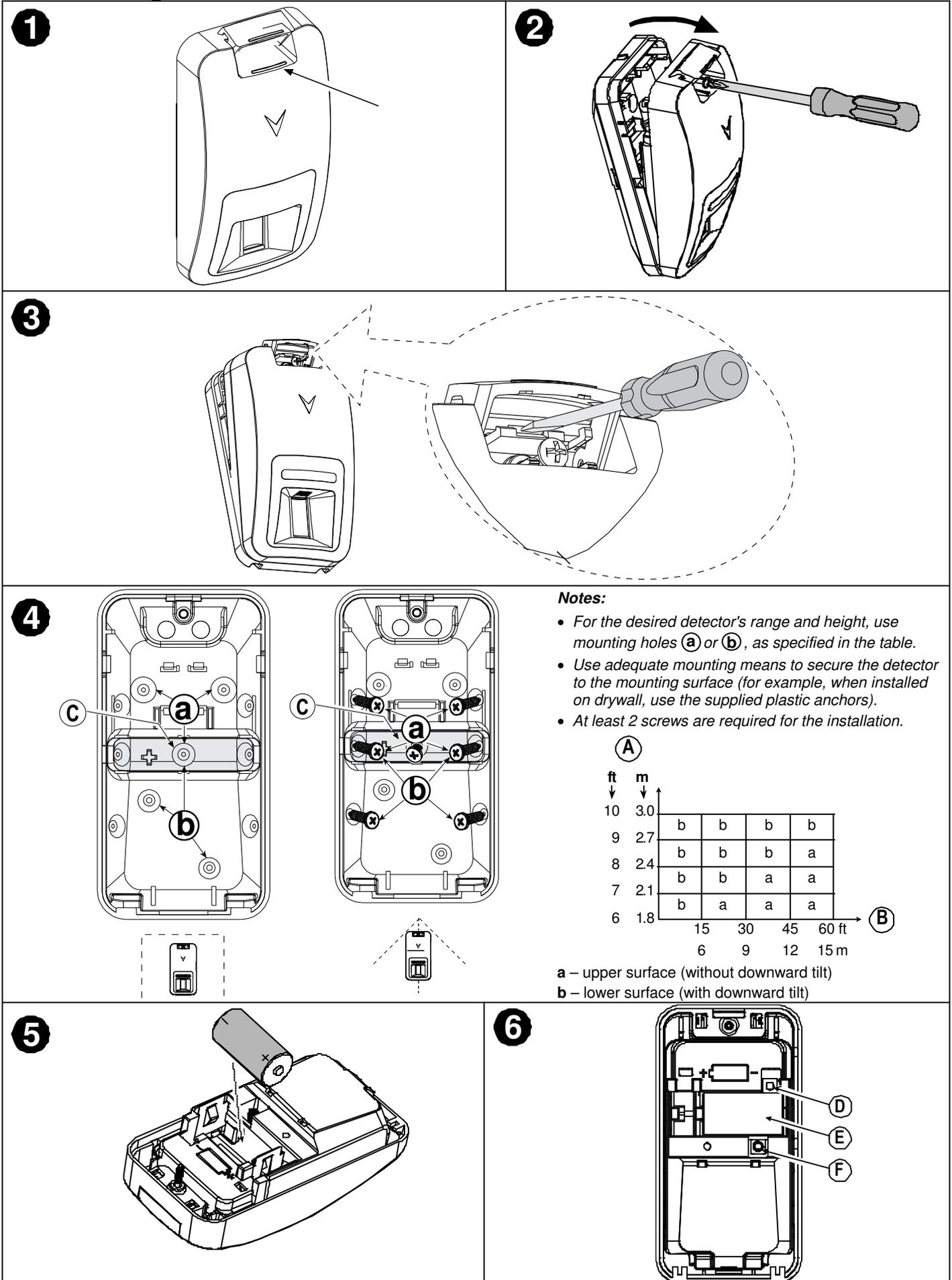


Figure 3. Mounting

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) for back tamper
- 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.

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

Note: The Tower 32AM Series wireless PIR Motion detectors shall be installed and used within an environment that provides the pollution degree max 2 and overvoltages category II, NON HAZARDOUS LOCATIONS, indoor only. The detector is designed to be installed by service persons only.

2.3 Ceiling Mounting

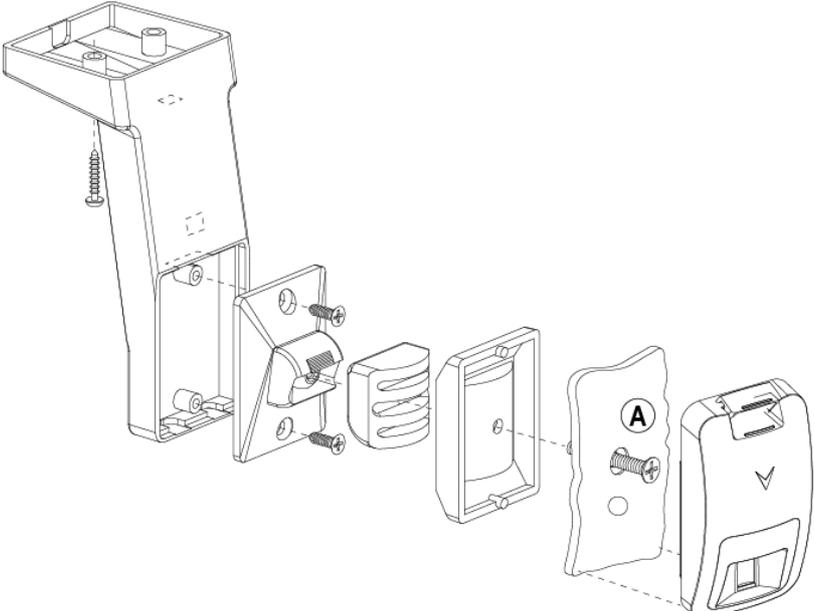


Figure 4. Ceiling Mounting

Following are general instructions for ceiling mounting of the detector. For more detailed instructions, please refer to the BR-3 Installation Instructions.

Note: The back tamper is not active when mounting the detector on the ceiling.

1. Remove the front cover as shown in Figure 3, points 2 and 3.
2. Punch out the selected knockout in the bracket (see Figure 3, point 4).
3. Assemble the bracket as shown in Figure 4.
4. Rotate the bracket to the desired position but do not yet tighten the screw fully.
5. Press the bracket base against the mounting surface and mark the points for drilling. Drill out the holes and insert plastic anchors.
6. Attach the bracket to the mounting surface using the two screws supplied with the detector.
7. Tilt the detector down or swivel it so that it faces the desired direction.

A. Rear side of detector

2.4. 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.

Step 1	Step 2	Step 3	Step 4	Step 5
Enter the Installer menu and select "02:ZONES/DEVICES"	Select "ADD NEW DEVICE" See Note 1	Enroll the device or enter the device ID	Select the desired detector number for the new detector	Configure Location, Zone Type & Chime Parameters
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">02:ZONES/DEVICES</div> <div style="font-size: 20px;">⇒</div> <div style="border: 1px solid black; padding: 2px;">ADD NEW DEVICES</div> <div style="font-size: 20px;">⇒</div> <div style="border: 1px solid black; padding: 2px;">ENROLL NOW or ENTR ID:XXX-XXXX</div> <div style="font-size: 20px;">⇒</div> <div style="border: 1px solid black; padding: 2px;">Z14:Motion Sens ID No. 123-XXXX</div> <div style="font-size: 20px;">⇒</div> <div style="border: 1px solid black; padding: 2px;">Z14.LOCATION Z14.ZONE TYPE Z14.SET CHIME</div> </div>				
MODIFY DEVICES				
Step 6	Step 7	Step 8		
Enter PARTITIONS. See Note 2	Assign partitions to the detector by pressing the 1 , 2 and 3 buttons on the panel	Select the "DEV SETTINGS" option and refer to the section below to configure the detector parameters.		
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">Z14:PARTITIONS</div> <div style="font-size: 20px;">⇒</div> <div style="border: 1px solid black; padding: 2px;">F02:P1 P2 P3</div> <div style="font-size: 20px;">⇒</div> <div style="border: 1px solid black; padding: 2px;">F02: DEV SETTINGS</div> <div style="font-size: 20px;">⇒</div> </div>				
<div style="display: flex; align-items: center;"> <div style="font-size: 20px;">⇒</div> <div style="margin: 0 5px;">means scroll</div> <div style="font-size: 20px;">▶</div> <div style="margin: 0 5px;">and select</div> <div style="border: 1px solid black; padding: 2px;">OK</div> </div>				

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).

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

LED Indications	Event
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 – Microwave adjustment mode
Green LED on	Microwave detection – Microwave adjustment mode

5. MICROWAVE ADJUSTMENT/TESTING

The aim of the adjustment/testing is to enable adjustment and testing of the MW sensitivity. In this mode the MW operates continuously and independently of early activation of the PIR. For adjustment/testing procedure instructions, refer to the PowerMaster Installer Guide, Periodic Test.

6. 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 license-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.

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.

7. COMPLIANCE WITH STANDARDS

Compliance with Standards



Europe (CE): Certified by Norwegian accredited certification body Applica Test & Certification AS in accordance with EN 50131-1, EN 300220, EN 301489, EN 60950, EN 50130-4, EN 50130-5, EN 50131-2-2 Grade 2 Class II, EN 50131-6

USA: CFR 47 Part 15 (FCC); FCC ID = WP3TOWER32PG2

Canada: RSS 210

UK: This product is suitable for use in systems installed to conform to PD6662:2010 at Grade 2 and environmental class 2. DD243 and BS8243

Note: The pet immunity feature is not evaluated and certified by Applica Test & Certification AS.

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.



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.

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:

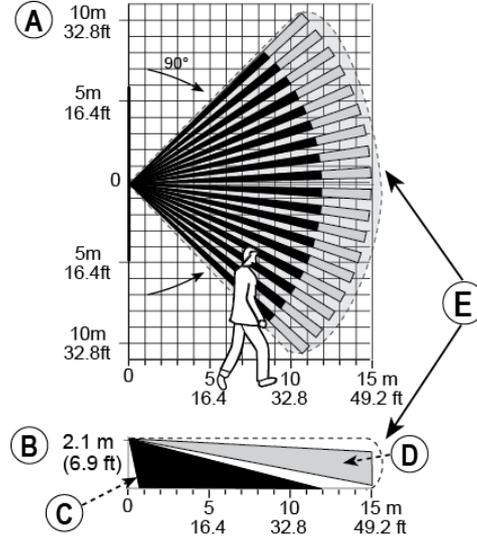
18

Maximum: 15 m (49 ft) / 90°

Medium: 10 m (33 ft) / 90°

Minimum: 5 m (16 ft) / 90°

MW Coverage



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

Figure 5. Coverage Pattern & Walk-test

Up to 40 kg (90 lb)

Pet Immunity (only)

ELECTRICAL

Sensor Type
Power Supply
Internal Battery
Nominal Battery Capacity
Battery Life (for typical use)

K-Band Doppler module: 24 GHz
Type C
3V Lithium battery, type CR-123A or equivalent
1450 mA/h
5 years

FUNCTIONAL

True Motion Event
Verification
Alarm Period

2 remote selections - high sensitivity or low sensitivity
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 55°C (14°F to 131°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")
145 g (5 oz).
White

PATENTS

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



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Refer to separate Warranty statement



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