Motion Detector
Installation Guide

PG9914

D-306633

DSC
From Tyco Security Products

PG4914 / PG8914 / PG9914

PowerG Wireless, PIR/Pet Immune Motion Detector Installation Instructions

The PGx914 (pet immune) is a microprocessor-controlled wireless digital PIR detector supported by DSC alarm systems using PowerG two-way communication protocol.

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) distinguishes between the true motion of an intruder and any other disturbances which may cause false alarms.
- No vertical adjustment is needed.
- Motion event counter determines whether 1 or 2 consecutive motion events trigger an alarm.
- Very low current consumption.
- Microprocessor-controlled temperature compensation. Sealed black chamber provides white light protection.
- Front and back tamper protection.
- The device supports temperature and light level reports to compatible alarm systems that support temperature and light sensors.

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

A. **Enroll button**
B. **Light sensor**
C. **LEDs**
D. **Tamper switch**
E. **PIR sensor**

Internal View
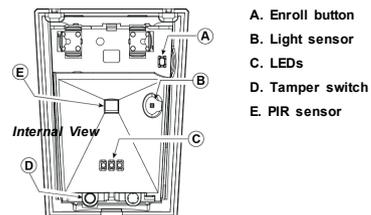
1. INSTALLATION

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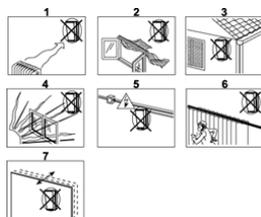
Warning! *Do not partially or completely obscure the detector's field of view.*

Installation Procedure

A: Surface mount   B: Corner mount, B1 or B2   C: Back tamper
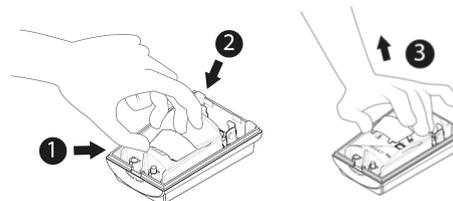

D: Cover
E: Base
F: Press in point
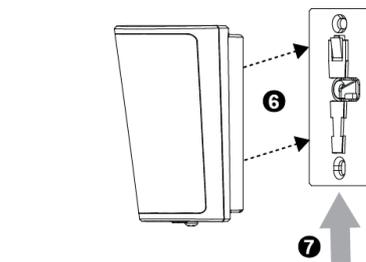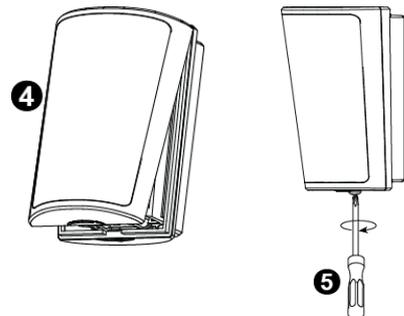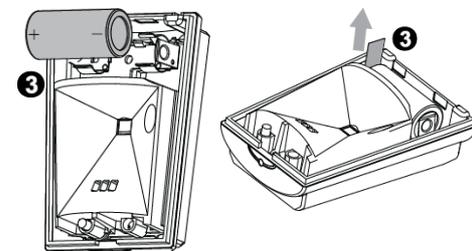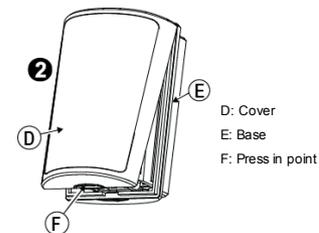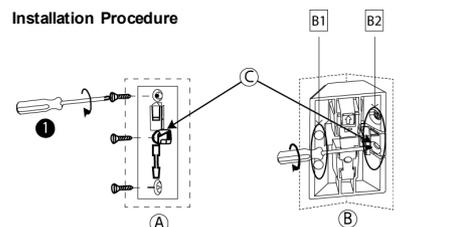
1. Mount the bracket on the wall.
2. Press in the point marked "F" in the drawing and separate the cover from the base.
3. Insert the battery while observing polarity-OR- If battery is already installed, remove the activation strip that protrudes from the front of the detector.
4. Return the cover to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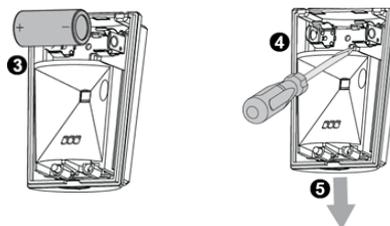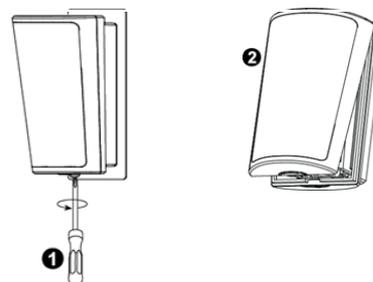7. Slide the detector upward until a click is heard.

Removing the Pet Mask

Remove the plastic pet mask if you do not require 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.

Disassembly from Bracket

1. Release screw.
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.

Note: The detector transmits a low battery signal upon detection of low voltage. It is recommended to wait about 1 minute after battery removal, before inserting the new battery.

PGx914 shall be installed in accordance with the Standard for Installation and Classification of Burglar and Holdup Alarm Systems, UL 681.

Caution! *Risk of explosion if battery is replaced by an incorrect type. Dispose of used battery according to the manufacturer's instructions.*

Enrollment

See the alarm systems Installation Guide and follow the enrollment procedure.

A general description of the procedure is provided in the following flow chart.

Step	Procedure
1	See the Installation Manual for the alarm system that the device is being enrolled on, to ensure that the proper steps are used.
2	Enter the Device Enrollment option through the specified method and select the appropriate option to add a new device.
3	Enroll the device by either holding the enroll button until the enrollment is detected, or by entering the Device ID.
4	Select the desired Zone Number.
5	Configure any device parameters that are required.
6	Mount and test the detector. See section 3 for information on testing the device. In addition, see the alarm systems Installation Manual that the device is enrolled on for other test procedures that are required.

Note:

If the detector is already enrolled, you can configure the detector parameters by programming the system, see the alarm systems Installation Manual for more information about device parameters.

Temperature Display

For instructions on displaying the temperature of zones on the control panel as measured by PGx914 detectors, see the alarm systems Installation Manual for details.

2. Configuring the Detector Parameters

Enter the **DEVICE SETTINGS** menu and follow the configuration instructions for the PGx914 detector as described in the following table.

Option	Configuring Instructions
Alarm LED	Define whether or not the alarm LED indication will be activated. Optional settings: LED ON (default) and LED OFF.
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 sensitivity (default) and HIGH sensitivity.
High Traffic Shutdown	Define whether or not the sensor is active when the system is disarmed. Optional settings: NOT Active while disarmed (default), - no delay, 5s delay, 15s delay, 30s delay, 1m delay, 2m delay, 5m delay, 10m delay, 20m delay and 60m delay.

3. LOCAL DIAGNOSTICS TEST

Note: Run a diagnostic test at least once a week to ensure that the detector is working correctly.

1. *Separate the base from the cover .*
2. Replace 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.
3. The PGx914 detector will enter a 2 min. stability period. During this time the red LED blinks.
4. Walk-test the coverage area.Walk across the far end of the coverage pattern in both directions. The red LED lights each time your motion is detected followed by 3 LED blinks.

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

The following table outlines 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 device, re-locate it and re-test until a good or strong signal strength is received. For UL/ULC installations, only STRONG signal level are acceptable.*

After installation verify the product functionality with the compatible receivers HSM2HOST9, HS2LCDRF(P)9, HS2ICNRF(P)9, PG9920 and WS900-29, WS900-19.

Note: For detailed placement instructions see the alarm systems Installation Manual.

4. TROUBLESHOOTING

If you encounter one of the following problems with the PGx914, perform the suggested solution from the following table:

Problem	Solution
Attempt to enroll the sensor is unsuccessful.	Ensure that the detector is within wireless communication range of the receiver. Ensure that the enroll button on the device is held until the LED flash is seen, and then released.
The sensor and the panel do not communicate.	Perform a placement test as described in the alarm systems Installation Manual. Ensure that the device is within wireless communication range of the receiver and remove any possible sources of interference. 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 a sensor malfunction.	Follow the diagnostic test procedure from Section 3 above to test the detector. Replace the battery if flashing LEDs are not seen during this test. If the system still cannot be armed, consult with your alarm system technician for a solution.

5. COMPLIANCE WITH STANDARDS

The PG8914 model complies with the following standards:
Europe: EN 300220, EN 301489, EN 60950-1, EN 50130-4, EN 50131-1, EN 50131-2-2 Grade 2 Class II, EN 50130-5, EN 50131-6 Type C
UK: The PG8914 model is suitable for use in systems installed to conform to PD6662:2010 at Grade 2 and environmental CLASS II. DD243 and BS8243 Certified by Applica Test & Certification AS in accordance with EN 50131-2-2, EN 50131-5-3, EN 50131-6, EN 50130-4, EN 50130-5
Applica T & C has certified only the 868 MHz variant of this product.

The PG4914 and PG8914 models are compatible with the RED Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014

UL/ULC Notes
Only model PG9914 operating in the frequency band 912-919MHz is UL/cUL listed. The PG9914 has been listed by UL for commercial and residential burglary applications and by ULC for residential burglary applications in accordance with the requirements in the Standards UL 639 and ULC-S306 for Intrusion Detection Units.
For UL/cUL installations use this device only in conjunction with compatible DSC wireless receivers: HSM2HOST9, HS2LCD HS2ICNRF(P)9, PG9920 and WS900-29, WS900-19. After installation verify the product functionality in conjunction with the compatible receiver used.

This device complies with Part 15 of the FCC Rules and RSS-247 of ISED. 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'ISED 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 could void the user's authority to operate the equipment.

To comply with FCC and IC RF exposure compliance requirements, the device 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.

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 interférences nuisibles dans une installation résidentielle.

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 nuisibles au niveau de la réception radio ou television, ce qui peut être determine par la mise hors, puis sous tension de l'équipment, vous êtes 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 différent de celui auquel est branché le récepteur.

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

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.
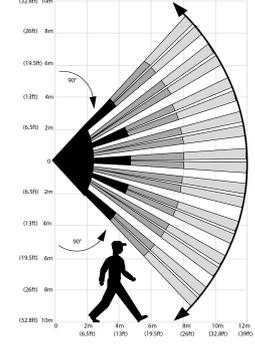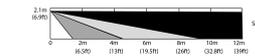
6. Special Comments

Even the most sophisticated detectors can sometimes be defeated or may fail to warn because of DC power failure or 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 any component part.

The above list includes the most common reasons for failure to detect intrusion, but is by no means comprehensive. It is recommended that the detector and the entire alarm system be checked weekly, to ensure proper performance.

An alarm system must not be regarded as a substitute for insurance. Property owners or renters should be prudent to continue insuring their property, even though they are protected by an alarm system.

SPECIFICATIONS

Detector Type	Dual element low-noise pyroelectric sensor.
Lens Data	Fresnel and cylinder type lens with optical attenuation (PET mask) in the lower pattern part of the lens. Number of beams / curtains: 27 Fresnel far, 18 cylinder "mid" and 10 cylinder "close".

Figure 12 – Coverage Pattern Walk Test

Max. coverage	12 x 12 m (39 x 39 ft) / 90°.
Pet Immunity	Up to 38 kg (85 lb).
Power Supply	The power supply is type C in accordance with EN 50131-6 Documentation – Clause 6.
Internal Battery	3V Lithium battery, type CR-123A. For UL installations, use Panasonic and GP Wireless only.
Nominal Battery Capacity	1450 mAh.
Battery Life (for typical use)	6 to 8 years, (not verified by UL).
Low Battery Threshold	2.4 V.
Note:	Inability to connect with a wireless network, or low signal strength can significantly reduce the expected battery life.
Battery Power Test	Performed immediately upon battery insertion and periodically every several hours.
True Motion Event Verification	2 remote sensitivity selections at panel – LOW or HIGH.
Alarm Period	2 seconds.
LED Switch	LED Enable (red LED lights for 2 sec. upon alarm detection).
Frequency	Europe and rest of world: 433-434, 868-869 . North and Latin America: 912-919. Note: Only devices in frequency band 912-919 MHz are UL/ULC listed.
Communication Protocol	PowerG.
Supervision	Signaling at 4-min. intervals.
Tamper Alert	Reported when a tamper event occurs and in any subsequent message, until the tamper switch is restored.
Height	1.8-2.4 m (6 - 8 ft.). For pet immunity, the optimal height is 2.1 m (7 ft.). At 2.4 m (7.87 ft.) height installation, remove the pet mask as pet immunity is not supported at this height.
Installation Options	Surface or corner.
RF Immunity	20 V/m up to 1000 MHz, 10 V/m up to 2700 MHz (not evaluated by UL).
Operating Temperatures	-10°C to 50°C (14°F to 122°F). Note: UL only verified operation over the range 0°C to 49°C.
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. For UL installations: 5 % to 93 % non-condensing. For Indoor use only.
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 .

COMPATIBLE RECEIVERS

Bandwidth in MHz	Receivers
433 MHz	HSM2HOST4; HS2LCDRF(P)4; HS2ICNRF(P)4; PG4920; WS901-14EU; WS901-24
868 MHz	HSM2HOST8; HS2LCDRF(P)8; HS2ICNRF(P)8; PG8920; WS901-18EU; WS901-28; WP8010; WP8030
912-919 MHz	HSM2HOST9; HS2LCDRF(P)9; HS2ICNRF(P)9; PG9920; WS900-29; WS900-19

Note: Only devices operating in band 912-919 MHz are UL/ULC listed.

Limited Warranty

Digital Security Controls warrants that for a period of 12 months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use and that in fulfillment of any breach of such warranty, Digital Security Controls shall, at its option, repair or replace the defective equipment upon return of the equipment to its repair depot. This warranty applies only to defects in parts and workmanship and not to damage incurred in shipping or handling, or damage due to causes beyond the control of Digital Security Controls such as lightning, excessive voltage, mechanical shock, water damage, or damage arising out of abuse, alteration or improper application of the equipment.
The foregoing warranty shall apply only to the original buyer, and is and shall be in lieu of any and all other warranties, whether expressed or implied and of all other obligations or liabilities on the part of Digital Security Controls. Digital Security Controls neither assumes, nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.
In no event shall Digital Security Controls be liable for any direct, indirect or consequential damages, loss of anticipated profits, loss of time or any other losses incurred by the buyer in connection with the purchase, installation or operation or failure of this product.
Motion detectors can only detect motion within the designated areas as shown in their respective installation instructions. They cannot discriminate between intruders and intended occupants. Motion detectors do not provide volumetric area protection. They have multiple beams of detection and motion can only be detected in unobstructed areas covered by these beams. They cannot detect motion which occurs behind walls, ceilings, floor, closed doors, glass partitions, glass doors or windows. Any type of tampering whether intentional or unintentional such as masking, painting, or spraying of any material on the lenses, mirrors, windows or any other part of the detection system will impair its proper operation.
Passive infrared motion detectors operate by sensing changes in temperature. However their effectiveness can be reduced when the ambient temperature rises near or above body temperature or if there are intentional or unintentional sources of heat in or near the detection area. Some of these heat sources could be heaters, radiators, stoves, barbeques, fireplaces, sunlight, steam vents, lighting and so on.

WARNING: Digital Security Controls recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

Important Information: Changes or modifications not expressly approved by Digital Security Controls could void the user's authority to operate this equipment.

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