



Freeko

Freeko II Wireless PIR with Pet Immune Installation Instructions REV 3A Item: 4777 (A5DS)



Introduction

The Freeko II PIR detector is an advanced, fully supervised low-current wireless PIR includes the Freeko II RF transmitter. Both transmitter and detector circuits are powered by long life Lithium battery.

Each Freeko II PIR has a unique ID code (this code is impossible to reproduce). Compatible Freeko RF receivers are designed to "learn" specific IDs and respond only to them.

Following detection, Freeko II PIR triggers the on-board transmitter that transmits its specific Freeko II RF ID followed by an alarm signal and status designators for battery condition. If detector cover is removed Tamper event triggers the transmitter.

Alarm and other data are forwarded to the Freeko II receiver or panel. A periodic test transmission for supervision purpose takes place automatically every 12-14 minutes. The receiver is informed that the particular detector is taking an active part in the wireless security system.

The Freeko II PIR has unique Alarm Power Saver (APS) mechanism that enables transmitter activation and LED indication only 2 min after the last movement has been detected, refer to page 14.



Features

- Dual element Pyro sensor
- State-of-the-art wireless security system
- Low current PIR Technology
- Powered by a 3 Volt Lithium battery
- Battery life: Up to 4 years
- Built in Automatic Power Saver (APS)
- Frequency Band: 868 MHz
- Low Battery condition signal transmission
- Test mode for PIR coverage and RF signal.
- Pet Mode for 15 or 25 KG pets
- Range up to 200 meter at free space.
- Calibration free height installation (1.5m - 3.6m).

Operation

The Wireless PIR transmits the following events data:

Supervision - a periodical transmission.

Every 12-14 min indicates detector's presence.

Alarm – alarm transmission triggered by PIR intrusion detection.

Low Bat – Whenever the battery reaches a pre-set low level (2.4V) Battery Low signal will be sent with the next message (Supervision, Alarm, etc).

Tamper – Whenever the Freeko II PIR cover is removed or the unit's cover is put back, a message will be transmitted with "Tamper" signal.

APS

The unique APS (Automatic Power Saver) function built in the detector enables a battery life span up to four years. The detector will transmit only when the last event has occurred more than 2-3 minutes prior to the current one.

Select Mounting Location

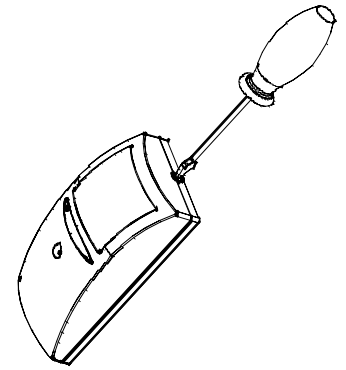
Select the mounting location for an intruder to cross the beams of the selected pattern.

Since the detector is a wireless transmitter, and in order to take full advantage from PIR sophisticated operation, do not install the detector in areas where large metal objects could interfere the transmission of signals.

It is advisable to avoid following locations:

- Facing direct sunlight.
- Facing areas with unstable temperature, like air conditions or heaters
- Areas with air ducts or substantial airflows.
- Metal pipes or walls
- The Freeko II PIR performs better when provided with a constant and stable environment.
- Facing stairs where Pets may climb

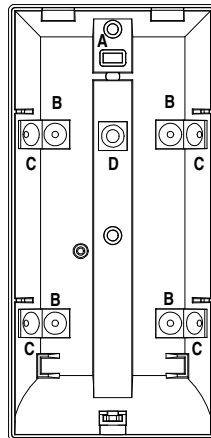
FIG. 1 - Front Cover Removal



Mounting the Detector

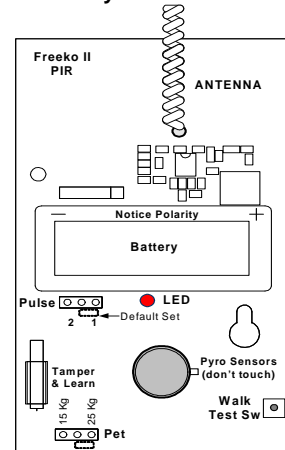
1. To remove the front cover, unscrew the holding screw and insert a flat screwdriver in the slot between the front and the bottom above the holding screw hole and push gently, until the front cover is disengaged and the opening click is heard (Fig. 1)
2. To remove the PC board, carefully unscrew the holding screw located on the PC board.
3. Break out the desired holes for proper installing.
4. Mount the detector base to the wall, corner or ceiling.
5. Reinstall the PC board by fully tightening the holding screw.
6. Install battery in the battery holder according polarity.
7. Replace the cover by inserting it back in the appropriate closing pin until the closing click is heard.

FIG. 2 - Knockout Holes



- A. Not in use
- B. Use for flat wall mounting
- C. Corner mounting - use all 4 holes. Sharp left or right angle mounting - use 2 holes (top and bottom)
- D. For bracket mounting

FIG. 3 - PCB Layout



Pulse count & Pet mode (Fig. 3)

The pulse count jumper sets up the detector for normal or harsh environment condition.

Setting the Sensitivity Adjustment (Pulse Width) Jumper

- Position 1= Normal
- Position 2 = Harsh

Position "1" setting is for normal operation. Position 2 setting is for harsh environment locations with air drafts or small animals.

Pet Mode

Set the Pet jumper (see Fig 3, lower left side) according to the present Pet weight, notice the two modes 15 or 25 kg. With Pet around set the Pulse count at 2.

RSSI – RF Signal Indication

The Freeko RF control panel has "RF Signal quality Indication" for each transmitter in order to help the installer to define best location for the detector from RF point of view.

The indication value is between 1 and 10, where 10 is the best RF received signal. If the RSSI indication is less than 3, it is a sign for weak RF link, try to find a better installation for the PIR.

NOTE:

Refer to Freeko RF receiver installation instruction.

WARNING: Test this product at least once a week.

ID registration - "Learn" procedure

Refer to the system receiver's installation instructions and follow the procedure given there for "learning" detector IDs. For learning: Insert battery, wait LED to stop blinking, locate 2-3 meters from receiver.

Perform transmission by pressing and releasing tamper switch for learning it by Freeko RF control panel receiver.

Make sure that the receiver is at learning mode - according to control panel installation instruction.

Note:

It is recommended to power up the detector and let the system receiver "learn" the detector's ID before actual installation.

Test Push Button

Test Push Button is located at the lower right side of the detector. This test is used to activate the walk and RF transmission test of the Freeko II PIR detector.

Walk Test

Press Test for a short time (less than 1 second) – this activates the device (IR detection only, without RF transmission) for 1 minute, making walk tests possible.

Alarm Transmission Test

Pressing Test Button for at least 2 seconds enables the alarm transmission test feature, which activates 11 transmission signals at 6 sec intervals (total test time about 1 min). Please check, that the receiver unit indicates 11 events.

This test enables to activate the alarm transmission immediately, and bypass the APS 2 minutes limitation.

To check this function it is necessary to verify that the Freeko RF receiver is in the RSSI mode.

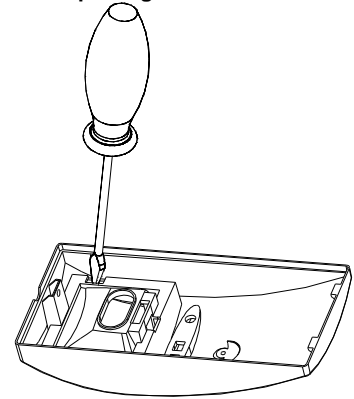
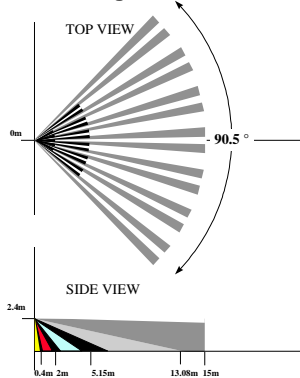
In RSSI mode the receiver display the radio signal reception level.

For more details refer to the Freeko II receiver instruction manual.

**Walk Test Procedure**

The (APS) mechanism enables transmitter activation and LED indication only 2 min after the last movement has been detected.

To walk test the Freeko II PIR, keep the covering area clear for over two minutes, now activate the PIR by moving, verify that alarm been activated.

FIG. 5 - Replacing the Lens**FIG. 4 - Wide Angle Lens**

Hard Type Spherical Lenses Patterns, other lens:
14 long range, 10 intermediate, 6 short range

Battery

A 3V lithium battery powers the unit. The exclusive APS (Automatic Power Saver) characteristics provide the battery about 4 years of continuous operation (depending on the amount of alarms). If the battery reaches a factory preset low level, the low battery signal will be sent to the detector that remains operational for another 30 days giving enough time to replace the 3V lithium battery.

Battery Size 2/3 CR 17345V
Lithium battery 3V
Models as: DL123A Duracell Inc
CR123A Sanyo Elc
CR123A GP

Battery replacement

- Remove the front cover by inserting a flat screwdriver in the appropriate slot.
- Take out the old battery.
- Install a new battery according polarity.

This device complies with:

European Council Directive EMC 89/336/EEC
EN50130-4
EN301489
EN300220
EN50081
SAFETY 73/23/EEC, EN60950 (ITE)

Replacing the Lens (see fig. 4)

1. Remove the front cover by inserting a flat screwdriver in the appropriate slot (fig.1).
2. Using a small flat screwdriver, press on left, right and middle snaps of the lens and pull the lens out from its place (front cover side) (fig.5).
3. Replace a new lens.
4. Push the lens to its place by pressing again from outside of the front cover until a click is heard (fig.5).
5. Replace front cover.

Technical Specifications

| | |
|-----------------------|---|
| Data Protocol | Freeko II RF |
| Modulation Type | FSK (one frequency) |
| Frequency band | 868 MHz (433 special order) |
| Identification | ID serial number – 24 bit |
| Event Transmission | Alarm, Tamper, Test, Supervision, Low Bat |
| Supervision Timing | 12–14 minutes (randomly) |
| Detection Method | Dual Element PIR (ASIC Based) |
| Detection Speed | 0.3 ~ 1.5 m/sec |
| Lens Type | Spherical Hard Lens |
| Detection Coverage | 90.5° 15m x 15m |
| Range in open space | up to 300 meters |
| Environment Condition | Pulse count Jumper |
| Lithium Battery | 3V Type: xx123 Size: 2/3AA |
| Current Consumption | |
| Standby | ~10 µA |
| Transmission | ~16 mA |

Technical Specifications (CONT)

| | |
|-----------------------|--|
| Power Saving | APS (Automatic Power Saver) |
| Installer Test Modes | LED Indicator (RF & Optic) Walk test & Alarm transmission test |
| Operating temperature | |
| Range | -10°C to +50°C |
| Dimensions | 125 mm x 61 mm x 32 mm (4.9" x 2.4" x 1.25") |
| Weight (inc. battery) | 120 gr |

Caution

Risk of explosion if an incorrect type replaces battery.

Dispose of used batteries according to your local environment policy, do not trash.

**Av-Gad Limited Warranty**

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