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FW-P100

FREEWAVE™ WIRELESS PIR

INSTALLATION INSTRUCTIONS
P/N 7101405 REV. C A.Y.

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INTRODUCTION

The FW-P100 is an advanced, fully supervised low-current wireless PIR that includes a FreeWave transmitter. Both transmitter and detector circuits are powered by long life Lithium battery. Each FW-P100 has a unique ID code (This code is impossible to reproduce). Compatible FreeWave receivers are designed to "learn" specific IDs and respond only to them.

Following detection, FW-P100 triggers the on-board transmitter that transmits its specific FreeWave ID followed by an alarm signal and status designators for battery condition. If detector cover is removed Tamper Event triggers the on-board transmitter.

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

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The FW-P100 has unique Alarm Power Saver (APS) mechanism that enables transmitter activation only 2 min after the last movement has been detected.

FEATURES

- State-of-the-art wireless security system
- Low current ASIC PIR Technology
- Powered by a 3Volt Lithium battery
- Battery life : up to 4 years
- Built in Automatic Power Saver (APS)
- Frequency Band: 868MHz,433MHz
- Low Battery condition signal transmission
- Test mode for PIR coverage and RF signal.
- Range up to 1 km at free space.
- Height installation calibration free (1.5m - 3.6m).
- Unique ID number

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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 FW-P100 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 minutes prior to the current one.

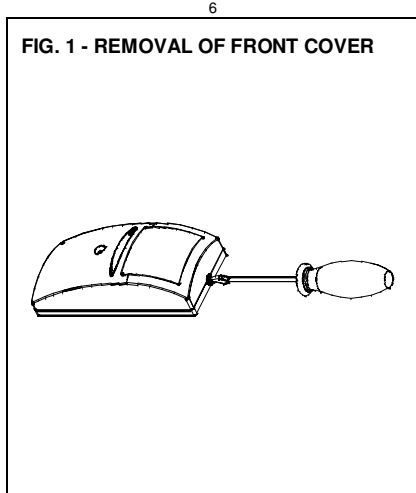
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SELECT MOUNTING LOCATION

Select the mounting location so that an intruder will cross the beams of the selected pattern. As 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 also advisable to avoid following locations:

- Facing direct sunlight.
- Facing areas that may change temperature rapidly.
- Areas where there are air ducts or substantial airflows.
- Installation on metal wall.

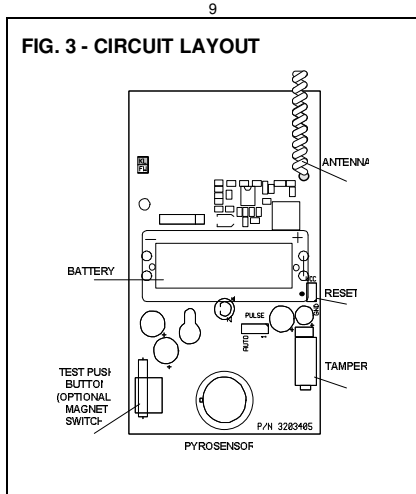
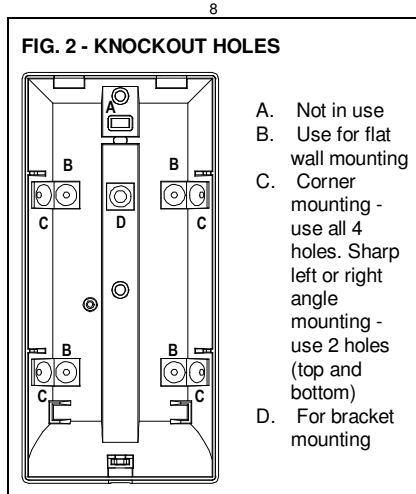
The FW-P100 performs better when provided with a constant and stable environment.



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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. Before battery replacement capacitors discharge must be done - use flat screwdriver to make momentary short circuit for JP2 pins.(Fig. 3)
7. Install battery in the battery holder according polarity.
8. Replace the cover by inserting it back in the appropriate closing pin until the closing click is heard.



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SETTING UP THE DETECTOR (Fig. 3)

The sensitivity adjustment jumper sets up the detector for normal or harsh environment condition.

Setting the Sensitivity Adjustment (Pulse Width) Jumper

- Position 1= Normal
- Position AUTO = Harsh

The "1" position setting is for normal operation. The "AUTO" position setting is for harsh environment locations with air drafts or small animals.

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RSSI - RF SIGNAL INDICATION

The FREEWAVE 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 100, where 100 is the best RF received signal. If the RSSI indication is less than 30, it is a sign for weak RF link, try to find a better installation for the PIR.

NOTE:
See FREEWAVE control panel installation instruction.

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ID REGISTRATION - "LEARN" PROCEDURE

Refer to the system receiver's installation instructions and follow the procedure given there for "learning" detector IDs. Perform transmission by pressing and releasing tamper switch for learning it by FREEWAVE 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

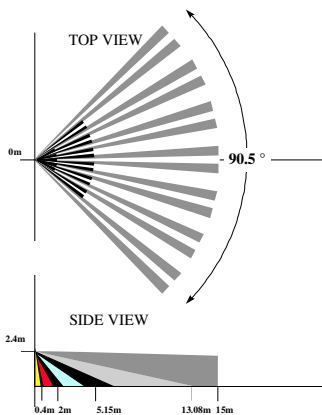
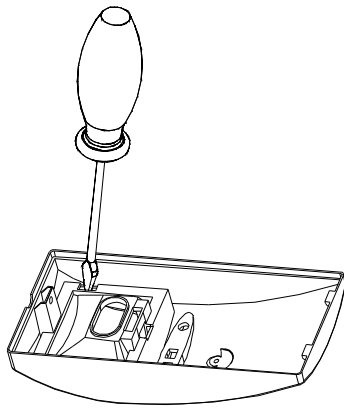
Push Button is located at the lower left side of the detector. This button (switch) is used to activate the walk and RF transmission test of the FW-P100 detector.

WALK TEST

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

ALARM TRANSMISSION TEST

Pressing Push Button for at least 2.0 sec 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.

FIG. 4 - WIDE ANGLE LENS**FIG. 5 - REPLACING THE LENS****TECHNICAL SPECIFICATIONS**

Data Protocol	FreeWave
Modulation Type	FSK (1 Frequency)
Frequency band	868MHz / 433MHz
Identification	Unique 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 1km
Environment Condition	Jumper for Normal or Harsh selection
Battery	Lithium. 3V Type: xx123 Size: 2/3AA
Current Consumption	
Standby	~10 µA
Transmission	~16 mA
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	137mm x 65mm x 49mm (5.3" x 2.8" x 2.1")
Weight (inc. battery)	120 gr

To check this function it is necessary to verify that the FREEWAVE control panel display shows

Zone # X Open

X- Zone number from which the message received.

Tamper transmission test.

Change of the tamper switch state will cause tamper transmissions. Verify on the FREEWAVE control panel that display shows

Trouble Zone # X**Transmission range test.**

By Alarm transmission test (Pressing Push Button for more than 2.0 sec) it's enable to check the RF transmission quality (RSSI). Special indication at the control panel displays continuously the received RF signal quality. See page 11 and FREEWAVE control panel instruction manual.

BATTERY

A 3 V lithium battery powers the unit. Thanks to the exclusive APS (Automatic Power Saver) characteristics, the battery provides 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 and from this moment the detector remains operational for another 30 days giving enough time to replace the

The battery must be replaced by Size 2/3 CR 17345V Lithium battery 3V Models as: DL123A DURACELL Inc CR123A SANYO Etc CR123A GP

REPLACING THE LENS

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.

CROW ELECTRONIC ENGINEERING LTD. ("Crow") - WARRANTY POLICY CERTIFICATE

This Warranty Certificate is given in favor of the purchaser (hereunder the "Purchaser") purchasing the products directly from Crow or from its authorized distributor. Crow warrants these products to be free from defects in materials and workmanship under normal use and service for the period of 24 months from the last day of the week and year whose numbers are printed on the printed circuit board inside these products (hereunder the "Warranty Period"). Subject to the provisions of this Warranty Certificate, during the Warranty Period, Crow undertakes, at its sole discretion and subject to Crow's procedures, as such procedures are from time to time, to repair or replace, free of charge for materials and/or labor, products proved to be defective in materials or workmanship under normal use and service. Repaired products shall be warranted for the remainder of the original Warranty Period. All transportation costs and in-transit risk of loss or damage related, directly or indirectly, to products returned to Crow for repair or replacement shall be borne solely by the Purchaser. Crow's warranty under this Warranty Certificate does not cover products that is defective (or shall become defective) due to: (a) alteration of the products (or any part thereof) by anyone other than Crow; (b) accident, abuse, negligence, or improper maintenance; (c) failure caused by a product which Crow did not provide; (d) failure caused by software or hardware which Crow did not provide; (e) use or storage other than in accordance with Crow's specified operating and storage instructions. There are no warranties, expressed or implied, of merchantability or fitness of the products for a particular purpose or otherwise, which extends beyond the description on the box hereof. This limited Warranty Certificate is the Purchaser's sole and exclusive remedy against Crow and Crow's sole and exclusive liability toward the Purchaser in connection with the products, including without limitation - for defects or malfunctions of the products. This Warranty Certificate replaces all other warranties and liabilities, whether oral, written, (non-mandatory) statutory, contractual, in tort or otherwise. In no case shall Crow be liable to anyone for any consequential or incidental damages (inclusive of loss of profit, and whether occasioned by negligence of the Crow or any third party on its behalf) for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever. Crow does not represent that these products can not be compromised or circumvented; that these products will prevent any person injury or property loss or damage by burglary, robbery, fire or otherwise; or that these products will in all cases provide adequate warning or protection. Purchaser understands that a property installed and maintained product may in some cases reduce the risk of burglary, fire, robbery or other events occurring without providing an alarm, but is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss or damage as a result. Consequently, Crow shall have no liability for any personal injury, property damage or any other loss based on claim that these products failed to give any warning.

LENSES-INTERCHANGEABLE HARD TYPE SPHERICAL LENSES PATTERNS

COVERAGE	WIDE ANGLE
	90.5°
	15m x 15m (49ft x 49ft)

TOTAL DETECTION ZONES	30°
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* 14 long range, 10 intermediate, 6 short range.

BATTERY REPLACEMENT

- Remove the front cover by inserting a flat screwdriver in the appropriate slot.
- Take out the old battery.
- Before battery replacement capacitors discharge must be done. **Use flat screwdriver to make momentary short circuit on JP2 pins. (see Fig.3)**
- Install a new battery according polarity.

CAUTION !!!

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

This device complies with:

European Council Directive EMC 89/336/EEC

EN50130-4

EN301489

EN300220

EN50081.

SAFETY 73/23/EEC

EN60950 (ITE)

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