PMD2P: Wireless PIR Motion Detector with Built-in Pet Immunity V1.0 PARADOX™

Description

The Paradox PMD2P is an analog single-optic PIR motion detector with built-in pet immunity for use with Magellan wireless receivers/transceivers. The PMD2P is immune to animals weighing up to 18kg (40 pounds), and features automatic temperature compensation.

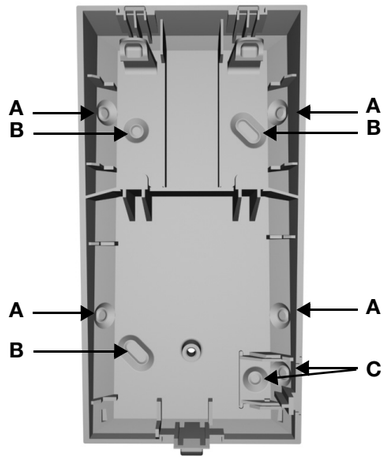
The PMD2P is battery-powered and features an innovative three minute energy save mode (after two detections within a five-minute period). Also, the ALIVE software in the PMD2P ensures that the alarm LED continues to display when it is in energy save mode without compromising battery life.



Installation

At the installation height of 2.1m (7ft) ±10%, the PMD2P provides full coverage from 1.2m (3.9 ft) to 11m (36 ft). Mounting lower than recommended height will decrease the long range performance; higher will decrease short range performance. Do not obscure the detector, partially nor fully.

IMPORTANT: Do not touch the sensor as this could result in malfunction. Clean the sensor surface using a soft cloth with pure alcohol. Also, avoid bending, cutting, or altering the antenna or mounting the detector near metal as this may affect transmission.



A - Corner mount

B - Flat surface mount

C - Wall tamper hole

Dual Tamper Mechanism - Wall and Cover

The PMD2P is equipped with dual tamper protection; an alarm is generated if the front cover is removed or if the detector is removed from the wall. In order for the wall tamper removal feature to be functional, a screw needs to be inserted in the wall tamper hole (*see PCB Overview at right*).

Powering the Wireless Detector

Verifying proper polarity, insert three "AAA" alkaline batteries into the motion detector's battery compartment. To replace the batteries, remove the old batteries, then press and release the tamper switch and wait 60 seconds in order to re-initialize the unit. After initialization is complete, insert batteries while verifying proper polarity (verify proper polarity on battery compartment connector as well). **IMPORTANT**: Make sure that when reinstalling the battery compartment that the batteries are facing the back-plate.

Power-up Sequence

After inserting the batteries, a power-up sequence begins (lasting 10-20 seconds). During this time, the red LED flashes and the detector will not detect an open zone or tamper.

Signal Strength Test

In order to verify proper signal reception, perform a signal strength test as described in the receiver's Reference and Installation Manual. Prior to performing the test, ensure the batteries have been installed. Also verify that the motion detector has been assigned to a zone according to the instructions in the receiver's Reference and Installation Manual. If the transmission is weak, relocating the transmitter by a few inches can greatly improve the reception.

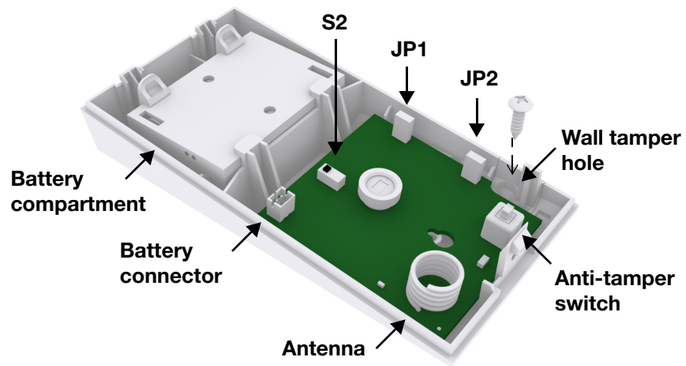
Detector Settings - Quick View

Sensitivity	
S2 (Slider)	High = High sensitivity (**default**)
	Low = Low sensitivity
Fast/Slow Mode	
JP1 (Jumper)	Off = Slow mode
	On = Fast mode (**default**)
LED Feedback	
JP2 (Jumper)	Off = Disabled
	On = Enabled (**default**)

Detector Settings - Details

Sensitivity - S2 (Slider)	
High Sensitivity	In high sensitivity mode, you should not be able to cross more than one complete zone (consisting of two beams - left and right sensor elements) in the coverage area with any kind of movement. Use this setting for the majority of installations.
Low Sensitivity	In low sensitivity mode, the amount of movement required to generate an alarm is doubled. The use of low sensitivity mode is recommended in areas where the incidence of false alarms may be greater.
Fast/Slow Mode - JP1 (Jumper)	
Slow Mode	Recommended in areas where the incidence of false alarms may be greater.
Fast Mode	Recommended for the majority of installations.
LED Feedback - JP2 (Jumper)	
Alarm	The red LED will illuminate for a period of 3 seconds whenever the motion detector detects any kind of movement.
Low Battery	The PMD2P performs a battery test every 12 hours. If battery voltage drops below a certain level, the red LED flashes at 8 second intervals and the motion detector will send a low battery signal to the receiver. A trouble is generated and then transmitted to the central monitoring station.
Signal Transmission	The red LED blinks fast when transmitting.

PCB Overview



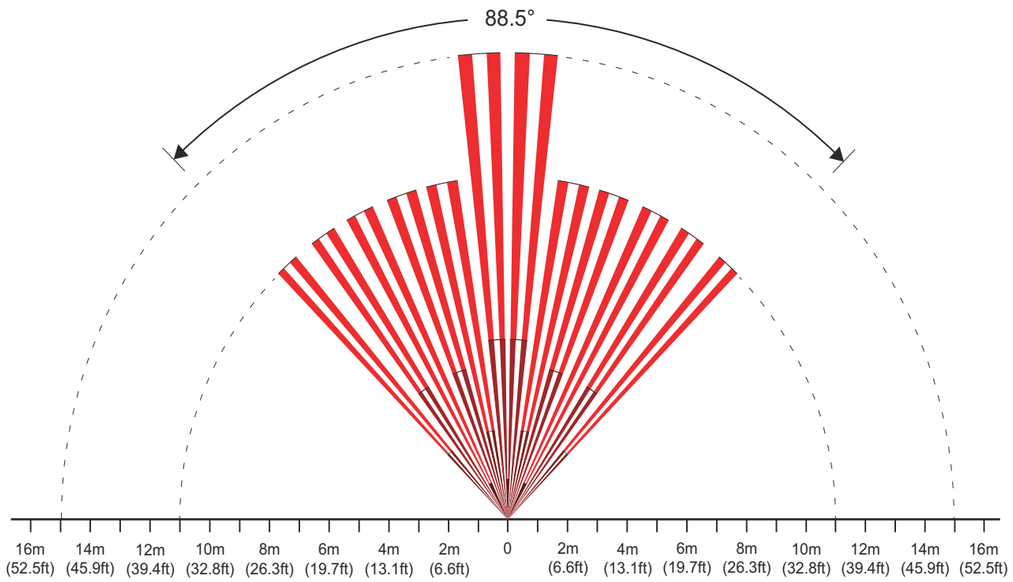
Alive Software

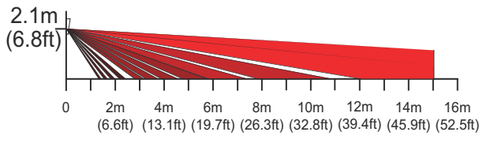
To conserve the motion detector's battery life, if the motion detector transmits two open zone signals (LED on for 3s) within a five-minute period, the detector will fall into Energy Save Mode for approximately three minutes and will not transmit any alarm signals. The red LED will continue to flash to indicate a detection. If the detector's cover is removed and then replaced while in Energy Save Mode, the first detection will trigger an alarm signal.

Walk-testing

To activate Walk-test Mode for three minutes, power up the detector or open and close the detector's cover. With sensitivity set to High (S2 = High), at 20°C, crossing more than one complete zone (consisting of two beams left and right sensor detecting elements) with slow/fast walking or running should initiate an alarm. With sensitivity set to Low (S2= Low), the amount of movement required to generate an alarm is doubled.

Beam Pattern





Specifications

Sensor Type	Dual rectangular element
Coverage	88.5° - 11m (36ft) x 11m (36ft); Center beams: 15m (49ft)
Pet Immunity	18kg (40lbs)
RF Frequency	433 or 868 MHz with Magellan only
Lens	2nd generation Fresnel lens, LODIFF® segments
Walk Speed	0.2m to 3.5m/s (0.6ft to 11.5ft/s)
Battery Type & Life	3 x 1.5vDC "AAA" alkaline batteries; 2 years*
Current Rating	31uA standby / 15mA alarm
Transmitter Range	35m (115ft) typical in a residential environment
Operating Temp. & Humidity	0°C to 50°C (32°F to 122°F) / 5 to 90% max.
Dimensions & Weight	6.5 x 12.5 x 5.2cm (2.5 x 4.9 x 2.0 in) / 105 g (3.7 oz) with batteries
RF Immunity	EN 50130-4: 10V/m 80MHz to 2.7GHz
Compatibility	See paradox.com for compatibility details
Certification	EN 50131 Grade 2 Class II; Certification body Intertek

* Battery life expectancy will vary according to the amount of traffic (movement) detected. Higher traffic levels will lower battery life.

Warranty: For complete warranty information on this product, please refer to the Limited Warranty Statement found on the Web site www.paradox.com/terms. Your use of the Paradox product signifies your acceptance of all warranty terms and conditions.

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Patents: One or more of the following US patents may apply: 7046142, 6215399, 6111256, 6104319, 5920259, 5886632, 5721542, 5287111, and RE39406 and other pending patents may apply. Canadian and international patents may also apply.

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