## TAKEX PA-6820E

# TAKEX PA-6820E PIR Motion Sensor Instruction Manual

Model: PA-6820E

## 1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the TAKEX PA-6820E PIR Motion Sensor. The PA-6820E is a passive infrared (PIR) sensor designed for security applications, featuring a 66-foot vertical curtain detection pattern.

Key features of the PA-6820E include:

- Detachable base unit with snap-in/out sensor design for easy installation.
- Normally Open (N/O) or Normally Closed (N/C) contact output, selectable.
- Super slim and compact design for discreet placement.
- Adjustable sensitivity and pulse count settings.
- Rotating mirror for efficient detection, adaptable to various area settings.

Please read this manual thoroughly before installation and operation to ensure correct usage and optimal performance.

## 2. SAFETY INFORMATION

Observe the following safety precautions to prevent damage to the product or injury to personnel:

- **Electrical Safety:** Disconnect power before performing any wiring or maintenance. Ensure all wiring complies with local electrical codes. The sensor operates on 10.5 to 28VDC.
- **Installation:** Install the sensor in a stable location, away from direct sunlight, heating/cooling vents, or other sources of rapid temperature change that could cause false alarms.
- **Handling:** Do not drop or subject the sensor to strong impacts. Avoid touching the sensor lens directly, as oils and dirt can impair performance.
- **Qualified Personnel:** Installation and servicing should only be performed by qualified personnel.

## 3. SETUP AND INSTALLATION

The PA-6820E is designed for ceiling mount applications, suitable for ceilings up to 16 feet high. Its detachable base unit simplifies the installation process.

### 3.1 Mounting the Sensor

1. Select a suitable ceiling location, ensuring the desired detection area is covered by the vertical curtain pattern. Avoid obstructions.
2. Separate the sensor unit from its base by gently twisting or releasing the snap mechanism.
3. Secure the base unit to the ceiling using appropriate screws and anchors (not supplied). Ensure the base is firmly attached.
4. Route the power and alarm wiring through the designated opening in the base.

## 3.2 Wiring Connections

Connect the power supply (10.5 to 28VDC) and alarm output wires to the terminals on the base unit. The PA-6820E offers selectable Normally Open (N/O) or Normally Closed (N/C) contact output. Refer to the wiring diagram on the device or in the packaging for specific terminal assignments.

Ensure correct polarity for the power supply. Incorrect wiring can damage the unit.

## 3.3 Attaching the Sensor Unit

Once wiring is complete and secured, align the sensor unit with the installed base and snap it into place. Ensure it is securely seated.



Figure 1: TAKEX PA-6820E PIR Motion Sensor. This image displays the compact design of the sensor, highlighting its lens which creates the vertical curtain detection pattern. The sensor is shown in a neutral color, suitable for various indoor environments.

# 4. Operating Instructions

After successful installation and power-up, the PA-6820E will begin its detection cycle. The sensor uses passive infrared technology to detect changes in heat signatures within its detection zone.

## 4.1 Sensitivity and Pulse Count Adjustment

The PA-6820E features internal jumpers or potentiometers for adjusting sensitivity and pulse count. These settings allow you to fine-tune the sensor's response to movement and minimize false alarms.

- **Sensitivity:** Adjusting sensitivity determines how small a heat signature change is required to trigger an alarm. Higher sensitivity detects smaller movements but may increase susceptibility to environmental disturbances.
- **Pulse Count:** This setting requires the sensor to detect multiple pulses of infrared energy within a short period before triggering an alarm. A higher pulse count reduces false alarms caused by minor disturbances but may slightly delay detection of genuine intrusions.

Refer to the product's internal diagrams or specific instructions provided with the packaging for the exact location and method of adjusting these settings.

## 4.2 Rotating Mirror Function

The sensor incorporates a rotating mirror mechanism. This feature allows for precise adjustment of the vertical curtain's detection angle, ensuring optimal coverage regardless of the specific area setting or ceiling height. Rotate the mirror carefully to align the detection pattern with the desired protection zone.

# 5. Maintenance

To ensure continued reliable operation of your PA-6820E sensor, perform the following maintenance tasks:

- **Cleaning:** Periodically clean the sensor lens with a soft, dry, lint-free cloth. Do not use abrasive cleaners or solvents, as these can damage the lens surface.
- **Functionality Test:** Test the sensor's detection capability regularly (e.g., monthly) by walking through its detection zone to confirm it triggers an alarm.
- **Visual Inspection:** Check for any physical damage, loose wiring, or obstructions that might interfere with the sensor's operation.

# 6. Troubleshooting

If you encounter issues with your PA-6820E sensor, refer to the following troubleshooting guide:

| Problem | Possible Cause | Solution |
| --- | --- | --- |
| Sensor does not detect motion. | No power; incorrect wiring; sensor lens obstructed; sensitivity too low; incorrect mounting height/angle. | Check power supply and wiring. Clean lens. Adjust sensitivity. Verify mounting position and rotate mirror for optimal coverage. |
| False alarms. | Environmental disturbances (e.g., heating/cooling vents, direct sunlight, moving objects); sensitivity too high; pulse count too low. | Relocate sensor away from disturbance sources. Reduce sensitivity. Increase pulse count. |

| Problem | Possible Cause | Solution |
|---------|---------------|----------|
| Intermittent detection. | Loose wiring connection; power fluctuations; partial obstruction. | Check all wiring connections. Ensure stable power supply. Clear any partial obstructions. |

If the problem persists after attempting these solutions, contact technical support.

## 7. SPECIFICATIONS

| Feature | Detail |
|---------|--------|
| Brand | TAKEX |
| Model Number | PA-6820E |
| Detection Method | Passive Infrared (PIR) |
| Detection Pattern | Vertical Curtain |
| Detection Range | 66 feet (20 meters) |
| Mounting Type | Ceiling Mount |
| Max. Ceiling Height | 16 feet (4.8 meters) |
| Power Source | Corded Electric |
| Operating Voltage | 10.5 to 28VDC |
| Output | N/O or N/C Selectable Contact Output |
| Design | Super slim and compact, detachable base |
| UPC | 100000900833 |
| ASIN | B00IPR2OL8 |

## 8. WARRANTY AND SUPPORT

For warranty information, please refer to the documentation provided at the time of purchase or contact your authorized TAKEX dealer. This product is covered by a limited warranty against defects in materials and workmanship.

For technical support or service inquiries, please contact your product supplier or visit the official TAKEX website for contact details.