

Arrow XL

The Arrow XL is a PIR sensor that is able to distinguish between permitted and non-permitted motion*. This allows free movement within the premises while detecting intrusion via doors or windows.

Location of the Detector

Consider the following before mounting the sensor:

- Select a location from which the pattern of the sensor is most likely to be crossed by a burglar, should there be a break in.
- Avoid a location that comes in direct contact with radiators, heating/cooling ducts or air conditioners.
- Do not place bulky objects in front of the sensor.

IMPORTANT: Do not install the sensor above beds, sofas, desks or in any area that people are likely to spend continued periods of time. If the occupant does not move within the delay time, an alarm will be generated when moving away from the protected area.

Installation Instructions

To install the Arrow XL sensor:

1. Open the housing. To do so, remove the cover screw and, using a flathead screw-driver, press the locking tab at the side of the unit.
2. Remove the printed circuit board (PCB) by unscrewing the PCB screw.
3. Knock out the required mounting and wiring holes.
4. Thread the cable through one of the wiring holes from the outside of the unit.
5. Attach the base to the wall at the recommended height of 2.2m. The Arrow XL can be wall or ceiling mounted. Note the direction of the "Alarm" arrow on the PCB before mounting.
6. Connect the wires to the terminal block as shown in Figure 2.
7. Mount the PCB at the required setting using the PCB adjustment scale (see PCB Adjustment) and tighten the PCB screw.
8. Attach the front cover and replace the cover screw.

Operation and Adjustment

Warm-Up Time: The detector needs to warm up for the first 120 seconds after applying power. During the warm-up sequence, the green and red LEDs are lit.

Alarm Delay: The Alarm Delay is a feature designed to allow the occupant to move freely within the protected area without triggering a false alarm. When approaching the protected wall, an alarm is not generated because the sensor's beams are crossed from the permitted direction. After detecting permitted motion, the sensor counts down the Alarm Delay time. This timer is re-triggered every time the sensor detects motion. During the Alarm Delay, the sensor permits motion in both directions. To set the Alarm Delay Time, install the Delay Time jumper in the required position according to Table 1. When testing the detector set the alarm delay time to 5 seconds.

Relay Outputs: The Arrow XL includes three outputs: Alarm, Detection and Tamper. The Alarm relay is activated when non-permitted motion is detected. The Detection relay is activated when any motion is detected (permitted or non-permitted). The Tamper output follows the status of the sensor's Tamper switch.

Walk Test: A Walk Test enables you to determine the effectiveness of the installation. Before you perform a Walk Test, set the alarm delay to 5-second test mode using the Delay Time jumper – see Table 1. To perform a Walk Test, leave the protected area for ten seconds, wait until the LED turns off and enter the room; the red LED then the green LED should light up as soon as you enter the room – see *LED Indication*. To test permitted motion (see *LED Indication*), stand a few meters away from the mounting wall and walk towards the protected door/window; the green LED should light up to indicate permitted motion detection.

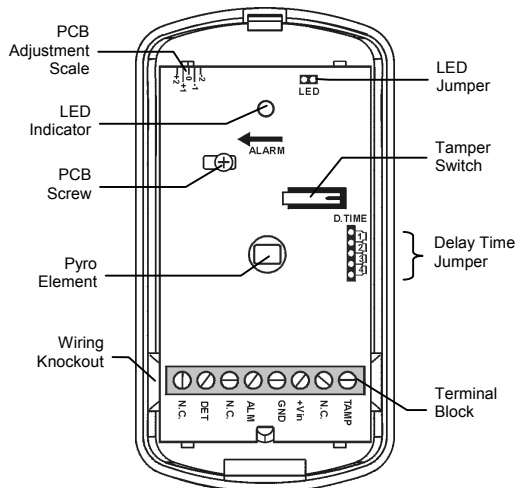


Figure 1: Arrow XL (Cover Off)

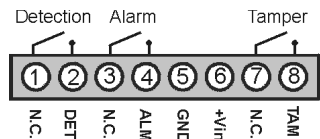


Figure 2: Wiring Connections

Terminals 1 & 2: Detection Relay Contacts (N.C.)

Terminals 3 & 4: Alarm Relay Contacts (N.C.)

Terminals 5(-) & 6(+): Voltage Input

Terminals 7 & 8: Tamper Output Contacts (N.C.)

Alarm Delay Time	Jumper Position
5 seconds (Test Mode)	1
40 seconds	2
2 minutes	3
4 minutes (recommended)	4

Table 1

PCB Adjustment: PCB adjustment enables you to angle the infrared beams by changing the position of the pyro element in relation to the lens. To adjust the PCB, loosen the PCB screw and slide the PCB to the required position using the PCB adjustment scale as a guide. After adjusting the board, tighten the PCB screw. Slide the board towards -2 to position the beams closer to the wall. Slide the board towards +2 to position the beams further away from the wall.

For the correct PCB adjustment, you must take into account the distance of the detector from the wall and the distance of the protected door/window from the detector – see Table 2.

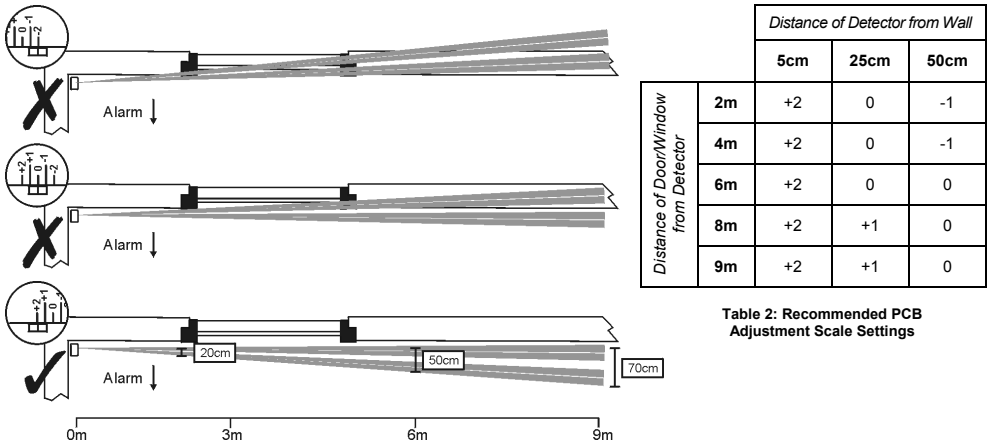


Table 2: Recommended PCB Adjustment Scale Settings

Figure 2: A typical installation where the detector is 5cm from the wall and 2m from the protected window. The top two diagrams show the lens coverage pattern for the detector when incorrectly adjusted to -2 and 0. The bottom diagram shows the PCB correctly adjusted to +2.

LED Indication: The LED indicator turns red to indicate non-permitted motion and green to indicate motion detection in either direction. In the event of an alarm, the LED turns red then green. To disable the LED, remove the LED jumper located next to the LED indicator. **Note: Do not disable the LED until you have successfully walk tested the sensor.**

Technical Specifications

Input Voltage: 10-16VDC
 Current Consumption: Standby 14mA @ 12V
 Alarm 24mA @ 16V
 Maximum Range: 9m
 Alarm Duration: 2 sec.
 Pyroelectric Sensor: Quad Element
 RFI Immunity 30V/m up to 1GHz
 Alarm Output: N.C., 30VDC, 0.1A
 with 16Ω resistor in series
 Detection Output: N.C., 30VDC, 0.1A
 with 16Ω resistor in series
 Tamper Switch: N.C., 30VDC, 50mA max.
 Operating Temperature: -10° to 60°C
 Reverse Polarity Protection: Diode
 Fire Protection: ABS Plastic Housing
 LED indicator: Jumper Selectable
 Dimensions: 90 x 50 x 40mm

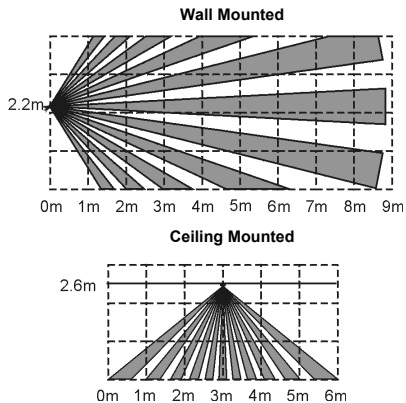


Figure 4: Lens Coverage Pattern (Side View)



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* The directional analysis is an optional feature that can be ordered separately.



Z10256E (5/05)