



# Model AL-40

## PIR Intrusion Detector

### 40ft (12m) L x 56ft (17m) W



### Features

- Tamper Switch
- LED ON/OFF Select
- Lightning Protection
- Temperature Compensation
- Selectable Pulse Count
- Easy Installation

**Description:** Model AL-40 intrusion detector provides high-quality security at an outstanding value. Standard AL-40 features include Qualified Motion Analysis, rock-solid RFI Immunity, Digital Operating System, Dual Slope Temperature Compensation and 60 lb. pet immunity.

### Installation

For best performance, position the intrusion detector so its field of view is free of obstructions, and an intruder will cross the pattern. The detector may be installed at any height from 6.5 ft. (2 m) to 8.5 ft. (2.6 m). Optimum mounting height is 7.5 ft. (2.3m). Avoid aiming the detector at windows and/or areas exposed to direct sunlight; do not mount the unit so it is looking directly at heating or cooling sources.

**Pet Immunity:** For installations where pet immunity is needed, mounting height should be no lower than 7.5 ft. (2.3m). Animal access above floor level (furniture, stairs...) may jeopardize the pet immunity feature of the AL-40.

**To ensure Pet Immunity function, do not point detector towards stairways, furniture or room fixtures to which animals have access.**

Separate the front and rear covers by first backing out the cover latch screw three full turns. Then use a small screwdriver or similar tool to release the cover latch. To remove the PCB, push the PCB latch away from the board while grasping a terminal block and pulling the PCB out of the cover. Refer to Figures 1 and 2, below.

Wire the detector to the control panel using 18 to 22 AWG conductor, standard non-shielded cable. Avoid running alarm wiring parallel to AC wiring. Wiring knockouts and wire channel are provided in the rear cover for unobtrusive wiring. Terminal block configuration is shown in Fig. 3, below. All wiring should be in accordance with NEC, NFPA 70.

### Jumper Settings

Prior to mounting the detector, configure jumper settings as required (see Fig. 2, below).

**Pulse Count:** The AL-40 Series incorporates Qualified Motion Analysis technology. QMA evaluates the PIR signal with respect to ambient temperature over a qualifying time window; an event is validated only when the PIR signal meets threshold and timing requirements.

When Pulse Count jumper is covering both pins, PC is set at 2: two to three normal steps are required to trigger an alarm. Parking PC jumper on one pin (or removing jumper) sets PC to 4: four to five steps will trigger an alarm.

**LED Enable:** When Jumper is covering both pins, the Alarm LED is enabled. The Alarm LED glows through the lookdown lens when an alarm is signaled at the Alarm Output terminals. LED brightness automatically increases when light level in detection area is high. As room light dims so does the LED brightness. Parking the jumper on one pin (or removing jumper) disables the Alarm LED but has no effect on the alarm output.

Fig. 1 Cover Component Layout

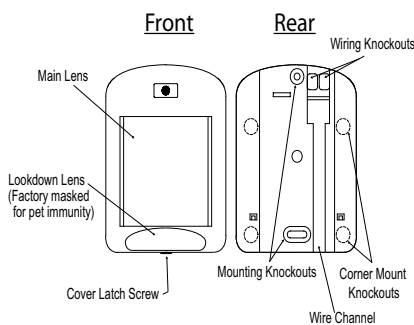


Fig. 2 PCB Layout

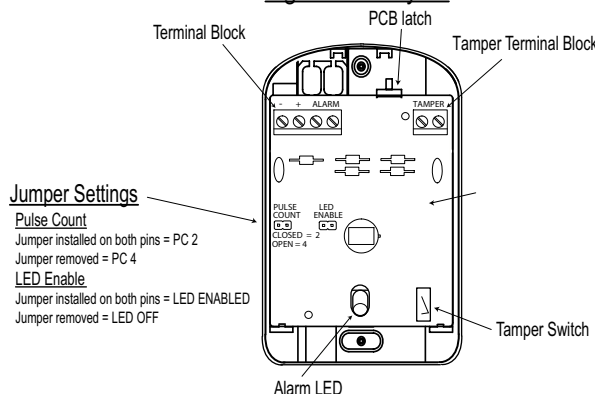
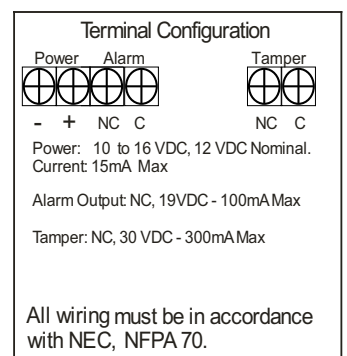


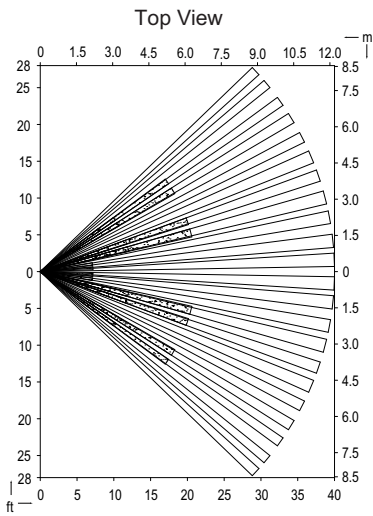
Fig. 3 Wiring Configuration



### Compliance Information:

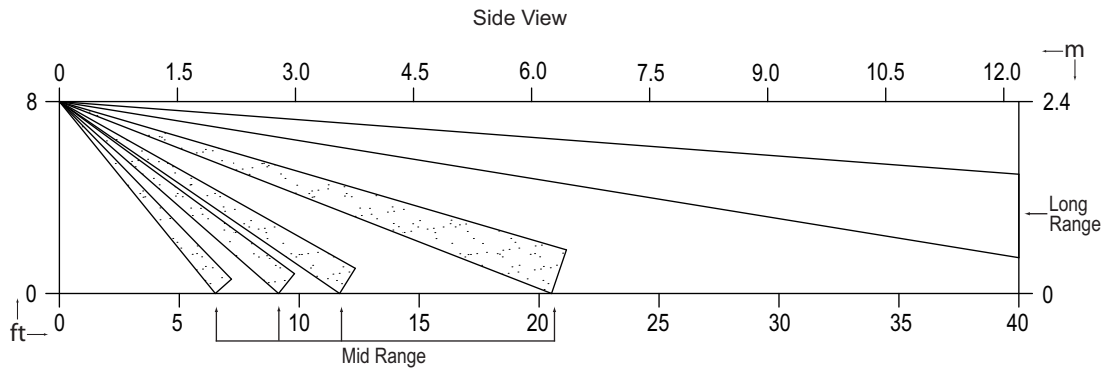
### Patent Information:

US & International Patents Pending



# Detection Pattern

Main Lens: 40WAPET Wide Angle



## Automatic LED Brightness

The AL-40 alarm LED indicator includes an automatic brightness function. In order to allow for a less noticeable installation, LED brightness is reduced as ambient room light level drops.

The LED can be fully disabled by removing the LED ENABLE jumper.

## Notes:

- This detector is designed to be incorporated into an alarm system. As it is part of a system, ALEPH cannot assume responsibility for theft or damage if the system fails to operate.

## Troubleshooting

Trouble	Cause	Remedy
Unit does not power up.	No or low input power. Input power polarity reversed.	Apply proper input voltage. Correct wiring polarity.
Alarm LED does not light.	LED jumper is set to "LED OFF". Incorrect sensor mounting height. Pulse Count setting incorrect for secured area.	Set LED jumper to "LED ENABLED". Increase / decrease mounting height. Set pulse count jumper to suit the required detection characteristics.
Alarm LED / Relay triggers without movement in detection area.	Unsecured environment : Animals / rodents in detection area. Heater /air conditioning equipment in sensor view. Direct sun or headlights in sensor view.	Block access of animals/rodents.  Re-aim sensor.  Add curtain / shade to block light sources.
LED indicates Alarm, no alarm output.	Incorrect wiring at alarm output terminals. Lightning damage.	Correct wiring fault.  Replace sensor.
Alarm LED on constantly, no fault in protected area or wiring.	Defective Unit.	Replace sensor.

## Maintenance

- **INSPECTION:** An inspection of this unit should be made periodically, consisting of, but not limited to all mounting, wiring, and the condition of the interior area and components.
- **CLEANING:** Clean the plastic parts of this unit with a soft, clean, cloth dampened with water.
- **TESTING:** This unit should be tested routinely for proper operation. At a minimum, operation should be fully checked yearly.

## Specifications

<b>Input Voltage</b>	10 to 16 VDC
<b>Input Current</b>	15 mA maximum, 10 mA quiescent (approx.)
<b>Pyro Type</b>	Dual Element
<b>Pulse Count</b>	Qualified Motion Analysis - 2 or 4, selectable
<b>Warm-up Time</b>	50 seconds max.
<b>Alarm Period</b>	2.4 seconds, retriggerable
<b>Visual Indicator</b>	Red Alarm LED (Selectable On / Off)
<b>Alarm Output</b>	NC, solid state, 19 VDC, 100 mA, 13 ohms resistance typ.
<b>Tamper Output</b>	NC, dry contact, 30 VDC, 500 mA, 5 W max.
<b>Mounting Height</b>	6.5 to 8.5 ft (2 to 2.6 m)
<b>Operating Temp.</b>	14° to 131° F (-10° to 55° C)
<b>Environmental</b>	95% humidity non-condensing
<b>Weight</b>	3.0 oz / 83.5 g
<b>Dimensions</b>	3.9" H x 2.5" W x 1.7" D / 98mm x 64mm x 43mm

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## FCC/IC Statement:

*This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 and ICES-003 of the FCC and Industry Canada Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is needed.
- Consult the dealer or an experienced radio / TV technician for help.

*The user should not modify or change this equipment without written approval from ALEPH. Modification could void authority to use this equipment.*

This device complies with Part 15 and ICES-003 of the FCC and Industry Canada Rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## Available accessories:

- 100PET -- 100 lb pet immune lens

## Contact Aleph

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