



Models QT-40B / QT-40BSL

Quad-Tech Intrusion Detectors

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



Description: Model QT-40B intrusion detector provides high quality PIR+microwave security at an outstanding value. Aleph's unique "QT" signal processing evaluates PIR and microwave information, factoring in ambient temperature and light for superior "Quad-Tech" performance.

Standard QT-40B features include Qualified Motion Analysis, rock-solid RFI Immunity, Digital Operating System, Dual-Slope Temperature Compensation, Tamper Protection and Selectable Pulse Count. The SL model includes all of the standard QT-40B features and adds the Security Light feature.

Installation

For best performance, position the intrusion detector so its field of view is free of obstructions, and the anticipated path of an intruder will cross the PIR "fingers" of the pattern. The detector may be installed at any height from 7 ft. (2.1 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.

Separate the front and rear covers by first removing the cover latch screw. 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. Do not pull on the microwave module. 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.

Jumper Settings

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

Pulse Count: When Pulse Count jumper is covering both pins, PC is set at 1: two to three normal steps are required to trigger an alarm. Parking the PC jumper on one pin (or removing jumper) sets PC to 2: 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.

SL Front / SL Down: -- Included on Model QT-40SL -- These jumpers independently enable and disable the "Front" and "Down" Security Light (SL) functions. SL Front controls a single white LED which shines through the front (wide angle) lens. SL Down controls two white LEDs which shine through the lookdown lens. When enabled, Security Light will turn on if motion is detected and room light is dim. Continuous motion will cause Security Light to remain on. Light will turn off approximately 10 seconds after motion ceases.

Fig. 1 Cover Component Layout

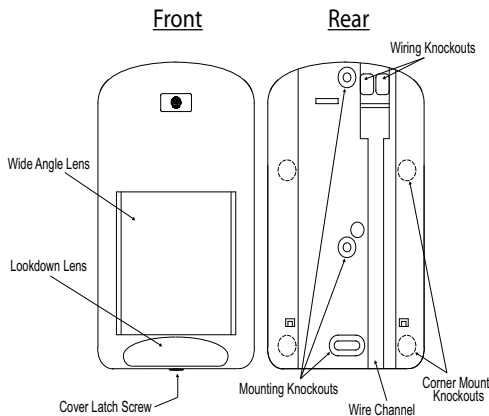


Fig. 2 PCB Layout

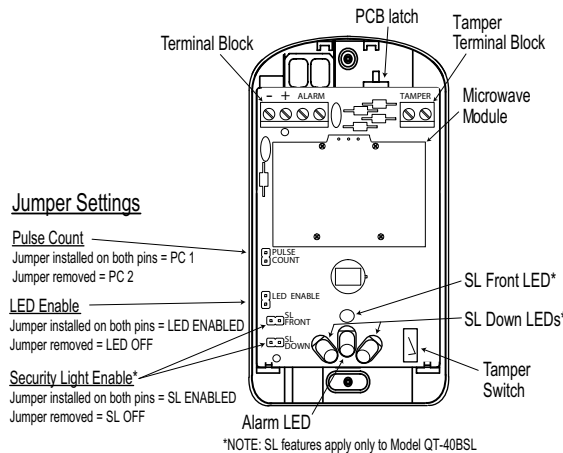
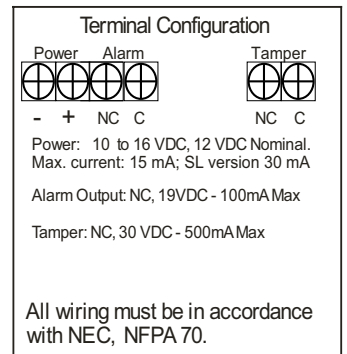


Fig. 3 Wiring Configuration



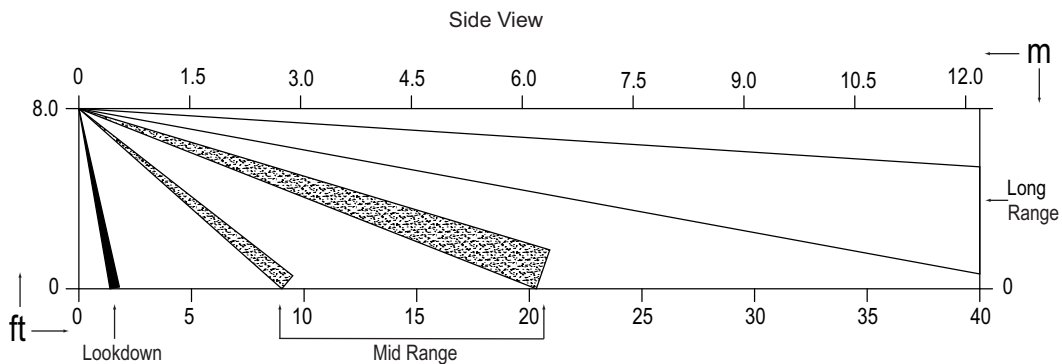
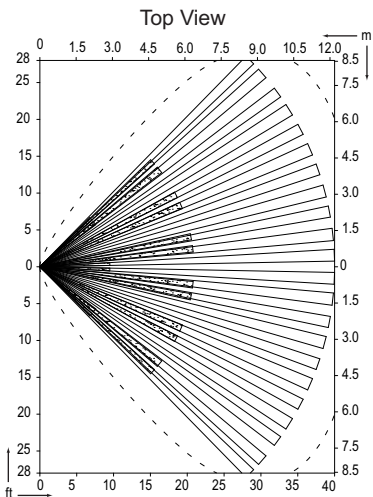
Compliance Information:

Patent Information:

US & International Patents Pending

Detection Pattern

Main Lens: 40WASTD Wide Angle



Note: Dashed line indicates typical microwave coverage.

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.
Unit continues to operate after the input power has been disconnected.	The wire to the "-" power input was disconnected, the "+" is still connected. The power is finding a return path through the Alarm Output protection device and alarm wiring.	Disconnect wire from the "+" power input.

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

Microwave Freq.	10.525 GHz, pulsed
Input Voltage	10 to 16 VDC, 12 VDC nominal
Input Current	15 mA max. (SL model 30 mA), 9 mA quiescent (approx.)
Pyro Type	Dual Element
Pulse Count	Jumper selectable: PC1, PC2
Warm-up Time	< 50 seconds
Alarm Period	2.4 seconds, retriggerable
Visual Indicator	Red Alarm LED (Selectable On / Off)
Alarm Output	NC, solid state, 19 VDC, 100 mA, 13 ohms resistance typ.
Tamper Output	NC, dry contact, 30 VDC, 500 mA, 5 W max.
Mounting Height	7 to 8.5 ft (2.1 to 2.6 m)
Operating Temp.	14° to 131° F (-10° to 55° C)
Environmental	95% humidity non-condensing
Weight	3.7 oz / 105 g
Dimensions	4.8" H x 2.5" W x 1.7" D / 12.2cm x 6.4cm x 4.3cm

Automatic LED Brightness

The QT Series 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 ALARM LED jumper.

FCC/IC Information:

FCC ID: DNHQT-001-00

IC: QT00100-xxxx

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 connected.
 - 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.

Note:

- 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.

Contact Aleph

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