

NEO QUAD

PIR MOTION DETECTOR With END-OF-LINE RESISTORS and PET IMMUNITY

PRODUCT FEATURES

The NEO QUAD detector uses a special designed optical Lens with unique Quad (Four element) PIR Sensor and new ASIC based electronics optimized to eliminate false alarms, caused by small animals and Pets.

The NEO QUAD provides unprecedented levels of immunity against visible light.

The Detector offers an exceptional level of detection capability and stability for every security installation. The NEO QUAD is supplied with a Wide Angle lens.

- Quad Linear Imaging Technology for sharp analysis of body dimensions and differentiation from background and animals.
- EOL Resistors (see attached instructions)
- ASIC based electronics.
- Immunity to animals up to 25kg.
- Up to 15m Detection Range with Wide Angle Lens.
- Temperature compensation.
- Compact Design for Residential Installation.
- Variable pulse width adjustment.
- Auto sensitivity setting.
- Environmental immunity.
- Height installation calibration free (1.8m – 2.4m).
- LED Remote activation for testing.

SELECT MOUNTING LOCATION

Choose a location most likely to intercept an intruder. (Our recommendation is a corner installation). See detection pattern [fig.5 or 6](#). The quad-element high quality sensor detects motion crossing the beam; it is slightly less sensitive detecting motion toward the detector.

The NEO QUAD performs best when provided with a constant and stable environment and background.

AVOID THE FOLLOWING LOCATIONS

- Locations where there are large objects in a range of 1m (3ft) from the detector.
- Locations where there are air drafts or substantial airflows.
- Facing direct sunlight.
- Facing areas that may change temperature rapidly or large metal objects.
- Do not install outdoors
- Keep wiring away from electrical power cables.
- Do not install behind partitions.

The NEO QUAD performs better when provided with a constant and stable environment.

WIRE SIZE REQUIREMENTS

Use #22 AWG (0.5 mm) or wires with a larger diameter. Use the following table to determine required wire gauge (diameter) and length of wire between the detector and the control panel.

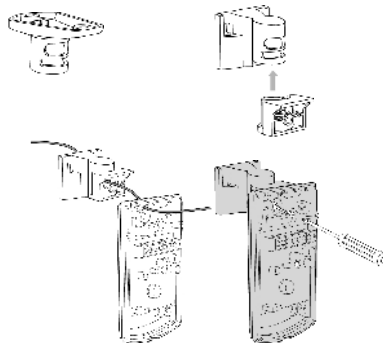
Wire Length	m	200	300	400	800
Wire Diameter	mm	.5	.75	1.0	1.5
Wire Length	ft.	656	984	1312	2624
Wire Gauge	AWG	22	20	18	16

Fig. 4 – Bracket installation options

Use the optional wall / ceiling mount brackets to solve installation placement problems.

Ceiling bracket base

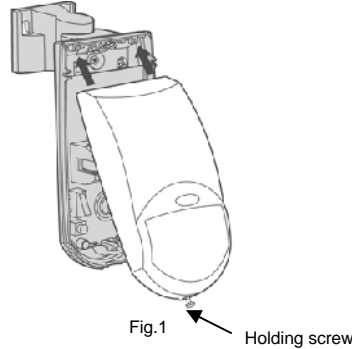
Wall bracket base



DETECTOR INSTALLATION

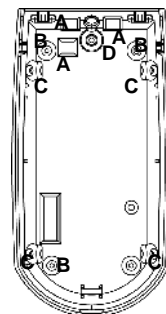
The detector can either be wall or corner mounted. If ceiling or special wall mounting is required, use the optional bracket base. Refer to bracket description. (See [fig. 6](#)).

1. To remove the front cover, unscrew the holding screw and gently raise the front cover.



To remove the PC board, carefully unscrew the holding screw located on the PC board.

2. Break out the desired holes for proper installation.

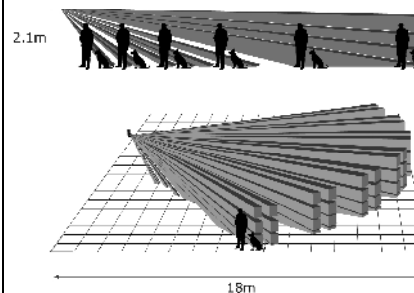


- A. Wire access holes
- B. Use for flat wall mounting
- C. Corner mounting - use all 4 holes. Sharp left or right angle mounting - use 2 holes (top and bottom)
- D. For bracket mounting

Fig.2

3. The circular and rectangular indentations at the bottom base are the knockout holes for wire entry. You may also use mounting holes that are not in use for running the wiring into the detector. (For Bracket option - lead wire through the bracket)
4. Mount the detector base to the wall, corner or ceiling. (For bracket installation options see [fig. 6](#)).
5. Reinstall the PC board by fully tightening the holding screw. Connect wire to terminal block.
6. Replace the cover by inserting it back in the appropriate closing pins and screw in the holding screw.

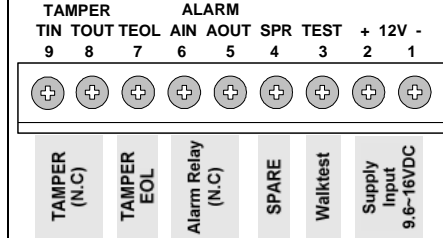
Fig. 5 - Wide Angle Lens Detection Pattern



CONNECTING THE DETECTOR

The NEO Quad might be installed with and without EOL options.

The terminal block connector is built as follow:



Terminals 1&2 - Marked "+ 12V -" : Supply Voltage
Connect to the positive (Voltage supply) and negative (Ground) of the alarm control unit.



Note: The supply connection to the Detectors must only be to a Limited Power Source (LPS) for the input supply in accordance with the Standard EN 60950-1 Latest Revision.

Terminals 3 - Marked "TEST"

This pin is used to enable the LED for walktest when the LED Jumper is in AUTO mode. Apply 12VDC to this pin in order to enable the LED activation during walktest.

Terminal 4 – Marked "SPARE"

This pin is spare pin use to connect external EOL resistor.

Terminals 5 & 6 - Marked "ALARM IN & OUT"

These are the COMMON and the NC (Normally Closed) outputs of ALARM relay. Connect to the zone input of the alarm control unit.

Terminal 7 - Marked "TAMPER EOL"

This pin is spare pin use to connect more then one detector on the same zone with the internal EOL resistor.

Terminals 8 & 9 - Marked "TAMPER IN & OUT"

Connect these terminals to a 24-hour normally closed protective zone in the control unit. If the front cover of the detector is opened, an immediate alarm signal will be sent to the control unit.

Fig. 3 - End Of Line Resistor Options

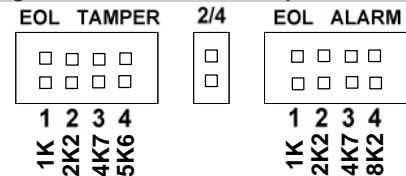
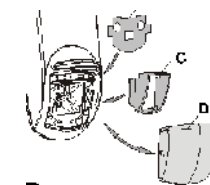
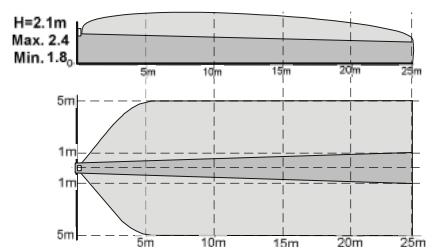
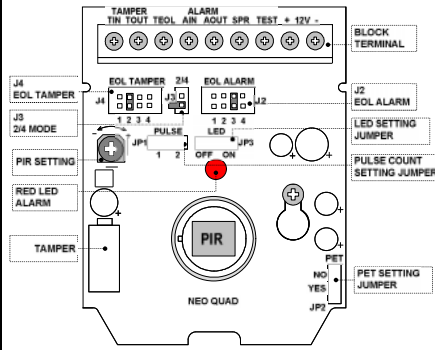


Fig. 6 – Long Range Lens Detection Pattern



SETTING UP THE DETECTOR



PET IMMUNITY JUMPER SETTING

The PET jumper on the left side is used for setting the PET Immune function - up to 12kg or 25kg, depending on the pet size.



NO: Pet Immune non-active - Suppresses alarm for pets up to a weight of 12 kg.
** Factory Setting



YES: Pet Immune active - Suppresses alarm for pets up to a weight of 25 kg

LED ENABLE JUMPER SETTING

The LED jumper on the right side is used for setting - LED Enable / Disable.

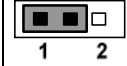
OFF - The LED is disabled.

ON - LED ENABLE. The LED will activate when the detector is in alarm condition.

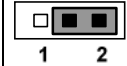
** Factory Setting

PULSE WIDTH JUMPER SETTING

The PULSE jumper is used for setting the PULSE count function in order to provide PIR sensitivity control according to the environment.



PULSE Very stable environment
Jumper #1 = ON
Without PET



PULSE Moderate nuisance situation,
Harsh environment

TESTING THE DETECTOR

Upon installation, the unit should be thoroughly tested to verify proper operation. The end user should be instructed on how to perform a walk test weekly.

Walk test (in local mode LED jumper = ON)

1. Remove front cover.
2. Set LED Jumper to ON position.
3. Reassemble the front cover.
4. Start walking slowly across the detection zone.
5. Observe that the LED lights whenever motion is detected.
6. Allow 5 sec. between each test for the detector to stabilize.
7. After the walk test is completed, you can set the LED jumper to AUTO position.

Note:

To assure proper operation, the range and coverage area should be checked at least twice a year.

For UL installations the detector shall be tested annually.

Note:

The LED Switch does not affect the operation of the relay. When an intrusion is detected, the LED will activate according to LED jumper position and the ALARM relay will switch into alarm condition for 2 sec.

TECHNICAL SPECIFICATION

Detection Method	Quad (Four element) PIR & microwave pulse Doppler
Detection Range	2 - 15m @ H±1.8 - 2.4m
Power Input	9.6 to 16Vdc
Current Draw	Active: 18mA (± 5%) Standby: 21mA (± 5%)
Temp Consumption	Yes
Alarm Period	2 ± 1 sec
Alarm Outputs	Form C - NC&NO 28Vdc 0.1 A with 10 Ohm series protection resistors
Tamper Switch	NC 28Vdc 0.1 A with 10 Ohm series protection resistors open when cover is removed
Warm up Period	45 sec
Operation Temp	-10°C ~ +50°C (14°F-122°F)
Dimensions	116 mm x 59mm x 37mm
Weight	75gr.

STANDARDS

European Council Directive 2004/108/EC
EN50130-4+A1+A2
EN61000-6-3
EN55022
EN50371
EN50130-5
EN50131-1
EN50131-2-2
SAFETY LVD 2006/95/EC
EN60950-1 (93/68/EEC)
Security Grade 2, Environmental Class II

For more detailed instruction please refer the manuals which you could download from the internet at:

www.thecrowgroup.com

Certified by: ANPI INCERT NUMBER
XXXXXX

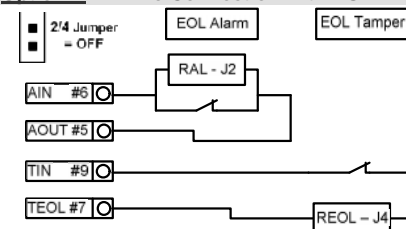


EOL Connection Options

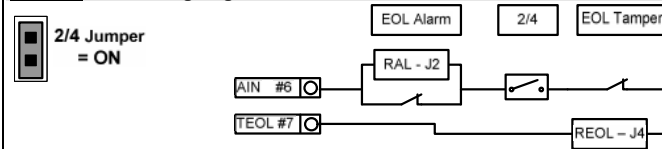
The End-Of-Line connection options are described in the following drawings.

Set J3 JUMPER "2/4" according to connection option Set J4 "REOL" and J2 "RAL" Jumpers according to EOL resistors value (see fig. 3)

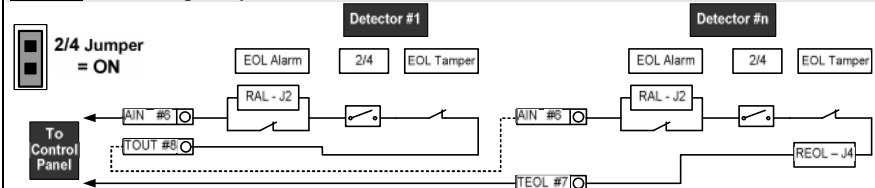
Option A - 4 Wire Connection with EOL



Option B - Connecting single detector with 2 wire and EOL resistors



Option C - Connecting multiple detectors with 2 wire and EOL resistors



CROW ELECTRONIC ENGINEERING LTD. ("Crow") - WARRANTY POLICY CERTIFICATE

This Warranty Certificate is given in favor of the purchaser (hereunder the "Purchaser") purchasing the products directly from Crow or from its authorized distributor. Crow warrants these products to be free from defects in materials and workmanship under normal use and service for a period of 24 months from the last day of the week and year whose numbers are printed on the printed circuit board inside these products (hereunder the "Warranty Period").

Subject to the provisions of this Warranty Certificate, during the Warranty Period, Crow undertakes, at its sole discretion and subject to Crow's procedures, as such procedures are from time to time, to repair or replace, free of charge for materials and/or labor, products proved to be defective in materials or workmanship under normal use and service. Repaired products shall be warranted for the remainder of the original Warranty Period.

All transportation costs and in-transit risk of loss or damage related, directly or indirectly, to products returned to Crow for repair or replacement shall be borne solely by the Purchaser.

Crow's warranty under this Warranty Certificate does not cover products that is defective (or shall become defective) due to: (a) alteration of the products (or any part thereof) by anyone other than Crow; (b) accident, abuse, negligence, or improper maintenance; (c) failure caused by a product which Crow did not provide; (d) failure caused by software or hardware which Crow did not provide; (e) use or storage other than in accordance with Crow's specified operating and storage instructions. There are no warranties, expressed or implied, of merchantability or fitness of the products for a particular purpose or otherwise, which extend beyond the description on the face hereof.

This limited Warranty Certificate is the Purchaser's sole and exclusive remedy against Crow and Crow's sole and exclusive liability toward the Purchaser in connection with the products, including without limitation - for defects or malfunctions of the products. This Warranty Certificate replaces all other warranties and liabilities, whether oral, written, (non-mandatory) statutory, contractual, in tort or otherwise.

In no case shall Crow be liable to anyone for any consequential or incidental damages (inclusive of loss of profit, and whether occasioned by negligence of the Crow or any third party on its behalf) for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever. Crow does not represent that these products can not be compromised or circumvented; that these products will prevent any person injury or property loss or damage by burglary, robbery, fire or otherwise; or that these products will in all cases provide adequate warning or protection.

Purchaser understands that a properly installed and maintained product may in some cases reduce the risk of burglary, fire, robbery or other events occurring without providing an alarm, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss or damage as a result.

Consequently, Crow shall have no liability for any personal injury, property damage or any other loss based on claim that these products failed to give any warning.

If Crow is held liable, whether directly or indirectly, for any loss or damage with regards to these products, regardless of cause or origin, Crow's maximum liability shall not in any case exceed the purchase price of these products, which shall be the complete and exclusive remedy against Crow.

These instructions supersede all previous issues in circulation prior to October 2010.

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