

NEO DT-AM

PASSIVE INFRARED & MICROWAVE DETECTOR With PET IMMUNITY & OPTIC ANTI-MASK

PRODUCT FEATURES

The NEO DT AM is a combination of PIR & MW detectors, with PET immune function and optical anti-mask, providing protection from intruders by PYRO sensor element and MW (based on Doppler concept). The NEO DT-AM use Microcontroller for PIR & MW signal analyzing, special ASIC technology for PIR pulse analyzing and unique optic for anti-mask protection.

- Quad (Four element) PYRO sensor.
- Hard spherical lens for outstanding detection performance and elimination of false alarms.
- Microwave detection based on Doppler concept.
- Unique Microwave Motion Sensor Module X-Band.
- Optic Anti-mask protection with special Relay trouble output.
- ASIC VLSI based electronics with movement speed spectrum analysis.
- PIR self-test by applying a short heat pulse.
- Height installation calibrations free.
- User-friendly installation with or w/o swivel bracket.
- 2-way Microwave sensitivity adjustment.
- 2-way PIR sensitivity adjustment.
- Bi directional temperature compensation.
- The NEO DT-AM provides pet immunity up to 25Kg. Pet active bellow 1m.
- White light and environmental immunity.

SELECT MOUNTING LOCATION

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



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.

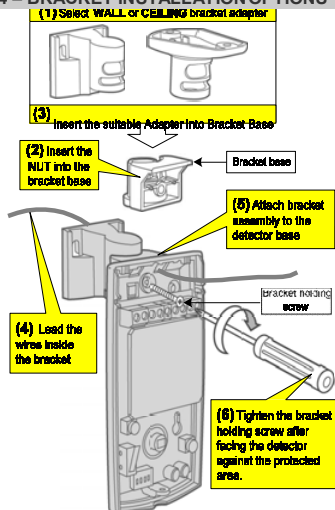
Do not install behind partitions.
Note: The NEO DT-AM performs better when provided with a constant and stable environment.

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



DETECTOR INSTALLATION

The NEO DT-AM can either be wall or corner mounted. If ceiling or special wall mounting is required, use the optional mounting bracket. See fig. 4.

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

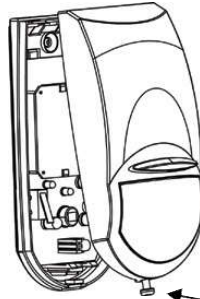


Fig.1 Holding screw

2. To remove the PC board, carefully unscrew the holding screw located on the PC board.
3. Break out the desired holes for proper installation.

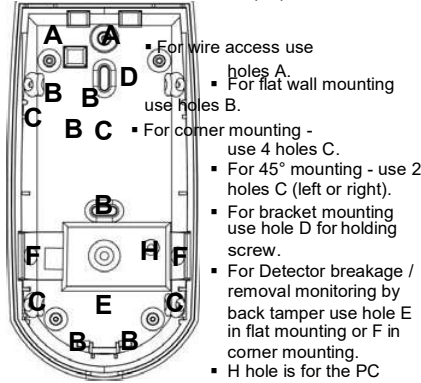
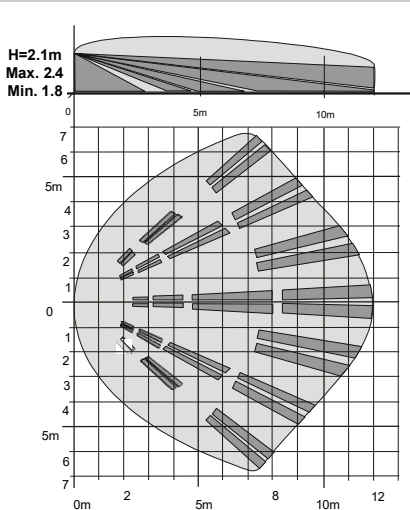


Fig. 2

4. The circular and rectangular indentations at the base are the knock-out holes for wire entry. For option with bracket - lead wire through the bracket (see fig. 4)
5. Mount the detector base to the wall, corner or ceiling. (For bracket option see fig.4).
6. Reinstall the PC board by fully tightening the holding screw. Connect wire to terminal block.
7. Replace the cover by inserting it back in the appropriate closing pins and screw in the holding screw.
8. Detector breakage/removal monitoring (Back Tamper). If the detector is forcibly removed from the mounting surface, a TAMPER alarm is triggered. For this, the detector base must be secured with an additional screw. (This option is not valid in case of bracket installation).

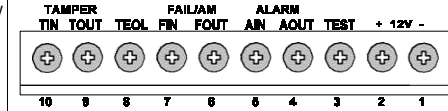
FIG. 5 - WIDE ANGLE LENS DETECTION PATTERN



CONNECTING THE DETECTOR

The NEO DT-AM might be installed with and without EOL options.

The block connector includes 10 terminals 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 switch "L" is in LED ON mode. Apply 12VDC to this pin in order to enable the LED activation during walktest.

Terminals 4 & 5 - Marked "ALARM AIN & AOUT"

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

Terminals 6 & 7 - Marked "FAIL/AM FIN & FOUT"

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

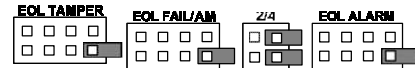
Terminal 8 - Marked "TAMPER EOL"

This pin connects the serial EOL resistor to the TAMPER terminals; it is use for connection of more than one detector in serial on the same zone. In this connection only one internal EOL resistor should be used.

Terminals 9 & 10 - 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



For EOL SETTING please refer to CROW ELECTRONIC ENGINEERING Ltd. – NEO DT AM on www.thecrowgroup.com

DETECTOR STARTUP and SELF TESTING

After applying 12Vdc to the (+) and (-) terminals, the NEO DT-AM starts a 60 second warm-up period. During this period the following self test take place:

- A. Warm up period (~30 Sec.) indicated by alternate flashing the Red, Yellow and Green LED's.
- B. MW and Anti-mask self test (~20 Sec.) indicated by Yellow LED flashing.
- C. PIR self test (~20 Sec.) indicated by Yellow LED. Following this sequence the detector is ready.

Note: If the alternate flashing of the LED's does not stop within 60 Sec. a failure has been detected by the self-test circuitry, or the unit may be masked, or power supply voltage is lower than nominal.

MASKING CONDITION

If an attempt is made to mask the lens with a sticker or to put a masking object close to the lens, a trouble alert will result approx. 180 seconds after masking: The RED LED will turn ON and the Yellow LED will flash alternately.

The ALARM relay will Close and the TROUBLE relay will Open.

RESET AFTER TROUBLE OR MASKING

In case of trouble alert, proceed as follows: Search for masking material or objects on the lens or in front of the detector and remove them. Reset the detector by walk testing: cross its field of view at the far end, causing it to alarm several times. If everything is back to normal, the LED should stop flashing, and the ALARM and TROUBLE relays should reset.

Note: If walk testing does not cause the trouble alert to stop, recheck for masking.

If masking is removed, the TROUBLE alarm is may be due to low power supply voltage or defective PIR or MW circuit.

If power supply is fine then replacing the detector unit will solve this problem.

