

NV780MX

Installation Manual

Dual Side-View Anti-Mask Outdoor Detector



General Description

The NV780MX is a dual, independent, side-by-side view Passive Infrared (PIR) motion detector with dual anti-mask in a single housing, providing boundary protection. Covering approximately 24m / 78 ft. (12m / 39 ft. on each side) and configurable to report either as a single unit with two sides reporting as a single zone output or as a dual unit with each side reporting as a separate zone input.

Installing the NV780MX

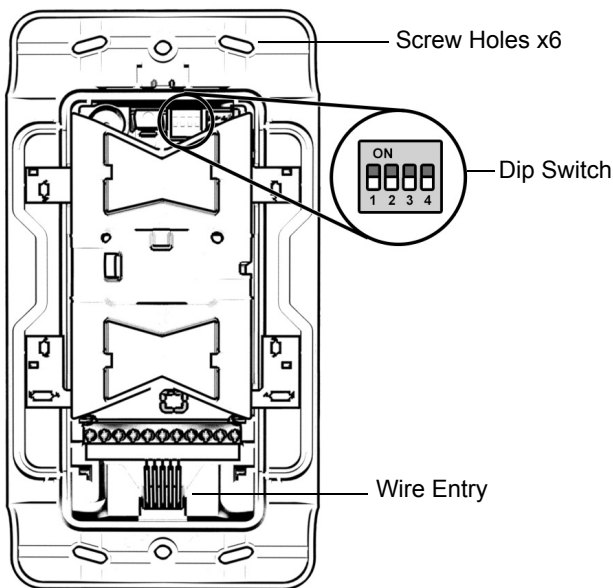


Figure 1 : Front View - Open Cover

Minimum Recommended Installation Distance: At least 40 cm / 15.7 in. from the protected area (door, window, etc.)

Anti-Mask Calibration

The anti-mask will only calibrate after the tamper is closed. The NV780MX performs anti-mask calibration for up to 40 seconds, indicated by flashing red / green LEDs until completed. On completion, the LEDs shut off. If the buzzer is set to ON, three beeps signal that calibration is complete. **IMPORTANT:** During calibration, no objects should be within 2m / 6 ft. of the anti-mask field of view (on both sides of the detector).

Wiring

N.C.	N.C.	Z2*	Z1*	+	-	EVO		
AM	TAMPER	N.C.L	COM	N.C.R	RED	BLK	GRN	YEL
⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘

*In Single mode, both outputs activate from any side.

- Digiplex mode is enabled if bus communication with the control panel exists. In Digiplex mode, the detector's relay output remains active and can be used to activate other devices.
- Upon a loss of communication in Digiplex mode, the left LED flashes rapidly until communication is restored.
- To return to Relay mode, disconnect both the power and the Digiplex bus connection, and then power-up the module.

Dip Switch

DIP SWITCH	OFF	ON (DEFAULT)
1. LED	OFF	ON
2. BUZZER / ANTI-MASK	OFF Anti-mask and Buzzer disabled	ON (Buzzer on for 3 minutes after tamper open)
3. SENSITIVITY	LOW	HIGH
4. SINGLE MODE	DUAL	SINGLE

Power-Up Sequence Indication

- LED: Both left and right LEDs blink red for five seconds.
- Buzzer Switch ON:
 - Single Mode: One tone beeping for five seconds.
 - Dual mode: Alternate tone beeping for five seconds.
- Anti-mask calibration can take up to 40 seconds, red / green flashing if Buzzer is ON; three beeps indicates completion.

Alarm

- LED: Red LED indication on the relevant side(s) for three seconds.
- Buzzer Switch ON:
 - Single Mode: Same tone for either side detection.
 - Dual mode: Each side has its own tone.

Anti-Mask Detection

- An Anti-mask alarm will be generated 75 seconds after detecting a blocking object (EN regulation requires a minimum detection of 90 - 180 seconds for generating an anti-mask alarm).
- LED: Flashes orange rapidly (pre-alarm state) and then flashes when in alarm.
- If Buzzer is ON: buzzer beeps for 3 seconds.

NOTE: The anti-mask relay is open during anti-mask detection.

Adjusting the Beam Range

Adjust the beam range by shifting the lower lens up and down. Hold the cover in the UP position and slide the plastic tab in the lower lens up or down on the side you wish to adjust, until the module is aligned in the desired position. Align the top of the tab with the required angle of the beam (Figure 2):

- 0° = 12m
- 5° = 10.5m
- 10° = 7.5m
- 15° = 5.25m
- 20° = 3m - 5m

Once adjusted, lock into place by pushing the tab into the slot.

Adjusting the Horizontal Beam

Beams (on either side of the module) are projected parallel to the wall (default). The beams can be adjusted to project 3° horizontally from the wall, distancing the beam 60 cm / 24 in. from the wall in order to avoid detection of unwanted objects next to the module (Figure 2).

To adjust the beams in relation to the wall, identify the side needing adjustment, and slide the lens tray in or out of the detector to the required position:

- 0° - Slide the lens tray until it is flush with the top edge of the lens holder.
- 3° - Slide the lens tray until it is flush with the bottom edge of the lens holder.

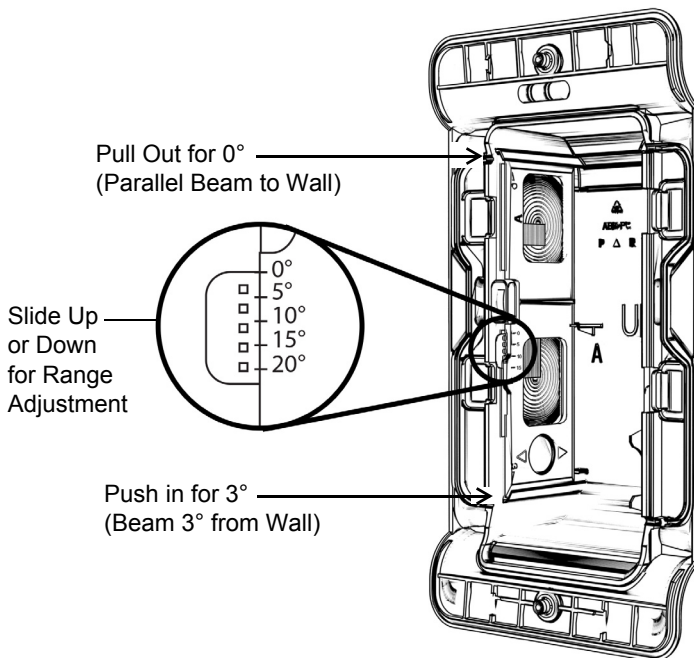
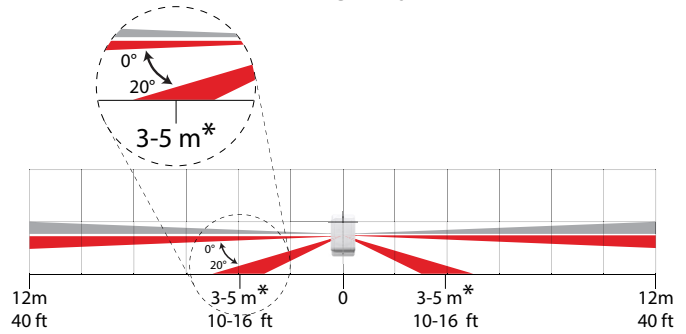


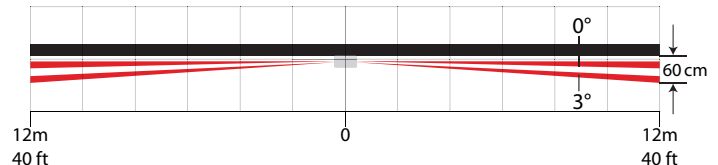
Figure 2 : Beam Adjustment

Beam Range Adjustment



* Depends on installation height and environment. Test recommended.

Horizontal Beam Adjustment



Technical Specifications

Sensor	4x dual low noise rectangular elements
Lens	2nd gen., flat, 2x dual beam, 1.7" focal point, narrow beam long-range Fresnel lens
Processing	Digital APSP / Digital temperature compensation
Startup Time	25 seconds
Detection Speed	0.2m / sec. – 4m / sec. (0.6 ft / sec. – 13.1 ft / sec.)
Power Input	9 Vdc to 15 Vdc
Current Consumption	Typical/Standby: 37mA, Max: 80mA
Coverage	Bi-directional, independent, 2 x 3m to 12m (10 ft. to 39 ft.) at 1.5m / 4.9 ft. height
PET Immunity	Up to 40 kg (90 lb) - minimum 1.5m / 4.9 ft installation height
Anti- Mask	Active IR detection for blocking 10 cm up to 30 cm and sprayed liquid
Alarm Indicator	2x red LED for 3 seconds + buzzer
Alarm Output	2x Solid State, N.C, 150 mA.
Anti-Tamper Switch	N.C. 28 Vdc, 0.15A
Operating Temperature	-35°C to +50°C / -31°F to +122°F
Humidity	95% max.
Dimensions	L 8.2 in. x W 4.3 in. x D 2.7 in. (21 cm x 11 cm x 7 cm)
RF Immunity	Complies with EN 50130-4: 10V / m 80 MHz to 2.7 GHz
Standards	EN 50131-2-2, Security Grade 2, EN 50130-5 Environmental Class IVA

ENVY™
SERIES

anti-mask

PET

IMMUNITY

CE

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