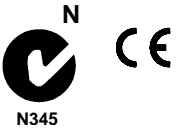



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# MR-CRT

**CURTAIN PROTECTION  
MIRROR OPTICS  
PASSIVE INFRARED  
DETECTOR**



N345



**CROW**  
ELECTRONIC ENGINEERING LTD.

**INSTALLATION INSTRUCTIONS**  
P/N 7101278 Rev. A AY

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### MR-CRT DESCRIPTION

The MR-CRT mirror curtain detector provides solid curtain coverage of max 8m length by 3m height.

The MR-CRT may be used for perimeter protection by setting up detection "curtains" along walls, windows, skylights. It can also be used as internal invisible barrier and as pet-alley curtain.

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The Mirror detector MR-CRT use varifocal mirror that improves the focus and the level of energy received by the Pyro Sensor.

The electronic of the detector is optimized to virtually eliminate false alarms.

The MR-CRT special mirror allows for 8 dense zones (16 beams) at a spread of 90° with 8° field of view .

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### MR-CRT FEATURES

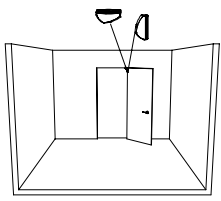
- Unique small dimensions.
- High Precision Mirror Optics.
- 8m Detection Range with full curtain mirror.
- Solid curtain coverage.
- Temperature compensation.
- Dual element Pyro Sensor.
- Advanced component technology.
- Height installation calibrations free.

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### MOUNTING THE DETECTOR

Select a location most likely to intercept an intruder.

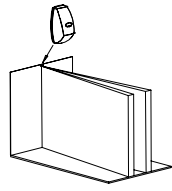
Various mounting alternatives are available, each of which provides different coverage patterns as a solid curtain:



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#### A. Wall Mounted

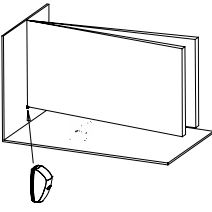
The unit should be mounted on the wall at a maximum height of 3.6 m (12 ft). It provides solid curtain coverage, extending out from the mounting wall to the opposite wall up to a maximum distance of 8 m (26 ft) and down to the floor. The unit must be mounted vertically, with the mirror pointed downward, toward the floor.



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#### B. Pet Alley

Pet-alley curtain can be created by installing the MR-CRT on the wall, near the floor, with the mirror pointed toward the ceiling.



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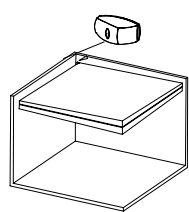
#### C. Skylight

This method is useful for detection of entry through the ceiling or skylights. Install the unit as close as possible to the ceiling area or skylights to be protected and close to a corner of the protected area.

**Note:** Maintain a minimum vertical distance of 0.5 m (1.5 ft) from the ceiling or skylights. The unit is installed with its long axis vertical, so that the coverage pattern will be parallel to the floor (rotated 90° from the wall mounted installation).

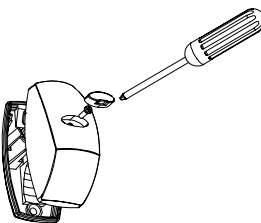
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The maximum coverage of this installation is 3.6m x 5m. The field of view is 90° extending, from the unit toward the opposite wall and along the wall on which the unit is mounted in the direction that the mirror is facing.



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### FIG. 1 - REMOVAL OF FRONT COVER

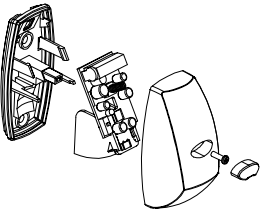


#### INSTALL THE DETECTOR

1. Removal of the front cover.
  - 1.1 Carefully take away the screw cup from the center of plastic cover by using flat screwdriver.
  - 1.2 Unscrew the holding screw.
  - 1.3 Remove the front cover.

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### FIG. 2 - INSTALL THE DETECTOR



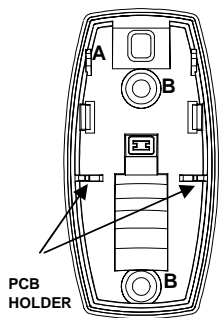
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2. Removal of the PCB.
  - 2.1 Push away 2 plastic holders at the both sides of PCB and lift the board out.
3. Drill out the holes for installation (holes "B").
4. Insert the wire through the wire access holes ("A") and mount the detector base to the mounting surface.
5. Reconstruction
  - 5.1 Replace the PCB
  - 5.2 Replace the cover
  - 5.3 Attach the screw
  - 5.4 Assemble the screw cup.

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### FIG. 3 - KNOCKDOWN HOLES

The plastic base includes knockdown holes:



PCB HOLDER

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### KNOCKDOWN HOLES (FIG.3)

- A. Wire access hole
  - Remove the part of the sticker, which cover hole A.
  - Run the cable through the hole.
  - Replace the sticker
- B. Holes for mounting on the surface

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### FIG. 4 - TERMINAL BLOCK CONNECTION

| 12VDC |   | RELAY |    | TAMPER |   |
|-------|---|-------|----|--------|---|
| -     | + | NC    | NC |        |   |
| 1     | 2 | 3     | 4  | 5      | 6 |

**Terminal 1 - Marked " - "**  
(-12Vgnd)  
Connect to the negative Voltage output or ground of the control panel.

**Terminal 2 - Marked " + "**  
(+12V)  
Connect to a positive Voltage output of 8.2 -16Vdc source (usually from the alarm control unit)

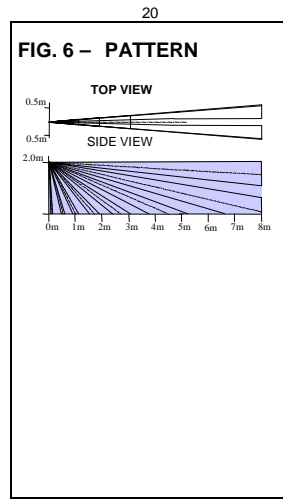
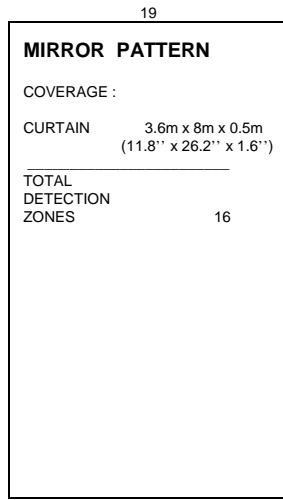
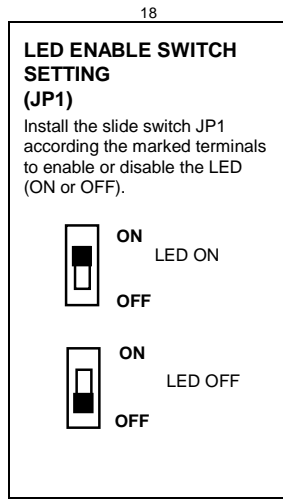
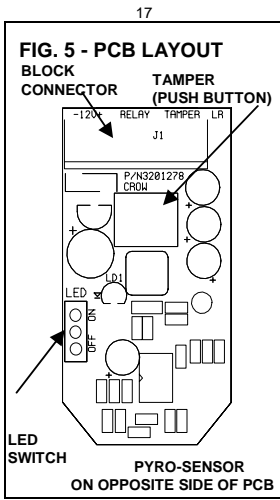
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**Terminals 3 & 4 - Marked " RELAY "**

These are the output relay contacts of the detector. Connect to a normally closed zone in the control panel.

**Terminals 5 & 6 - Marked " TAMPER "**

If a Tamper function is required 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.



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**TEST PROCEDURES**

WAIT ONE MINUTE WARM-UP TIME AFTER APPLYING 12 VDC POWER. CONDUCT TESTING WITH THE PROTECTED AREA CLEARED OF ALL PEOPLE.

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**Walk test**

1. Remove front cover. The LED must be enabled.
2. Replace the front cover.
3. Start walking slowly across the detection zone.
4. Observe that the detector's LED lights whenever motion is detected.
5. Allow 5 sec. between each test for the detector to stabilize.
6. After the walk test is completed, the LED may be disabled.

NOTE:  
walk tests should be conducted, at least once a year, to confirm proper operation and coverage of the detector.

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**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. | 800 | 1200 | 2000 | 3400 |
| Wire Gauge    | #   | 22  | 20   | 18   | 16   |

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**HOLE COVER**

To avoid entrance of small insects through the wire access hole "A" in the plastic base (see fig.3) use the paper back sticker.

Make sure to replace the sticker on its place after wire connection..

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**TECHNICAL SPECIFICATIONS**

|                          |  |
|--------------------------|--|
| MODEL                    | MR-CRT   |
| Detection Method         | Dual element PIR   |
| Power Input              | 8.2 to 16 VDC  |
| Current Draw             | Standby: 6 mA (± 5%)<br>Active with LED: 6 mA (± 5%)                               |
| Temperature Compensation | YES  |
| Alarm Period             | 1.2 sec (± 0.5sec)   |
| Alarm Output             | N.C 28VDC 0.1 A with 10 Ohm series protection resistor                             |
| Tamper Switch            | N.C 28VDC 0.1A with 10 Ohm series protection resistor - open when cover is removed |
| Warm Up Period           | 20 sec (± 5sec)  |
| LED Indicator            | LED is ON during alarm   |
| Operating Temperature    | -20°C to +50°C (-4°F to +122°F)  |
| RFI Protection           | 30V/m 10 - 1000MHz   |
| EMI Protection           | 50,000V of electrical interference from lightning or power through                 |
| Dimensions               | 70mm x 35mm x 36mm (2.8" x 1.4" x 1.4")  |
| Weight                   | 26.5gr ( 0.9oz)  |

**CROW reserves the rights to change specifications without prior notice**

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**CROW LIMITED WARRANTY**

(Crow) warrants this product to be free from defects in materials and workmanship under normal use and service for a period of one year from the last day of the week and year whose numbers are printed on the printed circuit board inside this product.

Crow's obligation is limited to repairing or replacing this product, at its option, free of charge for materials or labor, if it is proved to be defective in materials or workmanship under normal use and service. Crow shall have no obligation under this Limited Warranty or otherwise if the product is altered or improperly repaired or serviced by anyone other than Crow.

There are no warranties, expressed or implied, of merchantability or fitness for a particular purpose or otherwise, which extend beyond the description on the face hereof. In no case shall Crow be liable to anyone for any consequential or incidental damages for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever, even if the loss or damage is caused by Crow's own negligence or fault.

Crow does not represent that this product can not be compromised or circumvented: that this product will prevent any person injury or property loss or damage by burglary, robbery, fire or otherwise; or that this product will in all cases provide adequate warning or protection. Purchaser understands that a properly installed and maintained product can only reduce the risk of burglary, 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 this product failed to give any warning. However, if Crow is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, Crow's maximum liability shall not in any case exceed the purchase price of this product, which shall be the complete and exclusive remedy against Crow.



**N345**

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