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TALON SERIES

TLC-360

**4 ELEMENT
CEILING MOUNT
PASSIVE INFRARED DETECTOR**

$C \in$

CROW
ELECTRONIC ENGINEERING LTD.

INSTALLATION INSTRUCTIONS
P/N 7151069 REV.C A.Y.

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TLC-360 FEATURES

* Fully sealed sensor chamber.
* VLSI Technology (Very Large Scale Integration).
* Maximum RFI & EMI Immunity.
* 4 Element Pyro Sensor.
* Pulse Count.
* Sophisticated signal processing.
* Memory function.
* Hard Spherical Lens 360° coverage.
* Bidirectional temperature compensation.
* Flourescent light stability.

INTRODUCTION
The TLC-360 is a 4-element passive infrared intrusion detector for use in electronic security systems in ceiling mount applications.

You will obtain optimum performance from your TLC-360 PIR detector by following this manual.

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The TLC-360 reduces false alarms to an unprecedented minimal level due to its effective elimination of background noises and nuisance stimuli. The TLC-360 employs Automatic Pulse Count making it extremely adaptable to various environments. The unique VLSI, using sophisticated signal processing, makes this detector virtually free of false alarms.

The TLC-360 integrates VLSI & SMD (surface mount device) to their full advantage.

The detector is easy to install, with no necessary adjustments.

HARD SPHERICAL LENS
The TLC-360 is equipped with a special hard lens. This lens is the latest development in the security field and complies with all the new standards requirements. It gives wide coverage patterns, even at low mounting heights. It is especially immune to sunlight, halogen lights and fluorescent lights and is impervious to attack.

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MOUNTING THE DETECTOR

Choose location most likely to intercept an intruder. Refer to the detection pattern.
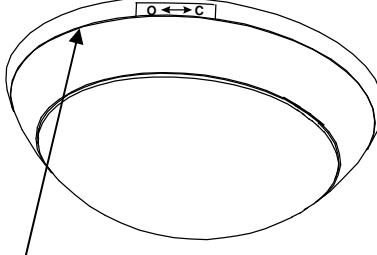
1. Hold the detector in your hand and release the mounting plate by turning it counter-clock-wise, and separate it from the case (Fig. 1).
2. Insert the wires through the hole in the center of the mounting plate (Fig. 2).
3. Mount the plate using the holes marked mounting holes.

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.
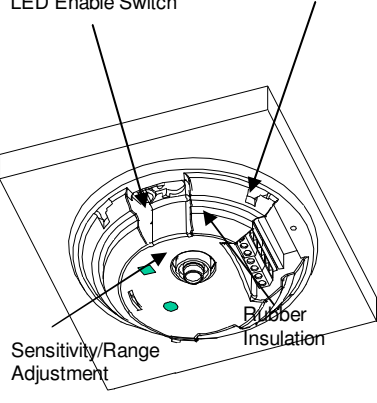
Wire Length	m	200	300	400	800
Wire Diameter	mm	.5	.75	1.0	1.5
Wire Length	ft.	800	1200	2000	3400
Wire Gauge	#	22	20	18	16

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FIG. 1 - TLC-360 . EXTERNAL VIEW

OPEN   **CLOSE**
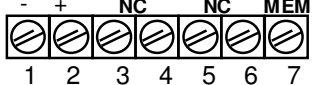
Separate cover
from base

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FIG. 2 - TLC-360. INTERNAL VIEW

Pulse Count /
LED Enable Switch   Terminal Strip

Rubber
Insulation

Sensitivity/Range
Adjustment

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12VDC   RELAY TAMPER MEM
TERMINAL BLOCK CONNECTIONS
             NC   NC   MEM
  -     +   NC   NC   MEM

1   2   3   4   5   6   7

Run the cable through the cable entry hole and connect the wires in accordance with the following instructions:

Terminal 1 - Marked " - " (GND)
Connect to ground of the control panel.

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

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

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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.

Terminal 7 - Marked " MEM "
The alarm memory function allows the identification of an alerting detector out of multiple detectors connected to one (or the same) zone of the control unit.
To enable this function, connect (switch on) the M terminal to a switched +12 to +16V_{DC} source (e.g. Arm / Disarm voltage output from the control unit.)
In case of an alarm, the memory function stores the alarm event in the detector.
To identify the detector that alarmed, disconnect (switch off) (grounded) the voltage from MEM terminal.
The LED of the detector with the alarm event in memory will light constantly until memory function is reset.
To reset the memory function, switch on and switch off the M terminal.

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PULSE COUNT /LED Enable DIP Switch
(Fig.3 and DIP-SWITCH Setting).
To change positions of the DIP-switch you have to open the detector:
1. Turn the detector counter-clock wise and separate it from the mounting base.
2. Change position of the switch.
3. Close the detector and reinstall assembly screws.

FIG. 3 - TLC-360 BOTTOM VIEW
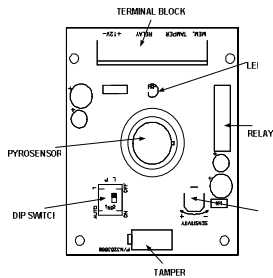
IMPORTANT:
1. Do not install the detector where it may encounter water, steam or oil.
2. Do not aim the detector directly at sources of rapid heating or cooling such as: forced air ducts, heaters.
3. Be sure to locate the detector so that valuables are well within its coverage pattern.
4. Range may vary in accordance with ambient temperature.

DETECTION PATTERN FOR TLC-360

Installation Height		Detection (Effective	Diameter Range)
2.4m	8 ft	11m	36 ft
3m	10ft	14m	46ft
3.6m	12ft	16m	52ft

Example: (See Fig. 4). If install at a height of 3 m (10 ft) the detector will cover a circle of 20m (65.5 ft) at floor level, with an effective detection range of 14m (45.9 ft) in diameter.
Note: The detection range is the circle pattern at floor level. The effective range is the range at which an intruder will trigger an alarm.

WALK TEST
After the installation, perform a walk test to check that the detector operates properly.

FIG. 4 - TLC-360 DETECTION AREA

Ceiling 3m (10ft) high

Effective Detection Diameter

14m (46ft)

0.8m (2.6ft)

Floor

20m (65.5ft)
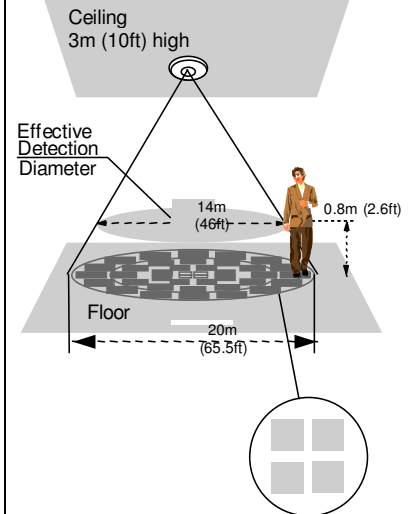
DIP-SWITCH SETTINGS

PULSE COUNT - DIP-SWITCH, "PULSE" - provides control for normal or high risk operating environments.

Position "1" (OFF) - this setting is for a stable environment.
Position "Auto" (ON) - the TLC-360 will automatically select the appropriate pulse count level (2 or 3) according to the strength of the incoming signals. This setting is for operation within a harsh environment.
When an intrusion is detected, the LED will activate and the alarm relay will switch into alarm condition (open circuit) for 1.6 sec.

LED ENABLE - DIP-SWITCH, "LED" - to enable or disable the LED.

Position "ON" - LED enable.
Position "OFF" - LED disable.

FIG. 5 - LENS PATTERN

TOP VIEW

20m (65.6ft)

SIDE VIEW

0 (0) m (ft)									
2.4 (8)									
3 (10)									
3.6 (12)									
	10 32.	6.6 21.	3.3 10.	0 0	3.3 10.	6.6 21.	10 32.	m	ft
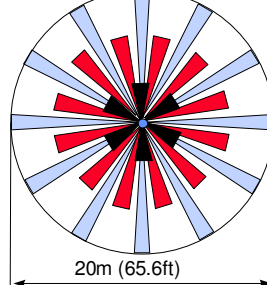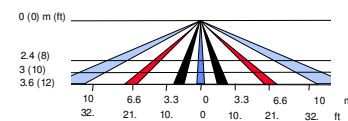
TECHNICAL SPECIFICATIONS

Power Input	8.2 - 16 Vdc
Current Draw	Active / Standby: 9 mA
Detection Method	4 (Four) element PIR
Sensitivity	$\Delta 2°C$ ($\Delta 3.6°F$) at 0.6 m/sec (2 ft/sec)
Detection Speed	0.5 - 1.5 m/sec (1.5 - 5 ft/sec)
Bi Directional Temperature	YES
Pulse Count	1,2-automatic switch from 2 to 3 depending on
Alarm Period	1.6 sec
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

TECHNICAL SPECIFICATIONS (CONT.)

Warm Up Period	20 sec
LED Indicator	LED is blinking during warm up period and self testing, LED is ON during alarm
Operating Temperature	-20°C to+50°C (-4°F to +122°F)
RFI Protection	$\geq 30V/m$ 10 - 1000MHz
EMI Protection	50,000V of electrical interference from lightning or power through
Visible Light Protection	stable against halogen light 2.4m (8 ft) or reflected light
Dimensions	Ø 110mm x 45mm (Ø 4.33" x 1.77")
Weight	123 gr. (4.37 oz)