



TALON SERIES

TLC-360

**4 ELEMENT
CEILING MOUNT
PASSIVE INFRARED DETECTOR**

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

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.
- * Fluorescent 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.

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.

MOUNTING THE DETECTOR

Choose location most likely to intercept an intruder. Refer to the detection pattern.

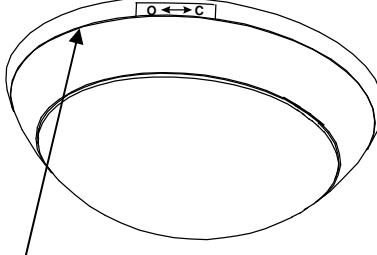
1. Hold the detector in your hand and release the mounting plate by turning it counter-clock-wise, and separate it from the case (Fig. 1).
2. Insert the wires through the hole in the center of the mounting plate (Fig. 2).
3. Mount the plate using the holes marked mounting holes.

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.

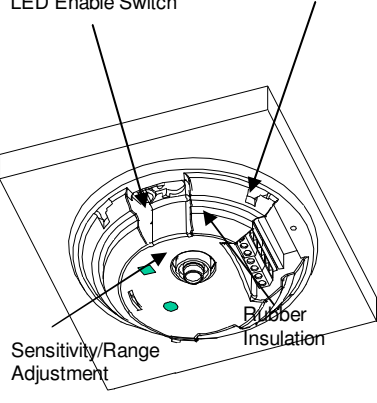
Wire Length	m	200	300	400	800
Wire Diameter	mm	.5	.75	1.0	1.5
Wire Length	ft.	800	1200	2000	3400
Wire Gauge	#	22	20	18	16

FIG. 1 - TLC-360 - EXTERNAL VIEW

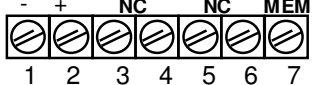


Separate cover from base

FIG. 2 - TLC-360. INTERNAL VIEW



12VDC RELAY TAMPER MEM TERMINAL BLOCK CONNECTIONS



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

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.

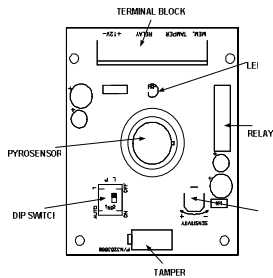
To reset the memory function, switch on and switch off the M terminal.

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

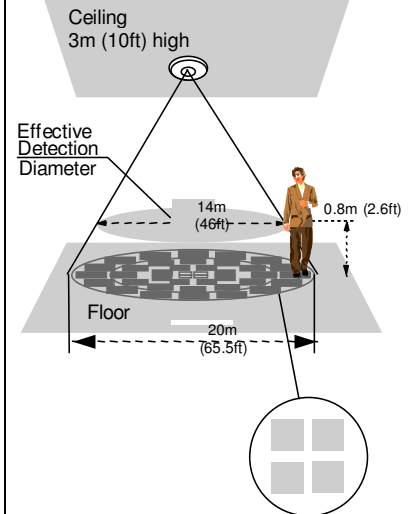
Example: (See Fig. 4). If install at a height of 3 m (10 ft) the detector will cover a circle of 20m (65.5 ft) at floor level, with an effective detection range of 14m (45.9 ft) in diameter.

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

**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.

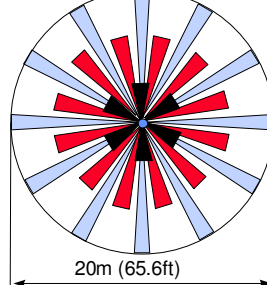
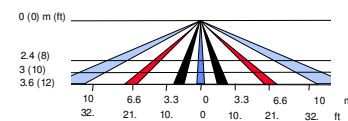
When an intrusion is detected, the LED will activate and the alarm relay will switch into alarm condition (open circuit) for 1.6 sec.

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

Position "ON" - LED enable.

Position "OFF" - LED disable.

FIG. 5 - LENS PATTERN

**SIDE VIEW****TECHNICAL SPECIFICATIONS**

Power Input 8.2 - 16 Vdc
 Current Draw Active / Standby: 9 mA
 Detection Method 4 (Four) element PIR
 Sensitivity $\Delta 2^{\circ}\text{C}$ ($\Delta 3.6^{\circ}\text{F}$)
 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 $+50^{\circ}\text{C}$
 (-4°F to $+122^{\circ}\text{F}$)
 RFI Protection $\geq 30\text{V/m}$
 EMI Protection 10, 000V of electrical interference from lightning or power through
 Visible Light Protection stable against halogen light 2.4m (8 ft) or reflected light
 Dimensions $\varnothing 110\text{mm} \times 45\text{mm}$
 ($\varnothing 4.33" \times 1.77"$)
 Weight 123 gr. (4.37 oz)

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 circuitboard 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.

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These instructions supersede all previous issues in circulation prior to May 2005.