

# TL - 360

**4 ELEMENT  
CEILING MOUNT  
PASSIVE INFRARED DETECTOR**



**PRELIMINARY**

**TALON SERIES  
INSTALLATION INSTRUCTIONS  
P/N 7111069 REV.1 A.Y.**

## TL-360 FEATURES "Super Catch"

- \* 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 TL-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 TL-360 PIR detector by following this manual.

The TL-360 reduces false alarms to an unprecedented minimal level due to its effective elimination of background noises and nuisance stimuli. The TL-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 TL-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 TL-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.

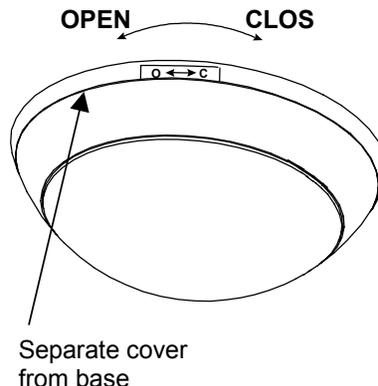
1. Hold the detector in your hand and release the mounting plate by turning it counter-clock-wise, and separate it from the case (Fig. 1).
2. Insert the wires through the hole in the center of the mounting plate (Fig. 2).
3. Mount the plate using the holes marked mounting holes.

## 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.

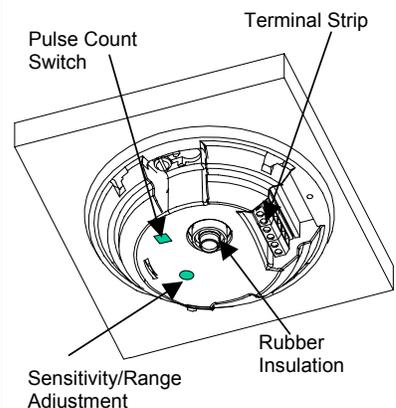
Wire Length	m	200	300	400	800
Wire Diameter	mm	.5	.75	1.0	1.5
Wire Length	ft.	800	1200	2000	3400
Wire Gauge	#	22	20	18	16

**FIG. 1 - TL-360 . EXTERNAL VIEW**



Separate cover from base

**FIG. 2 - TL-360. INTERNAL VIEW**



## 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<sub>DC</sub> 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 SETTING - Slide switch** (Fig.3). Provides control for normal or high risk operating environments.

### Position 1 (to left)

For stable environments.

### Position AUTO (to right)

For harsh environments.

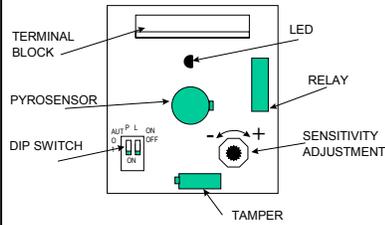
This setting enables special software to modify detection speed.

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

To change position of the slide 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 slide switch.
3. Close the detector and reinstall assembly screws.

FIG. 3 - TL-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 TL - 360

Installation Height	Detection Diameter (Effective Range)
2.4m	8 ft
3m	10ft
3.6m	12ft
11m	36 ft
14m	45.9ft
16m	52.5ft

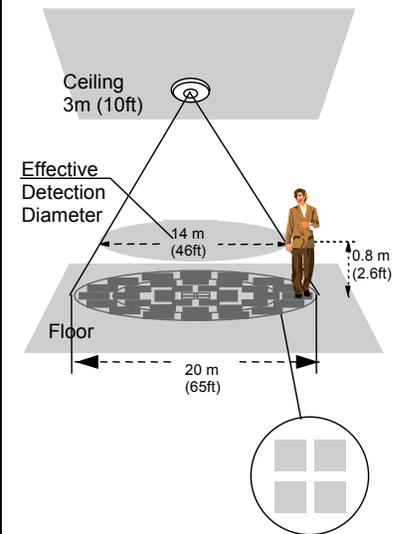
**Example:** (See Fig. 4). If install at a height of 3 m (10 ft) the detector will cover a circle of 20m (65.5 ft) at floor level, with an effective detection range of 14m (45.9 ft) in diameter.

**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 - TL-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.

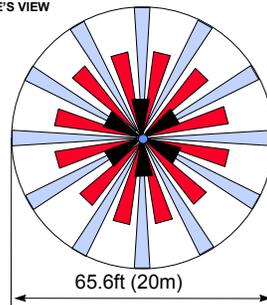
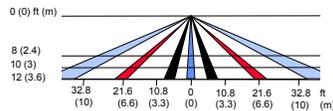
**Position "Auto"** (ON) - the TL-360 will automatically select the appropriate pulse count level (2 or 3) according to the strength of the incoming signals. This setting is for operation within a harsh environment.

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

**Position "ON"** - LED enable.

**Position "OFF"** - LED disable.

FIG. 5 - LENS PATTERN

**EAGLE'S VIEW****SIDE VIEW****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	≥ 30V/m
EMI Protection	10 - 1000MHz 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	∅ 110mm x 45mm (∅ 4.33" x 1.77")
Weight	123 gr. ( 4.37 oz )

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

**FULL 7 YEAR WARRANTY**

CROW warrants this product to be free from defects in materials and workmanship under normal use and service for a period of **seven** years 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.

**TECHNICAL SPECIFICATIONS**

Power Input	8.2 - 16 Vdc
Current Draw	Active / Standby: 9 mA
Detection Method	4 (Four) element PIR
Sensitivity	Δ2°C (Δ3.6°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 1.6 sec
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

**TALON**

Series  
"It's All About Catch"

**TL-360**  
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These instructions supersede all previous issues in circulation prior to Apr. 2000.