

CROW SCIENTIFIC RESEARCH™

SRP-200

&

SRP-300

PASSIVE INFRARED
DETECTOR



ELECTRONIC ENGINEERING LTD.
INSTALLATION INSTRUCTIONS
P/N 7101190

INTRODUCTION

The SRP-200/300 PIR detector features a unique optical concept combining a hard type full pattern spherical lens and a diffractive reflection mirror for Creep Zones. The detector can be wall or corner mounted and is suited for residential and commercial applications. The detector is supplied with a standard wide angle lens while other detection pattern lenses are available. The detector provides an analysis of environmental conditions through the entire movement speed frequency spectrum, allowing to focus on intruders and eliminate environmental factors of false alarms. The spectrum analysis is embedded in the VLSI based electronics of the detector assuring high reliability and trouble free operation.

SELECTING MOUNTING LOCATION

Choose a location most likely to intercept an intruder. See detection patterns in figures 5 - 8. The dual-element high quality sensor detects motion across the beam. It is slightly less sensitive when detecting motion toward the detector. The SRP-200/300 performs best when provided with a constant and stable environment.

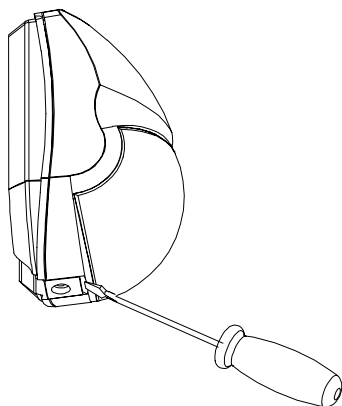
AVOID THE FOLLOWING LOCATIONS

- * Facing direct sunlight.
- * Facing areas subject to rapid quick temperature changes.
- * Areas with air ducts or substantial air flows.

MOUNTING THE DETECTOR

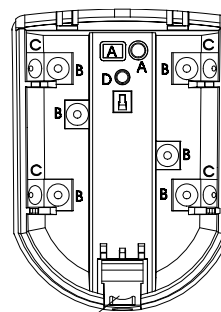
The detector can either be wall, corner or ceiling mounted. Refer to swivel bracket description. NOTE: recommended installation height is 2.1m.

FIG. 1 - REMOVAL OF FRONT COVER



1. To remove the front cover, insert a flat screwdriver in the slot between the front and the bottom, above the holding screw hole and push gently, until the front cover is disengaged and opening click is heard. (Fig 1)
2. To remove the PC board, carefully unscrew the holding screw located on the PC board.
3. Break out the desired holes for proper wiring as per fig. 2.
4. Insert the wire through the wire access hole, and mount the detector base to the wall, corner or ceiling with the necessary number of screws and the suitable bracket.
5. Reinstall the PC board, set it as low as possible - till stopper (see fig.2). Tight the holding screw.
6. Access for wiring connections is easy via the terminal block located on the PCB. See fig. 3.
7. Replace the cover by inserting it back in the appropriate closing pin until the closing click is heard.

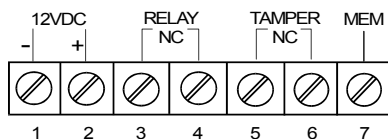
FIG. 2 - KNOCKOUT HOLES



- A. Wire access holes (2)
- B. Use for flat wall mounting (2)
- C. Corner mounting - use all 4 holes. Sharp left or right angle mounting - use 2 holes (top and bottom)
- D. For bracket mounting

Stopper pins for PCB

FIG. 3 - TERMINAL BLOCK



NOTES: for U.L. referring countries

1. Connect the SRP-200/300 to a "U.L." listed burglar alarm Power Supply or control panel capable of providing standby power for at least four (4) hours.
2. Refer to national electric code, NFPA-70 for wiring methods.

WIRE GAUGE AND LENGTH:

Wire Gauge: #	22	20	18	16
Wire length: m	205	310	510	870
ft.	800	1200	2000	3400

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 the negative Voltage output or ground of the control panel.

Terminal 2 - Marked " + " (+12V)

Connect to a positive Voltage output of 7.8 - 16Vdc 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 24hour 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.

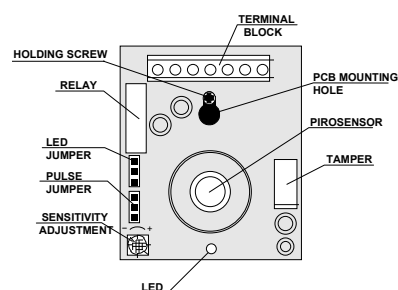
Terminal 7 Marked M (Memory).

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 panel.

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 panel.)

- 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 M 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.

FIG. 4 - PCB LAYOUT



The SRP-200/300 production batch can be identified by the 4 digits printed on the terminal strip side of the PC board.

JUMPER PIN SETTING

PULSE COUNT jumper - marked "P" (Fig. 4) Provides control for normal or high risk operating environments.



AUTOMATIC PULSE COUNT

The SRP-200/300 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.



SINGLE PULSE COUNT

This setting is for a stable environment without air drafts.

When an intrusion is detected, the led will light on and the alarm relay contacts will transfer condition for 1.6 sec.

LED ENABLE/DISABLE jumper - marked "L".

ON Led enable - The led will light when the SRP-200/300 is in alarm condition.



OFF Led disable - The led is disabled.

NOTE: the state of the jumper "L" does not affect the operation of the relay.

SENSITIVITY ADJUSTMENT(SRP-300 ONLY)

Use this potentiometer (see fig 4) to adjust the detection sensitivity between 68% and 100% (factory set to 84%). Rotate the potentiometer clockwise to increase sensitivity. Rotate the potentiometer counter-clockwise to decrease sensitivity.

IMPORTANT - After adjusting the sensitivity perform a walk test to verify optimum correct sensitivity in the protected area.

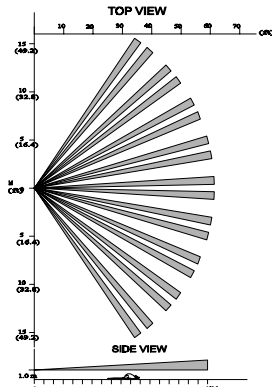
LENSES-INTERCHANGEABLE HARD TYPE SPHERICAL LENSES PATTERNS

COVERAGE	WIDE ANGLE	LONG RANGE CURTAIN	ANIMAL ALLEY	CURTAIN
	105°	30m x 2m (100ft x 6.3ft)	105°	15m x 1m (50ft x .3ft)
	18m x 18m (60ft x 60ft)		18m x 18m (60ft x 60ft)	
TOTAL DETECTION ZONES	52*	12	18	22

* 18 long range, 16 intermediate, 10 short range, 6 nearest range, 2 creep zone.

NOTE: SELECT LENS ACCORDING TO INSTALLATION AREA REQUIREMENTS. DETECTION RANGES ARE SPECIFIED AT 20° C (68° F) AMBIENT TEMPERATURE.

FIG. 8 - ANIMAL (PET) ALLEY LENS



SWIVEL MOUNTING BRACKETS (OPTIONAL)

The SRB1 is a swivel bracket adjustable from 0° to 20° downward, 0° to 5° upward, and 0° to 45° horizontally to the left or to the right.

The SRB2 is a bracket kit for ceiling mount installation. It consists of a SRB1 and a ceiling mount adapter.

The SRB3 is a bracket kit for corner installation. It consists of a SRB1 and a corner mount adapter.

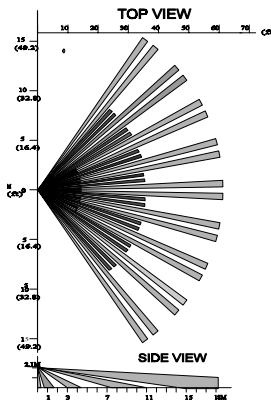
SRB - swivel kit for wall, ceiling and corner mount installation includes SRB1, SRB2 and SRB3.

TECHNICAL SPECIFICATIONS

MODEL	SRP-200/300
Detection Method	Dual element PIR
Sensitivity	12°C (53.6°F) at 0.6 m/sec (2 ft/sec)
Detection Speed	0.5 - 1.5 m/sec (1.5 - 5 ft/sec)
Power Input	7.8 to 16 Vdc
Current Draw	Active / Standby: 9 mA
Bi Directional	
Temperature	YES
Pulse Count	1, 2 - automatic switch from 2 to 3 depending on speed spectrum analysis
Alarm Period	1.6 sec
Alarm Output	N.C 28Vdc 0.1 A with 10 Ohm series protection resistors
Tamper Switch	N.C 28Vdc 0.1 A with 10 Ohm series protection resistor - open when cover is removed
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 10 - 1000MHz
EMI Protection	50,000V of electrical interference from lightning or power through
Visible Light Protection	stable against halogen light 2.4 m (8 ft.) or reflected light
Dimensions	95mm x 70mm x 58mm (3.8"x2.8"x2.3")
Weight	85 gr (3 oz)

Crow reserves the rights to change specifications without prior notice

FIG. 5 - WIDE ANGLE LENS



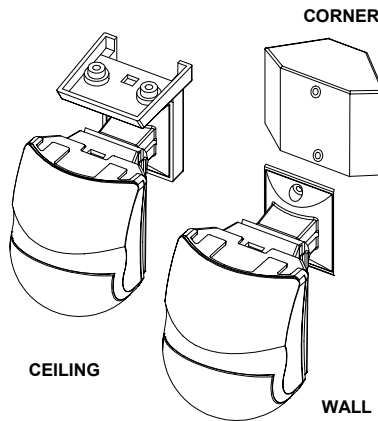
CHANGING THE LENS

1. Remove the front cover by inserting a flat screwdriver in the appropriate slot.
2. Using a small flat screwdriver, press on left or right side of the installed lens which will then pop out from its side right and left holding pins.
3. Select the desired lens and hold it while making sure its upper holding pin is pointed upwards.
4. Snap the lens to its place by pressing again from outside of the front cover until a click is heard, confirming the new lens is tightly inserted. See fig 9.
5. Replace front cover.

IMPORTANT

When using animal alley lens, the mirror should be removed with a flat screwdriver and replaced by a black dummy mirror (supplied with animal alley lens).

FIG. 10 - MOUNTING BRACKETS



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

FIG. 6 - LONG RANGE CURTAIN LENS

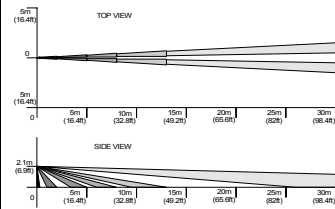


FIG. 7 - CURTAIN LENS

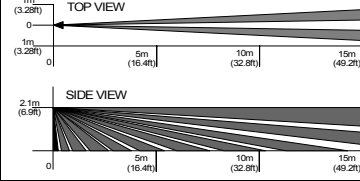
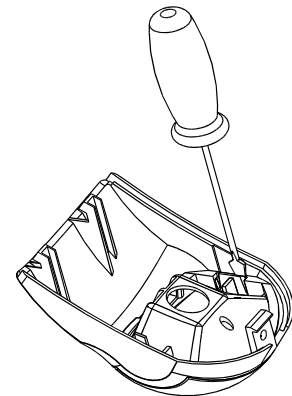


FIG. 9 - REPLACING THE LENS



TEST PROCEDURES.

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

Walk test

1. Remove front cover.
The pulse jumper must be in position AUTO.
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. After the walk test is completed, the led may be disabled.
6. Allow 5 sec. between each test for the detector to stabilize.

NOTE:

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

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These instructions supersede all previous issues in circulation prior to May 2001.