

## SUPER REDWIDE

## SUPER REDWALL

### Installation and Set-up Instruction

#### LRP-5030S

#### LRP-100QS

### DESCRIPTION

Model LRP-100QS is designed to detect human movement at ranges of up to 100 metres (330 ft.).

Model LRP-5030S is designed to detect human movement at ranges of up to 50 metres (165 ft.) over a 30° span.

Double conductive shielding provides higher stability of the detector against white light disturbances and RFI.

The rugged cast aluminum housings allow use in heavy industrial environments indoors or out.

The operating voltage of LRP-100QS is 12VDC or 24VAC. And, LRP-5030S requires 12VDC only. Detection output is by electrically isolated relay contacts having a 30V 1Amp maximum rating. There is Form C relay on LRP-5030S. There are 2 NC/NO relays on LRP-100QS.

The lower terminal box/base contains the ball-swivel clamp bolts and all external terminal connectors, "Walk-test" LED and jack socket for the Audio Walk-tester OPM-WT. The removable cover is tamper protected by means of a normally closed microswitch.

### QUAD BI-CHANNEL SYSTEM

All models use a unique patented optical system providing the detectors with multiple fields of view. These fields of view are monitored by quad-element or tri-channel sensing systems to provide stable detection performance.

Fig. 1 Shows a block schematic diagram of the quad detection system. (LRP-100QS)

Fig. 2 Shows a block schematic diagram of the Tri-channel detection system. (LRP-5030S)

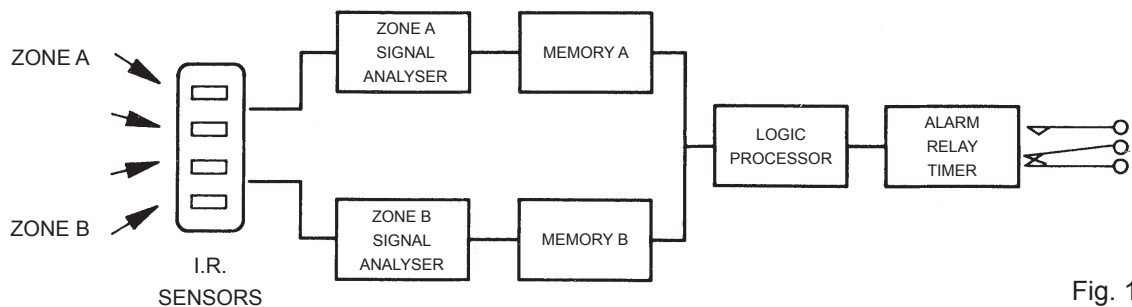


Fig. 1

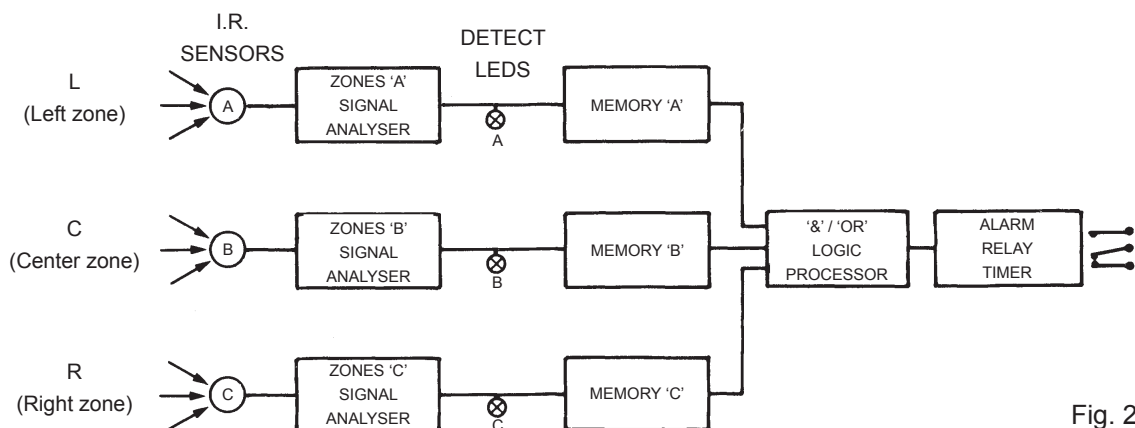


Fig. 2

## **INSTALLATION**

**IMPORTANT:** All models contain fragile optical components and must be handled with great care. Before installation, check that the unit is free from obvious damage and that there are no loose objects rattling around inside the housing.

**NOTE:** When mounted at the recommended height of 2.3m (7.6 ft.), there will be an area directly below the unit and extending to 4m (13 ft.) where an intruder may not be detected.

When planning the location, remember that all passive infrared (PIR) detectors respond best when the intruder crosses the protective zones.

The units should be mounted on a firm rigid vertical or horizontal surface, such as brick or concrete, using the four holes (2 holes exposed and 2 holes inside the tamper protected terminal housing).

In hot climates or where the unit may face direct sunlight it is recommended that the LRP MIDI HOOD is fitted.

Removal of the terminal base cover reveals the three ball swivel clamp bolts. These should be slackened to allow positioning. The top rib may be used for initial alignment. It should be horizontal if the area to be protected has level ground.

The top rib should be parallel with the ground surface as shown in Fig. 4. Where the ground slopes upwards, the sensor should be located to look down the slope.

The main detection zone declines at 1.5 degrees. The top rib should be aligned to a point approximately 0.5m (1.6 ft.) above the head of a person standing at the detectors full range. Final walk-testing is described later.

## **ELECTRICAL CONNECTIONS**

**WARNING! DO NOT CONNECT 110/240VAC voltage  
TO ANY TERMINAL OR PART.**

For outdoor installation, steel conduit or armoured cable is recommended.

Long cable runs between the detector and the power source should not result in total conductor resistance or more than 20 ohms (10 ohms per conductor). The voltage drop between the power supply and detector should not be greater than 0.5V. For 24VAC models the conductor resistance of the cable should not exceed 10 ohms (5 ohms per conductor).

If screened cables are used, ensure that the screen is terminated at the 12V NEGATIVE terminal of the detector. **NOTE!** The metal housing of the detector is connected to the –ve terminal so THE POWER SUPPLY NEGATIVE WILL BE GROUNDED. Check that this will not affect the operation of other equipment such as control panels and Cameras, which may share the same power source. When mounting on metal poles or metal fixtures, ensure the unit is insulated from its mounting.

**On no account must the terminal housing be drilled, doing so will invalidate the warranty of the product. Cable entry must be via the cable gland.**

**WARNING!!! Do not use silicone sealant to seal the connection enclosure  
because it will corrode the PCB and void the warranty.**

With power applied, check that the voltage at the terminals are correctly connected and that the voltage supply is correct for the model being used.

During “Warm-up” the alarm relay may switch several times or oscillate for a few seconds. Allow at least ONE MINUTE before testing.

With no movement in the area, the Walk-test LED should be out and NC alarm output is closed. Movement in front of the unit should cause the LED to light and NC alarm output become opened. When movement stops, the unit should reset within 10 seconds.

## **MAINTENANCE**

In addition to regular “Walk-tests”, periodically check that the unit is still firmly fixed to the mounting surface. Check the front of the detector head for build up of dust, sand, animal or insect debris and carefully remove by vacuum or blowing. Avoid touching or scraping the front window material. The frequency of these checks will depend on the environment and local conditions, but should not be less than twice per year. Remove the terminal cover and check for ingress of water, insects, fungus and corrosion.

**The moveable head is factory sealed and no attempt should be made to open it.**

## **PERFORMANCE CONSIDERATIONS**

All PIR detectors will exhibit changes in ultimate detection range. When an intruder moves across a zone he causes a change in the received infrared heat energy. If the temperature difference is large (cold background – warm intruder) the change of energy and therefore alarm signal is large. Conversely, a well covered intruder against a hot background will produce a small signal. The effect is that the actual final detection point will vary because of variations in background temperature, intruder size, clothing and speed and direction of motion, e.g. the LRP-100QS is designed to operate at 100 metres nominal. In some conditions the range may exceed 100 metres, in other conditions (typically very hot) the ultimate range may be reduced.

## **FIXING RECOMMENDATIONS**

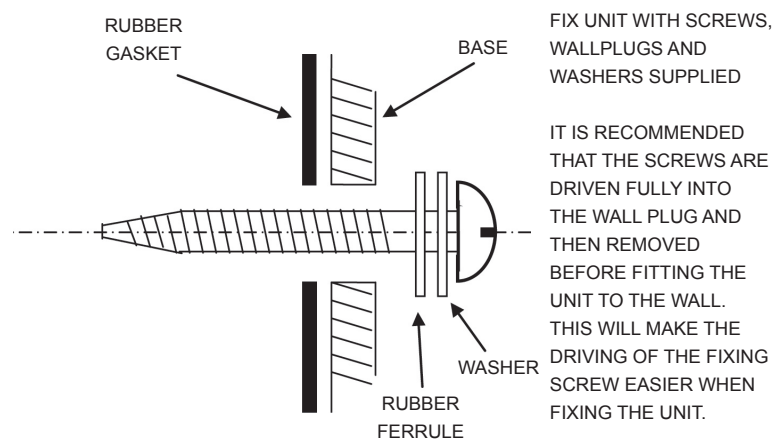


Fig. 3

## LRP-5030S CONNECTIONS

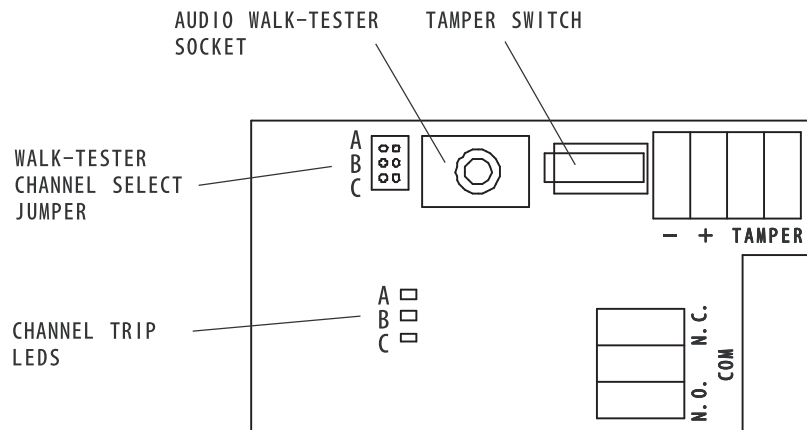


Fig. 4

## LRP-100QS CONNECTIONS

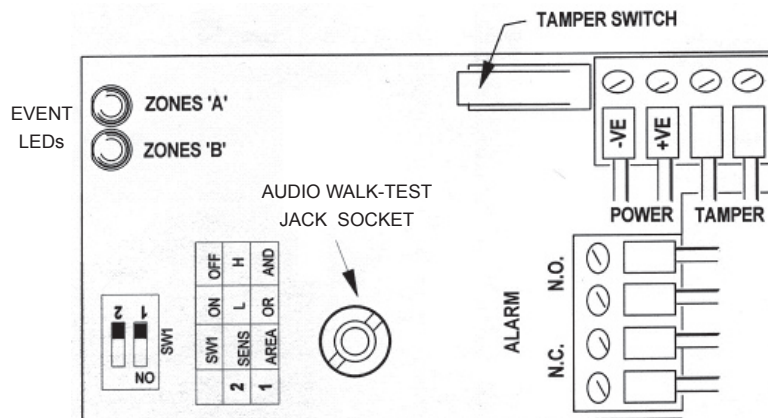


Fig. 5

## LRP-5030S / LRP-100QS SET-UP PROCEDURE

DETECTOR POSITIONING IS BEST CARRIED OUT BY BLANKING THE LOWER ZONES AND SETTING THE RANGE USING THE MAIN LONG RANGE ZONES ONLY.

IT IS STRONGLY RECOMMENDED THAT THE OPM-WT AUDIO WALK-TESTER IS USED WHEN SETTING UP ANY OF THE SENSORS IN THE RANGE. THE ALARM TRIP POINT IS INDICATED BY A STEP CHANGE IN THE AUDIO TONE AND ALSO BY THE ALARM LED (LRP-100QS). OR WHEN ANY TWO CHANNEL LEDS LIGHT (LRP-5030S) \*

LRP-5030S have a Zone Selector switch for walktester.

This can select the output signals, Left Zone(A), Center Zone(B) and Right Zone(C), to the walktester. Factory setting of the Zone Selector is in the Center Zone.

LRP-100QS have a Sensitivity Selector and a Logic Selector switch.

It is recommended that the Sensitivity Selection is "High" and that the Logic Selection is "AND" in the standard enviromental condition. Please set the sensitivity selection switch "Low" in harsh environment. Please check sensitivity by walk test.

If obstacles are in the protected area the "OR" setting can be selected to provide better coverage of area.

Please be aware that OR setting will make sensor more prone to false alarms.

## **PROCEDURE**

- 1) ENSURE UNIT IS FIRMLY MOUNTED.
- 2) SLACKEN CLAMP SCREWS AND SET TOP FIN TO BE LEVEL.
- 3) FIT BLANKING PLATE INTO RECEPTACLES BELLOW WINDOW FRAME.
- 4) PLUG REFLEX VIEWER INTO BLANKING PLATE.
- 5) LOCK INTO VIEWER AND TILT HEAD DOWN TO VIEW AN AREA APPROX. 30M (100 ft.) AWAY.
- 6) FOR LRP-5030S ENSURE JUMPER LINK IS FITTED TO CHANNEL SELECT JUMPER PINS A, B, OR C, IN ORDER TO ROUTE THE SIGNALS TO THE WALK-TEST SOCKET.
- 7) PLUG AUDIO WALK-TESTER INTO JACK SOCKET AND SWITCH IT TO 'REDWALL/REDWIDE' POSITION. PLEASE ENSURE "POWER SELECT SWITCH" IS SET TO "CELL BATTERY" ON OPM-WT.
- 8) WALK ACROSS THE ZONES AT PROGRESSIVELY FURTHER DISTANCES UNTIL DETECTOR FAILS TO RESPOND. (Fig. 8)  
ALLOW UNIT TO RE-SET BEFORE RE-WALKING. \*
- 9) RAISE HEAD A SMALL AMOUNT AND REPEAT AT FURTHER DISTANCE. (Fig. 9)
- 10) REPEAT UNTIL REQUIRED RANGE IS ACHIEVED. (Fig. 10) WALKTESTING SHOULD BE CARRIED OUT BEYOND THE DESIRED DETECTION AREA, THIS WILL ENSURE THAT THE UNIT IS NOT OVERANGING WHICH COULD LEAD TO FALSE ACTIVATIONS COMING FROM OUTSIDE THE PROTECTED AREA.
- 11) LOCK HEAD SCREWS, REMOVE BLANKING PLATE AND CHECK FOR DETECTION AT DISTANCES DOWN TO 5 METRES (15 ft.) FROM DETECTOR.

**\*NOTE:** LRP-5030S MAY TAKE UP TO 10 SECONDS TO RE-SET.

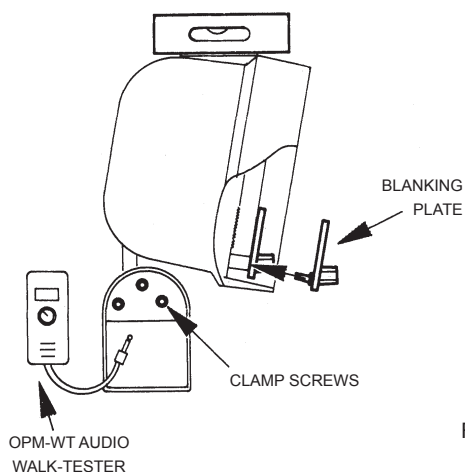


Fig. 6

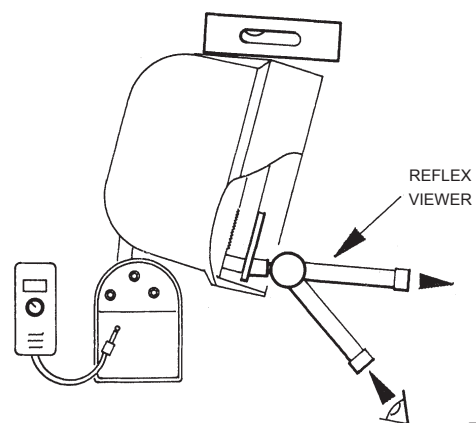


Fig. 7

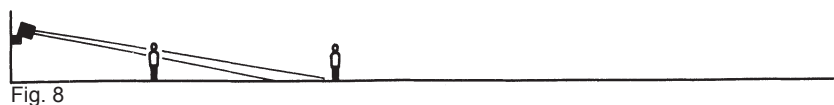


Fig. 8



Fig. 9

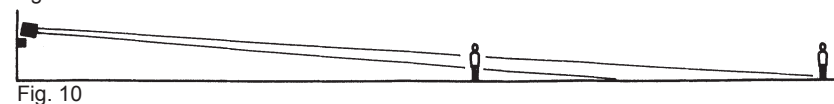


Fig. 10

## SPECIFICATIONS

Model	LRP-5030S
Power Input	12VDC (10.2-13.8VDC)
Current Draw	30mA (max) at 12VDC
Detection Method	Passive Infrared
Range	50m x 30m (165 ft. x 100 ft.)
Detection zones	78 Zones (39pairs)
Mounting Height	2.3m (7.6 ft.)
Alarm Period	Approx. 2 sec
Alarm Output	Form C Relay 30V~1Amp
Tamper Output	N.C opens when cover, head removed 28VDC 0.1A
Warm-up Period	Approx. 60 sec (LEDs blinking during warm-up period)
Walk test Indication	Visual : LED x 3 Audio : Sounder Available (OPM-WT) Optional
Operating Temperature	-40 to +60°C
Weight	1.6kg
IP Rating	IP 65 (Wiring hole to be sealed)
Finish	White Powder Coat

LRP-5030S

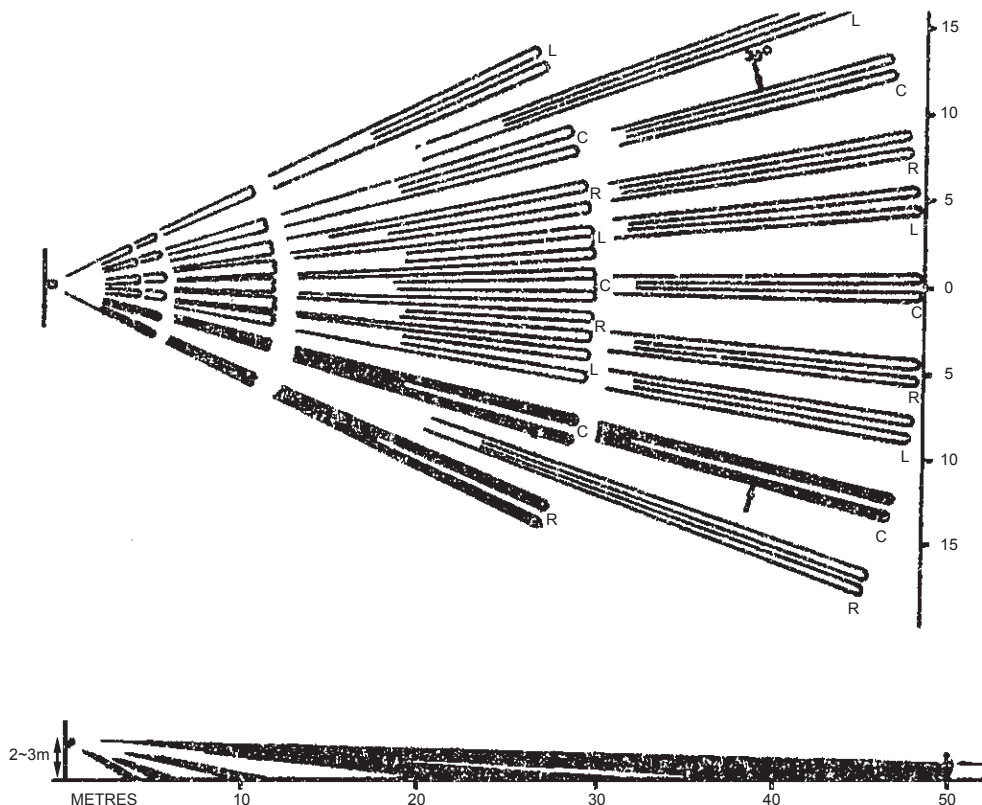


Fig. 11

## SPECIFICATIONS

Model	LRP-100QS	
Power Input	12VDC (11-16VDC)	24VAC (22-26VAC)
Current Draw	25mA (max) at 12VDC	60mA (max) at 24VAC
Detection Method	Passive Infrared	
Range	100m x 3m (330 ft. x 10 ft.)	
Detection zones	20 Zones (5 Quad Layers)	
Mounting Height	2.3m (7.6 ft.)	
Sensitivity Selection	High / Low	
Logic Selection	AND / OR	
Alarm Period	Approx. 2 sec	
Alarm Output	2 relays outputs N.C/N.O 30VDC 1A (max)	
Tamper Output	N.C opens when cover, head removed 28VDC 0.1A	
Warm-up Period	Approx. 60 sec (LEDs blinking during warm-up period)	
Walk test Indication	Visual : LED x 2 Audio : Sounder Available (OPM-WT) Optional	
Operating Temperature	-40 to +60°C	
Weight	1.8kg (4lb)	
IP Rating	IP 65 (Wiring hole to be sealed)	
Finish	White Powder Coat	

LRP-100QS

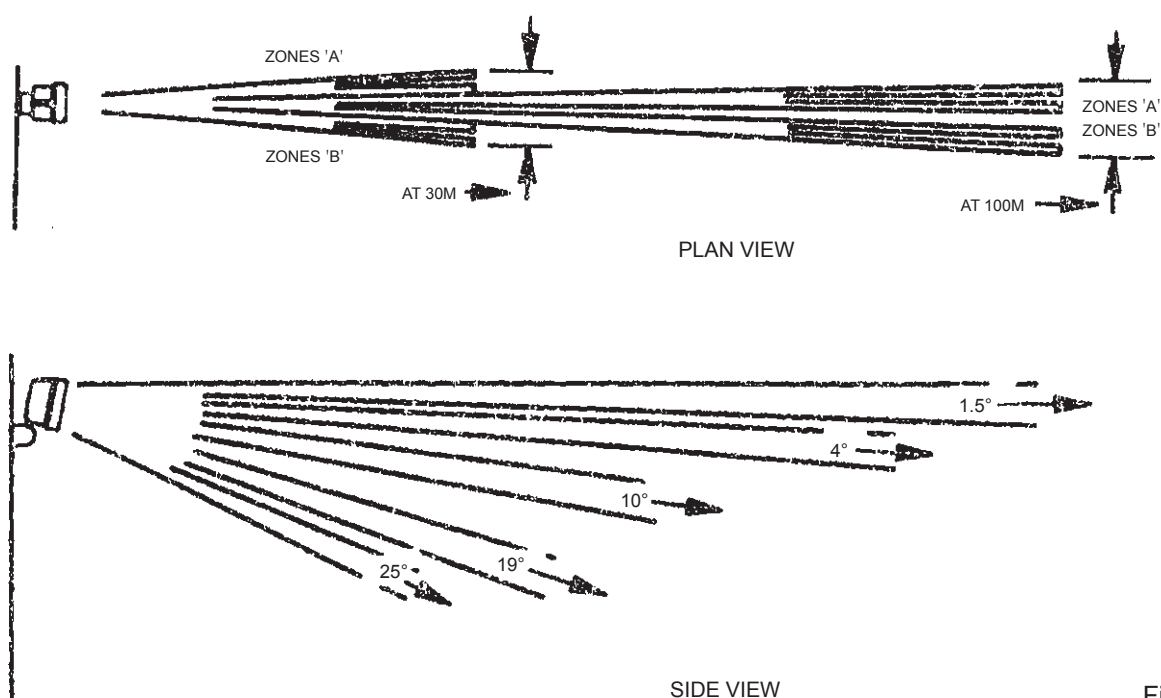


Fig. 12

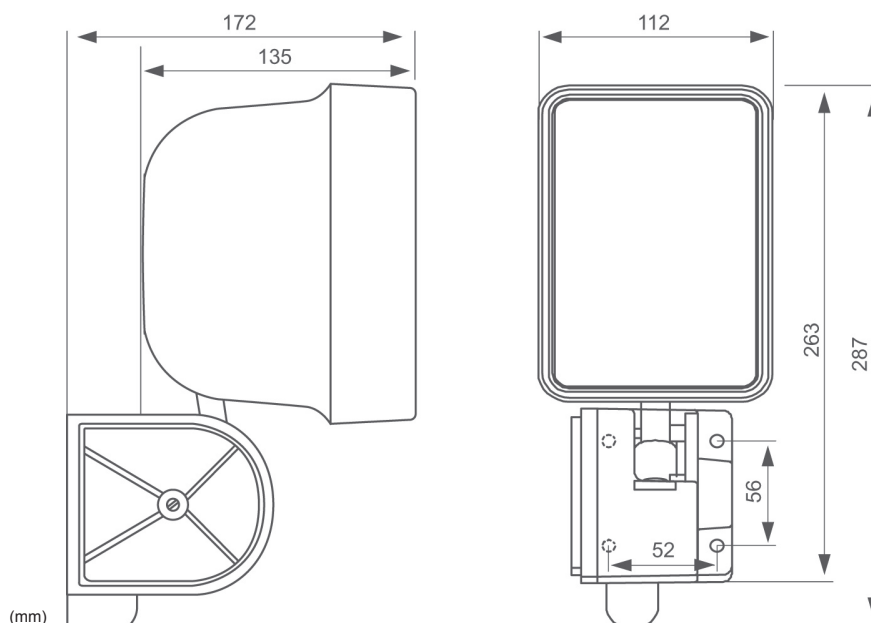


Fig. 13

## UNWANTED ALARMS

The sensors are designed to ignore a wide range of hazards which affect PIR detectors when located outdoors. Heavy metal casings resist sudden temperature changes. The white finish keeps internal temperatures low and the comprehensive sealing ensures a draught-free environment for the precision temperature sensors. The most likely cause of unwanted alarms will usually be animals, overranging (detection beyond area to be protected), movement of foliage within the zones and unstable mounting surfaces causing the detector to vibrate in windy conditions.

## ACCESSORIES

<b>OPM-WT</b>	<b>Audio walk-tester for detector alignment.</b>
<b>LRP MIDI HOOD</b>	<b>Sun/snow hood for LRP-5030S, LRP-100QS.</b>
<b>LRP SCA</b>	<b>Bracket to attach detector to 48mm diameter pole.</b>
<b>LRP GUARD</b>	<b>Vandal resistant guard.</b>

### **NOTE**

These units are designed to detect movement of an intruder and activate an alarm control panel. Being only part of a complete alarm system, we cannot accept responsibility for any damages or other consequences resulting from an intrusion. These products conform to the EMC Directive 89/336 EEC.



OPTEX CO., LTD.  
(JAPAN)

(ISO 9001 Certified by LRQA)  
(ISO 14001 Certified by JET)  
5-8-12 Ogoto  
Otsu, Shiga, 520-0101  
Japan  
Tel : +81-77-579-8670  
Fax: +81-77-579-8190  
URL <http://www.optex.co.jp/e>

OPTEX INCORPORATED  
(USA)

13661 Benson Ave., Bldg. C  
Chino, CA 91710-5266  
U.S.A.  
Tel : (909) 993-5770  
Fax : (909) 628-5560  
URL <http://www.optexamerica.com>

OPTEX (EUROPE) LTD.  
(UK)

(ISO 9001 Certified by NQA)  
Clivemont Road, Maidenhead,  
Berkshire, SL6 7BU  
UK  
Tel: +44-1628-631000  
Fax: +44-1628-636311  
<http://www.optexeurope.com>

OPTEX SECURITY SAS  
(FRANCE)

475, Rue Piani  
69780 Amberieux d'Azergues  
France  
Tel: +33.4.37.55.50.50  
Fax: +33.4.37.55.50.59  
<http://www.optex-security.com>

OPTEX SECURITY SP.Z.O.O.  
(POLAND)

ul. Bitwy Warszawskiej 1920 r.  
7B 02-366 Warszawa  
POLAND  
main: +48-22- 598-06-60  
Fax: +48-22-598-06-61