

# REDWATCH MULTI

## Installation and Set-up Instruction

**MRP- 3050S CAM (EU) / MRP- 3050S CAM DN (EU) / MRP- 3050S CAM DN (US)**

### DESCRIPTION

Model MRP-3050S CAM series is designed to detect human movement at ranges of up to 50 metres (160') over a 30° span.

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

All units require a 12 Volt nominal supply input versions. Detection output is by electrically isolated Form C (change over) relay contacts having a 30v 1Amp maximum rating. There is Form C relay on MRP-3050S CAM series.

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.

### TRI-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 tri-channel sensing systems to provide stable detection performance.

Fig. 1 Shows a block schematic diagram of the Tri-channel detection system.

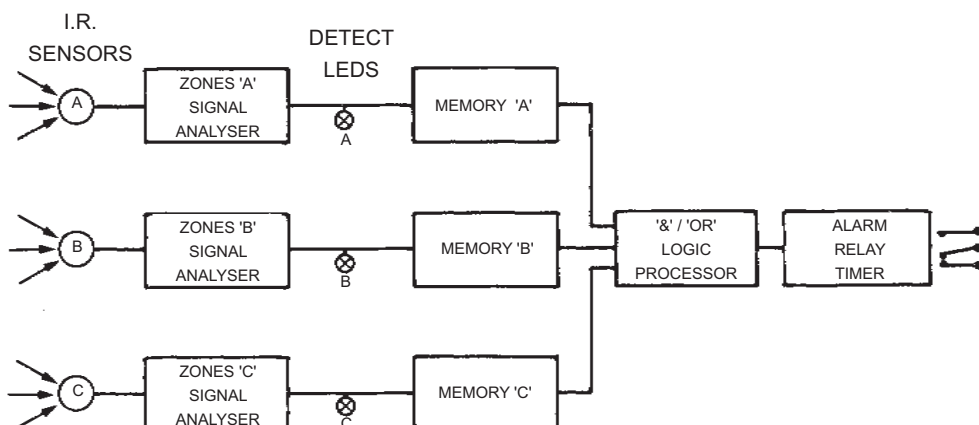


Fig. 1

## 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:** Maximum detection range is 50m (160') at 2.3m (7' 6") installation height. Maximum highest installation height is 4m (13'). At this installation height, the maximum detection range is 30m (100'). The unit should be installed within these limits.

**NOTE:** When mounted at the height of 2.3m (7' 6"), there will be an area directly below the unit and extending to 4m (13') where an intruder may not be detected. When mounted at the 4m (13') height, this area will extend to 5m (16') 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.

## 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 of more than 20 ohms (10 ohms per conductor). The voltage drop between the power supply and detector should not be greater than 0.5v.

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, 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.**

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. If an oscilloscope is available, check that A.C. Ripple does not exceed 0.3V (300mV) p/p for 12vDC units.

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 the alarm relay energised. Movement in front of the unit should cause the LED to light and the relay to de-energise. 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 and the camera window 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 and the camera window. 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.

## FIXING RECOMMENDATIONS

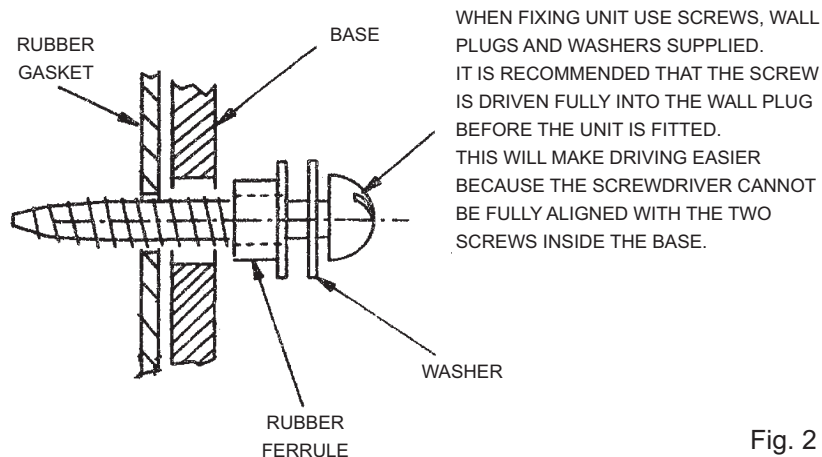


Fig. 2

## CONNECTIONS

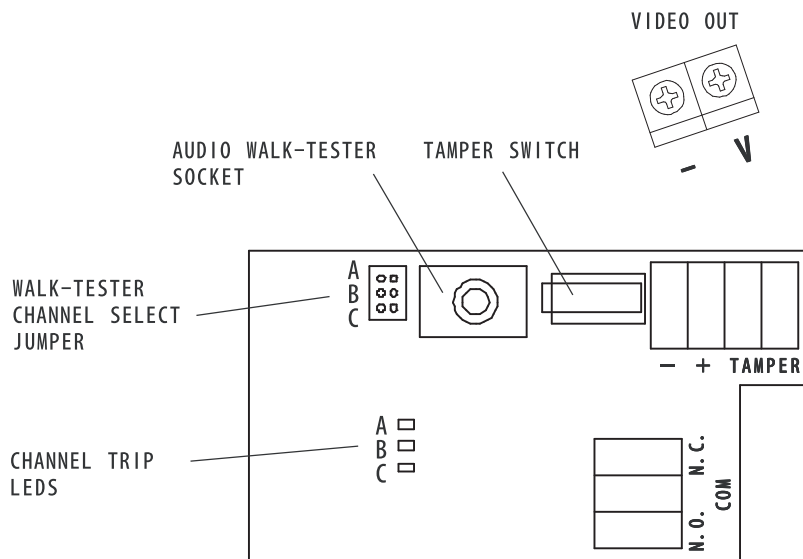


Fig. 3

## REDWATCH MULTI 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 WHEN ANY TWO CHANNEL LEDS LIGHT . \*

### 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. 15m (50') AWAY.
- 6) FOR MRP-3050S CAM MODELS 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.
- 8) WALK ACROSS THE ZONES AT PROGRESSIVELY FURTHER DISTANCES UNTIL DETECTOR FAILS TO RESPOND. (Fig. 6)  
ALLOW UNIT TO RE-SET BEFORE RE-WALKING. \*
- 9) RAISE HEAD A SMALL AMOUNT AND REPEAT AT FURTHER DISTANCE. (Fig. 7)
- 10) REPEAT UNTIL REQUIRED RANGE IS ACHIEVED. (Fig. 8)
- 11) LOCK HEAD SCREWS, REMOVE BLANKING PLATE AND CHECK FOR DETECTION AT DISTANCE DOWN TO 5m (16') FROM DETECTOR.

**\*NOTE:** MRP-3050S CAM MODELS MAY TAKE UP TO 10 SECONDS TO RE-SET.

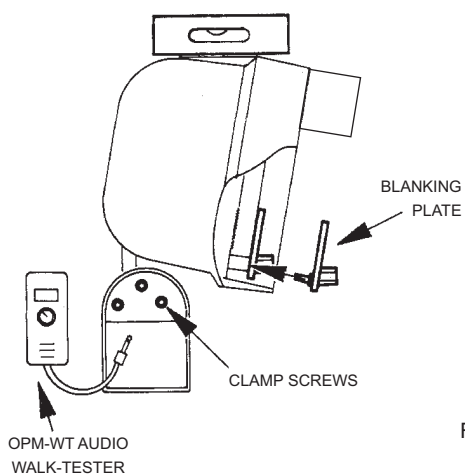


Fig. 4

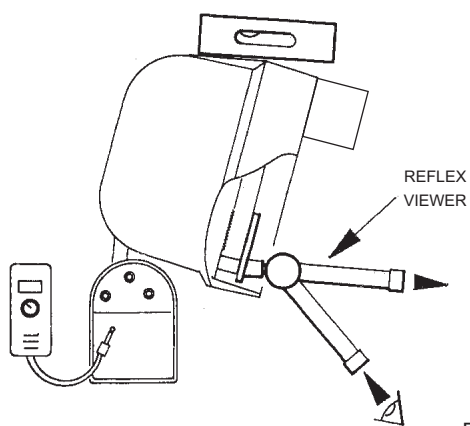


Fig. 5



### Guide for angle adjustment

Refer to the following to set the detection and camera angle properly.

		Mounting at 2.3m height	Mounting at 4m height
TOP RIB & FRONT RIB	<p>TOP RIB</p> <p>FRONT RIB</p>	<p>Bring the TOP RIB to a level.</p> <p>In this case, the FRONT RIB angle is approx 10 degrees from vertical.</p>	<p>TOP RIB should be angled 4.5 degrees bottom for the ground.</p> <p>In this case, the FRONT RIB angle is approx 14.5 degrees from vertical.</p>
REFLEX VIEWER		<p>Use provided Reflex viewer. Adjust the angle so that the human body enters the center of the Reflex viewer at maximum detection distance.</p> <p>In case 2.3m mounting height: 50m In case 4m mounting height: 30m</p> <div style="display: flex; justify-content: space-around; align-items: center;"> </div>	

## DETECTION AREA AND CAMERA VIEW

### MRP-3050S CAM

■ : Detection area  
 ▨ : Camera view

■ Mounting Hight : 2.3m(7' 6")

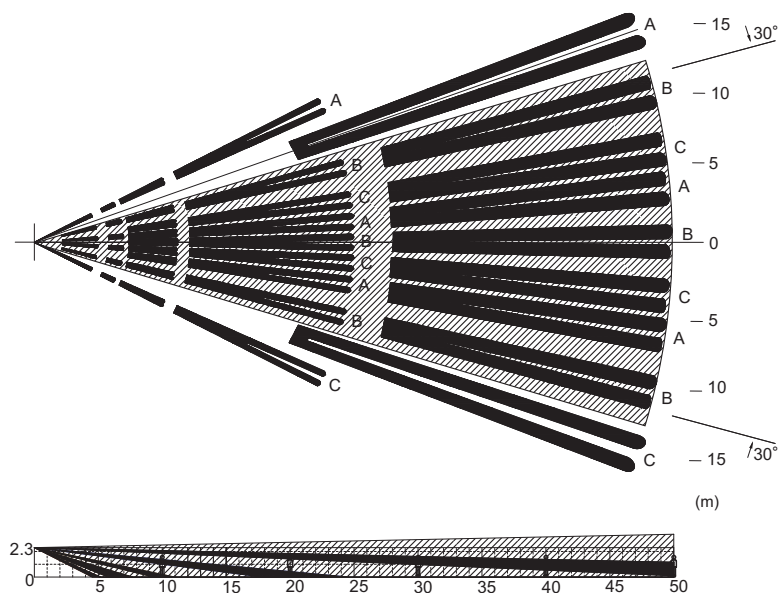


Fig. 9

■ Mounting Hight : 4m(13')

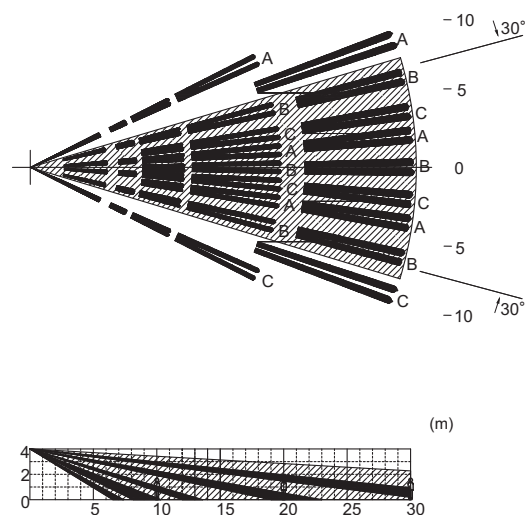


Fig. 10

### MRP-3050S CAM DN

※ Camera view shows as default setting

■ Mounting Hight : 2.3m(7' 6")

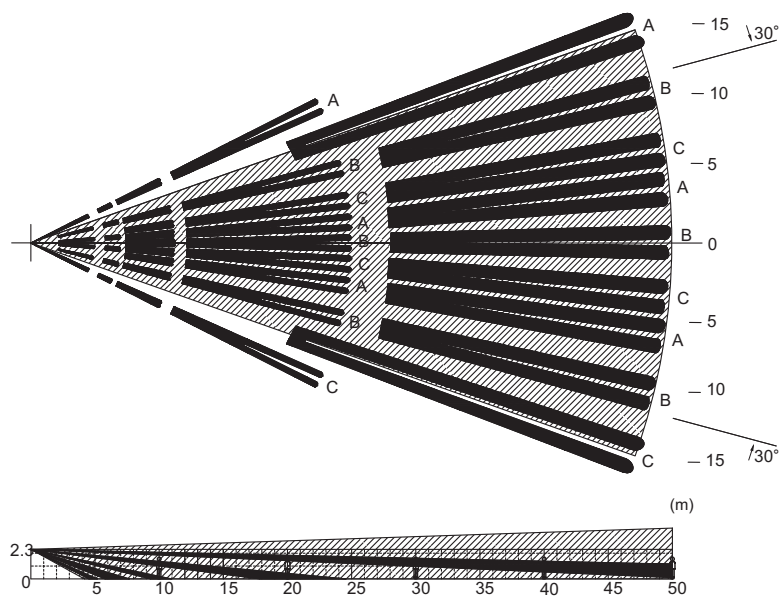


Fig. 11

■ Mounting Hight : 4m(13')

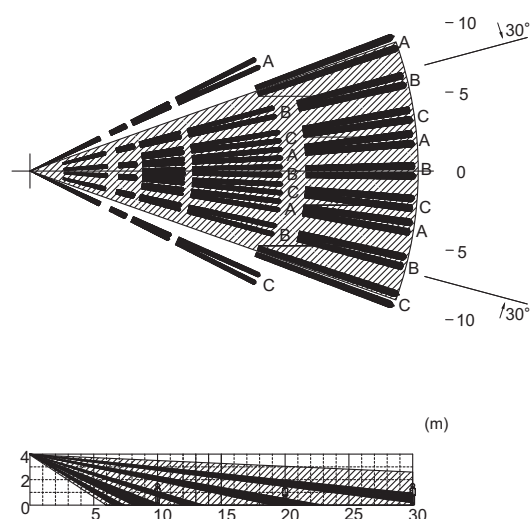


Fig. 12

## CAMERA VIEW ANGLE ADJUSTMENT FOR MRP-3050S CAM DN

Default setting of camera view angle is slightly wider than the detection angle.

In case that the vari-focal adjustment would be set at ▼ position (default setting), the field of view of the camera and detection angle would be shown as fig. 11 and fig. 12.

If the lens would be set as T side than ▼ position, the field of view would be narrower than detection angle. (In this case, the setting may not meet British Standard - BS8418 requirements.)

### For adjustment

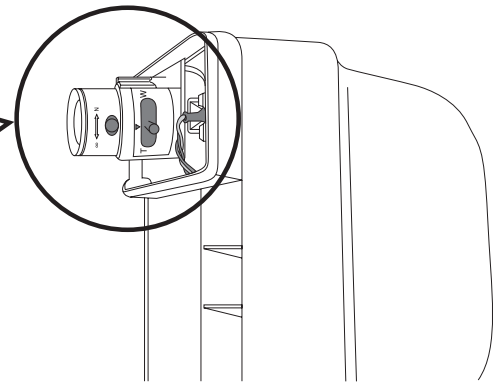
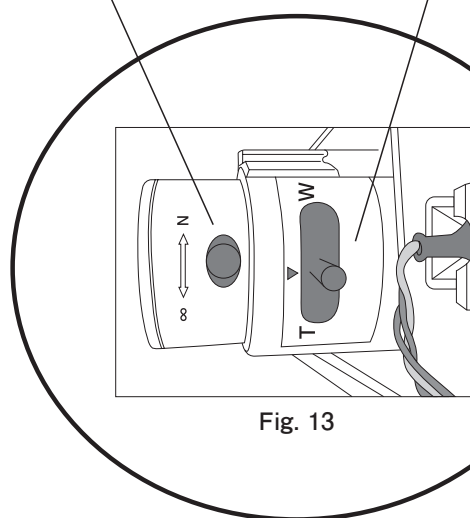
-Loosen the screws of the cover and remove the cover.

Note: Do not lose the rubber o-ring.

-Adjust to focal length between W and T until the required field of view is attained.

Then, adjust the focus to obtain a sharp image. Finally, tighten both lock screws.

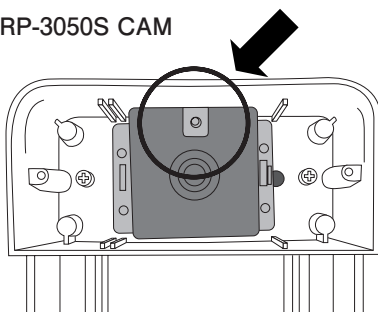
Lock screw for focus      Lock screw for focal length



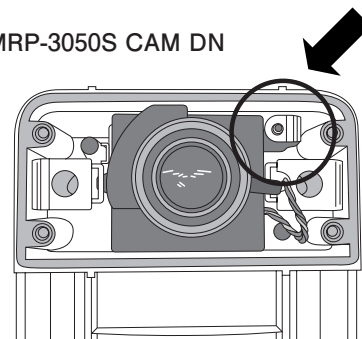
### Locking screw for vertical position

The screw that is located on the upper position of camera housing is fixed at the factory.

■MRP-3050S CAM



■MRP-3050S CAM DN



### WARNING!

Adjustment of this screw may cause a mismatch between the camera view and the PIR detection pattern contrary to BS8418 requirements.

## SPECIFICATIONS

Model	MRP-3050S CAM (EU)	MRP-3050S CAM DN (EU)	MRP-3050S CAM DN (US)
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### ■ GENERAL

Power Input	12V DC	
Current Draw	160mA (max.)	220mA (max.)
Detection Method	Passive Infrared	
Range	50m x 30m (150' x 100') at 2.3m (7'6") mounting height 30m x 20m (100' x 65') at 4m (13') mounting height	
Detection zones	78 Zones (39pairs)	
Mounting Height	2.3m (7'6") - 4m (13')	
Alarm Period	Approx. 2 sec	
Alarm Output	Form C Relay 30V 1A	
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×3 Audio : Sounder Available (OPM-WT) Optional	
Operating Temperatures	-25°C~ +60°C ( +60°C can be achieved when LRP MIDI HOOD is fitted.)	
Weight	1.7 kg	1.9 kg
IP Rating	IP 64 ( Wiring hole to be sealed)	IP 65 ( Wiring hole to be sealed)
Finish	White Powder Coat	

### ■ CAMERA

Image Sensor	1/3" B/W CCD	1/3" Color CCD	
Effective pixels (H x V)	752H x 582V (440K pixels)	752H x 582V (440K pixels)	768H x 494V (380K pixels)
lens f . F	8mm F1.2	3.8mm - 9.5mm Vari-Focal DC Auto Iris Lens F1.2	
Minimum illumination	0.08 Lx (F1.2)	Color 0.5 lx (F1.2) B/W 0.03 lx (F1.2)	
VIDEO OUTPUT	1Vp-p/75Ω CCIR	1Vp-p/75Ω PAL/CCIR	1Vp-p/75Ω NTSC/EIA

※Specifications and design are subject to change without prior notice.

## DIMENSIONS

MRP-3050S CAM

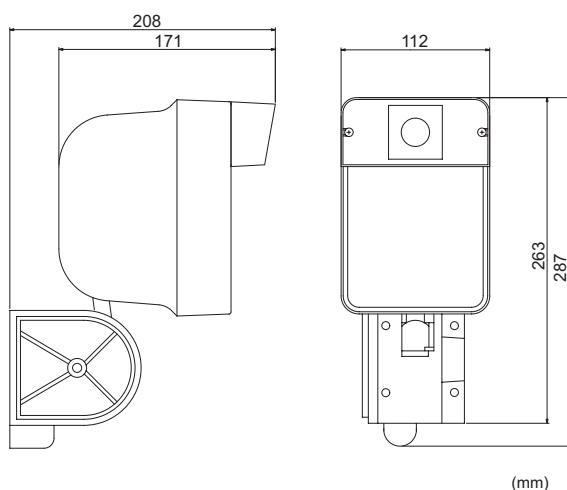


Fig. 17

MRP-3050S CAM DN

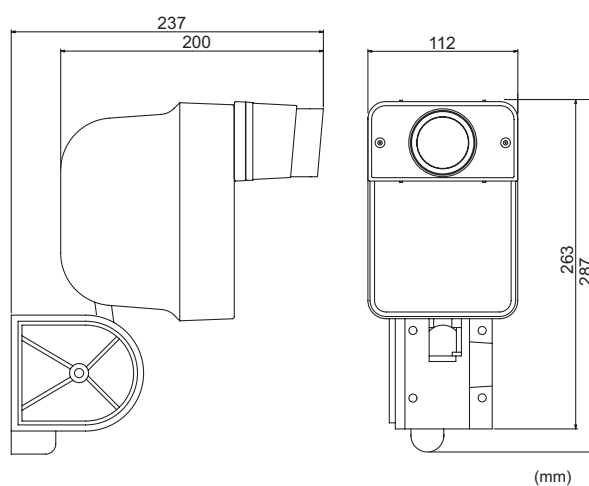


Fig. 18



## 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.</b>
<b>LRP SCA</b>	<b>Bracket to attach detector to 48mm diameter pole.</b>
<b>LRP GUARD</b>	<b>Vandal resistant guard.</b>

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This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:  
(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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### Note:

This unit is designed to detect movement of an intruder and initiate a signal to control equipment. Being only part of a complete alarm/CCTV system. It is not a burglar/theft prevention device and we cannot accept responsibility for any losses should they occur.

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