

INSTALLATION INSTRUCTIONS

MAL214  
SERIES 2



# MOVEMENT ACTIVATED SECURITY TWIN FLOODLIGHT

**ARLEC**



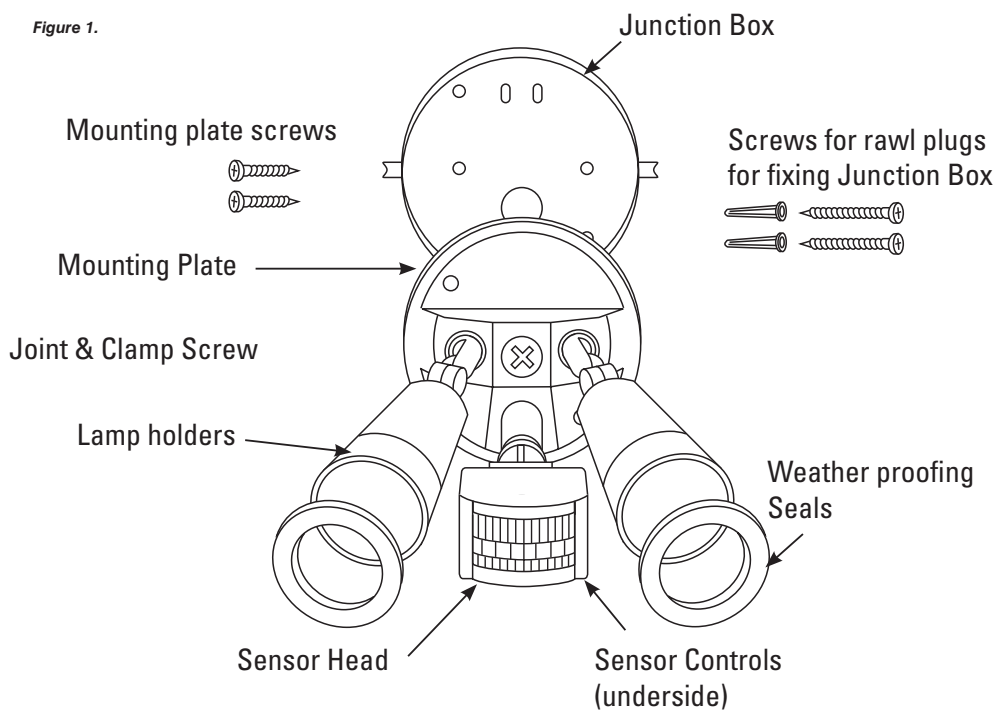
**HARDWIRE** INSTALL BY  
QUALIFIED ELECTRICIAN



**IMPORTANT! PLEASE READ THESE INSTRUCTIONS CAREFULLY.**

## INTRODUCTION

The Arlec MAL214 Movement Activated Sensor Light is a compact sensor light unit. It controls two PAR38, 150W floodlight bulbs for wide area illumination. The MA114 can be used to provide lighting for security and general purposes in a variety of locations around the home or workplace.



**Note:** Installation and wiring must be performed by a licensed Electrician.

**IMPORTANT: Loosen all screws on sensor and lamp holders before making any adjustments.**

**NOTE: Always face control knobs on sensor downwards to ensure correct operation.**

### LOCATION OF UNIT

To achieve best results for exterior use, your Movement Activated Floodlight should be securely mounted to a wall or eaves in close proximity (max 300mm) to an existing bayonet style light fitting.

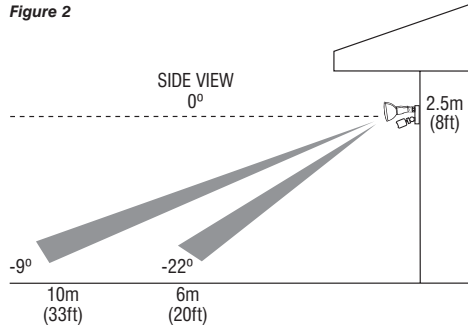
For ideal operation the sensor head should be located approx 2.5m above the area where movement is to be sensed. This will provide the best scanning sensitivity and detection area.

- Although this product is weatherproof it is preferable to mount your Floodlight in a sheltered or semi-sheltered location.
- To avoid damage to unit - do not aim the sensor towards the sun.
- To avoid nuisance triggering, the sensor should be directed away from heat sources such as BBQ's, air conditioners, other outside lighting, flue vents and moving cars.
- Do not aim towards reflective surfaces such as smooth white walls or swimming pools etc.
- The scanning specifications (10m at 180° scan) may vary slightly depending on the mounting height and location. (Refer Fig. 2) The detection range of the unit may also alter with temperature change.
- Before selecting a place to install the Floodlight, you should note that movement across the scan area is more effective than movement directly toward or away from the sensor. (Refer Fig. 3A). If movement is made walking directly towards or away from the sensor and not across, the apparent detection range will be substantially reduced (Refer Fig. 3B).
- Avoid locating your Floodlight in close proximity to fluorescent light fittings or ceiling fans on the same electrical circuit. RFI interference may cause the Floodlight to switch on inadvertently.

**The light must be wired to its own light switch. Do not interconnect with other lights on the same switch.**

Sensor can be angled above animal height to avoid nuisance triggering of lights

Figure 2



**Arrows indicate movement of heat source**

Figure 3a

Good sensitivity

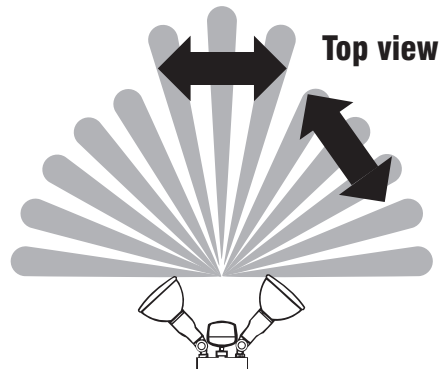
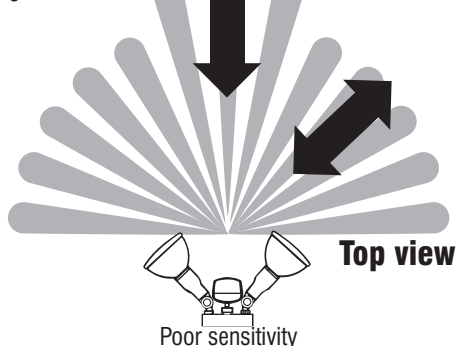


Figure 3b

Poor sensitivity



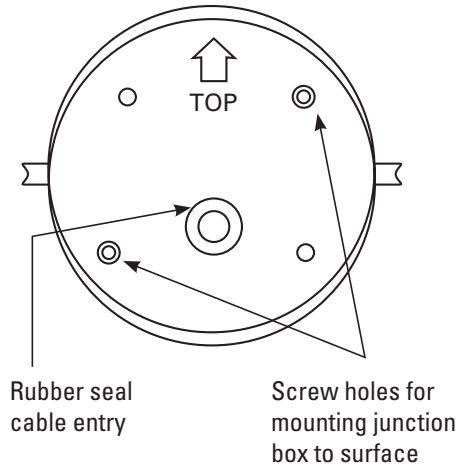
## INSTALLATION

**Installation and wiring must be performed by a licensed Electrician.**

### WALL MOUNTING

Place the junction box over the position for mounting and mark the screw holes. Use the two mounting holes on the inside of the junction box, and ensure the "TOP" marking points upwards. Drill suitable holes, then feed the supply cable through the rubber seal on the rear of the junction box. Before fixing the junction box in place, seal any hole in the wall through which the supply cable passes so as to weatherproof it. Now fit screws to fix junction box to the mounting surface, again ensuring the "TOP" marking is pointing upwards.

Figure 4

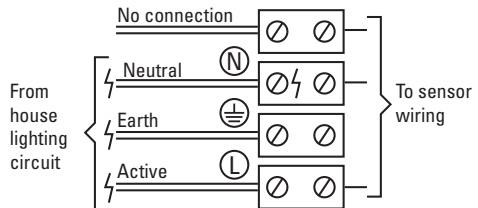
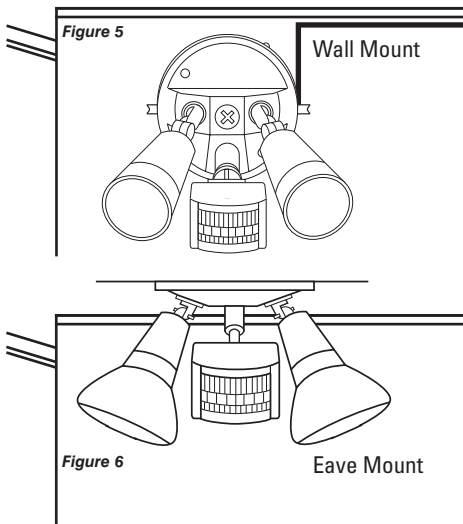


### EAVE MOUNTING

Use a similar procedure to wall mounting, but the "TOP" marking should point towards the outside of the eave. We suggest 2 x spring toggle screws (not supplied) be used to mount your Floodlight under eaves. Take care not to damage or pierce concealed wiring with mounting screws, particularly when mounting under eaves.

### WIRING

Your Floodlight must be wired to its own switch. For installation/maintenance purposes the electrical supply must be isolated at the switchboard by removing the fuse or switching the circuit breaker OFF. Simply isolating the electrical supply at the wall switch is not sufficient isolation to prevent an electrical shock. The terminal block wired to the rear of the security light must be wired to the switched active and neutral of the lighting circuit to which it is being connected. Connect in accordance with below figure.



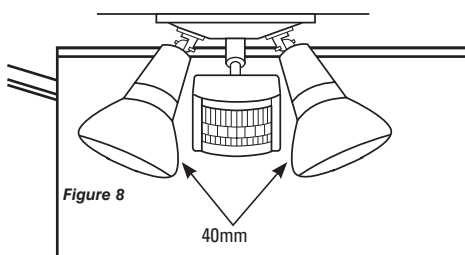
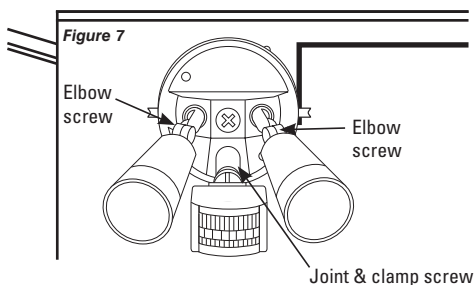
After wiring fit the Floodlight mounting base onto the junction box using screws provided. Ensure that the mounting base is in the correct direction so that the sensor head controls will face downwards (See Fig. 5 and 6), and that the rubber seal on the rear of the mounting plate is correctly positioned.

## SETTING UP

**Do not overtighten or use excessive force when adjusting sensor head or lamp holders.**

Loosen elbow/joint screws to make adjustment.

- Adjust the direction of the sensor arm and lampholders to suit the desired detection area. Loosen elbow screws on lampholder before making any adjustments. Do not use excessive force when making adjustments to lampholders (See Fig. 7).
- Angle sensor slightly downward towards the detection area. The sensor joint should be rotated to adjust the sensor to face the required detection area. If necessary, loosen sensor arm joint clamp screw.
- Angle lampholders from mounting surface and direct them approximately downwards away from sensor head.
- Fit PAR38 globes and weatherproofing rubber seals- do not overtighten.
- Ensure that globes are positioned 40mm or more from the sensor head or mounting surface as shown in (Fig. 8). The globes become very hot and must not be touching or too close to sensor head.
- After fitting globes, tighten elbow screws - do not overtighten.



## OPERATION

### Understanding the controls

#### Time - Time "ON" adjustment

The time "ON" control adjusts the time that the lights will remain on after the unit has sensed movement. To increase time, turn the knob clockwise. To decrease, turn knob anti-clockwise.

#### Lux - Light level adjustment

The "Lux" control adjusts at what level of light the unit starts sensing at dusk. This control can be also used for testing the unit during daylight hours. To test unit, or operate during the day, turn control knob all the way anti-clockwise. Once unit has been tested the "Lux" control should be set to approx half way, and adjusted later if required.

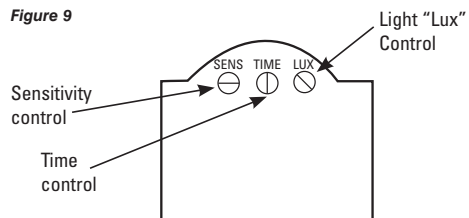
#### Sens - Sensitivity adjustment

The Sensitivity control adjusts the level of sensitivity of the infrared Sensor. This controls the amount of movement that is required to switch the lights on. With the knob set to minimum (anticlockwise), the unit will only detect large amounts of movement. It is recommended that in most situations the unit be operated with the "Sens" control set to half.

#### Setting the controls

- Turn the "LUX" or light control to minimum, turn the wall switch ON and wait for half a minute for the control circuit to stabilise. At this stage ensure that the time control is set to "minimum". The Floodlights will now switch on and remain on for about 10 seconds.
- Turn the "SENS" control to minimum.
- Direct the sensor toward the desired area to be scanned by adjusting the elbow joint and ball joint on the sensor arm. Loosen screws before attempting to adjust sensor arms.

Figure 9



## OPERATION

Figure 10



**NOTE:** Always tilt sensor unit head below horizontal for weather proofing

4. Have another person move across the centre of the area to be scanned and slowly adjust the "SENS" control toward maximum until the unit senses the presence of the moving person, causing the Floodlights to switch on.
5. Adjust time control to required setting.
6. To set the light level at which the Floodlight automatically switches "ON" at night, turn the "LUX" or light control from minimum to maximum. If the Floodlight is required to switch on earlier, e.g. dusk, simply wait for the desired light level, then slowly turn the "LUX" or light control towards minimum while someone walks across the centre of the area to be detected. When the Floodlight switches "ON" release the "LUX" or light control knob. You may need to make further adjustments to achieve your ideal light level setting.

**IMPORTANT:** When adjusting lamp holders, ensure that PAR38 lamps are not touching or in close proximity to sensing unit or connecting lead. Heat from the PAR38 lamps may distort the sensor unit or damage the lead. Allow 40mm minimum between sensor and PAR38 lamps.

## MAINTENANCE

To avoid dust build-up and ensure proper functioning of the Arlec Floodlight wipe the sensor lens lightly with a damp cloth every 3 months. Do not use solvents or abrasive cleaners on any part of your Floodlight.

## REDUCING DETECTION AREA

To reduce the 180° wide-angle detection area, stick PVC electrical tape on the left, right or both sides of sensor lens. This will reduce 180° detection in extremities of area to be scanned. After adding PVC tape, further adjustment to sensor direction may be necessary.

## MANUAL OPERATION (AUTOMATIC OVERRIDE)

To override the automatic mode, the light must be switched ON in the "Automatic" mode. Now switch your wall switch OFF and back ON within two seconds. Your Floodlight will now stay on continuously, just like a normal light. This override function can be selected during daytime or night time.

To return your Floodlight to the "Automatic" mode, switch your wall switch OFF for at least ten seconds, then switch it on again. To switch your Floodlight off completely, switch your wall switch OFF.

## AUTOMATIC MODE

Turn your wall switch OFF for at least five seconds and then turn the wall switch back ON. This will put the Floodlight into "Automatic" mode. The unit will then start sensing after dusk. The Floodlights will switch ON and automatically switch OFF after the pre-set time elapses and then only operate again when heat movement is detected.

## SPECIFICATIONS

Detection Range	10 metres at 180° scan
Time Adjustment	5 seconds to 8 minutes (approx.)
Detection Circuitry	Passive controlled infra red motion sensor
Power Required (Sensor head only)	230-240 volt, 50Hz, 4 watt consumption(Sensor head only)
Maximum Load	2 × 150 watt PAR38
Weatherproof Rating	IP44

## TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	SUGGESTED REMEDY
<b>Light does not switch ON when there is movement in the detection area.</b>	1. No mains voltage.	Check all connections, and fuses/switches.
	2. Globe(s) faulty or missing.	Check. Replace.
	3. Nearby lighting is too bright.	Redirect sensor or relocate unit.
	4. Controls set incorrectly.	Refer to Step 6 in instructions.
	5. Sensor positioned in wrong direction.	Re-locate sensor (Refer Fig. 3).
<b>Light switches ON for no apparent reason.</b>	1. Heat from globe activating sensor.	Adjust lamp holders to allow a gap between globe and sensor lens.
	2. Heat sources such as aircon. vents, heater flues, barbecues, other outside lighting, moving cars are activating sensor.	Adjust sensitivity. Reduce detection area of lens using PVC tape.
	3. Animals/birds e.g. possums or domestic animals.	Probably unavoidable but redirectin sensor may help.
	4. Interference from on/off switching of electric fans or lights on the same circuit as your Sensor Floodlight. (This problem does not always occur but a faulty switch or noisy fluorescent light may cause the Sensor Floodlight to switch on.)	Should the false triggering become troublesome, consider: (A) Replacing a faulty switch. (B) Replacing noisy fluorescent tubes and/or starters. (C) Connecting the Sensor Floodlamp to a separate circuit. (In most cases where one or more of the above suggestions have been carried out, false triggering has been reduced.)
	5. Reflection from swimming pool or reflective surface.	Redirect sensitivity.
	6. Interference from power surges, mobile phones, CB's, Taxis, etc.	Try reducing sensitivity.
<b>Light remains ON.</b>	1. Wall switch is in override "ON" mode.	Switch light OFF for at least 10 seconds, then return to ON position.
	2. Time adjustment is set too long.	Reduce time by turning ON-TIME control anti-clockwise.
<b>Lights switch ON during daylight hours.</b>	Daylight sensor switch is set to "OFF" position.	Turn light level control clockwise.
<b>When setting controls in daylight the detection distance becomes shorter.</b>	Interference by sunlight.	Re-test at night.

**NOTE:** All passive infrared detectors are more sensitive in cold weather than warm weather and more sensitive at night than daytime.

## WARRANTY

Arlec guarantees this product in accordance with the Australian Consumer Law.

Arlec also warrants to the original first purchaser of this product (“you”) from a retailer that this product will be free of defects in materials and workmanship for a period of 12 months from the date of purchase; provided the product is not used other than for the purpose, or in a manner not within the scope of the recommendations and limitations, specified by Arlec, is new and not damaged at the time of purchase, has not been subjected to abuse, misuse, neglect or damage, has not been modified or repaired without the approval of Arlec and has not been used for commercial purposes (“Warranty”).

If you wish to claim on the Warranty, you must, at your own expense, return the product, and provide proof of original purchase and your name, address and telephone number, to Arlec at the address below or the retailer from whom you originally purchased the product within 12 months from the date of purchase.

Arlec will (or authorise the retailer to) assess any claim you may make on the Warranty in the above manner and if, in Arlec’s reasonable opinion, the Warranty applies, Arlec will at its own option and expense (or authorise the retailer to) replace the product with the same or similar product or repair the product and return it to you or refund the price you paid for the product. Arlec will bear its own expenses of doing those things, and you must bear any other expenses of claiming on the Warranty.

The Warranty is in addition to other rights and remedies you may have under a law in relation to the product to which the Warranty relates.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law.

You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.



Arlec Australia Pty. Ltd. ACN 009 322 105 (“Arlec”) gives the Warranty.  
Arlec’s telephone number, address and email address are:

**Customer Service: (03) 9982 5111**

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