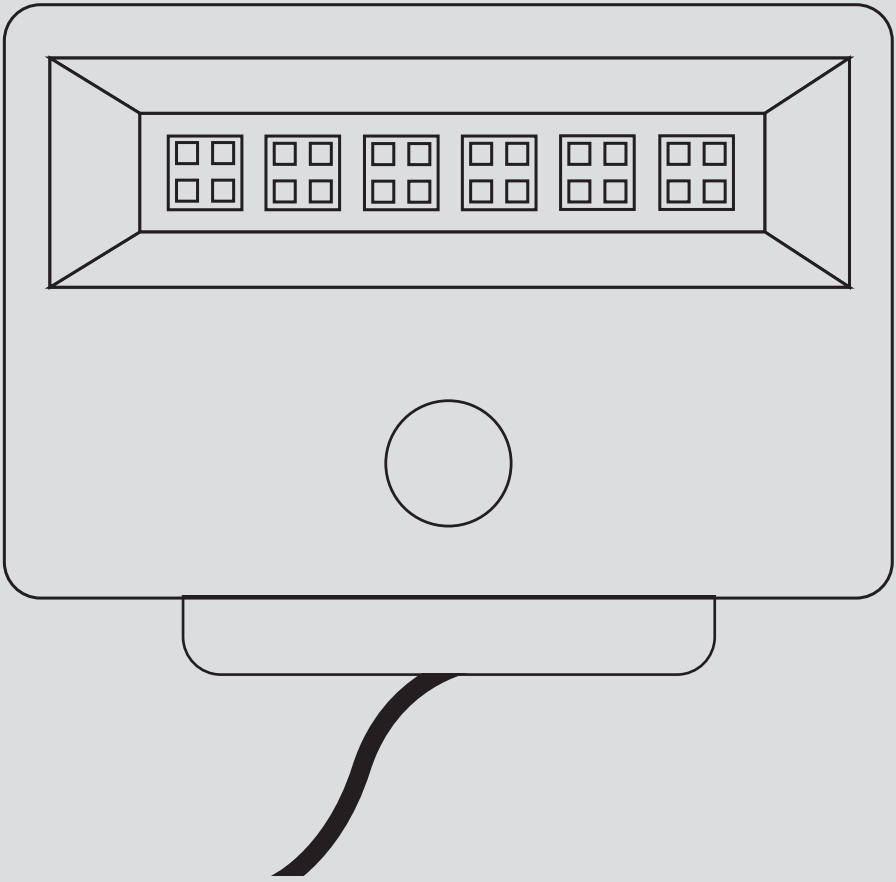
MIGHTYLITE Security Lighting

INSTRUCTION MANUAL

16W, 28W, 36W & 50W PIR Security LED Floodlight



Installation & operating instructions

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HYLITE MIGHTYLITE PIR SECURITY LED FLOODLIGHT - INSTALLATION AND OPERATING INSTRUCTIONS

The Mightylite floodlight with PIR is a low energy, high powered outdoor motion activated LED floodlight which detects movement through its built-in PIR. The floodlight is suitable for installation on solid walls in a range of locations including entrances, gardens, staircases, garages and outdoor parking areas. The unit requires connection to a 230V AC 50Hz mains electricity supply.

IMPORTANT INSTALLATION & SAFETY INSTRUCTIONS

WARNING: THIS PRODUCT MUST BE INSTALLED BY A QUALIFIED ELECTRICIAN, AND CHECKED TO ENSURE IT IS SAFE BEFORE USING.

PLEASE FOLLOW THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL AND OPERATE THIS LIGHT.

- The risk of electric shock should be minimized by the installation of appropriate safety devices including the incorporation of an RCCB (Residual Current Circuit Breaker) into the main distribution board.
- DO NOT wire this floodlight directly into the lighting circuit. Use a switched fused spur. Cables should always be protected against short circuit and overload use of a RCD.
- Ensure the voltage marked on the product is the same as the electrical power supply to be used.
- DO NOT install the light where it is likely to be knocked hit, or in hot or humid conditions such as bathrooms, shower rooms or saunas; or near an exhaust outlet e.g. boiler flue, dryer outlet.
- DO NOT position the light near flammable or combustible materials (such as wood, cloth, paper) or near flammable, combustible or explosive liquids, solids, gases or equipment.
- DO NOT direct the light into a person's eyes. This light has a very intensive light output, which if incorrectly used could cause eye damage.
- ALWAYS disconnect the power supply before servicing or performing any maintenance.
- ALWAYS maintain the light in good condition, with repairs only undertaken by a qualified electrician.
- ONLY carry out repairs using genuine parts. Non authorized parts may be dangerous and will invalidate the warranty.

CONTENTS OF KIT

1 x Mightylite LED Floodlight with built-in PIR
1 x Connection box
1 x Cable gland
4 x Connection box screws
4 x Connection box screw covers
4 x Connection box fixing screws
4 x Connection box fixing screw covers
1 x U-Bracket
2 x Knurled Bolts (short)
2 x Spring Washer
4 x Wall Plugs
4 x Wall Plugs Screws

OPERATING THE MIGHTYLITE:

The controls on the back of the Mightylite [Fig.14] can be used to control the ambient light level at which the light operates (control marked "F"); the time the light operates after activation by the PIR (control marked "T"); and the range or sensitivity of the PIR (control marked "R").

Precautions: Do not attempt to repair this unit, NO customer repairable parts!

The unit requires connection to a 230V AC 50Hz mains electricity supply. It is recommended that the unit is connected to the domestic lighting circuit via a 5 amp fused spur using 2-core round flexible cable of at least 1mm2 gauge (waterproof cable should be used for outdoor installations).It is also advisable to install a single pole wall switch to allow easy control of the floodlight (Fig. 1).

NOTE: The Mightylite has a switched override facility enabling it to be switched on manu-ally, via a second wall switch, without requiring PIR activation. See section "Wiring the Floodlight" for wiring details.

Fig.1

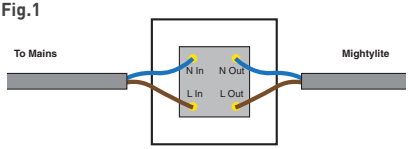


Fig.2

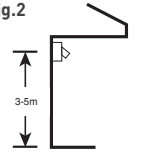
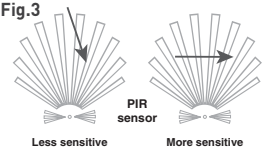
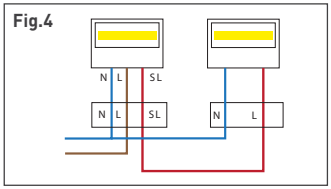
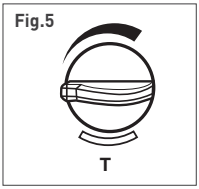
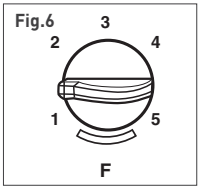


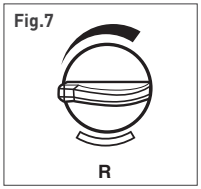
Fig.3











CHOOSING A MOUNTING LOCATION:

The PIR detector on the floodlight responds to changes in temperature as well as movement, therefore please ensure that the following steps are taken in choosing a location:

- Mount the floodlight onto solid brick or woodwork, 3 - 5m above the ground [Fig.2].

FIXING THE CONNECTION BOX

- Avoid positioning the light near heat sources such as hot ventilator ducts, air conditioning units, street lighting or traffic which may interfere with its operation.
- Avoid pointing the light towards objects that may move in the wind, such as trees or shrubs, or highly reflective surfaces.
- When positioning the light, note that the PIR sensor is more sensitive to a heat source moving across its coverage area and less sensitive to a heat source that moves directly towards the PIR sensor [Fig.3].

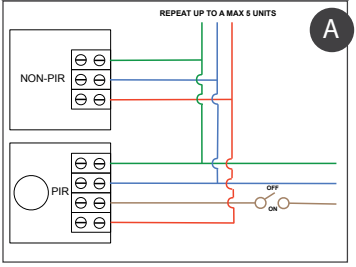
WIRING SLAVE LIGHTS OFF THE MIGHTYLITE:

The PIR can be used to activate additional non-PIR Mightylites that are wired into the same circuit

- When wiring, the Live for the slave units should simply be a connection from the Switched Live (marked “SL”) terminal on the main Mightylite (with PIR) unit as shown in [Fig.4].
- The Neutral for the “slave” unit should be a connection to the Neutral terminal (marked “N”) on the main Mightylite (with PIR) unit. Other wiring options are shown in [Figs. A - E].

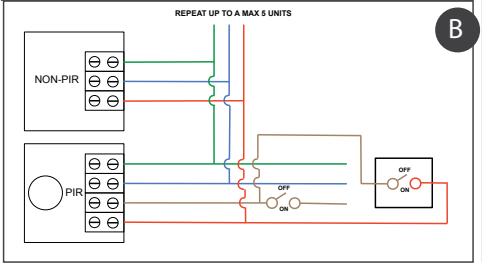
NOTE: the Mightylite can only drive other Mightylite LED floodlights up to a maximum combined wattage of 85W i.e. the Mightylite can drive 5 x 16W Mightylites, 3 x 28W Mightylite or any combination of the two, so long as the combined wattage of slave lights does not exceed 75W.

Connecting a Mightylite Master unit (with PIR) and Mightylite slave units (non- PIR) on the same circuit [Fig.A].



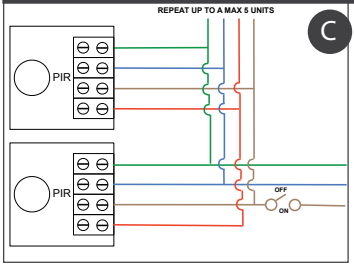
Note: When the PIR triggers all lights will illuminate.

Connecting a Mightylite Master unit (with PIR) and Mightylite slave units (non-PIR) with Switched Override function [Fig. B].

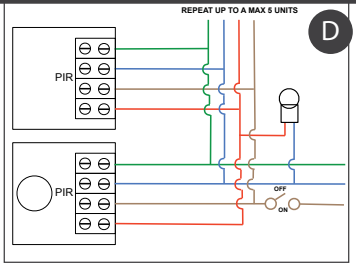


Note: With the manual override switched off when the PIR triggers all lights will illuminate, When the override is switched on, all lights will illuminate continuously.

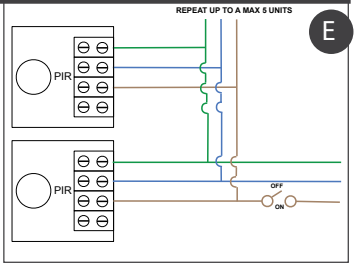
Connecting multiple Mightylite Master units (with PIR) for more flexible lighting solutions [Figs. C, D & E].



Note: With the switch live connected, when one PIR triggers, all lamps will illuminate.



Note: Adding a remote indicator light or buzzer which will activate when the PIR is triggered.



NOTE: The above option could prevent another fitting in close proximity from working due to the photocell picking up the light from the illuminated unit and the photocell thinking this is daylight and not operating. Successful operation will depend on the installed spacing and aiming of each floodlight.

FIXING THE CONNECTION BOX

WARNING: ISOLATE THE POWER SUPPLY BEFORE INSTALLATION.

PLEASE FOLLOW THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL AND OPERATE THIS LIGHT.

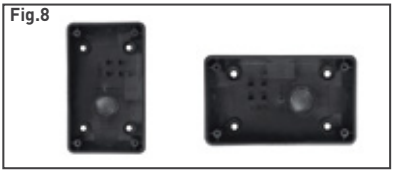
- Position the unit on the wall and mark the position for the connection box (which can be positioned in either landscape or portrait planes [Fig. 8]).
- Ensure the wires can easily enter the connection box through either one of the knock-outs on the side of the connection box, or through the knock-out at the rear of the box.

  NOTE: It is recommended that the knock-outs on the sides of the connection box are used in conjunction with the cable gland [fig 9.] as using the knock-out at the rear of the connection box will reduce the weatherproof rating of the unit to IP23.
- However, If feeding a wire(s) through the knock-out at the rear of the connection box, this will need to be removed, the sealing grommet fitted [Fig.10] and the wire pushed through into the connection box BEFORE it is secured to the wall.
- If feeding a wire(s) through the side knock-outs, it is easiest to fit the cable gland to the connection box BEFORE securing it to the wall. Wires should enter the connection box from the sides or underneath, not from the top.
- Use the connection box Fixing Holes [Fig.11] to mark the 4 drill holes required to secure the box to the wall (and mark the cable outlet location if required). Drill the wall and screw the connection box onto the wall using the screws and wall plugs provided.
- Once the wire(s) has been fed through the sealing gland, the nut on the gland should be gently tightened up against the gland body [Fig. 12] to ensure the wire(s) is secured in place and no water can get though into the connection box.

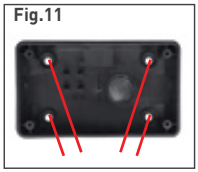
WIRING THE FLOODLIGHT:

- Once the power cable has been fed through the cable gland (or sealing grommet if using the knock-out at the rear of the connection box), approximately 6mm of insulation should be stripped from each of the cores of AC cable ready to attach it to the terminal block.

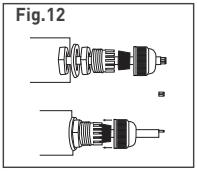
  NOTE: The Mightylite is a Class 1 fitting. An Earth connection is required.
- Connect the BROWN or RED (Live) wire to the terminal (marked “L”) holding the single BROWN wire in the floodlight unit [Fig.13].
- Connect the BLUE or BLACK (Neutral) wire to the terminal (marked “N”) holding the TWO BLUE wires in the floodlight unit.
- If using a switch override, the switched override wires should enter the connection box via a second cable gland and the circuits should operate as shown [Figs. 14 & 15].
- When wiring to the Mightylite, connect L1 Switch override BROWN or RED (Live) wire to the terminal (marked “SL”) holding both the RED and BROWN wires. (Note: If the wire connected to the Switch Live terminal is Blue then a Brown sleeve should be slid over the wire to indicate it is Switch Live).
- Connect the Common (C) BROWN or RED (Live) wire to the terminal (marked “L”) with the single BROWN wire only [Fig.15].
- After the connections have been secured, the Connection Box cover should be fastened to the Connection Box using the 4 Connection Box Screws provided [Fig.16].
- Once screws are secure, the screw covers (provided) should be fitted [Fig.16].
- To adjust the Mightylite simply hold the Connection Box firmly whilst moving the head of the floodlight to the required position.

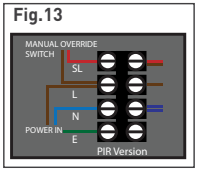


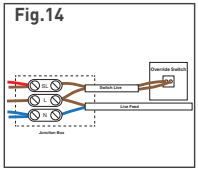
PORTRAIT LANDSCAPE

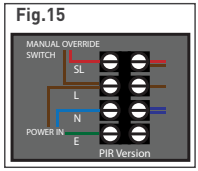


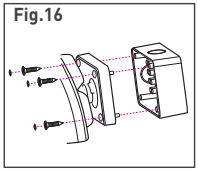
FIXING HOLES











FOR DAY TESTING:

- Turn the Time control (length of time light switches on) marked “T” [Fig. 5] to minimum and the ambient light level control marked “F” to position “5” (maximum).
- Turn on the power to the floodlight.
- The floodlight will turn on for approx. 5 seconds before switching OFF.

FOR NIGHT TESTING:

- Turn the Time control) to minimum and the ambient light level lux control marked “F” to position “1” (minimum), [Fig. 6].
- The floodlight will turn on for approx. 5 seconds before switching OFF.
- Check the operation of the sensor and the field of view by walking in front of the floodlight so that the light comes on.
- Once the light comes on, move to a new position and stand still until the light goes out (approx 5 sec), move again until the light comes on.
- Repeat and adjust the angle of the sensor head until the optimum field of view is achieved.
- Finally, turn the TIME, LUX and RANGE [Fig. 7] (to alter detection range of PIR) controls to the desired positions for AUTO operation.

SETTING THE DURATION OF LIGHT:

The TIME control “T” [Fig.5] should be turned up if the lights are required to switch on for longer.

- Time is adjustable between approximately 15 seconds to 5 minutes.
- If a moving heat source is detected, the sensor is triggered, switching on the light and begins timing out according to the pre-set TIME period. If triggered further, the light will stay on for the pre-set time period from the last trigger.
- The ideal ON time for general domestic situations is usually 2-3 minutes.

SETTING THE LUX (AMBIENT LIGHT LEVEL):

- The LUX setting “F” [Fig.6] adjusts how low the light level needs to go down to (level of darkness) before the light operates.
- The LUX control adjusts the light level at which the light and PIR operate. At level marked “1” it operates at maximum darkness, at level marked “5” it operates in daylight.

SETTING THE RANGE:

The RANGE sensitivity of the PIR is affected by the range of detection and the amount of infra-red radiation (heat) required to trigger the sensor.

- The Range sensitivity adjustment “R” [Fig.7] can also be used to compensate for the changes in outside air temperature in winter and summer.
- To be effective, but keep nuisance tripping to a minimum it is advised to turn the RANGE control to the middle position when the ambient air temperature is between -20°C to +60°C.

Troubleshooting:

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Lights won't come on	• Power not on	• Turn on indoor switch or check fuse
	• Wired incorrectly	• Check wiring is the same as wiring diagram
	• PIR not detecting movement	• Adjust the angle and direction of the PIR. For best results walk across the beam
	• Light conditions too bright	• Wait until light conditions are darker (at dusk or under 40 Lux) or turn the LUX control up.
Lights stay on	• TIME set too high	• Turn 'Time' knob towards '-' end (15 secs to 5 min adjustable)
	• Wired incorrectly	• Check wiring is the same as wiring diagram.
	• Frequent changes in heat are being detected	• Check sensing area for possible heat sources (e.g. air vents, moving vehicles, moving trees) and re-position the sensor or alter the RANGE control downwards
	• Switched override ON	• Check status of switched override and change if required
Lights keep turning on and off (cycling)	• Changes in heat are being detected from a fixed heat source.	• Check the sensing area for air vents, light fittings or fans and either re-position the sensor or adjust the aim
	• Changes in heat are being detected from a moving object.	• Check the sensing area for moving vehicles, animals, pedestrians, moving trees and alter the aim of the sensor accordingly
	• Light and heat are being reflected back onto the sensor.	• Alter aim of the sensor or paint the reflecting surface with a dull finish
	• Sudden temperature changes due to storms or high winds	• Turn sensor off until storm passes or install in a sheltered location
Sensor operates differently in hot and cold conditions	• Temperature differences are affecting the sensitivity of the sensor	• Turn the sensitivity (RANGE) control knob toward the MAXIMUM end for summer (hot conditions) and toward MINIMUM for winter (cold conditions). This compensates for variations in temperature.

MIGHTYLITE

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