

# rayMAX and rayLUX

## illuminators installation guide

(including IR Covert, IR PLATINUM, HYBRID and Low Voltage Series)

This installation guide provides instructions for installing the RAYMAX and RAYLUX series illuminators

### Installation Steps

1. Mount Illuminator
2. Mount Power Supply Unit (PSU)
3. Connect Illuminator to PSU
4. PSU connections
5. Connect PSU to Mains

### Set Up Steps

1. Position illuminator adjacent to camera and point towards scene
2. Adjust vertical angle
3. Adjust horizontal angle via Adaptive Illumination (AI) (if required)
4. Tighten all fixings

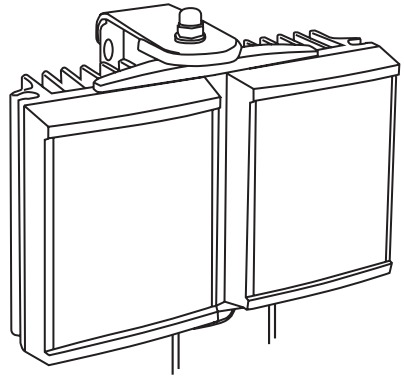
### Package Contents

1. Illuminator
2. Power Supply (PSU)

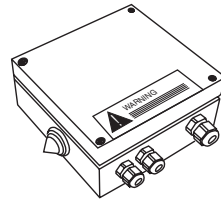
#### GOLDEN RULES:

1. Ensure PSU lid orientation has warning label in line with glands (see PSU diagram, right)
2. Ensure operating voltage is correct for unit being installed
3. DO NOT INPUT MAINS VOLTAGE INTO LOW VOLTAGE PSU
4. Ensure PSU is fully water tight

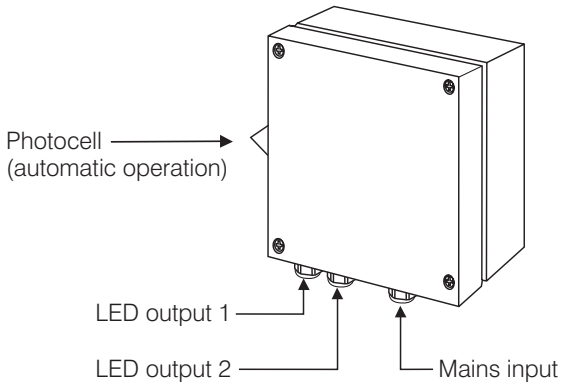
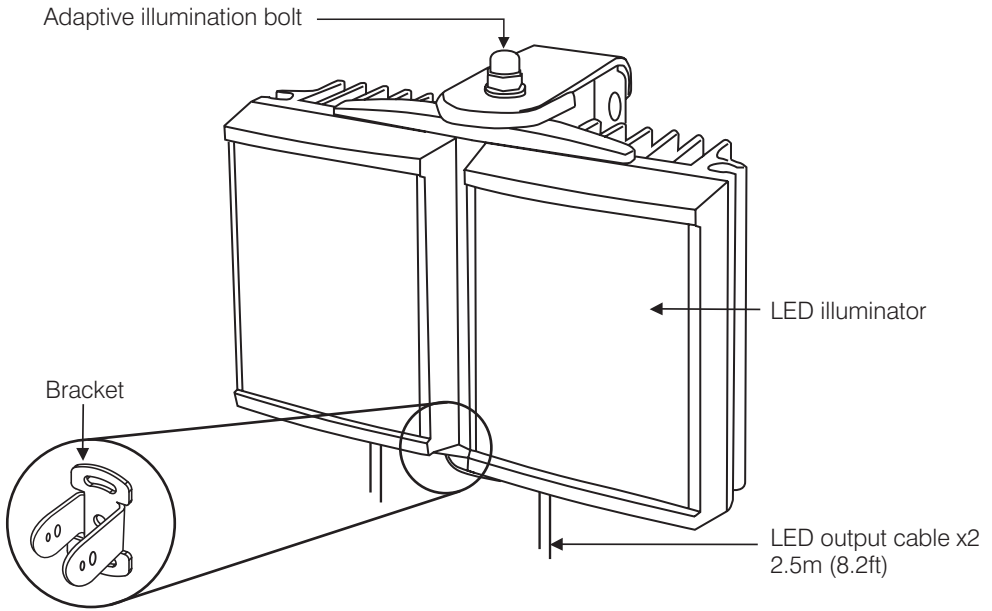
#### Overview





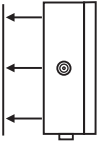

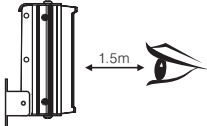
RAYMAX / RAYLUX illuminator



PSU

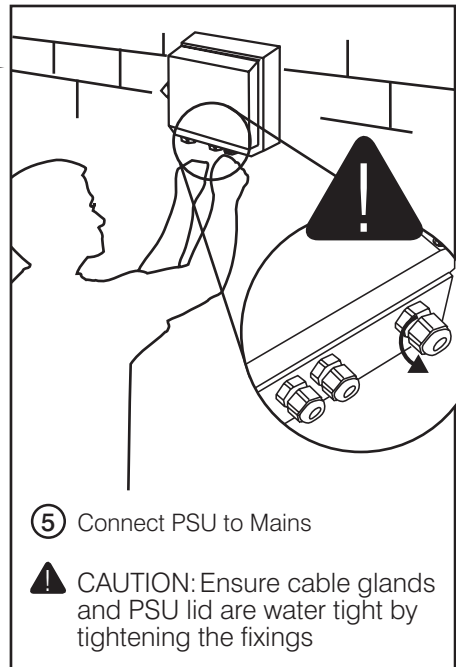
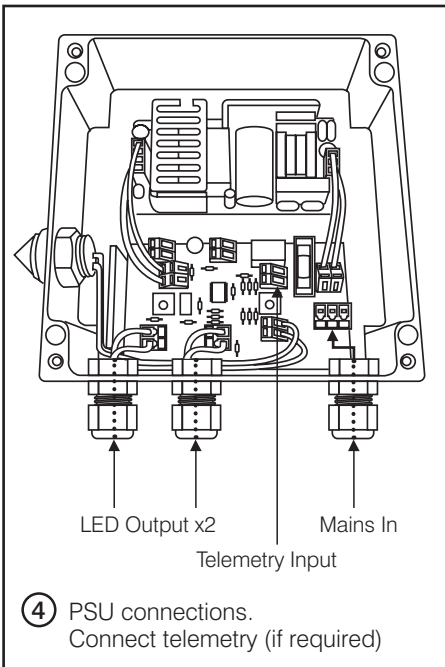
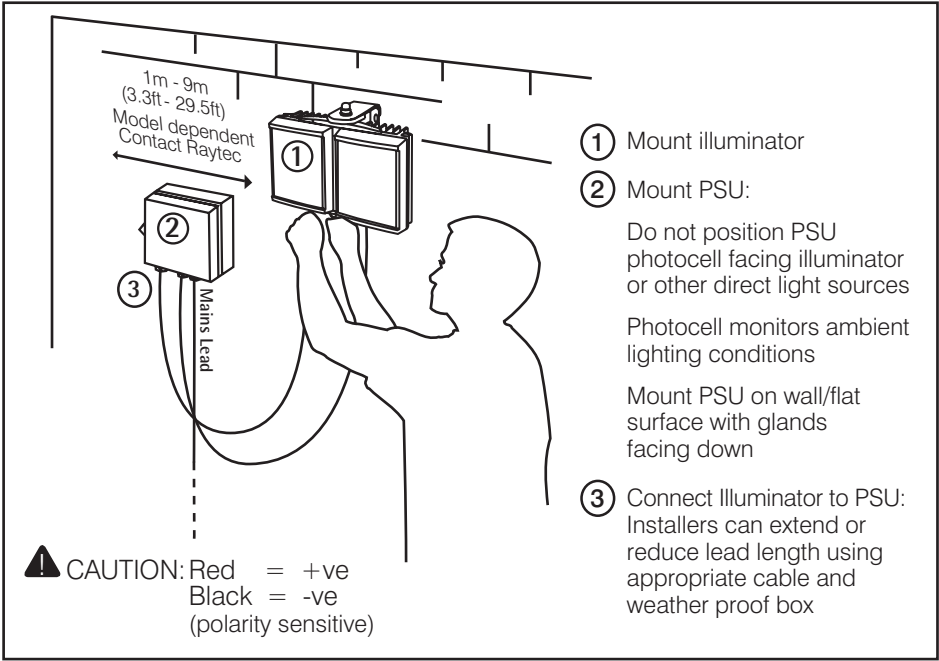




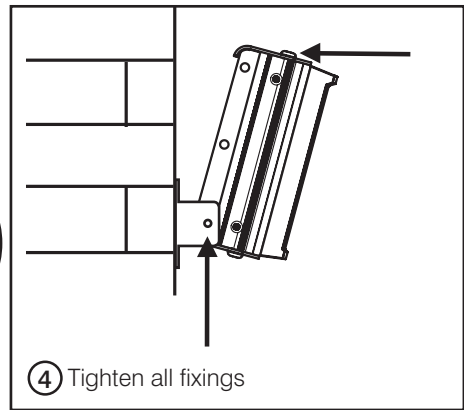
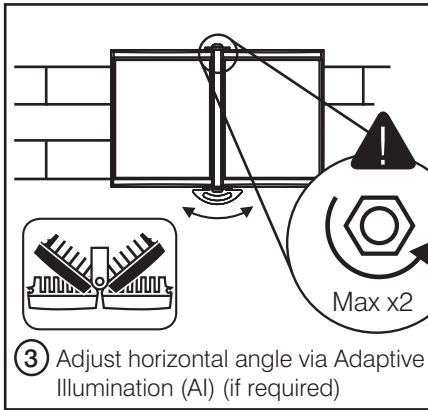
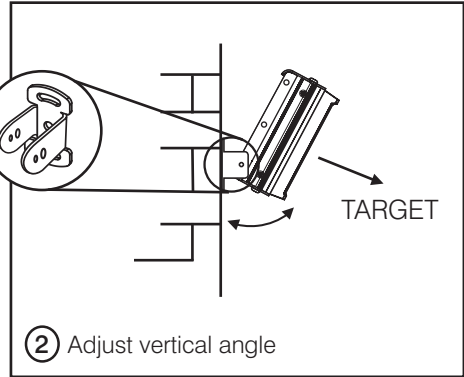
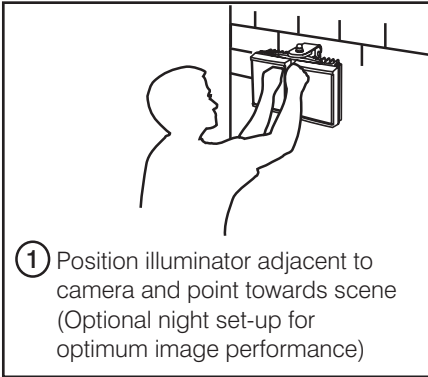
			
<p>Isolate mains before removing cover</p>	<p>Mount PSU to flat surface</p>	<p>Install in a well ventilated area</p>	<p>Do not continually stare at lamp</p>

Specifications subject to change without notice. Installation to be carried out by suitable trained and qualified personnel.

# Installation

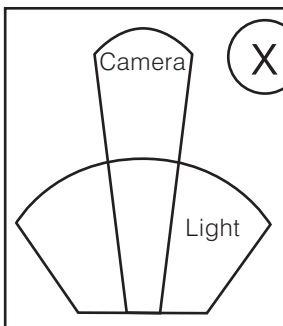


# Set Up

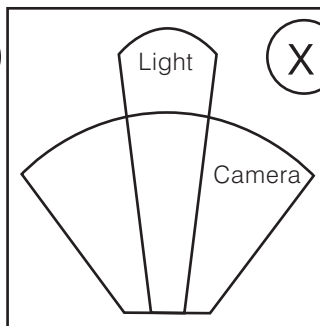


**⚠ CAUTION:** Do not fully loosen AI bolt.  
 Note: Power adjust available if required (see PSU diagrams, pages 8-9)

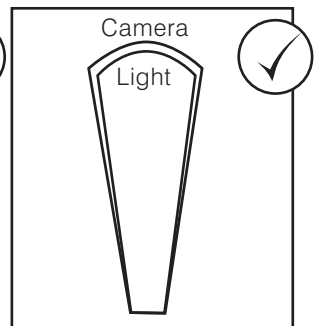
# Match illumination to camera field of view



Reduces performance



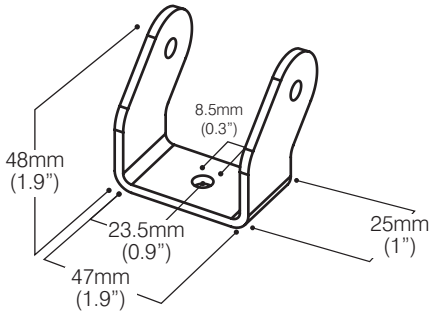
May cause hot spots



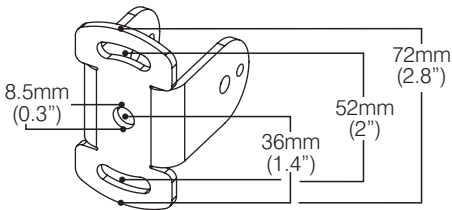
Best performance

# Technical Drawings (Not to scale)

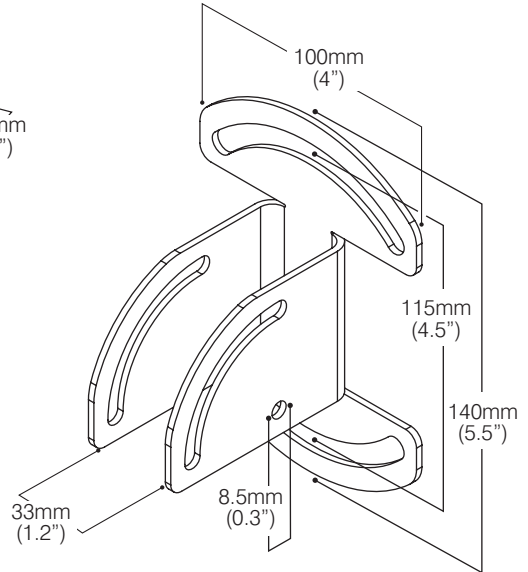
## Standard Bracketry



RM/RL 25



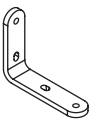
RM/RL 200/150/100/50



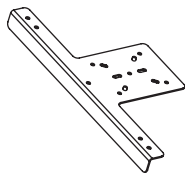
RM/RL 300

## Optional Bracketry

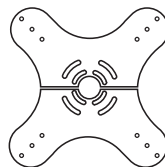
Wall Mount



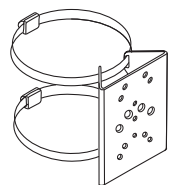
Ptz Mount



Dome Mount



Pole Mount



# PSU Specifications

## INFRA-RED Series PSU

	RM300	RM200	RM150	RM100	RM50	RM25
<b>Input</b>	AC 100-230 universal <120W	AC 100-230 universal <80W	AC 100-230 universal <60W	AC 100-230 universal <40W	AC 100-230 universal <20W	AC 100-230 universal <10W
<b>Fuse</b>	2.5A anti-surge	2.5A anti-surge	2.5A anti-surge	2.5A anti-surge	1A anti-surge	1A anti-surge
<b>Typical Output (Standard)</b>	6.6A @ 13.5V	4.4A @ 13.5V	3.6A @ 13.5V	2.4A @ 13.5V	1A @ 13.5V	0.5A @ 13.5V
<b>Typical Output (IR PLATINUM)</b>	9A @ 14V	6A @ 14V	6A @ 14V	4A @ 14V	2A @ 14V	1A @ 14V
<b>Typical Output (IR Covert)</b>	9A @ 14V	6A @ 14V	6A @ 14V	4A @ 14V	2A @ 14V	1A @ 14V
<b>Adjustable Power</b>	10% - 100%	10% - 100%	10% - 100%	10% - 100%	10% - 100%	10% - 100%
<b>Weight</b>	2.3 kg (5.1lbs)	1.85 kg (4.1lbs)	2.3 kg (5.1lbs)	1.65 kg (3.6lbs)	0.9 kg (2lbs)	0.8 kg (1.8lbs)
<b>Dimensions L x W x D</b>	240 x 160 x 81mm (9.4 x 6.3 x 3.2")	160 x 160 x 81mm (6.3 x 6.3 x 3.2")	240 x 160 x 81mm (9.4 x 6.3 x 3.2")	160 x 160 x 81mm (6.3 x 6.3 x 3.2")	130 x 130 x 60mm (5.1 x 5.1 x 2.4")	130 x 130 x 60mm (5.1 x 5.1 x 2.4")
<b>Drilling Dimensions</b>	4 x M4 holes @ 225 x 123mm (8.9" x 4.8")	4 x M4 holes @ 145 x 123mm (5.7" x 4.8")	4 x M4 holes @ 225 x 123mm (8.9" x 4.8")	4 x M4 holes @ 145 x 123mm (5.7" x 4.8")	4 x M4 holes @ 113 x 113mm (4.4" x 4.4")	4 x M4 holes @ 113 x 113mm (4.4" x 4.4")

## WHITE-LIGHT Series PSU

	RL300	RL200	RL150	RL100	RL50	RL25
<b>Input</b>	AC 100-230 universal <120W	AC 100-230 universal < 80W	AC 100-230 universal <60W	AC 100-230 universal <40W	AC 100-230 universal <20W	AC 100-230 universal <10W
<b>Fuse</b>	2.5A anti-surge	2.5A anti-surge	2.5A anti-surge	2.5A anti-surge	1A anti-surge	1A anti-surge
<b>Typical Output</b>	6.3A @ 13.5V	4.2A @ 13.5V	4.2A @ 13.5V	2.8A @ 13.5V	1.4A @ 13.5V	0.7A @ 13.5V
<b>Adjustable Power</b>	10% - 100%	10% - 100%	10% - 100%	10% - 100%	10% - 100%	10% - 100%
<b>Weight</b>	2.3 kg (5.1lbs)	1.85 kg (4.1lbs)	2.3 kg (5.1lbs)	1.65 kg (3.6lbs)	0.9 kg (2lbs)	0.8 kg (1.8lbs)
<b>Dimensions L x W x D</b>	240 x 160 x 81mm (9.4 x 6.3 x 3.2")	160 x 160 x 81mm (6.3 x 6.3 x 3.2")	240 x 160 x 81mm (9.4 x 6.3 x 3.2")	160 x 160 x 81mm (6.3 x 6.3 x 3.2")	130 x 130 x 60mm (5.1 x 5.1 x 2.4")	130 x 130 x 60mm (5.1 x 5.1 x 2.4")
<b>Drilling Dimensions</b>	4 x M4 holes @ 225 x 123mm (8.9" x 4.8")	4 x M4 holes @ 145 x 123mm (5.7" x 4.8")	4 x M4 holes @ 225 x 123mm (8.9" x 4.8")	4 x M4 holes @ 145 x 123mm (5.7" x 4.8")	4 x M4 holes @ 113 x 113mm (4.4" x 4.4")	4 x M4 holes @ 113 x 113mm (4.4" x 4.4")


## HYBRID Series PSU

Input	Fuse	Typical Output	Adjustable Power	Weight	Dimensions L x W x D	Drilling Dimensions
AC 100-230 universal <120W	2.5A anti-surge	Model dependent Contact Raytec	10% - 100%	2.3 kg (5.1lbs)	240 x 160 x 81mm (9.4 x 6.3 x 3.2")	4 x M4 holes @ 225 x 123mm (8.9" x 4.8")

# Low Voltage PSU (LVP) Specification

## INFRA-RED AND WHITE-LIGHT Series PSU (Excluding Platinum and Covert Series)

	300	200	150	100	50	25
<b>Input</b>	x	24V AC/DC	x	24V AC/DC	12/24V AC/DC	12/24V AC/DC
<b>Fuse</b>	x	5A	x	5A	3A	3A
<b>Typical Output (Infra-Red)</b>	x	4.4A @ 13.5V	x	2.4A @ 13.5V	1A @ 13.5V	0.5A @ 13.5V
<b>Typical Output (White-Light)</b>	x	4.2A @ 13.5V	x	2.8A @ 13.5V	1.4A @ 13.5V	0.7A @ 13.5V
<b>Adjustable Power</b>	x	10% - 100%	x	10% - 100%	10% - 100%	10% - 100%
<b>Weight</b>	x	1.85 kg (4.1lbs)	x	1.65 kg (3.6lbs)	0.9 kg (2lbs)	0.8 kg (1.8lbs)
<b>Dimensions L x W x D</b>	x	160 x 160 x 81mm (6.3 x 6.3 x 3.2")	x	160 x 160 x 81mm (6.3 x 6.3 x 3.2")	130 x 130 x 60mm (5.1 x 5.1 x 2.4")	130 x 130 x 60mm (5.1 x 5.1 x 2.4")
<b>Drilling Dimensions</b>	x	4 x M4 holes @ 145 x 123mm (5.7" x 4.8")	x	4 x M4 holes @ 145 x 123mm (5.7" x 4.8")	4 x M4 holes @ 113 x 113mm (4.4" x 4.4")	4 x M4 holes @ 113 x 113mm (4.4" x 4.4")

 **NOTE:** Ensure operating voltage is correct for unit being installed.  
DO NOT INPUT MAINS VOLTAGE INTO LOW VOLTAGE PSUs.

### Power Supply Features

#### STANDARD PSU

- Adjustable photocell
- Adjustable power
- Telemetry input

#### PREMIUM PSU-PR

- Adjustable photocell
- Adjustable power
- Telemetry input
- Photocell following contact, volt free relay contact - normally open (day) to normally closed (night)
- 12V DC output @ 1.5A

#### PULSED PSU - PU

- Analogue version
- TTL version
- No photocell
- Adjustable power
- 12V DC output @ 1.5A
- Synchronised with camera

#### PREMIUM TIMER PSU-PRT

- Adjustable photocell
- Adjustable power
- Telemetry input
- Photocell following contact, volt free relay contact - normally open (day) to normally closed (night)
- 12V DC output @ 1.5A
- Timer function

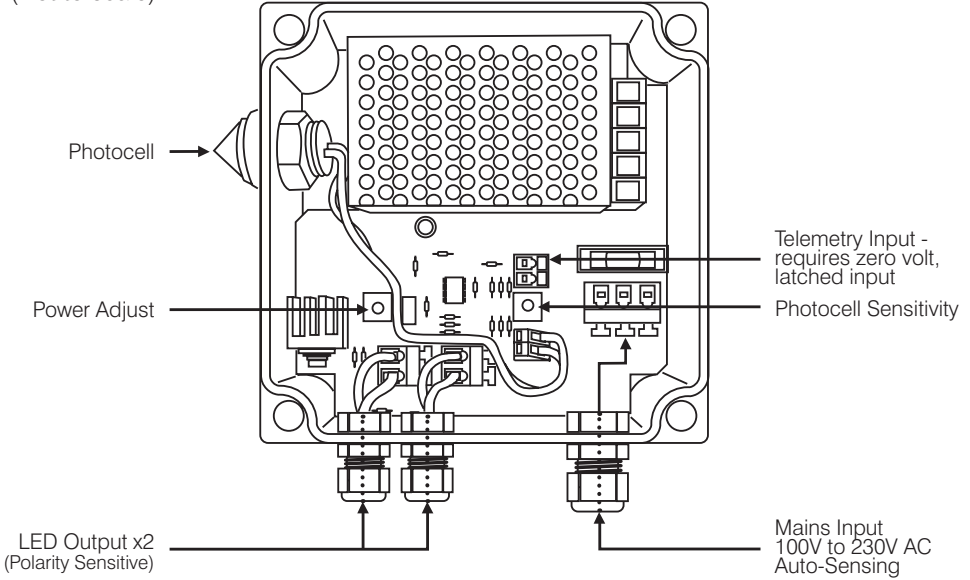
### Maximum Projected Area (M<sup>2</sup>)

<b>RM/RL25 (Single panel)</b>	0.0086
<b>RM/RL50 (Single panel)</b>	0.0155
<b>RM/RL50 Adaptive Illumination™ (Double panel)</b>	0.0173
<b>RM/RL100 (Single Panel)</b>	0.0279
<b>RM/RL100 Adaptive Illumination™ (Double Panel)</b>	0.0311
<b>RM/RL150 Adaptive Illumination™ (Triple Panel)</b>	0.0466
<b>RM/RL200 Adaptive Illumination™ (Double Panel)</b>	0.0559
<b>RM/RL300 Adaptive Illumination™ (Triple Panel)</b>	0.0838

# Power Supply Diagrams (Not to scale)

## INFRA-RED and WHITE-LIGHT RM/RL 50/25 Models

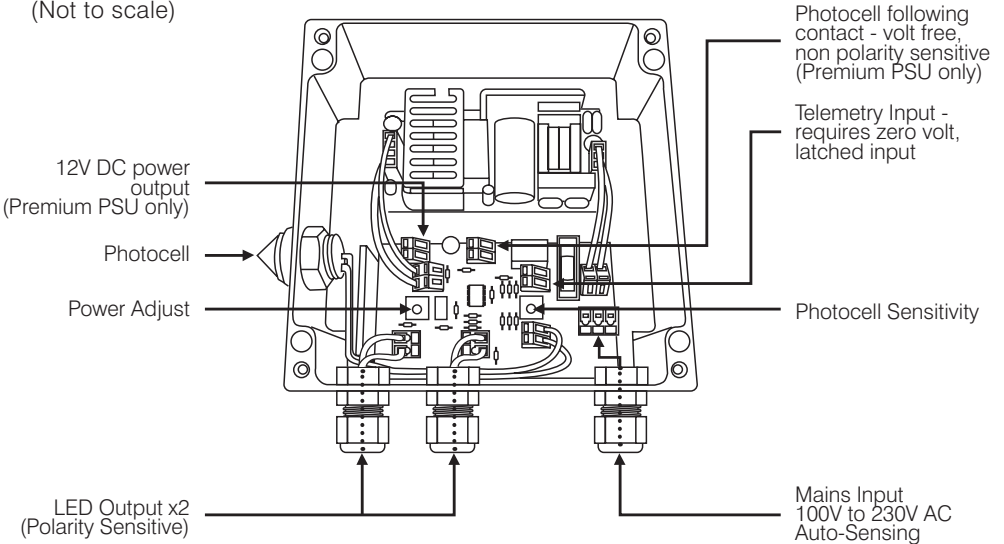
(Not to scale)



## INFRA-RED and WHITE-LIGHT

### RM/RL 200/100 Models (Model shown: RM/RL 100 Premium)

(Not to scale)

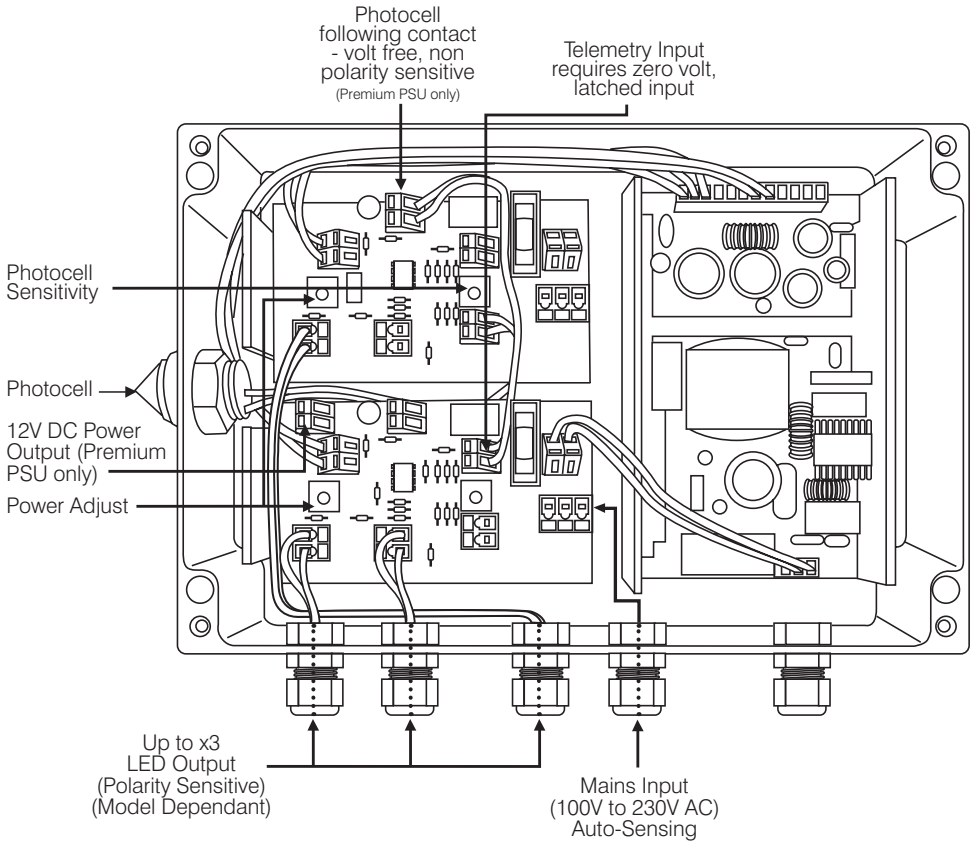




# INFRA-RED and WHITE-LIGHT RM/RL 300/150 and Hybrid Models

(Final specification model dependant - model shown: RM/RL 300 Premium)

Note - Hybrid control boards will be labelled IR/WL



## Hybrid PSU Models

Factory Setting:

IR controlled by photocell

WL controlled by telemetry night time only

Attach 1 wire of volt free input into photocell following output on top control board and other wire of volt free input into telemetry input on bottom board.

Other set up options available...contact Raytec.

# Trouble Shooting

Ensure all tests are undertaken by a qualified, trained engineer  
Ensure safe working practices are followed at all times

**PLEASE NOTE:** If the external flexible cable or cord is damaged, it shall be exclusively replaced by manufacturer, service agent or similarly qualified person to avoid a hazard.

## Step 1: Basics

- Check polarity of Lamp connection  
red= +ve, black=-ve
- Check telemetry link is in
- Check photocell is working
- Check power setting pot fully clockwise
- Check mains input
- Check fuse intact

If OK...

## Step 2: Lamp Test

Check voltage of lamp o/p approx 14V (8V for pulsed units)  
Check current of lamp – see instructions for correct current setting

To check lamp current (this must be done while both LED panels are connected to the PSU) remove +ve LED from both lamp supply cables and connect multimeter set to 10A current in line with the lamp. [One lead of multimeter in common (COM), other lead into 10A socket of multimeter; set multimeter to 10A readings]. Refer to PSU Specifications for correct current settings, see pages 6-7.

## Step 3: Set-up Camera, lens and illumination

Check alignment of lamp  
Check camera lens – fully open at night & set correctly  
Check model number to Raytec performance specification to ensure required distance is achievable

## Step 4: Call Raytec for further assistance

Note down:

- Model and serial number of illuminator
- Camera make and model
- Lens make and model

If the Raytec lamp is still not delivering the required performance, please contact us for further assistance.

## Additional Information

### UL 1838 & CSA 22.2 No 9.0 – 96 Classification

- Suitable for indoor and outdoor use
- Suitable for use in wet locations
- Suitable for mounting on flammable surfaces
- Suitable for combustible surface use
- Suitable for temperatures not exceeding 35°C

Do not connect PSU to an ungrounded supply

Do not install within 10ft of pool or spa

Do not use with dimmers

Do not connect two or more power supplies in parallel

This product must be installed by a person familiar with the construction and operation of the product and the hazards involved, in accordance with the applicable installation code.

The device is accepted as a component of a landscape lighting system where the suitability of the combination shall be determined by CSA or local inspection authorities having jurisdiction. Such systems should be protected by a ground fault circuit interrupter of the Class A type.

## Raytec Warranty

Please register you Raytec LED Illuminator(s) for its 5 year warranty by visiting [www.rayteccctv.com/products/warranty-card](http://www.rayteccctv.com/products/warranty-card)



**rayTEC<sup>®</sup>**

UK / Europe  
T: +44 (0) 1670 520055  
F: +44 (0) 1670 819760  
[sales@raytecctv.com](mailto:sales@raytecctv.com)

Americas (Toll Free)  
T: +1 888 505 8335  
[ussales@raytecctv.com](mailto:ussales@raytecctv.com)

[www.raytecctv.com](http://www.raytecctv.com)