

## Installation and Setup guide

### VARIO Series



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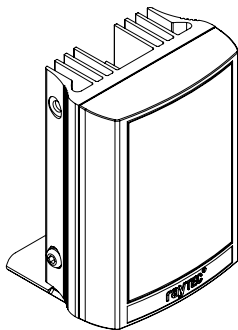
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**Box Contents:** VARIO illuminator with 35° beam angle IHD  
60° beam angle IHD

**Accessories:** VARIO Remote Controller for additional programming of the unit  
(optional) 80° beam angle IHD  
120° beam angle IHD

## Installation Steps – Quick Guide

1. VARIO is factory set and delivered with a 35° beam width.  
To alter to 10°, simply remove interchangeable holographic diffuser (IHD). See page 3 for detailed instructions  
To alter to 60°, replace with other IHD supplied.
2. Mount Illuminator
3. Connect Illuminator to low voltage input 12/24V AC/DC
4. Complete configuration and final set-up using VARIO Remote Controller (VRC) - this is an optional accessory

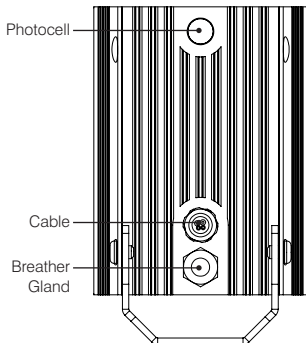


### Wiring - six core cable

	DC	AC
Black wire	-	~
Red wire	+	~

White & Yellow wires =  
Photocell following contact.  
Volt free output. Non polarity sensitive.

Orange & Purple wires =  
Telemetry input Volt free/dry contact or  
TTL input (See Page 4 - Step 5 for more details)



- IR Variants  
CAUTION - IR emitted from this product – Risk Group 2. Do not stare at the lamp. Avoid exposure or use appropriate shielding / eye protection. Risk Group 2 for cornea / lens infrared hazard.  
At a distance of more than 1500mm for all products the unit is in the exempt group.
- White Light Variants  
Risk Group 1 classification. Do not stare at the lamp.

## Factory Default Set-Up:

35° Beam Angle

Max 100% Power

Telemetry Input - closed

Photocell sensitivity - MID

Status LEDs – ON

Programming function will auto-disable after 4 weeks

## VARIO Complete Set up and Installation

### Step 1. Select different beam angle – if required

**VARIO is factory set and delivered with a 35° beam width angle.**

To alter to 10°, simply remove interchangeable holographic diffuser (IHD) lens.

To alter to 60°, replace with other IHD lens supplied.

Other angle IHD lenses are available to order: 80° and 120°.

All IHD lenses will be clearly marked with the angle which they will produce when inserted into VARIO.

Please handle IHD lenses with care – and do not touch optical film.

Only 1 IHD lens can be inserted into the product at anytime. The product cannot accommodate multiple IHD lenses at the same time.

We would recommend that power is turned off when replacing IHD lenses.

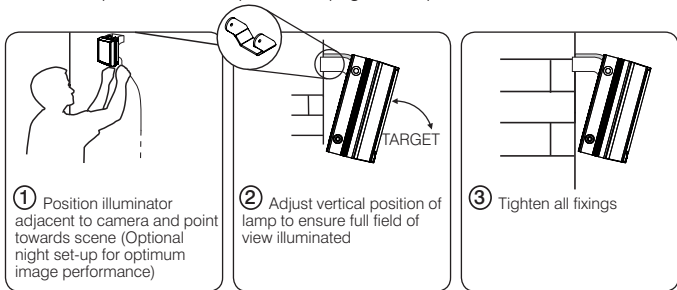


Remove base plate from VARIO unit using 2.5mm allen/hex key. Insert required IHD lens and re-attach base plate firmly ensuring gasket is correctly located.

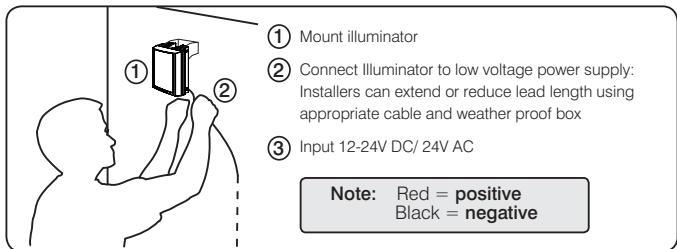
**IMPORTANT NOTE:** Ensure base plate is securely located, the gasket is correctly located and the screws correctly fastened to ensure and maintain IP66 rating of the product.

## Step 2. Mounting Illuminator

VARIO is delivered as standard with bracket at the bottom of the unit. This can be moved to top the of unit if required. See page 6 for optional brackets



## Step 3 & 4. Connect to low voltage power supply and input 12/24 AC/DC



## Step 5. Telemetry Input (Orange & Purple)

As default will be wired together for standard photocell controlled on/off operation. If required to be activated by PIR or alarm system, connect to appropriate, volt-free input or TTL. Telemetry Input for remote switch or input. Volt free input/dry contact: Non polarity sensitive, short circuit = light on

TTL input: Orange = TTL +ve, Purple = TTL -ve (GND)  
0V = Light on, 3V = Light off

## Step 6. Photocell following output (White & Yellow)

Volt free output - normally open (day) to normally closed (night). Connect direct to camera if required to control switchover of day/night cameras.

# VARIO Remote Controller (VRC)

Optional Accessory

Full instructions provided with VRC when supplied

## Photocell Adjust

To select 3 different photocell sensitivity levels to accommodate different operational requirements.

## Timer Setting

The timer function allows the illuminator to be triggered via the telemetry input and remain on for a pre-defined period of time.

## Power Select

Quick and easy selection of 5 accurately defined power settings, 1=20%, 2=40%, 3=60%, 4=80% 5=100%. Provides exact amount of light required for the scene requirements.

## Photocell Disable

Lamp operates from telemetry input only

Selects telemetry Input.

## Disable Remote Control Set-Up

Must be depressed for 4 seconds to lock-in settings and prevent further alterations.



30 mins

10 mins

3 mins

1 min

Timer disable

Selects dimming function on telemetry wires.

Restores Factory Default Settings. Must be depressed for 4 seconds.

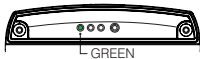
## LED Status Indicator

Turns status LED's On or Off

# Feedback system

## VARIO LED Status Indicators (in Programming Mode)

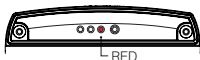
SOLID GREEN status LED indicates unit has power applied.



FLASHING GREEN status LED indicates a problem with the remote control IR receiver. The maximum remote operating distance is 8m (26ft).



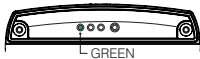
FLASHING AMBER status LED indicates unit is in programming mode. SOLID AMBER indicates unit receiving valid command from remote control device.



SOLID RED status LED indicates an internal LED fault, and a FLASHING RED status LED indicates that there is a problem with the input voltage. (Please note – once the voltage problem has been corrected, the user must disable remote control set-up or power the unit on and off to stop the RED status LED flashing)

## VARIO LED Status Indicators (in Normal Operating Mode)

SOLID GREEN status LED indicates unit has power applied.



FLASHING GREEN status LED indicates a problem with the remote control IR receiver. The maximum remote operating distance is 8m (26ft).

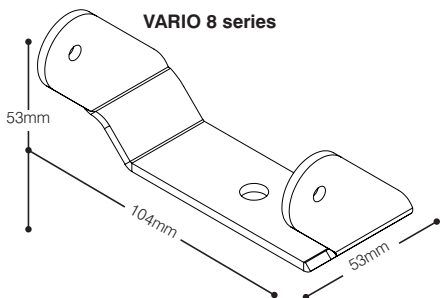
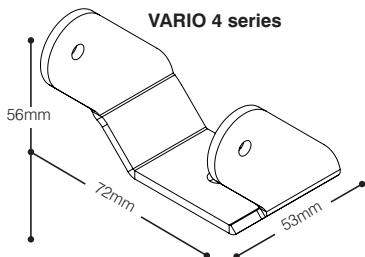
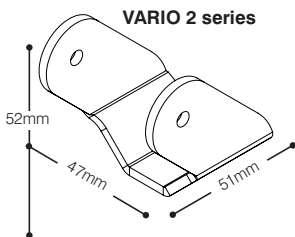


SOLID AMBER status LED (non flashing) indicates a problem with the input voltage level. (Please note – once the voltage problem has been corrected, the user must disable remote control set-up or power the unit on and off to extinguish the AMBER status LED)

SOLID RED status LED indicates an internal LED fault.



## Standard Bracketry (not to scale, dimensions rounded to nearest mm)

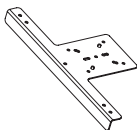


## Optional Bracketry (not to scale)

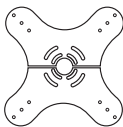
Wall Mount



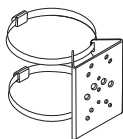
Ptz Mount



Dome Mount



Pole Mount



# VARIO Specifications

Infra-Red Series & White-Light Series

	VARIO i8	VARIO w8	VARIO i4	VARIO w4	VARIO i2	VARIO w2
<b>Max. Distance</b> Model dependent	220m (10°)	150m (10°)	120m (10°)	90m(10°)	65m (10°)	50m (10°)
	120m (35°)	80m (35°)	65m (35°)	55m (35°)	45m (35°)	35m (35°)
	65m (60°)	45m (60°)	45m (60°)	30m (60°)	30m (60°)	20m (60°)
	45m (80°)	30m (80°)	30m (80°)	20m (80°)	20m (80°)	15m (80°)
	30m (120°)	20m (120°)	20m (120°)	15m (120°)	15m (120°)	10m (120°)
<b>Consumption</b> ~	48W max		24W max		12W max	
<b>Input</b>	12-24V AC or DC		12-24V AC or DC		12-24V AC or DC	
<b>Weight</b>	1.8kg (4lbs)		1kg (2.2lbs)		650g (1.4lbs)	
<b>Environment</b>	IP66		IP66		IP66	
<b>Dimensions</b> L x W x D	135 x 180 x 68.2 mm (5" x 7" x 3.2")		100 x 135 x 66mm (4" x 5" x 2.5")		75 x 100 x 64mm (3" x 4" x 2.5")	
<b>Cable Length</b>	2.5m		2.5m		2.5m	

## Standards:

Radiated/Conducted Emissions: EN55015; EN55022; EN61547; FCC

Radiated/Conducted Immunity: EN55015; EN55022; EN61547; FCC

EN50130-4

EN60529-1

IEC/EN 62471



# VARIO Troubleshoot

Ensure all tests are undertaken by a qualified, trained engineer.

Ensure safe working practices are followed at all times.

## Step 1: Basics

- Check polarity of Lamp connection red= +ve, black=-ve
- Ensure power is 12-24V AC or DC
- Ensure telemetry wires are shorted out or closed contact input (zero volt) is applied
- Check photocell is working. Cover photocell fully, light should turn on. It is sometimes difficult to see Infra-Red lamps working in high brightness conditions.
- Ensure power supply is suitably rated to product - check page 8 for specifications
- If longer cables used, ensure sufficient voltage is provided to allow for drops across the cable

If OK...

## Step 2: Lamp Test

- Check current is being drawn – amount of current will depend on power setting of unit. Please note – use appropriate multimeter depending on how the unit is being powered (AC or DC)

To test this you must ensure photocell fully covered (or disabled using optional VARIO remote controller) and ensure telemetry wires are shorted out or closed contact input (zero volt) is applied

### Step 3: Set up camera, lens, and illumination

- Check model number to Raytec performance specification to ensure required distance is achievable;
  - Check unit is set to max power
  - Check orientation of unit and ensure it is pointing in correct direction
  - Check angle of unit (Holographic lens) – Too narrow may cause hot spots and the aperture of the camera lens to close down. Too wide and there may be insufficient light on scene and light going where it is not needed.
- Check the LED status indicator – if a flashing red light is visible in programming mode, please check the input voltage of the unit. The feedback system will respond differently depending on what mode the unit is in (see below)

#### **Programming mode – (AMBER LED flashes 1 second on/1 second off)**

SOLID GREEN - Power Applied

FLASHING GREEN - Remote IR receiver problem

SOLID RED - Internal LED Fault Detected

FLASHING RED - Voltage supply problem detected

(Please note – once the voltage problem has been corrected, the user must disable remote control set-up or power the unit on and off to stop the red status LED flashing)

SOLID AMBER - Valid command being received, this remains lit for the duration that the button on the remote is held. After a valid command has been received the Amber LED will continue to flash

#### **Normal operating mode**

SOLID GREEN - Unit powered up and operating normally

FLASHING GREEN - Remote IR receiver problem

SOLID RED - Internal LED fault detected

SOLID AMBER - Voltage supply problem detected

(Please note – once the voltage problem has been corrected, the user must disable remote control set-up or power the unit on and off to extinguish the AMBER status LED)

- Check unit is responding to remote. If not..
  - Programming may be disabled. Turn power off/on to ensure unit returns to programming mode.
  - Status indicators may be turned off. Turn on with remote. This can be done even if programming has been disabled
  - In extreme sunlight conditions, distance between remote and unit may need to be reduced
  - Battery failure. Check battery on remote (CR2025). Test 3 volt battery, replace if necessary. Ensure battery has clean contacts.
  - Remote failure. Test with new remote.

#### **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 or remote control is still not delivering the required performance, please contact us for further assistance:**

UK / Europe Tel: +44 (0) 1670 520055

Americas Tel: +1 613 270 9990

#### **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)



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