vario2 PoE

rayTEC

Combined Installation Guide

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0650-D-00009-1

VARIO2 PoE

rayTEC

Quick Installation Guide

Eye Safety Information

White Light and IR Variants (850nm & 940nm)
Caution – Risk Group 2. Avoid Exposure / use protection.
See Safety Information in FULL Instruction Guide for more details.

Box Contents

VARIO2 POE Illuminator, 60° beam angle ILS, User Guide
(ILS: Interchangeable Lens System); Cat5 Environmental Connector
Accessories (Optional): Remote Controller for additional programming;
80˚ beam and 120˚ beam angle ILS; Bracketry

Factory Default Set-Up:

35˚ Beam Angle; Max 100% Power
Photocell sensitivity – MID; Telemetry Input Closed (Premium variants only)
Status LEDs – ON; No PIN Set
Programming function will auto-disable after 7 Days (if no manual buttons used)

VARIO2 Specifications Table:

See Page 38 and 39 in Full Instruction Guide

PoE Detection:

There is a switch on the VAR2-PoE-w8-1, i8-1 and i8-1-C illuminators which can be used to change the PoE detection resistance of the illuminator (24.9KΩ is the factory default setting).

The majority of PSE equipment requires a detection resistance of 24.9KΩ to establish a PoE link. Some models of PSE equipment require12.5KΩ.

For 24.9 KΩ, slide switch to the LEFT (factory default – as shown). For 12.5 KΩ, slide switch to the RIGHT.

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Wiring:

1. Mount Illuminator
2. Connect Illuminator to suitably rated PoE source (check specification)
   Or 24 V dc for Premium model only.
3. Complete configuration, wiring and final set-up using manual push buttons on the illuminator or VARIO Remote Controller (VRC) - VRC is an optional accessory.

For Cat5 wiring – use T568-B wiring standard.

Premium Versions only:

Red = +ve, black = -ve

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

Orange and Purple Wires = Telemetry input Volt free / dry contact or TTL input

Lens Selection:

Select different beam angle – if required

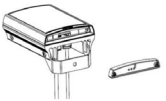
VARIO is factory set and delivered with a 35˚ beam width angle.

To alter to 10˚, simply remove interchangeable lens (ILS).

To alter to 60˚, replace with other ILS lens supplied.

Other angle ILS lenses are available to order: 80˚ and 120˚.

Step 1
Unscrew baseplate



Step 2
Remove baseplate

Step 3
Remove / Replace diffuser lens

Step 4
Replace baseplate & tighten

Remove base plate from VARIO2 unit using 2.5mm allen/hex key. Insert required ILS lens and re-attach base plate securely ensuring gasket is correctly located (Screw Torque: 0.6Nm).

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Manual Button Operation

Buttons are accessed by removing the base plate at the bottom of the unit (2 screws)

Action Required	Step 1: LHS Button	LHS LED	Step 2: RHS Button	RHS LED	Comment
Power Adjust	1 x Push	Solid Red	Each Push cycles through power levels	Green flashes indicate level. High power (5 flashes) to Low power (1 flash)	
Photocell Adjust	2 x Push	Solid Green	Each Push cycles through photocell levels	Green flashes indicate setting. Low sensitivity to High sensitivity. Solid Red indicates Photocell disabled	
Status Indicator LEDS On / Off	3 x Push	Solid Amber	Each Push cycles between On and Off	On – Green Off - Red	
Factory Re-set (Does not Re-set PIN)	1 x Long Push (4 Seconds)	Flashing Red – After 4s Flashing Amber	Push and Hold until both LEDs flash Amber	Solid Red – After 4s Flashing Amber	Reverts to Programming Mode unless a PIN is present. If a PIN is present reverts to original mode before re-set
Disable Remote and Enter Operating Mode or Enable Remote and Enter Programming Mode	1 x Long Push (4s) and 1 x short Push	Flashing Green	Push to cycle Disable / Enable	Disable – Red Enable - Green	Reverts to the Mode requested unless a PIN is present. If a PIN is present and you are in Operating Mode you cannot change to Programming Mode – unless you enter your PIN first
Disable / Enable Manual Buttons	1 x Long Push (4s) and 2 x short Push	Flashing Amber	Push to cycle Disable / Enable	Disable – Red Enable - Green	Buttons will be Disabled 30 minutes after this selection is made – This is to allow the user to re-enable manual buttons if required
Full Re-set (including PIN re-set)	Keep both buttons depressed during power up – LEDs will both flash Amber		Keep both buttons depressed during power up – LEDs will both flash Amber		Illuminator will revert to Programming Mode, Full factory default including No PIN

The illuminator has two modes; (1) Programming Mode when the remote control can be used and (2) Operating Mode when most of the remote control functions are disabled (see Remote Control Instructions for more details)

Manual Buttons are always available in programming mode or if they have been disabled, they can be enabled in programming mode.

Manual Buttons are available in operating mode, provided they have not already been disabled.

The number of button pushes indicated above are based on the user starting with the illuminator in either programming or operating mode.

If the user has already started to program the units, then the number of button pushes on the left hand will take them to the next function as per the sequence in the table.

If no buttons are pressed within 2 minutes then the illuminator will automatically default back into the previous mode it was in – programming or operating mode.

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VARIO Remote Controller (VRC)

Optional Accessory. Full instructions provided with VRC when supplied

Photocell Adjust

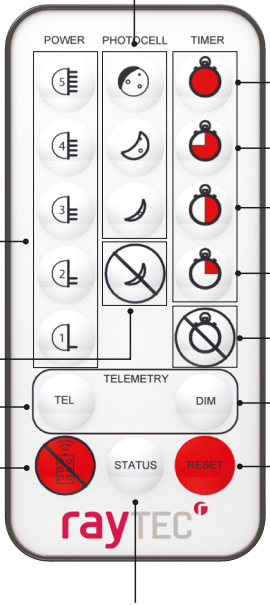
To select 3 different photocell sensitivity levels to accommodate different operational requirements.

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.



30 mins

10 mins

3 mins

1 min

Photocell Disable

Lamp operates from telemetry input only

Timer disable

Selects telemetry Input.

Selects dimming function on telemetry wires.

Disable Remote Control Set-Up

Must be depressed for 4 seconds to lock-in settings and prevent further alterations. Press again for 4 seconds to disable manual buttons - must be done within 5 minutes of remote disable

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

This will NOT remove the PIN if present

LED Status Indicator
Turns status LED's On or Off

For extra security VARIO2 allows a PIN (Personal Identification Number) to be set. There are five buttons / characters on the remote that can be used for this purpose.: Power 5, Power 1, Min Photocell (smallest moon), Max Timer (full red circle) & Timer Disable (timer circle image with a line through). Note – invalid characters will not be recognised.

Remote Control Operation for PIN set and Manual Button Disable / Enable

Action Required	Available Mode	Step 1	Step 2	LHS LED	RHS LED	Comment
Disable Remote	Prog Mode	Press <Disable Remote Control> for 4 seconds	N/A	Solid Green	Flashing Amber – Solid Amber - Off	Illuminator will go to Operating Mode. RHS LED - Flashing Amber to Solid Amber when button pressed. RHS LED turns Off when in Operating Mode.
Disable Manual Buttons	Operating Modes	Press <Disable Remote Control> for 4 seconds	N/A	Solid Green – After 4 seconds Flashing Red (Returns to Solid Green after button release)	Off to Solid Amber, then after 4 seconds Flashing Red (Returns to Solid Green after button release)	Must be done within 5 minutes of Disabling remote / entering Operating Mode. Change will take effect after 30 minutes
Create or Change PIN	Prog Mode	Press <Status Button> for 4 seconds	Enter valid PIN character x 4	Green to Intermittent Flashing Red / Green	Solid Amber to Flashing Red Flash qty counts down the No. of valid characters required	After PIN created Illuminator goes to Programming Mode (Standard LED indication)
Enter existing PIN	Prog Mode	Press <Status Button> for 4 seconds	Enter valid PIN character x 4	Green – Intermittent Flashing Red / Green	Solid Amber to Flashing Green Flash qty counts down the No. of characters required	After PIN created Illuminator goes to Programming Mode (Standard LED indication) If invalid PIN entered both LEDs flash red and unit will stay in Operating Mode
Delete PIN	Prog Mode	Press <Status Button> for 4 seconds	Press <Re-Set> button 4 times	Green – Intermittent Flashing Red / Green	Solid Amber to Flashing Red Flash qty counts down the No. of characters required	After PIN deleted Illuminator goes to Programming Mode (Standard LED indication)

For full PIN function detail (inc valid PIN characters) – see FULL instruction guide

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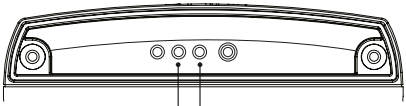
LED Status Indicators:
Programming Mode and Operating Mode

On first power up (Factory Default) the illuminator automatically enters Programming Mode. It will then time out automatically after 7 Days to Operating Mode unless the user actively changes the lamp settings or uses the manual buttons. The LED Indicators feedback the mode you are in. (They are also used for PIN or Manual Button Control Modes – please see tables / FULL Instruction Manual).



During Programming Mode and Operating Mode the two LED's indicate the following status :

- LHS SOLID GREEN: Power Applied
- LHS FLASHING GREEN: Remote control IR received problem
- RHS FLASHING AMBER: Indicates unit is in programming mode (Programming Mode Only)
- RHS SOLID AMBER: Indicates that a valid command is being received (Programming Mode Only)
- LHS FLASHING RED: Voltage supply problem detected
- LHS SOLID RED: Illuminator LED fault detected

All functions of the remote control and buttons are available in Programming Mode. The only function of the Remote Control available during Operating Mode is LED Status Indicators Enable/Disable, entering a PIN or disabling manual buttons (if done at the same time as disabling the remote – see FULL Instruction Manual

RESET:

Settings Re-set: Pressing and holding the RESET BUTTON on the remote control (Programming Mode Only) or using the manual buttons to complete a RESET will restore the factory settings to the illuminator. Note: It will not remove a PIN if one is present.

Full Re-set: Re-cycling the power whilst pressing both manual buttons will restore factory settings and remove a PIN if one is present.
Both indicator LEDs flash amber for both above re-sets when complete.

VARIO2 Quick Troubleshoot:

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

- Check rating of PoE power source is suitably rated or 24V dc (Premium only)
- Check PoE resistance detection switch is correctly rated
- Check LED status indicators for relevant information
- Check camera and illuminator alignment and angles

For in-depth Troubleshoot, see Full Instructions, or contact Raytec.

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VARIO2 PoE

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Full Installation Guide

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Box Contents

VARIO2 POE Illuminator fitted with 35° beam angle ILS (Interchangeable Lens System); Spare 60° beam angle ILS ; Cat5 environmental connector

Accessories (Optional): VARIO Remote Control for additional Programming; 80˚ beam and 120˚ beam angle ILS; Additional Raytec Bracketry

Safety Information

Eye Safety : IR Variants (850nm and 940nm)

Caution – EN62471 Risk Group 2 Classification - IR emitted from this product. Do not stare at the lamp. Avoid exposure or use appropriate shielding / eye protection.

For VAR2-POE-i2-1, VAR2-POE-i4-1, VAR2-POE-i6-1, VAR2-POE-i8-1 and VAR2-POE-i2-2, VAR2-POE-i4-2, VAR2-POE-i6-2 variants hazard distance is 1900mm (Risk Group 1 distance 800mm).

For VAR2-POE-i4-3, VAR2-POE-i6-3, VAR2-POE-i8-2/-3 variants hazard distance is 2700mm (Risk Group 1 distance 900mm).

Eye Safety : White Light and 730nm variants

Caution – EN62471 Risk Group 2 Classification - Possible hazardous optical radiation emitted from this product. May be harmful to eyes, do not stare at the lamp. For VAR2-POE-w2-1, VAR2-POE-w4-1, VAR2-POE-w8-1 and VAR2-POE-w2-2, VAR2-POE-w4-2 variants hazard distance is 1500mm. For VAR2-POE-w4-3, VAR2-POE-w8-2/-3 variants hazard distance is 1840mm.

Eye Safety: Other Wavelengths - Contact Raytec.

The Illuminator is Class III for insulation

Illuminators are suitable for use Outdoors and Indoors

Consignes de Sécurité

Sécurité Phytobiologique - spécifications pour les projecteurs Infrarouges (850nm et 940nm)

Attention – Les rayons infrarouges émis par ce produit appartiennent au Groupe de Risque 2 selon EN62471 - Ne pas regarder directement les diodes électroluminescentes. Éviter l'exposition ou mettre en œuvre des mesures appropriées pour la protection des yeux. Pour VAR2-POE-i2-1, VAR2-POE-i4-1, VAR2-POE-i6-1, VAR2-POE-8-1 and VAR2-POE-i2-2, VAR2-POE-i4-2, VAR2-POE-6-2 maintenir une distance de sécurité de 1900 mm (Risque Groupe 1 distance 800mm). Pour VAR2-POE-i4-3, VAR2-POE-i6-3, VAR2-POE-i8-2/-3 maintenir une distance de sécurité de 2700 mm (Risque Groupe 1 distance 900mm)

Sécurité Phytobiologique - spécifications pour les projecteurs a lumière blanche 730nm

Attention – Classification EN62471 du groupe de risque 2 – Risque de rayonnement optique dangereux émis par ce produit. Peut être dangereux pour les yeux, Ne pas regarder directement les diodes électroluminescentes. Pour VAR2-POE-w2-1, VAR2-POE-w4-1, VAR2-POE-w8-1 and VAR2-POE-w2-2, VAR2-POE-w4-2 maintenir une distance de sécurité de 1500 mm. Pour VAR2-POE-w4-3, VAR2-POE-w8-2/-3 maintenir une distance de sécurité de 1840 mm.

Sécurité des yeux: Autres longueurs d'onde - Contactez Raytec.

Le projecteur est de la classe d'isolation III.

Les projecteurs conviennent pour une utilisation extérieur et intérieur

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Product Introduction

VARIO2 PoE is an Illuminator designed to be powered by POE

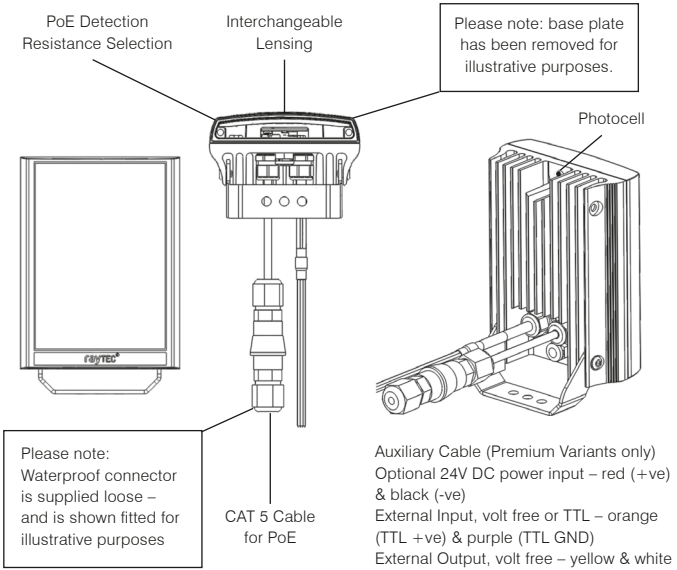
It is available in Standard and Premium variants

For Standard and Premium Variants:

The illuminator has a photocell for automatic day/night switching and also benefits from Raytec's interchangeable lens system so that the correct angle of illumination can always be achieved easily.

The illuminator has a CAT5 cable for POE connection and is supplied with a waterproof Cat 5 connector.

For Premium Variants Only :
Auxiliary cable if low voltage 24V DC operation is preferred.
External Input (to act as a telemetry, trigger input, volt free or TTL) and an External Output (to act as a Photocell Following Contact - volt free output)



Installation Steps

STEP 1: Safety Information (Pg. 13/14)

STEP 2: Physical Installation (Pg. 17)

Adjust interchangeable lens if required.

Fix to wall, pole or camera unit using U bracket provided or other Raytec bracketry.

IMPORTANT:

Ensure illuminator is rated to provide required viewing distances and select correct angle

Ensure illuminator is orientated in the correct direction

STEP 3: Wiring (Pg. 18)

For PoE, use standard CAT 5 or better. For all 8 sized products, check the PoE detection resistance of the illuminator is compatible with your PoE equipment (24.9KΩ is factory default).

Premium Variants: For low voltage (non-PoE) apply 24V DC to red and black cores of auxiliary cable. Connect external inputs and external output wires as required.

IMPORTANT:

Ensure PoE equipment or 24V PSU are suitably rated

For 8 sized products check PoE detection resistance is set correctly

Ensure Cat 5 cable and auxiliary cable are correctly terminated and waterproofed after installation

If not using auxiliary cable, it must still be suitably terminated and waterproofed

Step 4: Interchangeable Lenses: Changing the Angle (Pg. 20)

Step 5: Configuration - Programming and Settings (Pg. 21)

Step 6: Security (Optional PIN protection) (Pg. 21)

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Factory Default Set-Up

35˚ Beam Angle; Max 100% Power

Photocell sensitivity – MID (Illuminator comes on when dark)

Telemetry Input – closed (Premium Variants Only)

Status LEDs – ON; No PIN Set; Manual Push Button Control Enabled

Programming function will auto-disable after 7 Days - See Mode Power Up and Time Out Functionality – Pg 35

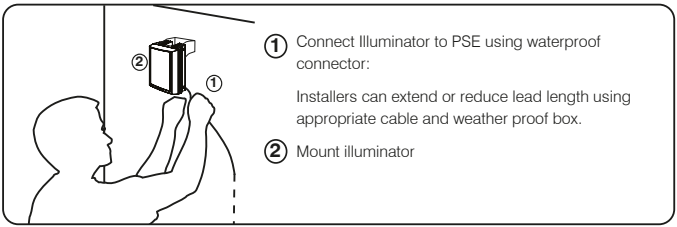
VARIO2 POE: Complete Set Up and Installation

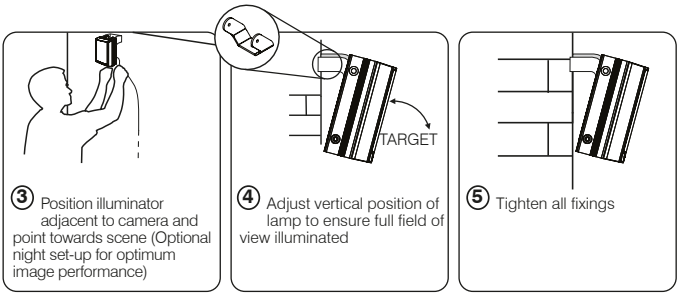
STEP1: Safety Information (Pg. 13/14)

Step 2: Physical Installation

VARIO2 PoE is delivered as standard with bracket at the bottom of the unit. This can be moved to top of the unit if required.

Connect lamp to PSU





Please Note: For Premium Models, illuminator can also be powered by 24V DC

Attach illuminator to wall, housing or pole using U-bracket provided or dedicated Raytec bracketry.

Step 3: Wiring

The illuminator is supplied with a terminated CAT5 cable with a waterproof Ethernet connector (supplied loose i.e. not fitted). Premium variants also have an auxiliary multi-core cable fitted.

The external cables cannot be replaced. If damaged and the customer is unable to shorten and re-use the cable, the illuminator must not be powered.

Power via PoE

Connect an Ethernet cable (category 5 or better) using the T-568B wiring standard between the Power Sourcing Equipment (PSE) and the illuminator. Ensure that the PSE is sufficiently rated to power the VARIO2 PoE device as follows:

Model (Standard and Premium)	**PoE Requirement**
VAR2-POE-w2-1, i2-1, i2-1-C	IEEE 802.3af (HP PoE) ≤12.95W
VAR2-POE-w4-1, i4-1, i4-1-C, i6-1	IEEE 802.3at (HP PoE) ≤25.5W
VAR2-POE-w8-1, i8-1, i8-1-C	4-pair PoE ≤51W

The maximum Ethernet cable length is 100m (328') without boosting the power.

Ensure you make a waterproof connection to the RJ45 as shown below. Ensure the connector is waterproof and sealed after the connection is made.

To illuminator RJ45-RJ45 connector To PSE

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PoE Detection

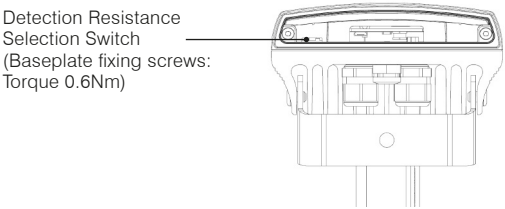
Resistance Selection Switch

There is a switch on the **VAR2-PoE-w8-1, i8-1** and **i8-1-C** illuminators which can be used to change the PoE detection resistance of the illuminator (24.9KΩ is the factory default setting).

Turn the power to the illuminator OFF, remove the baseplate and access the switch as shown.

The majority of PSE equipment requires a detection resistance of 24.9KΩ to establish a PoE link. Some models of PSE equipment require a 12.5KΩ detection resistance. Check with your supplier of PSE equipment.

For 24.9 KΩ, slide switch to the LEFT (factory default – as shown). For 12.5 KΩ, slide switch to the RIGHT.



Power from 24V DC (Premium Variants Only)

If using low voltage power, connect **24V DC** to the red (+ve) and black (-ve) cables of the auxiliary cable.

For Premium variants: connect external input trigger and external output as required – see table and description below:

Colour	Description	Wire Gauge (AWG)
Orange	External Input - Volt free or TTL +ve	22
Purple	External Input - Volt free or TTL GND	22
Yellow	External Output - Volt free	22
White	External Output - Volt free	22

WARNING: To maintain the IP rating of the product the multicore auxiliary cable must be waterproofed and terminated appropriately even if it is not in use.

Telemetry Input (Orange & Purple)

As default the telemetry input will be wired together so that the unit turns on/ off automatically via the photocell. If required to be activated by PIR or alarm system, connect to appropriate, volt-free or TTL 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

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.

Step 4: Interchangeable Lenses: Changing the Angle

Step 1
Unscrew baseplate

Step 2
Remove baseplate

Step 3
Remove / Replace diffuser lens

Step 4
Replace baseplate & tighten

(Baseplate fixing screws: Torque 0.6Nm)

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The illuminator is delivered with a 35 Degree beam angle. To alter to 10 Degrees, remove the baseplate from the bottom of the product (Using a 2.5mm allen/ hex key) and remove the existing lens and then re-attach the baseplate securely ensuring the gasket is correctly located. With no lens insert the product produces a 10 Degree beam angle.

To alter to any other angle, remove the existing lens and insert the required lens which will have its angle indicated on it. Ensure the baseplate is securely re-attached to maintain waterproof integrity of the product.

The angles available as standard are: 10°x10° (No lens / diffuser in place), 35°x10° and 60°x25°. Other angles are available to order: 80°x30° and 120°x50°.

All ILS lenses will be clearly marked with the angle which they will produce when inserted into VARIO2 POE.

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

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

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

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 5 : Configuration - Programming and Settings

Programme using optional VARIO Remote Controller (VRC) or the manual control push buttons. – See Detailed Section

Step 6 : Security (Optional PIN protection)

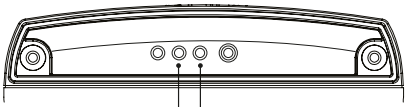
Set PIN (If Required) (Can only be done with the optional VARIO Remote Controller (VRC) – See Detailed Section)

LED Status Indicators- Feedback system

There are two tri-coloured LEDs visible on the base of the VARIO2 POE illuminator. The two LEDs provide important operating and status information.

The status information provided by each of these LEDs differs depending on which of the two operating modes the VARIO2 POE illuminator is in: (A) Programming OR (B) Operating

The LED Indicators also give feedback if you are using the Remote (see separate instructions provided with the remote) or PIN Function and Manual Control Modes (See Pages 26 to 34).



Left Hand Side LED (LHS)

Right Hand Side LED (RHS)

Base Plate Pictured ON

Programming Mode and Operating Mode

Factory Default: On initial power-up, the illuminator is in Programming Mode.

On powering up the illuminator or re-applying power after a power interruption and if no PIN is present, the unit automatically enters programming mode to allow the user to adjust set-up and operation. The programming mode automatically times out after 7 Days or until the user actively disables the programming mode and changes to Operating Mode. However, if you use the manual push buttons at all during this time, the illuminator will automatically enter operating mode 30 minutes after the last button press.

Changing from Programming mode to Operating Mode

- Enter operating mode using the 'Disable Remote Control Set-up' Button on the remote controller – or by using the manual push buttons.

Changing from Operating Mode to Programming Mode

- If no PIN present
  - Re-cycle the power to your illuminator
  - Use the Manual Buttons
- If a PIN present
  - Enter the PIN
  - Full Re-set Procedure
    (Power re-cycling only will not change the unit to Programming Mode)

During Programming Mode and Operating Mode the two LED's indicate the following status

LHS SOLID GREEN:	Power Applied
LHS FLASHING GREEN:	Remote controller IR receiver problem (Max VRC distance is 8m (26ft) (both modes)
RHS FLASHING AMBER:	Indicates unit is in programming mode (Programming Mode Only)
RHS SOLID AMBER:	Indicates that a valid command is being received from the remote controller (Programming Mode Only)
LHS FLASHING RED:	POE / Voltage supply problem detected (both modes)
LHS SOLID RED:	Illuminator fault detected (both modes)

All functions of the remote controller and manual push buttons are available in Programming Mode.

The only function of the Remote Controller available during Operating Mode is LED Status Indicators Enable/Disable, entering a PIN or disabling manual push buttons (if done at the same time as disabling the remote – see P. 34)

If a PIN is present the unit will return to operating mode after a power interruption

Factory Default : On initial power up - Programming Mode, No PIN present

VARIO Remote Controller (VRC)

Optional Accessory

Photocell Adjust

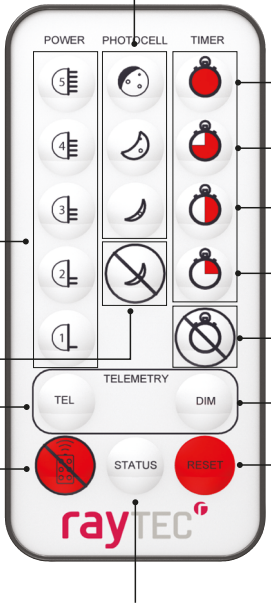
To select 3 different photocell sensitivity levels to accommodate different operational requirements.

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.



30 mins

10 mins

3 mins

1 min

Photocell Disable

Lamp operates from telemetry input only

Timer disable

Selects telemetry Input.

Selects dimming function on telemetry wires.

Disable Remote Control Set-Up

Must be depressed for 4 seconds to lock-in settings and prevent further alterations. Press again for 4 seconds to disable manual buttons - must be done within 5 minutes of remote disable

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

This will NOT remove the PIN if present

LED Status Indicator
Turns status LED's On or Off

Full instructions provided with VRC when supplied

Note: Reset button will not remove a PIN if one is present

Note: Unless detailed as part of the functionality, if an invalid or blocked command is attempted, both LEDs will flash RED

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Extra VRC Functionality
PIN Function

For extra security VARIO2 allows a PIN (Personal Identification Number) to be set for each lamp

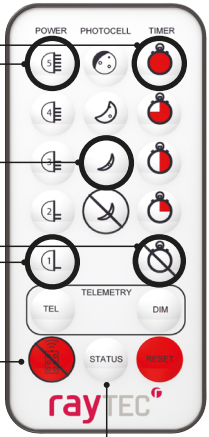
The PIN is set by using the VARIO Remote Control (VRC). There are five buttons / characters on the remote that can be used for this purpose. Please see PIN Function Guide (P. 26) for full details on how to use the PIN function.

5 Valid PIN Characters

Shown with a

Disable Manual Button

Hold Disable Remote button for 4 seconds to disable manual buttons. Can only be completed if the remote control has already been disabled.



PIN Set

Hold STATUS button for 4 seconds to enter PIN Mode

Note: Unless detailed as part of the functionality, if an invalid or blocked command is attempted, both LEDs will flash RED

PIN Function Guide

The PIN is set by using the VARIO Remote Controller (VRC). It adds an extra layer of protection over your settings – and allows you to return to programming mode from operating mode – without recycling the power to your illuminators.

There are five buttons / characters on the remote that can be used for this purpose. They are Power 5, Power 1, Min Photocell (Smallest moon), Max Timer (Full Red Circle) & Timer Disable (Timer Circle image with a line through). Note – invalid characters will not be recognised.

To create a PIN, press STATUS BUTTON for 4 seconds. LHS LED will flash RED/GREEN. This indication will always show that you are in PIN mode. RHS LED FLASHING RED shows that you are in PIN set mode. The number of flashes indicates how many characters are required to complete the PIN entry. There are four characters to be entered to successfully set up a PIN.

As you enter the characters, the number of flashes will decrease until all characters are entered. Note, illegal characters will not be recognised and will not reduce the number of flashes. When the PIN is set the illuminator will revert to Programming Mode.

Operation When a PIN is Set:

Using the remote controller you can access the illuminator settings from operating mode by entering the PIN. You cannot access Programming Mode by power re-cycling only.

In operating mode, if you want to go back into programming modesimply enter your PIN. To do this, press STATUS BUTTON for 4 seconds. LHS LED will flash RED/GREEN to show you are in PIN mode. RHS LED FLASHING GREEN shows that a PIN has been previously set. As you input the four correct characters the number of flashes will reduce and you will be returned to programming mode.

If legal characters but not the correct sequence of characters are entered the number of flashes will still reduce and after 4 characters have been entered an error will be shown by both LED`s flashing RED.

If an illegal character is used when entering a pin, it will be ignored and the PIN character count will not reduce. The process to enter a PIN will have to be repeated.

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Deleting a PIN

To delete a PIN you first need to be in Programming Mode. Press STATUS BUTTON for 4 seconds to go into PIN set mode. LHS LED will flash RED / GREEN. RHS LED FLASHING RED. Instead of entering one of the known legal characters press the RESET BUTTON four times. The illuminator will return to programming mode.

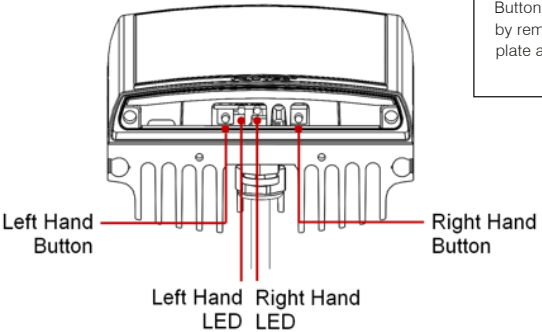
*Note If you delete the PIN and then use your remote or manual push buttons to put your illuminator into operating mode, you will not be able to go back to programming mode without recycling the power.

*Note If you forget your PIN and need to make adjustments to the illuminator you will need to perform a full Re-set. This requires power recycling whilst pressing the two manual control buttons at the same time. This will restore factory default settings AND remove the previously programmed PIN. Both LEDs will flash AMBER to signify that the process has been completed.

*Note If you do not want to set a PIN, but want to prevent another person with a remote setting a PIN, then you need to Disable both the Remote and the Manual Push Buttons (See Manual Control Push Buttons section – Page 28) The only way another user can then access the illuminator is by performing a full re-set (see Page 35)

*Note If you are trying to access a PIN in Operating Mode, hold the status button down for 4 seconds and both LEDs flash RED, this means there is no PIN present.

Manual Control Push Buttons



The two manual control push buttons gives a wide selection of user control:

1. Power Control – 100%, 80%, 60%, 40%, 20% of maximum. (Factory Default is 100%)
2. Photocell Control – 3 levels, 25 Lux on, 50 Lux off, 10 Lux on 30 Lux off, 5 Lux on 15 Lux off and photocell disable.
3. Turn LED indicators on & off
4. Illuminator Reset Options
5. Disable Remote Controller and enter Operating Mode, or Enable Remote Controller and enter Programming Mode
6. Button Enable & Disable

In short, the LHS button selects your mode/category, indicated by specific behaviours of the LHS LED - and the RHS button selects your chosen level/setting with that pre-selected mode – also indicated by specific behaviours of the RHS LED.

The buttons are active in both programming mode and operating mode regardless of whether a PIN is present, unless you have previously disabled the manual buttons.

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Select Your Mode using the LHS BUTTON

The LHS BUTTON is used to access two different modes **1) 'Illuminator Setting Modes'** and **2) 'Illuminator Configuration Modes'** and their relevant sub modes - the **LHS LED** displays specific behaviours to indicate which mode you are in

A single momentary press of LHS button will turn the LHS LED solid RED and enters the user into the **Illuminator Setting Modes**.

In these modes you can change the following settings:

- Power Level
- Photocell sensitivity
- Indicator LED status (On or Off)

Note: As soon as manual button mode is entered by pressing the Left Hand Button, the standard LED indicators will be disabled and offer a new set of indicating modes, Standard LED indicators are enabled after exiting manual button modes.

A continuous 4 second press of the LHS button turns LHS LED flashing RED and enters the user into the **Illuminator Configuration Modes**.

In these modes you can change the following configurations:

- Illuminator Re-set
- Enable Remote Controller and enter Programming Mode / Disable Remote Controller and enter Operating Mode
- Manual Button Enable / Disable

Sequential presses of **LHS BUTTON** will cycle you through the available options to get to the required mode that you desire (indicated by the LHS LED).

Note: Unless detailed as part of the functionality, if an invalid or blocked button push is attempted, both LEDs will flash Red

*Note: – If the status indicator LEDs are disabled and you use the manual buttons the indicator LEDs will still illuminate accordingly

Choose your setting/level using the RHS Button

The RHS BUTTON is used to select your settings/levels within the mode chosen by LHS Button – and the **RHS LED** displays specific behaviours to indicate each setting/level

The RHS BUTTON will only be operational if you have already selected a mode using LHS Button – otherwise it will have no affect on the Illuminator operation.

Sequential presses of RHS BUTTON will cycle you through the available options to get to the required setting that you desire within that mode (indicated by the RHS LED).

Locking in your Settings/Levels
The Illuminator will stay at this setting / level providing you do not push the RHS BUTTON again. Once you have reached the required setting/level (detailed in the following section), you can lock in your settings in one of two ways:

1) Press the LHS BUTTON to cycle through the modes until LHS LED extinguishes showing that you are at the end of the mode loop.

or

2) You can also wait 2 minutes for the illuminator to time out and the value shown by RHS LED will be stored into the illuminator memory.

The settings programmed by the manual push buttons will be retained upon power recycling unless a reset has been performed, in which case the factory defaults will be applied.

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Illuminator Setting Modes in Depth (accessed by LHS BUTTON)

Within the 'Illuminator Setting Mode' the LHS LED displays 3 different SOLID colours to signify 3 different sub modes –: 1) Power Level – RED 2) Photocell Level – GREEN 3) Enable/Disable Status LEDs – AMBER.

Enter Illuminator Setting Modes by a momentary press of LHS button to turn the LHS LED solid RED. Pressing the LHS button again will turn the LED solid GREEN and pressing a third time will turn the LED solid AMBER. Each of these colours indicates which setting mode you are in.

A further momentary press of LHS Button will exit you from the mode entry and then return the LEDs to the standard indication of either operating mode or programming mode (depending on whichever previous mode the Illuminator was in before selecting the manual controls).

The following modes are available:

Power Level Mode (LHS LED: Solid RED)

20% Power Setting:	RHS LED 1 Flash GREEN
40% Power Setting:	RHS LED 2 Flashes GREEN
60% Power Setting:	RHS LED 3 Flashes GREEN
80% Power Setting:	RHS LED 4 Flashes GREEN
100% Power Setting:	RHS LED 5 Flashes GREEN

Photocell Level Mode (LHS LED: Solid GREEN)

Low sensitivity:	RHS LED 1 Flash GREEN
Medium Sensitivity:	RHS LED 2 Flashes GREEN
High Sensitivity:	RHS LED 3 Flashes GREEN
Disabled photocell:	RHS LED Solid RED

Enable / Disable Status Indicator LEDs Mode (LHS LED: Solid AMBER)

Enable LEDs:	RHS LED Solid GREEN
Disable LEDS:	RHS LED Solid RED

Note: If no buttons are pressed within 2 minutes the Illuminator times out and returns to the previous mode it was in – either operating or programming mode.

Illuminator Configuration Modes in Depth (accessed by LHS BUTTON)

Within the 'Illuminator Configuration Mode' the LHS LED displays 3 different FLASHING colours to signify 3 different sub modes –: 1) Illuminator Rest – FLASH RED 2) Remote Enable/Disable – FLASH GREEN 3) Manual Buttons Enable/Disable – FLASH AMBER

Enter the Illuminator Configuration Mode by a long 4 second press of LHS button to turn LHS LED Flashing RED. Pressing the LHS button once again momentarily will turn the LHS LED Flashing GREEN and pressing a third time momentarily will turn the LHS LED Flashing AMBER. Each of these colours indicates which setting mode you are in.

A further momentary press of LHS Button will exit from the mode entry, both LEDs will go blank for 1 second and then return to the standard indication of either operating mode or programming mode (depending on which mode the illuminator was in previously before selecting manual controls)

The following modes are available:

Illuminator Reset Mode (LHS LED: Flashing RED)

RHS LED Solid RED

Keep RHS BUTTON depressed for 4 seconds. RHS LED stays solid RED and then after 4 seconds both LEDs flash AMBER to show the illuminator has been reset. This operation is equivalent to the factory reset button on the remote control. It will not re-set a PIN if one is present.

Remote Controller Enable/ Disable(LHS LED: Flashing GREEN)

Enable Remote and enter Programming Mode:	RHS LED Solid GREEN
Disable Remote and enter Operating Mode:	RHS LED Solid RED

Note: If there is a PIN present and the Illuminator is in Operating mode you must enter your PIN to enable the remote and re-enter Programming Mode or do a full re-set – See page 35 – If no PIN is present or you are in Programming mode there are no restrictions.

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Manual Control Buttons Enable & Disable of (LHS LED: Flashing AMBER)

Enable Manual Button Control: RHS LED Solid GREEN

Disable Manual Button Control: RHS LED Solid RED

Note: If the illuminator is in Operating Mode and the buttons have been disabled for at least 30 minutes, you cannot re-enable button control without recycling power (if no PIN present) or entering your PIN or doing a full re-set – See page 35.

Note: If no buttons are pressed within 2 minutes the illuminator times out and returns to the previous mode it was in – either Programming Mode or Operating Mode.

- **IMPORTANT:** When operating the manual buttons in either Illuminator Settings Modes or Illuminator Configuration Modes (within programming mode), **the Illuminator will default into Operating Mode 30 minutes after the last button press** (e.g. if you press any manual button at 29 minutes – your 30 minute window will start over).

Disabling the Manual Buttons
(includes safety time to change your mind):

Must be done within 5 minutes of Disabling remote / entering Operating Mode. Change will take effect after 30 minutes

If the Illuminator is ALREADY in Operating Mode, once the disable manual buttons command is executed, the buttons will be disabled after a straight 30 minutes. This is to allow the user to re-enable manual buttons if required.

During this 30 minutes the button functionality will be the following:

- LHS Button
  - o Illuminator Configuration Modes can be accessed in the normal way by a continuous 4 second press – to allow you to re-enable the Manual Button Control
  - o Illuminator Settings Modes cannot be accessed. A momentary press of the button will not be recognised and the indicator LEDs will not change

- RHS Button
  - o The RHS button is functional with the Illuminator Configuration Mode. In any other mode. pushing this button will cause both indicator LEDS to flash RED

Once the 30 minutes has expired the manual buttons are fully disabled and any button push (LHS or RHS) will cause both indicator LEDs to flash RED.

Disabling the Manual Buttons Using the Remote:

The manual buttons can be disabled using the remote.

Once the illuminator is put into Operating mode if the disable remote control Set Up button (see diagram on Page 24) is pressed again and held for 4 seconds the manual buttons will be disabled. This is shown by both indicator LEDs flashing RED after 4 seconds.

Note: This command can only be used within 5 minutes of the illuminator being put into Operating Mode.(If the Manual Buttons are already Disabled, both LEDs will flash RED straight away).

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Power Up and Mode time-out Functionality:

After power is supplied to the unit or power is interrupted:

If no PIN is present the Illuminator will go into Programming Mode for 7 Days and then will default to Operating Mode after this time has elapsed.

- During this time if the remote is used to change settings the illuminator will still default into Operating Mode after 7 Days from the power up (unless the remote disable button is used to change the illuminator to Operating Mode any sooner).
- However, if the manual push buttons are used at all during this time, the illuminator will default into Operating Mode 30 minutes after the last button press.

If a PIN is present the unit will return to Operating mode after a power interruption

RESET Options:

There are Two Re-set options for resetting your VARIO2 illuminator

Settings Re-set:

Pressing and holding the RESET BUTTON on the remote control (Programming Mode Only) or using the manual buttons to complete a RESET will restore the factory settings to the illuminator. Note : If a PIN is present it will not be removed and the illuminator will return to the mode you were previously in (Programming or Operating) prior to the re-set command. Both indicator LEDs will flash AMBER when completed.

Full Re-Set:

The other option to reset your illuminator is available by recycling the power whilst holding down the two manual buttons. This is a FULL RESET and will restore factory settings AND remove the PIN if one has been set.

Both Indicator LEDs will flash AMBER when completed.

Re-enabling Manual Push Buttons and Remote Controller

1) If you disable the manual push buttons you can re-enable them by:

   - If you are in Programming Mode you can use the buttons to re-enable button control - as long as the 30 min timeout into operating mode has not elapsed (timeout starts from the last button push).
   - If you are in Operating Mode and no PIN present – from initial disable, you have a straight 30 mins of safety time to change your mind where you can still use the buttons to re-enable button control – after this time has elapsed you must re-cycle power to go to Programming Mode
   - If you are in Operating Mode and a PIN is present - from initial disable, you have a straight 30 mins of safety time to change your mind where you can still use the buttons to re-enable button control – after this time has elapsed you can enter the PIN or do a full re-set

2) If you disable the remote controller, you can re-enable it by:

   - If no PIN Present
     - You can use the manual buttons
     - If the manual buttons are disabled or you do not want to use them, then you need to re-cycle the power to go to programming mode which re-enables the remote
   - If PIN Present
     - You need to enter your PIN to go to Programming Mode or do a full re-set

3) If you have disabled both the remote controller AND the manual push buttons, you can re-enable by:

   - If no PIN is present you need to re-cycle the power to re-enter programming mode which re-enables the remote
   - If a PIN is present
     - You need to enter your PIN
     - Or do a full Re-set

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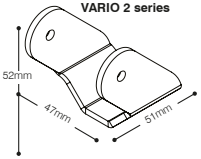
Standard Bracketry

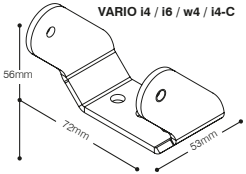
Supplied with the Product (Model Dependant)

(Not to scale, dimensions rounded to nearest mm)

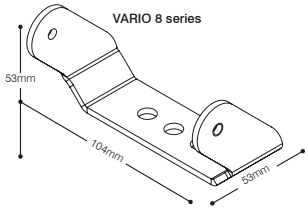
VARIO 2 series



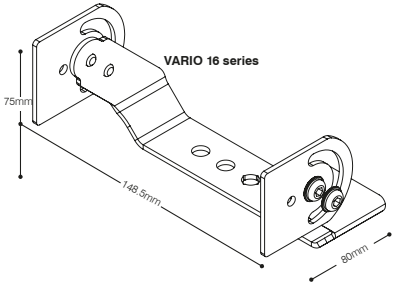
VARIO i4 / i6 / w4 / i4-C



VARIO 8 series

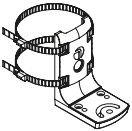


VARIO 16 series

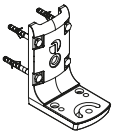


Optional Bracketry (not to scale - other Bracketry also available)

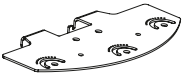
VUB-Pole



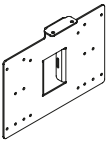
VUB-Wall



VUB-Plate
(Various Sizes)

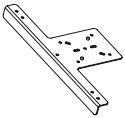


VUB-PSU Plate

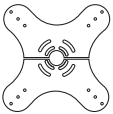


Wall Mount

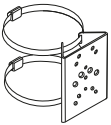
Ptz Mount



Dome Mount



Pole Mount



VARIO2 POE Specifications Table

Infra-Red Series & White-Light Series

VARIO2 POE – Standard Variants

	i8	w8	i6	i4	w4	i2	w2
10°	350m (1148ft)	180m (591ft)	200m (656ft)	144m (472ft)	110m (361ft)	62m (203ft)	42m (138ft)
35°	165m (541ft)	95m (312ft)	120m (394ft)	78m (256ft)	65m (213ft)	42m (138ft)	28m (92ft)
60°	95m (311ft)	50m (164ft)	70m (230ft)	54m (177ft)	35m (115ft)	26m (85ft)	18m (59ft)
80°	70m (230ft)	35m (115ft)	50m (164ft)	36m (118ft)	25m (82ft)	18m (59ft)	14m (46ft)
120°	45m (148ft)	25m (82ft)	30m (98ft)	24m (79ft)	18m (59ft)	14m (46ft)	8m (26ft)
Consumption	49W max	47W max	25W max	15W max	25W max	8W max	9W max
Input	POE						
Weight	1.65kg (3.61lbs)		950g (2.1lbs)			600g (1.3lbs)	
Number of LEDs	24		12	9	12	3	3
Environment	IP66						
Dimensions L x W x D	135 x 180 x 68mm (5”x7”x3”)		100 x 135 x 66mm (4” x 5” x 2.5”)			75 x 100 x 64mm (3” x 4” x 2.5”)	
Cat 5 Cable Length	2.5m (8ft)						

For Covert IR940nm Distances / Information please contact Raytec

- PSE (Power Supply Equipment) to conform to IEC/EN 62368-1. Maximum power supplied to each illuminator not to exceed 60W

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VARIO2 POE – Premium Variants

	i8-PR	w8-PR	i6-PR	i4-PR	w4-PR	i2-PR	w2-PR
10°	350m (1148ft)	180m (591ft)	200m (656ft)	144m (472ft)	110m (361ft)	62m (203ft)	42m (138ft)
35°	165m (541ft)	95m (312ft)	120m (394ft)	78m (256ft)	65m (213ft)	42m (138ft)	28m (92ft)
60°	95m (311ft)	50m (164ft)	70m (230ft)	54m (177ft)	35m (115ft)	26m (85ft)	18m (59ft)
80°	70m (230ft)	35m (115ft)	50m (164ft)	36m (118ft)	25m (82ft)	18m (59ft)	14m (46ft)
120°	45m (148ft)	25m (82ft)	30m (98ft)	24m (79ft)	18m (59ft)	14m (46ft)	8m (26ft)
Consumption	49W max	47W max	25W max	15W max	25W max	8W max	9W max
Input	POE or 24V DC						
Weight	1.75kg (3.85lbs)		1.05Kg (2.31lbs)			700g (1.54lbs)	
Number of LEDs	24		12	9	12	3	3
Environment	IP66						
Dimensions L x W x D	135 x 180 x 68mm (5”x7”x3”)		100 x 135 x 66mm (4” x 5” x 2.5”)			75 x 100 x 64mm (3” x 4” x 2.5”)	
Cat 5 Cable Length	2.5m (8ft)						
Auxillary Cable Length	2.5m (8ft)						

For Covert IR940nm Distances / Information please contact Raytec

24V DC supply :

- For i8; w8 the supply to the units should be limited to/ fused at 5A
- For i6; w4 the supply to the units should be limited to/ fused at 3.15A
- For i4; i2; w2 the supply to the units should be limited to/ fused at 1.6A

POE :

- PSE (Power Supply Equipment) to conform to IEC/EN 62368-1.
  Maximum power supplied to each illuminator not to exceed 60W

VARIO2 POE Troubleshoot

Step 1: Check Power to the Unit

- Check LHS indicator is green to show the unit is receiving power.
- If powering from PoE, ensure Power Sourcing Equipment (PSE) is suitably rated for the VARIO2 POE unit – see page 18 for required ratings – and for all 8 size units check correct PoE Detection Resistance has been selected – see page 19.
- If powering from low voltage 24V DC, check voltage applied and that power supply is suitably rated for the VARIO2 POE unit – see page 19 for required ratings.
- Check polarity of illuminator connection red=+ve, black=-ve
- Ensure power is 24V DC
- If longer cables used, ensure sufficient voltage is provided to allow for drops across the cable

Step 2: Check Photocell and Telemetry Input

- Check photocell is working. Cover photocell fully, light should turn on.
- (Note: It is sometimes difficult to see Infra-Red illuminators working in high brightness conditions).
- If Premium variant - Ensure telemetry wires are shorted out or valid telemetry input (zero volt or TTL) is applied and correctly wired

Step 3: LED Indicators

Check the LED status indicators for the status of the illuminator. The LED indicators will display differently depending on which mode the illuminator is in (see below)

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

LHS SOLID GREEN: Power Applied

LHS FLASHING GREEN: Remote control IR receiver problem

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RHS FLASHING AMBER:	Indicates unit is in programming mode
RHS SOLID AMBER:	Indicates that a valid command is being received
LHS FLASHING RED:	Voltage supply problem detected
LHS SOLID RED:	Illuminator fault detected

Note: the if there is a voltage supply error, the LHS LED will FLASH RED but extinguish and revert to the standard SOLD GREEN when the correct voltage has been restored.

The fault indications are non latching

Normal operating mode

LHS SOLID GREEN:	Power Applied
LHS FLASHING GREEN:	Remote control IR received problem (Max VRC distance is 8m (26ft)
LHS FLASHING RED:	Voltage supply problem detected
LHS SOLID RED:	Illuminator LED fault detected

- Check unit is responding to Remote /Manual Control buttons.

If not..

- Status indicators may be turned off. Turn on with remote or with manual buttons. This can be done even if programming has been disabled
- In extreme sunlight conditions, distance between remote and unit may need to be reduced
- Programming may be disabled. Enter PIN to retrieve control or RESET illuminator using one of the two RESET modes.
- 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: Check Camera and illuminator Settings

- Ensure all tests are undertaken by a qualified, trained engineer. Ensure safe working practices are followed at all times.
- Check if the camera and illuminator are aligned correctly.
- For Infra-Red illumination, ensure that a Day and Night or Black and White camera is used and that the camera switches correctly into night mode.
- Check camera and lens. Is iris fully open at night and set correctly. Ensure camera is fully operational and has correct night time settings and capability.
- Ensure correct illuminator lens angle selected for required distance – check stated performance. If the angle is too narrow it 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 Camera model number to Raytec performance specification to ensure required distance is achievable

Step 5: Call Raytec for further assistance

Note down:

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

If the Raytec illuminator or remote control is still not delivering the required performance, please contact us for further assistance:

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(Note: The light source (LEDs) of this illuminator is not replaceable. When the unit reaches its end of life the whole illuminator shall be disposed of and re-cycled where possible.)

Raytec Warranty

All Raytec luminaires are provided with an industry leading 5 year warranty and have an expected useful life in excess of 10 years.

Contact Raytec for more details.

Quick Reference Table for Manual Button Operation:

Action Required	Step 1: LHS Button	Step 2: RHS Button	LHS LED	RHS LED	Comment
Power Adjust	1 x Push	Each Push cycles through power levels	Solid Red	Green flashes indicate level. High power (5 flashes) to Low power (1 flash)	
Photocell Adjust	2 x Push	Each Push cycles through photocell levels	Solid Green	Green flashes indicate setting. Low sensitivity to High sensitivity. Solid Red indicates Photocell disabled	
Status Indicator LEDS On / Off	3 x Push	Each Push cycles between On and Off	Solid Amber	On – Green Off - Red	
Factory Re-set (Does not Re-set PIN)	1 x Long Push (4 Seconds)	Push and Hold until both LEDs flash Amber	Flashing Red – After 4s Flashing Amber	Solid Red – After 4s Flashing Amber	Reverts to Programming Mode unless a PIN is present. If a PIN is present reverts to original mode before re-set
Disable Remote and Enter Operating Mode or Enable Remote and Enter Programming Mode	1 x Long Push (4s) and 1 x short Push	Push to cycle Disable / Enable	Flashing Green	Disable – Red Enable - Green	Reverts to the Mode requested unless a PIN is present. If a PIN is present and you are in Operating Mode you cannot change to Programming Mode – unless you enter your PIN first
Disable / Enable Manual Buttons	1 x Long Push (4s) and 2 x short Push	Push to cycle Disable / Enable	Flashing Amber	Disable – Red Enable - Green	Buttons will be Disabled 30 minutes after this selection is made – This is to allow the user to re-enable manual buttons if required
Full Re-set (including PIN re-set)	Keep both buttons depressed during power up – LEDs will both flash Amber	Keep both buttons depressed during power up – LEDs will both flash Amber			Illuminator will revert to Programming Mode, Full factory default including No PIN

The illuminator has two modes; (1) Programming Mode when the remote control can be used and (2) Operating Mode when most of the remote control functions are disabled (see Remote Control Instructions for more details)

Manual Buttons are always available in programming mode or if they have been disabled, they can be enabled in programming mode.

Manual Buttons are available in operating mode, provided they have not already been disabled.

The number of button pushes indicated above are based on the user starting with the illuminator in either programming or operating mode.

If the user has already started to program the units, then the number of button pushes on the left hand will take them to the next function as per the sequence in the table.

If no buttons are pressed within 2 minutes then the illuminator will automatically default back into the previous mode it was in – programming or operating mode.

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Quick Reference Table for Remote Control Operation for PIN set and Manual Button Disable / Enable:

Most remote control features can only be used/accessed when the illuminator is in programming mode.

The only features of the remote that can be used during operating mode are:

- Turn Status Indicator LEDs on/off using “STATUS” Button on remote
- Enter an existing PIN code
- Disable manual buttons - but this must be done within 5 minutes of entering operating mode by pressing the ‘Disable Remote’ button.

Valid characters for PIN Numbers are: Power 5, Power 1, Min Photocell (Smallest Moon), Max Timer (Full Red Circle), Timer Disable

The unit will NOT accept any invalid characters - and the countdown will not reduce.

If valid characters are entered in the wrong order when entering a PIN , the unit will accept the input and reduce the countdown, but at the end of the countdown the illuminator will show an error and the procedure to enter a valid PIN will have to be repeated.

Action Required	Available Mode	Action 1	Action 2	LHS LED Displays	RHS LED Displays	Comment
Disable Remote	Prog Mode	Press <Disable Remote Control> for 4 seconds	N/A	Solid Green	Flashing Amber – Solid Amber - Off	The Right Hand flashing Amber LED go Solid Amber when the disable remote button is pressed and turn off when in Operating Mode
Disable Manual Buttons	Operating Modes	Press <Disable Remote Control> for 4 seconds	N/A	Solid Green – After 4 seconds Flashing Red (Returns to Solid Green after button release)	Off – Solid Amber - After 4 seconds Flashing Red (Returns to Solid Green after button release)	Must be done within 5 minutes of Disabling remote / entering Operating Mode. Change will take effect after 30 minutes
Create or Change PIN	Prog Mode	Press <Status Button> for 4 seconds	Enter valid PIN character x 4	Green – Intermittent Flashing Red / Green - Green	Solid Amber – Flashing Red counts down the No. of valid characters required – Flashing Amber	Stays in Programming Mode after PIN created or changed
Enter existing PIN	Prog	Push and Hold until both LEDs flash Amber	Flashing Red – After 4s Flashing Amber	Solid Red – After 4s Flashing Amber		Reverts to Programming Mode unless a PIN is present. If a PIN is present reverts to original mode before re-set
Delete PIN	Prog Mode	Press <Status Button> for 4 seconds	Press <Re-Set> button 4 times	Green – Intermittent Flashing Red / Green - Green	Solid Amber – Flashing Red counts down the No. of valid characters required – Flashing Amber	Stays in Programming Mode after PIN deleted.

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