ALC-PRM-VFC

Ceiling Mounted Photocell

Overview

The ALC-PRM-VFC photocell will turn lighting on when the ambient light falls below a preset level. The lighting will then be turned off when the total light level rises above a separate preset level. The unit also has a switch input for manual override.

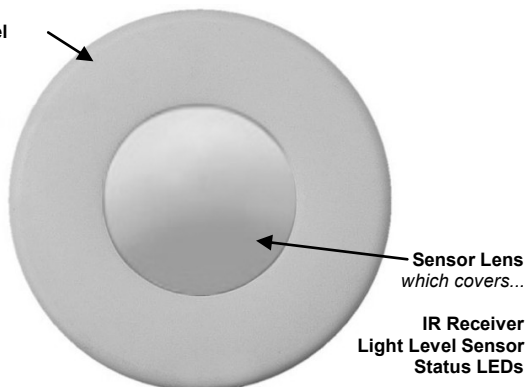An integral, adjustable time delay prevents nuisance switching caused by, for example, dark clouds.

The unit has a voltage free changeover output which can be used to switch, a BMS or lighting control system as well as switching a load directly.

All functionality is fully programmable using an IR handset.

Features

Front features

Mounting Bezel

Sensor Lens
which covers...

IR Receiver
Light Level Sensor
Status LEDs

Back features

Retaining Spring

Power Input Connector

Switched Output Connector

Retaining Spring

IR Receiver
Receives control and programming commands from an IR (infrared) handset.

Light Level Sensor
Measures the overall light level in the detection area

Status LEDs
The LED flashes **R**ed to indicate the following:

Valid setting received	☀R

Power Connector
Used to connect mains power to the unit.

Switched Output Connector
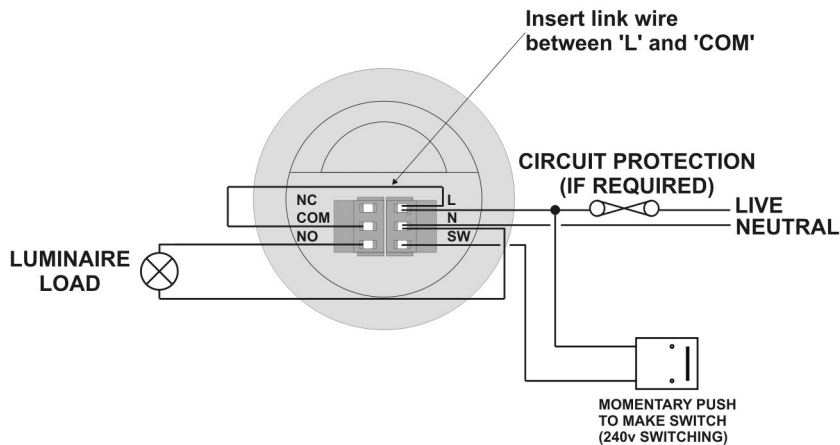Used to connect a switched load.
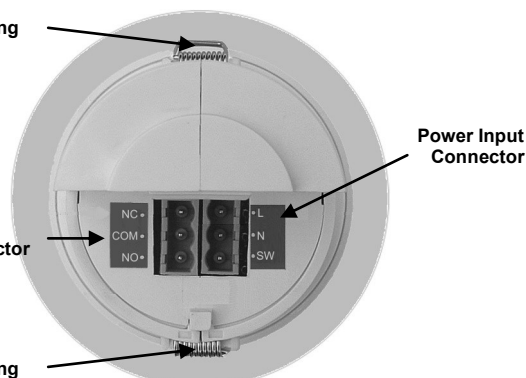
Installation

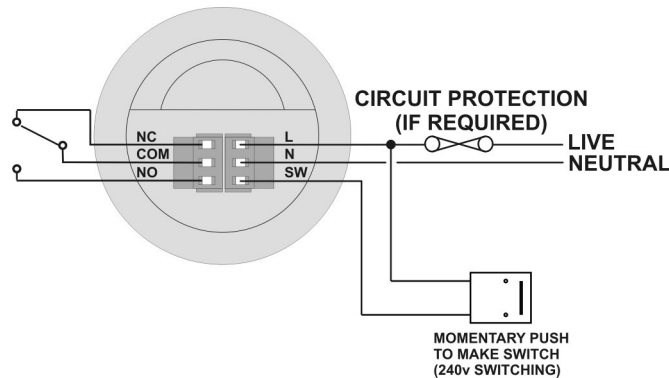### Choosing a Suitable Location

The ALC-PRM-VFC is designed to be ceiling mounted and must satisfy the following criteria:

- Avoid positioning the unit where direct sunlight may enter the sensor element.
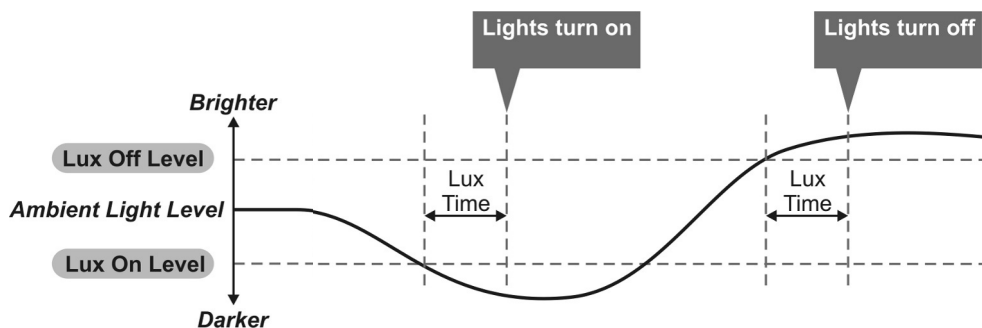
Wiring Diagram - Mains load

Insert link wire between 'L' and 'COM'

CIRCUIT PROTECTION (IF REQUIRED)

LIVE
NEUTRAL

NC
COM
NO
L
N
SW

LUMINAIRE LOAD

MOMENTARY PUSH TO MAKE SWITCH (240v SWITCHING)

Wiring Diagram - Volt Free Contact

CIRCUIT PROTECTION (IF REQUIRED)

LIVE
NEUTRAL

NC
COM
NO
L
N
SW

MOMENTARY PUSH TO MAKE SWITCH (240v SWITCHING)

Sensor functionality

Switch Level On/Off

The device can be made dependant on the ambient light level using the Lux On Level and Lux Off Level parameters.

Lights turn on　　　**Lights turn off**

Brighter

Lux Off Level

Ambient Light Level

Lux Time

Lux Time

Lux On Level

Darker

Fault finding

What if the load does not turn ON?

- Check that the live supply to the circuit is good.
- Increase the Lux on level to switch on at a higher brightness .

What if the load does not turn OFF?

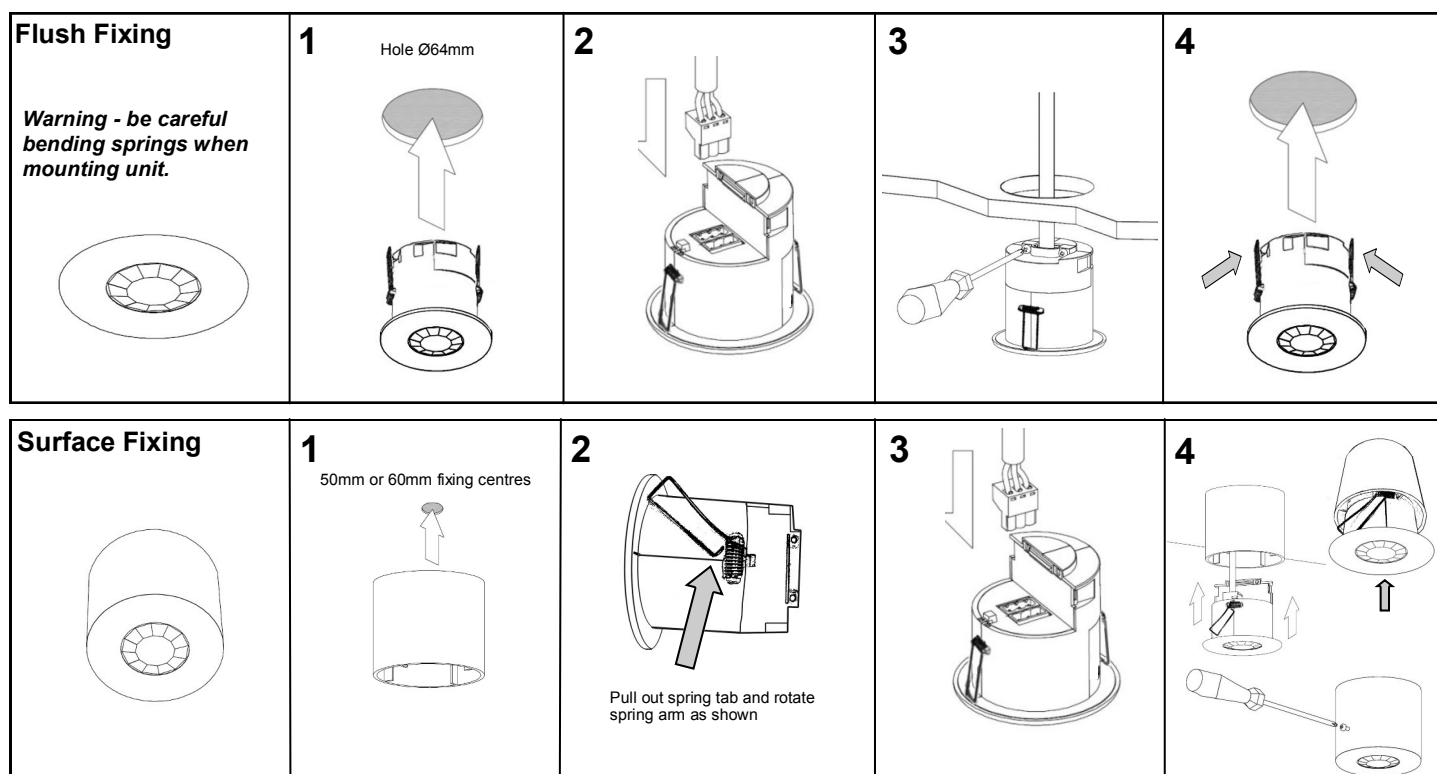- Increase the lux off level to switch off at a lower brightness.

Load cycles on and off

- Increase the difference between the lux on level and the lux off level.
- Increase the time setting.
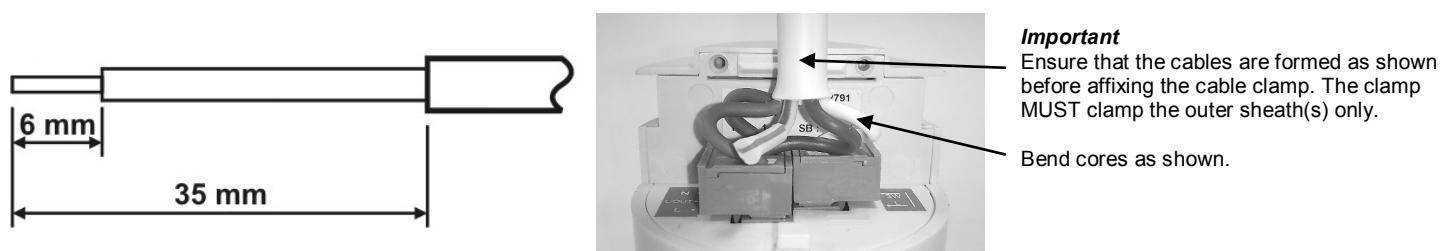- Angle the sensor away from the light that it is controlling.

The ALC-PRM-VFC is designed to be mounted using either:

- Flush fixing, or
- Surface fixing, using the optional Surface Mounting Box (part no. DBB).

Both methods are illustrated below.

| Flush Fixing

Warning - be careful bending springs when mounting unit.	**1** Hole Ø64mm	**2**	**3**	**4**

Surface Fixing	**1** 50mm or 60mm fixing centres	**2** Pull out spring tab and rotate spring arm as shown	**3**	**4**

6 mm

35 mm

Important
Ensure that the cables are formed as shown before affixing the cable clamp. The clamp MUST clamp the outer sheath(s) only.

Bend cores as shown.

Readback function *(UNLCDHS handset only)*

The UNLCDHS has the ability to read back the settings stored in a device.

To read back individual parameters

- Navigate to the parameter and press the 'R' (Read) button whilst pointing at the device. The handset will click when the parameter has been read back, the device will flash its LED, and the value will be shown against the parameter in the menu.

To read back all of the parameters in a menu

- Press and hold the 'R' (Read) button for more than 1 second.
- The handset will click every time a parameter is received
- The device will show multiple flashes of its LED
- All of the values will be shown against the parameters in the menu.
- The individual parameters may be edited and then saved as a 'Macro'.

Notes

- *If a parameter(s) has been missed because of a communication error, the missing value(s) is replaced by dashes.*
- *When reading back, the relay will temporarily be switched off, and will return to it's normal state 2 seconds after the read back has been completed.*

Basic programming
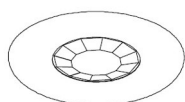
The functionality of the ALC-PRM-VFC is controlled by a number of parameters which can be changed or programmed by any of the following devices:

- **UHS5** Infrared Handset. See below for programmable functions.
- **UNLCDHS** Infrared Handset (with LCD). See user guide for full programming details.

For most basic programming operations the UHS5 handset can be used and the following procedures are based on using this device.

Point the handset at the Sensor and send the required programming commands to the unit as shown below.

Valid commands will be indicated by a red LED flash. See page 1 for details of other LED responses.
Note: other functions on the UHS5 which are not shown below are not applicable to this product.

Parameter Name	Default Value	**Number of Shift key presses**				UHS5 Handset Graphics	Description
		0 SHIFT 1 / SHIFT 2	1 SHIFT 1 / SHIFT 2	2 SHIFT 1 / SHIFT 2	3 SHIFT 1 / SHIFT 2		
		Button Activation					
On		On					Turn lights on.
Off		Off					Turn lights off.
Lux on level *(Switch level on)*	9	2, 5 & 7	4, 6 & 9				Lux level setting to prevent the luminaires being switched on if the ambient light level is sufficient (adjustable between 1 and 9). The luminaires will always be switched on at level 9.
Lux off level *(Switch level off)*	9	2, 5 & 7	4, 6 & 9				Lux level setting to switch the luminaires off the ambient light level goes above the setting (adjustable between 1 and 9). Level 9 will always keep the lights on. This setting can be used for "window row switching". *Note: the Lux Off Level value must always be greater than the Lux On Level value.*
Defaults				D			Returns the unit to the default settings.
Shift							Use this button to select the settings in red and blue signified by the 'Shift 1' and 'Shift 2' LEDs

Advanced programming

Parameter Name	Default Value	Range / Options	Description	UHS5	UNLCDHS
Detector Parameters					
Lux time	0	0 (disabled) 1-99 minutes	To prevent nuisance switching, an adjustable time delay can be set. This requires the light level to be maintained for the set time before changing from on to off, or off to on.	✖	✔
Factory default	–	–	Restores factory default settings	✔	✔

Parameter Name	Default Value	Range / Options	Description	UHS5	UNLCDHS
Switching functions					
Lux on level *(Switch level on)*	9	1 to 9 For a higher resolution a scale of 101-199 is available	Lux level setting to prevent the luminaires being switched on if the ambient light level is sufficient. *Note: the Lux Level Off value must always be greater than the Lux Level On value.*	✔	✔
Lux off level *(Switch level off)*	9	1 to 9 For a higher resolution a scale of 101-199 is available	Lux level setting to switch the luminaires off the ambient light level goes above the setting.	✔	✔

Parameter Name	Default Value	Range / Options	Description	UHS5	UNLCDHS
User Modes					
Override On	–	–	If the lights are off, sending the IR command will turn them on immediately and revert to automatic operation using the manual timeout period .	✔	✔
Override Off	–	–	If the lights are on, sending the IR command will turn them off immediately. After the manual timeout period (described above), the sensor will revert to automatic.	✔	✔
Cancel	–	–	Cancels the on or off override, returning the unit to normal operation.	✖	✔

This page intentionally left blank
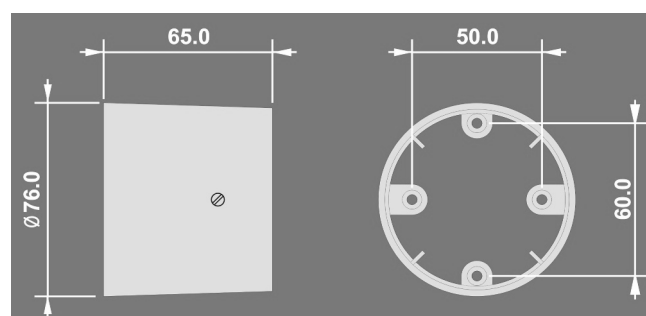
This page intentionally left blank

Technical data

Dimensions	See diagrams opposite
Weight	0.1kg
Supply Voltage	230VAC +/- 10%
Frequency	50Hz
Maximum Load	10 Amp resistive and incandescent lighting
	6 Amp fluorescent lighting and resistive
	3 Amp compact fluorescent lighting
	3 Amp low energy lighting
	3 Amp low voltage lighting (switch primary of transformer)
	Fluorescent lighting (max 6 fittings recommended)
	For fluorescent lighting total power factor correction capacitance must not exceed 40µF.
	3 Amp fans and ventilation equipment
	Switch SON lighting loads via a contactor
	Minimum load 100mA
Power consumption	On 745mW, Off 264mW
Terminal Capacity	2.5mm^2
Temperature	-10ºC to 35ºC
Humidity	5 to 95% non-condensing
Material (casing)	Flame retardant ABS and PC/ABS
Type	Class 2
IP rating	IP40
Compliance	EMC-2004/108/EC
	LVD-2006/95/EC

ALC-PRM-VFC

DBB
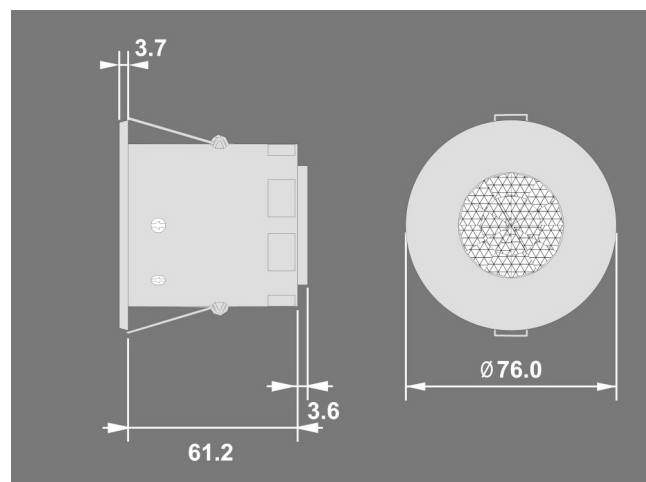
Part numbers

	Part number	Description
Detector	ALC-PRM-VFC	Ceiling Mounted Photocell
Accessories	DBB	Surface mounting box
	UHS5	Programming IR handset
	UNLCDHS	Universal LCD IR handset

IMPORTANT NOTICE!
This device should be installed by a qualified electrician in accordance with the latest edition of the IEE Wiring Regulations and any applicable Building Regulations.