Voltex
Outdoor IP55 PIR Motion Sensor
Item Code: OMS-360
INSTALLATION GUIDE

1. PRODUCT FEATURES

- 360°, 32m diameter (16m radius) maximum detection range (adjustable)
- Suitable for wall or ceiling/under-eave mounting
- First-fix wired base and second fix plug-in sensor head for easy installation
- Optional 8-hour manual override via a standard wall switch
- Lux level setting to ensure after dark operation only
- The Lux level can be set using the Lux switch or the current ambient Lux level (see sections 8 and 9)
- Optional 'Holiday mode' randomly switches the lighting ON and OFF after dusk, regardless of movement. This creates an 'at home' look (see section 13)

2. OPERATIONAL OVERVIEW

Auto Mode
In Auto mode, the load will turn ON automatically when movement is detected and the ambient light level is below the Lux setting. When no movement is detected and the delay time has expired, the load will turn OFF automatically.

Auto Mode with Manual Override
Using a manual override switch, the sensor can be bypassed to turn the load ON for 8 hours, regardless of movement or light level. After 8 hours the sensor reverts to normal Auto operation.

Holiday Mode
In Holiday mode, the load will randomly switch ON and OFF automatically for a period between 10 minutes and 1 hour for the next four hours.

3. PACKAGE CONTENTS

Sensor x 1
Lens Shields x 3
Screws and anchors x 2 (each)
Wall-dog screws x 2
Cable connector x1 (for earth termination)

4. INSTALLATION LOCATION

The sensor's coverage or 'field of view' is optimal when the sensor is mounted at a height of 2.5 metres and the object triggering the sensor approaches across the face of the sensor, rather than directly towards it (see section 9).

Note
As the sensor responds to changes in temperature, the following conditions should be avoided.
- Avoid aiming the sensor towards objects with reflective surfaces such as glass.
- Avoid mounting the sensor near heat sources, such as heating vents, air conditioners, metal roofs, etc.
- Avoid aiming the sensor towards objects which move in windy conditions, such as large plants or trees.
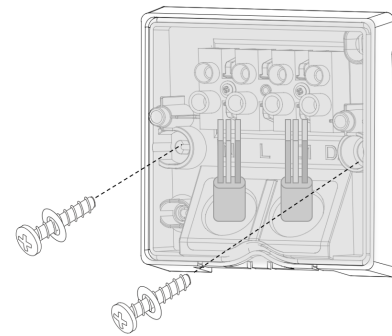
5. MOUNTING THE SENSOR

The sensor can be installed on a flat wall or on a horizontal exterior surface, such as under an eave. The head can be adjusted to suit wall or ceiling/eave mounting, as shown below.

Wall mounting   Ceiling or under-eave mounting

Head Adjustment
90°
40°
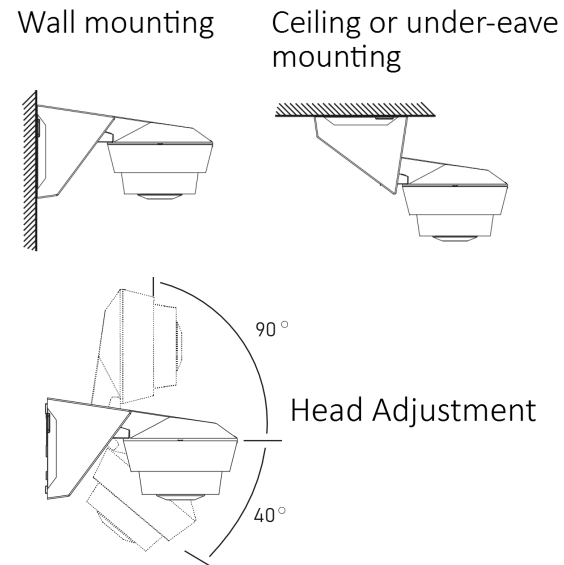
Bring the mains supply and load cabling though the two cable entries on the rear of the base (see Section 7 for wiring details).
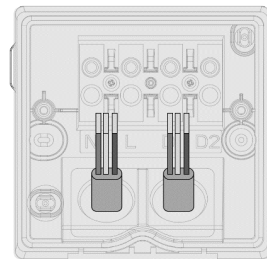
Fix the base to the mounting surface using the mounting holes (shown below) and the screws / anchors / Wall-dogs provided.

Wire the sensor as shown in Section 7, then line up the connection pins in the sensor head with the terminal block in the base and push firmly. Fix in place using the two captive screws provided.
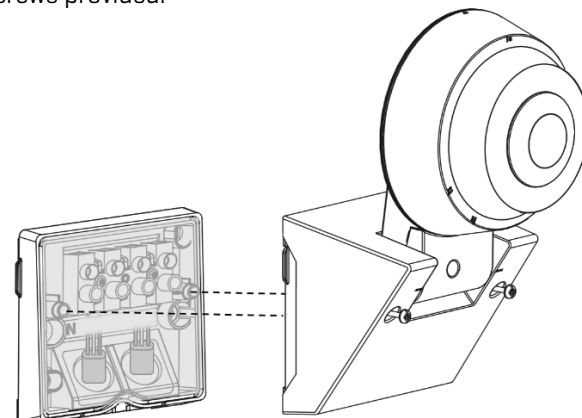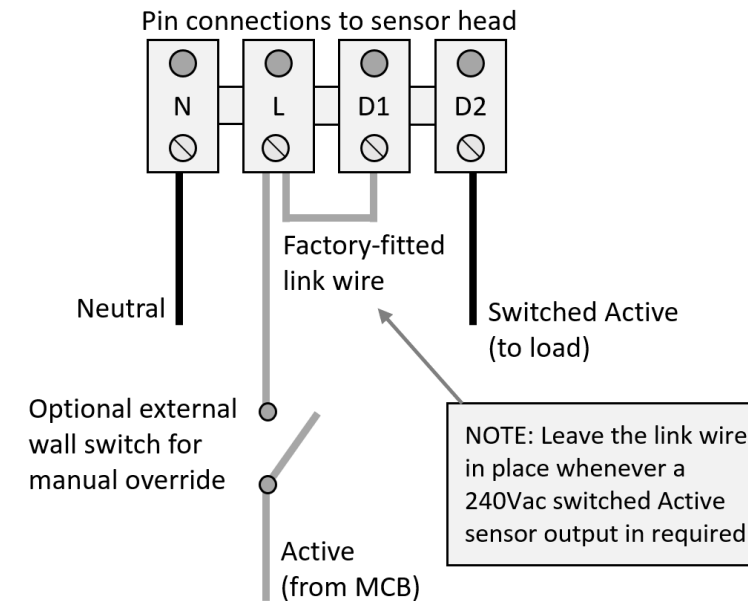

6. CORNER MOUNTING BRACKET

An optional corner mounting bracket is available separately from Voltex (Product Code OMS-360C). Please contact Voltex for further details.

7. WIRING THE SENSOR

WARNING
This product must be installed by a suitably qualified installer. Electric shock may result in serious injury or death. Follow all warnings in this guide and on the product while working in accordance with the latest electrical safety practices for mains-powered electrical equipment

Pin connections to sensor head

N   L   D1   D2

Factory-fitted link wire

Neutral

Switched Active (to load)

Optional external wall switch for manual override

NOTE: Leave the link wire in place whenever a 240Vac switched Active sensor output in required

Active (from MCB)

Manual Override Operation

Using a manual override switch, the sensor can be bypassed to turn the load ON for 8 hours, regardless of movement or light level. After 8 hours the sensor reverts to normal Auto operation.

Manual override mode is set as follows.

With the manual override switch ON, switch the manual override **OFF → ON → OFF → ON quickly** (within 2 seconds). The load will flash to confirm the sensor has entered permanent 8 hours ON mode.

When in permanent 8 hours ON mode, the sensor can be set back to Auto mode at any time by switching the manual override **OFF → ON quickly** (within 1 second). The load will turn OFF and the sensor reverts to Auto mode.

8. COMMISSIONING

The sensor is commissioned using the following steps.

1. If not ON already, switch ON the power to the sensor. The sensor takes approximately 60 seconds to warm up. During this warm-up time, the load and the Green LED indicator turn ON. Both turn OFF after the warm-up time is complete
2. Set the '**Time**' switch adjustment to the '**Test**' position and the '**Lux**' switch adjustment to '**+**'
3. When movement is detected in '**Test**' mode, a red LED indicator and the load both turn ON for approximately 2 seconds, then both turn OFF. This is repeated at 2 second intervals when movement is being detected in '**Test**' mode
4. Walk around the required detection area to confirm the sensor is activated successfully from within this area.
5. The '**Meter**' switch is used to adjust the detection sensitivity to the required range

Switch	Setting
Meter	Adjustable sensitivity from 3m radius (6m diameter) to 16m radius (32m diameter) **3 Radius (6m Diameter)** **16 Radius (32m Diameter)**

Note
The included lens shields can also be used to limit the detection field of view if required. See Section 10 for details

6. Set the '**Lux**' switch adjustment for activation at dusk.

Switch	Setting
Lux 100 500 5 Holiday	Range: Adjustable from approximately 5 Lux to Full Daylight ☼

7. Set the '**Time**' switch adjustment to the desired time for normal operation

Switch	Setting
Time 5m 15m 5s 30m Test 1s	**Normal Operation**: OFF time delay adjustable from 5 seconds to 30 minutes **Test mode**: The load and the red LED indicator will cycle ON for 2 seconds, then OFF for 2 seconds (while movement is being detected) **1s**: Pulse output mode (Load will be 1 second ON, 9 seconds OFF)

The sensor is now commissioned, with the option to use the additional settings shown in Sections, 11, 12 and 13.

9. FIELD OF VIEW

Field of view at 2.5m mounting height (view from above)

360°

Long range
32m diameter (16 radius)

Intermediate Range
14m diameter (7 radius)

Short Range
10m diameter (5 radius)

Optimal approach path
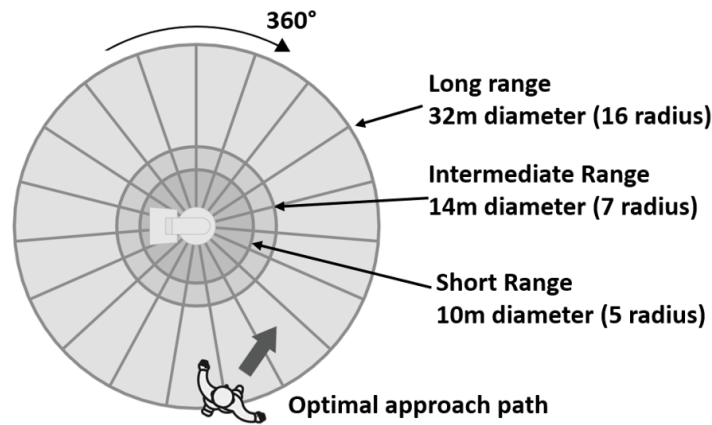
Note

The sensor detection range can vary as a result of changing environmental conditions such as ambient temperature, the speed and size of object being detected, clothing worn, etc.

10. USING THE LENS SHIELDS

The sensor package includes three lens shields. These shields can be used to alter the detection pattern for specific applications. Each lens shield has 2 layers (layer A and B) and 13 segments. See below for examples on how the shields can be used.
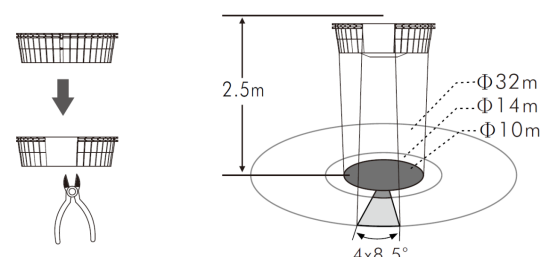
Example #1: 3 lens shields to reduce the detection range to a 10m diameter
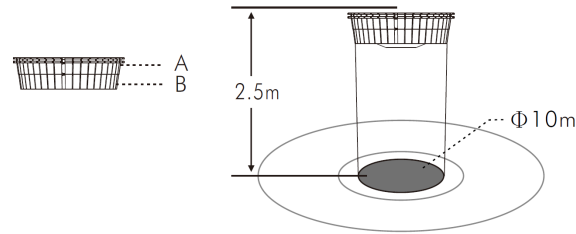
Example #2: 3 lens shields with layer B removed to reduce the detection range to 14m diameter
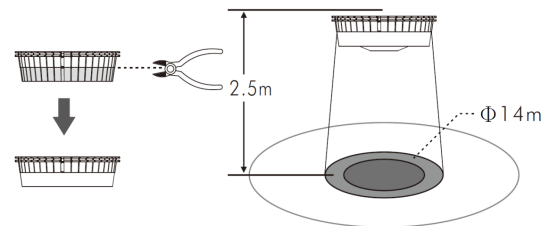
Example #3: Layers A and B removed to maintain a 32m detection range at the front and reduce the detection range to 10m at the sides

11. WATCH MODE (optional)

To discourage potential intruders, '**Watch**' mode flashes the four sensor red LED indicators as shown below.

LED flashing patterns with Watch Mode Enabled

Movement not detected (Load OFF)	The four red LED indicators flash on/off, one at a time, in a continuous pattern	
Movement detected (Load ON)	The four red LED indicators flash ON/OFF together for 5 seconds after movement is detected	

Enabling / Disabling Watch Mode

Watch mode is enabled / disabled by turning the '**Watch**' switch to the ON / OFF position.	Watch ON OFF

Note

When Watch mode is disabled, the four red LED indicators are permanently OFF.

12. LUX LEARN MODE (optional)

In this mode, the sensor can store the current ambient light level as the after dark switching point. **This can only be set to a level between 5Lux and 500Lux**. The setup procedure is as follows.

1. Move the Lux switch to '👁' when the ambient light level matches the desired level	
2. Move the switch from the '👁' position for more than 1 second, then back again	
3. The load will turn OFF and the LED indicator will flash for approximately 25 seconds, indicating the sensor is learning the current ambient level	
4. The LED indicator and load will then switch ON for 5 seconds	
5. When the learning procedure is complete, both the LED indicator and load turn OFF the sensor returns to Auto mode	

Note

- If the ambient light level is outside the 5-500 Lux range, at the end of the 25 seconds learning period, the LED indicator flashes quickly for 5 seconds, the load switches OFF and the sensor returns to Auto mode
- If the ambient level is below 5 Lux, the value is set to 5Lux
- If the ambient level is above 500 Lux, the value is set to (uncontrolled by the Light Level setting)

13. HOLIDAY MODE (optional)

In '**Holiday**' mode, the load will randomly switch ON and OFF to create a 'lived in' look. This mode functions as follows.

- The sensor is not controlled by movement
- The load will turn ON automatically when the ambient light level is below 50 Lux
- The load randomly turns ON and OFF for between 10 minutes and 1 hour for the next 4 hours
- When the load is ON, the 4 LEDs flash simultaneously
- When the load is OFF, the four red LED indicators flash ON/OFF one at a time in a continuous pattern

To enter 'Holiday' Mode

Set the Lux switch to the '**Holiday**' position. The four red LED indicators will flash for 10 seconds, then stay ON for 10 seconds indicating Holiday mode is set.

To Exit Holiday Mode

Adjust the Lux switch away from the '**Holiday**' position. The load will turn OFF and LED will flash for 5 seconds to indicate the sensor is exiting '**Holiday**' mode.

14. SPECIFICATIONS

Rated Voltage	220-240Vac 50/60Hz
Maximum Load	LED lamp (and driver): 400W Incandescent lamp: 2300W 240V Halogen lamp: 1200W LV Halogen lamp: 600W (Iron Core) LV Halogen lamp: 900W (Electronic) CFL: 400W Motor Load: 3A (PF=0.4 240Vac)
Operating Temp.	-20 C to +50 C
Environmental Protection	IP55 (wall mount) IP54 (ceiling mount)
Detection Range	360°, 32m diameter (16m radius) at height of 2.5m
Auto OFF Time Adjustment	5 seconds to 30 minutes (normal operation) Pulse output (1 second pulse)
Light Level Adjustment	5 Lux to full sunlight Optional ambient light level learning mode (5 Lux to 500 Lux)
Warm up time	60 Seconds

15. DIMENSIONS

Wall Mount

Φ90mm / 80mm / 84mm / 150mm / 79mm

Ceiling Mount

Φ90mm / 80mm / 111mm / 166mm / 66mm
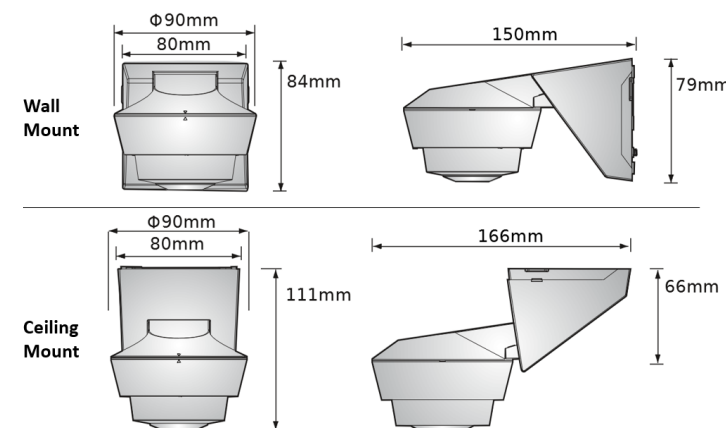
16. FAULT FINDING

Fault	Possible Cause	Suggested Solution
Load does not turn on	Power not turned on	Switch on the power
	Sensor is wired incorrectly	Refer to wiring diagram (Section 7)
	Lux switch is adjusted incorrectly	Check if Lux switch is set correctly (Section 8)
	Connected load not functional	Repair/replace load device(s)
Load does not turn off	OFF time is set too long	Set OFF time to a shorter time, Section 8
	Wired incorrectly	Refer to wiring diagram, Section 7
	Manual override switch fitted and set to 'Manual'	Reset according to Section 7
The sensor is false triggering	Heat sources, highly reflective objects or moving objects within the detection area	Remove heat sources / reflective objects, and/or alter sensitivity (Section 8)
Light turns ON during daylight	Lux switch set incorrectly	Adjust the Lux switch to the required level (Section 8)
Lights do not turn ON in dim or dark conditions	Incorrect setting on 'Lux' switch	Reset according to Section 8
	Defective load	Repair / Replace load

17. CONTACT INFORMATION

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