

# 360° Flush Mount Ceiling PIR Light Controller

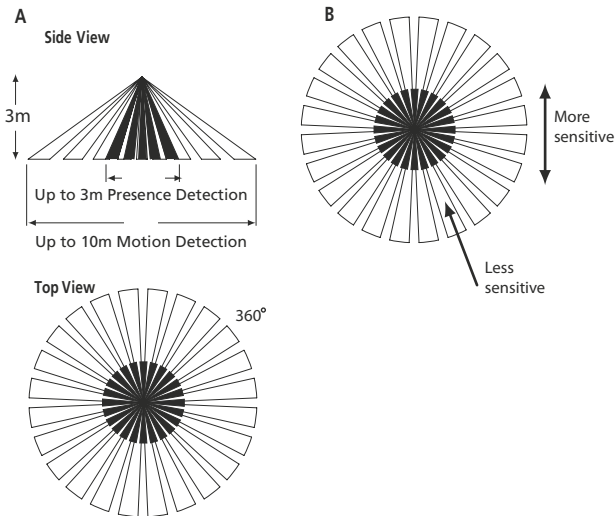
Model: PDFM1500

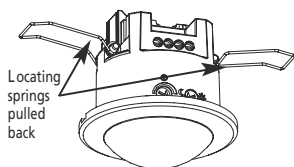
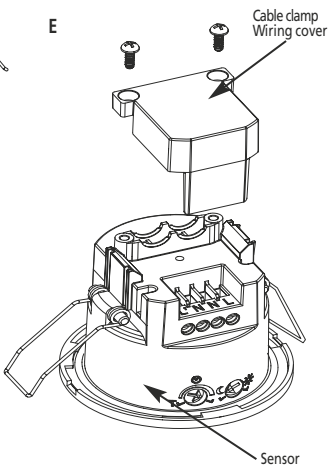
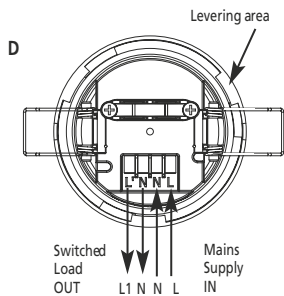
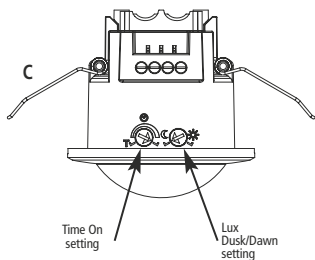


Installation & Operating Instructions

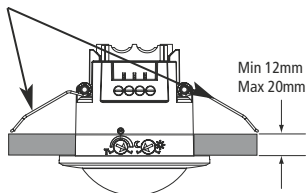
# 1. Introduction

The PDFM1500 utilises passive infrared technology to detect heat radiation of moving human bodies. Upon detection, the attached lighting load will illuminate for a user-determined time period. An integral daylight sensor ensures all day or night-only operation.





Locating springs fitted position



## 2. Parts Included

- PIR Sensor unit.
- Instruction manual. Please keep safe for future reference.
- Accessory Pack. Includes cable clamp wiring cover and 2 x screws.

## 3. Tools & Parts Needed

- 3 core flexible cable.
- Electric/hand-held drill & bits.
- 65mm or 2.5 inch diameter hole cutter.
- Terminal or Electricians screwdriver.
- Small philips screwdriver.
- Wire cutters.
- Suitable mains interconnect cable.

This product is suitable for indoor use only.

## 4. Selecting a Location

The motion detector has a number of detection zones, at various vertical and horizontal angles as shown (see diagram A).

A moving human body needs to cross/enter one of these zones to activate the sensor. The best all-round coverage is achieved with the unit mounted at the optimum height of 3m.

Careful positioning of the sensor will be required to ensure optimum performance. See diagram A detailing detection range and direction.

The sensor is more sensitive to movement **ACROSS** its field of vision than to movement directly **TOWARDS** (see diagram B). Therefore position the unit so that the sensor looks **ACROSS** the likely approach path.

Avoid positioning the sensor where there are any sources of heat in the detection area (extractor fans, tumble dryer exhausts etc.) including opposite any other light sources such as other security lights.

Reflective surfaces (ie pools of water or white-painted walls) and overhanging branches may cause false activation under extreme conditions.

During extreme weather conditions the motion sensor may exhibit unusual behaviour. This does not indicate a fault with the sensor. Once normal weather conditions return, the sensor will resume normal operation.

## 5. Installation

### **IMPORTANT**

**Switch off the electricity at the fuse box by removing the relevant fuse or switching off the circuit breaker before proceeding with the installation. All fittings should be installed by competent person in accordance with IEE Wiring Regulations (BS7671)**

Do not attempt to install if you are suffering from nausea or dizzy spells or on medication with similar side effects. If in any doubt, consult a qualified electrician.

After choosing a suitable location (see previous section) install the unit as follows:

The unit is suitable for connection to a 230 V ac 50Hz electricity supply. It is suggested that 3-core round flexible cable of 1.5 sq. mm gauge is used. An isolating switch should be installed to switch the power to the unit ON & OFF. This allows the sensor to be easily switched off when not required or for maintenance purposes.

Mark the position of the 65mm diameter locating hole centre taking care to avoid ceiling joists and other obstructions within the 65mm diameter. Drill a pilot hole to take the centre shaft of the hole cutter. Use the hole cutter to cut the required hole.

## 6. Connection

Connect the mains supply cable Live core (brown) to L and Neutral core (Blue) to N terminal.

Connect the lighting cable Neutral core (blue) to N and Lighting Live core (brown) to the L1 terminal on the unit as follows (see diagram D):-

<b>LIVE (Brown)</b>	<b>L</b>
<b>NEUTRAL (Blue)</b>	<b>N</b>
<b>NEUTRAL (Blue)</b>	<b>N</b>
<b>LIVE (Brown)</b>	<b>L1 Load</b>

When wiring is complete, fit the cable clamp wiring cover to the sensor unit with the 2 screws provided. (diagram E)

Set the two adjustment controls on the side of the unit (diagram C) to the following positions:

TIME – Fully anti-clockwise (Test mode).

DUSK – Fully clockwise.

Push back the locating springs (diagram D) and feed the unit into the ceiling void via the 65mm hole. The locating springs will now fold back and hold the PDFM1500 in place.

## 7. Setting up

### Walk Test Procedure

TIME – Fully anti-clockwise (Test Mode)

DUSK – Fully clockwise

The unit will now operate during daytime as well as at night, illuminating the lamp for approx. 5 seconds each time. This allows testing to be carried out to establish whether the sensor is covering the required area.

The lamp will immediately illuminate as the unit goes through its "warm-up" period. After approximately 1 minute the lamp will extinguish. Try to remain outside the detection area during the warm-up period.

Walk around the sensor to establish the detection area.

The sensor will detect within an approximately 9 metre diameter circle from the centre of the sensor location with a 3m ceiling.

As you cross a detection "zone" the lamp will illuminate. Now stand still until the lamp extinguishes (this should take approx. 5 seconds).

Start moving again after 2 seconds. As you cross each "zone" the lamp will illuminate.

Repeat the above, walking at various distances and angles to the unit. This will help you to confirm the detection pattern.

### Setting Up for Automatic Operation

When walk tests are complete, the unit can be adjusted for automatic operation :

The TIME setting controls how long the unit remains illuminated following activation & after all motion ceases. To access the controls use a thin flat blade screwdriver to gently lever (see diagram D) the unit clear of the ceiling. Hold in position against the spring pressure while making adjustments.

The Time control knob at fully anti-clockwise is Test Mode, slightly adjust to above the T is minimum time approx. 1 min, whilst the maximum time (fully clockwise) is approx. 30 minutes. Set the control to the desired setting between these limits.

The DUSK control determines the level of darkness required for the unit to start operating. The setting is best achieved by the procedure below:

Set the DUSK control knob fully anti-clockwise. The unit will now start operating at dusk.

If you require the light to activate earlier, wait until the ambient light level reaches the level of darkness at which you wish the lamp to become operative, SLOWLY (a small step at a time) rotate the control in a clockwise direction until a point is reached where the lamp illuminates in response to a hand moving below the unit. Leave the control set at this point.

At this position, the unit should become operative at approximately the same level of darkness each evening.

Observe the operation of the unit. If the unit is starting to operate too early (ie. when it is quite bright), adjust the control slightly anti-clockwise. If the unit starts to operate too late (ie. dusk), adjust the control slightly clockwise.

Continue to adjust until the unit operates as desired.

Once the unit is set up as desired, ease the unit back into position under spring pressure.



## 8. Troubleshooting Guide

### Problem

### Solution

- Lamp stays ON all the time at night.

Cover PIR lens with a thick cloth. If the light turns out, check detection area for heat or reflective source.

If the light stays on, check wiring.

**See Connection.**
- PIR keeps activating for no reason (at random).

Turn off at the isolation switch. Turn back on again after 30 seconds. Leave for approximately 15 minutes.

If light activates, check area for false activation from heat, wind or reflective source.
- PIR sensor will not operate at all.

Check that the power is switched ON at the power supply or isolation switch.

Turn OFF the power to the unit and check the wiring connections.

Check the lamp. If the lamp has failed, replace. Ensure that the lamp is seated correctly in the lampholder. Please note that the unit will not detect through glass. (e.g. in a glazed porch).
- The PIR sensor will not operate at night.

The level of ambient light in the area may be too bright to allow operation at the current DUSK setting. During the hours of darkness, adjust the DUSK control slowly clockwise until the lamp illuminates. Refer to previous section for more details.
- Unit activates during the daytime  
Adjust the DUSK Control setting anti-clockwise to lower the level of ambient light required for activation.

## 9. Technical Specifications

Motion Detection Range:	Up to 10 metres diameter (4.5m Radius) at mounting height of 3m
Presence Detection Range:	Up to 3 metres diameter (1.5m Radius) at mounting height of 3m
Detection Angle:	360°
Power Supply:	230 V AC ~ 50Hz
Maximum Switchable Load:	1500W Halogen or Fluorescent/low energy lighting. <b>Not suitable for discharge lighting.</b> 250W fan load
Time On Adjustment:	1 minute – 30 minutes
Dusk Level Adjustment:	Day & night or night only operation
Environmental Protection:	IP44

## 3 Year Guarantee

In the unlikely event of this product becoming faulty due to defective material or manufacture within 3 years of the date of purchase, please return it to your supplier in the first year with proof of purchase and it will be replaced free of charge. For years 2 and 3 or any difficulty in the first year telephone the helpline on 020 8450 0515.



HELPLINE  
**020 8450 0515**

or email [helpline@timeguard.com](mailto:helpline@timeguard.com)



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