TIMEGUARD®

360° Recessed High Frequency (Microwave) Sensor
Model: HF2R

1. General Information

These instructions should be read carefully and retained for further reference and maintenance.

2. Safety

- Before installation or maintenance, ensure the mains supply to the HF sensor is switched off and the circuit supply fuses are removed or the circuit breaker turned off.
- It is recommended that a qualified electrician is consulted or used for the installation of this HF sensor and install in accordance with the current IEE wiring and Building Regulations.
- Check that the total load on the circuit including when this HF sensor is fitted does not exceed the rating of the circuit cable, fuse or circuit breaker.

3. Technical Specifications

- 230V AC 50 Hz
- Sensor Technology: 5.8G Hz High Frequency
- This PIR is of Class ll Construction and must not be earthed
- Detection Range: Up to 7 metres diameter (3.5m Radius) at a 3m mounting height
- Detection Angle: 360°
- Maximum Switching Load: 1000W Halogen Lighting
  440VA Fluorescent Lighting
  100W LED Lighting
- Time ON Adjustment: 30 seconds to 30 minutes (30s, 1m, 5m, 10m, 30m steps)
- Pulse Adjustment: ON for 1 second, OFF for 9 seconds before activating again
- Dusk Level Adjustment: Day & Night or Night time only (5 to 1000 lux)
- Sensitivity Adjustment: 1 to 3.5 radius downwards, 4 to 10m front
- Sensor Head Adjustment: 55° left or right

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- Operating Temperature: -20°C to +40°C
- Ambient Temperature: -25°C to +70°C
- IP20 Rated suitable for restricted internal applications
- Manual Override: Up to 4 hours
- CE Approved

4. Installation

- Ensure the mains supply is switched off and the circuit supply fuses are removed or the circuit breaker turned off.
- An isolating switch should be installed to enable the power to be switched ON and OFF for maintenance purposes and to activate the manual/auto override function.
- Mark the position of the 64mm diameter locating hole centre, taking care to avoid ceiling joists and other obstructions within the 64mm diameter.
- Using a pad saw or suitable hole cutter to cut out a 64mm diameter hole.

64mm cut-out
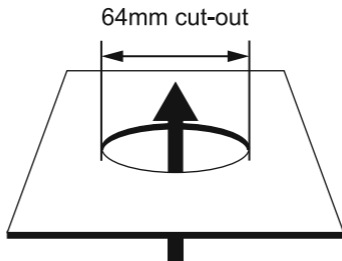
- Pass the 230V 50Hz mains supply and load cables through the hole and prepare for termination.
- Undo the fixing screw located on the far end of the power box (opposite side to the HF sensor) to reveal the connection terminal block. Do not fully remove.
- Terminate the cables into the terminal block ensuring correct polarity is observed and that all bare conductors are sleeved (See section 5. Connection Diagram).
- Re-fasten the fixing screw to conceal the connection terminal block.
- Insert the power module into the ceiling first and then fix the sensor into position using the metal springs.

Power box

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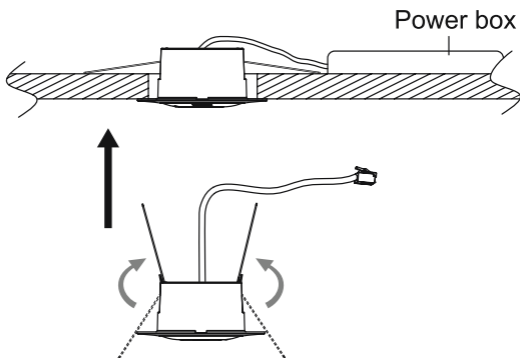
5. Connection Diagram

• Connect the cables to the terminal block in the power box as follows;
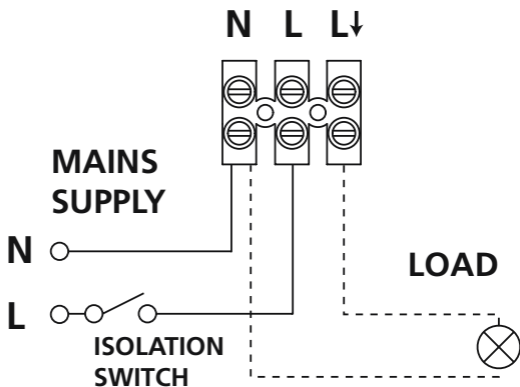
Mains Supply
Live (Brown or Red) to L
Neutral (Blue or Black) to N

Load
Switch Live (Brown or Red) to L↓
Neutral (Blue or Black) to N

6. Setting Up
Walk Test Procedure

- The adjustment knobs are factory set to "Walk Test Mode" i.e. LUX set to the 'Sun' symbol and the Time set to 'Test'.
- Turn the power to the unit ON. The lamp will immediately illuminate as the unit goes through its "warm-up" period. After approximately 30 seconds the lamp will extinguish. This indicates the unit is wired correctly and the unit is in Test Mode.
- Try to remain outside the detection area during the warm-up period.
- The unit will now operate during daytime as well as at night, illuminating the lamp for approx. 3 seconds each time. This allows testing to be carried out to establish whether the HF sensor is covering the required area.
- Walk around the HF sensor to establish the detection area.
- The HF sensor will detect within a 7m diameter (approximately) from the centre of the HF sensor location when mounted at a 3m height.
- As you cross a detection "zone" the lamp will illuminate. Now stand still until the lamp extinguishes (this should take approx. 3 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.


360°

3m High

Ø 7m
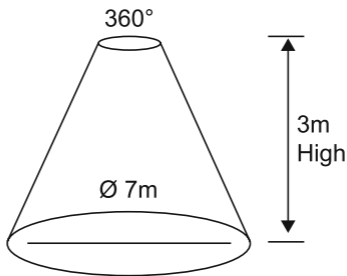
Setting Up for Automatic Operation

- When walk tests are complete, the unit can be adjusted for automatic operation.
- To access and the controls, push down on the inner section HF sensor using the pressure points (indicated by '3 lines' on both left and right hand side of the inner part of the HF sensor – see below image).
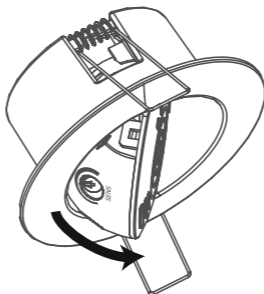
- The TIME1 setting controls how long the unit remains illuminated following activation & after all motion ceases.
- The time can be set variably from 'Pulse' ⊓⌐, 30 sec, 1 min, 5 min, 10min and 30min.
- The HF sensor will start counting down from the last detected movement.
- While there is still movement in the detecting area, the LED indicator will flash once and lighting will remain on and the timer will keep resetting.
- Adjust the time to the desired setting.
- The PULSE setting can be used by setting the TIME1 adjuster to the 'Pulse' symbol ⊓⌐.
- When set to pulse mode the HF sensor will react to any motion in the detecting area, and to the settings of Lux.
- As the sensor is activated,, the LED indicator and lighting will turn on for 1 second, and off for 9 seconds, before it can be activated again.

- The LUX setting determines the level of darkness required for the unit to start operating. The setting is best achieved by the procedure below;

  1. Set the lux control knob fully clockwise.
  2. When the ambient light level reaches the level of darkness at which you wish the lamp to become operative (i.e. at dusk) SLOWLY rotate the control in an anti- clockwise direction until a point is reached where the lamp illuminates.
  3. 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 (i.e. when it is quite light) adjust the control slightly anti-clockwise. If the unit starts to operate too late (i.e. when it is very dark). Adjust the control slightly clockwise.
- Continue to adjust until the unit operates as desired.
- The SENS setting determines the range of detection. This is adjustable between 1m to 7m. Fully anti-clockwise will be approx. 1m. Fully clockwise will be approx. 7m.
- Adjust the sensitivity to the desired setting.

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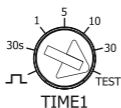
Manual Override

The light can be switched ON for longer time periods by use of the Manual Override Mode. This can be activated by using the isolation switch.

- Switch the isolation switch twice (OFF/ON, OFF/ON) within 2 seconds.
- The unit will now illuminate continuously for up to 4 hours, or until it is switched back into Detection Mode.
- To return to Auto Mode switch the isolation switch OFF and then back ON again within 1 second.

8. Troubleshooting

Problem	Solution
• The unit will not function at all (the lights won't turn ON).	Check the wiring to make sure that you have correct AC power at the unit.
	Check the wiring from the unit to the source of power to make sure you have wired the unit correctly.
	Check the ambient light control to see if it was set at your desired level.
• The detector clicks but does not work.	Check if the lamps have blown, change if required. Check to see if the lamps are secure in the lamp holders.
• The Lights stay ON permanently.	Check unit has not gone into Manual Override mode.
	The light bulb sockets may be wired directly to the power source.
	Recheck the connection diagram (see section 5. Connection Diagram).
	Adjust time to minimum, and ensure unit is firmly fixed to a solid object with no moving branches etc. in field of view.
	Ensure detector is not being activated by stray moving heat sources such as heating outlets, car etc.

If you experience problems, do not immediately
return the unit to the store.
Telephone the Timeguard Customer Helpline:

HELPLINE
01582 544 548

or email helpline@timeguard.com

Qualified Customer Support Coordinators will be online
to assist in resolving your query.

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