

ES604A HF Motion Sensor Power Controller

User Manual



General

The ES604A is an active motion sensor that emits high-frequency waves (5.8GHz). The sensor detects the change in the echo return, and is sensitive to movement in its detection zone.

The ES604A is designed to be used in a device or system and must not be operated without appropriate protective covering.

If, after reviewing this guide, you require additional information or assistance please contact Eco Heat Equipment at info@ecosensor.co.za, +27 (0)861 999 887, or www.ecosensor.co.za.

Technical Specifications

- Voltage: 220 – 240V/AC
- Frequency: 50/60Hz
- Working temperature: -15°C to 70°C
- Load: Incandescent max: 1 000W
Fluorescent max: 600W
LED max: 300W
- Detection Range: 1 – 12m radius
- Detection Angle: 360°
- Light level: 2 – 2000 LUX
- Time setting: 10 seconds – 30 minutes
- Installation height: 2.5m – 3.5m
- Motion Sensor HF system: 5.8GHz CW radar, ISM band
- Motion Sensor transmission power: <0.2mW RF power
- Dimensions: 76mm* (L) x 42mm (W) x 42mm(H)
(* excludes mounting foot – total length 90mm)

Safety

Any incorrect use or installation procedure not recommended by the manufacturer may cause fire, electrical shock or injury to persons.

Box Contents

- Your box should contain the following items:
- HF Sensor

WARNING:

Controlling a load in excess of the specified ratings will damage the unit and lights and could pose risk of fire and electric shock.

Do not install this unit to control a power socket.

Installation Instructions

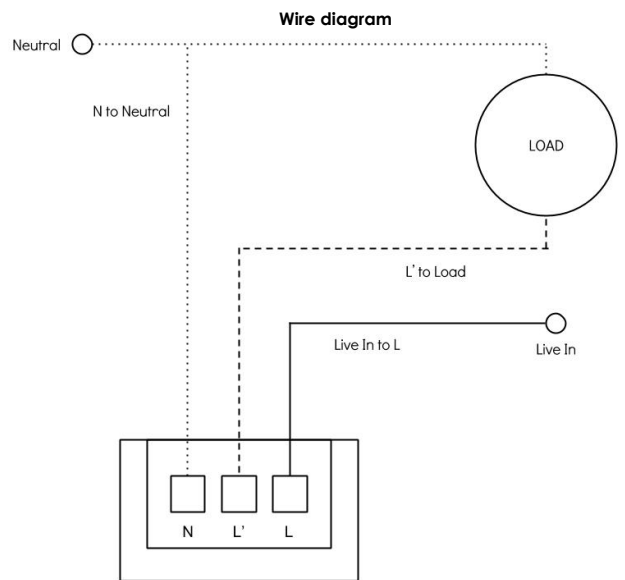
WARNING: THE ES604A IS DESIGNED TO BE A COMPONENT IN A DEVICE OR SYSTEM AND IS NOT SUITABLE TO BE USED IN ITS CURRENT FORM. ENSURE THE USE OF THE ES604A IS IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES AND STANDARDS.

Note: Do not install the motion sensor on unstable or vibrating surfaces, or near doors and windows where outside movement may be detected. Motion may be detected through ceilings, drywall, wood or plastic.

Sensor calibration:

Note: Allow up to 1 minute for the motion sensor to recalibrate after it has been connected for the very first time. This is only necessary during installation or when the mains supply is disconnected.

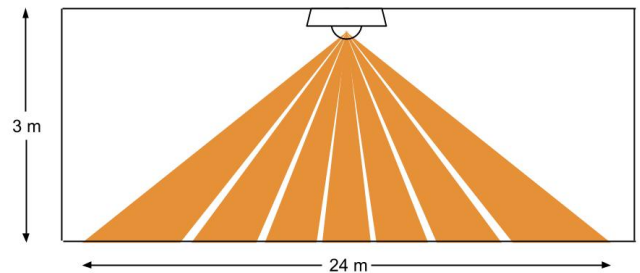
Note: After the connected device switches OFF, it takes approximately 4 seconds before it is able to start detecting movement again. The connected device will only switch on in response to movement once this period has elapsed.



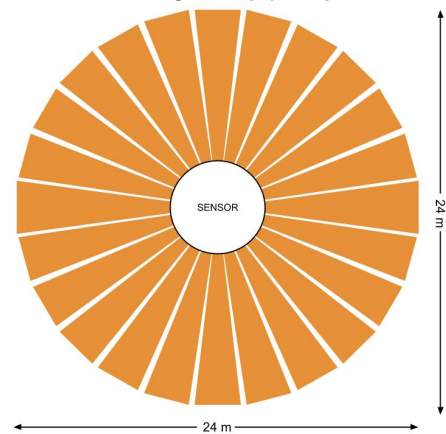
Operation and Field of View

The motion sensor detects motion within its coverage area and controls the associated load connected to the sensor. For best performance, persons or objects moving towards the sensor are ideal. Detection is possible through wooden doors, panes of glass, dry wall, ceiling tiles, or thin brick walls. Beware of windows facing passages or roads.

Ceiling Mount



Ceiling Mount (top view)



Motion Sensor Settings and Adjustments

The motion sensor is a high frequency (HF) type electronic occupancy detector, which in turn switches a load when connected to the motion sensor. There are three adjustments that can be made to influence the operation of the motion sensor:

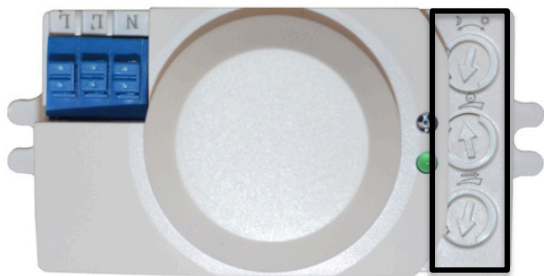
1. RANGE: motion detection range
2. TIME: time delay after motion until shut off
3. LUX/LIGHT: level of ambient light sensitivity

The three adjustments settings are as follows:

- | | |
|--------------------------|------------------|
| Detection range: | 1m to 12m radius |
| Time setting range: | 10 sec to 30 min |
| Lux (light) sensitivity: | 2 to 2000 LUX |

The motion sensor's settings can be adjusted as follows:

NOTE: The three adjustment controls are connected to the components directly using a small stopper. Please exercise caution when adjusting, and never attempt to turn beyond the 270° adjustment range.



Step 1 – Adjust the TIME setting to minimum

Turn the TIME control fully anti-clockwise to set to the 10 second testing setting.

Step 2 – Adjust the LUX/LIGHT setting to maximum

Turn the LUX/LIGHT fully clockwise to set to maximum (sensor functioning in all lighting conditions).

Step 3 – Adjust the RANGE setting

Turn the RANGE control fully anti-clockwise. Move away from the sensor until the LED stops blinking. This will be the minimum detection range for the setting. To increase the range, turn the control clockwise until the desired distance is reached (1m – 12m maximum).

Step 4 – Adjust the LUX/LIGHT setting

If the LUX/LIGHT control is set to maximum (fully clockwise), the lights will turn ON whenever the room is occupied, even in full daylight.

Alternatively, turn the LUX/LIGHT anti-clockwise until the desired LUX setting is achieved.

Step 5 – Adjust the TIME setting

Turn the TIME control clockwise until the desired delay is reached (10 seconds to 30 minutes).

Factory time out is pre set to 10 seconds.

NOTE: All the time intervals are within approximately 10 seconds of the stated time out interval.

OTHER CAUTIONS:

Disconnect power when working on electrical outlets or components. Do not push on the surface of the lens.

Cleaning

Carefully wipe sensor with a soft damp cloth.

Recycling

Please recycle all packaging material that came with the motion sensor.

Warranty

The sensor has a three (3) year warranty after the date of the original purchase. Please keep your original receipt, as this will be required for any claims under this warranty. The warranty is a strictly carry in policy. (The sensor/s must be returned to Eco Heat offices for a claim to be processed).

The warranty does not cover:

- damage from misuse,
- neglect or abuse,
- products that have been modified in any way,
- shipping and handling cost associated with the product,
- damage resulting from accidents, lightning, fire, water, power surges, natural disasters and/or incorrect installation

For more information, view the Return/Refund Policy at www.ecosensor.co.za.

Trouble Shooting

Malfunction	Possible Cause	Remedy
The unit will not switch "on"	<ul style="list-style-type: none"> a. No mains power b. No movement is detected (in detection zone) c. Wrong LUX/LIGHT level setting d. Electrical circuitry faulty e. Electrical Installation not done correctly f. Unit may be faulty 	<ul style="list-style-type: none"> a. Check mains power is on b. Move towards the unit (in detection zone) or increase the detection range settings c. Adjust setting on the LUX/LIGHT settings d. Refer to the 'Electrical Installation' section to ensure correct installation e. Have a certified electrician disconnect and test the unit f. Contact Eco Heat Equipment
Unit stays "on" permanently	<ul style="list-style-type: none"> a. Continuous movement in detection zone b. The sensor is not mounted correctly for reliable operation c. Wrong LUX/LIGHT level setting d. Time setting control is set too high e. Unit may be faulty 	<ul style="list-style-type: none"> a. Check detection range setting and reduce detection range sensitivity b. Check detection range setting and mounting procedure c. Adjust setting on the LUX/LIGHT settings d. Adjust the time setting control e. Contact Eco Heat Equipment

Due to minor improvements in design or otherwise, the product you purchase may differ from the one shown in this leaflet. For more information or advice on this or any other Eco Heat Equipment products, visit www.ecosensor.co.za or phone +27 (0)861 999 887.

Indemnity: The Author, and supplier, shall not be held liable for any loss, injury or damage, of whatsoever nature, whether consequential or not, either contractual sustained to, or caused by, or which may arise through the use of any comments, suggestions, circuitry, services or equipment offered for purchase. The User, indemnifies the author and supplier, and agrees not to hold him/her responsible for any damages, losses and/or liabilities (including legal costs on a scale as between attorney and user) arising from, or through the use of circuit diagrams, equipment and services, whether such circuit diagrams, equipment and services were used with the consent of the User or not. All risks attached to the use of circuit diagrams, equipment and the connection thereof to the User's equipment shall be deemed to have passed onto the User, once having purchased such equipment from the author or supplier.

