ENSA™
Energy Saving Devices

ENSA-MS3

MICROWAVE SENSOR SWITCH

INSTRUCTION MANUAL

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CE ⌂ FC

Thanks for choosing the ENSA-MS3 Microwave Sensor Switch.

This product is an energy saving switch; it is based around a 5.8GHz microwave motion sensor, light sensor and control electronics. The ENSA-MS3 sensor switch will switch on the load when it detects movement inside the detection field. The sensor switch will only switch the load on if the measured lux level is below a set threshold. An adjustable timer then controls the time the light remains on after the last detected motion. As this sensor switch uses microwave motion detection, it features a wide detection range and unlike PIR sensors, it may detect occupants through doors, glass windows or thin walls.

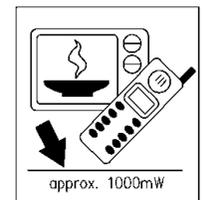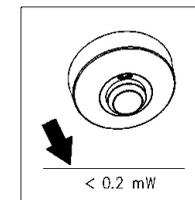**For installation only by a qualified Electrician**

SPECIFICATIONS			
AC Input Voltage	220 ~ 240VAC	**HF System**	5.8GHz CW radar ISM band
AC Input Frequency	50Hz	**Motion Detect Shape**	360° / 180° (ceiling / wall)
Light Sensing	<3 ~ 2000lx (adjust.)	**Motion Detect Range**	5~15m radius (adjust.)
On-time Delay	10s ~ 12min (adjust.)	**Motion Detect Speed**	0.6 ~ 1.5m/s
Rated Load	1200W (R) / 300W (I)	**Transmission Power**	<0.2mW
Power Consumption	0.9W	**Rec. Install Height**	1.5 ~ 3.5m

FUNCTION:

- Adjustable light sensor can be set to 3 to 2000lx via dials. Configure your own dusk to dawn settings to automatically control light activation.
- 360°/180° adjustable microwave motion sensor can be set to detect movement in a 5m to 15m radius via dials. Tailor motion detection to your exact specifications.
- Time delay before load switch off is adjustable between 10 seconds and 12 minutes.
- Time delay before switch off is automatically reset when the sensor detects movement, even if the light is still on. This means that intermittent movement will keep the light on.
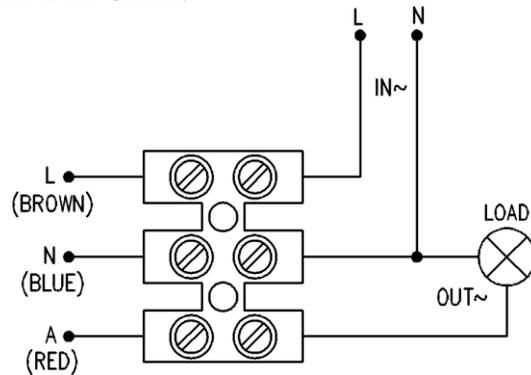- Lux sensing is disabled while the load is on to prevent false trigger of the light sensor.

Radio Frequency Emission: The RF output of the microwave sensor inside this product is less than 0.2mW - this equates to 1/5000th of the transmission power of a mobile phone or leakage output of a microwave oven.
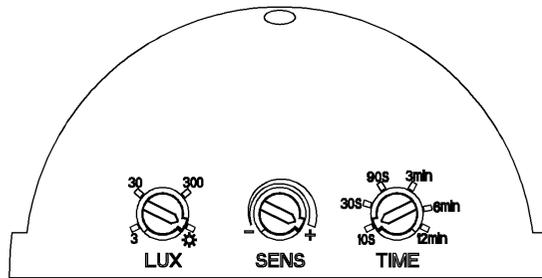
< 0.2 mW   approx. 1000mW

INSTALLATION:

- Ensure all AC power is switched off.
- Loosen the screw on the case bottom, open the wiring hole and pass the power/load wire and load through the case bottom.
- Fix the case bottom to the desired location with included screws.
- Connect the power and load wires as per the connection-wire diagram.
- Secure the sensor to the bottom case, tightly twisting the screw, then power on and test.

CONNECTION-WIRE DIAGRAM：

TESTING THE INSTALLATION:

- Turn the LUX knob clockwise to maximum setting (sun). Turn the SENS knob clockwise to maximum setting (+).
- Turn the TIME knob anti-clockwise to the minimum setting (10s).
- When you switch on the power, the light will turn on immediately. 10 seconds later the light should turn off automatically. If motion is detected after this, the light should turn on. This indicates normal operation.
- If the motion sensor detects movement while the light is still on, it will reset the on-timer delay, causing the light to remain on.
- Turn LUX knob anti-clockwise to the minimum setting (3). If ambient light levels are less than 3 lux (darkness), the sensor switch will go into motion sensing mode.

Note: when testing in daylight, please turn LUX knob to (SUN) position to allow the sensor to work.

INSTALLATION NOTES:

- This product must be installed & maintained only by a qualified, licensed electrician.
- Install the product in a secure location that does not sway or vibrate.
- Objects placed in front of the sensor may affect the sensing range.
- Avoid installation near metal or glass surfaces as this will affect reception range.
- For your safety, do not open case after installation (qualified electricians only).
- Install a 6A switch or circuit breaker in-line with the switched load to prevent sensor damage due to overloading.

TROUBLESHOOTING:

- The connected load does not turn on:

  a. Check the input power to the sensor. Ensure supplied voltage is between 220~240VAC.

  b. Check to see if the indicator light is turned on after triggering – if it is, check the wiring to the load.

  c. If the indicator light does not turn on after triggering, try increasing the value of the LUX daylight sensor settings.

- Poor motion detection sensitivity:

  a. Ensure there are no objects between the sensor and the desired sensing location as this could reduce the range.

  b. Ensure that there are no other devices using the 5.8GHz band in close proximity to the detector (eg: Wireless LAN, CCTV transmission equipment, etc.)

  c. Ensure the installation height is 1.5-3.5m.

- The sensor does not turn off the load:

  a. Check the TIME knob to ensure that the correct on-time delay has been selected.

  b. Ensure that there are no other devices using the 5.8Ghz band in close proximity to the detector (e.g. Wireless LAN, CCTV transmission equipment, etc).

  c. Ensure that the power drawn by the load is less than 1200W for a resistive load and 300W for an inductive load.