

ENSA™

Energy Saving Devices

ENSA-MS1 SENSOR SWITCH



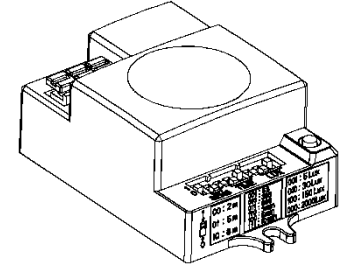
INSTRUCTION MANUAL

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Thanks for choosing the ENSA-MS1 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-MS1 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, windows or thin walls.



For installation only by a qualified Electrician

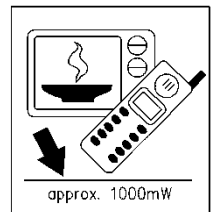
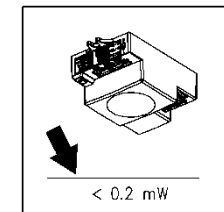
SPECIFICATIONS

AC Input Voltage	220 ~ 240VAC	HF System	5.8GHz CW radar ISM band
AC Input Frequency	50/60Hz	Motion Detect Shape	wall 180° / ceiling 360°
Light Sensing	<5 ~ 2000lx (adjust.)	Motion Detect Range	wall 5~15m / ceiling 2~8m
On-time Delay	5s ~ 10min (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	wall 1.5~3.5m / ceiling 2~6m

FUNCTION:

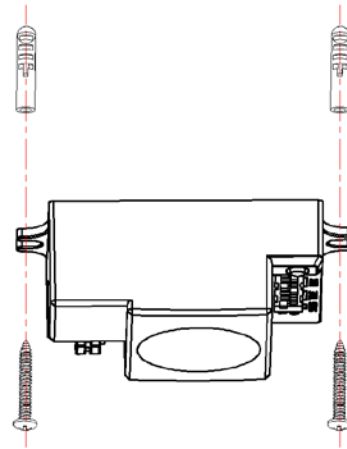
- Adjustable light sensor can be set to 5 to 2000lx via dials. Configure your own dusk to dawn settings to automatically control light activation.
- Motion sensor can be adjusted according to location; low sensitivity with 4m for detection distance; High sensitivity with 16m for large room.
- Time delay before load switch off is adjustable between 5 seconds and 10 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.

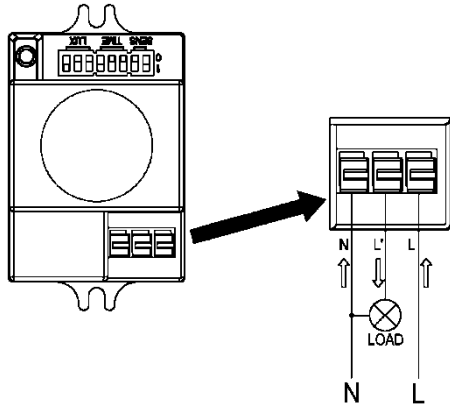


INSTALLATION: (see the diagram)

- Ensure all AC power is switched off.
- Fix the bottom on the selected position with the screw through the screw holes in the side of the sensor.
- Connecting the power and the load to sensor as per the connection-wire sketch diagram.
- Switch on the power to test.

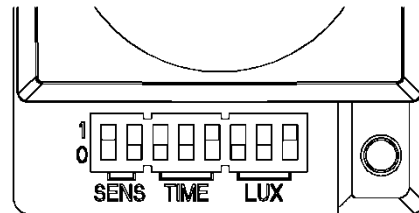


CONNECTION-WIRE DIAGRAM:



TESTING THE SENSOR SWITCH:

- Slide the SENS knob: The first knob on “1” position, the second knob on “0” position. Slide the TIME knob: The first knob and second knob on “0” position, the third knob on “1” position. Slide the LUX knob: first knob on “0” position, second and third knob on “0” position.
- When you switch on the power, the light will turn on immediately. 5 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 from that moment.
- Slide LUX knob, first and second knob on “0” position, the third knob on “1” position. If the ambient light is < 5LUX (darkness), the sensor switch will go into motion sensing mode.



00 : 2m	001 : 5S	001 : 5 Lux
01 : 5m	010 : 30S	010 : 30Lux
10 : 8m	011 : 90S	100 : 150 Lux
	110 : 3min	000 : 2000Lux
	100 : 5min	
	111 : 10min	

Note: When testing in daylight, you must slide LUX knob to (000) 2000lux 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.
- Obstructive objects placed in front of the sensor may affect the sensing range.
- Avoid installation near metal or glass surfaces as this may 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 (ceiling) 2~6m / (wall) 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.