

1MS500W2 (1.0kW) User Manual

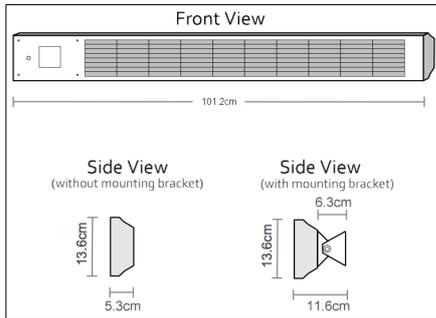
General

Your Eco Heat 1MS500W2 heater with integrated motion sensor has been designed to save power. With normal care and maintenance, your 1MS500W2 heater will provide years of satisfactory performance.

The heater contains an integrated microwave sensor, which 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.

This heater has been designed for use on 230 V circuits. Do not use it in areas where a standard voltage of 230 V is not provided.

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



Technical Specifications

- Input heater supply: 230V, 50 Hz on earth leakage
- Power consumption: 1000W
- Dimensions: 101.2cm(L) x 5.3cm*(W) x 13.6cm(H) (* excludes mounting bracket)
- Indoor heat coverage area: $\pm 10 \text{ m}^2 - 13 \text{ m}^2$
- Power density: $\pm 77 \text{ W per m}^2$ to 100 W per m^2
- Weight: $\pm 3.3 \text{ kg}$
- Minimum cord: $\pm 2 \text{ m}$
- Electrical Classification: Class I device
- Rated load for heater: 1000W at 230VAC
- Motion Sensor HF system : 5.8GHz CW radar, ISM band
- Motion Sensor transmission power: $<0.2 \text{ mW RF power}$
- Motion Sensor default time setting: ± 30 minutes
- Motion Sensor default reach setting: ± 10 meters
- Motion Sensor default lux setting: Off/24Hrs
- Motion Sensor detection range: 160°

Safety

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

- This heater is hot when in use, to avoid burns, do not allow bare skin to touch it.
- Keep combustible materials such as furniture, pillows, bedding, clothes and curtains at least 1000 mm away from the heater.
- Do not cover or hang anything over the heater as it may combust.
- Fire risk exists if the heater is covered or positioned incorrectly.
- Do not leave the heater unattended while in use.
- Always turn the heater off when not in use.
- Avoid using an extension cord as this may overheat and cause a risk of a fire. If an extension cord must be used, the cord must be 3-core and rated at 10A minimum.
- To move the heater, switch the unit off and let it cool for at least 15 minutes.
- Never locate the heater where it might fall into a bathtub or other water container. If the heater is to be used in a bathroom, the unit is to be installed so that switches and other controls cannot be accessed by a person in the bath or shower.
- Do not insert foreign objects past the heater's grid. The elements are extremely hot and the risk of electrical shock under fault conditions exists.

Safety (Cont'd)

- The heater is not watertight or flameproof. Do not use the heater in rooms with explosive gas or fumes (e.g. petrol) or while using other flammable substances.
- Keep the mains cord at a safe distance from the main body of the heater.
- Do not run the mains cord under carpeting. Do not cover the cords with throw rugs, runners or other floor coverings. Arrange the cords away from traffic areas where they will not be tripped over.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- If the mains cord is damaged do not use the heater. Only the manufacturer, its service agent or a qualified electrician should replace the mains cord.

Box Contents

Your box should contain the following items:

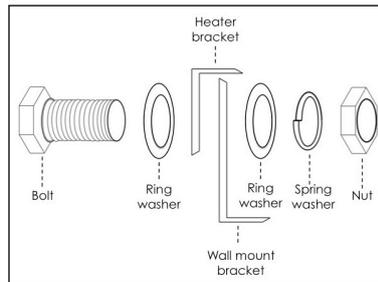
- One 1MS500W2 heater
- Two bolts
- Four ring washers
- Two wall mounting brackets
- Two spring washers
- Two nuts

Mounting

Step 1 – Bracket assembly

Assemble the bracket in the following order:

- Bolt, ring washer, heater bracket, wall mounting bracket, ring washer, spring washer, nut.



Step 2 – Heater positioning

- Install the heater 1.8 m to 2.3 m above the floor.
- A minimum unobstructed distance (minimum clearance) of 200 mm must be maintained between the heater and any object that may affect the operation or safety of the unit or object.
- Mount/place the heater where it is out of reach of small children.

Step 3 – Wall Mounting

- The wall mounting structure and the anchoring provisions must be of sufficient strength to support the weight of the heater, elements and all accessories.
- Ensure the heater is mounted with the 'This side up' sticker pointing up.
- Attach the heater to the wall with four screws/bolts using the holes provided in the wall mounting bracket.
- Adjust the heater downwards at approximately a 15 degree angle. Refer to Appendix A.

Electrical Installation

All wiring must be done in accordance with National and Local Electrical Codes and Standards.

The heater operates from a normal 15 A 3 pin socket outlet on earth leakage on a 230 V system, or connects directly on a 230 V, 2-pole isolator on earth leakage.

Operation

The heater will automatically start working once it has been connected to the correct 230 V power source and the integrated motion sensor detects movement in its detection zone. The LED light will glow to indicate the heater is on.

Radiant heat will be felt in front of the reflector after about 30 seconds, and continue to increase in intensity for 3-4 minutes.

Operation (Cont'd)

Microwave Sensor calibration:

Note: Allow up to 30 seconds 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. The heater will not function during this calibration.

Motion sensor best practices

For best performance, persons or objects moving towards the heater are ideal. Detection is possible through wooden doors, panes of glass, "dry" walls, ceiling tiles, or thin brick walls. Beware of windows facing passages or roads.

Motion sensor settings and adjustment

See Appendix B for motion sensor settings and adjustment.

Infrared Radiation

The heater uses infrared radiation to heat objects. Do not stare into the heater for prolonged periods at a short distance without adequate eye protection as this may cause damage to the eyes.

Take adequate precautions to safeguard against excessive exposure, by moving further away from the heater or switching the heater off when heat becomes uncomfortable.

Maintenance

The heater contains no user serviceable parts. The elements should last in excess of 10 000 hours (depends on operating cycles, temperature etc.).

If the heater has not been in use for a while, ensure it is disconnected from the power source. Dust the elements with a soft duster to remove excess dust. This should prevent odors after first use.

Cleaning

Clean the outside of the heater only when it is disconnected from the power source and cool. If it has been in operation, switch off and wait for at least 15 minutes.

Carefully wipe the exterior of the heater with a soft damp cloth and dry thoroughly with a dry cloth. Do not use harsh or abrasive cleaners to clean your heater, as these may damage the surface.

Do not let the inside of the heater get wet as this may cause a risk of electrical shock.

Trouble Shooting

See Appendix C for trouble shooting.

Recycling

Please recycle all packaging material that came with the heater.

If you are replacing an old heater, please go to www.ewasa.org or contact Eco Heat for information on responsible disposal or recycling.

Warranty

The heater has a one 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 covers workmanship, materials and is limited to the purchase price of the heater.

The warranty does not cover:

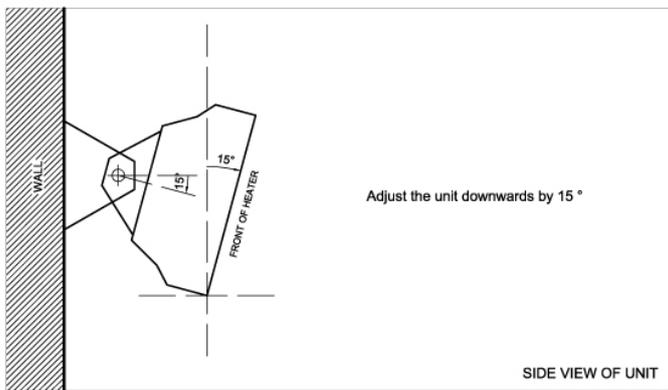
- damage from misuse,
- neglect or abuse,
- products that have been modified in any way,
- shipping and handling cost associated with the replacement of the product.

For more information, view the Returns / Refund Policy at www.ecoheat.co.za/terms.php.

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.ecoheat.co.za or phone +27 (0)861 999 887.



Appendix A: Heater Mounting Angle (15%)



Appendix B: Motion sensor settings and adjustments

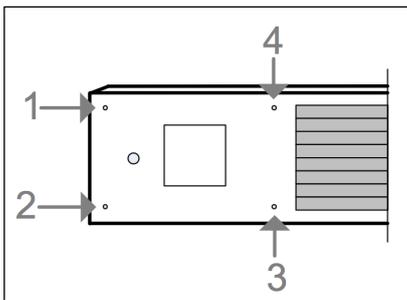
WARNING: Only the manufacturer, its service agent or a qualified electrician should adjust the motion sensor settings.

The motion sensor is an HF "Doppler" type electronic occupancy detector, which in turn drives a high current AC relay to do the switching of the heater. There are three adjustments that can be made to influence the operation of the heater, i.e. "detection range", "time setting" and "lux (light) sensitivity":

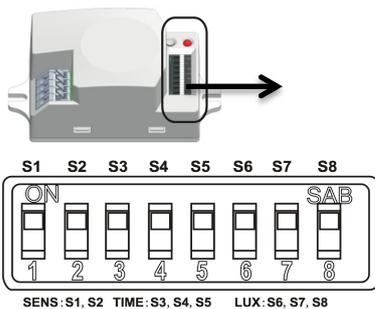
Detection range: 2m to 10m
 Time setting range: 10sec to 30min
 Lux (light) sensitivity: 10 to 2000 lux

Step 1 – Open the motion sensor cover window

Disconnect the unit from the power source. Let it cool for at least 15 minutes. Open the motion sensor cover by unscrewing the 4 torx screws as shown below:



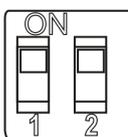
The motion sensor is located under the cover removed above. There are 8 settings on the motion sensor that control the range, time and lux.



Step 2 – Adjust the detection range of the motion sensor (if applicable)

The detection range is the term used to describe the radius of the circular detection zone produced on the ground after mounting the unit at a height of about 2m.

ON position = "1"
 OFF position = "0"



SENS: S1, S2

S1	S2	RANGE
0	0	2m
0	1	5m
1	0	8m
1	1	10m

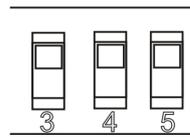
WARNING: If the sensitivity is adjusted too high, the sensor will pick up movement such as curtains blowing in the wind, small animals or movement through windows and thin walls. If the sensor is too sensitive, adjust the detection range lower.

Step 3 – Adjust the time setting of the motion sensor (if applicable)

The time setting will determine the time that needs to lapse before the motion sensor switches off due to lack of movement in the detection area. Any movement detected during the time setting will restart the timer and keep the heater on.

ON position = "1"
 OFF position = "0"

Step 3 – Adjust the time setting (Cont'd)



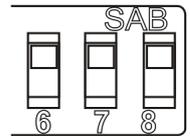
SENS: S3, S4, S5

S3	S4	S5	TIME
0	0	0	10s
0	0	1	1min
0	1	0	5min
0	1	1	10min
1	0	0	15min
1	0	1	20min
1	1	0	25min
1	1	1	30min

Step 4 – Adjust the lux setting of the motion sensor (if applicable)

The lux (light) sensitivity can be used to ensure the unit only operates during minimum lux settings. The lux setting can also be disabled by setting it to the '24hr' position, (S6="0", S7="0", S8="0") meaning the lux (light) level will have no effect on the operation of the unit.

ON position = "1"
 OFF position = "0"



LUX: S6, S7, S8

S6	S7	S8	LUX
0	0	0	24H
0	0	1	10LUX
0	1	0	20LUX
0	1	1	50LUX
1	0	0	100LUX
1	0	1	200LUX
1	1	0	300LUX
1	1	1	500LUX

Appendix C: Trouble Shooting

Malfunction	Possible Cause	Remedy
The unit will not switch "on"	a. No mains power b. Heater supply 2-pole isolator is not in the 'on' position c. No movement is detected (in detection zone) d. Wrong lux level setting e. Electrical circuitry faulty f. Electrical installation not done correctly g. Unit may be faulty	a. Attach mains power b. Switch the heater supply 2-pole isolator to the on position c. Move towards the unit (in detection zone) or increase the detection range settings d. Adjust setting on the lux (light) settings e. Have a certified electrician disconnect and test the unit f. Refer to the 'Electrical Installation' section to ensure correct installation g. Contact Eco Heat Equipment
Unit stays "on" permanently	a. Continuous movement in detection zone b. The sensor is not mounted correctly for reliable operation c. Movement identified behind a wall d. Wrong lux level setting e. Unit may be faulty	a. Check detection range setting and reduce detection range sensitivity b. Check detection range setting and mounting procedure c. Reduce detection range sensitivity or adjust the mounting position d. Adjust setting on the lux (light) settings e. Contact Eco Heat Equipment
The LED light is "on", but no heat can be detected	The heater elements or the unit circuitry may be faulty	Contact Eco Heat Equipment

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