

WARRANTY THUNDERBIRD

Electric Fence Energisers

Thunderbird warrants all electric fence energisers against defective workmanship and faulty materials for 2 years, **plus** a warranty for 6 months against lightning damage, from the date of purchase. We undertake, at our option, to replace or repair free of charge each product, or part thereof, on condition that it is returned to our factory or authorised agent freight prepaid, and found on examination to be suffering from material or constructional defect. We cannot be held responsible for any repair other than those carried out by us or our authorised agents.

A photocopy of your proof of purchase and a request for warranty must also be returned to us or an authorised agent with the item.

This warranty is void if the product is subject to improper use or handling, incorrect power input voltage, damage through contact with chemicals, flooding, fire, explosion, excessive heat, lightning strikes outside the lightning warranty period, insect or moisture damage, or damage to external wiring.

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For your records:

Model No.:

Serial No.:

Date of Purchase:

Place of Purchase:

Receipt No.:

THUNDERBIRD

MB65 - MB130

INSTRUCTIONS

**THIS ENERGISER MAY BE POWERED FROM THE MAINS USING THE SUPPLIED PLUG PACK ADAPTOR OR A BATTERY.
A SOLAR KIT IS AVAILABLE FOR SOLAR POWERED OPERATION.**

NOTE: READ ALL INSTRUCTIONS INCLUDING HELPFUL HINTS BROCHURE BEFORE USING THIS FENCE ENERGISER.

This range of energisers are highly efficient electrical appliances. Installed and used correctly, these products should provide years of reliable service. These energisers have an "O" ring seal for protection against moisture and insect damage.

WARNING:-

1. Regular inspections of electric fences must be undertaken to ensure continued operational safety and compliance. See "INSTRUCTIONS FOR INSTALLATION AND CONNECTION OF ELECTRIC FENCES FOR ANIMALS" detailed over the page.
2. Persons coming into contact with high voltage pulses on a high output connection may have their normal physiological functions interrupted.
3. Young children and infirm persons should not be left unsupervised in the vicinity of an electric fence energiser or fence.
4. Do not use copper wire. Electrolysis will occur and cause problems over time.
5. Output voltage reduces when the battery is near flat.

INSTRUCTIONS

Place the energiser in a suitable position under cover for connection to the fence, preferably at the middle of the fence line if powered by a battery. Install the energiser in a shed or building if powered by a mains plug pack adaptor. Mount energiser upright with fence terminals to bottom and mounting holes to the top, tighten fasteners to secure energiser to structure. Drive one or more galvanised earth stakes approximately 1.5m into the ground. Connect the live wire to the fence or red terminal, and the earth stake to the earth or green terminal. Once all the fence has been installed, and is being powered by a battery, connect the red battery clip to the positive terminal of a 12V battery and the black clip to the negative terminal.

Correct earthing is extremely important. It is the other half of the electric fence. In dry conditions or sandy soil, run an earth wire as well as the live wire as part of the fence, connect any existing fence to the earth stakes, and drive in extra earth stakes every 1.5km.

The energiser displays the voltage on its terminals. It is a guide as to the condition of the fence. A circular segment in the top centre of the display flashes with every energiser pulse. If the battery voltage falls to approximately 11.5V at low battery indication will be displayed. Once the battery voltage falls to 11V the energiser will stop and the low battery segment will be continuously on. If the battery voltage falls below approximately 8V, the energiser will shut off completely. The energiser will start operating normally again when the battery voltage exceeds 12V. These cutouts are intended to protect your battery.

These energisers have built in self testing. If there is a problem with the unit you will see an error code displayed. Return it for repair. If the displayed voltage is low, turn off the unit, disconnect the fence from the energiser, then turn it back on. If the displayed voltage is around 8.0kV, there is a problem with the fence. If the displayed voltage is still low, there may be a problem with the energiser.

INSTRUCTIONS FOR INSTALLATION AND CONNECTION OF ELECTRIC FENCES FOR ANIMALS.

The following safety information is part of the Australia/New Zealand standard AS/NZS 60335.2.76:2003 amendment 2. Refer to AS/NZS 3014:2003 for full details on electric fence installation.

- >Electric fences must be installed and operated so that they do not cause an electrical hazard to persons, animals or their surroundings.
 - >Construction of electric fences that is likely to lead to the entanglement of animals or persons is to be avoided.
 - >An electric fence must not be supplied from two separate energizers or from independent fence circuits of the same energiser.
 - >For any two separate electric fences that are each supplied from a separate independently timed energiser, the distance between the wires of the two fences must be at least 2.5 metres. If this gap is to be closer, it must be effected by means of electrically non-conductive (insulating) material or an isolated metal barrier.
 - >Barbed wire or razor wire must not be electrified by an energiser.
 - >A non-electrified fence incorporating barbed or razor wire may be used to support one or more off-set electrified wires of an electric fence. The supporting devices for the electrified wires must be constructed so as to ensure that these wires are positioned at a minimum distance of 150mm from the vertical plane of the non-electrified wires. The barb or razor wire is to be earthed at regular intervals in accordance with Thunderbird's earthing recommendations.
 - >A distance of a least 10 metres must be maintained between the energiser's earth electrode and any other earthing system connected parts—for example mains power protective earth or telecommunication system earth.
 - >Electric fence connecting leads located inside buildings must be effectively insulated from the earthed structural parts of the building, for example, use suitable high voltage insulated cable.
- Important:** always ensure metal parts of the building are effectively earthed.
- >Electric fence connecting leads located underground must be run in suitable conduit of insulating material or high voltage cable to be used. Care must be taken to ensure that the effects of animal hooves or vehicle wheels (e.g. tractor) sinking into ground cannot damage connecting leads.
 - >Electric fence connecting leads must not be installed in the same conduit as the mains power supply wiring, communication cables or data cables.
 - >Crossing with overhead power lines must be avoided wherever possible. If such a crossing cannot be avoided it must be made underneath the power line and as near as possible at right angles to it.

>If electric fence connecting leads and wires are installed near an overhead power line, the clearances must not be less than indicated in the table below.

Power line voltage	Clearance (metres)
Up to 1,000	3
1,000 V - 33,000	4
Greater than 33,000	8

>If electric fence connecting leads and wires are installed near an overhead power line, their height above the ground must not exceed 3 metres. This height applies either side of the orthogonal projection of the outermost conductors of the power line on the ground surface, for a distance of:-

- 2 metres for power lines operating at nominal voltage not exceeding 1000V.
- 15 metres for power lines operating at a nominal voltage exceeding 1000V.

>Electric fences intended for deterring birds, household pet containment or training animals such as cows need only be supplied from a low output energizer to obtain satisfactory and safe performance.

>For electric fences intended for deterring birds from roosting on buildings, no electric fence wire shall be connected to an earth electrode. A warning sign must be fitted to every point where a person or persons may gain access to the conductors.

>Where an electric fence crosses a public pathway, a non-electrified gate must be incorporated in the electric fence at that point or a crossing by means of stiles must be provided. At any such crossing, the adjacent electrified wires must carry warning signs.

>Any part of an electric fence that is installed along a public road or pathway must be identified at frequent intervals by warning signs securely fastened to the fence posts or firmly clamped to the fence wires.

>The size of the warning sign must be at least 100mm x 200mm. The background color of both sides of the warning sign is to be yellow. The inscription on the sign is to be black and shall be either the symbol shown (Fig. 1) or the words - "WARNING - ELECTRIC FENCE"

>The lettering must be indelible, be on both sides of the sign and in letters not less than 25mm in height.

>Ensure at all times that a mains operated, ancillary equipment connected to the electric fence circuit provides a degree of isolation between the fence circuit and the supply mains equivalent to that provided by the fence energiser.

>This energiser must be installed in accordance with the standard AS/NZS 3014:2003.

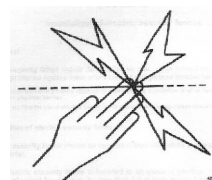


Fig. 1

SPECIFICATIONS

Input Voltage:	12.7V nominal - Maximum 20.0V
Input Current:	MB65 - 43mA (nominal) MB130 - 88mA (nominal)
Output Voltage:	7.8kV (nominal)
Stored Energy:	MB65 - 0.7 joules MB130 - 1.4 joules
Humidity:	Maximum 95% non condensing
Operating Temperature:	-10 - 50 degrees celcius

NOTE: These energisers are supplied with a detachable 12 volt D.C. lead and a mains low voltage plug pack adaptor. These energisers have intelligent battery monitoring, if the battery starts getting flat the output voltage will reduce to conserve the battery.