

## WARRANTY THUNDERBIRD Electric Fence Systems.

Thunderbird warrants all electric fence energizers against defective workmanship and faulty materials for 2 years 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 freight pre paid, 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 proof of purchase must be returned with the goods if you are claiming warranty.** This can be in the form of a photocopy of your receipt. No warranty claim will be accepted without this information.

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

Country Electronics Pty Ltd  
ABN 38 003 806 040

11 Industrial Avenue  
Mudgee NSW 2850  
PHONE 02 63723600  
FAX 02 63722597

P.O. Box 391,  
Mudgee NSW 2850

Email : sales@thunderbird.net.au

**For your records.**

**Model** .....

**Serial No** .....

**Date of purchase**.....

**Place of purchase** .....

**Receipt No** .....



## THUNDERBIRD Electric Fence Systems Models BD20 Battery Powered Energizer



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

Thunderbird's battery range of energizers are highly efficient electrical appliances. Installed and used correctly, these products should provide years of reliable service. These energizers have protection against moisture and ant 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 energizer or fence.
4. Do not connect to mains operated equipment.
5. Do not use copper wire. Electrolysis will occur and cause problems over time.
6. Output voltage reduces when the battery is near flat.

**INSTRUCTIONS**

Place the energizer in a suitable position for connection to the fence, preferably at the middle of the fence line. Drive one or more galvanised earth stakes into the ground approximately 1m. 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, 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. This energiser has intelligent battery monitoring, if the battery starts getting flat the output voltage will reduce to conserve the battery.

The top light flashes with every energizer pulse. The bottom light is a low voltage indication that flashes with every pulse if battery voltage falls below 12.0V (nominal). If the battery voltage falls to approximately 11.5V the low battery light will give a double flash every pulse. Once the battery voltage falls to 11V the energizer will stop and the low battery light will be continuously on. The energizer will start operating normally again when the battery voltage exceeds 12V. These cutouts are intended to protect your battery.

These energizers have built in self testing. If there is a problem with the unit you will see multiple flashes with each pulse. If the energizer pulse light flashes normally, and there is low or no output, assume that there is a problem with the fence.

## INSTRUCTIONS FOR INSTALLATION AND CONNECTION OF ELECTRIC FENCES FOR ANIMALS.

The following safety information is part of the Australian 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 energizer.
- >For any two separate electric fences that are each supplied from a separate independently timed energizer, the distance between the wires of the two fences must be at least 2 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 energizer.
- >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 at least 10 metres must be maintained between the energizer'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 - V	Clearances - Metres
Up to 1,000 V	3
1,000 V - 33,000 V	4
Greater than 33,000 V	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

## INSTRUCTIONS FOR INSTALLATION AND CONNECTION OF ELECTRIC FENCES FOR ANIMALS.

- 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 colour 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.

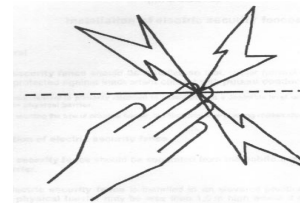


Fig. 1



>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.**

### SPECIFICATIONS

Input Voltage	12.7V nominal - Maximum 20.0V
Input Current	BD20 - 15mA (nominal) @12.5 volts: 30mA @ 6 volts
Output Voltage	7.5kV (nominal)
Stored Energy	BD20 - 0.15 joules

**NOTE:** Hot tape and polywire can be used effectively for lengths up to 500metres from the energizer. Super hot tape and super polywire can be used on runs up to 1500m. Use galvanised fencing wire for longer distances.



## BD20 Battery powered fence energiser

### Low and High power levels.

A low and high power level switch is fitted for extra battery conservation, this is located at the base of the energiser.

The BD20 can hang on the wire, we recommend a screw or a piece of tie wire be placed and tied through one of the holes in the mounting lugs, to secure.

When operating from an external 12 volt battery, ensure D cell batteries are removed.

### Installing D cell batteries.

The system will operate up to 5 weeks on low power with fresh alkaline D cell batteries (4). To install D cell batteries, remove rear black plastic cover by gently pulling at the bottom centre of the black cover outwards, then upwards. This disengages the tapered plastic lug inside the black rear cover. The cover simply slides off the main case. Ensure the D cell batteries are placed in the correct polarity ( direction ) as indicated by labels. When batteries are in position, simply slide the black rear plastic cover back onto the main case and firmly push back into position to reengage the plastic tapered lug,

### Connecting to an external 12 volt battery.

A 12 volt D.C. battery lead is supplied with the system. Insulated black and red plastic clips with stainless steel teeth are installed on one end, these connect to the 12 volt battery terminals. The other end of the lead has a D.C. plug, this simply pushes into the D.C. socket located at the base of the energiser, next to the low / high power switch.

### Connection to earth stake and fence / live wire.

A green earth lead with an insulated clip and a ring is supplied, simply undo the green earth knob from the terminal at the base of the energiser and place the ring over the bolt. Screw the green knob back onto the terminal bolt firmly, to connect ring end. Clip the green insulated clip to the galvanised earth stake that has been driven into the ground. A red fence / live wire lead with an insulated clip and a ring is supplied, undo the red knob from the fence terminal at the base of the energiser, place ring over the terminal bolt and tighten red knob firmly against ring end. Connect the red clip to the live insulated wire.



Front of case



Rear of case



Rear plastic cover with batteries fitted



Slide rear cover on or off