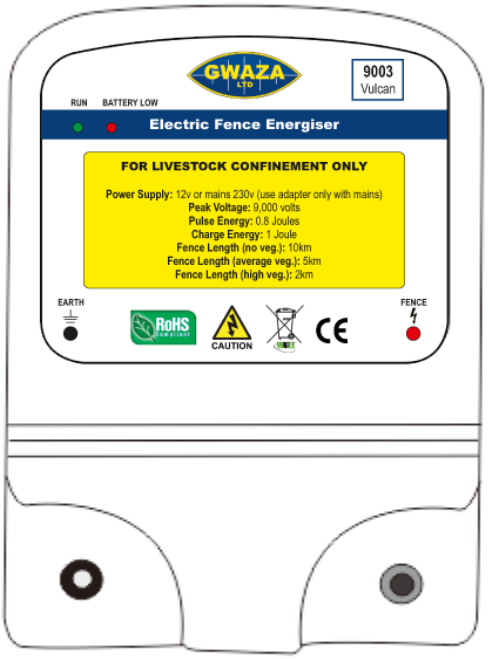
"VULCAN" 9003

ELECTRIC FENCING ENERGISER

USER MANUAL



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Foreword

Thank you for buying a Gwaza electric fence energiser. Gwaza is an electronic fence company who have been designing and manufacturing electric fence energisers, testers and accessories for over 40 years. The "Vulcan" energiser has built-in lightning protection devices to help minimise the risk of lightning damage and built-in RFI (Radio Frequency Interference) Suppressed Circuitry. If for any reason you are not happy with your purchase, please return the energiser to your dealer within 30 days of purchase and we will give you a full refund. If you have any questions regarding this product please email us: sales@gwaza.co.uk, or contact the store where you purchased this item.

Please read this manual carefully before using the energiser. Keep the manual for future reference. Do not let children operate or play with an electric fence charger.

1. Introduction

This manual is for the "Vulcan" (9003) electric fence energiser.

2. Safety requirements and regulations

WARNING: Please read the following installation requirements and regulations:

- Unless the high/low voltage output is disarmed on electric fence, do not touch live fence.
- Do not let the fence energiser become drenched in water.
- This product must be placed or installed on open ground. Avoid direct sunlight where possible.
- This fence is used to contain animals and for no other purpose.
- Make sure the guard is earthed. (Take care not to cut the fence wire when cutting vegetation.)
- Cut the vegetation around the fence wire and limit vegetation touching the wire.
- For a battery fence energiser, you should check the batteries at regular intervals. Please replace the batteries when the BAT (battery caution light) light glows. Take out the batteries when the fencer is not being used to avoid battery leakage.
- Do NOT climb over, through or under a multi -wire electric fence. Use a gate or a specially designed crossing point.
- Avoid electric fence constructions that are likely to lead to the entanglement of animals or people.
- The energiser must be installed under shelter and the supply cord must not be handled when the ambient temperature is below 5 degrees centigrade.
- Electric animal fences should be installed and operated so that they cause no electrical hazard to persons, animals or their surroundings.

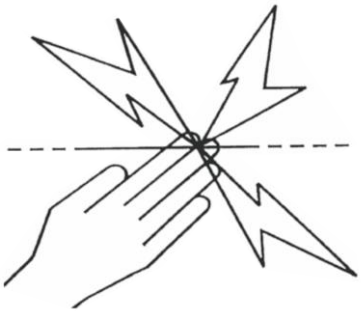
- It is recommended that, in all areas where there are unsupervised children, that a suitably rated current limiting device having a resistance of not less than 500 ohms be connected between the energiser and the electric fence.
- The appliance is not intended for use by young children or the disabled.
- Do not place combustible materials near the fence or energiser connections. In the event of a fire, the energiser must be disconnected.
- Do not dismantle and assemble the main part ad arbitrium. Do not attempt to make any changes to the energiser yourself.
- Young children must be supervised to ensure that they do not play with the appliance.
- An electric animal fence shall not be supplied from two separate energisers or from independent fence circuits of the same energiser.
- For any two separate electric animal fences, each supplied from a separate energiser independently timed, the distance between the wires of the two electric animal fences must be at least 2.5m.
- Barbed wire or razor wire will not be electrified by an energiser.
- A non-electrified fence incorporating barbed wire or razor wire may be used to support one or more off-set electrified wires of an electric animal fence. The supporting devices for the electrified wires shall be constructed so as to ensure that these wires are positioned at a minimum distance of 150 mm from the vertical plane of the non-electrified wires. The barbed wire and razor wire shall be earthed at regular intervals.
- Where an electric animal fence crosses a public pathway, a non-electrified gate should be incorporated in the electric fence at that point or a crossing by means of stiles should be provided. At any such crossing, the adjacent electrified wires should carry warning signs.
- In areas of public access, use an electric fence warning sign every 10m (33ft) to identify the electrified wire(s).
- Crossing with overhead power lines should be avoided wherever possible. If such a crossing cannot be avoided, it should be made underneath the power line and at right angles.
- If connecting leads and electric fence wires are installed near an overhead power line, the clearances should be not less than those shown below:

Power Line Voltage **Voltage**	Clearance **Metres**
Under 1000	3
Between 1000 and 33000	4
Over 33000	8

- If connecting leads and electric fence wires are installed near an overhead power line, their height above the ground should not exceed 3m.

  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 a nominal voltage not exceeding 1000 volts;
  - 15 metres for power lines operating at a nominal voltage exceeding 1000 volts.

- Electric animal fences intended for deterring birds, household pet containment or training animals such as cows need only be supplied from low output energisers to obtain satisfactory and safe performance.
- For electric animal fences intended for deterring birds from roosting on buildings, no electric fence wire should be connected to the energiser earth electrode. A warning sign should be fitted to every point where persons may gain ready access to the conductors.
- Fence wiring should be installed well away from any telephone line, telegraph line or radio aerial.
- The size of the warning sign must be at least 100mm x 200mm.
- The background colour of both sides of the warning sign should be yellow. The text on the sign should be black and should show either:
  - "CAUTION: Electric Animal Fence" or,
  - The symbol shown below:

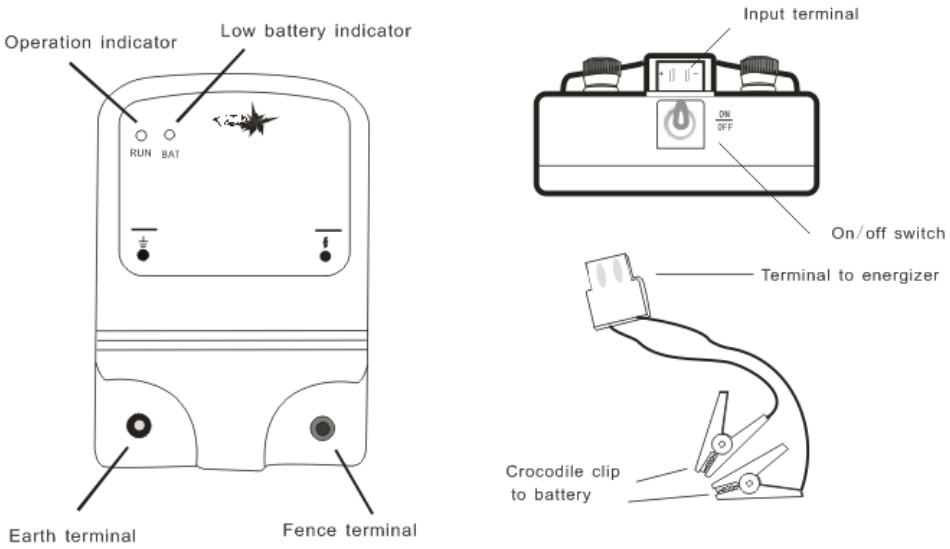


- The inscription must be indelible, inscribed on both sides of the warning sign and have a height of at least 25mm.
- Ensure that all mains operated, ancillary equipment connected to the electric animal fence circuit provides a degree of isolation between the fence circuit and the supply mains equivalent to that provided by the energiser.
- Protection from the weather shall be provided for the ancillary equipment unless this equipment is certified by the manufacturer as being suitable for use outdoors and is of a type with a minimum degree of protection IPX4.

This energiser complies with international safety regulations and is manufactured to international standards. Gwaza Ltd reserves the right to make changes without notice to any product specification to improve reliability, function or design.

3. Specification

A) Battery powered electric fence energiser (powered by 9 V/12V lead-acid)



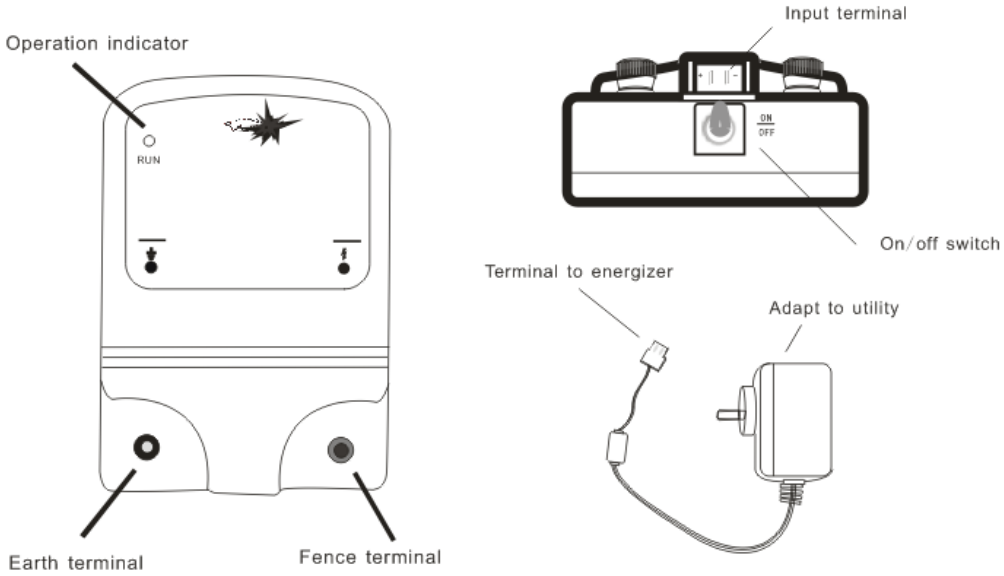
Features:

1. Water-proof and anti-dust pulse current technology, longer battery lifetime.
2. Low average current.
3. Ultra bright LED indicator to show when the battery is running low.
4. Easy-access terminals and mounting brackets for quick connection and installation.
5. Bottom easy to plug DC input terminals.
6. Easy ON/OFF switch.
7. CE, ROHS marked.
8. **Weight:** 1.3-2.5kg.
9. **Size:** 210mm x 153mm x 68mm.

Characteristics:

Model number	Stored energy (Joules)	Power source	Average current	Maximum current	Open volts	500ohm load volts	Output energy (Joules)	Power length (km)	Earth stakes
9003	1	12V	100mA	3A	9500	5600	0.78	10	2

C) Mains powered electric fence energiser



Features:

1. Water-proof and anti-dust pulse current technology.
2. Ultra bright LED indicator for operation status
3. Easy-access terminals and mounting brackets for quick connections and installations
4. Bottom easy to plug input terminals.
5. Easy ON/OFF switch.
6. CE, ROHS marked.
7. **Weight:**1.3-2.5kg
8. **Size:** 210mm x 153mm x 68mm.

Characteristics:

Model number	Stored energy (Joules)	Power source	Power consumption	Maximum current	Open volts	500ohm load volts	Output energy (Joules)	Power length (km)	Earth stakes
9003	1	230Vac	2w	3A	9500	5600	0.78	10	2

4. Installation guide

Step 1. Mount the Energiser

According to the type of energiser, find the corresponding installation method as follows:

Battery energiser*:*

If installing outside, please install the energiser in a weather proof box and out of reach of children. Install where there is no risk of the energiser incurring fire or mechanical damage and where the battery leads can be attached easily.

Note: It is important to mount the energiser upright. Make sure the battery is also installed in a well-ventilated area.

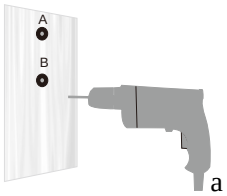
Mains energiser

If installing outside, please install the energiser in a weather proof box, to ensure that rain cannot wet the power cords and out of reach of children. Install where there is no risk of the energiser incurring fire or mechanical damage and where the battery leads can be attached easily.

Note: It is important to mount the energiser upright.

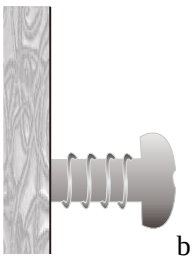
To Wall Mount

1) Drill holes (A and B holes). Use a 4mm (5/32") diameter drill for timber walls or a suitable wall plug for brick and concrete walls (illustration a).



a

2) Using the screws clipped to the energiser, secure screw(s) in hole(s) A as shown (illustration b).


b

3) Hang the energiser onto the screw(s) B. Fit screw through energiser into hole (B) for extra stability as necessary or required (illustration c).


c

Step 2. Connect to earth (ground) system

Using the lead-out cable remove 5cm (2”) of plastic coating from one end of the cable and attach to the green terminal on the energiser. Attach the cable to the earth system by removing 10cm (4”) of insulation from the cable at each earth stake and then clamp the exposed wire to each stake using an "Earth Clamp". Tighten the clamp.

Step 3. Connect the fence

Connect the energiser’s red terminal to the fence using the lead-out cable: remove 5cm (2”) of plastic coating from one end of the cable and attach to the red terminal on the energiser. Attach the other end of the cable to the fence using a "Joint Clamp".

Step 4. Connect the power (non solar)

According to the type of energiser, find a corresponding method below to connect the power;

Battery energiser

There is a power cord with a crocodile clip and power terminal. Connect the terminal of the cord to the energiser, making sure connection is correct. Connect the battery leads from the energiser to the battery using crocodile clip: the red crocodile clip to the (+) terminal of battery, the black crocodile clip to the (-) terminal of battery.

Mains energiser

There is an adapter with power cord and power terminal. Connect the terminal of the cord to the energiser, making sure the connection is correct and insert the adapter plug into the socket.

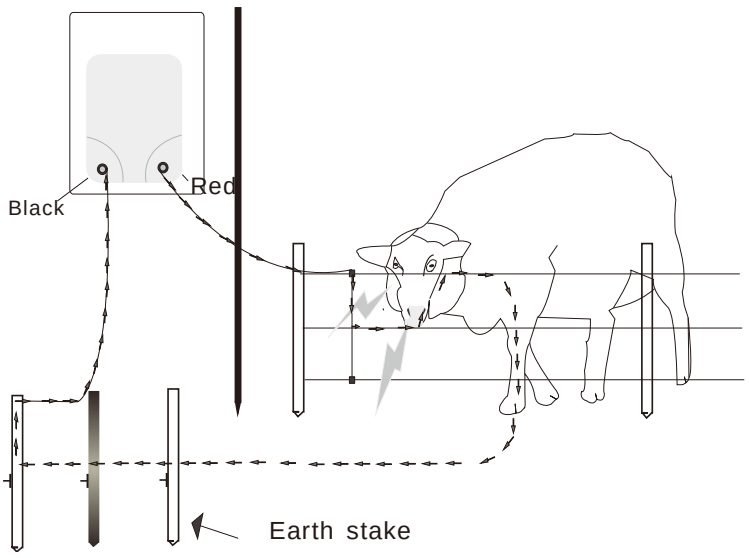
Step 5. Switch the energiser on

Switch the energiser ON using the ON/OFF switch.

HOW TO INSTALL EARTH (GROUND) SYSTEM

Improperly earthed energisers can cause barns and gates, for example, to become hot (live). Follow the earthing instructions carefully.

The most effective place for an earth system is in continuously damp soil, see the illustration below:



HOW TO INSTALL THE FENCE

1. Plan the fence line. Avoid rough, stony or steep areas if possible. For best electric fence performance use multi-wire (at least 3 wires connected in parallel) fencing.
2. Install end strain posts and corner posts. Ensure that all corner posts are firm to withstand the wire strain. Ensure the cross wire does not touch the hot (live) wires.
3. Run out the bottom wire between the end posts.
4. Tension wires until there is only a slight visible sag.
5. Connect all live wires in parallel at the end of each fence section using joint clamps. Use joint clamps to ensure tight wire connections. Connect any earth wires together in parallel. Never connect hot (live) and earth wires together.

5. Maintenance

Warning: Do not dismantle the unit to repair. Please contact your dealer.

Fault	Possible Cause(s)	Solution
Energiser doesn't operate	Energiser Off	Switch ON
	Incorrect battery voltage	12V battery
	Incorrect battery connection	Connect red lead to the (+) terminal of battery, black lead to (-) terminal
	Battery is flat	Battery voltage should be greater than 11.8V
	Faulty energiser	Have the energizer repaired
Electric fence voltage is below 3000V or your stock are escaping	Faulty energiser	Turn the energiser OFF and remove the fence wire from the Red terminal. Turn the energiser ON again. Using a Digital Volt Meter (9154) check the voltage across the terminals. If the voltage is less than 5000V, have the energiser repaired.
	Inadequate earthing	Improve the earth system by adding more galvanized earth stakes to the earth system until the earth voltage is 200V or below.
	Short on the fence line	Check the electrical connections are secure. From the fence to the red terminal, from the earth system to the green terminal, at gates etc. Check the voltage on the fence every 33m (100ft) using the Digital Volt Meter (9154). Note if the voltage is dropping. The closer to a fault, the lower the voltage reading will be. Become aware of things that cause faults and always be on the lookout for: stray pieces of wire on the fence, heavy vegetation growth, cracked or broken insulators, and broken wires.

6. Guarantee

We grant a warranty of 12 months as standard, starting from the date of the purchase (marked on the invoice). We will only perform warranty services when the faulty unit is returned to us together with a copy of the invoice and warranty card which are issued by the dealer to the user.
If these requirements are not fulfilled, we reserve the right to deny warranty services. Warranty claims are excluded for direct or indirect damages due to:

1) Beyond warranty date.
2) Without warranty card and serial number (for warranty card, please see appendix Ⅰ).
3) Transport damage.
4) Improper use, operation and refitting.
5) Non-observance to the relevant safety instructions.
6) Beyond installation and use areas of the relevant international standards.
7) Influence of foreign objects and force majeure (lightning strike, overvoltage, severe weather, fire etc).

7. Contact Information

If you have any further technical questions about our products, please contact us:

Gwaza Ltd
www.gwaza.co.uk
Add: Ennerdale Road, Harlescott, Shrewsbury, Shropshire, ENGLAND, SY1 3NR
Tel: +44 1743 461371
E-mail: sales@gwaza.co.uk

The design and specification shall be subject to any due changes without prior notice. The final interpretation right of this event is reserved by Gwaza Ltd.

Appendix Ⅰ

Customer information	Name		Phone NO.	
	Address			
Products information	Model		Model NO.	
	Failure description			
Suggestion				