JONO & JOHNO

EF-81
FENCE ENERGISER

USER MANUAL

Specification

Product Description

Thank you for purchasing this **mains-powered (110-240V) and 12V battery-powered** Electric Fence Energiser.

This Fence Energiser has a peak voltage of 10,000 volts and pulse energy of 2.0 Joules. It is perfect for livestock confinement and paddock maintenance. The Fence Energiser can be placed off the ground on the Earth Stakes(included), and is also wall-mountable, meaning strip grazing has never been easier!

Producing 2.0 Joules and with a 20km range and low average current of 100mA, you can expect a long battery life.
Durable, water-resistant plastic casing and built-in lightning protection, provide maximum safety.

This product is RoHS and CE certified.

NOTE : This product does not have a ON/OFF switch. Power is supplied by a battery or adapter to the product.

Please carefully read these instructions before you begin using this product.

Please refer to and read Safety Advice, Safe Working Practice to ensure prevention of injury or damage to the device before starting.

Technical Information

Peak Voltage: 10,000 Volts
Power Source: 110-240 Volts (for power adapter), 12V DC (if using a battery)
Average Current: 100mA(2.0J)
Maximum Current: 2A
Pulse Energy: 2.0 Joules
Output Energy: 1.56 Joules
Powers up to: 20KM
Dimensions: (H x W x D) 187mm x 109mm x 53mm
Material: Plastic shell casing protecting electrical components.
Weight: 1 KG

NOTE: The technical specifications above are quoted as optimum figures, poor earthing and insulation will reduce the range quoted. For best practice, it is recommended you closely follow the instructions set out here. You can use a 12V battery as a power supply. This can be a deep-cycle or leisure lead/acid battery. Using a car battery so long as it is 12V, or you also can use a power adapter (110-240V).

Safety Advice

Safe Working Practice

Please read through the safe working practice to ensure prevention of injury or damage to the device.

Ensure you have read and fully understood this instruction manual before proceeding to the set-up of this product.

Ensure you are fully aware of the safety precautions and requirements for constructing an electric fence before activating or connecting the energiser.

An electric fence should never be supplied by two or more energisers. Only ever use one energiser per fence.

If there are separate fences, then unless they are supplied from the same circuit of the energiser, the fences should be separated by a distance of at least 2 metres.

Barbed wire or razor wire must never be electrified. People or animals can be caught on such wires and thus would be unable to free themselves. This carries the danger of death.

Never place your head or neck near to the electrified fence. This accidental contact can often occur when testing voltage or when placing stakes into the ground. Take extra precaution to avoid this.

Ensure that you install cut-out switches where maintenance is to be carried out.

Never allow anybody to touch an electric fence and take extra caution when setting-up that children, pets, etc., are not in the vicinity.

Always ensure the amperage is low.

Warning signs should be prominently displayed on all fences at spacings not exceeding 10 me - tres. These signs must face outwards from the fence.

Where access may be gained from inside, warnings signs should also be placed on both sides of the fence.

The mounting height of these signs should be placed at 1.5 metres (150cm). If the presence of children in the area is probable, there must be repeat signs placed at 0.8 metres (80cm) also.

If the electric fence is to be installed on, alongside, or adjacent to a public road or pathway, it must be properly and prominently identified at frequent intervals by warnings signs attached to the fence posts.

Where an electric fence crosses a public pathway, a non-electrified gate must be incorporated into the fence at that point, or a crossing by means of stiles must be provided.

The size of all warning signs must be at least 200mm x 100mm and should be coloured yellow with black writing.

Under no circumstance should you attempt to tamper with or modify the energiser or its components.

Wear electricity-resistant PPE (Personal Protective Equipment) when installing the fence energiser.

Specification

Technical Information

1 x Electric Fence Energiser
1 x 110-240V mains power adapter
1 x 1000mm Battery Wire with plastic-covered Crocodile Clips
1 x 1000mm Fence Wire (red)
1 x 1000mm Earth Wire (black)
2 x 200mm Earth Stakes
6 x Small screws to mount Energiser to Earth Stakes (2 spare)
2 x Large screws to mount Energiser to wall/timber (1 spare)
1 x Butterfly Nut and Bolt

Product Features

1) Plastic shell casing protects against water damage.

2) Earth Stakes connected by 1 x bolt to be placed into the ground.

3) Battery wires with large crocodile clips connected from energiser to a 12V battery.

4) Ultra-bright High Visibility light to check if the fence is live.

5) Black Earth Lead which runs from Earth Terminal to the Earth Stakes.

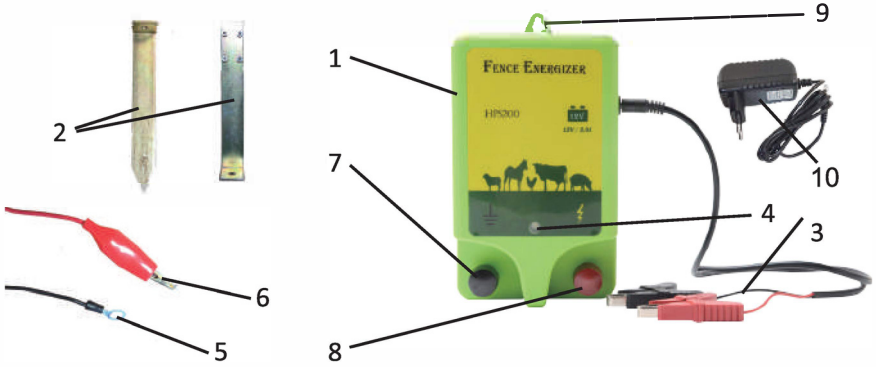
6) Red Fence Lead which runs from Fence Terminal to the Fence.

7) Earth Terminal

8) Fence Terminal

9) Mounting Hole

10) 110-240V mains adapter



User Guide

Installation Instructions

NOTE: Though the plastic shell casing is waterproof in accordance with IPX6, this does not necessarily mean it is weather-resistant. We recommend you install your energiser within a weatherproof box, out of reach of children, and if possible away from direct sunlight.

An electric fence works via a circuit. The Earth Lead (black) runs from the Earth Stakes to the Energiser. The Fence Lead (red) runs from the Fence to the Energiser. Finally, the battery Leads run from the battery to the Energizer, which is where the power comes from. Or you can use manis power connection by adapter. The electricity runs through the Energiser, through into the fence, and through to the Earth Stakes where it is grounded (uses the ground to complete a circuit). For your safety, the set-up and installation of the Energiser must run in this order. Do not connect the battery or mains power to the Energiser before all other tasks are complete.

Connecting the Earth Stakes and Mounting the Energiser:

1) Turn over the Energiser. Use 4 x small screws to fasten the upper Earth Stake to the Energiser.

2) Connect the lower (pointed) Earth Stake to the upper Earth Stake using the Butterfly Bolt. Place the ring end of the Earth Lead (black) on the bolt, between the two Earth Stakes, then fasten into place using the nut provided.

3) Located at the other end of the Earth Lead (black) is another ring end. On the energiser, loosen the black Earth Socket until the cap is released. Place the ring end over the bolt, and re-fasten the cap.

4) If you wish to attach the energiser to a solid surface such as a timber or concrete wall, first follow the instructions for '**Installing the Earth-based Grounding System**' and return here.

5) Once grounded, you can attach the energiser to a solid structure. Ensure this instalment is;
- where there is no risk of the energiser incurring fire or mechanical damage.
- where the Battery Leads can be easily attached/detached.
- upright.

6) To mount the energiser to a timber wall, use a 4.0mm (5/32") drill bit and a suitable wall plug if mounting to a brick/concrete wall and drill into the surface.

7) Use 1 x large screw at the top of the energiser and screw into the drilled hole.

NOTE: Attaching the energiser to a fixed structure is not compulsory. It may increase safety and overall performance since it is less likely to be tampered with or affected by animals or poor weather.

Installing the Earth-based Grounding System:

An effective fence system relies heavily on an adequate Earth-based grounding system. This is the process of creating an electric circuit for the electricity to pass through the energiser, through the fence and back again. If adequate grounding isn't provided, this will heavily influence the operational use of your product.

Using sand, gravel, very dry soil or similar material will not conduct electricity well. Moist soil is the prime place to plant your grounding system.

To effectively ground, place the Earth Stake a minimum of 200mm into the ground and ensure it stands firmly upright.

NOTE: You can also find many helpful grounding tips and tricks online. Simply use the keywords 'effective grounding for electric fence'.

Installing the Fence and Fence Lead:

1) Now unscrew the Fence Socket cap until it is removed. Place the ring end of the Fence Lead (red) onto the bolt, and replace the Fence Socket cap.

2) On the other end of the Fence Lead is the small crocodile clip. This will be attached to the fence.

3) Now ready the fence. It is recommended the fence line is planned thoroughly. Try to avoid rough, stony, or steep areas if possible.

NOTE: Multi-wire fencing is considered the best fence-energising technique. Multi-wire is where 3+ single wires run parallel to one another to create a more prominent and effective fence. Using multi-wire methods requires Joint Clamps which are not provided with this product. *(★ Please check page 3)*

4) Place posts to the desired areas. Ensure each post is securely fitted into the ground and will not become loose during wire straining.

5) Run out the wire. Secure the wire to each post as you do so. Tension the wires so there is only a slight visible sag.

6) If you are using a multi-wire system, you may want to begin this process with the lowest wire first. Ensure each wire runs parallel to one another and there is no possibility the wires will touch each other when live.

7) Now attach the Fence Lead to the fence via the small crocodile clip.

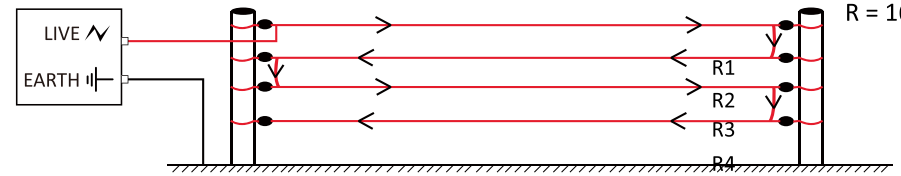
8) Now connect the Battery Lead to the battery and to the Energiser. Or connect the adapter to your energiser. Your Electric Fence Energiser is operational.

Electric Fence for 3+ single wires

$$R\ (Total) = R1 + R2 + R3 + R4$$

$$R = 40 + 40 + 40 + 40$$

1



R = 160 Ω

1 KM

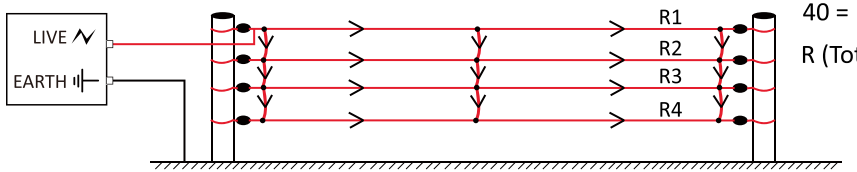
$$\frac{1}{R\ (Total)} = \frac{1}{R1} + \frac{1}{R2} + \frac{1}{R3} + \frac{1}{R4}$$

$$\frac{1}{R} = \frac{1}{40} + \frac{1}{40} + \frac{1}{40} + \frac{1}{40}$$

$$\frac{4}{40} = \frac{1}{10}$$

R (Total) = 10 Ω

2



⬬ Corner Fence insulator

• Wire connector

We assume the 1km electric fence wire you are using is stainless steel, resistance is 40 ohms per km
Resistance in Picture 1 is 160 ohms
Resistance in Picture 2 is 10 ohms
The lower the ohms the better, when dealing with electric fences.

The vertical wires can be attached using a wire connector (sold separately).
In the second picture, these wires should be connected every 30 meters. This has the advantage of not only transmitting the voltage more effectively but also preventing the fence from malfunctioning due to a single horizontal wire breakage. In the event of a break on a horizontal wire, the circuit will remain active, due to the extra connections provided by the vertical wires.