PEL

Fence Systems

OPERATING INSTRUCTIONS
PEL 2 Series Electric Fence Energizers

INSTRUCCIONES DE OPERACION
PEL Energizadores De Cercos, Serie 2

MODE D'EMPLOI
PEL Electrificateurs Pour Cloture Electrique Série 2

BEDIENUNGSANLEITUNG
PEL Serie 2 Weidezaungeräte

GEBRUIKSAANWIJZING
PEL 2 Serie Spanninggevers

BRUGSANVISNING
PEL 2 Serien Spændingsgiver

INSTRUKSJONER
PEL 2 Serien El Gjerdeapparater

BRUKSANVISNING
PEL 2 Serien Elstängselapparater

★ IMPORTANT ★ IMPORTANTE ★ WICHTIG ★
★ BELANGRIJK ★ VIGTIGT ★ VIGTIG ★

- Please read these instructions before installing or operating energizer.
- Por favor lea estas instrucciones antes de instalar o conectar este energizador.
- Veuillez Lire Ces Instructions Avant L'installation Ou L'Utilisation De L'électrificateur.
- Vor der Installation oder Benutzung des Gerätes die Gebrauchsan weisung lesen.
- Lees eerst de gebruiksaanwijzing voordat u de spanninggever installeert en gaat gebruiken.
- Læs disse instrukser før installation og brug af spændingsgiver.
- Les denne instruksjonen før apparatet installeres og tas i bruk.
- Läs dessa instruktioner före installation och användning av elstängselapparaten.

- ENGLISH -

1. GENERAL INSTRUCTIONS

- These installation and operating instructions apply to the following PEL electric fence energizers:

PEL Series 2 - Mains Power: PEL 201, PEL 203, PEL 205, PEL 210, PEL 215, PEL220, PEL 230

- Read all sections of these instructions carefully.
- For more detailed information on PEL Electric Fence Systems, fence construction, layout and principles of electric fencing, refer to the **PEL Electric Fence Manual.**
- For the PEL 2 year guarantee to apply, the Service Guarantee form at the back of these instructions must be properly completed by your dealer. **Please retain completed form as evidence of purchase date in the event of energizer failure during guarantee period.**
- All models have removable service modules for quick repair service.
- Stated specifications of energizers are subject to variation and are dependent on input voltage, component tolerances, temperature and the requirements of National Standards. *Specifications are subject to change without prior notice.*
- If the supply cord of this energizer is damaged it shall be replaced by a special cord available from the manufacturer or his service agents.
- No user maintenance can be performed on this Energizer. Return to manufacturer or his service agents.

2. FEATURES AND INSTALLATION (See Energizer Guide)

- This appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure they do not play with the appliance.

2.1 ENERGIZER PULSE OPERATING LAMP

- The operating lamp flashes with each pulse and indicates normal operation.

2.2 ENERGIZER LOCATION.

- Mount the energizer under shelter, on a wall, in a cool shaded position, close to a power source, and out of reach of animals and children.

Warning: Never allow combustible material to be near the electric fence or its connections to the energizer.

2.3 EARTHING.

Putting in an Earth of Ground System.

- Good earthing (grounding) is essential for good performance.
- Earthing is achieved by connecting the **GREEN** earth terminal to a series of earth stakes (ground rods).
- Earth stakes should be driven 2 metres (6 ft) into damp ground, 5 metres (16 ft) apart, and at least 10 metres (32 ft) from any power or telephone earth system.
- PEL PA 42 galvanised earth stakes are ideal for this purpose.
- Connect earth stakes with one continuous, preferably 2.5mm (12 1/2 gauge), galvanised wire.
- Ensure that earth wire is securely connected to the energizer earth terminal and all earth stakes.

MINIMUM NUMBER OF EARTH STAKES RECOMMENDED			
PEL 201	1	PEL 210	2
PEL 203	1	PEL 215	2
PEL 205	1	PEL 220	2
		PEL 230	3

- The number of earth stakes recommended is the **minimum** required in electrically conductive, damp ground. In dry soil conditions more earth stakes may be required.

2.4 FENCE OR OUTPUT CONNECTION.

- Power output to the fence line is achieved by connecting a lead out wire from the **RED** energizer output terminal to the fence.
- Never use polywire or tape as the main leadout wire, as both have poor electrical properties.
- **Barbed wire should never be used for electric fencing.**
- 2.5mm (12 1/2g) galvanised wire should be used on the fence line for permanent electrical fences.
- 1.6mm (16g) galvanised wire, polywire, rope or tape should only be used over short distances.
- Always install good quality insulators, and preferably, PEL PI 36 insulated cable under gateways.

2.5 LIGHTNING PROTECTION.

- A lightning strike on the live wire causes an instant major voltage rise and a flow of current back to the energizer rather than away from it. This power surge can damage the energizer.
- The installation of the PEL PA 68 Lightning Protection Kit is recommended tominimise the effect of lightning strike.
- **Do not connect the energizer simultaneously to a fence and to any other device such as a cattle trainer or a poultry trainer, otherwise lightning striking your fence will be conducted to all other devices.**

Instructions for installation and connection of electric fences

1 Definitions

1.1 **electric fence-** a barrier which includes one or more electric conductors, insulated from earth, to which electric pulses are applied by an **energizer**
1.2 **connecting lead-** an electric conductor, used to connect the **energizer** to the **electric fence** or the **earth electrode**
1.3 **electric animal fence -** an **electric fence** used to contain animals within or exclude animals from a particular area
1.4 **electric security fence -** a fence used for security purposes which comprises an **electric fence** and a physical barrier electrically isolated from the **electric fence**

2 General requirements for electric fences

Electric fences shall be installed and operated so that they cause no electrical hazard to persons, animals or their surroundings.

Electric fence constructions which are likely to lead to the entanglement of animals or persons shall be avoided.

An **electric fence** shall not be supplied from two different **energizers** or from independent **fence circuits** of the same **energizer**.

For any two different **electric fences**, each supplied from a different **energizer** independently timed, the distance between the wires of the two **electric fences** shall be at least 2m. If this gap is to be closed, this shall be effected by means of electrically non-conductive material or an isolated metal barrier.

Barbed wire or razor wire shall not be electrified by an **energizer**.

Any part of an **electric fence** which is installed along a public road or pathway shall be identified at frequent intervals by warning plates securely fastened to the fence posts or firmly clamped to the fence wires.

The size of the warning plates shall be at least 100mm x 200mm.

The background colour of both sides of the warning plate shall be yellow. The inscription on the plate shall be black and shall be either
- the symbol of figure 1, or - the substance of TAKE CARE - ELECTRIC FENCE.

The inscription shall be indelible, inscribed on both sides of the warning plate and have a height of at least 25mm. Except for low output battery-operated energizers, the energizer earth electrode shall penetrate the ground to a depth of at least 1m.

Connecting leads that are run inside buildings shall be effectively insulated from the earthed structural parts of the building. This may be achieved by using insulated high voltage cable.

Connecting leads that are run underground shall be run in a conduit of insulating material or else insulated high voltage cable shall be used. Care shall be taken to avoid damage to the connecting leads due to the effects of animal hooves or tractor wheels sinking into the ground.

Connecting leads shall not be installed in the same conduit as the mains supply wiring, communication cables or data cables.

Connecting leads and electric fence wires shall not cross above overhead power or communication lines.

Crossings with overhead power lines shall be avoided wherever possible. If such a crossing cannot be avoided, it shall be made underneath the power line and as nearly as possible at right angle to it.

If connecting leads and electric fence wires are installed near an overhead power line, the clearances shall not be less than those shown in table 1.

Table 1 - Minimum clearances from power lines

Power line voltage	Clearance
V	m
£1 000	3
>1 000 £33 000	4
>33 000	8

If connecting leads and electric fence wires are installed near an overhead power line, their height above ground shall not exceed 2m.

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

- 2m for power lines operating at a nominal voltage not exceeding 1 000V;
- 15m for power lines operating at a nominal voltage exceeding 1 000V.

3 Particular requirements for electric animal fences

A distance of at least 10m shall be maintained between the energizer earth electrode and any other earthing system such as the power supply system protective earth or the telecommunication system earth.

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

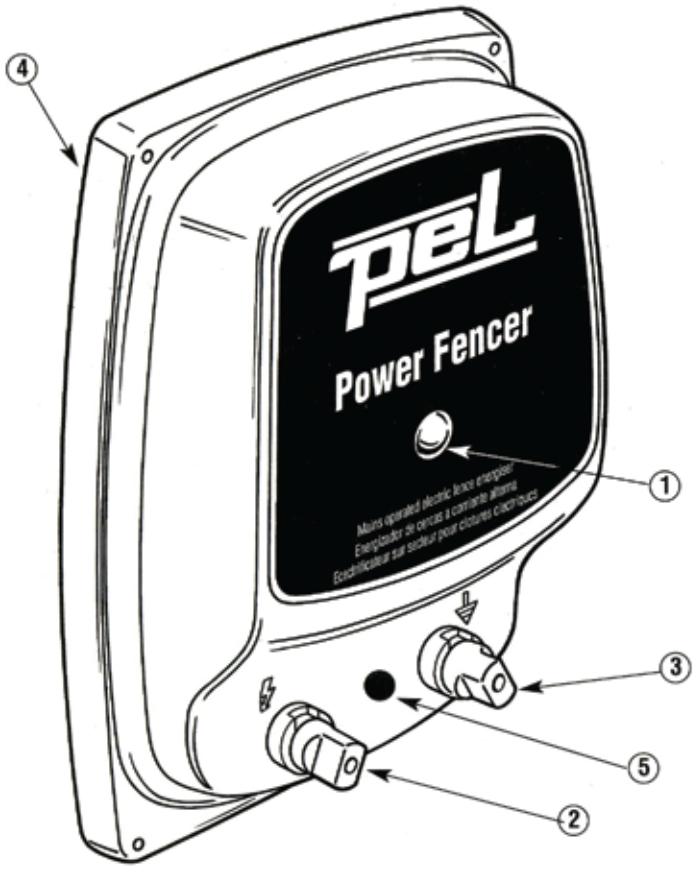
In electric fences intended for deterring birds from roosting on buildings, no electric fence wire shall be connected to the energizer earth electrode. A warning plate, as described in 2, shall be fitted to every point where persons may gain ready access to the conductors.

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 150mm 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 shall be incorporated in the electric fence at that point or a crossing by means of stiles shall be provided. At any such crossing, the adjacent electrified wires shall carry warning plates as described in 2.

Symbol for warning plate
Figure 1

★ ENERGIZER GUIDE ★ GUIA DE LOS ENERGIZADORES ★
★ GUIDE DE L'ELECTRIFICATUER ★ BEDIENELEMENTE ★



ENGLISH: KEY

1. Pulse operating lamp
2. High Power fence (output) terminal - **RED**
3. Earth (ground) terminal - **GREEN**
4. Fuse
5. Low Power terminal (IRELAND Only)

ESPAÑOL: DESCRIPCION

1. Lámpara indicadora de impulsos
2. Borne de cercado (salida) Alta Potencia - **ROJO**
3. Borne de toma a tierra - **VERDE**
4. Fusible

FRANÇAIS: LEGENDE

1. Lampe indicatrice d'impulsion
2. Borne de raccordement à la clôture forte puissance - **ROGUE**
3. Borne de terre - **VERTE**
4. Fusible

DEUTSCH

1. Funktionsleuchte
2. High Power - Zaunanschluß - **ROT**
3. Erdungsanschluß - **GRÜN**
4. Sicherung