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EZ RANGE MANUAL



THE HAMMER EZ RANGE OF ELECTRIC FENCE SECURITY ENERGIZERS CONTENT:

- The HAMMER EZ Range concept
- Features and Specifications
- The EZ 630 Energizer:
 - Wiring and configuration diagrams
- The EZ 640 and EZ 680 Energizer:
 - Wiring and configuration diagrams
- Installation Procedure
- South African Standards for Electric Fences and HAMMER Accreditation and Compliance
- Warranty



WARRANTY

ALL HAMMER PRODUCTS CARRY A TWO YEAR WARRANTY AGAINST DEFECTIVE COMPONENTS AND WORKMANSHIP. THIS WARRANTY EXCLUDES DAMAGE CAUSED BY ACTS OF NATURE SUCH AS LIGHTNING OR FLOODING, POWER SURGES, ROUGH HANDLING OR MALICIOUS ACTS. IN ORDER FOR A PRODUCT TO FALL UNDER WARRANTY, THE PRODUCT MUST BE RETURNED TO THE HAMMER FACTORY IN THE ORIGINAL STATE IT WAS MANUFACTURED IN.

PRODUCT PURCHASED:
SERIAL NUMBER:
DATE PURCHASED:
INVOICE NUMBER:
CUSTOMER NAME:
TEL NO.:



THE EZ RANGE CONCEPT

The EZ Range of energizers has specifically been developed for the security industry. It incorporates all the necessary functions for a complete electric fence system in a single, powerful and compact unit.

The Energizer provides high voltage pulses at regular intervals to the fence.

This compact and easy to use energizer is controlled either by the on board keyswitch or by an optional LED keypad, Remote Keyswitch or a Remote Control.

ENERGIZER

FENCE ZONES

MAXIMUM OUTPUT VOLTAGE NO LOAD

MAXIMUM ENERGY OUTPUT AT 500 OHMS

MAXIMUM STORED ENERGY

STANDBY BATTERY

STANDBY BATTERY TIME

FUSE TO PREVENT BATTERY SHORTING OR REVERSING

POWER CONSUMPTION

VISUAL POWER FAIL INDICATION

MONITORING HV RETURN VOLTAGE

DETECTION DELAY WITHOUT USING A KEYPAD

DETECTION DELAY WHEN USING A KEYPAD

AUXILIARY CONTACT ALARM MONITOR (E.G. GATE)

REMOTE ON/OFF CONNECTION

LED ALARM INDICATION

LED BAR GRAPH VOLTAGE INDICATION

LED MAINS AND BATTERY INDICATION

SIREN DRIVER REALY

STROBE/FLASHING LIGHT DRIVER RELAY

5. EARTHING

Where an electric security fence passes below bare power line conductors, the highest metallic element shall be effectively earthed from a distance of not less than 5m on either side of the crossing point.

The distance between any electric fence earth electrode and other earth systems shall not be less than 10m, except when the earth system is associated with a graded earth mat.

All exposed conductive parts of the physical barrier shall be effectively earthed.

6. PROTECTION

All ancillary equipment connected to the fence circuit shall be designed to provide a degree of isolation between a fence circuit and the supply mains equivalent to that specified for the energizer.

Protection from weather shall be provided for the ancillary equipment unless the equipment is certified by the manufacturer as being suitable for use outdoors, and is of a type with a minimum degree of protection IPX4 (protection against splashing water)

7. WARNING

This appliance is not intended for the use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge. Unless they have been given supervision or instructions concerning the use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

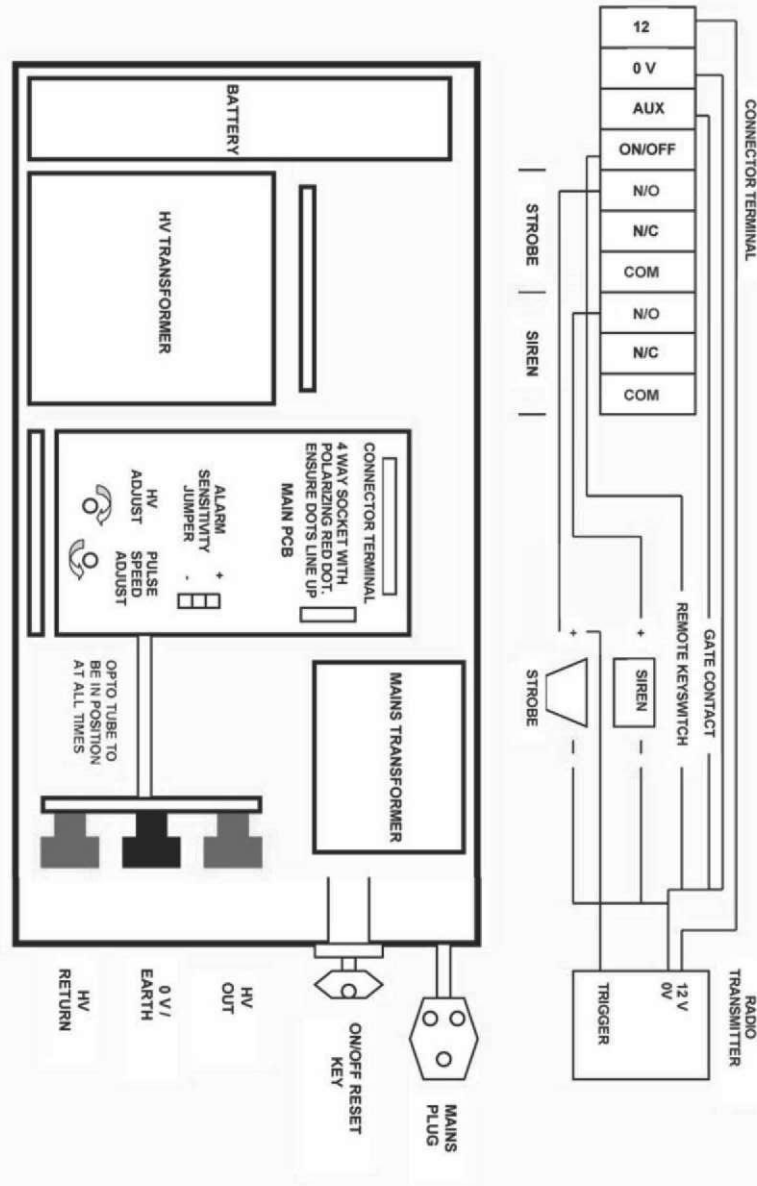
If the supply cord is damaged or cut, it must be replaced by a special cord or assembly available from the manufacturer or its service agents.



<u>EZ 630</u>	<u>EZ 640</u>	<u>EZ 680</u>
1	1	1
9 KV	9KV	9KV
4 JOULES	5 JOULES	8 JOULES
6 JOULES	8 JOULES	15 JOULES
2 AH	7 AH	7 AH
8 HRS	12 HRS	12 HRS
2 A	2 A	
25 W MAXIMUM	30 W MAXIMUM	30 W MAXIMUM
✓	✓	✓
✓	✓	✓
34 SECONDS	34 SECONDS	34 SECONDS
1 240 SEC WHEN USING THE KEYPAD	1 240 SEC WHEN USING THE KEYPAD	1 240 SEC WHEN USING THE KEYPAD
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
✓	✓	✓
15 W 03 MIN/ PROGRAMMABLE WITH KEYPAD	15 W 03 MIN/ PROGRAMMABLE WITH KEYPAD	15 W 03 MIN/ PROGRAMMABLE WITH KEYPAD
15 W LATCHED TILL RESET	15 W LATCHED TILL RESET	15 W LATCHED TILL RESET



EZ 630 WIRING AND CONFIGURATION



A space of 2.5m shall be maintained between uninsulated electric fence conductors or uninsulated connecting leads that are supplied from different energizers. This space can be less where the conductors or connecting leads are covered by insulating sleeving, or consists of insulated cables that are rated to at least 10 KV.

The requirements above do not apply in the case where the separately energized conductors are separated by a physical barrier that has no openings greater than 50mm.

A vertical separation of not less than 2m shall be maintained between pulsed conductors fed from different energizers.

Mains supply wiring shall not be installed in the same conduit as signalling leads associated with the electric security fence installation, but shall be installed in accordance with the requirements.

N.B. Fence HT leads must under no circumstances be rooted in the same conduit as any other wiring

3. WARNING SIGNS

Electric security fences shall be identified by prominently placed warning signs that shall be legible from the secure area and from the public area.

Each side of the electric security fence will have at least one warning sign.

A warning sign shall be placed:

- At each gate
- At each access point
- At intervals not exceeding 10m
- Adjacent to each sign with regards to chemical hazards, for emergency services information.

4. GATES

Gates in electric security fences shall be capable of being opened without the person operating the gate being shocked.

S.A. STANDARD REQUIREMENTS FOR ELECTRIC FENCES

The HAMMER energizers has been extensively tested and certified in accordance with international standards (IEC 603352 76) as well as CE. The test reports and LOA's are available on request from HAMMER. HAMMER does not take responsibility for the erection standards of the fence. It is the responsibility of the erector to consult and comply with the S.A. Standards and Code of Practice for the installation and erection of electric security fences. The erector has to be an accredited and registered installer and erect the fence in accordance with SANS 102223 (South Africa only).

1. DEFINITION

Physical barrier

A barrier of height not less than 1.5 m and intended to prevent inadvertent contact of persons with the conductors of the electric fence.

NOTE: Physical barriers are typically constructed from vertical sheeting, rigid vertical bars, rigid mesh or rods of chain wire mesh.

Public access area

Any area where persons are protected from inadvertent contact with pulsed conductors by a physical barrier (see above)

Pulsed conductors

Conductors that are subject to high voltage pulses by the energizer

Secure area

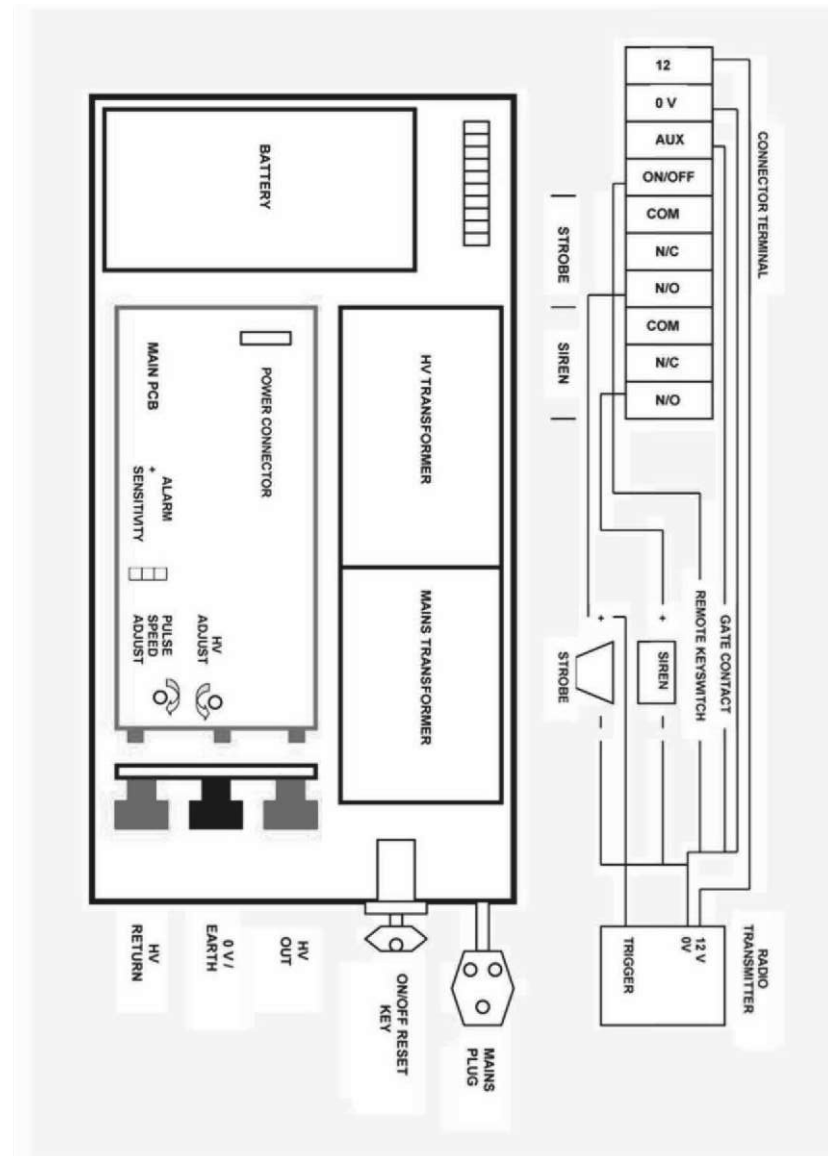
An area where a person is not separated by a physical barrier (see above) from pulsed conductors (see above) below 1.5m

2. INSTALLATION, OPERATION AND MAINTANANCE

Electric security fences and their ancillary equipment shall be installed, operated and maintained in a way that minimizes danger to persons and reduces the risk of people receiving an electrical shock unless they attempt to penetrate the physical barrier, or are unauthorized to be in a secure area.



EZ 640/680 WIRING AND CONFIGURATION



INSTALLATION PROCEDURE:

1. MOUNTING THE ENERGIZER

Remove the front cover of the energizer. 6mm mounting holes have been provided in the corners of the base. The PCB does not have to be removed. Ensure the tube connecting the infrared LED's from the High Voltage PCB to the Main PCB is not damaged or removed.

2. TESTING THE ENERGIZER

Plug in the power connector correctly by ensuring the polarising red dots match up. Insert the key and connect the mains power. Note the energizer will not switch on until it receives mains power. The mains and the battery LED on the energizer should be on. Place a wire link between the HV out and HV red return terminals. Turn the energizer on by turning the key or when using a keypad type in 22220 (Refer to keypad operation). The energizer will start pulsing and all the LED s on the bar graph of the energizer should pulse (When using a LED keypad all the LEDs on the bar graph should pulse)

3. TESTING THE SIREN ETC

Refer to the diagram on page 5 and 6

4. CONNECTING THE FENCE

Ensure the energizer is switched off and not pulsing. Connect the fence high voltage feed and return cables to the two red high voltage terminals as indicated. Connect the fence OV (earth) to the black terminal. The energizer earth must be grounded as close possible to the energizer by means of three earth spikes 1.2 m long, driven into the ground in a crow foot layout as proposed by new governing law. Furthermore earth spikes along the fence at distances of 30m apart are recommended.

N.B. Fence droppers or mild steel bar, which will rust, are not sufficiently effective to provide acceptable earthing.



5. TESTING THE FENCE

Turn the energizer on. The bar graph on the energizer and on the LED keypad, if you are using one, should pulse fully, meaning all the bar graph LEDs should turn on. If the bar graph LEDs do not illuminate, only a couple light up or the fence alarm triggers, it means there is a short on the fence or an open circuit on the fence. Once you have cleared the fence and there is full bar graph on the energizer and LED keypad. Short the fence at various points to trigger the alarm. If the alarm does not trigger reset the fence alarm delay time.

Ensure the link is in between AUX and 0V on the connector if not used. The sensitivity of the alarm can also be set:

EZ 630 JP1 is the least sensitive and JP3 is the most sensitive (see the wiring diagram)

EZ 640/680 JP1 is the most sensitive and JP3 is the least sensitive (see the wiring diagram)

