

**HAMMER™**

**EZ630 ELECTRIC FENCE ENERGISER & ALARM MONITOR**

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4 INSTALLATION PROCEDURE

**READ FULL INSTRUCTIONS BEFORE INSTALLATION**

## **1 THE EZ630 CONCEPT**

- 1.1 The EZ630 has been specifically developed for the security industry. It incorporates all the necessary functions for a complete electric fence system in a single, powerful, compact unit.
- 1.2 An energiser circuit provides high voltage pulses at regular intervals to the fence.
- 1.3 A power supply circuit and standby battery allow the unit to operate from 220VAC mains or battery when the mains fails.
- 1.4 An alarm circuit monitors the return high voltage pulse from the fence. When the fence is shorted or cut the return pulse will no longer be detected resulting in the alarm triggering. Outputs for alarm indicators, eg. siren, are provided.

## **2 FEATURES AND SPECIFICATIONS**

- Energiser supplying high voltage pulses to the fence.
- Output voltage, fence not connected, nominal 5000V.
- Output voltage, fence connected, nominal 8000V.
- Energy output, 500 ohm, max 4J.
- Stored energy 6J.
- Battery charger, 13.8V.
- Standby battery 12V, 2AH, sealed (4 – 8 hrs).
- 2A fuse shorting or reverse battery protection.
- Mains power 220VAC, 30W.
- Audible power fail indication.
- High voltage return pulse monitor.
- Fence short or cut detected, delay 3 – 4 pulses.
- Auxiliary contact alarm monitor e.g. gate (instant).
- LED alarm indication.
- LED bar graph fence voltage indication.
- LED “check fence” indication, for plant growth.
- LED mains & battery indication.
- Armed response connection.
- Siren driver relay, 15W, 3min timeout.
- Strobe/flashing light driver 15W, latched until reset.
- On/off keyswitch control.
- Remote keyswitch option.
- Capacity live wire :
  - 2.2mm galvanised – 12km
  - 1.2mm stainless – 3km
  - 1mm braided galv. – 5km

## **3 OPERATION**

- 3.1 The unit is turned on and off via the key switch on the side of the panel. To reset the alarm the key switch must be turned off for a few seconds and then turned on again. If a remote key switch is installed, the key switch on the unit should remain on at all times.
- 3.2 The bar graph on the front panel gives a rough indication of the fence voltage. If the bar graph is low and/or the fence alarm keeps triggering then the fence must be checked for any shorts or cuts.
- 3.3 To test that the energiser is operating correctly :
  - Turn the energiser off.
  - Disconnect the high voltage output to the fence.
  - Disconnect the high voltage return from the fence.
  - Connect a wire link between the red high voltage output and return terminals.
  - Turn the energiser on.
  - If the bar graph pulses correctly, the energiser is fine – the fault is on the fence.

- 3.4 When the fence alarm LED flashes green, power is being drained from the fence, either by plants, bad insulators or bad earthing. Or the fence is too short and the green led jumper must be removed, refer to diagram.

#### **4 INSTALLATION PROCEDURE**

- 4.1 Mount the energiser by removing the front cover plate, 6mm mounting holes have been provided in the corners of the base. The PCB does not have to be removed. Ensure that the tube connecting the feedback infrared LEDs from the small High Voltage Interface PCB to the main PCB is not damaged or removed. Plug in the power connector correctly by ensuring the polarising red dots match up. The power fail buzzer will sound.
- 4.2 Insert the on/off key and turn fully clockwise (off). Connect up the mains. The battery will automatically latch in and the power fail buzzer will be silenced. The battery will remain connected and the buzzer will sound if the power fails.
- 4.3 To test the energiser refer to section 3.3.
- 4.4 Connect the unit to the fence with high voltage insulation cable (spark plug cable). The right hand red terminal provides the high voltage outgoing pulse. The left hand red terminal monitors the return pulse. The fence wires should be connected in a single, closed loop configuration (series).
- 4.5 A continuous wire must be connected from the energiser centre black terminal, to the fence earth wires. Connect at least one earthing conductor, 1.5m copper rod, as close as possible to the energiser. Further earthing conductors can be connected along the fence to improve performance. Steel rods or fence droppers are no good as earthing conductors. Never connect the fence earth to mains earth or water pipes.
- 4.6 The fence wires must be linked so as to alternate between live and earth to provide:
- A better shock deterrent.
  - Reliable alarm activation.
- 4.7 Connect up the siren, strobe, armed response and gate (aux.) contacts as shown in the accompanying diagram. The common terminal of the siren and strobe relays can be connected to 12V or 0V by the position of jumpers JP2 & JP3. The default setting is 12V.
- 4.8 Once the system is connected and running smoothly, short the fence in various places to ensure that the alarm triggers correctly. It is possible that the alarm may fail to trigger further away from the energiser, especially if high resistance wire (stainless steel) is used on the fence. To adjust the alarm sensitivity shift the jumper, JP1, shown in the diagram. With the jumper in the position closest to the edge of the PCB the alarm is least sensitive. Use more earth stakes along the fence or parallel the earth wires on the fence if necessary.
- 4.9 The fence voltage and pulse frequency can be adjusted if necessary with the trimmers as shown in the diagram.

**NB. ENSURE THAT OPTO – TUBE IS IN POSITION AND THAT IT IS STRAIGHT AND UNOBSTRUCTED. ALWAYS REPLACE LID LOOSELY DURING TESTING.**

Please note that the power lead has a special moulded grommet to comply with the IPX4 standard, Should the cable get damaged the cable should be replaced by the same, obtainable from all HAMMER Dealers.

