



# DTS Megashock 5

**Energizer 5J (Indoor installation)**

## **INSTALLATION MANUAL**

Comply to: SANS IEC 60 335-2-76

NRCS Ref. no. 7357 10 14



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## **Introduction**

The Megashock 5 is a mains (230V 50Hz nominal) operated energizer with battery (12V 7Ah nominal) back-up. The batteries to be used are rechargeable lead-acid batteries. Non rechargeable batteries must NOT be used. The lead-acid batteries require venting and it is imperative that the energizer be situated in a well-ventilated area.

**This appliance is not intended for 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 instruction 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.**

## **Disclaimer**

DTS Security Products CC or any of its subsidiary companies does not guarantee that the operation of the product will be uninterrupted or totally error free. Energizer specifications may be altered without prior notification. The installer is referred to the definitions and general requirements in Appendix A.

The installer must take into consideration the applicable municipal laws concerning the installation of electric fences. International standards can be viewed at <http://www.iec.ch> and South African standards on <http://www.sabs.co.za>.

## **Basic Definitions**

**Electric Fence:** a barrier which includes one or more electric conductors, insulated from earth, to which electric pulses are applied by an energizer.

**Connecting Lead:** an electric conductor, used to connect the energizer to the electric fence or the earth electrode.

**Electric Security Fence:** a fence used for security purposes which comprises an electric fence and a physical barrier electrically isolated from the electric fence.

**Public Access Area:** any area where persons are protected from inadvertent contact with pulsed conductors by a physical barrier.

**Pulsed Conductors:** conductors which are subjected to high voltage pulses by the energizer.

**Secure Area:** an area where a person is not separated from pulse conductors below 1,5m by a physical barrier.

## **General requirements for electric security fences** (Appendix A)

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 2 meters. If this gap is to be closed, this shall be done 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 prominently placed warning signs securely fastened to the fence posts or firmly clamped to the fence wires. The size of the warning signs shall be at least 100mm x 200mm. The background colour of both sides of the warning sign shall be yellow. The inscription on the sign shall be black. The inscription shall be indelible, inscribed on both sides of the warning sign and have a height of at least 25 mm.

Warning signs shall be placed at each gate, access point, intervals not exceeding 10 meters, adjacent to each sign relating to chemical hazards for the information of emergency services.

Gates in electric security fences shall be capable of being opened without the person receiving an electric shock.

The energizer earth electrode shall penetrate the ground to a depth of at least 1,2 meter. The distance between any electric security fence earth electrode and other earth systems shall not be less than 2 meters.

Connecting leads that 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 external factors.

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.

Mains supply wiring shall not be installed in the same conduit as signaling leads associated with the electric security fence installation.

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 angles to it.

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

Power Line Voltage (V)	Clearance (m)
Equal or less than 1000	3
> 1000 and equal or less than 33000	4
> 33000	8

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

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

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:

1) 2 meters for power lines operating at a nominal voltage not exceeding 1000 volt.

2) 15 meters for power lines operating at a nominal voltage exceeding 1000 volts.

Electric security fences and their ancillary equipment shall be installed, operated and maintained in a manner that minimizes danger to persons, and reduces the risks of persons receiving an electric shock unless they attempt to penetrate the physical barrier, or are in a secure area without authority.

Exposed conductive parts of the physical barrier shall be effectively earthed.

A spacing of 2.5 meters shall be maintained between un-insulated electric fence conductors or un-insulated connecting leads supplied from different energizers. This spacing may be less where conductors or connecting leads are covered by insulating sleeving, or consist of insulated cables,

related to at 10kV. This requirement need not apply where the separately energizer conductors are separated by a physical barrier, which does not have any openings greater than 50mm.

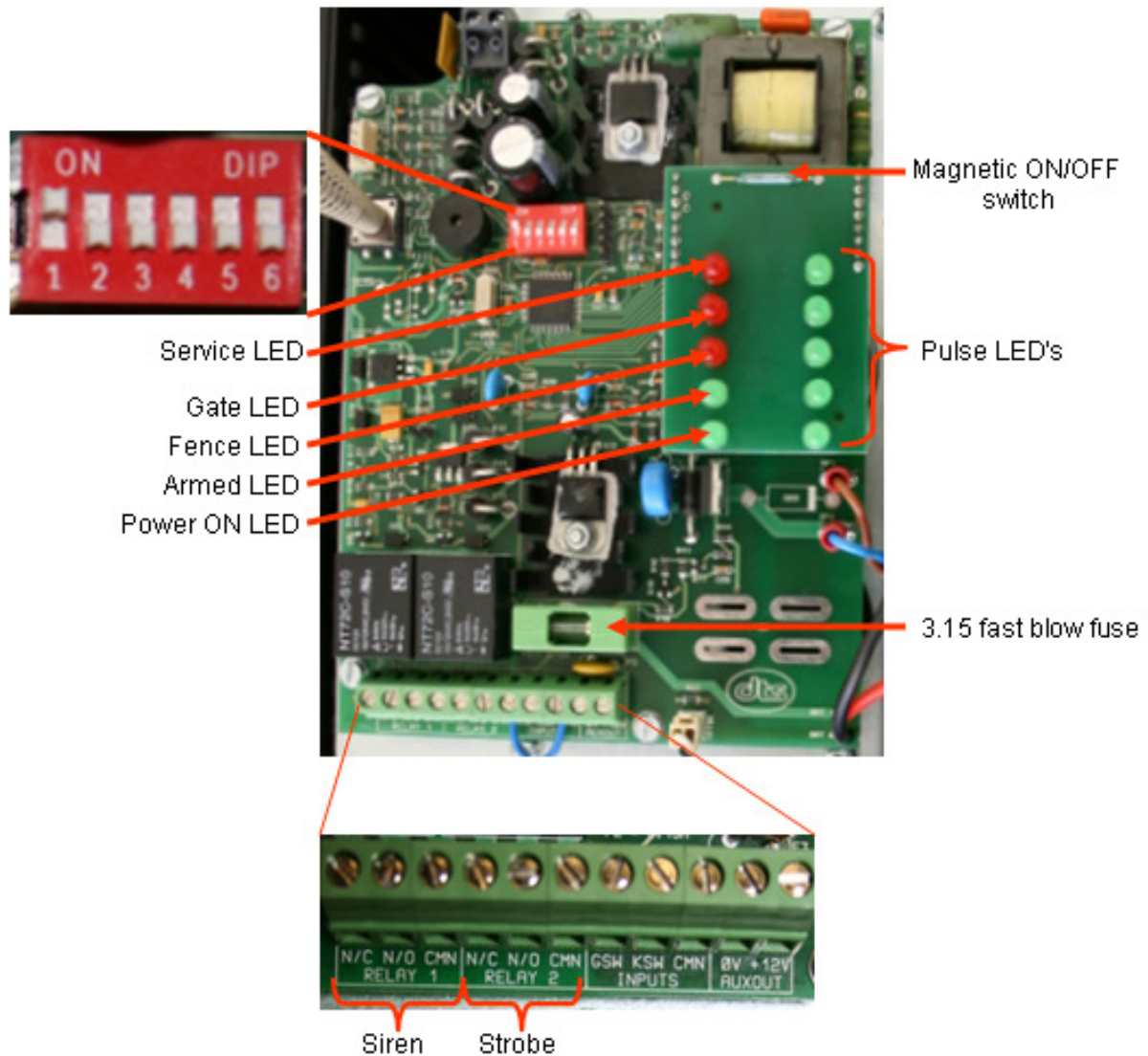
Ensure that all ancillary equipment connected to the electric security fence circuit provides a degree of isolation between the fence circuit and the supply mains equivalent to that provided by the energizer.

Protection from the weather shall be provided from 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 IP54.

## **Specifications**

Voltage on open circuit		8800 Volts
Voltage on 500 Ohms		Approx. 7100 Volts
Output energy		5 Joules
Battery size		12V / 7 Amp Hour
Battery stand by		10 – 15 Hours
Maximum live wire	Braided/Galv. 1.2/2.24	Opt. 8/16 KM – Max. 18/35KM
	S/Steel 1.2/2mm	Opt. 0.8/2.4KM – Max. 1.1/3.3KM
	Aluminium 1.6 & 2	Opt. 32KM – Max. 60KM
Weight		5.4 KG
Dimensions		270 X 220 X 110 mm
Siren time out		3 or 8 Minutes
Voltage at beginning of fence		≤ 10000 Volts
Voltage at end of fence		≥ 6000 Volts, but not more than 10000 Volts.

## Process Control Board (PCB)



### Dipswitch selection

Dipswitch 1 - ON, Override tamper alarm switch.

Dipswitch 1 - OFF, Normal run mode.

Dipswitch 2 - ON, Strobe light will stay on when energizer is armed.

Dipswitch 2 - OFF, Strobe light on alarm will stay on until manually reset.

Dipswitch 3 - ON, Siren will on alarm go on & off for 3/8 minutes until manually reset.

Dipswitch 3 - OFF, Siren will on alarm go off for 3/8 minutes, then reset itself if alarm condition is cleared.

Dipswitch 4 - ON, Gate alarm delay = 3 minutes.

Dipswitch 4 - OFF, Gate alarm delay = 1 minute.

Dipswitch 5 - ON, Fence alarm sensitivity = 2 consecutive error cycles.

Dipswitch 5 - OFF, Fence alarm sensitivity = 3 consecutive error cycles.

Dipswitch 6 - ON, Alarm timer = 8 minutes.

Dipswitch 6 - OFF, Alarm timer = 3 minutes.

**NB: Default setting would be with all dipswitches in the OFF position.**

## PCB functions

### 1) Important



CN6 Connection pins

**DO NOT TAMPER OR SHORT BETWEEN PINS.**

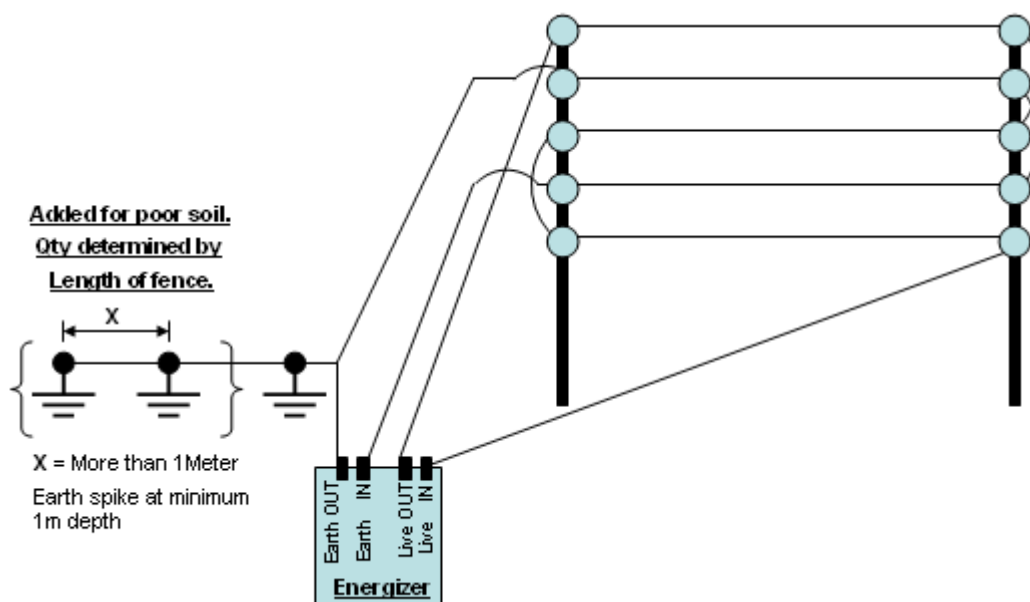
**CN6 is for manufacturing program purposes only.**

- 2) J1 jumper – For maintenance purposes, short out between the two pins momentarily to power up the PCB if no AC power is available.
- 3) CN4 – High Tension Feedback connection.
- 4) CN5 – Two channel receiver connection - Channel 1 = Panic  
- Channel 2 = Fence trigger for ON / OFF.  
(Use only DTS pre-wired 2 channel energizer receiver on connection CN5)

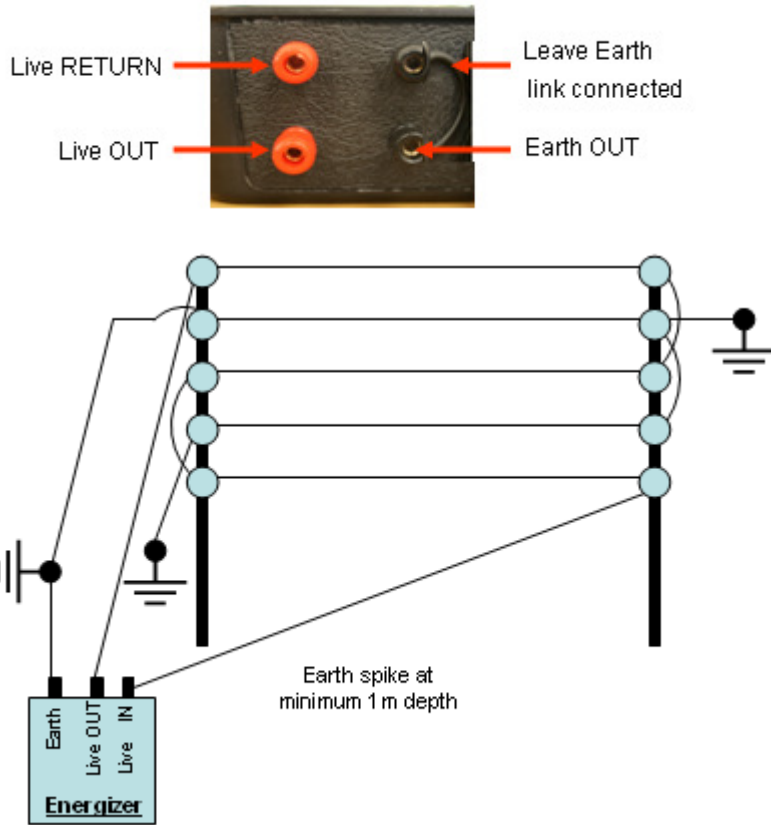
## Fence wire connections (Monitored earth)



Remove links



**Fence wire connections** (Non Monitored earth)

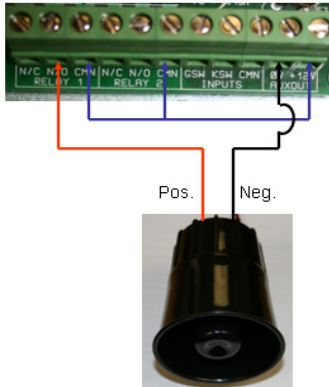


**DO NOT connect mains earth as fence earth.**

**External connections**

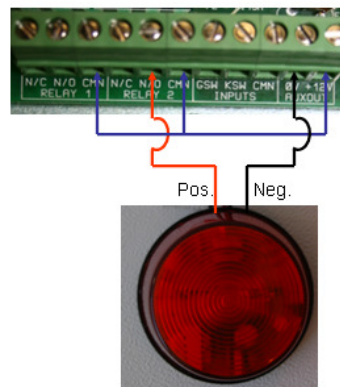
Siren Relay 1

**Siren – Relay 1**



Strobe Relay 2

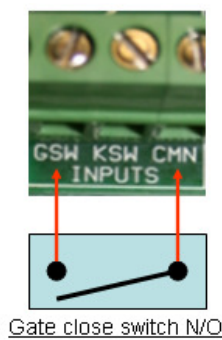
**Strobe – Relay 2**



External ON / OFF via Keypad, Receiver or Switch  
(Components used must be in LATCH mode)



Gate Contact (N/O)





## Manual or Standard method of arm & disarming the fence & Fence Status



- 1) Low battery - Service LED will flash equal ON / OFF flashes.
- 2) No AC power - Power LED will be OFF.  
Service LED will flash short, slow flashes.
- 3) Faulty fence - Fence LED will flash equal ON / OFF flashes.
- 4) Faulty gate - Gate LED will flash equal ON / OFF flashes.
- 5) Faulty Unit - Service LED will be permanently ON.

### General hint on fault finding

Switch off the unit.

Remove the live and earth wires from the unit.

Bridge live out to live return on the unit.

Bridge earth out to earth return on the unit.

Switch the unit back on.

If the unit still gives an immediate alarm, return unit to supplier.

If not, switch the unit off again, connect only the earth wires back onto the unit.

Switch the unit back on.

If the unit now gives an alarm, the unit is insufficiently earthed, add more earth spikes, or there is a communication break on the earth line.

If not, the live wire has a fault on the line, search for the fault and repair before connecting the live wires back onto the unit.

If the 3.15 fuse is blown, the energizer will not work of the battery. (Reversed polarities will blow the fuse).

### Optional DTS Two Channel receiver



Optional two channel DTS Receiver can be connected to the PCB which will then automatically allow the following:  
Channel 1 – ON/OFF  
Channel 2 - Panic

## **Manufacturers warranty.**

- **All energizers manufactured by DTS Security carry a 24 month factory warranty from date of invoice. (Excluding the battery which will be 12 months)**
- **All goods are warranted to be free from faulty components and manufacture.**
- **Faulty goods will be repaired or replaced at the sole discretion of DTS Security Products, free of charge.**
- **This warranty is subject to the goods being returned to the premises of DTS Security Products.**
- **This warranty excludes lightning damage, insect damage and damage caused by faulty installation.**
- **In the event of the goods being supplied by dealer, merchant, agent or duly appointed installer of DTS Security Products, the claim must be directed to that supplier.**
- **The carriage of goods is for the customer's account.**
- **This warranty is only valid if the correct installation and application of goods, as laid out in the applicable documentation accompanying said goods, is adhered to.**
- **All warranty claims must be accompanied by the original invoice.**
- **The liability of DTS Security Products and / or their distributors is limited as herein set out DTS Security Products and / or their distributors will not be liable for consequential, incident damage or injury howsoever arising.**