

# IS 302 (Part 2/Sec 76) : 1999

## ELECTRIC FENCE ENERGIZERS

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### **DETAILS:**

IS Number-IS 302 (Part 2/Sec 76) : 1999-Reviewed In : 2019

IS Title-Safety of household and similar electrical appliances: Part 2 particular requirements: Sec 76 electric fence energizers

Degree of Equivalence-Modified/Technically Equivalent (IEC 335-2-76 ( 1997 ))

Reaffirmation Year-2019

Technical Committee- ETD 32 (Electrical Appliances Sectional Committee)

### **APPLICATIONS:**

Also known as chargers, energizers, fencers, zappers, etc., energizers are the source of electrical current to your fence. There are basically three different types of energizers: AC-powered/plug-in, DC-powered/battery-powered and solar-powered.

An Electric Security Fencing System is a type of wired barrier that uses electric shocks to deter animals and people from crossing a boundary. Most electric fences are used to enhance the security of sensitive areas, such as military installations, prisons, and other security sensitive places. It can also be used for security of our agricultural fields from animals and other unexpected dangers. It can Detect, Deter and Delay an Intrusion. A high voltage controlled shock combined with a physical barrier will deter anyone from attempting to penetrate the perimeter fence. The detecting ability of an electric fence energizer will sound an alarm when the perimeter of the property being protected has

been infiltrated or tampered with. By keeping the perimeter protected using an electric fence, the attempted break in of the protected area is displayed, giving additional time for a reaction team to respond.

## **PHOTOS**



SOLAR ELECTRIC FENCE ENERGIZERS

## **VISIT**

I visited a small scale manufacturer “**Platinum Control System,Electronics manufacturer in Ahmedabad, Gujarat,Address: 13, Gopinath Industrial Park, Sardar Patel Ring Rd, near Hotel Palm, Odhav, Ahmedabad, Gujarat 382415 Contact no.- 8046048994, 8530470646**” to understand the manufacturing process of the energizers and various quality parameters involved.

The main components of the energizers are:

- ABS Enclosure
- PCB Board
- Resistors, capacitors,wires
- Soldering material (Components are soldered in the PCB board)
- Transformer
- Outlet terminals
- Sensor and alarm circuit
- Charging terminal by solar module (for solar energizers)

The safety parameters are similar to IS 302-1 & 302 series:

1. Earth Continuity test
2. Electric strength test
3. Functional test
4. Protection against access to live parts
5. Provision for Earthing
6. Power input and current
7. Leakage current and electric strength at operating temperature
8. Heating
9. Moisture resistance
10. Transient Overvoltage
11. Mechanical Strength
12. Overload Protection of transformers and associated circuits
13. Abnormal Operation
14. Stability & Mechanical Hazards
15. Construction
16. Internal wiring
17. Components
18. Supply connection and external flexible cords
19. Terminals for external conductors
20. Screws and connections
21. Clearances, creepage distances and solid insulation
22. Resistance to heat & fire
23. Resistance to rusting

The performance parameters involve:

1. Power input supply
2. Operating environment/temperature
3. Relative humidity
4. Output voltage peak
5. Output Low peak
6. Pulse peak current
7. Pulse duration
8. Pulse interval
9. Single pulse output maximum- power
10. Single pulse output maximum energy
11. System power consumption.

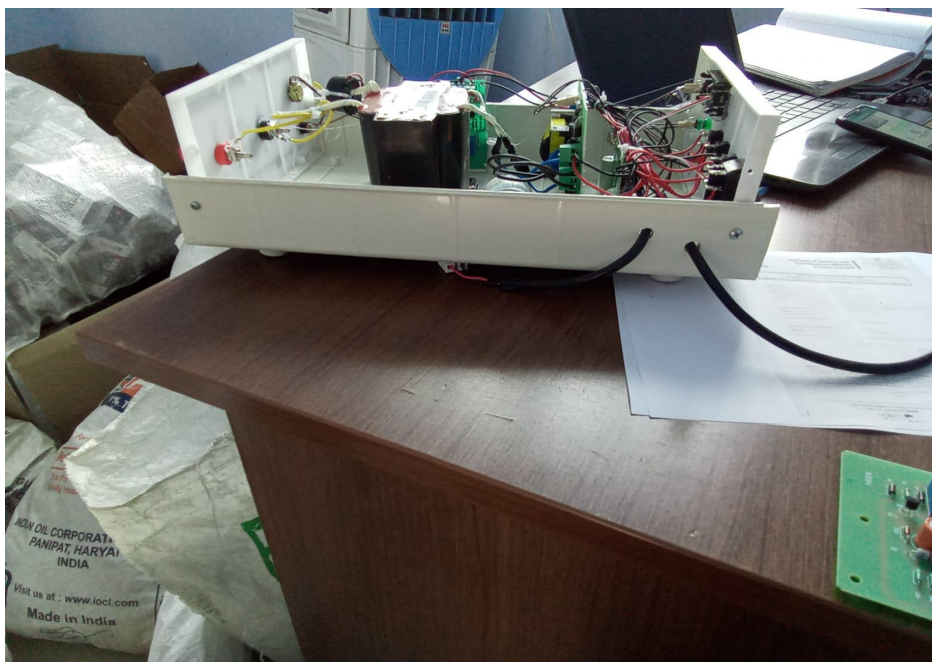
This standard only deals with only safety but a product performance standard can also be formulated .

**Sample Specifications are attached in the Annex-1.**

**Test Reports of the above product are attached in the Annex-2.**



PHOTO OF INSIDE OF PCB OF ENERGIZER



INNER CIRCUIT OF ENERGIZER



MANUFACTURING UNIT

### **RECOMMENDATIONS:**

IEC has a latest version standard of this product as IEC 60335-2-76:2018– Household and similar electrical appliances - Safety - Part 2-76: Particular requirements for electric fence energizers.

It is recommended that the latest IEC standard is adopted as an Indian standard.

### **FURTHER RECOMMENDATIONS**

The IEC 60335 series is a hugely important series of standards which deals with appliances.

**THEREFORE, IEC 60335 SERIES' LATEST STANDARDS SHOULD BE STUDIED FOR ADOPTION IN THE OUTDATED IS 302-1:2008 and rest of IS 302 SERIES FOR WIDE RANGE OF EQUIPMENTS VERY COMMON IN USE IN INDIA.**

### **VARIOUS SUPPLIERS OF ENERGIZERS AND THEIR INFORMATION**

Following are the details for some manufacturers of Energizers:

MANUFACTURER	EMAIL	PHONE	ADDRESS	CONTACT PERSON
PLATINUM CONTROL SYSTEMS	-	8046048994 , 8530470646	13, Gopinath Industrial Park, Sardar Patel Ring Rd, near Hotel Palm,	TUSHUR CHOHALIYA

			Odhav, Ahmedabad, Gujarat 382415	
BILLIONIX	-	8043819340	FIRST FLOOR,A-9/1,NARAINA INDUSTRIAL AREA PHASE-1,,NARAINA New Delhi - 110028, India	MD MEHTA
RB SOLAR ENERGY	-	8048983667	D-16, Sahajanand Business Park Estate Odhav - Nikol Ring Road Ahmedabad - 382415, Gujarat, India	Rakshit Rakholiya
PENTAGON ENGINEERS	info@pentagonenginee rs.com	9818821303 , 9818521303	Building No. 89, Main Metro Road, Uttam Nagar, New Delhi - 110059	Gurucharan Dass Dugga
SHREE MARUTI ELECTRONICS HUB	-	8043861048	A-169, Billeswar Estate, Opposite Gujrat Vepari Mahamandal Odhav Ahmedabad - 382415, Gujarat, India	Korat Nikunj
FIELDMASTER INNOVATION LIMITED	-	8048603167	Plot No. 128, Road No. 5 SP Ring Road Ahmedabad - 382430, Gujarat, India	Manish Patel
MANGLAM VASTU		8048615819	House No. 308, Govindpuri Haridwar - 249401, Uttarakhand, India	Jai
SUNRISE ELECTRO PRODUCT		8048605638	Shop No. 4, Shivanjali Dream Opposite Santikunj Bungalow, Kamrej, Surat-394180, Gujarat, India	Prakash Patel
SWAKARM		8048262784	Swakarm Near Derasar Tehsil- Dasada Surendranagar -	Jayesh Sindhav

			382750, Surendra Nagar, Gujarat, India	
PRINCE ENTERPRISE		7942549062	Block 2, Park 2 Swaminarayan Rajkot - 360004, Gujarat, India	BHAUTIK SIDPARA
CROWN SOLAR POWER FENCING SYSTEMS		8048964221	Bus stand Coimbatore - 641301, Tamil Nadu, India	A. Sikkandar Basha
JAI SUNLIGHT SYSTEMS	-	8048614689	No. A-6, Mullai Nagar, Damodar Swamy Layout, Neelikonampalayam Post Singanallur Coimbatore - 641033, Tamil Nadu, India	K. Gunabalan
SRI PONNI INDUSTRIES		8046035379	41/6, muthu nagar Narasimhanaicken palayam Mettupalayam Road, coimbatore -31, Coimbatore-641031, Tamil Nadu, India	Ganeshan
COMPUTER CARNIVAL		8048616221	Shop No. 8, First Floor, CSC 1 DDA Market, Sector - 6, Rohini Delhi - 110085, India	Sandeep Mitra
UKC GROUP ( UTTARAKHAND CONSTRUCTION GROUP )		8047314086	Lakhanpur Udham Singh Nagar Bazpur - 262401, Udham Singh Nagar, Uttarakhand, India	Mohd Nadeem
IBEXKAYENN PRIVATE LIMITED		8048600242	No. 36/1, Subbarama Chetty Road Basavanagudi Bengaluru - 560004, Karnataka, India	Nisha G

YSR SECURITY SYSTEM		8046062411	L-14, Abul Fazal Enclave 1, Jamia Nagar L 14 New Delhi - 110025, India	Mohammad Yaseen
TECH TREE INC.		8048967395	187, Ground Floor, Suraj Apartment Pul Pehladpur New Delhi - 110044, India	Gagan Sood

#### Annex-1

Sample Specifications of Electrical Fence Energizers

- 1) **ElectricFenceEnergizer\_Specification.pdf**

#### Annex-2

Test reports of the product- Electrical Fence Energizers

- 1) **CPRI (1).pdf**
- 2) **IEC Certificate (1).pdf**