



Sertec S.R.L.
Soluciones inteligentes pensando en usted



CMCE SERTEC-UL LIGHTNING PROTECTOR

ELECTROSTATIC FIELD PROTECTOR



The most effective protection system **Against Lightning**



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THE CMCE UL LIGHTNING PROTECTOR

Is great for:



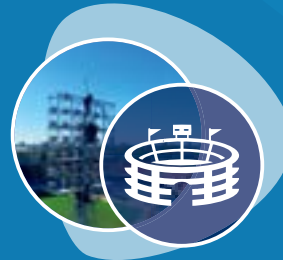
FACTORIES



**HOSPITALS
SANATORIES**



TELECOMMUNICATIONS



**SPORTS
COMPLEXES**



CONSTRUCTION



**MONUMENTS AND
HISTORICAL SITES**



**AIRPORTS
RADARS
CONTROL TOWERS**



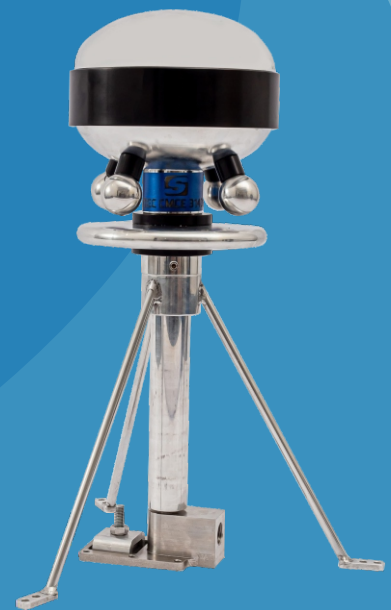
**BUILDINGS
SHOPPING CENTERS**



**MINES AND
PETROCHEMICALS
EXPLOSIVE ATMOSPHERES**



**ELECTRICAL SUBSTATIONS
HIGH AND LOW VOLTAGE
LINES**



CMCE-UL LIGHTNING PROTECTOR


Multiple Field Electric Compensator

SERTEC Electrostatic Field Protector

The CMCE UL LIGHTNING PROTECTOR aims to protect people, animals and structures in installations on land, air and water from any electrical phenomenon.

The CMCE UL LIGHTNING PROTECTOR is designed to protect against electroatmospheric effects produced by climate change, industrial, meteorological or solar electromagnetic pollution, manifested in the form of electrical storms, etc. The CMCE UL LIGHTNING PROTECTOR is permanently protecting its coverage area to correct the effects of electrostatic disturbances according to their origin, frequency, voltage and intensity; compensating, stabilizing the current of the electric charges in its environment, draining them to ground in harmless milliamperes, minimizing the formation of the lightning in its protection area

The CMCE UL LIGHTNING PROTECTOR is the result of the discovery of the behavior of electroatmospheric phenomena that interact in the atmosphere of our planet. The novelty of this technological development is supported by the well-known laws of OHM and Maxwell's equations, on which this new technology is based. Essentially to have at all times the stabilized electric field of the atmosphere referring to ground in the protection area. The system behaves passively at the level of prevention, based on atmospheric electrical activity with the aim of maintaining a clean and controlled environment of electrical and magnetic contamination.



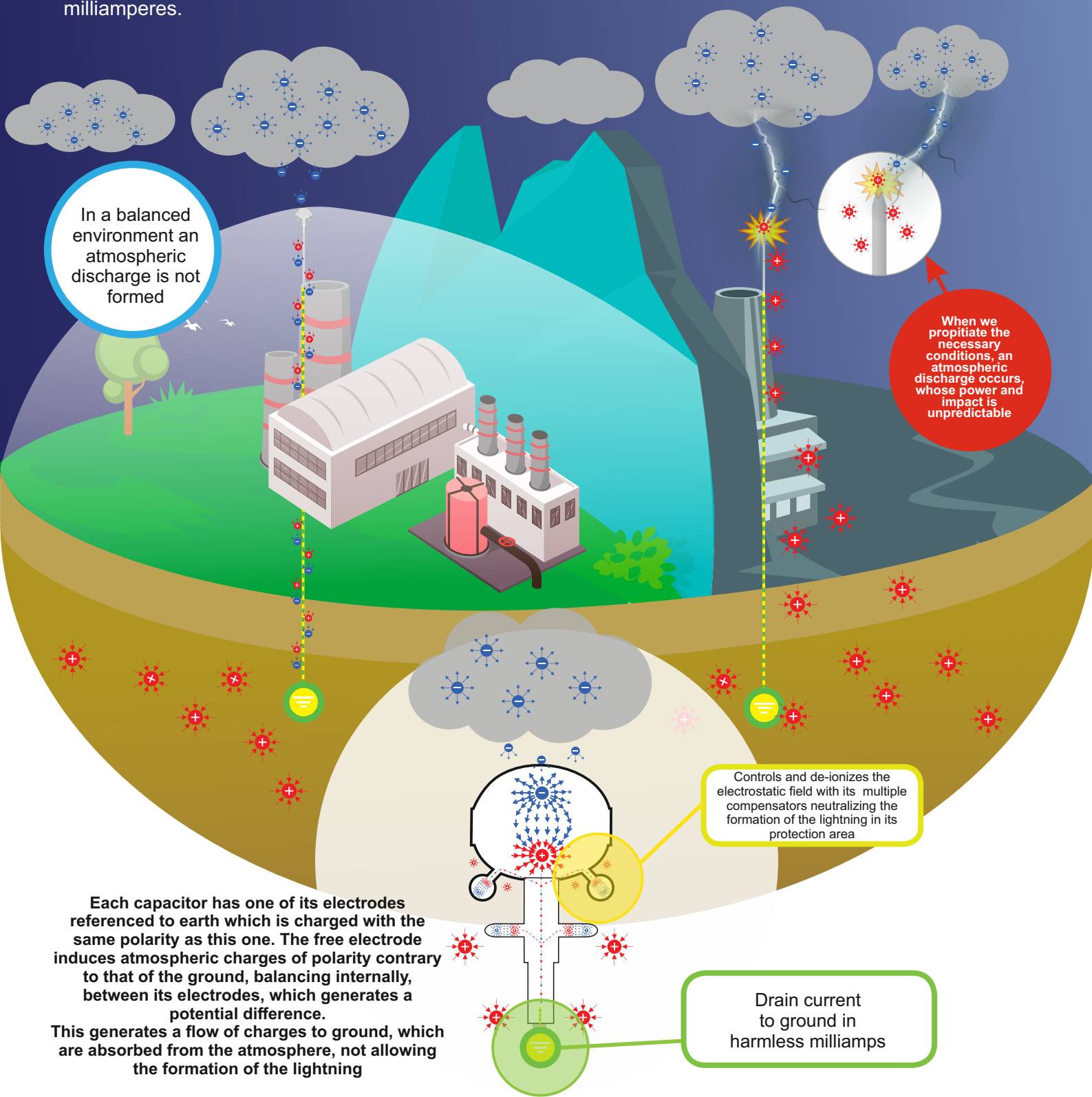
In 1916 Nikola Tesla in his patent No. 1,266,175 mentioned the operating principles of a primitive device based on the principles that underpin our developments, explaining the inconveniences caused by the lightning rods, which instead of protecting property and people, attracted the rays increasing the feasibility of electric discharges and consequently the risks that they entailed.

New materials and designs, added to years of experience, have allowed us to improve the experiences of the undisputed scientist Nikola Tesla, evolving in the protection of atmospheric phenomena.

OPERATING Principle

The multiple electric field compensator, CMCE UL

is a passive sensor system designed to balance and deionize at all times the effects of atmospheric phenomena through multiple compensators, generating a protective shield in its coverage area, its operating principle is based on compensating, stabilizing the existing electric field in its environment, in this way it cancels the formation of the ascending tracer neutralizing the lightning draining the electric charges to ground, in harmless milliamperes.



In a balanced environment an atmospheric discharge is not formed

When we propitiate the necessary conditions, an atmospheric discharge occurs, whose power and impact is unpredictable

Controls and de-ionizes the electrostatic field with its multiple compensators neutralizing the formation of the lightning in its protection area

Drain current to ground in harmless milliamps

Each capacitor has one of its electrodes referenced to earth which is charged with the same polarity as this one. The free electrode induces atmospheric charges of polarity contrary to that of the ground, balancing internally, between its electrodes, which generates a potential difference. This generates a flow of charges to ground, which are absorbed from the atmosphere, not allowing the formation of the lightning

TECHNOLOGICAL CHANGE

































CMCE UL

A legacy of one of the most privileged minds ... Nikola Tesla





The CMCE LIGHTNING PROTECTOR ensures a 99% reduction of lightning impacts in almost all types of buildings and structures through the deionization of electrostatic charge.

Our device guarantees the reliability of computer systems and data during storms, optimizes production by increasing competitiveness and improves staff safety, among other positive aspects.

TECHNOLOGICAL DIFFERENCES BETWEEN THE CMCE SERTEC AND THE CONVENTIONAL LIGHTNING ROD

	 CMCE UL LIGHTNING PROTECTOR	 Conventional Lightning Rod
	 It does not excite or capture the lightning, since it does not generate ascending tracers.	 Excites and captures the lightning, generating upward tracers.
	 Protects all types of structures and environments with risk of fire or explosion.(ATEX)	 Increases the risk of fire or explosion.
	 It does not generate overvoltages.	 Generates overvoltages.
	 Avoids electrical risks.	 Creates high voltage electrical hazards.
	 Complies with the basic principles of occupational risk prevention.	 Does not comply with the basic principles of occupational risk prevention
	 Does not generate Electromagnetic Compatibility effects.	 Generates effects of Electromagnetic Compatibility, since it attracts the ray.
	 Ground connection is compatible with low voltage electrical ground connections according to the REBT.	 Ground connection is NOT compatible with the low voltage electrical earth electrodes according to the REBT.
	 It is not radioactive and is manufactured according to the RoHS regulations.	 Some are radioactive.
	 Environmentally friendly.	 Indirectly generates electromagnetic pollution.
	 Price is very competitive in relation to safety.	 Price is NOT competitive in relation to safety.
	 Offers guaranteed protection.	 Does not offer guaranteed protection.

RISKS - COSTS - EFFECTIVENESS ANALYSIS

	Electrical Risk	Accident Risk	Security-Cost Ratio	Efficiency of the System	Return on Investment
CMCE LIGHTNING PROTECTOR 	 LOW	 LOW	 LOW	 HIGH · 99% No Lightning	 HIGH · 99% No Lightning
Conventional 	 HIGH	 HIGH	 HIGH	 LOW · 99% Lightning	 LOW

Technical Specifications



CMCE UL LIGHTNING PROTECTOR

Description: Greater deionizing power, for use in buildings, large complexes, mining, boats, electric stations, etc.

Weight: 10.490 kilograms (Gross)

Measurements: Ø 20.8 cm x 54.9 cm.

Packaging:
Galvanized Metallic Material

CMCE maximum working voltage WITHOUT lightning discharge

515,41 KV at one meter, according to high voltage laboratory tests (UNE 21186:2011// NF C17-102:2011).

Maximum allowable current of short circuit

The tests carried out according to IEC-10/350 Q curves of 100,000 Amperes, specified in the IEC-62305 norms, show that the equipment supports 7 continuous degasses of 89,906KA; 89.62KA; 88.53KA; 89.3KA; 90.44KA; 96,656KA; 89,688KA; without breaking materials or marks of deterioration or perforation.

Protection effectiveness

99% reduction of impact of direct rays in the protected structure. In case of direct impact of lightning (1%) or indirect effects due to external induced overvoltages in the protected structure, the CMCE behaves like a thermal fuse, absorbing part of the lightning energy in heat by melting its components, minimizing (between 60% - 90%) electromagnetic effects.

Does not contain radioactive, electronic or heavy metals components.

Coverage Area

- The CMCE SERTEC-UL must be installed at a height of 3 m above the highest point to be protected (For more detailed information, consult the manual).

Structur connection:

It incorporates in its axis the system of direct connection to the structure by means of a base and clamping legs.

Component Materials:

Recycled Aluminum, Insulator: Polyacetal, also called polyoxymethylene (POM).

CERTIFICATIONS Regulations



ISO 9001-2015 certified by STAREGISTER
 ISO 9001 is the internationally recognized standard for quality management systems (SGC).
ISO 14001-2015 certified by STAREGISTER
 The ISO 14001 standard is the international standard for environmental management systems (EMS), which helps your organization identify, prioritize and manage environmental risks, as part of your usual business practices.



INTN Product Certificate (National Institute of Technology and Standardization and Metrology).



ENAC; ILAC-MRA
 A.1. General tests (Section.c.3.1UNE21186: 2011 // NF C17-102: 2011)
 Test: Documentation, information and identification (C.3.1.1)
 Test: Marking (C.3.1.2)
 A.2. Mechanical tests (Section.c.3.2 UNE21186: 2011 // NF C17-102: 2011)
 Test: Mechanical tests (C.3.2)
 A.3 Environmental tests (Section.c.3.3UNE21186: 2011 // NF C17-102: 2011)
 Test: Salt spray test (C.3.3.1)
 Test: Test in sulphurous humid atmosphere (C.3.3.2)
 A.4 Current test (Section.c.3.4UNE21186: 2011 // NF C17-102: 2011)
 Test: Current test (C.3.4)
 TO 5. Priming advance tests (Section.c.3.5UNE21186: 2011 // NF C17-102: 2011)
 Test: Determination of the progress in the PDC priming (C.3.5.3 UNE 21186: / C.3.5.2.4 NF C17-102: 2011)



The CMCE-SERTEC-UL has UL-96 certification



SERTEC S.R.L. is approved within the NATO Cataloging System (NOC) with the NCAGE code SFKU3 for our CMCE-SERTEC lightning conductors



DUNS REGISTER Number 955067967



We have CE MARKING on all CMCE models.



We have UKCA MARKING on all CMCE models.



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CMCE UL LIGHTNING PROTECTOR

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Warranty



MANUFACTURED BY SERTEC S.R.L. IN ASUNCIÓN, PARAGUAY

MAINTENANCE: Obligatory annual, carried out and certified by the official installer.

PRODUCT GUARANTEE 5 YEARS for manufacturing defects, justifying the annual maintenance.

* **PRODUCT INSURED** IN GARANTIA S.A. - Reinsured by Standard & Poors - A.M. Best, against "Manufacturing defect", value of damages covered up to a maximum of 500,000 USD.



To see the Current Policy number, scan the QR code



Consult insurance coverage according to the country to be installed and the model of the equipment.



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