



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

# CMCE UL



## Multiple Electric Field Compensator



### General Technical Specifications

#### Definition:

The CMCE (Variable Electric Field Balancer and Electrostatic Charge Deionizer) is an Atmospheric Discharge Protection System and Electro-Atmospheric Protector THAT AVOIDS THE FORMATION OF LIGHTNING; Defined as a PASSIVE CAPTOR System of electrostatic currents IN TIME, which drifts them to ground, whose principle of operation is based on balancing or compensating the existing variable electric field in this environment, avoiding the generation of the ASCENDENT TRACER in the CMCE and in the structure it protects, depending on its radius of coverage.

#### Maximum working voltage off the CMCE without lighting strikes:

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

#### Maximum permissible short-circuit current:

Tests carried out according to energy curves IEC-10/350 Q of 100,000 Amps, specified in IEC- 62305 standards, demonstrate that the equipment supports 7 continuous downloads of 89.906KA; 89.62KA; 88.53KA; 89.3KA; 90.44KA; 96,656KA; 89,688KA; without suffering material breakage, deterioration marks or perforation.

#### Product warranty:

5 years, subject to annual maintenance. Coverage in case of direct lightning strike on the product. The effects that could appear on the protected structure derived from indirect effects due to external induced overvoltages or due to non-compliance in the installation of the manufacturer's requirements such as grounding, assembly, materials and correct technical practices (specified in the Installation Manual). Correct technical practices are excluded from this coverage

#### Protection effectiveness:

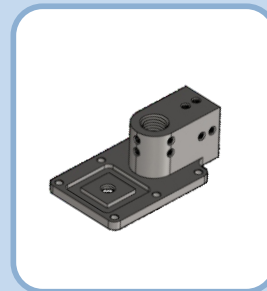
99% reduction of direct lightning impact on the structure protected. In case of direct lightning strike (1%) or effects indirect by external induced overvoltages in the protected structure, the CMCE behaves like a thermal fuse, absorbing part of the lightning energy in heat by fusion of its components,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

#### Materials that compose it:

High purity aluminum greater than 90%. Contains no electronic components nor heavy metals nor radioactive.

#### Mechanical connection to the structure:

It has a fastening system with a base and the mandatory use of braces.



#### Certifications and Compliance

- ISO 9001-2015
- ISO 14001-2015
- INTN Product Certificate (Paraguay) (National Institute of Technology and Standardization and Metrology).
- Comparative High Voltage Tests at INTI (Argentina) according to NFC-17100, where the comparative difference is that there a no lightning discharges.
- SERTEC S.R.L. It is approved within the OTAN Cataloging System (NOC) with the code NCAGE SFKU3 for our CMCE SERTEC lightning conductors.
- DUNS REGISTRATION Number 955067967
- CE MARKING on all CMCE models.
- UKCA MARKING on all CMCE models.
- RoHS is EN IEC 63000: 2018 "Technical documentation for the evaluation of electrical and electronic products with respect to the restriction of hazardous substances"
- Standard UL-96

#### ENAC; ILAC-MRA:

- A.1. General tests (Apdo.c.3.1 UNE21186:2011 //NF C17-102:2011)
- Tests: Documentation, information and identification (C.3.1.1)
- Tests: Marked (C.3.1.2)
- A.2. Mechanical tests (Apdo.c.3.2 UNE21186:2011 //NF C17-102:2011) - Test: Mechanical tests (C.3.2)
- A.3 Environmental tests (Apdo.c.3.3 UNE21186:2011 //NF C17-102:2011) - Test: Saline fog test (C.3.3.1) - Test: Test in a humid sulfurous atmosphere (C.3.3.2)
- A.4 Current test (Apdo.c.3.4 UNE21186:2011 //NF C17-102:2011) - Test: Current test (C.3.4)
- A.5. Priming advance tests (Apdo.c.3.5 UNE21186:2011 //NF C17- 102:2011) - Test: Determination of the advance in the priming of the PDC (C.3.5.3 UNE 21186: / C.3.5.2.4 NF C17-102:2011)





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Non-polarized electrode designed for lightning protection in all types of structures on land, including facilities at risk of fire or explosion.

MEETS UL96-A STANDARD

### OPERATING PRINCIPLE:

Deionization.

### CONNECTION SYSTEM TO THE STRUCTURE:

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

### COVERAGE RADIO:

120 meter radius according to each study of lightning protection needs.

### MAXIMUM WORKING VOLTAGE WITHOUT LIGHTNING:

515.41 KV at one meter.

### MAXIMUM INTENSITY:

100 kA tests according to IEC-10/350  $\mu$ s CMCE.

### PROTECTION EFFECTIVENESS:

99% reduction of direct lightning discharges on protected structures.  
In case of a lightning strike (1%), the CMCE behaves like a thermal fuse, absorbing part of the lightning energy in heat by fusion of its components, minimizing electromagnetic effects, in this case SERTEC S.R.L., covers only replacement of equipment under warranty (not labor).

### APPLICATIONS:

All types of construction or structures, including environments with risk of fire or explosion.

### MATERIALS COMPOSED:

High purity aluminum greater than 90%. Contains no electronic components nor heavy nor radioactive metals.

### WEIGHT / MEASURES OF THE LIGHTNING ROD:

**Weight:** 10,450 kgrs. (Gross weight)  
**Measurements:**  $\varnothing$  20.8 cm x 56.91 cm.

