

Atmospheric Discharge Protection and Electromagnetic Shield System  
which prevents lightning from striking the protected structure

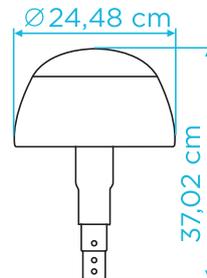
Made of  
Aluminum & PVC

Weight  
7,5 kg

Packaging:  
Recycled  
cardboard &  
LDPE



Dimensions



Packaging:  
26 x 26 x 47 cm

Passive system for capturing electrostatic currents in time and shunting them to earth. Its operating principle is based on continuously balancing or compensating the surrounding variable electric field, preventing the production of an ascending streamer in the DDCE Plus and the structure protected by it, depending on its radius of coverage.

### Electromagnetic Shield

Unique and effective system for protecting against external electromagnetic pulses (reducing them by 60% to 90%). The protection design is based on the side installation of the DDCE Plus (in the case of isolated structures) and on a perimetral layout of the DDCE Plus (in the case protecting areas and/or multiple structures).

In this case, the DDCE Plus acts like a thermal fuse, absorbing some of this energy (up to a working limit of 200 kA) and shunting the current to earth.

### Maximum operating voltage without lightning

705,000 volts at one metre, according to high voltage laboratory tests carried out at the LABORATOIRE DE GÉNIE ÉLECTRIQUE at the University of PAU (University Scientific Research Centre).

### Maximum permissible short circuit current

Tests performed at the Laboratorio Central Oficial de Electrotécnica of the Spanish Ministry of Industry, Tourism and Trade, according to IEC-10/350 Q 100,000 Amp energy curves, specified in IEC-62305 standards, show that the equipment supports two consecutive 100,000 amp lightning strikes without any breakage of materials.

### Radius of coverage

100 meters radius of coverage according to the technical specification in Annex A4 of UNE-EN-IEC 62305 (I).

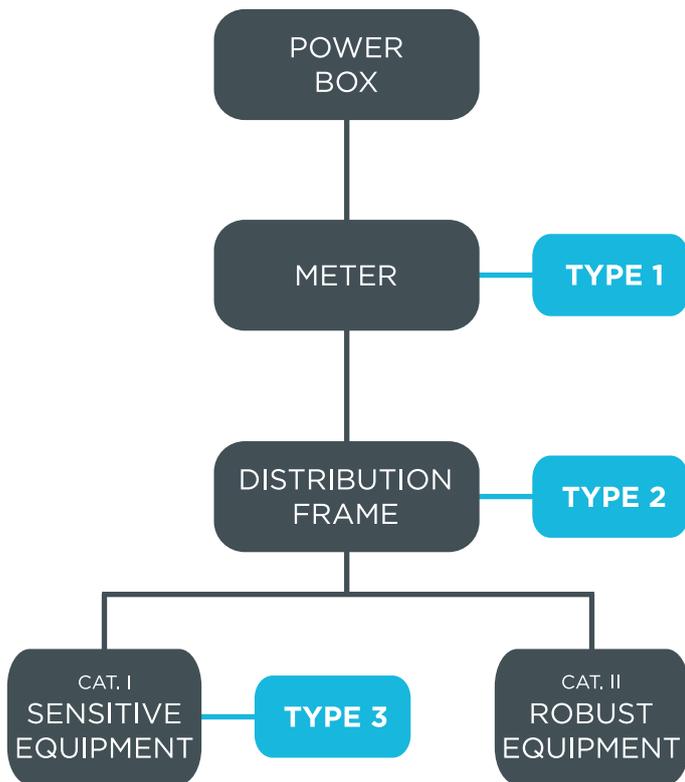
The radius is defined without taking into account any existing structures around the area to be protected.

This can lead to a modified theoretical radius.

## Protection effectiveness

99% reduction in direct lightning strikes on the protected structure. In case of a direct lightning strike (1%) or indirect effects induced by external surges induced in the protected structure, the DDCE acts as a thermal fuse, absorbing part of the lightning energy in the form of heat as its components melt.

Overvoltage protectors should be installed to protect against the indirect effects in the form of external induced overvoltages, which may be transmitted through the earth, as shown below:



### Type 1 Protectors:

For a nominal voltage of 230 V, 50 KA,  $\leq 4\text{KV F+N}$

### Type 1 + 2 Protectors:

For nominal voltage of 230/400 V, 50 KA,  $\leq 4\text{KV 3F+N}$

### Protection for telephone line or ADSL Type 1:

20 KA

### Type 2 Protectors:

Nominal discharge current C2 (8/20 us) 2,5 KA

### Type 1 + 3 Protector for TV/SAT Antenna:

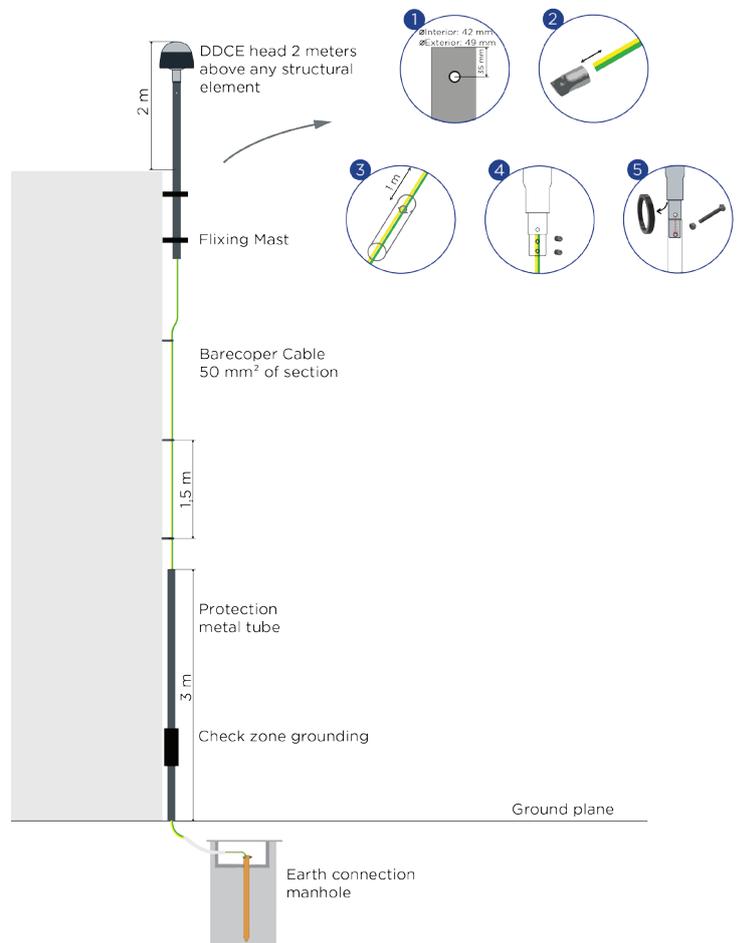
Nominal discharge current C2 (8/20 us) 10 KA

## Applications

All kind of structures on land and at sea

Unique and effective system for the protection of structures in environments with risk of fire and explosion (ATEX) and/or located in areas of high risk of lightning strikes (telecom towers, radars installations, structures in mountain areas, etc.).

## Installation



Once a mast of the correct height has been selected, with an internal cross section of 42 mm, drill an 8 mm diameter hole through the mast 32 mm from the edge, making sure there is a good mechanical joint and firm fixing between the DDCE Plus and the mast.

The downwire connecting the DDCE Plus to the earth connection must be as direct as possible, fixing the cable path with flanges and avoiding any curves of less than 20 cm radius.

Ensure that the cable path is always downwards.

### Certificate by Bureau Veritas (Es036861)

Lightning protection | UNE-EN (IEC 62305:2012)

Lightning strike risk security | TBC (Technical Building Code): SU8

NBR 5419:2005 | IRAM 2184:2011

NTC 4552:2008 | SANS 10313:2012

AS/NZS1768/2007

NFPA 780:2011 | CAN/CSA-B72-M87(R2013)

### Certificate by NATO

The DDCE has been officially listed by NATO under the heading of "Lightning suppression system and electromagnetic shield" with NATO catalogue number: DDCE:NCAGE:SYN37.

The DDCE has been selected as a NATO Codification System (SOC), by means of which it is guaranteed that the same article is identified in the field of logistics user nations of the system, one and the same name and the same single NATO Catalog Number (NOC).

### CE Marking

The DDCE device complies with the General Product Safety Directive (2001/95/CE) and the working limits of Electromagnetic Compatibility, in accordance with CE marking requirements:

Product Safety | Directives 2001/95/CE

Electromagnetic Compatibility | Directives 92/31/CEE

Low Voltage Equipment | Directives 72/23/CEE

### Quality Assurance System

Dinnteco International S.L, works with a Quality Management System in accordance with international standard ISO 9001:2008, applied to: design, marketing, management, installation and assembly of lightning arrester for the compensation of variable electric fields.

### Prevention of Occupational Hazards

Meets the requirements of preventive action (Article 5) of Law 31/1995 of November 8, Prevention of Occupational Hazards, and Royal Decree 614/2001 of 8 June, on minimum requirements for the protection of health and safety of workers from electrical hazards.

### Environmental Protection

Complies with Rohs regulations.

### Maintenance

Mandatory once a year, carried out and certified by the official installer.

### DDCE Warranty

5 years product warranty, subject to the carrying out of annual maintenance.

Coverage in the case of a direct lightning strike on the DDCE. Any effects that might appear on the protected structure due to indirect effects induced by externally induced voltage surges are excluded from this coverage.

Application of the warranty: From factory acceptance of the commissioning of the installation.

