



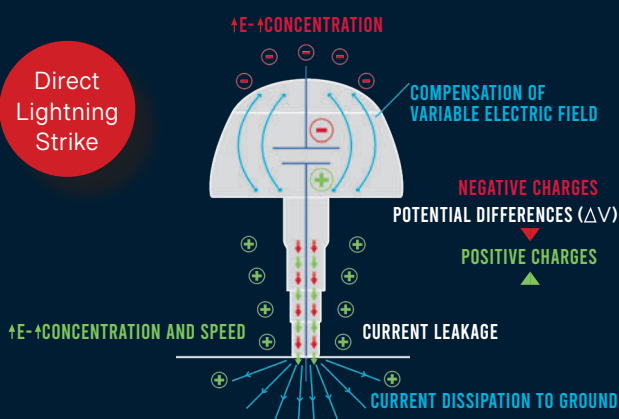
Avoid direct lightning strikes on your yacht



Yacht owners are increasingly suffering from the consequences of lightning strikes. Although the material damage to the yacht might be compensated by insurers, the lost time, the cancelled vacation, the lack of charter income, the impairment of the yacht, other accompanying costs and the great feeling of insecurity caused by a lightning strike remain. The solution to these problems is now available:

It is called DDCE!

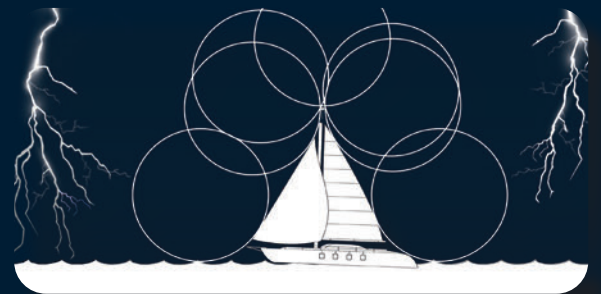
A patented system against direct lightning strikes.



The idea of conventional lightning protection is to attract the lightning and to discharge it on a controlled path to the water. But the difference between yachts and houses are the small distances on yachts. The result is that lightning strikes typically damage the electronics due to induced overvoltages on yachts. Also, the mast needs to be replaced after a strike very often.

Conventional lightning protection is not effective for yachts. **The answer is to rather avoid lightning strikes than attracting them!**

The **DDCE** (Electromagnetic Charge Compensation Device) is a system of protection against atmospheric discharges and an electromagnetic protector that avoids the impact of the lightning strike on the protected structure by 98 per cent.



It prevents the necessary conditions from occurring so that the lightning that is going to be formed does not fall within the protected area.

The **DDCE** balance and compensate the variable electric field on the environment, avoiding upward streamer on the **DDCE** and the protected structure. By varying the electric field in its environment a leakage current is generated which is drained by a sufficient grounding. All metallic structures which are necessary to protect must be equipotential to avoid upward streamers. It is a passive device that needs no power supply.

We also offer additional protection from indirect lightning strikes over the shore power connection or water. One key is to protect the electronic equipment from electromagnetic impulses (EMP) with a DINFIL ground filter which reduces the high frequencies.



Indirect
Lightning
Strike

Yacht insurances are somehow an industry barometer. And as they count increasing damages due to thunderstorms and lightning strikes a protection system becomes more and more important for owners and the yachting industry.

Insurance
Back Up



Holger Flindt, Head of Claims Department of Pantaenius (Europe's leading specialist for yacht insurance) for example is convinced of the **DDCE** System:

*"Damage caused by lightning is increasing. In recent years the number of corresponding events at Pantaenius tripled. Although the effects of a direct or indirect lightning strike can vary greatly, they often mean considerable danger for man and materials. Whether and how a boat survives a thunderstorm is not only a question of luck. A properly installed lightning protection system such as the Dinnteco **DDCE** system protects people and material. The **DDCE** system is therefore supported by us and a compliant protective measure for us. And it also exempts the customer from an excess in the event of a lightning strike in particularly endangered shipping areas."*

Technical
Data

Product _____ DDCE Marine
 Material _____ Stainless steel
 Weight _____ 2,5 - 6,5 kg
 Coverage radius _____ approx. 100 m
 Applications _____ All structures / land & sea



Certification

CE mark (Directive 2001/95/EC & 2004/108/CE)
 Lightning Protection | UNE-EN (IEC 62305:2012) | Part 1 (General principles),
 2 (Risk Assessment) and 3 (physical damage to structures and human risk)
 NATO No.: NCAE: SYN37.

About
ELNA

*We are a globally active family-owned company with origins dating back to 1952. From our headquarter near Hamburg (Germany) we are focussing on electronics for commercial and leisure ships and yachts. As the general European distributor for Dinntecos Marine **DDCE**'s, we are bringing an innovative but over years successfully tested lightning protection system into the marine market.*

References



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