

Grounding and Bonding Solutions • Surge Suppression • Lightning Protection



SOLUTION PROVIDERS FOR AN ENERGIZED WORLD™



LIGHTNING PROTECTION TIER THREE:

Securing investments, operations, and personnel against direct lightning strikes is critical for any organization. ALLTEC's TerraStat® Charge Dissipation Terminals, TerraStreamer® Early Streamer Emission Terminals, and traditional lightning protection components each have their own unique methods of effectively protecting your people and facility from lightning damages and injury. You can learn more at www.alltecglobal.com/lightningprotection.

Early Streamer Emission Terminal (ESE)

TerraStreamer®

Extensive research has allowed ALLTEC to create a lightweight, low wind loading ESE system to provide a safe and efficient manner of controlling dangerous lightning energy before it damages a structure or its important contents, including human occupants. The TerraStreamer® ESE air terminal initiates the upward connecting streamer earlier in time than a traditional lightning air terminal, thus extending the effective range of protection over and above that of conventional lightning air terminals. By utilizing this advanced technology, TerraStreamer® ESEs provide lightning protection to facilities that would otherwise be difficult or cost prohibitive to protect by conventional means.



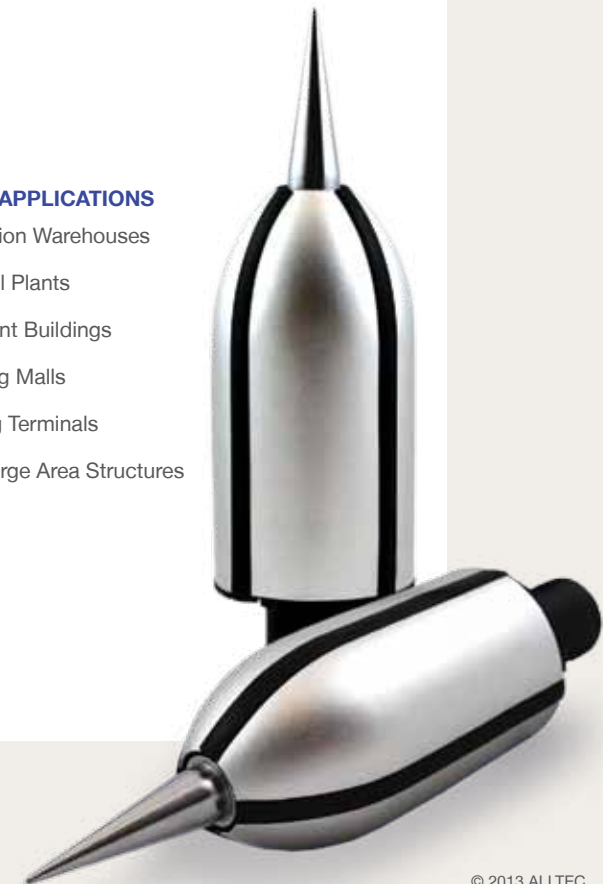
FEATURES & BENEFITS

- Patented Technology
- NF C 17 – 102 and UNE 21 186 tested and certified
- Lightweight and low wind loading
- Reliable performance in all weather conditions
- Suitable for corrosive environments
- Available in five models for numerous applications
- Economical and easy to install
- No internal electronics or power supply

You can learn more at www.alltecglobal.com/terrastreamer

TYPICAL APPLICATIONS

- Distribution Warehouses
- Industrial Plants
- Apartment Buildings
- Shopping Malls
- Shipping Terminals
- Other Large Area Structures





The ESE Principle

The principle of operation for ESE terminals is to create an upward propagating streamer earlier than conventional air terminals or other objects on the earth. TerraStreamer® does this by collecting and storing ground charge during the initial phase of a thunderstorm development.

1. Thunderstorm begins creating downward step leaders
2. Ambient electric field intensity in the area of the ESE terminal increases
3. Terminal is triggered to release the stored ground charge
4. Upward streamer is formed microseconds earlier than other objects in the immediate area
5. The TerraStreamer® ESE terminal becomes the target of the developing lightning strike

The selection of the TerraStreamer® model, placement, and mounting height above the protected area all factor into formulas calculating the dimensions of the protection area.

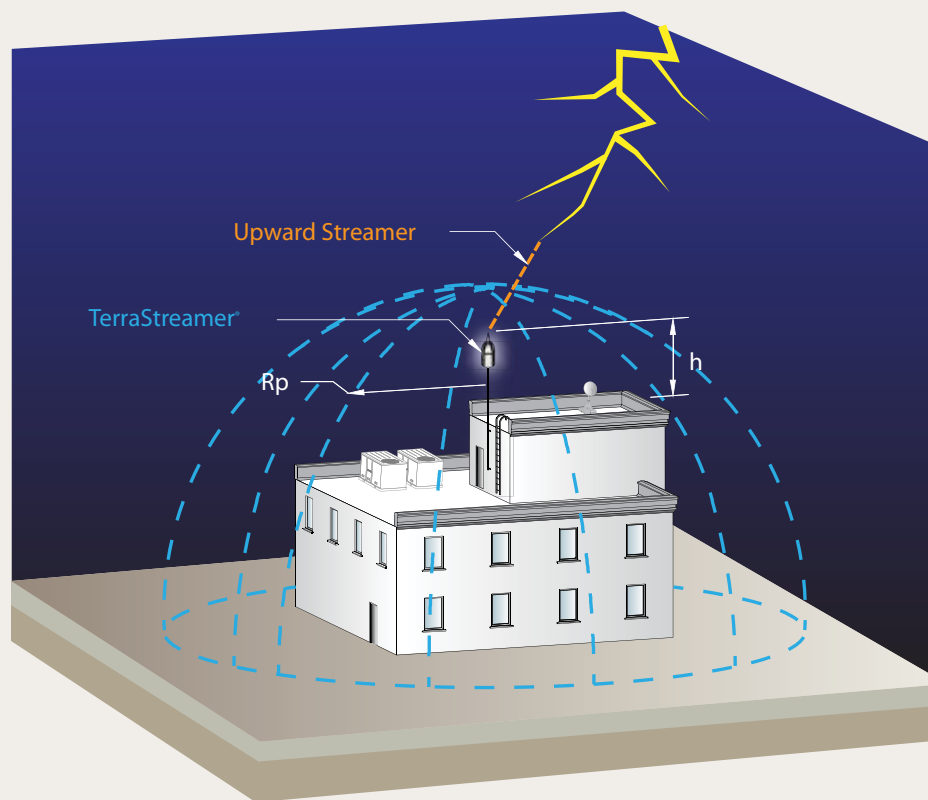
Advantages

The installation of a TerraStreamer® ESE Terminal combines the best advantages of two systems: the direct path to ground of a conventional lightning protection system, and state-of-the-art ESE technology employed in the TerraStreamer®'s patented design. TerraStreamer® terminals are:

- Externally mounted, proactive, structural lightning protection devices
- Designed to activate in the moments directly preceding an imminent, direct strike
- Tested to certify gain in triggering time (ΔT) as per NF C 17-102 and UNE 21 186
- Designed to ensure that the system provides a secure zone of protection

Protection Radius

The standard protection radius R_p of the TerraStreamer® is linked (according to NF C 17-102 standard) to T , to the protection levels I, II, III, or IV and to the height of the TerraStreamer® above the protected structure (h , defined by NF C 17-102 as a minimum of 2 m). The NF C 17-102 standard includes four levels of protection.



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WORLD HEADQUARTERS

64 Catalyst Drive, Canton, North Carolina 28716 USA

TEL: +1.828.646.9290 | **FAX:** +1.828.646.9527

EMAIL: info@alltecglobal.com

Offices located in Malaysia, India, Central & South America, and China.
For more information, contact your nearest office or visit www.alltecglobal.com



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