

DUVAL MESSIEN

StormSAT®

Solution **4** in 1



Protection

Detection

E-counter

Analysis



Certified ISO 9001

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PROTECTION

Early Streamer Emission with two devices : impulse for the tracer release and power for the propagation.



DETECTION

Detection device and storm activity measurement through 2 field sensors: Electrostatic and Electromagnetic.



E-COUNTER / CHARACTERIZATION

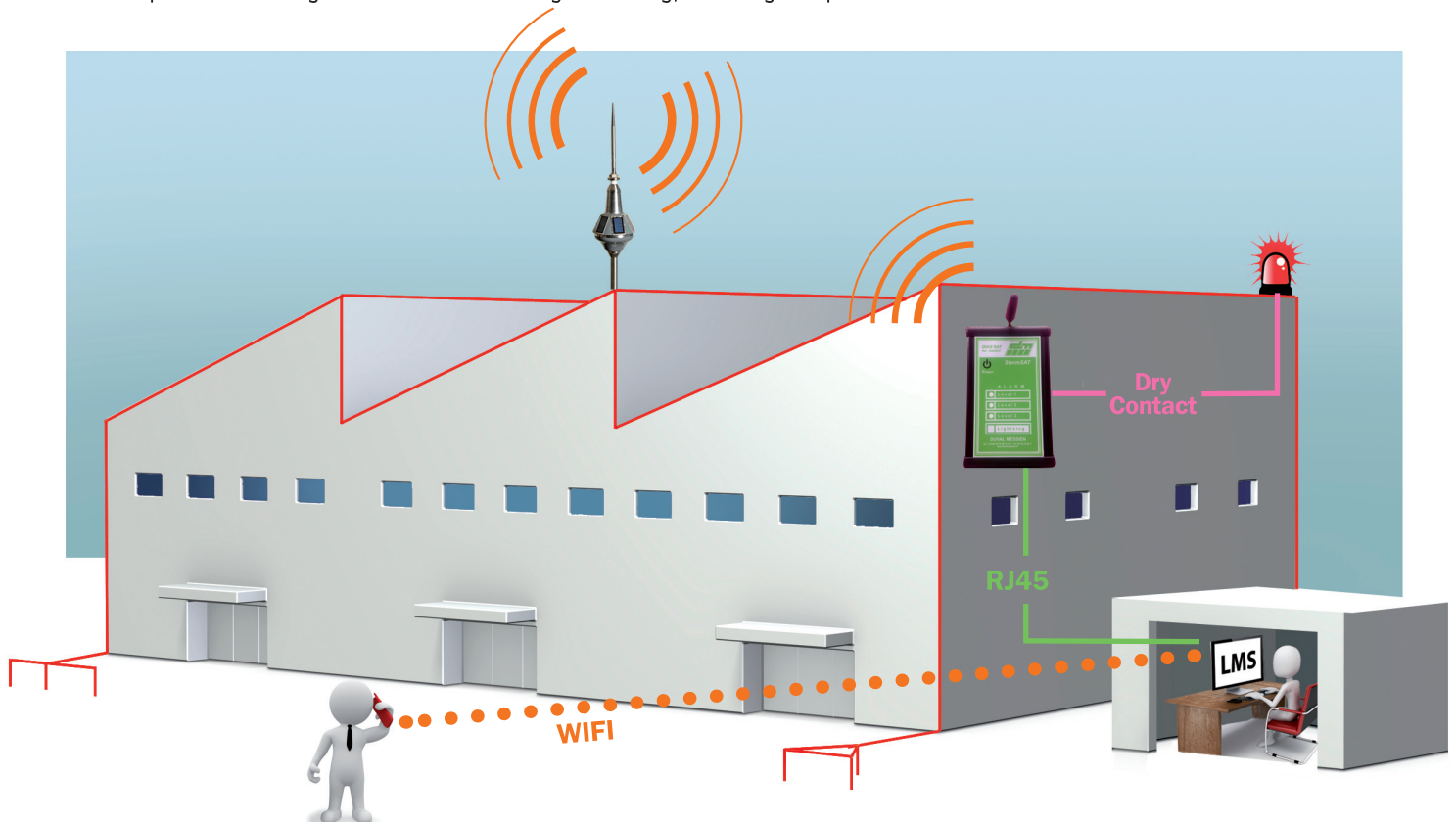
Built-in lightning counter, with timestamp and sampling of the captured lightning currents.



ANALYSIS / CONFIGURATION

Live monitoring, setting and control remotely between StormSAT® and the user through connection network.

The **StormSAT®** is installed at the highest point of the structure to protect, as for all lightning rods.
The **Diag'SAT®** box is installed inside the building at a maximum distance of 100 meters from the lightning rods.
The communication between both systems is done by radio (433 MHz). Reading is done with a configuration period (proposed period of 5 minutes).
The box is connected to the computer network of the protected site, with an Ethernet (RJ45) cable. It allows then to visualize permanently at distance, the stormy activity detected by **StormSAT®**.
Several protections may be connected to a single housing, allowing complete information on an extended site.



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StormSAT® is a central of protection in which features **4** solutions in 1

Solution **1** : PROTECTION

StormSAT® is an Early Streamer Emission equipped with two devices.

1/ Impulsion : stores the electrostatic energy present in the atmosphere at a stormy cloud approach and initiates the excitation of the ascending discharge at the right moment.

2/ Power : collects and stores the energy in powerful capacitors to maintain the tracer propagation. An integrated current sensor allows measuring the current at a descending tracer approach. When this one exceeds 1A, the sensor initiates the discharge of the capacitor and releases then the energy necessary to the tracer propagation.

The **StormSAT®** can be tested permanently at distance with the **Diag'SAT®** housing with the **LMS** software included (Lightning Monitoring System).

Tests done on the lightning rod part are as followed :

- Voltage provided by solar panels.
- Voltage provided by the batteries.
- Voltage at the power capacitors terminals.
- Ambient temperature.

Besides, the **StormSAT®** offers the possibility to simulate :

- A LIGHTNING alert (alarm installation on the central of protection with the test of dry contact).
- A lightning impact (test of the measure circuit).

The **StormSAT®** offers 3 excitation advances: 25 / 45 / 60 μ s.

It has been tested in laboratory according to NFC 17-102 standard – Edition 09/2011 (climatic tests / current Tests / efficiency Tests, electromagnetic compatibility).

All the complete tests reports are available upon request.



Solution **2** : DETECTION

The **StormSAT®** operates also as a storm detector because it can foresee a storm approach and a lightning impact risk on the concerned area. The detection is done thanks to 2 integrated sensors which measure with precision the electrostatic and electromagnetic values.

From that moment where the registered values indicate « an imminent lightning strike », the **StormSAT®**, (thanks to the dry contact) the **Diag'SAT®** housing takes over by sending noisy alarms (siren...), or/and visual (revolving light...) or/and computer (e-mail...).

LMS(Lightning Monitoring System) software, permanently connected with **Diag'SAT®** (and then the **StormSAT®**), allows to follow and to visualize the risk evolution, as well as setting up detection thresholds.

Solution **3** : E-COUNTER

StormSAT® can count the lightning strikes thanks to his built-in counting device. This lightning impact counter allows to know the hour and date and to store the different information on captured impacts by the **StormSAT®**.

These datas are then transferred to the **Diag'SAT®** by radio. The operator, thanks to the LMS software, can follow permanently the different data and visualize the curves of the lightning current. For each new lightning strike, an electronic message is sent straight away to the designated person chosen on the day of the installation (configured in the **Diag'SAT®**).

This device is in compliance with the Decree of July 19th, 2011 and NF/EN 62561-6 standard.



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Solution 4: ANALYSIS

The StormSAT®'s solution 4 in 1 originality is to propose a complete device with different functions, permanently connected to the users.

The Lightning rod function rod thanks to its both devices lays on the latest technologies.

The Detection function has 2 sensors to detect, prevent and inform of a storm approach.

The function Counter informs in real time of all impact on StormSAT® and gives all of its characteristics (current...).

LMS (Lightning Monitoring System) software allows gathering, in real time, all information regarding the lightning / storm activity on the site and informing the lightning risks evolution.

Thanks to a permanent connected system, the user can have access to the datas from anywhere in the world.

THE PROTECTION'S SOLUTION

This solution 100% connected is the latest a revolution in the lightning protection industry but also in the prevention, making this product a 4 in 1 solution against lightning, thanks to these 4 built-in devices in a single product.

The StormSAT® solution offers a real revolution in the lightning protection world, securing and protecting the site along with its staff. All the data collected by the LMS allows also an excellent maintenance follow up as soon as it's installed, guaranteeing an optimum security and protection.



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