

HELITA PULSAR - THE HIGH PULSE VOLTAGE E.S.E LIGHTNING CONDUCTOR



Operating Principle

When the lightning approaches the ground, a luminous ascending brush discharge is initiated at the lightning conductor. In the case of a Franklin rod, this ascending brush discharge propagates in the direction of the descending leader after a long transition phase. The Pulsar initiation advance permits to reduce the required time for the formation and continuous propagation of the ascending discharge and thus offers a higher efficiency for the lightning capture than a Franklin rod tip. Validated in the laboratory, this gain in time relative to the Franklin rod provides additional essential protection.

An Efficient Initiation Advance

Based on a specific initiation advance, the Pulsar emits a high voltage signal at clearly determined and controlled frequency and amplitude. Its effectiveness is guaranteed by the rapid formation and propagation of the upward leader, while reducing the development of space charges around the point.

Energy Autonomy

The Pulsar is also self-contained. It draws its energy from the ambient electric field existing at the time of the storm (10 to 20 kV/m). The initiation advance starts up as soon as the ambient field exceeds a peak value which corresponds to the minimum lightning stroke risk.

Manufacturing Quality

The enviable reputation of the Pulsar has been earned through maintaining a consistently high quality in manufacture. Before leaving the factory, each Pulsar has been tested for insulation breakdown at high voltage, and subjected to a current test that ensures its performance when conducting lightning discharges. The high voltage output pulses at the Pulsar are also examined to verify correct amplitude and frequency. The Pulsar is built to withstand the arduous conditions encountered in service, and its ongoing performance can be monitored simply and quickly using the Pulsar test set.