PRIMER

60 µs

Early Streamer Emission Lightning Rod

Fully Certified in accordance to NF C 17 102: 2011

Based on the most recent scientific research outcomes, Protec Foudre introduces the PrimeR®, the first tip electronic variation technology-powered Early Streamer Emission lightning rod.

Tip shape and lightning rod capabilities correlation

Lightning research has established that lightning rod performances, when submitted to an intense electrical field – as per thunderstorm conditions - are deviating to a large extent, depending on their tip shapes:

- A rounded tip delays the corona effect outbreak.
- A sharp pointed tip triggers an upward leader more efficiently as soon as the ambient electric field increases, sign of a risk of lightning strike.

The perfect shape at the right time

An artificially rounded tip will initially prevent the emergence of immature corona pulses. This maintain a clean environment favoring the lightning discharge process. In a second step, the highly-amplified sharp tip triggers corona pulses in line with the electrical field evolution ie. once the E Field development can support the propagation of the upward leader. This “blunt to sharp” tip shape construction provides the perfect shape to trigger a timely upward leader . The PrimeR®daringly innovative design is based on this concept

New unique and patented Technology: the tip configuration electronic variation

The PrimeR® working principle is the electronically controlled variation of the tip shape: an auxiliary high voltage is applied on a ring surrounding the tip, distorting the electric field lines. The behaviour of the rod goes from a rounded tip-alike geometry to a sharp one. The lightning rod optimum efficiency is ensured by the synchronisation of its operation with the natural phenomenon. The auxiliary circuit is fully autonomous and powered by the increasing atmospheric electric field. It comes into action short before the lighting discharge.
This design consolidates the benefits of both tip shapes: the Corona effect development is constantly controlled with a round tip geometry that switches to a sharp-type, ensuring ideal conditions for the upward streamer emission development, under mature atmospheric electric field conditions.

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SMART LIGHTNING SOLUTIONS

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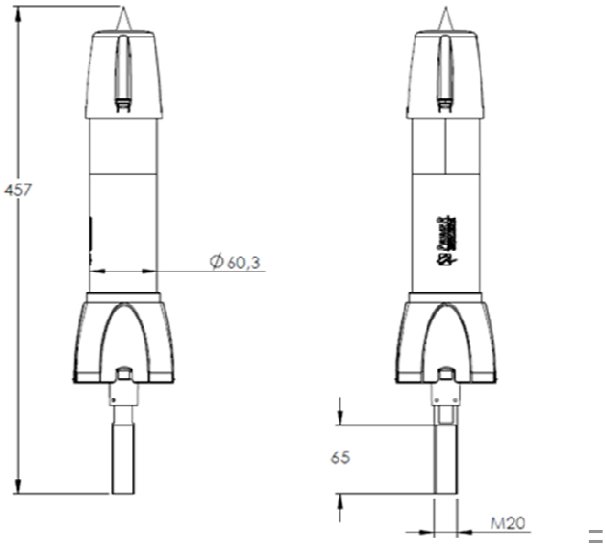
Technical Data

Advanced Triggering Time	Δt	60µs
Dimensions	Lenght	457 mm
	Diameter (body)	60 mm
	Diameter (maxi)	97 mm
	Diameter (rod)	20 mm
Weight		2,5kg
Connection	Threaded	M20



Certificate N° 6139982 – 1 / 1-X3FY04 / 002
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Protection Radius

Pole Height	Protection Level I	II	III	IV
2 m	31	34	39	43
3 m	47	52	58	64
4 m	63	68	78	85
5 m	79	86	97	107
10 m	79	88	99	109
20 m	80	89	102	113

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