Ref: 700023 / 700024

PREVISTORM®
THUNDERSTORM WARNING SYSTEM

PREVISTORM® THUNDERSTORM WARNING SYSTEM E-Field Sensor

Electric field sensor for the **PREVISTORM® Thunderstorm Warning System.**

description

The **PREVISTORM® E-Field Sensor** is part of the **PREVISTORM® Thunderstorm Warning System (TWS)**. This sensor continuously analyses the intensity of the atmospheric electric field and its evolution in time for generating early alerts about the risk of lightning occurrence.

applications

- For monitoring thunderstorms during all their evolution phases as part of the **PREVISTORM® Thunderstorm Warning System**. This system is targeted to serve in preventive protection applications.
- For generating early alerts indicating the beginning and ending of situations of lightning occurrence risk.
- For monitoring the atmospheric electric field strength for scientific and research applications.

operation

The **PREVISTORM® E-Field Sensor** is an electromechanical system that combines advanced analog and digital circuits with specialized digital signal processing algorithms. This sensor employs the Electric Field Mill (EFM) operating principle for measuring the electric field strength.

advantages

- Being warned about the existence of high risk of lightning occurrence before the first lightning occurs.
- Guarantee of life and goods protection by taking effective preventive actions.
- Obtention of precise measurements of the atmospheric electric field intensity.
- Monitoring of the atmospheric electric field intensity and its variations.
- Continuous operation without the downtimes which are required by other measurement methods for resetting some electronic circuits.
- Mechanical design that guarantees higher immunity to rain noise.
- Availability of options for de-icing and anti-freezing, not available in similar equipment from other manufacturers.
- In accordance with standard **IEC 62793:2020, Thunderstorm warning systems - Protection against lightning**.
- Easy and fast installation.

technical specifications

Environmental:

- **Operating Temperature:** -23ºC to +60ºC.
- **Relative Humidity:** 0% to 100%.
- **IP Protection Level:** IP54.

Construction:

- **Materials:** stainless-steel, aluminium.
- **Mounting:** Direct insertion in the mast.
- **Weight:** 2,7 Kg.
- **Motor type:** brushless.

Electrical:

- **Power supply (ref. 700023):** 24VDC, 0.5A (Peak during start-up).
- **Power supply (ref. 700024):** 48VDC, 2A (Peak with all functions active).

Normative:

- **Thunderstorm warning systems:** Conforms to IEC 62793:2020.
- **EMC:** EN 55011/22.
- **Other standards:** EN 61000-3-2, EN 61000-3-3, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 1000-4-6, EN 61000-4-8, EN 61000-4-11.

Operational:

- **Measurement range:** ±100kV/m.
- **Resolution/Precision:** 1V/m ±10V/m.
- **Detection range:** 20 km.
- **Response time:** 125 ms.
- **Data output rate:** 4 Hz (configurable).
- **Alarm levels:** No Alarm, Level 1, Level 2 and Level 3.

Integration with other systems:

- **Relay outputs:** 2 programmable normally-open relay outputs.
- **Communications:** RS232, full-duplex.
- **Communications protocol:** Proprietary Plain-text + Serial Modbus RTU.

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