

Lightning Conductor with Upgradeable Modular Structure

ABSTRACT:

Our partner, a Macedonian company has developed a modularly upgradeable lightning conductor with built-in early streamer emission (ESE) device. The company is interested in finding suitable license or distributor partners.

TECHNOLOGY OVERVIEW:

The lightning conductor acts like a lightning attractor (the same as conventional lightning rods). The ESE devices differ from conventional lightning rods in that they are designed in some fashion to increase the efficiency of lightning attraction and allow them to improve the radius of protection 1.5 - 3 times.

The developed product is a safe and efficient system to protect buildings and open spaces from direct lightning. Its innovation is a modular, configurable architecture that enables upgradeability.

The technology won the Patent of the year 2015 award in the Republic of Macedonia.

TECHNOLOGY FEATURES AND SPECIFICATIONS:

The proposed architecture provides arbitrary change on the lightning conductor's characteristics according to the needs of the user. The lightning conductor's configuration can be changed with one or more electronic modules (assemblies) that have special purpose.

The electronics of the lightning conductor are installed inside the housing. It makes its communication to the outside world via a connector (socket) positioned on the housing. The modules of different functions could be connected to this socket enabling the lightning conductor to perform more different functions.



The modular technology can enable different functions:

- Early warning (alarm) prior to lightning strike,
- Direct communication between the user and the device,
- Self-diagnostics,
- Climate and lightning info on-demand,
- Statistics information,
- Simultaneous cooperation to multiple lightning conductors in vicinity for intelligent protection on wider areas etc.

Using this technology, there is unlimited opportunity even for other developers to engineer and build its own modules and upgrade the Modular lightning conductor with it (simply upgradeable like a classic personal computer!).

NOTE: Please be aware that at this moment only the ESE (Early Streamer Emission) device is integrated and the remote tester is available as a module from the manufacturer, but any electronic producer can develop its own module and attach it to the device.

The company plans to integrate some more of the modules functions on the Printed Circuit Board built-in inside the lightning conductor.

POTENTIAL APPLICATIONS:

The technology is suitable for all kinds of buildings and open areas, both civil and military – residential houses, factories, refineries, tanks of different content, oil platforms, power plants, hospitals, sport objects, stadiums, museums, hotels, religious objects, parking spaces, concert fields, amusement parks, airports, warehouses (for food, ammunition, equipment ...), launch centres, etc.

Although it is a new technology there are more than 35 devices already installed in Macedonia e.g: National sport arena, Clinical hospital, Biogas power plant, State Audit Office of the Republic of Macedonia, Photovoltaic power plant, Residential buildings etc.

CUSTOMER BENEFITS:

- Higher level of protection against lightning than conventional lightning rods
 - Different radius of protection is available (up to 108m in radius)
 - Customization of the system to suit the needs of the customer
 - Macedonian and International standards are fully met
 - No maintenance is required
 - Cheaper than any available technology
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ADDITIONAL TECHNICAL INFORMATION:

There is no other product of this kind on the market worldwide! There are several products having only distant diagnostics on-demand.

TECHNOLOGY READINESS LEVEL:

It is already available on market, in the Republic of Macedonia.

TYPE OF COLLABORATION:

- Licensing (patent and/or know-how)
- Distributor

The company prefers to operate in the following countries: EU countries + Switzerland, Russia and the CIS States, Ukraine, Turkey, Serbia, USA, Australia, New Zealand, Brazil, Japan, India, Indonesia, Philippines, Malaysia, China.

If you are interested, please respond to:

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