

## Main product features

- Trigger adjustable lightning sensor ( $\geq 1\text{kA}$  peak)
- Detects only direct lightning strikes
- Ideal for detection on tall slim structures, i.e. wind turbines and antenna towers
- Galvanic separation to the sensor antennas
- Internal battery backup to ensure alarm retention
- Very robust and durable design fit for off-shore use
- Simple relay signal based alarm reporting
- Life time expectancy 10+ years
- 50/60 Hz, 115 / 230 VAC compatible

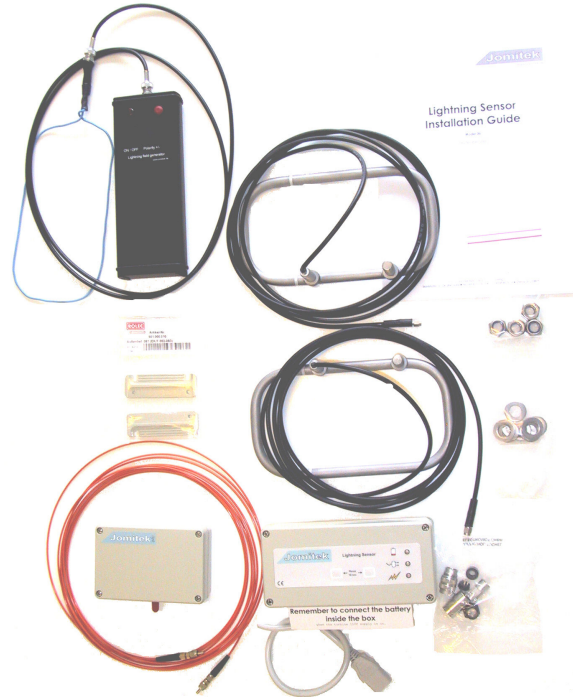
## Product family context

Jomitek offers a small suite of lightning sensor products. These are the Lightning Sensor - Classic, - Advanced, and - Simple.

The Classic and Simple editions are very similar in their functionality. The Classic is a 1<sup>st</sup> generation solution, while the Simple is a 2<sup>nd</sup> generation lightning sensor, with a highly improved ease of installation.

The Advanced model is physically similar to the Simple model, but with enhanced analysis, configuration, and reporting functionalities using IEC 60870-5-104 (Ethernet) connectivity.

## Illustration



## General description

The classic Jomitek lightning sensor is a well proven technology with hundreds of fully operational installations. A large share of these, are nearing a full decade of flawless operation, with always accurate indications.

The system raises an alarm in the form of a relay signal, if a lightning current surge higher than the configured peak current is channelled through the structure the system is mounted on.

Beside cabling, nuts and bolts, the Classic system includes the following units:

- 2 x antennas
- 1 x antenna box
- 1 x control box

The antennas detect high current flows, and are mounted outside on opposite sites of the structure. The antenna signals are routed to the antenna box, which filters out outside interference (lightning in the immediate neighbourhood, but not through the structure itself). The triggering peak current is preconfigured in the antenna box, according to customer requests.

The control box collects and retains the filtered signal from the antenna box. The two boxes are galvanically separated using an optical fiber. The control box includes membrane panel switches for manually resetting a detected lightning. The box includes a small battery backup, with a low battery warning. The battery must be serviced every 5 years.

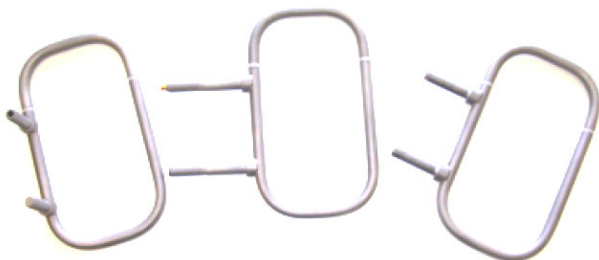
## Technical specification

|                              |                                                |
|------------------------------|------------------------------------------------|
| <b>Power supply</b>          | 110-115 / 220-230 VAC<br>Max. 30 mA            |
| <b>Measurement range</b>     |                                                |
| - Peak current trigger level | 1kA and up                                     |
| <b>Measurement accuracy</b>  |                                                |
| - Trigger level              | Typically <20%                                 |
| <b>Interface</b>             |                                                |
| - Power                      | Standard 230V IEC cable                        |
| - 8-input cage clamp         | RESET<br>2 wires(reset, reset GND)             |
|                              | EXT. POWER FAILURE<br>2 wires(fail, fail GND)  |
|                              | LIGHTNING RELAY<br>2 wires(light., light. GND) |
| <b>Mechanical properties</b> |                                                |
| - Long term temp. range      | -20 to +80°C                                   |
| - Short term temp. range     | -40 to +105°C                                  |
| - Expected lifetime          | 10+ years                                      |
| - Antenna protection         | IP67                                           |
| - Antenna box protection     | IP55                                           |
| - Control box protection     | IP55                                           |

Installation guidelines will be provided on request.

### Antenna solutions

[Left to right] 90 degree mounting, thick wall, standard



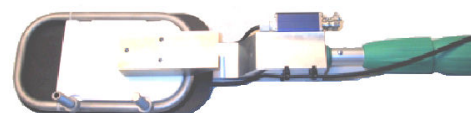
## Mounting and testing

Jomitek offers a lightning tester solution for the Classic system. See illustration of the test box, and test pole to the right. Contact Jomitek for more information on testing equipment.

Examples of antenna mounting solutions below:

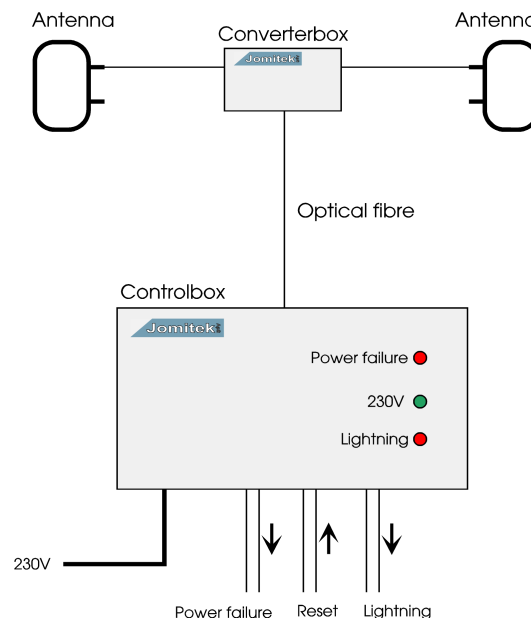


[Left] Test generator  
[Bottom] Test pole



## Schematic

Schematic illustration of the Lightning Sensor Classic system configuration.



This device fulfils below standards:

### EMC directive

- Emission: EN 50081-2:1993
- Immunity: EN 61000-6-2:1999

### Low Voltage directive

- EN 61010-1:2001

### International Protection Rating (IP Code)

- IP55 (dust protected, water jets)
- IP67 (dust tight, immersion up to 1 m)