

## Wind Turbine Protection Guide

### A safe investment: reduce costs for fire damage

**Wind turbines pose a significant fire risk. With high temperatures inside, high oil pressures for your machinery, high voltage electric arcs, internal equipment, braking systems, ... An early and faultless detection of a fire in a wind turbine that can also be monitored remotely, will allow to execute the necessary maneuvers so that the fire does not go further, taking into account that access is very limited because the wind turbines are in remote places and many meters high with respect to the ground.**

It is also necessary to take into account, when choosing an appropriate detection system, the external conditions to which the wind turbines are subjected: turbulence, lightning, constant changes in the direction of the wind, frost .... The main risks that arise in a wind turbine are: braking system, high voltage wiring, electrical equipment and controls, lightning, electric arcs and static electricity. TASC's early smoke detection systems are the preferred solution.



They are able to detect a fire in its incipient phase minimizing the time of locating it to proceed with the necessary extinguishing and extinguishing actions before irreversible damage occurs.

They also have the possibility of remote connection to see their status and make changes to their programming through their TCP/IP connection. Due to the remote

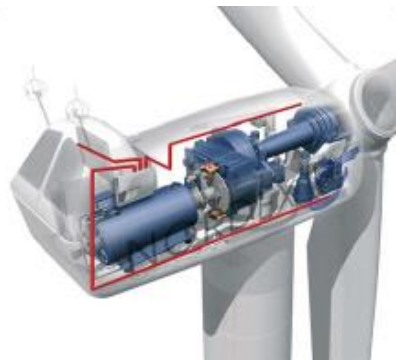
location of the wind turbines, which generates an inaccessibility to them for maintenance, remote connection becomes necessary.



#### PIPE DISTRIBUTION

The pipes can be rigid or flexible, being able to install sampling points in any corner of the wind turbine, even in the most critical areas.

Different alarm levels can be programmed to perform different actions and avoid false alarms. DHA may be associated with extinction systems. The goal is to protect these expensive machines as efficiently as possible.



#### CALCULATION

The gondola can have natural ventilation and also forced. Due to this ventilation DHA calculations must be performed in Class A or B.

Once the system has been designed, calculated and installed, functional tests must be carried out. For this type of application, the most appropriate test is that of PVC cable.

#### FIRE PREVENTION

Even with the best preventive measures, fires can happen. The faster a fire is detected and acted upon, the lower the costs due to the damage caused.

As a complement to DHA, passive protection measures can be carried out. DHA could also act as extinguishing media by water or gaseous agents.

The wind turbine fleet is growing exponentially around the world and the generation capacity of these turbines is increasing, which means that the dependence on wind energy has increased in recent times. Adequate protection of this equipment will result in greater security in the supply of electricity for users and companies.

For any questions or clarification about this guide and request prices and references you can contact us at the following email addresses: [Info@tasc.es](mailto:Info@tasc.es), [logistica@tasc.es](mailto:logistica@tasc.es), [tecnico@tasc.es](mailto:tecnico@tasc.es).