

**Customer information on lightning hazards
for sensors installed in rotor blades**

Dear Customer,

Wind turbine generators (WTG) are frequently struck by lightning. That is not surprising considering that the rotor blade tips reach up to 200 m into the sky. Therefore, every WTG is fitted with a lightning conductor system. This system usually features lightning arrestors at the outer parts of the rotor blades, which ensure that lightning will strike at the designated spots only. These arrestors are connected to lightning conductors that conduct the lightning current towards the hub and on into the ground via the nacelle and the tower ('grounding').

When rotor blades are fitted with sensor systems such as those used for ice detection, these sensors are often connected with copper cable for signal transmission purposes. This also applies to Weidmüller's **BLADEcontrol**[®] system.

This is generally not a problem. Our experience of more than 5,000 operation years proves that there is no hazard for the **BLADEcontrol**[®] system or the WTG as a whole given the WTG has a properly working protection system (LPS).

In certain installation types, component changes within the LPS during the product lifecycles are standard procedure. It cannot always be ensured that changes in the lightning protection concept will not affect the subsystems in the rotor blade. For this reason, Weidmüller has developed sensors with an increased dielectric strength for the copper cable based **BLADEcontrol**[®] system as a precautionary measure. This variant is available as an option for a surcharge.

The sensor system with increased dielectric strength also enables reduced separation distances between sensors or sensor cables and the LPS, as well as the use of **BLADEcontrol**[®] in longer blades with a longer parallel distance of sensor and lightning conductor, without subjecting the rotor blades or the system to any additional hazards.

If you need any further information, please do not hesitate to contact us. Of course, we are at your disposal for a personal conversation.

Kind regards,

Weidmüller Monitoring Systems GmbH