GoUpSafely Detection & Flashover

2021

GoUpSafely is designed to prevent contact and flashover accidents between machines and powerlines, which cause damage to machines and injury or death to operators or other personnel.

A flashover is a high-voltage spark or arc that passes through the air between an electrical conductor and a grounded conductive object.

Flashover distance is the distance that the arc can travel through free air at a given voltage and set of environmental conditions.

Conditions such as high humidity cause the flashover distance to increase, as there is more moisture in the air to allow electricity to conduct.

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Flashover distance is not the same as Minimum Approach Distance or Clearance Distance as set by regulators and power network operators. These distances vary by State, Location and machine/operator type and qualifications.

The operator and spotters are always responsible for ensuring the machine maintains the appropriate distances as set by these authorities.

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The GUS system works by reading the electric field which causes flashover.   The system will alarm and then, if fitted with the optional interlock feature, issue a stop command at a preset "sensitivity", a multiple of the flashover distance.

From this, the higher the sensitivity, the higher the distance that the system will alarm and stop at a range of voltages.

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When using higher sensitivities, the increased multiple of flashover distance can cause detection events at great distances from the power line. In this case the system is working correctly, however it is not correctly configured to the machine and environment.

The system will also detect induced voltages onto non-grounded metallic objects (such as fences) – this will only happen if the metal object is not earthed (which is required if installed near or below a powerline) and will only happen if the voltage on the metal object reaches a dangerous level.

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