



**Sensors**



**Switches**



**Controls**

## Application notes



**Application Note : September 2021**

**Market involved : Mobile equipment**

**Product : ICS E1 inductive sensors**

**Customer : Manufacturers of agricultural machinery**

**Subject : High vibration and shock resistance**

### CUSTOMER ISSUE :

There is a high level of failures of the inductive sensors installed on agricultural machines, with the consequent reduction of uptime and efficiency.

Components installed in agricultural machines are affected by a high level of shocks and vibrations, much more than in the typical industrial application environments.

This can change the alignment of the sensor with the target to be detected causing a consequent modification of the sensing distance and of the mechanical tolerances.

When it occurs, the customer has to spend a lot of time to locate where the issue is and to fix it by replacing the component with consequent reduction of uptime and efficiency.

### OUR SOLUTION :

The ICS E1 approved sensors are qualified to standards far beyond those of conventional applications and grant the highest uptime level and safe operation in any mobile equipment application.

They have 100g mechanical shock and 20g vibration resistance and have also 40g continuous shock resistance with 4000 shocks in every direction of the 3 coordinate axes.

Thanks to the increased sensing distance, up to twice the standard, the ICS E1 sensors can be positioned further away from the moving parts, reducing the risk of damage by the moving target, and so increasing the uptime of the vehicle.

Finally, the flush mounting option provides the best protection for the sensor on the machine.

### BENEFITS :

- Increased mechanical shock and vibration resistance, including 40g continuous shocks
- Further mechanical protection of the sensor thanks to the longer sensing distance and flush installation option
- Rough stainless steel housing with certified ability to withstand atmospheric corrosion in a corrosive saline environment
- Reliable detection between -40 to +85°C