



Sensors



Switches



Controls

Application notes



Application Note: February 2023

Industry: Agriculture

Product: ICF inductive sensors

Customer: OEMs of harvesting agricultural machinery

Subject: Detection and positioning on harvesting machinery

CUSTOMER ISSUE :

Agricultural machinery needs reliable and durable components able to work long hours in difficult outdoor conditions, exposed to every kind of stress.

The inductive sensors are used for non-contact measurements, i.e. to count revolutions of the axle in machinery or to monitor the bucket position in a backhoe loader.

The harsh environmental conditions, such as high vibration, could damage the sensor causing the machine to stop.

It can also happen that some material hits the mechanical parts and therefore the sensor, if it is not properly protected.

OUR SOLUTION :

The ICF inductive sensors grant the highest uptime level and safe operation, thanks to the extended temperature range of -40 to +85°C, and resistance to difficult outdoor conditions thanks to IP68 and IP69K protection degrees.

Furthermore, the ICF series has an increased resistance to shocks, 100 g, vibrations, 25 g, and 1 J impact resistance.

The full metal housing allows the front face of the sensors to resist up to 260 bar pressure for M12, 200 bar for M18, and 100 bar for M30.

BENEFITS :

- Reliable detection between -40 to +85°C, thanks to the advanced micro-processor-based electronics
- Increased resistance to shocks and vibrations, to increase the machine uptime
- Excellent impact resistance up to 260 bar pressure for M12, 200 bar for M18 and 100 bar for M30 on the front face thanks to the one-piece stainless-steel housing
- Further mechanical protection of the sensor due to the longer sensing distance and flush installation option
- High installation flexibility via IO-Link e.g. the adjustable sensing distance, hysteresis and output configuration (NPN/PNP, NO/NC)