



**Sensors**



**Switches**



**Controls**

## Application notes



**Application Note: December 2022**

**Industry: Machine tools**

**Product: ICF inductive sensors**

**Customer: OEMs**

**Subject: Non-contact measurements in CNC machinery for the production of industrial doors**

### CUSTOMER ISSUE :

The market for automated doors is growing and becoming more specialized, mostly in industrial environments.

As a result, the demand for casing/chassis is increasing.

Their production requires a metal-working machine where the metal sheet is cut, folded, and perforated, often with coolant flow under pressure and the maintenance of this machine is a fundamental part of the production.

The inductive sensors are used for non-contact measurements, for example, to count revolutions of the axle in CNC machinery or to check the presence of a target.

A sensor failure would mean stopping the entire production.

### 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 harsh environments thanks to IP68 and IP69K protection degrees.

The onboard IO-Link communication provides specific cyclic process data to monitor the quality of the detection, allowing timely and predictable scheduling of maintenance to prevent machine downtime.

Moreover, it allows configuring and setting up the devices and access to advanced parameter settings.

### BENEFITS :

- Reliable detection between -40 to +85°C, thanks to the advanced micro-processor-based electronics

Less machine downtime thanks to cyclic process data:

- Proximity alarm, when the target is too close to the sensing face
- Low margin alarm, when the target is between 81% and 100% of the sensing distance
- Activation level, an analogue value (0-20 range) that gives a rough indication of the target position
- Temperature monitoring: over or under-run temperature alarms can be set