



**Sensors**



**Switches**



**Controls**

## Application notes



**Application Note : January 2020**

**Market involved : Plastic and Rubber**

**Product : LD30CNBI10...IO ... ToF**

**Customer : Tyre manufacturer**

**Subject : Detection of black rubber**

### CUSTOMER ISSUE :

In the car tyre manufacturing process, the detection of the rubber used to manufacture the tyres is problematic.

Standard photoelectric sensors can detect the black rubber, however a white background or machine part will also be detected.

Background suppression sensors have a too short detecting distance in a compact sensor housing.

Ultrasonic sensors are very sensitive to the detection angle and the rubber absorbs sound.

### OUR SOLUTION :

Our LD30 sensor is based on the Time of Flight (ToF) detection principle, where the distance is calculated from the time the light is emitted from the sensor, until the reflected light beam is received by the sensor.

Using this sensing principle there is a lower colour dependency.

### BENEFITS :

- Wide detection angle and detecting distances of up to 1000 mm from the sensor, and a cut off distance can be set not to detect backgrounds
- Built-in IO-Link connection for easy customization of distance, timer, logic function as well as different output configurations