

Abstract

Imaging 3-D time-of-flight sensors are particularly suitable for the detection of objects and individuals in three-dimensional space. This capability results from the basic principle. In each image point of the sensor, the distance to the object located in the observation space is determined by using the propagation time (time of flight) of light pulses. The sensor therefore supplies a three-dimensional image, which can be analysed by means of suitable processing algorithms.

In specific applications, in particular in the interaction of human and machine, machine and machine, or machine and space, it is necessary that the detection is carried out safely.

The level of safety is classified in various standards into safety integrity levels.

(Figure 9)