Requirements specification for

Ultrasonic sensor to measure distances

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Branch: Information Security

Requirement sheet submitted by:

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Requirements:

- A device able to detect the presence of any physical obstruction and measure the distance from sensor/detector/device.
- Should be suitable for applications like: Measuring liquid level in a storage tank, Object detection (presence and distance), distance measurement in general, Car parking assist (collision prevention), etc., as illustrated below.
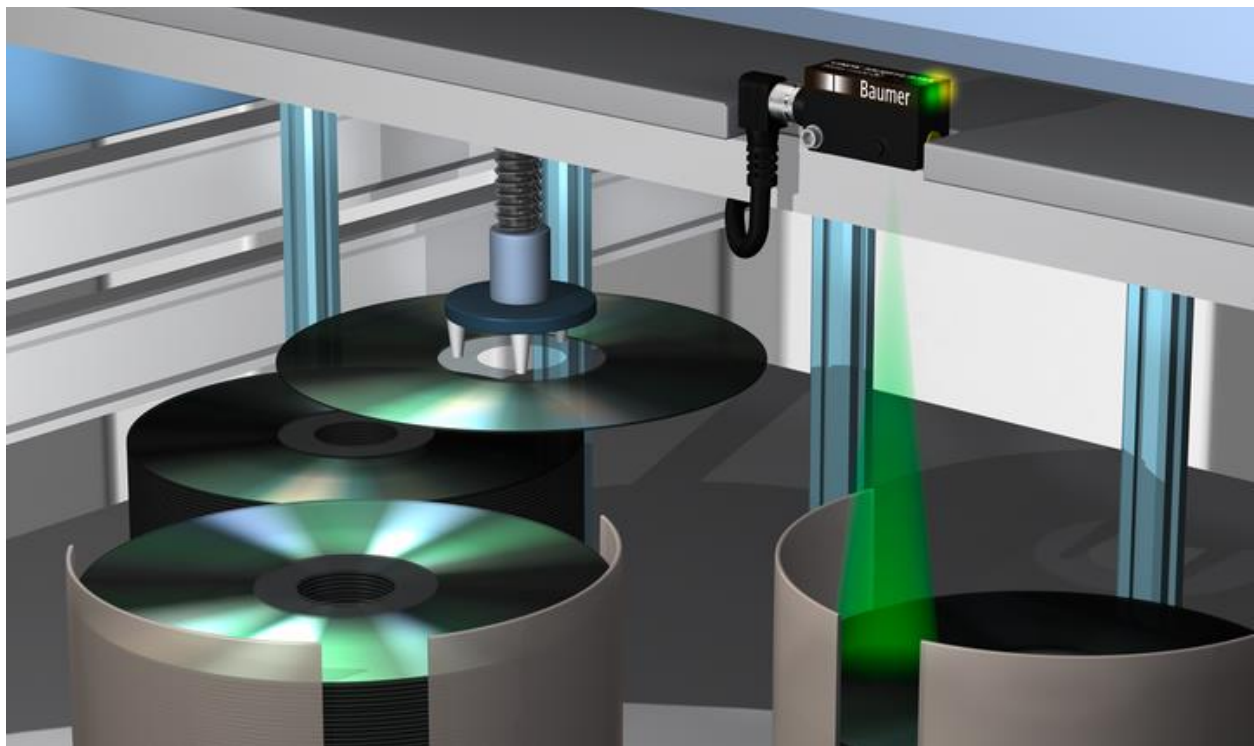

Fig 1: Height measurement example
The distance to objects should be measured reliably regardless of reflectance, transparency or color of the surface.

- Accurate up to 4mm. Range up to 5m.
- Can communicate the reading taken in digital form to other devices as input to them.
- Ideally suited for accurate and automatic distance measurement in normal and difficult environments.
- Particularly suitable for environments where optical sensors are unusable such as smoke, dust and similar.
- Without contacting the medium to be measured.
- Ability to detect and measure moving objects
- Should work with wide range of objects regardless of shape, color, transparency or surface texture.
- Should have On-device LCD for testing the reading taken.
- Very accurate, stable and can be used over large ranges.
- Can measure the following parameters without contacting the medium to be measured:
  - ✓ Distance
  - ✓ Level
  - ✓ Diameter
  - ✓ Presence
  - ✓ Position