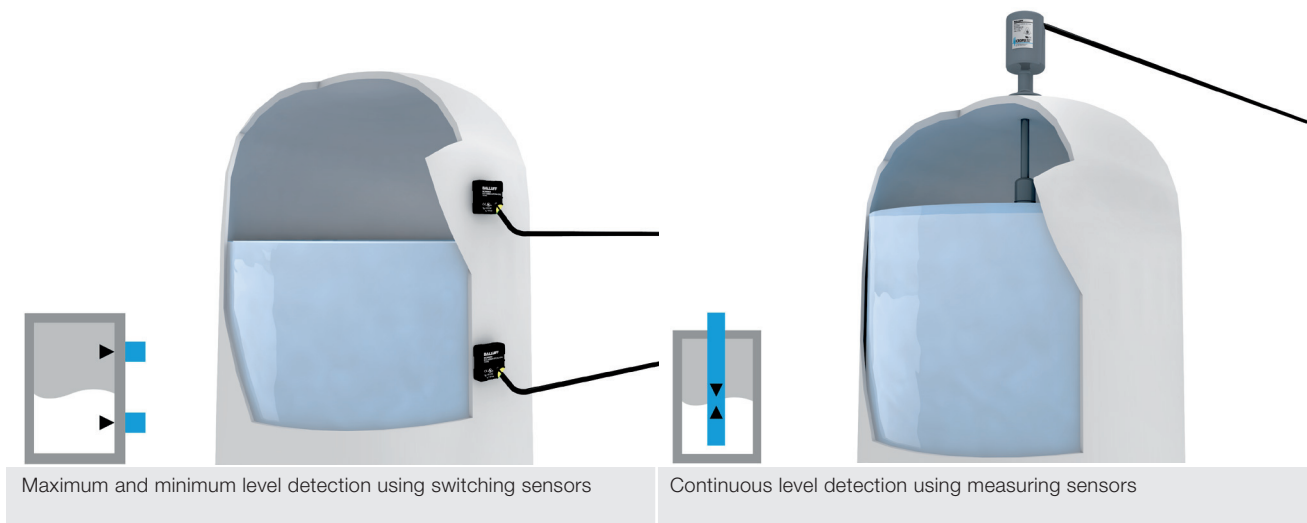


## Fundamentals of Automation

# HOW SWITCHING AND MEASURING SENSORS DIFFER

Sensors and systems with a variety of effective principles open up wide-ranging applications. The extensive selection of products provides solutions for specific requirements. Regardless of the operating principle there are – with respect to the output signal – two basic variants: switching and measuring sensors.



In some applications it is sufficient to detect just two positions: the start and end point. In others, position detection over the entire travel is important. Depending on which information you require you will select switching or measuring sensors. When selecting you should consider the following criteria:

### ADVANTAGES OF SWITCHING SENSORS

- Simpler technology means lower cost
- Easy startup
- Normally no contact with the media

### ADVANTAGES OF MEASURING SENSORS

- Greater position and distance accuracy
- Continuous dynamic measurement
- Greater application flexibility than switching sensors

<p>Switching principle for checking whether an object is present or not</p>	<p>Analog principle for continuous measurement value output</p>	<p>IO-Link a bus-neutral technology for communicating in the sensor surroundings</p>	<p>Ethernet as a technology for data exchange in a bus system</p>

**Switching sensors** detect whether an object is present or not present.

**Analog sensors** by contrast enable continuous distance or position detection.

**IO-Link and Ethernet** can output both switching signals and measurement values. In addition these technologies allow you to exchange other data information such as product name or values for condition monitoring synchronous to the process data.