A275

Laser scanners

gapCONTROL





Gap and flushness measurement of car bodywork parts

The demands on car bodywork are increasing, not only from a technical viewpoint, but also with regards to the optical design. Therefore, a door that doesn't close flush could fulfill the technical purpose but would be detected immediately by the eye of the prospective buyer. A bonnet/hood with different gap sizes on both sides is also a considerable flaw.

The typical approach for measuring gaps is to use manual feeler gauges, which is time-consuming and costly. This method is prone to error due to human factors, which is why the gapCONTROL gap sensor is used in modern production lines to inspect bodywork gaps quickly, reliably and consistently. These special purpose sensors are based on unique software algorithms, which enable the sensors to detect the gap itself, as well as measuring and output of values such as gap width, flushness, angle, etc. with a single fast measurement within a fraction of a second.

Different bodywork colours from white to black can be measured, which means that the exposure time can be selected manually or by using the automatic scanner regulation. Special algorithms even enable the gapCONTROL sensor to measure gaps between dark and bright surfaces.

Advantages

- Inspection of all relevant gaps
- Gap width and flushness in one measurement
- Measurement possible even when sensor is tilted
- Transfer of measured data via different interfaces

Requirements for the measurement system

- Measuring range: 25x25mm
- Resolution gap width: 20µm
- Resolution height offset: 2µm
- Measurement frequency: 300Hz

Ambient conditions

- Temperature: 20 to 45°C
- No dust or dirt

System design

- gapCONTROL 2911-25
- gapCONTROL Setup Software