



Contour/outline control in the blanking of security keys

Special processing units are required for the manufacture of security keys. During the production process, a permanent change between the key blanks takes place. The company Aumat in Solingen specialises in the production of such keys. The processing units that are used to produce the key blanks rely on high-performance optoNCDT series laser sensors from Micro-Epsilon.

During the inlet of the different key blanks, the individual processing data is loaded from a database. Prior to production, the unit verifies if the blank is appropriate for the data in the unit. Therefore, a laser sensor traverses in the opposite direction to the key blank in order to achieve a profile of the surface of the blank. If the profile corresponds to the reference data, the key blank is released to be processed further.

Reliable acquisition of data on shiny or matt metal surfaces, as well as a high spatial resolution, is of critical importance to the customer. Due to operational speeds, a measuring rate of 10kHz is required. Furthermore, a large base distance is also important due to the mechanical design. Due to its reliable performance measurement, Aumat decided to apply the optoNCDT laser sensor with a 10mm measuring range. The sensor achieves the required measuring rate of 10kHz, while also offering accurate, reliable measurement data results due to an integrated real time surface compensation (RTSC) feature.

Advantages

- Excellent price-performance ratio
- Complete surface detection of the blanks
- Minimal spot size

Requirements for the measurement system

- 50 μ m measuring spot diameter
- 3 μ m repeatability
- 10,000 measuring results per second

