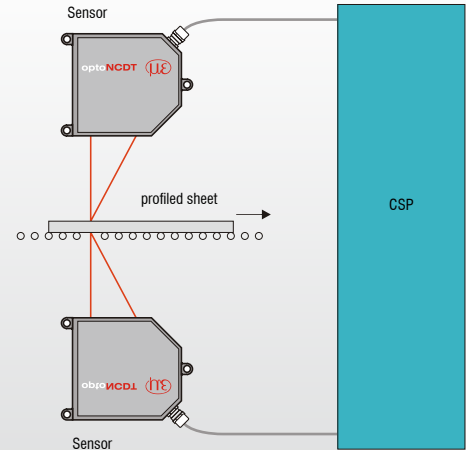


Double-sheet detection before pressing

Principle



To prevent damage, laser-based optical displacement sensors are employed in front of the inlet for profiled sheets in presses to enable the detection of double sheets. The sensors are mounted opposite one another, above and below the passing sheets. Irrespective of the actual position of the sheets, the material thickness is obtained by simple coupling of the distance signals from both sensors. For adjustment a master sheet for each type of sheet is inserted into the measuring gap and the resulting signal set to zero. The zero value is monitored within a tolerance. The sensors are operated in special protective housings due to the harsh environment.

Requirements for the measurement system

- Measuring range: sheet thickness 2.5 - 8.5mm
- Accuracy: 0.1mm
- Resolution: 0.1mm
- Bandwidth: Quasi-static

Reasons for choosing the system

- Non-contacting and wear-free
- High accuracy even with different sheet materials
- Large base distance
- Easy fitting and operation
- Rugged system implementation
- Visible laser, Protection Class 2

Ambient conditions

- Temperature: 10 - 40°C
- Medium: invisible oil mist

System design

- 2 x ILD 1700-20 Optical displacement measurement system
- 2 x protective housing