

Strip width when trimming metal strips

In the production of metal strips, it is often necessary to trim the edges of the metal strip. If the width of the metal strip has to be changed, new setpoint data of the machine controller are specified. The movable cutters automatically move to the new setpoint width. As constant faults can occur, an operator previously had to manually check the actual width using a tape measure. This procedure was neither accurate nor safe, as the operator had to intervene directly in the process.

The AIM (American Industrial Metrology) company from Ohio, USA, uses laser sensors from Micro-Epsilon to measure the width of the metal strip.

For the AIM solution, a target is provided on each of the cutter drives, which the laser sensor measures the distance to. The optoNCDT 1700-500 long range laser sensor with a 500mm measuring range is used for this. The distance of the target to the cutters and the distance of both laser sensors from each other are known. The current cutting width is now measured using the differential method. The measurement results together with the setpoint data are output on a display. An operator can manually adjust afterwards or the data is used in the controller to automatically regulate the trimming process.

Fully automatic regulation of the process is possible using the optoNCDT 1700 sensor. The sensors can be positioned with sufficient spacing between so that there is no danger of collision if there is a malfunction in the process.



Requirements for the measuring system:

- Accuracy better than 0,1 % FSO
- Resolution better than 0.03mm
- Width up to 1m measurable

Reason for selecting the system:

- Integrated controller for simple mounting
- Active exposure regulation tolerates soiling of the target
- Sensors are located at a safe distance

