

Sheet edge measurement prior to laser welding

Photo credit: Paul von der Bank GmbH, www.paul-von-der-bank.de

The company „Paul von der Bank“ in Hilden (Germany) develops and manufactures modular-designed robotic welding cells and fully automatic production and processing lines. To ensure high production quality of longitudinally welded pipes, the following factors must be considered:

- Besides sheet edge length, the exact edge position must be known
- It must be guaranteed that sheet edges are aligned perfectly to each other

Advantages

- Non-contact and wear-free detection
- Easy parameter setup
- Excellent price/performance ratio

Requirements for the measurement system

- 2D/3D profile sensor with integrated evaluation
- Ethernet interface
- Measuring field 25 x 25mm
- Distance precision < 50 μ m (z-axis (height))
- Contour precision 50 μ m (x-axis (width))
- Laser safety class 2M; Option: external laser switch-off
- User-friendly operating software for selecting and setting the profile evaluation
- Free-of-charge support for system integration

Ambient conditions

- Dusty industrial environment

System design

- 2 x profile scanners LLT2610-25/SI
- 2 x Software Configuration Tools
- Sensor cable PC2600/2900-15

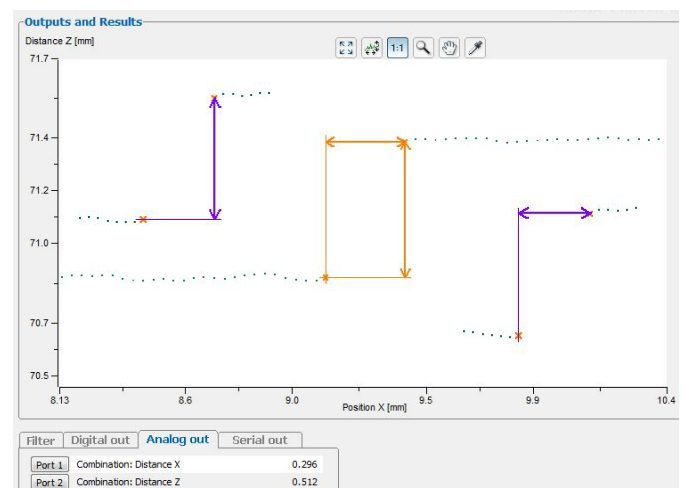


Fig. Gap detection and evaluation