

TH6i | Optical Seam Tracking on butt joint with 0-gap

The TH6i is designed for optical seam tracking in automated welding processes using an arc or laser. The sensor also supports the application of adhesives or guiding for other processes. The active seam recognition can detect the position of the workpiece and thus ensures that the tool is positioned accurately.

FUNCTION DESCRIPTION

The triangulation sensor performs a no-contact scan of the shape of the seam at the joint. It then transmits the information (the current seam position, edge offset at the joint, and the orientation of the welding tool relative to the workpiece surface) to the robotics controller.

The sensor has a very sturdy construction. The filter for reducing extraneous light helps to ensure that operations proceed properly when working very close to the process. Reliable seam tracking is supported by a powerful signal analysis feature, which is especially useful on reflective surfaces.

AREAS OF APPLICATION

- Automated production processes: welding, adhesives, etc.
- Interfaces to all popular robot controller
- Universal analog / digital machine interface available

PROPERTIES

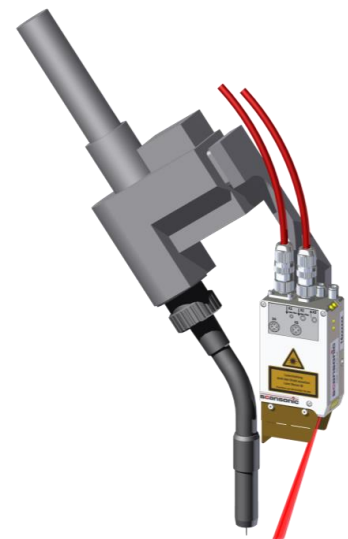
- Seam tracking for standard joint types, specially on butt joint with 0-gap to correct device tolerances
- Applicable on all popular and also high reflective material surfaces. Immune to electromagnetic effects (EMI)
- Not sensitive to electrical fields
- Optical filters used to minimize sensitivity to extraneous light
- Splash guard with integrated safety glass cleaning
- Splash-proof housing
- Safety-glass quick-change drawer
- Integrated air cooling for the sensor

ADVANTAGES

- High reliability by use of state-of-the-art camera technique
- Approved with high reflective surfaces as stainless steel or aluminum
- Three laser lines: thus excellent stability during the acquisition of measurement data
- Simple to operate



Triangulation sensor for seam tracking



Mounted TH6i

TECHNICAL DATA

Measuring lines	3
Dimensions (W x H), in mm	15 x 24
Measuring frequency	60 Hz
Resolution in the TCP, in Y	35 µm/pixel
Resolution in the TCP, in Z	95 µm/pixel
Operating temperature	+10°C to +45°C
Laser protection class	3R
IP protection degree (with plugged-in connectors)	IP64
Dimensions (L x W x H), in mm	70 x 40 x 191
Weight	0.56 kg
Working distance sensor bottom (z = 0 mm) in mm	150
Working distance sensor backplane (x = 0) in mm	10
Working distance in Y (at z = 0 mm) in mm	+/-7
Working distance in Z (at y = 0 mm) in mm	+/-12
Working distance in Y (at z = -12) in mm	+/- 6,5
Working distance in Y (at z = 12) in mm	+/- 7,5

DRAWING

