



*OCT scanner*

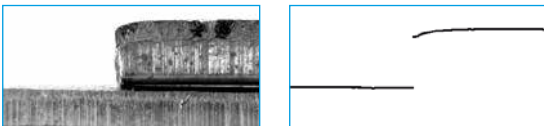
## OCT

### Optical Coherence Tomography

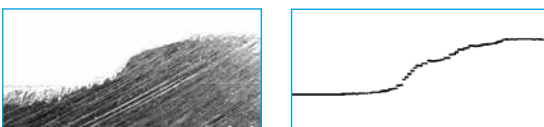
#### Seam Tracking – Process Monitoring – Seam Inspection

The **OCT system** from **Lessmüller Lasertechnik** offers completely new possibilities for quality control in your welding process. OCT performs a highly precise measurement of the surface profile near the TCP. The **OCT** measurement beam is coaxially coupled into the welding beam of the processing laser. OCT can also be used as a stand-alone measuring device. Precise seam tracking and quality control of the welded seam are both combined into an all-in-one solution. On top of that, no other system at a comparable price can also measure weld depth (keyhole depth) during the welding process.

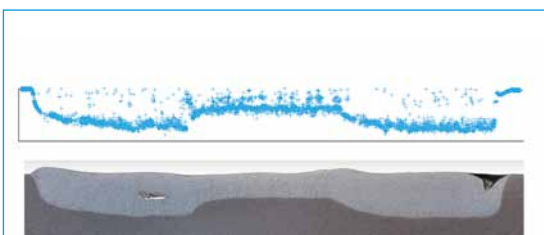
#### Real-time joint detection:



#### Real-time quality monitoring:



#### Keyhole depth measurement:



#### Your advantages:

- Precise edge and seam tracking in any direction, and at any welding angle
- Reliable automatic detection of faults in the geometry of the welded seam
- Weld depth measurement (keyhole depth) during the welding process
- Tried-and-tested algorithms for fault recognition and evaluation
- Storing of all measurement and evaluation data for traceability

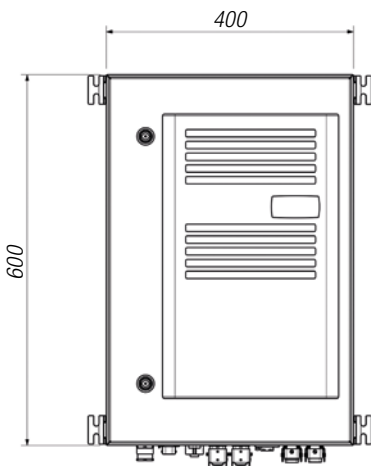
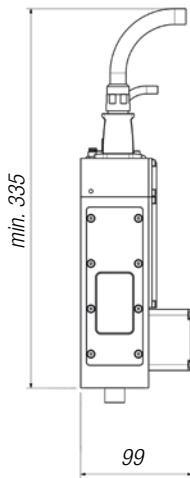
#### Special features:

- Precise measurement, unaffected by surface geometry or optical disturbances
- Well proven integration into common laser processing heads and machines
- Custom adaptation to your process
- Compact design
- Dust-proof construction and robot compatible cables
- Standard interface for common industrial fieldbuses
- Automatic self-calibration

OCT sensor



OCT scanner



### Technical data:

#### Light source

Measuring	S-LED
Laser class	3B, IEC EN 60825-1:2014
Adjustment	Pilot laser
Laser class	1, IEC EN 60825-1:2014

#### Axial adaptation of working range

Axial measurement range	max. 390 mm (Z stroke)
Axial resolution	max. 12 mm

#### Lateral scanning area around TCP

Capture area of seam tracking	typ. 15 mm (radius of area)
Resolution of position	typ. 3 mm
Control accuracy of seam tracking	typ. 5 µm
Contour analysis of seam inspection	typ. ± 0.03 mm
Scanning frequency	min. 0.25 mm (radius of area)
	70 kHz

#### Communication interfaces

Fieldbus protocols	Profinet, Ethernet/IP, Ethercat, Profibus, Devicenet
Connection	RJ45, AIDA compliant, 100 Mb/s
Data and service protocol	Ethernet TCP/IP
Connection	RJ45, 100 Mb/s
Internal interfaces	CameraLink, CAN

#### Electrical data

Supply voltage of supply cabinet	100 - 240 VAC
Current consumption	12 A / 6 A
Supply voltage of sensor	+24 VDC
Supply of scanner	+36 VDC from sensor
Safety circuit	+24 VDC

#### Mechanical data

Dimensions of scanner	99 mm x 67 mm x 268 mm
Net weight of scanner	< 2.3 kg
Degree of protection	IP 65, DIN EN 60529:2014
Dimensions of supply cabinet	600 mm x 460 mm x 485 mm
Net weight of supply cabinet	50 kg

Our team supports your application testing as well as system planning and integration on- and off-site.



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