Product data sheet

LASE 2000T- Series

2D Laser scanner

The LASE 2000T-Series is developed for the needs of highly exact 2D profile measurements in industrial applications. The rugged construction type and high scan performance ensures even measurements on hot surfaces:

- Dimension measurement
- Thickness measurement
- Width measurement
- Measurements of objects with up to 1.500° C surface temperature

The laser scanners from the LASE 2000T-Series are optical measuring devices for contactless two-dimensional high-precision measurements.

The LASE 2000T-Series work according to the principle of an oscillating triangulation plane over 10° or 50°, which ensures highest accuracy. A fine collimated or focused laser beam is diffusely reflected from the surface of almost any kind of material or fluid, and a CCD- camera records the image through an objective. This makes it possible for a Digital Signal Processor to calculate the (radial) distance from the centre of the mirror axis to the object surface, as well as keeping track of the angular reference position.

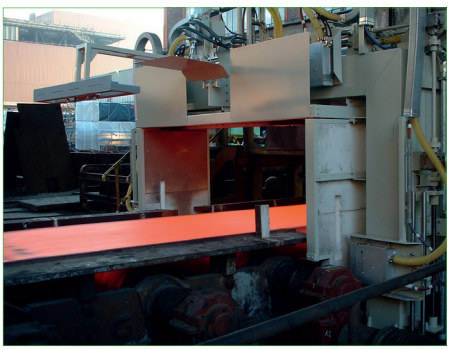
The LASE 2000T measuring system is a compact unit in which optics, CCD-camera, and digital signal processing electronics are all integrated in one sensor housing. The internal measuring frequency is 2 kHz (6kHz optional) and the measured data are beeing used as serial data stream (RS232 or RS 422) for further processing with a windows pc.

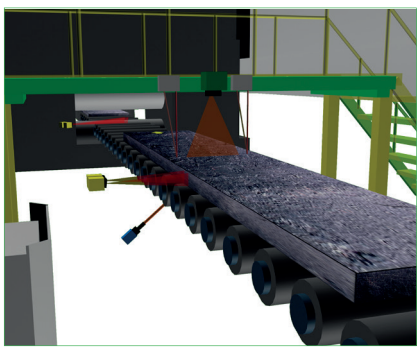
In order to measure even on hot surfaces like slabs or metal sheets in the branch of steel further HT- and VHT versions are available, too.

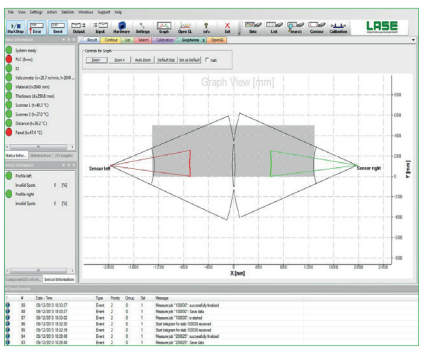
Features and Benefits:

- Contactless precision measurement
- High measuring accuracy (precision demands below 1 mm)
- Measurement of hot surfaces:
  - > Standard-Version up to 450° C
  - > HT-Version up to 1.000° C
  - > VHT-Version up to 1.500° C
- Measuring frequency: 2 kHz (6 kHz optional)
- Interfaces: RS 232 / RS 422
- Creation of 2D scan profiles
- High precision in µm-range
- Digital and analog interfaces
- Easy installation in any position
- Rugged design to IP 65

Features







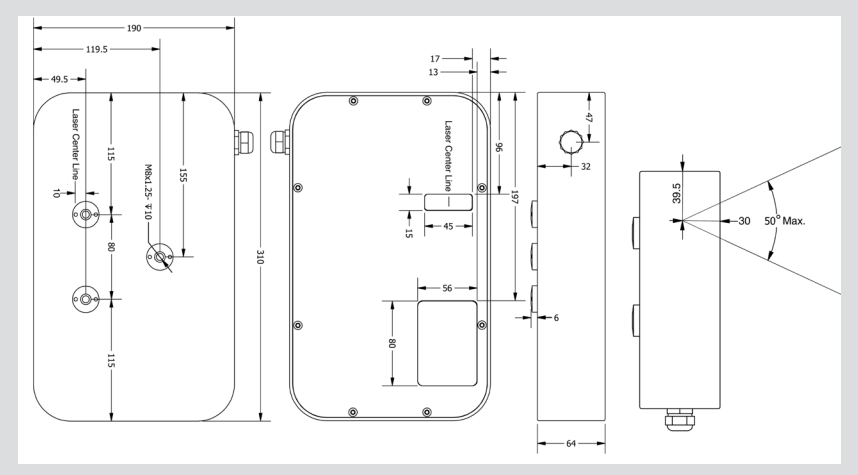
Technical Data

Modell	LASE 2000T-250	LASE 2000T-325	LASE 2000T-450	LASE 2000T-750	LASE 2000T-505	LASE 2000T-1155	LASE 2000T-1950	LASE 2000T-1350
DISTANCE MEASUREMENT								
Measuring range	100 mm	200 mm	500 mm	700 mm	100 mm	300 mm	900 mm	1.300 mm
Radial/polar distance from mirror	200 ... 300 mm	250 ... 450 mm	200 ... 700 mm	400 ... 1.100 mm	450 ... 550 mm	1000 ... 1.300 mm	1500 ... 2.400 mm	700 ... 2.000 mm
Standard scan arch at 10°	± 5°							
◦ Depth of field (X)	98 mm	248 mm	497 mm	695 mm	98 mm	295 mm	890 mm	1.292 mm
◦ Field of view: - close end (Y)	35 mm	35 mm	35 mm	70 mm	79 mm	175 mm	262 mm	123 mm
- far end (Y)	52 mm	78 mm	121 mm	191 mm	95 mm	226 mm	418 mm	348 mm
Max. scan arch at 50°	± 25°							
◦ Depth of field (X)	72 mm	207 mm	434 mm	597 mm	48 mm	178 mm	675 mm	1.113 mm
◦ Field of view: - close end (Y)	186 mm	186 mm	186 mm	372 mm	419 mm	932 mm	1.398 mm	652 mm
- far end (Y)	253 mm	379 mm	591 mm	928 mm	464 mm	1.098 mm	2.028 mm	1.688 mm
Laser class: 2 / 6 kHz	IEC 2		IEC 2 / 3 R			IEC 3 R / 3 B		
Light source (visible laser diode)	655 nm							
Spot size	Ø 1 mm	Ø 2 mm	Ø 3 mm	Ø 3 mm	Ø 1 mm	Ø 4 mm	Ø 5 mm	Ø 5 mm
SCAN VALUES & PROFILE MEASUREMENT								
Radial / Polar resolution	30 µm	50 µm	100 µm	200 µm	50 µm	200 µm	600 µm	800 µm
Radial / Polar reproducibility	± 30 µm	± 50 µm	± 100 µm	± 200 µm	± 50 µm	± 200 µm	± 600 µm	± 800 µm
Radial / Polar linearity	± 100 µm	± 200 µm		± 400 µm	± 100 µm	± 500 µm	± 1,2 mm	± 1,6 mm
Updating frequency	2 or 6 kHz							
Temperature deviation	± 0,03 % of full scale							
Scan rate (2 or 6 kHz)	300 or 600/min; 1800, 900 or 450/min							
INTERFACES								
RS 232 / RS 422	2 kHZ / 6 kHz							
◦ Baud rate	115.200 / 230.400							
ELECTRICAL & MECHANICAL								
Supply voltage	22 - 28 V DC							
Power consumption (max.)	12 W							
Protection class	IP 65							
Enclosure	Aluminium die-cast/Glass							
Dimension	310 x 190 x 64 mm							
Weight	4,5 kg							
ENVIRONMENT DATA								
Operating temperature	0° C ... +45° C							
Storage temperature	-20° ... +70° C							

Scope of delivery: Sensor, user manual, demo-program, Windows®-DLL

Special models: All models are available as HT- and VHT-Versions for measurements on hot surfaces up to 1.000° C / 1.500° C. The Standard-Version is only usable for surface temperatures of approx. 450° C.

Optional accessories: Cooling housing, alignment support



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