

# LASER Series 2000

Efficient diameter gauges for cable production lines





## Specific gauge heads for every application

### LASER Series 2000 XY

With the LASER Series 2000 XY, SIKORA offers efficient gauge heads for a precise diameter measurement in two planes. Innovative regarding the laser and the CCD sensor – the diameter measurement based on diffraction analysis sets highlights. This technology does neither require rotating mirrors nor optical components, is absolutely maintenance-free, does not require any calibration and offers the highest precision during the operation.

### LASER Series 2000 T

The LASER Series 2000 T models are 3-axis gauge heads for precise diameter and ovality measurement that leave nothing to be desired. The focus of the 3-axis gauge heads is on defining the ovality of a product. An oval is defined by five tangents, and therefore, by using three measuring axes (six tangents on the oval) not only the min/max value of the oval, but also the orientation of the oval is defined.

### LASER Series 2000 F/R (Flat/Round cables)

For the reliable online acquisition of double, triple or multi-wire flat cables as well as for round conductors, the LASER Series 2000 F/R offers an exact measurement of the width and the height of the measuring object – even if the product turns up to  $\pm 15$  degrees during production.

### LASER Series 2000 S/R (Sector/Round cables)

The LASER Series 2000 S/R is most suitable for the precise measurement of the height of straight sector conductors, which may be solid or stranded. Even if the conductor turns  $\pm 15$  degrees, the height will be defined accurately. The gauge head ensures precise diameter and ovality measurements for round cables.

### Availability

The measuring heads are free from wearing parts, have a nearly unlimited lifetime and even after years of operation, the devices measure as precisely as on the first day. The optical measuring principle, without any moving parts, ensures an availability of 99.8 %.

### Interfaces + Industry 4.0

The LASER Series 2000 gauges offer all kinds of interfaces such as RS485 and optionally Profibus-DP, Profinet IO, CANopen, EtherNet/IP, DeviceNet or OPC UA for a direct connection to a PC or the display and control devices REMOTE 6000 or ECOCONTROL 6000, 1000 or 600 and are therefore, designed for the use under the aspect of Industry 4.0.



### Outstanding features

- State-of-the-art CCD line sensor technique combined with pulse-driven laser light sources
- Extremely short exposure times for highest single value precision
- Complete processing of measured data in the measuring head, including statistic, standard deviation, trend and FFT analysis
- RS232 diagnosis interface
- Analog output or alternatively industrial fieldbus (e.g. Profinet IO, EtherNet/IP, Profibus-DP, CANopen, DeviceNet, OPC UA) (optional)
- Reliable SMD-technique, no moving parts
- No need for calibration
- Availability: 99.8 %

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Certified according to  
DIN EN ISO 9001

## Technical Data LASER Series 2000

Product Name	Product Diameter	Accuracy*	Repeatability	Dimensions
LASER 2005 XY	0.05 - 5 mm	± 0.25 µm	± 0.1 µm	140 x 140 x 63 mm
LASER 2010 XY	0.2 - 10 mm	± 0.5 µm	± 0.1 µm	140 x 140 x 62 mm
LASER 2030 XY	0.2 - 25 mm	± 1.0 µm	± 0.2 µm	468 x 285 x 37 mm
LASER 2050 XY	0.5 - 50 mm	± 2.5 µm	± 0.5 µm	468 x 285 x 37 mm
LASER 2100 XY	1.0 - 100 mm	± 5.0 µm	± 1.0 µm	714 x 633 x 55 mm
LASER 2200 XY	5.0 - 190 mm	± 10.0 µm	± 2.0 µm	714 x 633 x 55 mm
LASER 2300 XY	50 - 300 mm	± 20.0 µm	± 4.0 µm	920 x 920 x 133 mm
LASER 2010 T	0.2 - 10 mm	± 0.5 µm	± 0.1 µm	250 x 182 x 62.5 mm
LASER 2025 T	0.2 - 25 mm	± 1.0 µm	± 0.2 µm	360 x 290 x 38.5 mm
LASER 2050 T	0.5 - 50 mm	± 2.5 µm	± 0.5 µm	472 x 496 x 41 mm
LASER 2100 T	1.0 - 100 mm	± 5.0 µm	± 1.0 µm	635 x 621 x 53 mm
LASER 2030 F/R	0.2 - 25 mm (round)	± 1 µm (round)		481 x 305 x 36 mm
	0.5 - 20 mm (flat: width)	± 5 µm (flat)		
	0.25 - 10 mm (flat: thickness)			
LASER 2050 F/R	0.5 - 50 mm (round)	± 2.5 µm (round)		481 x 305 x 36 mm
	1.0 - 50 mm (flat: width)	± 10 µm (flat)		
	0.5 - 25 mm (flat: thickness)			
LASER 2050 S/R	1.0 - 35 mm (sector)	± 20 µm	± 4.0 µm	435 x 385 x 41 mm
	0.5 - 50 mm (round)	± 2.5 µm	± 0.5 µm	
LASER 2100 S/R	1.0 - 35 mm (sector)	± 20 µm	± 4.0 µm	635 x 621 x 93 mm
	1.0 - 100 mm (round)	± 5.0 µm	± 1.0 µm	

### Measuring Rate\*\*

500 measurements/sec/axis  
1,000 measurements/sec/axis for LASER 2050 T  
1,200 measurements/sec/axis for LASER 2005 XY

### Exposure Time

0.2 µs

### Interfaces

Serial interface RS485, setup and diagnosis interface RS232  
Optional: analog output or alternatively industrial fieldbus (e.g. Profinet IO, EtherNet/IP, Profibus-DP, CANopen, DeviceNet, OPC UA)

### Power Supply

100 - 240 V AC ± 10 %, 50/60 Hz, 30 VA

\* ± 0.01 % of the measured value

\*\* higher measuring rates on request

Technical data is subject to change

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