

LASER 2003 XY

XY-DIAMETER GAUGE HEAD FOR CABLE PRODUKTION LINES

- Non-contact measuring technology



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SIKORA
Technology To Perfection

Non-contact measurement technology

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Specially adapted to the demands of the wire and cable industry the various LASER 2000 models from SIKORA ensure measurements on the highest quality-level. The smallest of the 2-axis-gauge heads is the LASER 2003 XY. With an accuracy of 0.01 mil (0.25 μm) it is perfectly suitable for the measurement of extremely small wire and cable diameters in the range 0.002" (0.05 mm) to 0.1" (3 mm).

Equipped with pulse-driven laser-light sources in combination with high resolution temperature-stabilized CCD-sensor-lines as well as powerful signal processors LASER 2003 XY gives the highest reliability. Extremely short exposure times of 0.2 μsec guarantee a high single value precision at all line speeds – even during a high frequency vibration of the conductor.

Utilizing the latest SMD technology makes this gauge very small and it is applicable to most any location on the production line. There are neither optical elements nor moving parts included into the system which ensures a unique freedom from maintenance and optimum reliability. The statistical Mean Time Between Failures (MTBF) – the statistic, average time, after which a device shows a repairable defect, is 15 years. Calibration procedures are only done at the factory prior to delivery. No further calibration is required and the



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measuring accuracy remains accurate even after years of operation.

The detection of periodic diameter variations by means of the FFT-analysis and the prediction of the Structural Return Loss are provided as a special feature directly at the gauge head via a diagnosis interface (FFT/SRL). Moreover, LASER 2003 XY offers diverse interfaces for the direct connection to a PC or to the display and control devices REMOTE 2000 respectively ECOCONTROL 600, 1000 and 2000.

TECHNICAL DATA LASER 2003 XY

Measuring principle	Non-contact, optical with latest CCD sensor-line technology and pulse-driven laser diode light source	Dimensions	5.5" (140 mm) x 5.5" (140 mm) x 2.1" (54 mm) (width x height x depth) without plug
Application	Wire and insulated conductors with small diameters	Resolution	Selectable 0.004 mil (0.1 μm)
Sight field	from 2.0 mil (50 μm) to 0.1" (3 mm)	FFT-resolution	0.0001 mil (0.003 μm)
Exposure time	Ca. 0.2 μsec ./measurement	Power supply	100 to 240 V, \pm 10 %, 47 to 63 Hz, 10 VA
Measuring rate	> 500/sec.	Ambient Temperature Range	40 to 120 °F (+ 5 to + 50 °C)
Interfaces	RS 485 + RS 232 diagnosis interface (serial)	Weight	Ca. 3.3 lb (1.5 kg)
Accuracy	0.01 mil (0.25 μm)	* Profibus, Ethernet and analog output are available as option	
Repeatability	0.004 mil (0.1 μm)	Technical data is subject to change	



Fulfills the requirements of
DIN EN ISO 9001:2000

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