Laser Displacement Meter **S9**

Software of the KLIPPEL R&D SYSTEM

FEATURES

- Static and dynamic measurements of displacement (also DC Displacement)
- Free of charge
- Operates with all Laser sensor heads
- Variety of statistical functions
- Stand-alone system
- Calibration by user possible
- Output of analog displacement
- Ideal for loudspeaker measurements
- Measurement of the reflected light intensity

The Distortion Analyzer equipped with a Laser displacement sensor gives the full functionality of a Laser Displacement Meter. It provides the analog displacement signal at the output connector at full bandwidth and displays the results of signal statistics selected at the key pad.

The transducer under test can be excited by an arbitrary input signal, such as generators or music.

The Laser displacement meter based on optical triangulation measures not only AC displacement but also the DC-part of the displacement accurately. A variety of Laser sensor heads are provided to get optimal performance in the particular application.

The Laser Displacement Meter used as a stand-alone unit is a valuable tool for checking the driver behavior. It is inherent part of the Distortion Analyzer Hardware and is free of charge.

CAUTION ! Laser Radiation !

Avoid direct or indirect (e.g. reflection) exposure of human eyes to beam.

CONTENTS:

KLIPPEL

Klippel GmbH
Mendelssohnallee 30
01309 Dresden, Germany

www.klippel.de
info@klippel.de

TEL: +49-351-251 35 35
FAX: +49-351-251 34 31

Operation modes

Measurement	The Distortion Analyzer equipped with a laser sensor gives full functionality of a stand-alone Displacement Meter. The LCD-display at the front side shows the instantaneous displacement and derived statistical values (peak, bottom, DC value etc.).
Calibration	The Displacement Meter is used for calibrating the laser sensors in a special mode. After performing the calibration the parameters are stored in the Distortion Analyzer permanently.

Measurement Functions

Output		
	X	displacement from absolute reference position (defined at calibration)
	D	displacement from user defined reference position (distance)
	P	maximum peak value from user defined reference position
	B	minimum bottom value from user defined reference position
	P-B	difference between peak and bottom values
	(P+B)/2	DC offset (mean value of peak and bottom value)
Function Keys		
	Reset	clear current maximal values
	Zero	assign current displacement to user defined reference position
Setup		
Averaging	fLP	cut off frequency of low-pass: 0.1 / 1 / 10 / 100 Hz
Calibration		See table operation mode.

Applications

Distance	Low frequency changes of displacement or static distances such as creep can be measured using the *D* mode. Press *ZERO* for defining a reference location.
Peak / Bottom values	Short term, extreme excursion may be measured using the Peak *P* or Bottom *B* mode in a certain time interval of investigation. This may be used for detecting maximal displacement during testing the driver. Press *RESET* to start a new extrema detection.
DC component	For any input signal using the Peak + Bottom *(P+B)* mode the dynamically generated DC part can be measured. From the DC part indications on nonlinear parameters may be derived as well as validation tests may be performed.
Peak to Peak displacement	The Xmax value or peak to peak excursion can be measured in the *(P-B)* mode. Switching between *(P+B)* and *(P-B)* mode reveals the ration of DC component and peak to peak displacement as a critical measure for assessing the stability of a driver.

Find explanations for symbols at http://www.klippel.de/know-how/literature.html

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