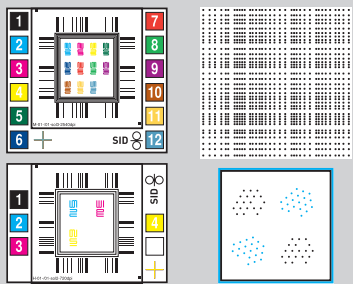# Register Measuring System
LUCHS IV

The LUCHS Register Measuring System determines transfer, feed and front–to–back register as well as folding, cutting and varnish register. The system consists of the hand–held measuring head — connectible to an existing laptop via USB — and the software.

PITSID

Polygraphische innovative Technik Leipzig

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Register Measuring System
LUCHS IV

Working Principle

The registration accuracy of a printing press or processing machine is determined by the capture and analysis of special measuring elements with the LUCHS IV camera measuring head.

With additional measuring elements the front-to-back register, the folding, cutting and varnish register can easily be verified.

The automatic analysis assigns all measured results to the corresponding printing units and positions on the printed sheet and summarises the results in various protocols and graphs.

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PITSID develops, produces and sells measuring systems, supported by the Sächsisches Institut für die Druckindustrie. The measuring systems are used for quality control and to increase efficiency during adjustment and maintenance operations.

Technical Data

Measurement uncertainty

< 5 µm (when following the measurement guidelines and with good print quality < 2 µm)
< 10 µm with varnish register

Measuring elements and areas of application

- Simultaneous registration measurement in both longitudinal and lateral directions, complete analysis of up to 12 printing units with one measurement
- Special measuring elements for rough substrates and application in flexo and digital printing
- Separate encoding of all measuring elements for unique position identification
- Optional: Measurement of special doubling-free elements in offset printing
- Optional: Special measurement of the perfecting registration and sheet, cut or folded edges
- Optional: Varnish register with special measuring elements and additional illumination

Compatibility and enhancements

- Measured data compatibility to LUCHS II/III
- Possibility to measure the new measuring elements in 4 directions
- Considerable improvement of the measurement capability of light, low-contrast inks due to the use of a colour camera
- Faster measuring head positioning due to a larger field of view

Output of results

- Choice of different result graphs (measured value sequence, standard deviation, frequency distribution, etc.)
- Relative sheet view represents the positional change and distortion of the sheet while moving through the printing press
- Possible choice of different result protocols or the creation of individual protocols using the protocol editor
- Protocol output using a standard printer or data export

Device components

Handheld measuring head connectible to an already available laptop/PC using a USB 2.0 connection and the control software, carrying case

Hardware and software requirements

- Min. 2.13 GHz CPU, Dual Core
- Min. 4 GB RAM
- Min. 500 MB free disk space
- USB 2.0 port without power limitations
- Operating system: Windows 7 (32/64) or higher in German or English

Measuring head

Dimensions (W x H x D): 145 x 90 x 50 mm
Weight: 600 g
USB 2.0 connection: Power consumption of 500 mA at 5 V