

MiniRot-H1

Miniature-Lineprojector for Measurement of 3D-Shape connected to Fiber Light Source

This projector from ABW is small and fast! It illuminates objects with predefined line patterns. This is well known as 'structured lightning'. A complete 3D-vision system consists of the projector MiniRot-H1, Controller MiniLin/MiniRot, one or more CCD-cameras, a PC plus our software packages ABW-3D and ABW-VIS.



Miniature Projector MiniRot-H1
(delivered without lens)

Due to a special decoding algorithm only 12 to 30 images are needed to calculate absolute x-, y-, and z- values for each illuminated pixel in the camera in addition to its gray- or color-value. The stripes are made of chroma on a rotating glass device. There is no acceleration and it may rotate synchronized to very fast cameras.

Using the phaseshifting algorithm gives high accuracy with uncertainties in the range of 1/7500 of the width of the illuminated scene.

Its low weight of only ca. 850g allow for applications on movable axes and robots.

External light source serves for low temperature in the device and high repeatability of the line patterns.

Applications

Getting 3D-Images for:

- Controlling of robots and handling systems (position, orientation of parts and grippers),
- Quality control: Identification, completeness
- Digitizing models, rapid prototyping, reverse engineering
- medical Applications: 3D-Endoscopy, 3D-Microscopy

Features

- Robust and stable body suitable for industrial applications
- high resolution
- short switching time
- external light source
- 3 different line grids
- control commands compatible to ABW lineprojectors as possible
- supported by software ABW-3D and ABW-VIS

Technical Specifications

Miniature Lineprojector MiniRot-H1

Optical Specifications

Size of projection window in projector:	6 x 6 mm
Projected patterns:	linegrids with different period length
Account of lines in the projected image:	max. 92
Switching time:	only limited by camera speed
Lens adapter:	C-mount, CS-Mount on request

Mechanical Specifications

Weight without lens and fiber:	ca. 850 g
Dimensions:	125 x 100 x 65 mm

Electrical Specifications

Power:	5,5 - 6 V / 200 mA 12 V/10A
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RS-232 Interface

Baudrate:	programmable from 1200 up to 19200 Baud
Databits:	8
Parity:	odd
Stopbits:	1

Accessories

Control-Box MiniRot-H1	Controller, Power-Supply: 115/230 VAC
Size:	260 x 215 x 125mm
Weight:	2,5 kg

Subject to change without notice	Date: 05/04
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