Vario Line · 3D SPI

3D Solder Paste Inspection System

- precise three-dimensional solder paste printing measurement
- form · bridges · X/Y offset · surface area
- height · volume · coplanarity
- camera head optimised for speed
- 180 images per second at 4 megapixel resolution
- highly precise 3D image capturing based on fringe projection technology
- operating without moving parts
- double-sided projection for 100% shadow-free measurement
- touchscreen interface
- program generation in less than 10 minutes

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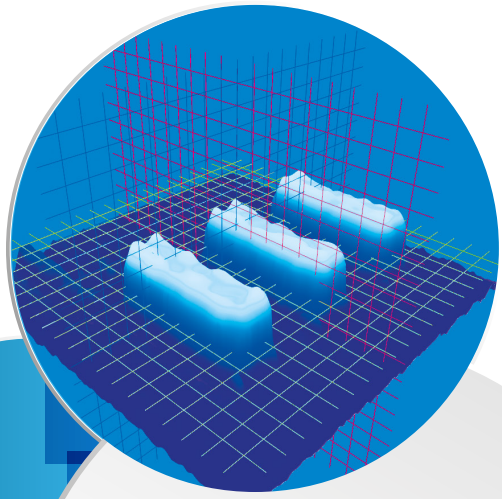
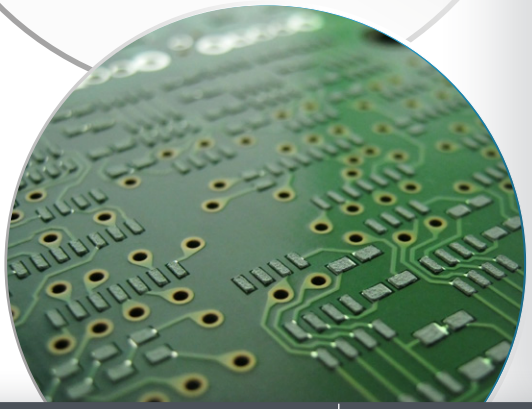


Effective process optimization

- repeatable measuring
- statistical process control
- closed loop to printer
- link to AOI / AXI repair station



Parameters	Data
measurands	form, height, volume, bridges, X/Y offset, coplanarity, surface area
camera / projector	4 megapixel, 180 fps, double-sided projection
X/Y resolution	configuration 1: 20 µm
	configuration 2: 15 µm
Z resolution	0,2 µm
Z measuring accuracy (no target)	up to 1 µm
Z measuring area	1000 µm
inspection speed standard (up to)	configuration 1 : 90 cm^2/s
	configuration 2: 51 cm^2/s
volume repeatability (on target)	< 0,5 % bei ± 3 σ
volume repeatability (on PCB)	< 2 % bei ± 3 σ
gage R&R	<< 10 % bei 6 σ
illumination	flexible multi-spectral, multi-directional lighting for fiducial and barcode/2D code recognition
max. inspection area	520 mm (890 mm optional) x 480 mm
max. PCB warpage	± 5 mm
max. Leiterplattengewicht	5 kg
max. PCB weight	5 kg
program generation	simple programming in typically less than 10 minutes
offline programming	yes
data import	Gerber data import (RS-274-X, RS-274-D), CAD, ODB++
closed loop	to paste printer

System specifications	Data
inline interface	SMEMA, Siemens, Hermes
assembly transport	1 segment / 3 segments (optional)
transport direction	left-right, right-left, left-left, right-right
max. PCB width	510 mm
min. PCB width	80 mm (50 mm optional)
power requirement	230 V AC / 1.2 kVA; 6 bar compressed air, consumption < 20l/h
dimensions (WxDxH)	1200 mm x 1450 mm x 1650 mm
weight	approx. 950 kg

Made in Germany

GÖPEL electronic
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ISO 9001 certified

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