

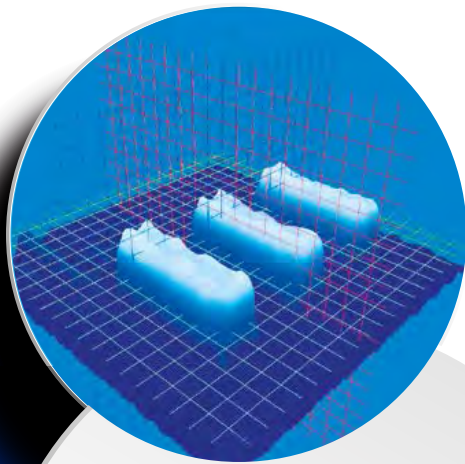


SPI-Line 3D

3D Solder Paste Inspection System

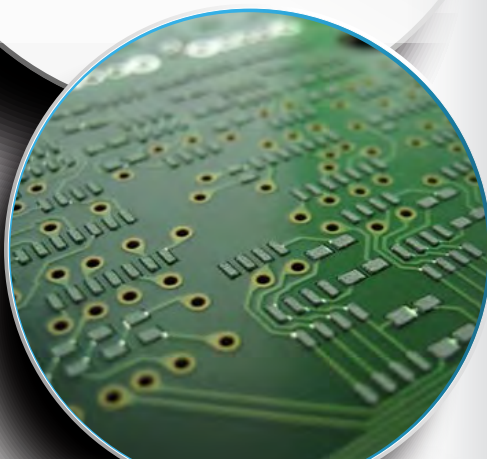


- precise three-dimensional solder paste printing measurement
- form · bridges · X/Y offset · surface area
- height · volume · coplanarity
- camera head optimised for speed
- 180 images per second at 4 megapixel resolution
- highly precise 3D image capturing based on fringe projection technology
- operating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



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 : 20 µm
	configuration 2: 15 µm
	configuration 3: 10 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
	configuration 3: 20 cm ² /s
inspection speed highspeed (up to)	configuration 1 : 290 cm ² /s
	configuration 2: 200 cm ² /s
	configuration 3: 110 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. PCB size	680 mm x 510 mm
min. PCB size	60 mm x 60 mm
top side clearance	50 mm
bottom side clearance	30 mm
max. PCB thickness	5 mm
min. PCB thickness	0,3 mm
max. PCB warpage	± 5 mm
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

Parameters	Data
operating system	Windows 7 (64 bit)
inline interface	SMEMA, Siemens, Sensor
energy requirements	230 VAC / 2 kVA; compressed air 6 bar, consumption < 20 l/h
transport directions	left-right / right-left / left-left / right-right
dimensions (wxdxh)	1000 mm x 1330 mm x 1500 mm
weight	580 kg

• Made in Germany