

3D soldering inspection robot



SOLDERING & DISPENSING

Automated optical inspection

Automated optical inspection (AOI) for quality control becomes the main issue in all manufacturing processes to ensure effective functioning of the products and achieve the zero defect goal. However, most of the quality controls use a 2D camera and are limited to pattern or colors recognition, which is not sufficient for many applications and especially for solder joint quality.

As a specialist in selective soldering technologies, we developed a complete and very performant 3D inspection solution for quality controls. We combine a 3D sensor with our mta® well-proven platforms and MotionEditor software, using a cartesian 3-axis robot. This enlarges the possibilities to almost all kind of quality controls.

Main features

- Accurate and fast 3D image & 2D monochrome image acquisition at the same time
- Wide range of 3D and 2D tools for all type of inspection
- Pattern projection from 2 different directions providing minimal shadows influence
- Control sequence and programming supply by our expert with dedicated HMI
- Easy handling with a simple sequence of joint inspection related to vision recipes

Benefits compared to traditional camera

- Reproduction of the solder joint in 3D
- Precise measure of the part
- Cross section and analysis of the profile
- Only one sensor instead of two or more cameras to analyse the solder's meniscus
- Standard software for each application

Technical specification

	Small field of view	Large field of view
Image size in pixels	1'408 x 1'408 mm	2'048 x 2'048 mm
Field of view X, Y, Z	12.5 x 12.5 x 3 mm	35.5 x 35.5 x 10 mm
Repeatability (σ) X, Y, Z	1 μ m	2 μ m
Acquisition distance Z	84 mm	
mta® compatible platforms	MRC500, TR300, OEM300 & OEM500	
HMI & quality control	Specific to customer needs	

