Mek to Showcase latest range of AOI Technology at Productronica

Mek (Marantz Electronics), will be showcasing the ISO-Spector M1 Full 3D AOI systems with Artificial Intelligence at this year's Productronica in Munich on booth A2-400.

One of the greatest challenges in programming AOI, (Automatic Optical Inspection) systems is the detection of all non-conforming placements, especially those related to solder joints, without creating a long list of ''False Calls''. The industry has always faced this problem and has had to accept that the more accurately you wish to measure, the more false judgements a system will make. It commonly results in long debugging time and complex programming.

The full 3D ISO-Spector M1A delivers a self-learning algorithm for solder joint inspection that will detect any deviation outside the expected standard appearance of a solder joint. A proprietary solution with Artificial Intelligence is continuously and centrally monitoring production and adjusting hundreds of tolerance values where needed to maximize detection and minimize false calls. The programmer does not have to specify the specific inspection locations, light settings or acceptance criteria. This not only reduces programming time, but more importantly removes the often-unpredictable human variable to ensure that the inspection results are more reliable.

Also being demonstrated at the show is the Mek PowerSpector BTL AOI system which offers synchronized inspection of the top and bottom side of PCBs after Reflow, Wave or Selective soldering & placement of SMT & THT components. Patented synchronized lighting technology delivers new capabilities. 9 cameras per side, with both heads inspecting the PCB at the same time, deliver fastest inspection times but without the high power lighting system of each head affecting the other inspection taking place. The elimination of flipping removes potential for stress on the assembly and improves long term reliability of solder joints.

The desktop PowerSpector GTAz is designed for maximum defect coverage whilst maintaining short programming times. It is the only desktop AOI in the market that can be equipped with 9 cameras: 1 top and 8 side cameras. For maximum flexibility, the optical unit is configurable to fit your needs today while providing upgrade possibilities for the future.

For customers for whom value for money is an absolute priority Mek will demonstrate two systems from its entry level ranges. The new iSpector JK desktop AOI system is designed to inspect component bodies and solder joints by use of RGB LED light sources from three different angles offering full inspection coverage at an entry level price. Powerful algorithms achieve an optimal balance between defect detection and false reject levels in the shortest time.

Available as a desktop or inline system the Mek iSpector JDz delivers the fastest return on investment for EMS customers that seek optical flexibility, easy programming & usage and the highest inspection performance guarantees. The JDz uses a Z-axis for maximum flexibility in THT and sandwiched SMD inspection. The Z-axis enables inspection of objects at different height levels such as sandwiched PCB's, tall components or positional measurement of tall connector pins.

Completing the line-up of AOI solutions on display is the SpectorBOX "Bottom Up/Top Down" system. SpectorBOX is uniquely engineered to accommodate solder frames on return and/or feed conveyors. The system offers bottom side, top side or simultaneous dual side inspection, deploying up to 18 cameras, Z axis positioning and auto-focus. The design is optimized for the inspection of THT components to identify defects such as presence/absence, wrong polarity, colour, type, and bent pins. At Productronica two models will be on display with the Nutek Main Frame which allows easy integration of one or two SpectorBOX modular AOI systems into the production line. It is a cost effective way to combine Bottom-Up and/or Top-Down inspection.

As well as AOI solutions the Mek stand will feature the Mek ISO-Spector S2 SPI system. Combining 3D and 2D image processing methodologies Mek 5D post-print solder paste inspection systems deliver first rate defect detection. ISO-Spector S2 uses MEKs unique production control method, to monitor process stability and reduce tolerance. This is ideally suited to go beyond process control after the print process has been optimized and monitor the users process capability to prevent process drift.

For more information on Mek and the entire range of products visit www.marantz-electronics.com, or visit us at booth A2-400 where we can discuss your application requirements.

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