Case Study

Epson robots speed up product testing

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SCARA and six-axis robots prove fast and flexible

In ima-tec's assembly, testing and measuring cell, robots have to perform a mechanical and visual test on a total of 25 measuring points of some electronic steering axle system components within only 13 seconds. At the same time, space for this is very limited.

Two SCARA G3 and one six-axis C3 robot test and process two different injection moulded components with integrated punched grids. A SCARA G3 performs an accurate measurement of the metal contacts on one level.

During the process, it tests each measuring point through axial touching within a fraction of a second. Measurement is carried out exclusively from the top because the first injection moulded part has no functional dimensions on the bottom part. In parallel to the first test, another Epson SCARA robot inspects the top and bottom side of the next injection moulded part, both radially and axially.

The collected data are simultaneously transmitted to the central database in which the detailed evaluation takes place. Due to its reduced deadload and the optimised weight distribution of all components, the SCARA G3 boasts excellent dynamic characteristics. This contributes to a significant reduction in cycle times.

At the third testing station, a C3 six-axis robot equipped with an industrial camera, moves to measuring points which could not be recorded mechanically in the upstream testing stations. With the help of the red LED ring light, the central quality features can be identified without contact.

A RC180 controller is used to program the robots. Its reliable and intuitive interface allows for the fast programming and teaching of even the most complex applications. The evaluation of the collected data with detailed information on levels, angles and intervals is performed by the bespoke ima-tec software on the system's master computer.

Besides the control function, it also displays the statistical evaluation of specific error features. This way, error sources can be reliably identified and removed with pinpoint accuracy.

ima-tec

The combination of Epson robots and controllers creates an easy to set up, easy to program environment.

Volker Spanier

Head of Robotics - Epson

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Key Facts

Epson robots provide ima-tec with a compact, space-saving testing cell, with three measuring stations.

The efficiency of the robots allows for mechanical and visual testing of 25 measuring points within only 13 seconds.

Fast programming and intuitive operability are provided thanks to an RC180 controller.

The setup also makes statistical error evaluation possible.

For more information, visit www.epson.eu

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