

Marking on-the-fly – Marking Moving Parts Without Slowing or Stopping Motion

Challenge

Many mass-produced components involve some type of continuous motion to maximize throughput. This includes conveyor belts, reel-to-reel processes, simple rotary motion, or other types of moving production lines. To minimize the cost impact of marking in these applications, manufacturers therefore need a laser marking method that accommodates moving parts without the need to stop, slow, or pause the motion.

Solution

Marking on-the-fly technology from Coherent solves this problem in a user-friendly format. The system controller card directly controls the scanner so that the deflection of the laser beam is continuously adjusted to match the motion of the part. The user has several options to control this process through the system software. In the simplest format, the user inputs the speed of motion. Alternatively, the laser marker can read the signals from a motion encoder and adjust the marking process in real time to the measured speed. This is usually the preferred mode of operation since it accommodates variations in motion of the production line, and avoids any corresponding errors in the marking process. The end result is a higher yield and improved mark consistency in terms of mark location and quality.

Marking on-the-fly is available as an option with all Coherent PowerLine laser markers and is compatible with conventional marking methods for metals and plastics, as well as the latest SmartProtect shallow marking, and the black marking technique increasingly used for marking stainless steel devices.

Benefit

Marking on-the-fly is an ideal solution for marking high volumes of small parts including electronic components, medical devices, consumer products and other mass-produced devices. It is well-suited to serial marking with indexed part numbers, etc. Plus it provides the accuracy and precision to also support marking functional scales and other fiducials.

Application Field

Marking of parts on a moving production line.

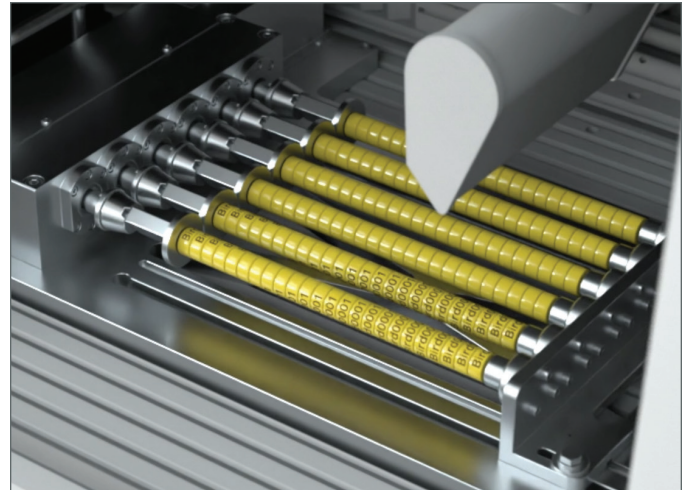


Figure 1. Marking on-the-fly solutions from Coherent simplify the task for marking parts on high-volume production lines without any time penalty for stopped motion.



Figure 2. Marking on-the-fly is available as an option with all Coherent PowerLine laser markers.

Contact

Dr. Dietrich Tönnies, Product Line Manager, Munich, Germany
Email: dietrich.toennies@coherent.com