Faster Marking of Strips and Arrays of Products with PowerLine Twin

Challenge

Manufacturers of high-volume components such as semiconductor chips, medical disposables, and pharma packages, have a need to permanently mark arrays and trays of their products. Speed and throughput are important to avoid creating a production flow bottleneck. In addition to the large number of products involved, the marks often contain variable data, particularly serialization numbers and barcodes.

Figure 1. The PowerLine Twin integrates two laser markers without redundant duplications such as power supplies and chillers.

Solution

The latest members of the PowerLine family of laser markers, the PowerLine Twin series, directly address this efficiency challenge. Specifically the PowerLine Twin incorporates two lasers, each with its own focusing optics and scanner head. But costs are minimized by avoiding redundant duplication; most models only include one supply unit and a single chiller. The key innovation is that a PowerLine Twin has unified software and hardware interfaces and thus the user or factory host sending variable data treat the pair of laser markers as a single integrated marker. The marking field is larger than would be possible with a single laser and the matrix of products is divided internally by the software into three areas: one for each laser and an overlap area – see figure. The software allocates which devices and features are to be marked by each laser in this overlap area, solely on the basis of minimizing the total marking time for each matrix (tray or strip) of products.

But this is fully automated in the software and completely invisible to the user who operates the system like a single marker through the Visual Laser Marker (VLM) software package. Serialization tasks are further accelerated by the Matrix Object feature of the VLM package, where repeated elements of the layout are assembled just once while updating the layout of each part individually with variable data and then marking it at the different locations in the matrix of products.

Benefit

For marking large batches of products in a tray or strip, the use of a PowerLine Twin provides higher speed, lower complexity and lower overall costs than the alternatives of two individual laser markers or one marker with a higher power laser.

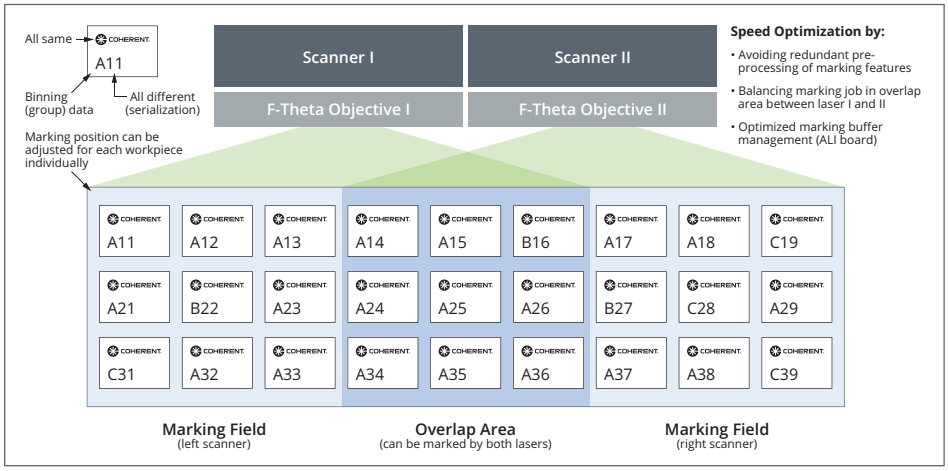

Figure 2. Schematic of a marking matrix showing how Matrix Object handles repetitive graphics and serialization and how the PowerLine Twin divides the marking field into three effective areas.

Application Field

Marking large batches of semiconductor products, pharmaceutical packages and medical disposables or other high-volume parts that need to be serialized.

Contact

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

COHERENT