

APPLICATION NOTE NO. 6

LASER-MARKING AT A BEVERAGE BOTTLING PLANT

PROBLEM:

The laser marker was located at a point on the conveyor line where two-liter size bottles are occasionally wobbling back and forth and where the line frequently slows down and stops. The wobbling bottles resulted in multiple detection of the same bottle causing multiple firings of the lasers and weakening of the bottle. When the line stopped, the lasers would continue to fire in one spot on the bottle for the entire code marking duration which sometimes burned a hole in the bottle.

SOLUTION:

Mounting an SM503 or SM505 style SUPERPROX[®] downstream from the laser marker will enable control of the bottle flow by monitoring container back-up, stop motion or rate. This will prevent back-up at the laser printer and interference with its operation. A SUPERPROX[®] model SM600A-516-00 can be used for bottle detection and triggering of the laser printer. This sensor has a 5" sensing distance with a 1" window located 4" to 5" from the sensor. This configuration will allow the use of a background target with the bottles breaking the beam. See figure 1.

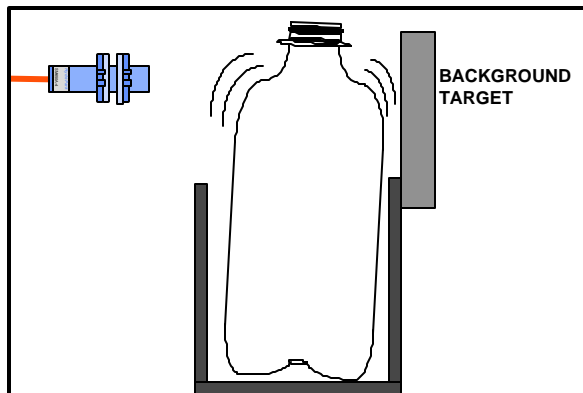


Figure 1

Figure 2 shows sensor positioning when two sensors are needed for container detection and triggering of the laser printer. Please note the direction of bottle flow.

If multiple signals are given for a single bottle, two sensors should be used. These sensors would be mounted side-by-side at a distance of half the diameter of the bottle from each other. These two signals would be sent to a logic device (PLC) that would provide a latched output to the laser printer. This logic principle prevents false multiple input signals to the laser printer as result of the wobbling bottle movement.

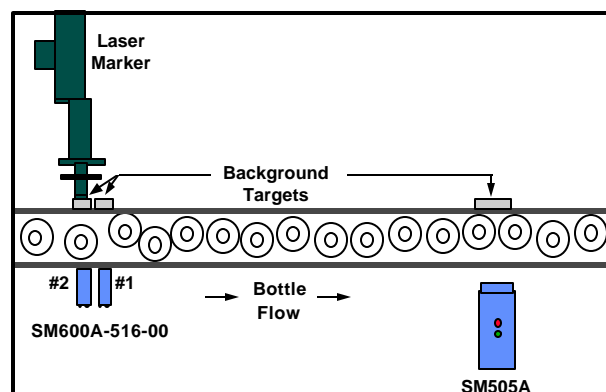


Figure 2