EPSILON
Controls & Automation

Application Note……

Perforation Detection System

Customer
Shrink wrap film manufacturer for Soda Bottles

Customer Requirement:
Detect the perforation lines on the plastics films

Epsilon Solution:
Combines all P4 vision inspection tools including Blob, Gray Scale, GEO, Edge and Object

Why Epsilon?
Proving the application solution before any commercial commitment

Customer Benefits:
- **Improved Productivity**
- **Easy installation**
- **Improved Speed**

PresencePLUS P4 Omni Features
- Standard OMNI model (640 x 480 pixels) provides accurate analysis at high speeds
- Includes remote TEACH, configurable I/Os, live video and communications standard to all PresencePLUS sensors
- Features compact, self-contained P4 housing
- IR light Served to benefit line tool

Background
Customer is a manufacturer of plastic films. The plastic films are generally continuous rolls and these rolls are perforated so that when the form a sleeve on the PET bottles ,the holes provide escape route for the trapped air.

Challenge
For camera to take image it needs external image when the object to be inspected comes in the vision of camera it is sensed by some sensor to give camera a signal in this application we have to inspect the perforation so we cannot use any sensor for sensing perforation hence we have to keep camera in external trigger mode. The film runs at 140mtrs/min. At this speed, the perforations appear like a line. Also ,since the film is printed it will have a variety of print patterns and colours .so generating a contrast is a big challenge

Solution
The roll of the plastic films which are actually the labels to be applied on the soda bottles are continuously running in the labels and we have to inspect the perforation presence on the films . There Is no trigger sensor so we have to keep camera in a continuous trigger mode for doing this we have connected the ready signal wire to the camera trigger. We have used line tool to detect the perforation it the perforation is not present the camera will give fail signal and this signal is used to stop the machine