

Application Brief: E3X-MDA Sensor

Label Detection

INDUSTRY

Food and Beverage

APPLICATIONS

Label detection/position in packaging lines

PROBLEM

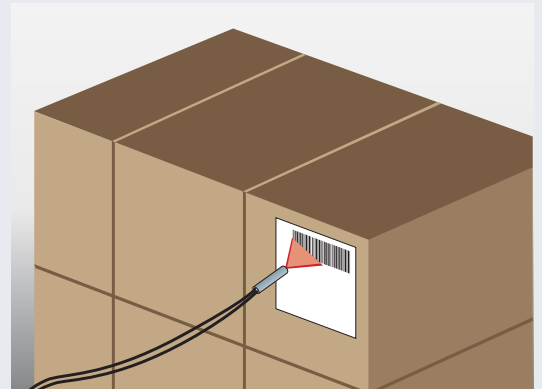
Accurate label detection is critical in packaging applications because missing labels result directly in wasted product, liability issues (warning labels) and poor appearance. Conventional label detection systems require independent sensors and controllers for proper operation resulting in larger control panels, greater system complexity and slower processing (throughput) speeds.

OMRON ADVANTAGE

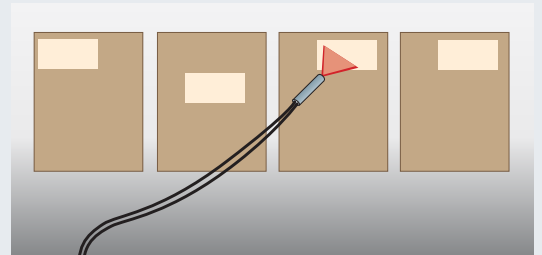
E3X-MDA Sensor amplifier E32-DC200/E32-TC200 Fiber optic cables

Omron combined the power of two independent sensors into a single sensor form factor and added AND/OR control logic functionality that lets users handle high-speed, dual input logic with a single compact sensor package. The single unit takes the place of three larger components to reduce system complexity, increase speed and reduce machine size.

APPLICATION DIAGRAMS



Sensor check for uniform placement of bar codes on palletized product. This speeds inventory tasks at retailers.



Check consistency of label on packages.

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Label Detection Application Details

ISSUE

Ensuring accurate label placement is critical to product identification, use (safety) and appearance. Missing or improperly positioned labels waste product, pose legal problems (warning labels) and result in lost profits. At the same time, packaging engineers are working to reduce machine size and throughput speed to maintain production efficiency. Reliance on conventional, multi-component control strategies has reduced the ability of these engineers to more quickly meet desired machine footprint and speed goals.

CAUSE

Traditional label detection systems rely on older control strategies that employ two independent sensors and a separate logic unit (typically a PLC). While this approach works, the overall response time of the system is limited and the greater number of components contributes to machine size, complexity and maintenance.

OMRON'S UNIQUE SOLUTION

By combining the sensors and logic into a single compact package, the Omron E3X-MDA and E32 family of fiber optic cables offer a better alternative. Sensor channel 1 can be set up to detect the package (trigger), while sensor channel 2 is set to detect the label. The sensor's internal AND/OR logic determines the proper placement of the label and creates an output (if necessary) to a solenoid to reject packages that have missing or improperly placed labels.

RESULTS

This unique solution replaces three components with one to reduce machine size and control systems complexity while increasing package throughput speed.

