



Industry:

Food and Beverage



Applications:

Package Cartoning, Palletizing, Accumulating, Container Filling



Problem:

Current package counting control strategies rely on independent sensors, counters and logic control (typically through a PLC) to accurately count and group products prior to cartoning. This approach works, but results in larger control panels, greater system complexity, limitations in counting speed and a greater potential for failure.



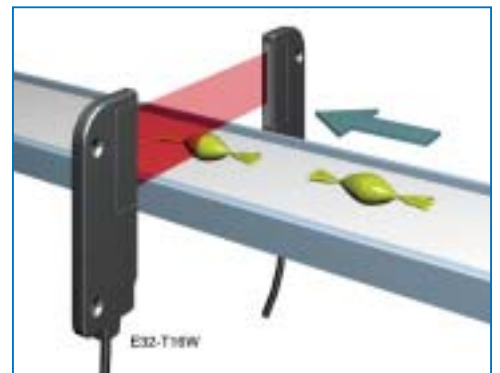
Omron "FACTS" Advantage

E3X-DA11RM-S Sensor
E32-R21 Polarized retroreflective fiber optic cable

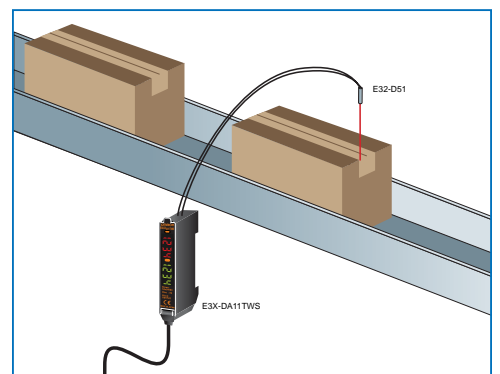
Omron has combined the sensing, counting and logic functions into a single, compact fiber optic sensor package that lets packaging engineers reduce machine size and complexity, while increasing reliability, profitability and customer confidence. With only one component, engineers reduce space requirements and complexity while increasing overall reliability and speed.



Application Diagrams



Count irregularly shaped objects regardless of position using a wide-band, area-detecting sensing head.



Count the number of boxes needed for a full pallet using diffuse sensing head.

Package Counting Application Details

Issue

In an effort to reduce manufacturing costs and increase profits, package goods companies are scrutinizing every aspect of the operations. A particular area of focus is in the reduction of waste and machine costs in packaging. Here, cartoning miscounts or failure to keep up with the rapid pace of production results directly in costly waste of product and materials and indirectly in reduced consumer confidence in the brand.

Cause

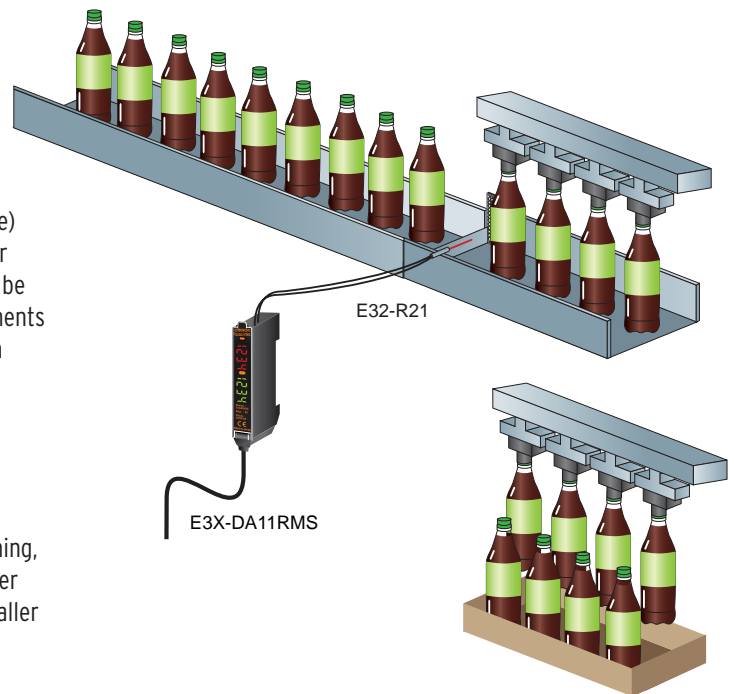
Conventional counting systems require numerous independent components and require larger enclosures. This control strategy is inconsistent with the overall industry's current push to reduce machine size and increase operation reliability (and profitability). Each component (sensor, counter, controller) needs to be installed, powered, wired, housed and maintained. This results in increased machine size, control system complexity and limits maximum counting speeds.

Omron's Unique Solution

The compact Omron E3X-DA11RM-S fiber optic sensor integrates a full-featured counter and control output into its slim housing (10 mm wide) to reduce mounting space requirements. A large selection of slender fiber optics (wash down, corrosion resistant, armored, heat resistant, etc.) can be easily located in even the most space restrictive areas or harsh environments to ensure reliable detection. The counter may be set to count UP or Down from 0 to 9,999,999.

Results

The self-contained unit (sensor, counter) eliminates the wiring, programming, installation and maintenance of individual components and provides better long-term reliability and faster operation to meet today's demand for smaller machine footprints and greater speed (throughput).



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