

APPLICATION NOTE AN007

Clear Label Verification

PACKAGING

INDUSTRY: Packaging

APPLICATION: High-speed clear label presence verification

The Challenge

A major manufacturer of labeling systems for cosmetic, food, chemical and pharmaceutical industries needed to verify the placement of clear labels in the high-speed labeling process to guarantee presence of product label on a wide variety of containers and cartons.

Currently, clear labels are difficult to verify due to the transparent properties of the label. Vision systems are often unable to reliably detect the presence of clear labels.

The Solution

EMX Industries, Inc. has developed the UVX series of luminescence sensors designed to detect the presence of various materials with luminescent tracers such as UV fluorescing coatings applied to clear labels to facilitate label detection. The sensor provides a discrete output to indicate presence and is easily integrated into automated systems. The output automatically configures for NPN or PNP operation.



The photo shows the UVX300 sensor. The sensor features a 2-digit display indicating the signal level measured by the sensor. A modulated, 370nm UV light source prevents the sensor from being affected by ambient light. Gain and light source intensity adjustments are provided to allow the sensor to operate efficiently over a wide range luminescent materials and distances. A remote lock feature prevents unauthorized changes to the sensor settings.

UVX 300 Luminescence sensor

The photos show the UVX300 sensor viewing a pharmaceutical product with and without the clear label. The display shows the signal level from the luminescent coating on the label, the red LED indicates that the signal is above the threshold setting. The fast response of the UVX300 allows detection of up to 3000 units/second making it ideal for high-speed packaging applications. The UVX300 provides the reliability necessary to assure each and every product is properly labeled.



Clear label present

Clear label missing

Equipment Required

[UVX300](#)

UVX 300 Luminescence sensor, display range 0-50