

# APPLICATION NOTE AN005

## Tamper-Evident Seal

## PACKAGING

**INDUSTRY: Packaging**

**APPLICATION: Verification of tamper evident seal**

### The Challenge

A major manufacturer of shrink sleeve labeling and tamper-evident shrink banding systems needed to verify the presence of tamper-evident seal placement. Verification needed to be performed on every container during the high-speed process. Tamper-evident seals are mandatory for pharmaceutical products making it vital to verify the presence of the seal in the packaging process.

Use of shrink band films with optical brighteners to provide a tamper-evident seal has become a cost effective solution to improving the level of security provided by manufacturers in their products.

### The Solution

EMX industries, Inc. has developed the UVX series of luminescent sensors designed to detect the presence of various materials with luminescent tracers such as optical brighteners used in tamper-evident shrink films. 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 UVX300 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.

#### UVX300 Luminescence Sensor

The photos show the UVX300 sensor viewing a pharmaceutical product with and without the tamper evident seal. The display shows the signal level from the optical brighteners in the seal, 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 secured with the tamper evident seal.



**Tamper seal present    Tamper seal missing**

### Equipment Required

[UVX300](#)

UVX 300 Luminescence sensor, display range 0-50

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