




## PULSE MODULATED PHOTOELECTRIC REGISTRATION MARK SENSOR

-  **Color Mark registration detection on transparent and translucent, including many metalized films and paper**
-  **Single, one pushbutton set-up**
-  **Includes remote Autose<sup>TM</sup> and Selectable Pulse Stretcher**

The **Mark•Eye<sup>TM</sup>** is a registration mark sensor designed to see printed registration marks on most packaging materials on a continuous web. The “one-touch” set-up enables the sensor to be adjusted with a single push of a button. There is no more guess work, making the operator’s adjustment procedure easy!

The **Mark•Eye<sup>TM</sup>** utilizes a white LED light source that is optimized to detect printed registration marks on translucent, transparent, and many metalized films and paper. This sensor is particularly useful on form, fill, and seal machines. Note that most packaging materials (except foil) are translucent! Many of the translucent packaging materials that we have tested allow light to penetrate either the backing material or the registration mark. Because this sensor operates in the opacity sensing mode, the color of the registration mark simply doesn’t matter!

**Note:** Marks as small as 1/16” wide by 1/4” long can be detected, dependent upon web opacity (contrast) and velocity.


The **Mark•Eye<sup>TM</sup>** operates on 10 to 30 VDC and is pulse modulated to prevent any problems with ambient light. Its design incorporates a white LED light source directing a beam of light across the gap to the receiving lens of a photoelectric detector. In operation, the moving web of packaging material passes through the gap/slot. This sensor can detect registration marks in a wide variety of applications, as long as the size of the mark and velocity meets the capability of the sensor. When the intensity of the light beam transmitted through the web of material is altered by the presence of printed registration mark, the **Mark•Eye<sup>TM</sup>** will switch its output accordingly.

**Note:** For “Metalized” film that does not produce the desired response, we recommend sensing with a reflective mode sensor, such as the **CMS Series** or the **“NEW” MARKEYE•PRO<sup>TM</sup>**.

**Set Up:** The **Mark•Eye<sup>TM</sup>** is an automatic sensor...it is not a conventional “teach mode” sensor. As a result, all that is required to adjust the sensor is to place the web between the marks and push the appropriate Autose<sup>TM</sup> button one time. The sensor will automatically adjust itself to a perfect setting. The **Mark•Eye<sup>TM</sup>** will now sense the difference or contrast between the light level penetrating through the web, giving an output when the mark is in view. Provision for a remote Autose<sup>TM</sup> switch is also provided.

# SPECIFICATIONS



<b>SUPPLY VOLTAGE</b> <ul style="list-style-type: none"> <li>• 10 to 30 VDC</li> <li>• Polarity Protected</li> </ul>	<b>HYSTERESIS</b> <ul style="list-style-type: none"> <li>• Minimal hysteresis promotes detection of low contrast registration marks</li> </ul>
<b>CURRENT REQUIREMENTS</b> <ul style="list-style-type: none"> <li>• 45 milliamps (exclusive of load)</li> </ul>	<b>LIGHT IMMUNITY</b> <ul style="list-style-type: none"> <li>• Responds to sensor's pulsed modulated light source ... immune to most ambient light</li> </ul>
<b>OUTPUT TRANSISTORS</b> <ul style="list-style-type: none"> <li>• (1) NPN and (1) PNP output transistors</li> <li>• Sensor outputs can sink or source up to 150 milliamps (current limit)</li> <li>• All outputs are continuously short circuit protected</li> </ul>	<b>INDICATORS</b> <ul style="list-style-type: none"> <li>• Green Autaset™ LED flashes when Autaset™ routine is activated and stays illuminated when Autaset™ is completed</li> <li>• Red Output LED illuminates when sensor's output transistors are "ON"</li> <li>• On power-up, the Autaset™ LED flashes twice when the pulse stretcher is enabled</li> </ul>
<b>REMOTE AUTO-SET INPUT</b> <ul style="list-style-type: none"> <li>• Opto isolated momentary sinking input (10 milliamps)</li> </ul>	<b>AMBIENT TEMPERATURE</b> <ul style="list-style-type: none"> <li>• -40°C to 70°C (-40°F to 158°F)</li> </ul>
<b>RESPONSE TIME</b> <ul style="list-style-type: none"> <li>• Light state response = 100 microseconds</li> <li>• Dark state response = 100 microseconds</li> </ul>	<b>RUGGED CONSTRUCTION</b> <ul style="list-style-type: none"> <li>• Chemical resistance to harsh cleaners, such as detergents, alcohols, and ketones</li> <li>• Waterproof ratings: NEMA 4 and IP66</li> <li>• Conforms to heavy industry grade CE and UL requirements</li> </ul>
<b>LED LIGHT SOURCE</b> <ul style="list-style-type: none"> <li>• Pulse modulated high intensity white LED</li> </ul>	<b>SELECTABLE PULSE STRETCHER</b> <ul style="list-style-type: none"> <li>• Provides a minimum of 10 milliseconds output duration</li> </ul>
<b>PUSH BUTTON CONTROL</b> <ul style="list-style-type: none"> <li>• One pushbutton set-up</li> <li>• Automatic set-up routines based on web opacity</li> <li>• Simultaneously pushing both buttons inverts the output</li> <li>• On power-up, simultaneously pushing both buttons enables the program mode, allowing the pulse stretcher to be enabled or disabled</li> </ul>	 <p style="text-align: right;"><i>Product subject to change without notice.</i></p>

### Sensor Selection Guide

Model	Description
MEWL	White LED, 5-conductor cable
MEWLC	White LED, 5-pin micro connector on a 6" pig tail

### Cable Selection Guide (5 Wire)

Model	Micro Cable (M12) Description
GSEC-2MU	6.5 ft. (2.0m) Low Cost, Unshielded
GSEC-5MU	16 ft. (5.0m) Low Cost, Unshielded
GSEC-6	6 ft. (1.8m) Shielded Cable
GSEC-15	15 ft. (4.6m) Shielded Cable
GPSEC-15	15 ft. (4.6m) Shielded Cable

# DIMENSIONS

