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TechNote

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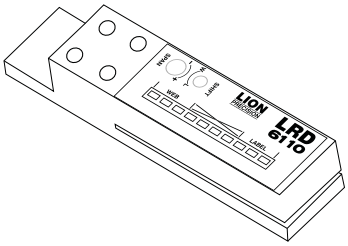
Label Sensors and Web Splices



Applicable Equipment:

LRD2100, LRD3100, LRD4100, LRD6110, UltraLRD V2, LRD8200

Applications:

Label sensing for registration, placement, and counting.

Summary:

Label sensors are affected by splices. Different sensors are affected differently depending on the technology within the sensor. This TechNote gives details of the sensor's operation when encountering a splice. Includes output waveforms.

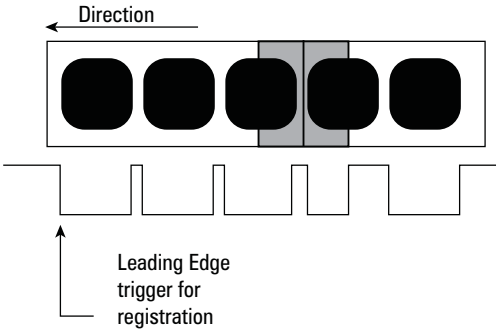
Lion Precision • 563 Shoreview Park Rd. • St. Paul, MN 55126 • 651-484-6544 • www.lionprecision.com • info@lionprecision.com

Butt splices have no effect on sensor operation when:

Butt splice edges are located under labels

AND

The sensor is triggering on the leading edge of the labels for registration

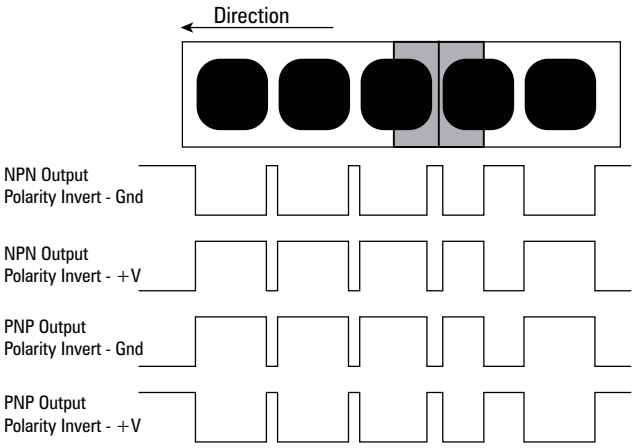


The sensor is triggered by changes between *more* and *less* material. When a splice is present, it adds another set of transitions between more and less material.

Once the sensor triggers on a label, any subsequent transitions to *more* material are ignored.

After the sensor has triggered on a label edge, it will indicate the end of the label at the next transition to less material. For this reason, detection of leading edges of the labels is unaffected, but the end of the label will be indicated at the trailing edge of the splice. Using the leading edge to control registration assures no effect from splices.

Sample Waveforms



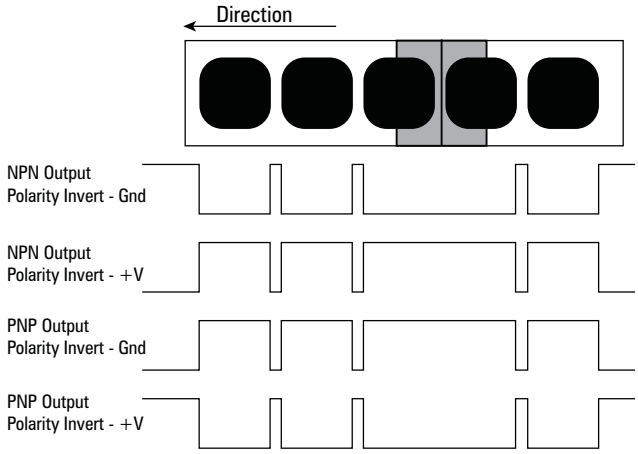
LRD8200, LRD6110, UltraLRD V2

The LRD8200, LRD6100 and UltraLRD V2 measure the total thickness of material in the sensor fork. When the thickness exceeds the trigger point, the sensor indicates a label. Once the trigger point is exceeded, any further increases in thickness do not affect the output.

Splice material will usually exceed this trigger point and cause the sensor to indicate the presence of a label while the splice is present, even if it is in the gap between labels.

Any labels which have leading edges over a splice will not be detected.

Sample waveforms:



If the splice is under only one label, the splice will not be detected.