

**LION**  
PRECISION

Contact Commercial Secteur OUEST :  
[frederic.piteux@alcyonelectronique.fr](mailto:frederic.piteux@alcyonelectronique.fr)  
Direct : +33 (0)134 947 710 - Mob : +33 (0) 622 920 278  
Contact Commercial Secteur EST :  
[didier.simon@alcyonelectronique.fr](mailto:didier.simon@alcyonelectronique.fr)  
Direct : +33 (0)134 947 711 - Mob : +33 (0) 680 923 780

**ALCYON**  
ÉLECTRONIQUE

RD 11 - BP20 - 78650 Beynes - France  
Tel : +33 (0) 134 947 700 - Fax : +33 (0) 134 875 340  
[www.alcyonelectronique.fr](http://www.alcyonelectronique.fr)

# PRECISION LABEL SENSORS

FAST / ACCURATE / RELIABLE



- Clear
- Paper
- Metal
- Hologram

Optics-free sensing technology is at the heart of an LRD clear label sensor. They see labels regular “eyes” can’t see. This improved technology also makes them more precise and much faster than traditional label sensors – even on ordinary paper labels. More than 50,000 LRD label sensors are installed across the globe and testify to their accuracy and reliability.



### **Label Sensing**

Capacitive sensing measures the displacement of the labels to determine location of the leading edge of the label.

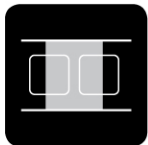
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### **Visual Inspection**

High speed visual inspection machines can move at a rate of 300 meters/min. At these speeds, registration errors for traditional sensors can become an issue, even on paper labels.

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### **Registration Sensing**

See-through solid films. LRD's will measure any changes, even those not measurable with traditional photo eyes. Know where your leading edge is to control production of a hidden material.

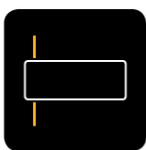
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### **Adhesive LRD**

Easily detect the presence or absence of an adhesive. With a fast triggering speed and no need for visual inspection, get the job done quickly and reliably with an LRD.

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### **Edge Tracking**

Use LRD's to track the edge of your conveyer system. The information provided from our sensor will allow you to set maximum travel tolerances for your belt, preventing costly downtime for repair. Use LRD outputs to steer your conveyer back on track when it wanders.



## LRD2100

*The Sensor that Started a Revolution*

The world's first clear label sensor. Optics-free, capacitive sensing does not require changes in color or contrast to sense labels.



LRD2100 has integral cable;  
LRD2100C has an M12 connector



## LRD6300

*High-Speed Accuracy, One-Button setup*

The finest clear label sensor for reliable, easy-to-set label sensing on applicators and slitter/rewinders.



LRD6300 has integral cable;  
LRD6300C has an M12 connector



## LRD8200

*Ultrasonic Technology for Ever Label Type*

Ultrasonic technology provides accurate sensing of any type of label. Wide fork for booklets and easy web threading.



## LRD900

*Traditional, Non-Clear Labels*

The LRD900 offers the same reliability all LRD sensors provide for traditional, non-clear labels.

M8 connector only.



**SPECIALIZED VERSION**

## LRD3100

*Clear Label Technology for Small Spaces*

Same great performance as the LRD2100 in smaller spaces. Sensor head can be used with supplied baseplate or a baseplate system can be designed into the machinery.



**SPECIALIZED REMOTE SENSOR**

## LRD3120

*Clear Label Technology for Small Spaces*

Same great performance as the LRD2100 in smaller spaces. Very small sensor head for mounting in tight spaces.



**SPECIALIZED VERSION**

## LRD5100

*Tear-Tape Sensor*

The LRD5100 senses the presence/absence of tear-tape on overwrap film. Works with all tear-tape materials and nonmetallic overwrap.



## LionEye2

*Traditional, Non-Clear Labels*

The LionEye2 offers the same reliability all LRD sensors provide for traditional, non-clear labels.

M8 connector only.

## ACCESSORIES

### B016-8341

Extended Base Plate  
for LRD 8200



### P016-6090

Mounting Adapter  
for LRD 8200



# Product Number

## SELECTION GUIDE

To determine the correct product number, select your criteria from left to right on the chart below.

			2100 P017-9900	3100 P017-9932	3120 P017-9921	5100 P017-9950	6300 P017-6300	8200 P016-6100	LionEye2 P015-3775	900 P017-9890
TECHNICAL SPECIFICATIONS	MODEL	Integral Cable	LRD2100	LRD3100	LRD3120	LRD5100	LRD6300			
		M8 Connector							P015-3775	P017-9890
		M12 Connector	LRD2100C			LRD5100C	LRD6300C	LRD8200		
	HARDWARE	Technology	Capacitive	Capacitive	Capacitive	Capacitive	Capacitive	Ultrasonic	Optical	Optical
		Adjustment Type	Screw	Screw	Screw	Screw	Button	Button	Button	Screw
		Bar Graph Display					✓	✓		
		Selectable Light/ Dark Display	Wired	Wired	Wired	Wired	Button	Button	Wired	Wired
		Outputs	NPN and PNP	NPN and PNP	NPN and PNP	NPN and PNP	NPN and PNP	NPN and PNP	NPN and PNP	NPN and PNP
		Power In	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC	12 to 24 VDC	12 to 30 VDC	10 to 30 VDC
		Operating Temperature	40°-140°F (4°-60°C)	40°-140°F (4°-60°C)	40°-140°F (4°-60°C)	40°-140°F (4°-60°C)	40°-140°F (4°-60°C)	40°-140°F (4°-60°C)	40°-120°F (4°-50°C)	32°-140°F (-4°-60°C)
	PERFORMANCE	Max Response Time	20 µS	20 µS	20 µS	20 µS	15 µS	425 µS	50 µS	50 µS
		Max Switching Freq.	10 kHz	10 kHz	10 kHz	10 kHz	10 kHz	1 kHz	10 kHz	10 kHz
		Accuracy @ 60 m/min	0.002 in (0.05 mm)	0.002 in (0.05 mm)	0.002 in (0.05 mm)	0.002 in (0.05 mm)	0.002 in (0.05 mm)	0.006 in (0.15 mm)	0.008 in (0.20 mm)	0.008 in (0.20 mm)
		Accuracy @ 250 m/min	0.002 in (0.05 mm)	0.002 in (0.05 mm)	0.002 in (0.05 mm)	0.002 in (0.05 mm)	0.002 in (0.05 mm)	0.024 in (0.60 mm)	0.008 in (0.20 mm)	0.008 in (0.20 mm)

TYPICAL SENSING PROCESSES	LABEL	Clear	✓	✓	✓		✓	✓		
		High-Carbon Black Ink					✓	✓		
		Metallic Ink					✓	✓	Nonclear	Nonclear
		Paper	✓	✓	✓		✓	✓	✓	✓
		Hologram	✓	✓	✓		✓	✓		
		Hot Stamp					✓	✓	Nonclear	Nonclear
		Solid Foil & Metal					Most	✓	✓	✓
	REGIS- TRATION	Hole Detection	✓	✓	✓		✓	✓	Nonclear	Nonclear
		Tear-Tape				✓				
		Multiple Film Layers					✓			
	INSPECTION	Slitter/Rewinder	✓	✓	✓		✓	✓		
		Splice Detection	✓	✓	✓		✓	✓	Nonclear	Nonclear
		Glue & Adhesives	✓	✓	✓	✓	✓			
		Edge Tracking					✓			

MANUAL NUMBER	M017-9900	M017-9930	M017-9920	M017-9950	M017-6300	M016-6100	M015-3775	M017-9890
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**Need assistance? Contact Lion Precision at 651-484-6544 or [info@lionprecision.com](mailto:info@lionprecision.com).**

\*All LRD series sensors come with IP54 rating, short-circuit / overload protection and a two year warranty. \*\*LRD8200 series require 4-pin M12 sensor cable and is available with standard LRD style mounting adapter.



7166 4<sup>th</sup> Street N, Oakdale, MN 55128  
T: 651-484-6544 | F: 651-484-6824  
E: [info@lionprecision.com](mailto:info@lionprecision.com) | [lionprecision.com](http://lionprecision.com)

