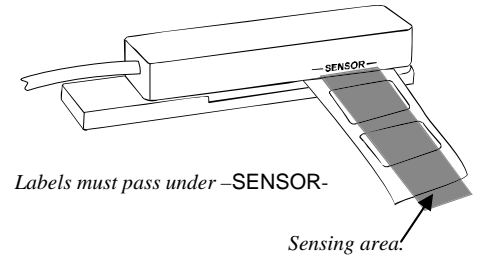


Introduction:

The LION PRECISION LRD6100 LABEL REGISTRATION AND DETECTION SYSTEM is an electronic sensor used to monitor label registration and/or count labels. The sensor will output a signal indicating the leading or trailing edge of the label as it passes through the sensor.

Mounting the Sensor

Mount the sensor perpendicular to the web so the web passes through the sensor gap. The back of the web should contact the mounting plate. Labels must pass under sensing area marked [--SENSOR--]. Small labels (3.8cm/1.5") must be centered under the sensing area.



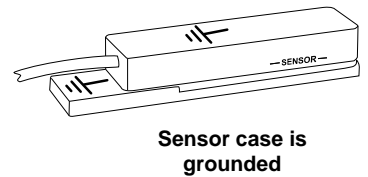
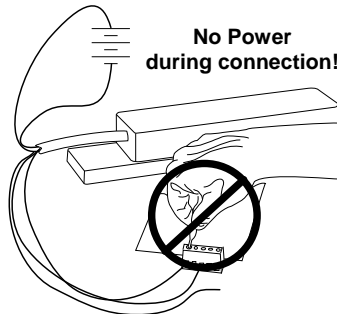
Electrical Connections

Warnings:

Unused wires must be insulated from contact with other objects.

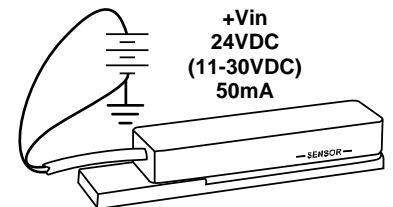
All power must be off when installing the sensor.

DC Ground is connected to sensor body.



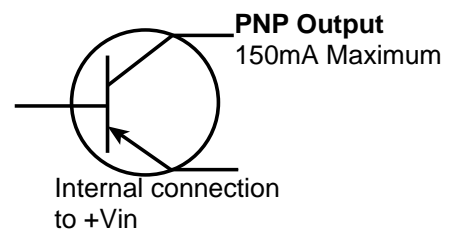
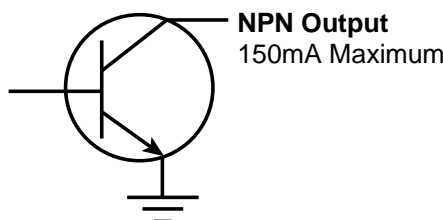
Power

Sensor can be powered by +11 to +30VDC but optimum performance is obtained with +24VDC. Maximum current draw is 50mA. The negative side of the power supply is grounded to the sensor body. It is recommended but not required that the shield wire be connected to ground. *The shield is connected to ground inside the sensor.*



Outputs

The NPN and PNP outputs are open-collector outputs. The NPN output can sink up to 150mA and the PNP output can source up to 150mA. Outputs are short circuit protected by self-resetting internal fuses. These fuses will activate if the outputs are connected directly to ground or power. Repeated shorting will eventually cause the sensor to fail.



Output Polarity

Output polarity determines whether the output signal will go low or high on the label edge.

Wiring Table

Wire Color	Connection	Wire Color	Connection
Red	+Vin (+11 to +30VDC @ 50mA)	Blue	PNP Output 150mA Maximum
Black	Ground (Sensor body)	Brown	Output Polarity Ground or +Vin
Green	NPN Output 150mA maximum		

Cable Shield should be grounded, but it is not required.

Setting Up the Sensor

1. Adjust LABEL adjustment to approximate center of range (4 turns clockwise, then 2 turns counter-clockwise).
2. Place web material *only* under the sensing area. (Fig. 1)
3. Use WEB adjustment to adjust the SETUP INDICATOR to WEB. (Fig. 1)
4. *Slowly* pass labels through the sensor. The SETUP INDICATOR will move in response to the labels and gaps. (Fig.2, 3)
5. If necessary, use the WEB adjustment to assure the WEB indicator light is on while the label gap passes under the sensor. (Fig. 2)
6. While the label is moving under the sensor, turn the LABEL adjustment so that:
 - **NO** lights between LABEL and WEB are on anytime while the label is under the sensor (Fig. 4). These should only be on briefly while the sensor changes from label to web.
 - the LABEL light is on during all or part of the label (lights to the left of LABEL may be on during some parts of the label). (Fig. 3)

When metallic material is under the sensor, the setup indicator may move all the way to the left. This is normal.

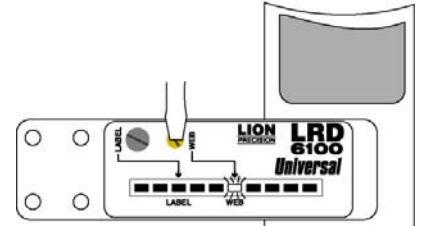


Fig. 1

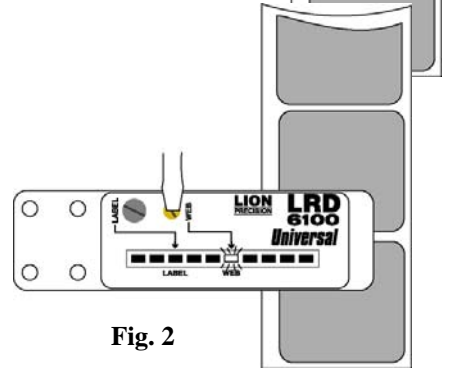


Fig. 2

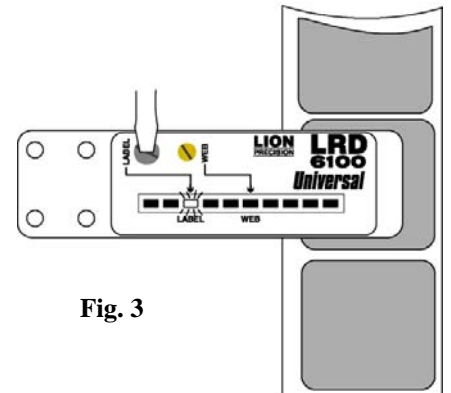


Fig. 3

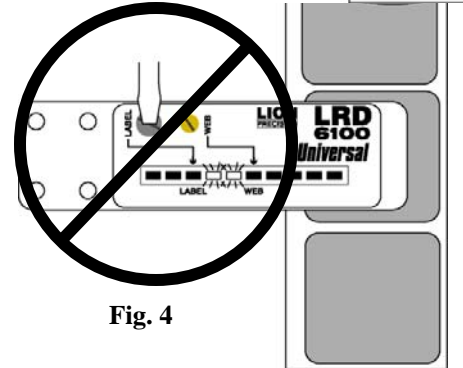


Fig. 4

Additional Figures

Figure 5: LRD6100 Dimensions

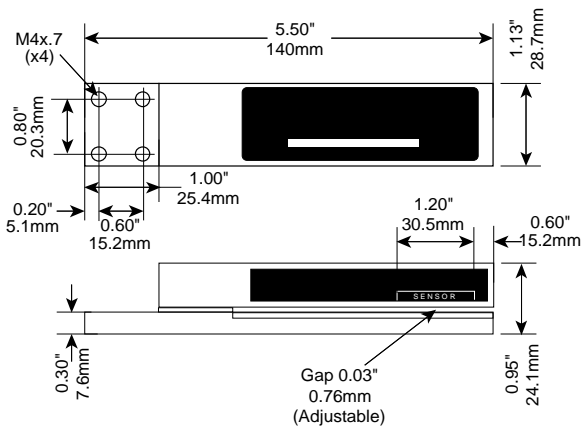


Figure 6: Output Polarity and Signal Waveforms

