Output and Mechanical Detail
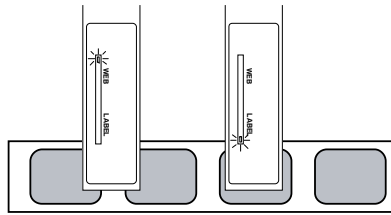
Dark Switching
Output Polarity = +V ← Outputs

Light Switching
Output Polarity = GND ← Outputs

M4x.7
(x4)

5.50"
140mm

1.25"
31.8mm

0.80"
20.3mm

1.00"
25.4mm

0.20"
5.1mm

0.60"
15.2mm

1.20"
30.5mm

0.60"
15.2mm

SENSOR

0.30"
7.6mm

Gap 0.03"
0.76mm

1.085"
27.6mm

WEB

LABEL
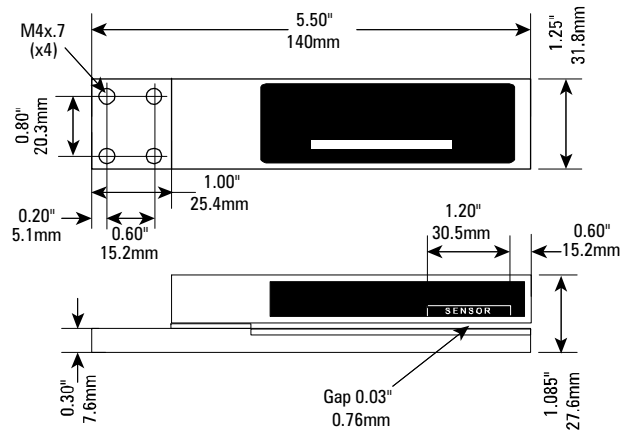
Specifications

Power supply	Voltage	11-28 VDC (reverse polarity protected)
	Current	50mA
Response time	On or Off	20μs max
	Switching Frequency	10kHz max
Output	Output Current (sinking or sourcing)	150mA max (overload protected)
	Switching output	PNP or NPN, dark or light switching
Temperature	Operating Range	40°F to 140°F (4°C to 60°C)
Protections	Supply	Inverse Polarity Protection
	Switching output	Short Circuit and Overload Protection

User's Guide
for the
LRD6110 and LRD6110C Label Sensors
from
Lion Precision

WEB

SPAN

SHIFT

LABEL

LION
PRECISION

LRD
6110
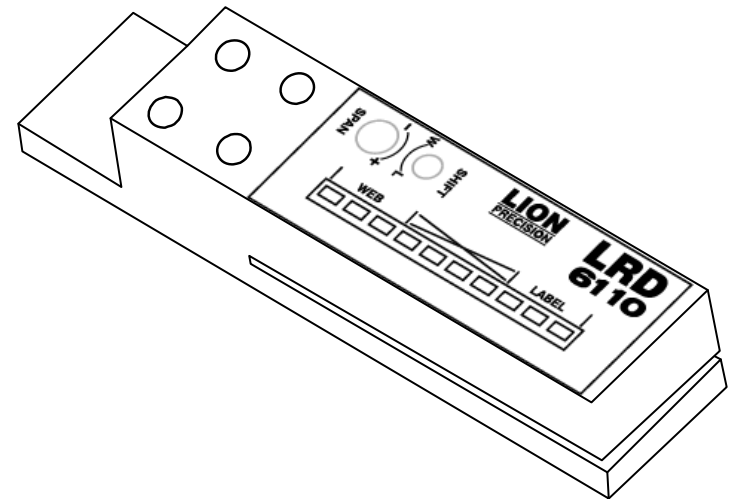
Lion Precision
563 Shoreview Park Road
St. Paul, MN 55126
651-484-6544
www.lionprecision.com
Document Number: M015-3380.018

LION
PRECISION

Connecting to the Sensor

Warnings:

Sensor body is connected to Ground.

Unused wires must be insulated from contact with other objects.

All power must be off when installing the sensor.

Brown wire (Output Polarity) must be connected to +V or Ground for reliable operation.

"Shift" adjustment will be damaged if over turned. Do not exert extra force when adjustment stops.

LRD6110 with Integral Cable

Wire Color	Connection	Notes
Red	+Vin (11-28VDC)	50mA max.
Black	Ground	Connected to sensor body
Green	NPN Output	150mA max.
Blue	PNP Output	150mA max.
Brown	Output Polarity (light/dark switching)	**+V** – Dark Switching (NC) **Ground** – Light Switching (NO)
Warning: Brown wire must be connected to +V or Ground for reliable operation.		

Red — +11 to 28VDC
NPN Load
Green — NPN Output 150mA max.
Blue — PNP Output 150mA max.
PNP Load
Black — Ground
Brown — Polarity Invert
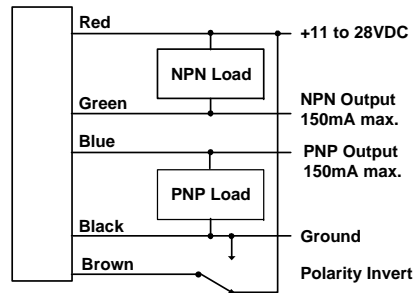
LRD6110C with M12 Connector

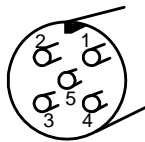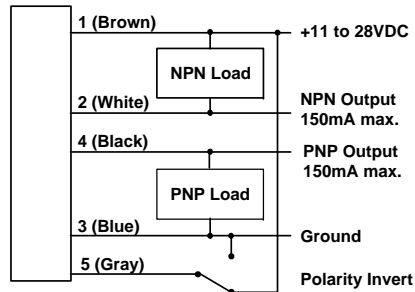| Wire Color	Connection	Notes
1 (Brown)	+Vin (11-28VDC)	50mA max.
2 (White)	NPN Output	150mA max.
3 (Blue)	Ground	Connected to sensor body
4 (Black)	PNP Output	150mA max.
5 (Gray)	Output Polarity (light/dark switching)	+V – Dark Switching (NC) Ground – Light Switching (NO)
Warning: Gray wire (pin 5) must be connected to +V or Ground for reliable operation.		

1 (Brown) — +11 to 28VDC
NPN Load
2 (White) — NPN Output 150mA max.
4 (Black) — PNP Output 150mA max.
PNP Load
3 (Blue) — Ground
5 (Gray) — Polarity Invert

Setup Procedure

1. Web must remain in contact with the mounting plate.

2. Label must pass under the [-**SENSOR**-] indicator.

3. Small labels should be centered under the [-**SENSOR**-] indicator.

4. When properly setup, the lights will move between WEB and LABEL. The lights in the "**X**" region should only light briefly during the transition between WEB and LABEL regions.

Sensor Setup

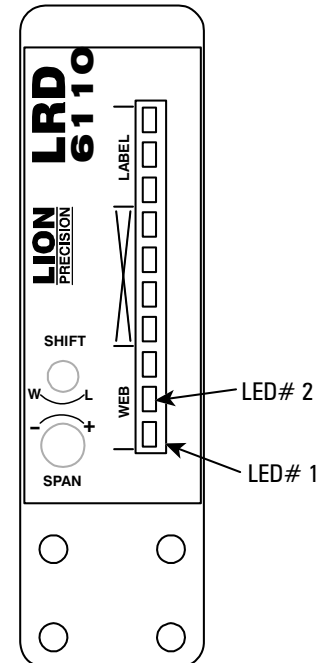1. Turn Span at least four turns counter-clockwise, then two turns clockwise (this is the mid-point of the adjustment range)
    The adjustment can be over turned without damage.

2. Place web (liner) only in sensor

3. Adjust Shift until LED #2 is on, then adjust Shift just to the point where LED #1 is on.
    WARNING: The Shift adjustment will break if turned too far. Do NOT exert extra force when adjustment stops turning.

4. Slowly move a label gap through the sensor and verify that the indicator lights LED#1 as the gap passes through the sensor. If it does not, adjust Shift as necessary until it does.

5. Setup complete

If the setup does not give reliable results (usually for labels less than 1"), turn Span four turns clockwise (maximum gain) and repeat steps 2-5. It is important that the indicator only cross the "X" region during transition from web to label.

See the LRD6110 setup video at www.labelsensors.com

LRD 6110
LION PRECISION
LABEL
WEB — LED# 2
LED# 1
SHIFT
W — L
– +
SPAN

Notes:

1) The LRD6110 may not work reliably with solid foil labels. For solid foil labels, use the LRD8200