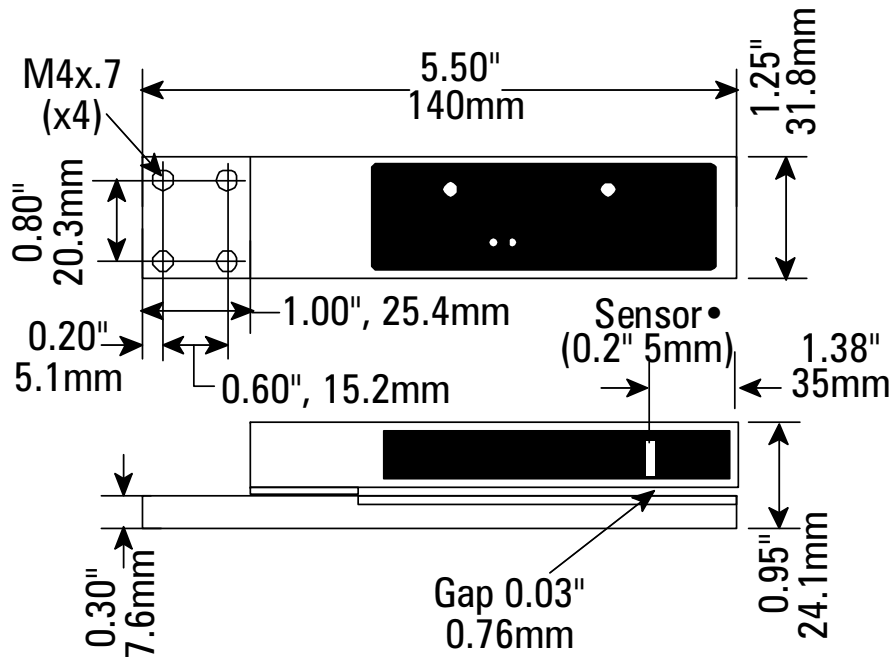
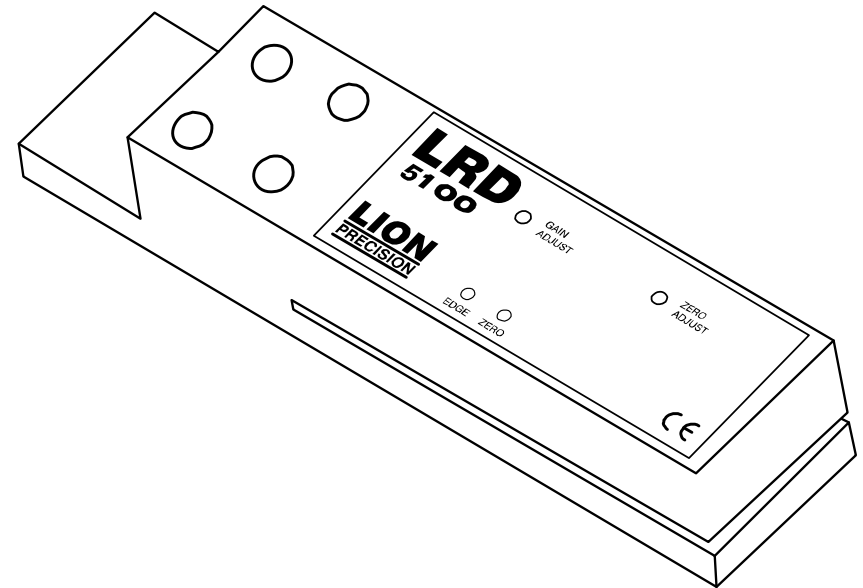


Mechanical Detail



User's Guide
for the
LRD5100 Tear-Tape Sensor
from
Lion Precision



Two-Year Warranty details at: www.lionprecision.com/warranty.html

<p>Lion Precision 563 Shoreview Park Road St. Paul, MN 55126 651-484-6544 www.lionprecision.com Document Number: M014-4669.014</p>	<p>LION PRECISION</p>
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Description

The LION PRECISION LRD5100 TEAR-TAPE SENSOR is an electronic, capacitive sensor used to monitor the presence of tear-tape on a film base. The sensor's NPN and PNP outputs indicate the presence or absence of the tear-tape.

The sensor works with all types of tear-tape materials on nonmetallic film backing.

Connecting to the Sensor

Warnings:

Sensor body is connected to Ground.

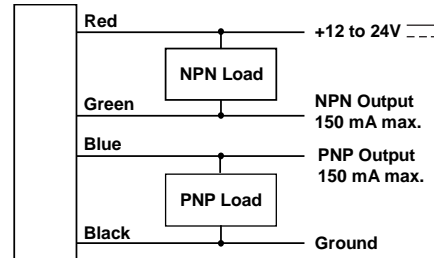
Sensors must not be attached to voltages in excess of 30VRMS or 60VDC

All external connections must be SELV (Safety Extra Low Voltage).

All power must be off when installing the sensor.

Use of the equipment in any other manner may impair the safety and EMI protections of the equipment.

Wire Color	Connection	Notes
Red	+Vin (12-24 V _{DC})	50mA max.
Black	Ground	Connected to sensor body
Green	NPN Output	150mA max., 90V max.
Blue	PNP Output	150mA max. Source from +Vin
Brown	No Connection	



Specifications

Power supply	Voltage	11-28 VDC (reverse polarity protected)
	Current	50mA
Response time	on or off	20 μ s max
	Switching Frequency	10kHz max
Output	Output Current (sinking or sourcing)	150mA max (overload protected)
	Switching output	PNP or NPN
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

Setup Procedure

The two adjustments are four turn adjustments. Once at the end of adjustment they will continue to turn but have no effect. Older versions of the sensor labeled the "Output" light as "Edge."

Setup for nonmetallic tear-tape

1. With web material placed in the gap of the sensor and the tear-tape properly lined up on the "STRIP" marker, adjust the ZERO control until the ZERO light just turns on.
2. Remove a section of tear-tape.
3. Pass the "tear-tape missing" and "tear-tape present" sections back and forth under the sensor. The OUTPUT light should flash at the transitions between missing and present tear-tape. If the OUTPUT light (EDGE on some models) does not flash at the transitions, turn the GAIN control clockwise until it does.
4. Turn the GAIN control another ½ turn clockwise.

Setup for metallic tear-tape

1. Center the GAIN control by turning it counter-clockwise four turns, then two turns clockwise.
2. With no material, or web material only (no tear-tape) placed in the gap, adjust ZERO until the OUTPUT light just turns off.
3. Turn ZERO ½ turn clockwise.
4. Verify proper operation with tear-tape present.

Output Waveforms

