

## SPECIFICATIONS

Light source	High intensity IR min. 100,000 hours
Fork width	3mm
Min. gap /label size	2mm
Response time	<40uS
Switching Frequency	12.5kHz
Controls	Teach-in key
Light ON/Dark ON control	By connections
Digital Output	PNP / NPN, 100mA
Detect indicator	Green LED
2-press teach indicator	Yellow LED
Key lock indicator	Red LED
Fault indicator	Flashing red/green
Programming indicator	Yellow/green LED
Data retention	EEPROM non-volatile memory
Dimensions	1.5"(38mm) x 3.2"(80mm) x 0.5"(12mm)
Weight	0.21 lbs. (95 g)
Supply Voltage	10...30 VDC
Operating Current	40mA, (not including output)
Short Circuit Protection	Discrete output
Overload / Reverse Polarity Protection	Supply voltage
Operating temperature	-20°C...55°C
Storage temperature	-20°C...70°C
Connector	M8, 4 pin
Housing	Plastic
Mechanical protection	IP65

## CAUTIONS AND WARNINGS

**CAUTION:** The discrete output must not be connected to outputs from other sensors (i.e. outputs from multiple sensors must not be connected in parallel). Parallel connections may damage sensor output circuitry.

**CAUTION:** Sensor is not suitable for wash down or hazardous environments; a separate enclosure with the appropriate ratings is recommended for these applications.

### IMPORTANT:

This product is an accessory or part of a system. Always read and follow the manufacturer's instructions for the equipment before connecting this product. Comply with all applicable codes and safety regulations. Failure to do so may result in damage, injury or death.



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# LabelX

LBX-50 and LBX-100  
LABEL SENSOR



## OPERATING INSTRUCTIONS

### MATERIALS SUPPLIED

- Operating Instructions
- LBX-50 or LBX-100 label sensor

### GENERAL DESCRIPTION

The LabelX sensor combines small spot size and fast response to achieve high-speed label detection. LabelX is capable of detecting a wide variety of adhesive labels on various backings. The Teach key provides Standard Teach-in, Thin Teach-in and Custom Teach-in. Custom Teach-in provides a separate measurement on the gap and on the label to allow for optimal detection of difficult labels.

Status LEDs provide visual indication of teach and error conditions. Key lock mode is available to lock the Teach key. Remote teach input is provided. Light-ON / Dark-ON functionality is provided via the wiring connections (see M8 Connections section).

The sensor provides a discrete output that can be connected for NPN and PNP operation. A PLC can be used to monitor the status of the discrete output signal indicating label or gap presence as required.

### TEACH-IN

The Teach-in key (or remote Teach input) is used to set the detection level for a specific label during set-up.

Standard Teach-in:

- Place the label gap in the sensor slot using the alignment marks as a reference. For standard paper or foil labels press the Teach-in key one time.

Thin Teach-in:

- Place the label gap in the sensor slot using the alignment marks as a reference. For thin paper press the Teach-in key two times.

Custom Teach-in (LBX-100 only):

- Place the label gap in the sensor slot using the alignment marks as a reference. Press the Teach-in key three times.
- Place the lightest area of the label in the sensor slot using the alignment marks as a reference. Press the Teach-in key.

Place the label then the gap in the sensor slot to verify that the Yellow led indicates the presence of the label.

## INSTALLATION

Install the sensor to allow the labels to pass through the fork using the alignment marks on the sensor.

Connect a standard M8 cable to power and output as required. Do not use other cable without verifying connections and wire colors or damage to the sensor may occur.

## CONTROLS

### Status LEDs Normal operation:

GREEN: Detect indicator  
RED: Teach-in key locked

### Status LEDs Programming operation:

RED flashing: Standard Teach-in  
GREEN flashing: Thin Teach-in

### Status LEDs Error indications:

RED and GREEN flashing: Output short circuit

### TEACH key

1 press: Standard Teach-in  
2 presses: Thin Teach-in  
3 presses: Custom Teach-in  
5 second press: Locks/unlock Teach key

## OUTPUT SIGNALS

### Discrete output

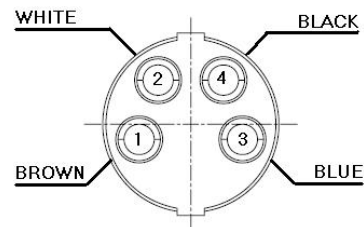
The discrete output is a PNP/NPN configuration allowing the user to provide a load on this output that is either pulled high to VDC or low to ground. The load cannot exceed 100mA. This output is typically connected to a PLC.

**CAUTION:** Do not connect the discrete output to outputs from other sensors (i.e. outputs from multiple sensors to be connected in parallel) without verifying the voltages and connections prior to applying power.

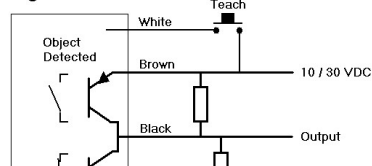
## CLEANING

Isopropyl alcohol with a soft cloth may be used to clean the optics area.

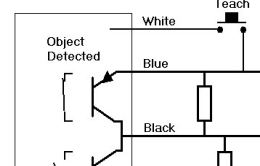
## M8 CONNECTIONS



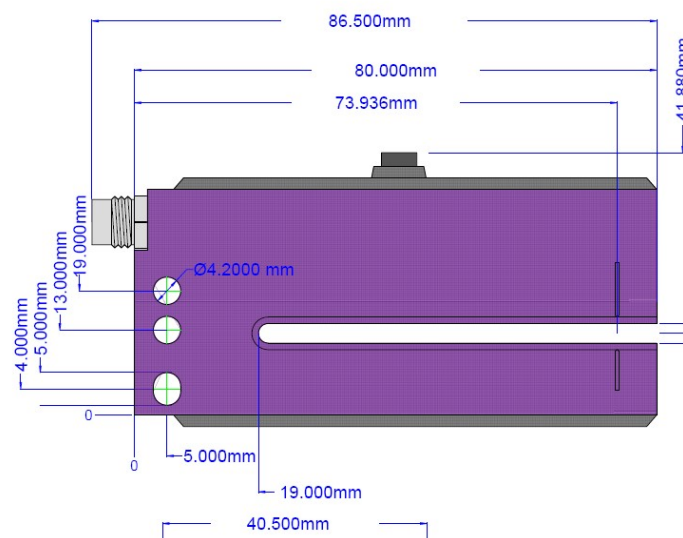
Light ON mode



Dark ON mode



## DIMENSIONAL DETAILS



### WARRANTY

EMX Industries Incorporated warrants all products to be free of defects in materials and workmanship for a period of two years under normal use and service from the date of sale to our customer. This warranty does not cover normal wear and tear, abuse, misuse, overloading, altered products, damage caused by incorrect connections, lightning damage, or use other than intended design.

There is no warranty of merchantability. There are no warranties expressed or implied or any affirmation of fact or representation except as set forth herein.

EMX Industries Inc. sole responsibility and liability, and the purchaser's exclusive remedy shall be limited to the repair or replacement at EMX Industries option of a part or parts found not conforming to the warranty. In no event shall EMX Industries Inc. be liable for damages of any nature, including incidental or consequential damages, including but not limited to damages resulting from non-conformity, defect in material or workmanship.

effective date January 1, 2002

