

# IRB-325<sup>TM</sup>

UL325-2018 INFRARED PHOTOEYE



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## Cautions and Warnings



### 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.

## Product Overview

The IRB-325 photoeye is used as an external entrapment protection device type B1 non-contact sensor for use with automatic gate and door openers. The device is UL325-2018 compliant with operators that require NC monitoring.

The IRB-325 transmitter and receiver have a line of site range of up to 65 feet. The IRB-325 operates on 12 VDC to 24 VAC and draw 150 mA maximum.

The IRB-325 receiver is activated whenever anything interrupts the beam from the transmitter, triggering the relay output to change state and send a signal to the operator that there has been an interruption.

## Specifications

Specifications	
Power Supply	12-24 VDC, 24 VAC
Power Supply Tolerance	+/- 20%
Current Draw	150mA maximum
Housing Material	UL and CSA Type 4, 4x, 3, 3R, 12, 13 rating and powder coat steel hood
Relay Type	Form C rating 1A @
Temperature Range	-40F - 170F
Connector	Screw terminal isolated contact (2) transmitter (5) receiver
Power on Indicator	Green LED
Detect Indicator	Red LED
Dimensions	H=5.03 in, W=3.06 in, D=3.02 in
Range	6 feet to 65 feet line of sight

## Controls and Indicators

### Indicators

#### Transmitter

Green LED	Power Indicator
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#### Receiver

Green LED	Power Indicator
Two Red LEDs	Detection Indication

The IRB-325 is an external entrapment device Type B1 non-contact sensor for use with automatic gate operators. When used as the primary entrapment protection device, the IRB-325 must be monitored for presence and fault condition. This photoeye provides a NC monitored output.

## Connections

	Transmitter	Receiver
Power	Power Positive(+)	Power Positive(+)
Power	Power Negative(-)	Power Negative(-)
Common		Internal Relay Common Output
Normally Closed		Internal Relay Normally Closed Output
Normally Open		Internal Relay Normally Open Output

## Operational settings

**WARNING:** To reduce the risk of severe injury or death:

1. Read and follow all operation instructions.
2. Always follow gate operator manufacturer installation instructions regarding installation of Type B1 sensor to the operator.
3. Disable the gate so it is unable to move.
4. With the IRB-325 mounted in place and powered, make sure the transmitter "TX" is in line of sight of the receiver "RX".
5. Introduce an obstruction in form of a hand between the IRB-325 transmitter and receiver. Two Red LED's on the receiver have to turn on. Check the operator control board that the safety input is actuated.

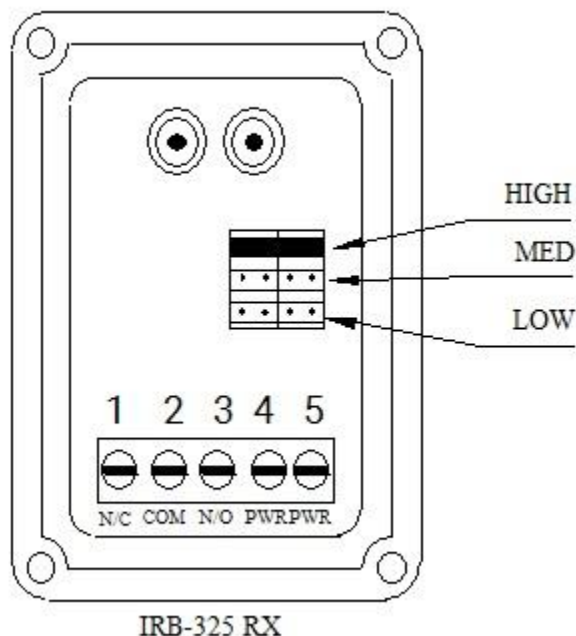
6. Remove the obstruction and the Red LED's in receiver will turn off.
7. Should the IRB-325 fail to recognize the obstruction lower the sensitivity by moving jumpers J1 and J2 to a lower position.
8. Should the two Red LED's be turned on while there is no obstruction increase the sensitivity by moving jumpers J1 and J2 to a higher position.

## Troubleshooting

Symptom	Possible cause	Solution
Does not detect interruption	<ul style="list-style-type: none"> <li>• Sensitivity too high</li> <li>• Signal is reflecting off another surface</li> </ul>	<ul style="list-style-type: none"> <li>• Move jumpers J1 and J2 to a lower position</li> <li>• Check area for highly reflective surfaces</li> </ul>
Red detect LED stays on	<ul style="list-style-type: none"> <li>• Sensitivity too low</li> <li>• Transmitter does not have power</li> <li>• Receiver does not "see" transmitter</li> </ul>	<ul style="list-style-type: none"> <li>• Move jumpers J1 and J2 to a higher position</li> <li>• Check power source for transmitter</li> <li>• Make sure transmitter and receiver have line of sight alignment</li> </ul>
Receiver activates but does not transmit signal to operator	<ul style="list-style-type: none"> <li>• Faulty connection between receiver and operator control input</li> </ul>	<ul style="list-style-type: none"> <li>• Check wires and terminal connections to make sure they are good</li> </ul>

## Installation

1. Disconnect the IRB-325 from power before installing or servicing the device.
2. Always follow the instructions of the gate operator manufacturer regarding installation of type B1 sensors on the gate operator. The instructions of the gate operator manufacturer always supersede any instructions given in this or any other instructions by EMX Industries Inc.
3. The IRB-325 has to be powered by 12V – 24V AC/DC 150mA power supply.
4. Do not connect the IRB-325 output to loads higher than 1A @ 30V AC/DC.
5. Connect power to terminals 1 and 2 on IRB-325 transmitter marked “TX” polarity is not important.
6. Connect power to terminals 4 and 5 marked “power input” on the IRB-325 receiver, marked “RX” polarity is not important.
7. For operators that require normally closed contact for entrapment protection, connect terminals 1 (NC) and 2 (COM) to the designated terminals in the gate operator.
8. For operators that require normally open contact for entrapment protection, connect terminals 2 (COM) and 3 (NO) to the designated terminals in the gate operator.
9. Install the IRB-325 according to instructions from the gate operator manufacturer. The intent of External Entrapment Protection Device Type B1 non-contact sensor is to protect a person from being accidentally injured by the moving gate.



10. The IRB-325 is housed in a NEMA 4X enclosure. To insure the integrity of the enclosure make sure the covers are attached and closed tight with the help of four plastic screws provided. The wiring to the IRB-325 Enclosure has to enter via watertight strain relief or watertight conduit connector.

11. The IRB-325 must be powered by Class 2 circuits only, wiring must be segregated from other circuits or insulation must be provided that is suitable for the highest voltage for those circuits.

## Ordering Information

**IRB-325**

**Infrared photoeye includes transmitter and receiver**

## Accessories

- **IRB-325-HD**      **Set of powder coated steel protective hoods**
- **IRB-325-PT**      **Mounting post , black powder coat - 2 in x 2 in x 2 ft**
- **IRB-325-SP**      **Watertight strain relief**

## 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, including but not limited to damages resulting from non-conformity, defect in material or workmanship.

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