LiftMaster

MONITORED RETRO-REFLECTIVE PHOTOELECTRIC SENSOR
Model LMRRUL

Introduction

The LiftMaster® Retro-Reflective Photoelectric Sensor provides non-contact monitored entrapment protection. For use with LiftMaster® UL Listed gate operators. The sensor is a UL Recognized Component and meets UL 325 requirements. Monitored external entrapment protection devices MUST be installed at each Entrapment Zone. Refer to gate operator manual for compatibility with LMRRUL sensor.

Specifications

Max Range: 50 ft. (15.2 m)

Sensor Dimensions with Hood:
2.29" W x 3.72" H x 2.76" D

Reflector Dimensions with Hood:
2.61" W x 4.72" H x 2" D

Cable Length: 10 ft. (3 m)

Operating Temperature: -40˚C to 65˚C (-40˚F a 149˚F)

Outdoor Rating: Nema 4X

Input voltage:
Sensor: Black/red wires 6.8 VDC, 20mA
Heater: Green/white wires 10-40VDC or 8-28 VAC, 2 watts max., 170mA @ 12 VDC/VAC, 85mA @ 24 VDC/VAC

Heater: Thermostatically controlled, NOT recommended for solar applications

⚠ WARNING

To prevent possible SERIOUS INJURY or DEATH from a closing gate or door:

- Read and follow ALL instructions.
- Be sure to DISCONNECT ALL POWER to the operator BEFORE installing the photoelectric sensor.
- The gate or door MUST be in the fully opened or closed position BEFORE installing the LiftMaster® Monitored Entrapment Protection device.
- Correctly connect and align the photoelectric sensor.
- Install the photoelectric sensor so that the center of the sensor window is NO HIGHER than 4-3/4" (12.1 cm) above the floor for door operators and 26" (66 cm) above grade for gate operators.
- Monitored external entrapment protection devices MUST be installed per the operator installation manual at each Entrapment Zone.
- The sensor and reflector MUST be mounted vertically.
- Use the provided reflector ONLY.
- Test the gate operator and ALL photoelectric sensors monthly. Replace ANY damaged devices.
- SAVE THESE INSTRUCTIONS.

WARNING: This product can expose you to chemicals including lead, which are known to the State of California to cause cancer or birth defects or other reproductive harm. For more information go to *www.P65Warnings.ca.gov*

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For more information, please visit www.devancocanada.com or call toll free at 855-931-3334

Carton Inventory

- Photoelectric sensor with hood and bracket
- Reflector with hood and bracket
- Wire cover
- Screws 8-32x1" (4)
- Lock nuts 8-32 (4)
- Screws 8-32x3/8" (2)
- Thread-locking screws 10-32x1" (2)
- Screws 1/4"-20x1-1/4" (6)
- Lock nuts 1/4"-20 (2)
- M3 screw (1)
- Set screw 10-32x3/8" (1)

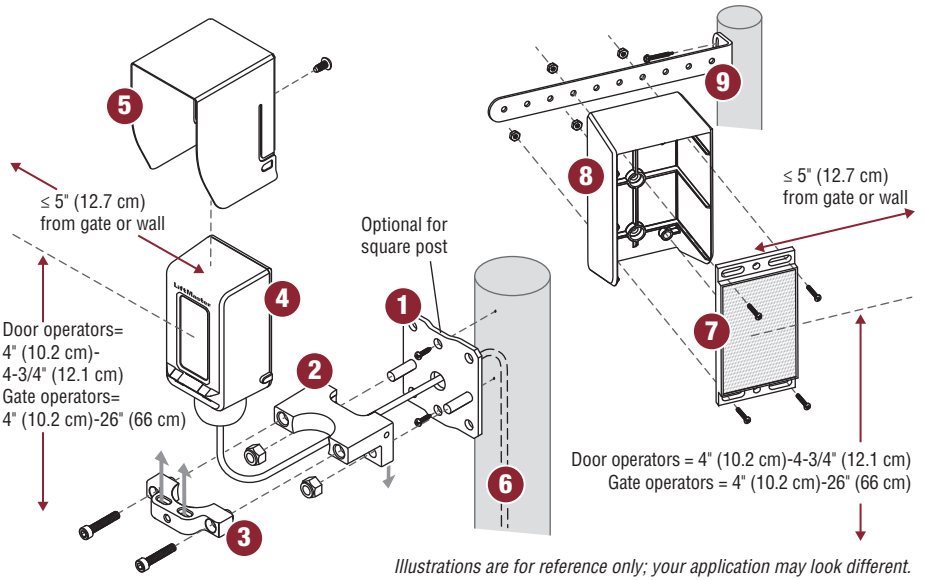
Tools Needed

- Philips screwdriver
- 1/8" Allen wrench
- 7/16" socket
- 11/32" socket

Installation

IMPORTANT: *The sensor and the reflector MUST be mounted vertically. Disconnect ALL power to the operator.*

1. Attach the mounting bracket to the post with 1/4"-20 screws. ***Optional:*** *mount or weld the sensor bracket directly to a square post, without using the mounting bracket.* Make sure the location of the sensor follows the specified measurements. If installing multiple sensors in close proximity, mount the sensors on opposite sides to avoid crosstalk.
2. Slide the bottom sensor bracket onto the studs of the mounting bracket and secure with 1/4"-20 lock nuts. **Make sure the bracket legs are facing down.**
3. Loosely attach the top sensor bracket with 10-32x1" thread-locking screws. Make sure the slots are facing up.
4. Place the sensor in the bracket and tighten the screws just enough to allow the sensor to rotate inside the bracket.
5. Slide the hood over the sensor until it snaps into place. Secure hood with the M3 screw. The hood MUST be installed on the sensor.
6. Route wires through the center hole of the mounting bracket and into the post. ***Optional:*** *Use conduit with NEMA 4X compatible 1/2"-14 NPT fitting (not provided).*
7. Place the reflector in the reflector hood.
8. Secure the reflector and hood to the bracket with 8-32x1" screws. Secure the bottom of the reflector to the hood with 8-32x1" screws.
9. Mount the reflector a minimum of 3 ft. (.9 m) and maximum of 50 ft. (15.2 m) away from the sensor.



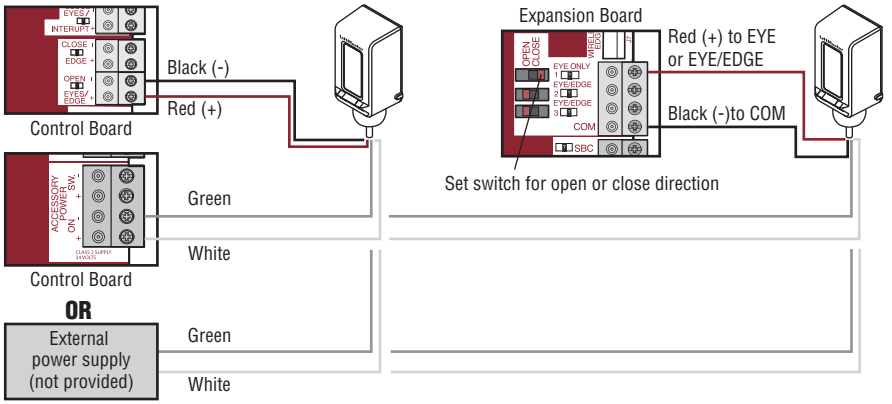
Illustrations are for reference only; your application may look different.

Wiring

Sensor wiring: Wire the photoelectric sensor (red [+] and black [-] wires) to the operator as shown.
Heater wiring: The heater (green and white wires) may be powered in one of two ways:

- Connect to the ACCESSORY POWER ON terminal on the control board (NOT polarity specific).
- Connect to an external 12V to 24V DC or AC power supply (not provided) with adequate current to power all sensors.

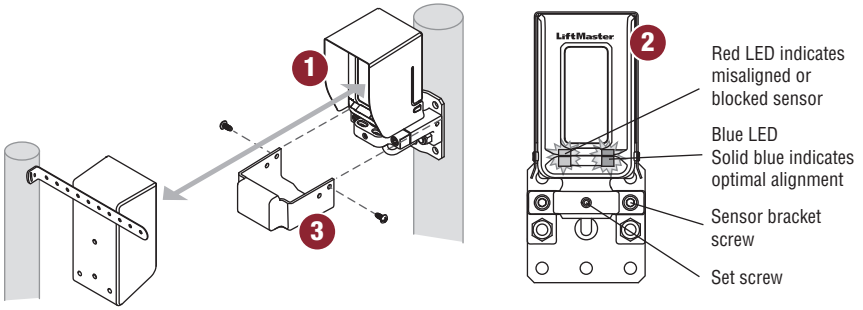
DO NOT overload the accessory power output on the control board or the external power supply. Use of the heater is NOT recommended for solar applications.



Alignment

Reconnect power to the operator.

1. Align the sensor. The red LED indicates a misaligned or blocked sensor. The blue LED indicates signal strength. Slow blinking indicates weak signal. Fast blinking indicates stronger signal. **Solid blue LED indicates optimal alignment**.
2. When the sensor is optimally aligned, tighten the sensor bracket screws to secure the sensor in place (about 24in-lb of torque). For extra security, tighten with the set screw until it grips the sensor.
3. Place the wire cover onto the sensor bracket. Make sure the tabs on the wire cover slide into the slots on the top of the sensor bracket. Secure the wire cover with 8-32x3/8" screws. Wire cover is NOT intended for use with conduit installations.



Test

Test ALL installed sensors for proper operation. Place an obstruction in the sensor beam path and run the operator. The gate will stop and reverse. If the gate does not stop and reverse, refer to *Troubleshooting* below. Perform the test with the obstruction in three locations:

- Halfway between the reflector and sensor
- Near the sensor
- Near the reflector

Troubleshooting

Symptom	Possible Cause	Solution
Obstruction does not cause the gate to reverse	1. Using incorrect reflector 2. Reflector is mounted horizontally	1. USE THE PROVIDED REFLECTOR ONLY. 2. Reflector MUST be mounted vertically
Gate does not move	1. Minimum number of entrapment devices not installed 2. Sensor is obstructed	1. Review sensor connections. Slide gate operators require a minimum or two devices; one in the close and one in the open direction. 2. Check for obstructions.
Solid Red LED	1. Sensor is not properly aligned 2. Sensor is too far from reflector 3. Reflector or sensor lens is dirty 4. Object is obstructing beam 5. Condensation on reflector or sensor lens	1. Align the sensor until the blue light is solid 2. Decrease the distance between the sensor and reflector 3. Gently clean the sensor and reflector with a soft damp towel 4. Remove any objects obstructing beam 5. Gently clean the sensor and reflector with a soft towel; make sure sensor heater is connected.
Blinking Blue LED	1. Sensor is not optimally aligned 2. Sensor is too far from reflector 3. Reflector or sensor lens is dirty	1. Align the sensor until the blue light is solid 2. Decrease the distance between the sensor and reflector 3. Gently clean the sensor and reflector with a soft damp towel
Blinking Red LED	Incorrect wiring or over voltage	Check for proper connection of sensor wiring.
Red/Blue LEDs blinking together	Internal memory fault	Disconnect all power, wait 15 seconds, then reconnect power. If issue continues, replace sensor.
Red/Blue LEDs alternate blinking	Internal fault	Disconnect all power, wait 15 seconds, then reconnect power. If issue continues, replace sensor.

Warranty

LiftMaster® warrants to the first consumer purchaser of this product that it is free from defect in materials and/or workmanship for a period of 2 years from the date of purchase.

NOTICE: This device complies with Part 15 of the FCC rules and Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules and Industry Canada ICES standard. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

HOW TO ORDER REPAIR PARTS

DEVANCO CANADA

19192 HAY ROAD, UNIT Q
SUMMERSTOWN, ON K0C 2E0

TOLL FREE: 855-931-3334

www.devancocanada.com

WHEN ORDERING REPAIR PARTS PLEASE SUPPLY THE FOLLOWING INFORMATION:

- ✓ **PART NUMBER**
- ✓ **DESCRIPTION**
- ✓ **MODEL NUMBER**