
Loading Dock Overhead Door Photo Eye Sensor Alignment

1.0 Objective & Scope

The objective of this procedure is to ensure that photo eye safety sensors on overhead loading dock doors are correctly aligned to prevent door malfunction, property damage, and personal injury. This SOP applies to all field technicians performing sensor alignment on commercial and industrial loading dock doors as part of installation, maintenance, or repair work.

The Lead Installer or designated Field Technician is responsible for executing this procedure, verifying alignment, and obtaining customer sign-off upon completion. This procedure must be followed whenever a photo eye sensor is replaced, repositioned, or when door operation becomes erratic.

2.0 Required Equipment & Tools

- Overhead door photo eye sensors (transmitter and receiver pair, compatible with door model)
- Voltage multimeter (digital, capable of reading 0-24V DC)
- Small flathead and Phillips screwdrivers
- Wire strippers and crimpers
- Electrical tape and heat shrink tubing
- Laser alignment tool or small level
- Safety glasses and cut-resistant gloves
- Mobile tablet with SiteQueue application installed for documentation and sign-off
- Touch-up paint (if mounting brackets require painting after adjustment)

3.0 Site Safety & Hazard Assessment

- High-visibility vest and steel-toed boots required on all active loading dock sites.
- Conduct a 360-degree walk-around of the dock area to identify trip hazards, overhead obstructions, and vehicle traffic.
- Ensure the overhead door is fully closed and power to the door operator is disconnected (lockout/tagout) before beginning any work on sensors.
- Verify that no personnel or equipment are in the door path during testing.
- Use caution when working on ladders or elevated platforms; ensure stable footing and use a spotter if necessary.

4.0 Step-by-Step Execution Procedure

1. Arrive at the loading dock and introduce yourself to the site supervisor or facility manager. Confirm the specific door requiring sensor alignment and review any reported issues.
2. Perform a visual inspection of the door track, brackets, and existing sensor mounts. Look for signs of physical damage, corrosion, or loose hardware that may affect alignment.

3. Disconnect power to the door operator using lockout/tagout procedures. Verify power is off by testing the door control panel or using a voltage multimeter at the operator terminals.
4. Remove the sensor covers and inspect the wiring connections. Tighten any loose terminals and replace damaged wires using appropriate connectors and heat shrink.
5. Loosen the mounting bracket screws on both the transmitter and receiver sensors. Position the sensors so they face each other directly across the door opening, typically 6 inches above the floor.
6. Use a laser alignment tool or small level to ensure both sensors are at the same height and perfectly aligned horizontally. Adjust the brackets as needed and tighten the screws firmly.
7. Reconnect power to the door operator and remove lockout/tagout. Test the sensor alignment by placing an object (e.g., a cardboard box) in the door path and attempting to close the door. The door should reverse immediately upon detecting the obstruction.
8. If the door does not reverse, re-check alignment and sensor wiring. Use the multimeter to verify voltage at the receiver sensor (typically 12-24V DC when aligned). Adjust until proper operation is achieved.
9. Once alignment is confirmed, replace sensor covers and secure all hardware. Apply touch-up paint to any scratched or exposed metal surfaces on the brackets.
10. Perform a final test cycle: open and close the door fully three times, verifying smooth operation and that the safety reverse function works each time.

5.0 Verification, Sign-off & Reporting

1. Document the alignment procedure in SiteQueue: include before and after photos of the sensor positions, a photo of the door operator model/serial number, and a brief description of the work performed.
2. Walk the site supervisor or facility manager through the completed work. Demonstrate the safety reverse function and explain any maintenance tips (e.g., keeping sensor lenses clean).
3. Obtain a digital signature from the customer in SiteQueue confirming acceptance of the work. Ensure the customer receives a copy of the service report via email or the platform.
4. Upload all completion photos and the signed service report to the work order in SiteQueue. Close the ticket and mark the task as complete.
5. If any issues remain unresolved (e.g., door operator requires further repair), escalate to the dispatch team and note the details in the work order for follow-up.

Regulatory Disclaimer: This document is a generic site management template provided for educational purposes. The end-user assumes all liability for reviewing, adapting, and validating all field protocols against local site requirements.