

Photoelectric Sensors

By Roy Bardowell, CDDC

If you have a garage door operator manufactured after January 1, 1993, it likely came with a set of photoelectric sensors. Photoelectric sensors will stop the completion of the garage door closing if an object passes through the doorway, in line of sight of the sensors-obstructing the beam.

This device is a safety feature on your garage door. If you find your garage door won't close it may be that the sensors are not properly aligned.

The two sensors should be placed six inches or less from the ground on each side of the doors interior opening.



One sensor is the emitter which transmits out the pulses, while the other is the receiver which looks for the correct number of pulses.

Most operator manufacturers provide an over-ride feature so you can close and secure your garage at night. By pressing the wall-button, the door can be closed regardless of the condition of the photo sensors. Always check for misalignment first before calling for service. Most service calls are to realign the set of photo-sensors.

How do they work?

One of the sensors transmits a pulsing infrared beam (TX) towards the other. If one is misaligned, the opposite sensor (RX) isn't able to count the correct number of pulses. The multiple flashing pulses are called the PULSE CODE and it is different for every door operator manufacturer.

You must always use the set of sensors that are compatible and supplied with the operator.

Each sensor only requires two wires to connect to the motor head. Because there is no polarity the wiring couldn't be easier. Some sensors may have a LED which will light up when the sensors are

properly aligned. When there is an alignment issue, one or both of the LED's will flash. This is an easy fix as you can adjust the bracket housing on one or both of the sensors until the LED's stop flashing.



Another issue that can occur is when infrared radiation from the sun confuses the receiver. Direct sunshine on the RX can block the pulses from the TX. This is more likely to happen during sunrise or sunset when the sun is at the horizon.

You can test this theory by shading the RX and testing the operator. If the door

operator now functions correctly, you can bet the sun is the problem. I have actually instructed homeowners to wrap a piece of cardboard around the RX to block out the rays. The TX is usually not affected by sunshine and by simply reversing the two units you can avoid an expensive service call.

Even after realigning the sensors or blocking out the sunshine, you could still have a problem. Sensitive electronics are more susceptible to voltage spikes or power surges, and this can cause a malfunction. In this case replacing the sensors is your only choice. To ensure you order the compatible sensors with the correct pulse code you will need the operator brand and model/number to access the correct parts. Please reach out to the manufacturer's tech service team if you need any further information, they are there to help!

Roy Bardowell, CDDC, served as Operations Manager at Guardian Access & Door Hardware until 2014. He has been in the door and operator industry since 1973 and is known as one of the industry's most experienced operator technicians and trainers. Roy received the IDEA Commitment to Excellence award in 2008 and IDA's Jerry R. Reynolds Volunteer Service Award in 2017. Contact him at roythedoorman@gmail.com