

## Reflex or Retro-Reflective

The source and detector are positioned parallel to each other on the same side of the object to be detected. Another element, called a retroreflector, is placed across from the source and detector. The retroreflector is similar to a reflector on the back of a bicycle. The retroreflector bounces the light from the source back to the detector.

**When a target object passes between the source/detector unit and the retroreflector, the beam is no longer reflected, and the target is sensed.** The target has to block the entire beam.

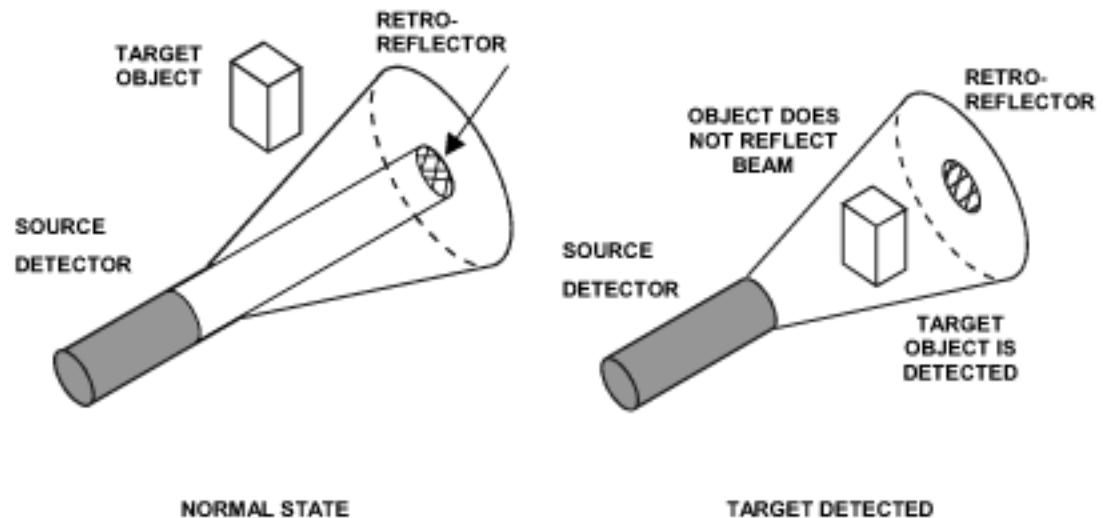


FIGURE 85: REFLEX OPERATION

In some cases, a reflex sensor can be falsely triggered by reflections from a shiny target's surface. To avoid this, a *polarized reflex sensor* can be used. The polarizing filter on the sensor ensures that only the light reflected by a retroreflector is recognized by the sensor.

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• Medium range sensing distance</li> <li>• Low cost</li> <li>• Ease of installation</li> <li>• Alignment does not need to be exact</li> <li>• Polarizing filter ignores unwanted light</li> </ul>	<ul style="list-style-type: none"> <li>• Reflector must be mounted</li> <li>• Problems detecting clear objects</li> <li>• Dirt on retroreflector can hamper operation</li> <li>• Not suitable for detecting small objects</li> <li>• Detection distance and plane of detection limited with a polarizing filter</li> </ul>