



## System Overview

The PreView™ Object Detection System detects both stationary and moving objects out to a distance of 26 feet (8 meters) from the rear of a vehicle. It is a continuously sensing device that will immediately report to the vehicle operator when an object has been detected.



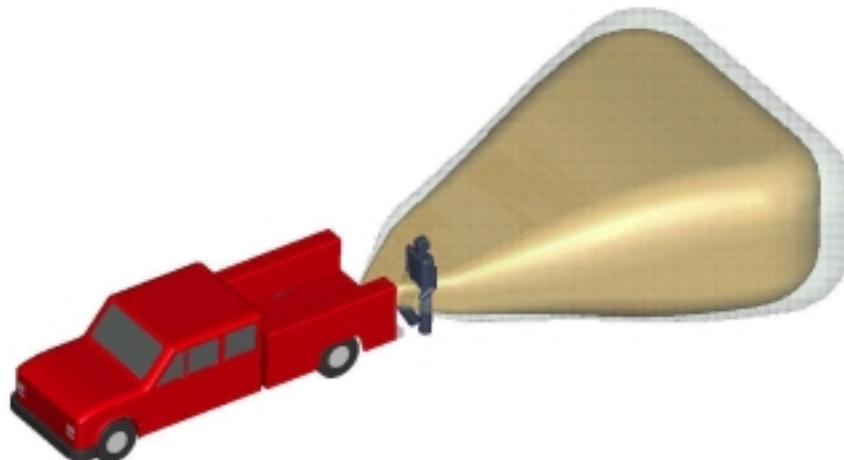
The PreView™ system has many advantages over other object detection technologies such as ultrasonic and Doppler radar. One advantage the pulsed radar PreView™ system has over Doppler radar based object detection systems is the ability to detect objects without either the object or the vehicle moving. This feature is extremely helpful in allowing an operator to verify the area behind the vehicle is clear prior to engaging the reverse gear.

## Operation

The PreView™ radar sensor operates by looking for an echo of a regularly transmitted, small, energy pulse. At microwave frequencies, almost everything in nature reflects a significant portion of the electromagnetic energy striking it. Metal is the best reflector, but wood, foliage, rubber, and even rain will reflect some of the energy. Only when enough energy is reflected back to the sensor will the PreView™ be able to detect an object.

The obvious consequence of this is that larger metallic objects reflect more energy than smaller porous objects and flat, perpendicular objects reflect more energy than rounded objects. Basically, the PreView™ system will detect vehicles, people, and walls, but it may not detect small posts and bushes due to the shape of these objects.

The PreView™ sensor detection zone is primarily triangular shaped, fanning outward from the sensor. The edges of this detection zone will not seem to be tightly controlled since as stated above, detection is largely based on the object's shape and density. So the zone will be slightly wider when a vehicle is the object and slightly narrower with a small object.



For more information on PreView™ or any other Preco product, please contact your Preco representative, visit our website at [www.preco.com](http://www.preco.com) or call Customer Service at (208) 323-1010 or (800) 453-1141.

## Operator Display

The PreView™ display provides two methods for operator notification, a group of lights as well as an audible alert. A single green light is used to indicate the system has power applied and is operational. During initial powering, the display will run a self-test routine and will briefly sound the alert and flash all the lights to let the operator know that the unit is working correctly.

The PreView™ Object Detection System is designed to operate both when the vehicle is in reverse as well as when it is not in reverse. When the vehicle is not in reverse, the system will detect objects but only report them with the lights. When the operator places the vehicle in reverse, both the lights and the audible alert will provide operator notification.

The display lights and audible alert provide the operator with an idea for an object's relative distance. As the vehicle gets closer to an object the more lights will activate and the audible alert will go from slow to fast beeping. Some detection systems' displays will not automatically clear when an object has left the detection zone. The PreView™ system, which is continuously sensing, will indicate to the operator that the detection zone has been cleared by the absence of display lights.

If an auxiliary back up alarm is used with the PreView™ system, it will only sound when the vehicle is in reverse and an object has been detected. This provides a warning to any person(s) who may be behind the vehicle when it is required, i.e., when they are directly behind the vehicle. This unique feature also minimizes the annoyance of a continuously sounding back up alarm. During the initial placing of the vehicle in reverse, the back up alarm will provide a three-beep warning and then remain silent until an object has been detected.

## Fail Safe

The PreView™ object detection system is designed for years of trouble-free use. But in the event of a failure, the system will provide notification to the vehicle operator. In techno-speak, this is known as a "fail-safe" system. Meaning, other than a failure due to a loss of power, the display will alert the operator to a system failure by continuously flashing the display lights and sounding the audible alert.

## Environmental Considerations

The PreView™ sensor is designed to operate in extreme environmental conditions. Heat, cold, rain, snow, high winds, and fog do not effect the operation of the unit. In fact, the PreView™ Object Detection System is designed to operate in temperatures from 185°F (+85°C) to -40°F (-40°C). But like in most cases, care must be taken when mounting the PreView™ sensor close to vehicle exhaust systems and radiators. The temperature in close proximity to these areas may exceed the maximum operating temperature.

In addition to temperature extremes, the PreView™ sensor has been designed to survive in both on and off road operating conditions. This means that the PreView™ sensor, which is filled with a urethane material, can survive high vibrations without losing pieces or falling apart.

The PreView™ sensor does not require cleaning but it can be washed, even with a high-pressure fire hose, without damage since the unit is completely sealed.

## Installation

Installation of the PreView™ Object Detection System is straightforward. There is an interconnect cable between the sensor and display which must be routed from the rear of the vehicle to the vehicle's cab. Power should be connected to the sensor from a key switched power source so that the system will not continue to operate when the vehicle is not running. The reverse light wire should be spliced to provide a reverse signal to the sensor and an optional back-up alarm requires an additional two connections. Typical installation time is roughly 2 hours.

## Technical Specifications

|                              |               |                                  |                              |
|------------------------------|---------------|----------------------------------|------------------------------|
| <b>Description</b>           | Model PV2026  | <b>Display Sound Level</b>       | 70dB @ 1m                    |
| <b>Input Voltage</b>         | 10-33VDC      | <b>Sensor Dimensions (in)</b>    | 7.56(H) x 7.35(W) x 2.39(D)  |
| <b>Power Consumption</b>     | 0.5W (at 12V) | <b>Indicator Dimensions (in)</b> | 0.94(H) x 1.97(W) x 3.54 (D) |
| <b>Operating Temperature</b> | -40°C - +85°C | <b>Transmitting Frequency</b>    | 5.8Ghz (FCC Approved)        |
| <b>Operating Humidity</b>    | 95% (RH)      | <b>FCC ID</b>                    | OXZPV2000                    |

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