

100 mm (4") Extended Operating Range

The Problem - Railroad cars slide sideways as they travel down a length of tracks. This side-to-side hunting motion is limited by contact of the wheel rims with the track rails.

A railroad test facility was funded to measure the frequency of this lateral oscillation in travelling test vehicles. The project required pairs of non-contact sensors mounted between the track rails with operating gaps of 2" to 4" (50 - 100 mm). This would leave sufficient space for the 1" thick wheels to safely pass the sensors while having their lateral position measured.



The Solution - Philtec engineers implemented the model D171-OG model for this application. The standard output of the model D171 has very low sensitivity from 2" to 4" gaps. An additional output was added to the sensor with independent gain and offset controls. This OG output was set to reach 5 volts at 2" gap and zero volts at 4" gap, thereby providing high sensitivity at these large gaps.

Other applications for this long range sensor include pumps and actuators with long strokes.

