

APPLICATION NOTE

Overview

Some Videofied applications call for detecting automobiles as part of the security solution. In this context, Videofied system performance may vary. This note describes the parameters that can affect the detection.

243-DCV - APP NOTE - Detecting Vehicles
 Version : March 2014

The Videofied Outdoor MotionViewer utilizes basic infrared detection technology. The PIR is optimized for detecting human beings at a distance no longer than 12m and may not be consistently reliable in detecting automobiles. When attempting to detect an automobile rather than a human being, a few considerations must be made :

- Vehicle heat signature and detection distance from MotionViewer
- Ambient temperature
- Direction of travel
- Speed of Travel

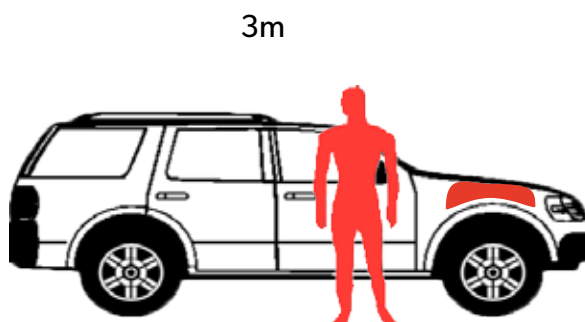
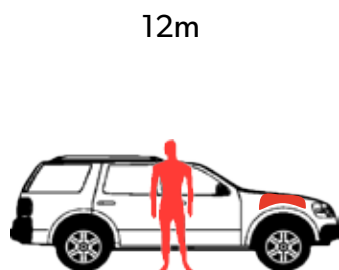


Detection Distance from MotionViewer :

An automobile will typically have heat signatures at the engine , wheels and exhaust. The heat signature can vary greatly depending on the vehicle type or size.

The heat signature can be small and will cause the detection to be inconsistent at different distances.

Example: A cars engine 3m from the device may look like larger animal or small human being but at 12m it will look like a very small animal that may not trip the PIR.



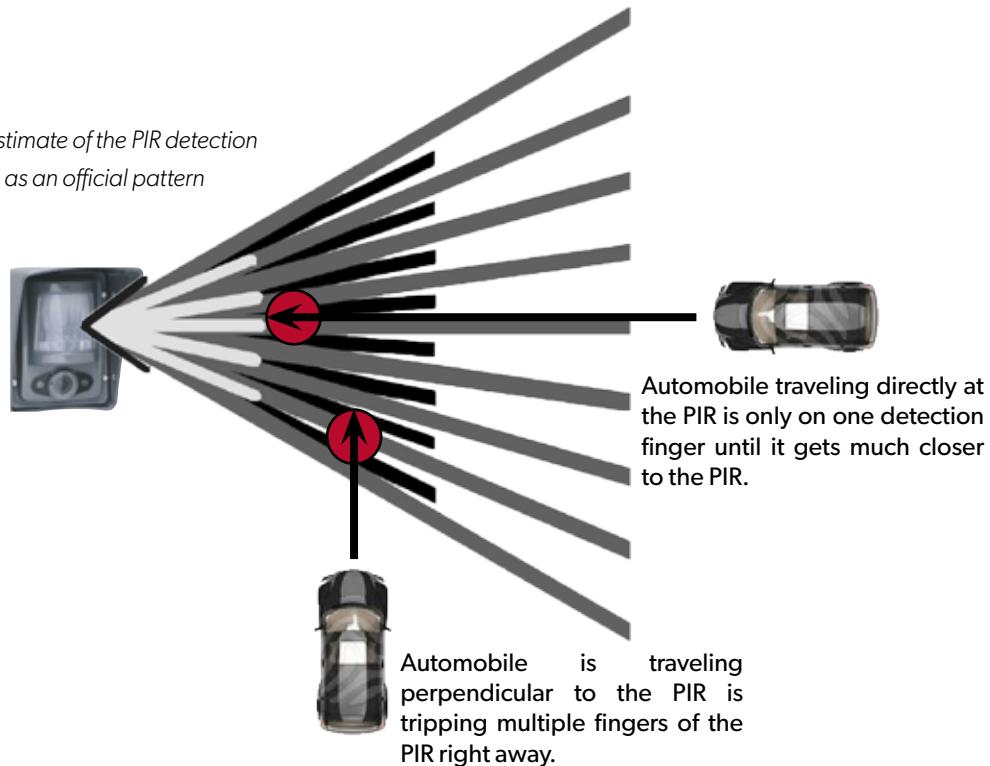
Ambient Temperature :

- The Outdoor MotionViewer will automatically adjust its sensitivity based on the ambient temperature, becoming more or less sensitive when required for proper detection of human beings. Example: At freezing temperatures a human being will be wearing bundled clothing, minimizing the heat signature, requiring the Outdoor MotionViewer to increase sensitivity to detect properly.
- It is possible that the vehicle may have the same external temperature as the ambient temperature making it impossible for the PIR to detect the difference between the two and any movement.

Direction of Travel :

The Outdoor MotionViewer is calibrated for accurate detection when the object is moving across (perpendicular) to the detection pattern. An object that is coming directly at the PIR will take longer to detect because it will not trigger multiple patterns until it is much closer to the device.

**This image is a rough estimate of the PIR detection pattern may not be used as an official pattern*



Speed of Travel :

- The Outdoor MotionViewer is optimized for human movement across the PIR detection pattern. Automobiles can travel much faster than a human being and along with a potentially lower heat signature the PIR will have a difficult time detecting the faster than normal heat movement.
- A vehicle travelling fast and close to the PIR will also decrease the chances of the PIR detecting the automobile.

Recommendations :

- Outdoor MotionViewer Placement
 - Automobile path should be perpendicular to the PIR
 - Automobile path should be between 4m and 12m for optimal detection
 - Attempt to find a location where the vehicle is forced to pass by the device slowly, i.e. corners, gates, entrances
- Adjust the sensitivity of the Outdoor MotionViewer by adding a space then \$9 to the end of the name of the device. This will make the device more sensitive to the smaller amount of heat the automobile will provide. Please note the MotionViewer will be more sensitive to small animals and can trigger more false alarms. The technical Note describing sensitivity adjustment is available on our Technical Support Portal : videofied.helpserve.com .

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