

## DSP-7

# Fail-Safe Plug and Play Vehicle Detector



Detector operates on any voltage from 10 to 30 volts AC or DC and draws approximately 35 milliamps of current with no vehicle on the loop. This micro-sized detector has no user settings and will automatically configure itself when powered up. When used with other DSP-6LPs, DSP-7LPs, or DSP-7s, the detector will not cross-talk.

### SPECIFICATIONS

|                               |   |
|-------------------------------|---|
| <b>Loop Inductance:</b>       | 20 $\mu$ H to 1500 $\mu$ H (including lead-in inductance).                      |
| <b>Operating Temperature:</b> | -35°F to 165°F (-37°C to 74°C)  |
| <b>Operating Voltage:</b>     | 10 to 30 volts AC or DC, approx. 35 mA when not in detect.                      |
| <b>Enclosure:</b>             | Impact resistant, high temperature plastic.                                     |
| <b>Dimensions:</b>            | 1.52" (H) x 2.90" (W) x 1.56" (D)<br>38.61 mm (H) x 73.66 mm (W) x 39.62 mm (D) |
| <b>Output Ratings:</b>        | Relay Outputs - 1 amp @ 125VAC maximum.   |

### Features

- ❖ Designed for solar powered applications.
- ❖ Designed to be cross talk free between other similar loops detectors.
- ❖ Plug and play. Switchless and self-adapting to most common installations. Connect it up and watch it work.
- ❖ Small profile, perfect for many installations.
- ❖ Automatically compensates for loop and lead-in sizes
- ❖ Fail-safe operation.
- ❖ Wide low-voltage operation.
- ❖ This series of Diablo Controls detectors are covered by United States patent. Patent number US 7,132,959 "Non-Interfering Vehicle Detection."

### INDICATORS

**Green Power LED:** This LED is on to indicate the detector is powered and operating. In the case of an open loop circuit failure, this LED flashes slowly (twice per second). This LED will flash fast (10 times per second) to indicate a shorted loop circuit.

**Red Detect LED:** This LED will turn on when a vehicle is over the loop detection area.

### FAIL-SAFE vs FAIL-SECURE DETECTORS

A fail-safe detector will output "detect" when the loop circuit is failed. On the free exit loop this will keep the gate open until the situation is fixed. This is useful in applications where it is important to allow traffic flow to continue. A fail-secure detector will never output "detect" when the loop circuit is failed. This will keep the gate closed. This is useful in high-security areas or installations where containment is needed. **The DSP-7 is a fail-safe detector.**  
**Note:** Never use a fail-secure detector on a safety loop.

### CONNECTOR

Removable 7-pin terminal block. Pin assignments are shown below (from left to right):

- 1 - Relay Normally Closed (NC) - contact opens for detect
- 2 - Relay Common
- 3 - Relay Normally Open (NO) - contact closes for detect
- 4 - Power Common
- 5 - Power In (10 to 30 volts AC or +DC)
- 6 - Loop
- 7 - Loop

### ORDERING INFORMATION

#### DSP-7

There is only one version of this product

Visit our Website at [www.diablocontrols.com](http://www.diablocontrols.com) for the most current information on all of our products. Specifications are subject to change.



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