



## DSP-40S Vehicle Detector

*All this and a 5-Year Warranty too!*

### Overview

At last a plug-in detector that will operate on any voltage from 10 to 30 volts AC or DC. The DSP-40S detector is covered by United States patent number US 7,132,959 "Non-Interfering Vehicle Detection." This detector is virtually cross-talk free in most applications. It has been specifically designed to handle parking, drive-through and access control applications where solid-state outputs are required for both the detect and fail outputs. The sensitivity level may be changed. (See below). The detector loop inductance should be between 20 and 2000 microhenries.

### LED Indicators

The green Power LED will be on steady to indicate the detector is operating and powered. The red Detect LED will turn on when a vehicle is over the loop detection area.

### Detect Memory

Power interruptions of short duration are ignored. If power fails for approximately 1 ½ seconds or less the detector "remembers" a vehicle.

### Sensitivity and Reset Push Button

The Reset/Sens. button is used for two functions. A short press and release of the button will reset the detector and the LED's will both flash from 1 to 4 times, indicating the detector's sensitivity level. The detector is shipped from the factory with the sensitivity set at level 3.

If a different sensitivity level is required:

Push and continue to hold the button until the LED's start flashing. Release the button immediately after the desired number of flashes. For example, if the sensitivity is to be changed to level 2, push and hold the button until the LED's flash twice then immediately release the button. The sensitivity level can always be verified by a quick tap on the push button. This will reset the detector and flash the two LED's indicating the present level.

Level 1 - Very Low

Level 2 - Low

Level 3 - Normal (Factory setting)

Level 4 - High

### Loop or Wire Failures

In the case of a loop circuit failure, the green LED flashes slowly (twice per second) for an open loop circuit failure. The green LED will flash fast (10 times per second) to indicate a shorted loop circuit.

### Features

- Works on any in-ground inductive loop from 20 to 2000 microhenries.
- Designed to be cross talk free between other loops
- Automatically compensates for loop and lead-in sizes
- Small profile, perfect for many installations
- Fail safe operation
- Wide low-voltage operation
- This series of Diablo Controls detectors are covered by United States Patent number 7,132,959 "Non-Interfering Vehicle Detection."
- Separate Power/Fail and Detect LEDs.



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## DSP-40S Vehicle Detector

### Fail Safe vs Fail Secure

A fail safe detector will output “detect” when the loop circuit is failed. This is always useful on a safety loop. 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-40S is a fail safe detector. **Note:** Never use a fail secure detector on a safety loop.

### Outputs

Solid-state (open transistor collectors) for both detect and fail outputs. 30 mA maximum current sink  
- transient voltage protected.

### Power

12 to 30 volts DC

### Operating Temperature

-35°F to 165°F (-37°C to 74°C)

### Size

Height: 2.4"    Width: 0.8"    Depth: 2.25"

### Connector

10-position Molex Type 09-48-1104

Mates with many female PCB 0.156" pitch headers in use by some access control devices and gate operators.

- 1 - Loop input
- 2 - Loop input
- 3 - Power\* (10 to 30 volts AC or DC)
- 4 - No Connection
- 5 - No Connection
- 6 - Fail output -connects to common for fail.
- 7 - Fail output -connects to common for fail.
- 8 - Detect output -connects to common for detect.
- 9 - Power\* (10 to 30 volts AC or DC)
- 10 - Power Common

\*Either or both of these pins can be used to supply power to the detector.

### Ordering Information

Only one model available: DSP-40S

Call: 800-878-7829

Email: sales@gateopenersafety.com

**[www.gateopenersafety.com](http://www.gateopenersafety.com)**



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