

DSP-100 Vehicle Detector

All this and a 5-Year Warranty too!



Overview

The DSP-100 vehicle detector has been specifically designed to handle all traffic applications and is the industry's smallest shelf mounted detector. Working on virtually any size loop, the DSP-100 tunes itself automatically to the best operating frequency within the selected range. The DSP-100's inherent noise filtering algorithms allow it to work reliably in any electrical situation. The "RT" and "ST" models have front-panel switches to select both extension and delay timing. With its rugged enclosure, easily accessible switches, and built-in flexibility the DSP-100 is the most "user friendly" detector on the market today.

LED Indicators

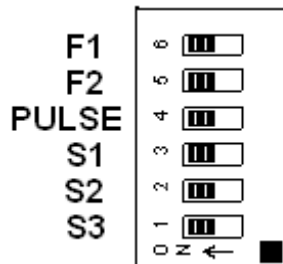
The green Power LED will be on steady to indicate the detector is operating and powered. In the case of a loop circuit or mini-loop failure, the green LED flashes slowly (twice per second) for an open loop circuit failure. The green LED will flash fast (10 times per second) to indicate a shorted loop circuit.

Features

- Works on any in-ground inductive loop from 20 to 2000 microhenries.
- Automatically compensates for loop and lead-in sizes
- Small profile, perfect for many installations
- Selectable fail safe or fail secure operation
- Separate Power/Fail and Detect LEDs
- Models with programmable timing available
- Green extension feature available

The red Detect A LED will turn on when a vehicle is over the loop detection area. If delay is programmed, the LED will blink slowly during the delay interval. If extension is programmed, the LED will blink fast during the extension interval.

The red Detect B LED will echo the B output.



The above switches can be changed as follows:

Frequency

One of four operating frequencies can be selected by changing DIP switches 5 and 6.

Pulse / Presence

Turn DIP switch 4 off to operate in presence mode. In this mode, the output will remain on for as long as the vehicle is over the loop detection area. Turn DIP switch 4 on to operate in pulse mode. This mode will output a 125 ms pulse each time a vehicle enters the loop detection area. If the vehicle remains within the loop for two seconds, the detector will automatically re-tune making itself ready for the next vehicle to arrive.

NOTE - Changing any of the function DIP switch settings automatically resets the detector and cancels the call output.



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Sensitivity

DIP switches 1, 2, and 3 can be set for a total of 8 different levels. Note: Almost all traffic applications can be handled with sensitivity set at NORMAL (level 4). The sensitivity switches are rarely moved from NORMAL. Refer to the table below

Sensitivity	Level	S 1	S 2	S 3
Lowest	0	OFF	OFF	OFF
	1	ON	OFF	OFF
	2	OFF	ON	OFF
	3	ON	ON	OFF
Normal	4	OFF	OFF	ON
	5	ON	OFF	ON
	6	OFF	ON	ON
Highest	7	ON	ON	ON

Delay (Available only on -RT and -ST models)

This interval is between vehicle arrival and output activation. Delay time can be programmed from 0 to 63 seconds in one-second increments. During the delay interval, the CALL LED is flashed slowly. If the vehicle leaves before the delay interval times out, the output will not occur.

Extension (Available only on -RT and -ST models)

This interval is between vehicle exit and output deactivation. Extension time can be programmed from 0 to 15.75 seconds in quarter second increments. During this interval, the CALL LED is flashed rapidly. If another vehicle arrives before the interval times out, the output will not be dropped.

Failure Operation

The DSP-100 is factory shipped in the fail safe mode. A fail safe detector will output "detect" when the loop circuit is failed. This is useful on most calling detectors, stop bar detectors, and safety loops. Remove jumper J2 to operate in fail secure mode. This is useful in counting detectors, speed detectors, and high-security areas or installations where containment is needed.

Note: Never use a fail secure detector on a safety loop.

Green Extension

Normal operation always honors any programmed extension time. By removing jumper J1 and connecting the 117 AC green input for that phase to connector pin J (Delay Inhibit), the DSP-100 can be set to extend only during the green interval.

Delay Inhibit

Normal operation always honors any programmed delay time. However, by connecting the 117 AC green input for that phase to connector pin J (Delay Inhibit), the DSP-100 can be set to delay only during the not green interval. During the green interval, any programmed delay time will be ignored.

Indicators

The GREEN LED shows the following status:

- ON Steady Normal (Shows power to unit)
- Blinks Slowly Loop Circuit Open
- Blinks Fast Loop Circuit Shorted

The RED LED shows the following status:

- ON Steady Detection of Vehicle
- Blinks slowly* Delay
- Blinks fast* Extension

*Delay and extension features are available on -RT and -ST models only.

Connector

Standard 10-pin MS. Pin assignments and cable harness wire colors are shown below:

- A - AC neutral - White
- B - Output common - Brown
- C - AC hot - Black
- D - Loop - Red
- E - Loop - Orange
- F - Output A (N.O.) - Yellow
- G - Output A (N.C.) (relay only) - Blue
- H - Chassis ground - Green
- I - Not used - Violet
- J - Delay Inhibit 117 VAC - Gray

Output Relay Ratings

3A, 150 VDC or 300 VAC

Enclosure

Aluminum extrusion

H-3.5" (89 mm) W-2.0" (51 mm) L=3.5" (89 mm)

Ordering Information

DSP-100-x y

- | y = blank = No timing
- | y = T = Delay and extension timing
- | x = R = Relay model
- | x = S = Solid state model

Example: DSP-100-RT (pictured) is a DSP-100 with relay outputs and delay and extension timing

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Visit our Website at www.diablocontrols.com for the most current information on all of our products.

Specifications are subject to change.

DSP100_CUT_A

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Veteran Owned & Operated



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