

DSP-10

Vehicle Detector



Features

- ❖ Works on any in-ground inductive loop from 20 to 1500 microhenries.
- ❖ Can be easily changed to fail safe or fail secure mode in the field.
- ❖ Advanced filtering technology for superior noise tolerance.
- ❖ Plug and play, connect it up and watch it work.
- ❖ The DSP-10-LV is protected from damage if plugged into a higher voltage. No need to change a fuse or reset a circuit breaker, simply plug the detector into the proper voltage and it works.
- ❖ Separate Power/Fail and Detect LEDs.
- ❖ Compact Size with industry standard 11-pin connector in a small plastic case.

The DSP-10 is intended to be an 'all-in-one' vehicle detector designed for the parking, drive-through, and access control industries. The DSP-10 was designed for systems that need reliable vehicle detection. This detector is designed to operate utilizing a single inductive loop typical in these industries. The small packaging comes without sacrificing performance.

The DSP-10 Detector was designed to retrofit into existing locations that may require a detector upgrade. Sophisticated noise filtering algorithms offer stable operation in noisy or troublesome installations.

With its compact size, front panel switch features, and built-in fail-safe or fail-secure operation for the A output, the DSP-10 is the only vehicle detector you will ever need.

The DSP-10 provides many advanced features to provide a great value for your money.

- ✓ Extended Presence provides vehicle detection times of many hours for those unique installations.
- ✓ Delay for those situations where vehicles may be detected by the loop that will not be stopping at the gate/door.
- ✓ Extension for those times when you just need a little more time for the vehicle to travel through the gate/door area.
- ✓ Loop Fail output provides a way to detect and annunciate a loop failure.
- ✓ Sensitivity Boost for those installations that require reliable detection of semi-truck trailers and high bed vehicles.
- ✓ Pulse on Entry or Pulse on Exit for those operators that require this type of signal.

DSP-10 Vehicle Detector

SELECTABLE FEATURES

Output A Fail Safe: The A output Normally Open contact will be closed during vehicle detection, loop failure, or power failure. (Factory Default)

Output A Fail Secure: The A output Normally Open contact will be closed during vehicle detection, but open during loop failure and power failure.

Sensitivity: 10 sensitivity settings are available. The factory default setting is 5.

Setting	0	1	2	3	4	5	6	7	8	9
%ΔL/L	0.48	0.32	0.24	0.16	0.12	0.08	0.06	0.04	0.03	0.02

Frequency: 4 selectable frequency settings. Actual frequency is dependent on the loop circuit attached to the detector.

Loop Failure Memory: The detector can indicate a prior loop failure even if the failure recovers. This is displayed on the green power LED. Any reset will clear the memory failure.

Extended Presence: This feature is used in those cases when a vehicle will be over the loop for more than 15 minutes (loading dock, etc.). A detection that would normally tune out in an hour will take about 19 hours with this feature.

Output B Function Select: The detector will operate in one of four selectable operating modes for the B output.

True presence - The B output will be activated whenever a vehicle is present. The output is *not* affected by any delay or extension timing.

Entry pulse - The B output will be activated for 250ms when the loop becomes occupied.

Exit pulse - The B output will be activated for 250ms when the loop becomes vacant.

Loop fail - If the inductive loop fails (opens, shorts, or a large change), the B output will be activated for the duration of the fault.

Sensitivity Boost: The sensitivity can be automatically boosted during a call to improve detection of high-bed vehicles and truck/trailer combinations.

Extension: Extension allows the A output to be held in the active state for a period of time after the vehicle has left the loop detection area. While timing extension, the detect LED will flash quickly. *Extension timing only affects the A output.*

Delay: Delay allows the A output to stay in the de-activated state until the loop has been occupied for 2 seconds. This 2 second delay is "flashed" on the detect LED. If the vehicle leaves before the two seconds has timed out, the output will not occur. *Delay timing only affects the A output.*

INDICATORS

Green Power LED: The green power LED will be on whenever the input voltage is sufficient for proper operation and the detector is operating normally. It will blink on if the voltage is too low for reliable operation. It will flash for open, shorted loop, or large change loop faults.

Red Detect LED: The red detect LED will indicate the status of the A output. Timing delay, Occupancy, Timing extension, and the A output state during a loop failure are all displayed on this LED.

Indicator Test: Both LEDs will turn on and then off momentarily as a lamp test each time the unit is reset. Both LEDs will flash quickly for one second after a reset or power cycle to indicate the A output is configured as fail-secure.

SPECIFICATIONS

Loop Inductance: 20μH to 1500μH (including lead-in inductance)

Operating Temperature: -35°F to 165°F (-37°C to 74°C)

Operating Voltages: There are three power versions
 10 volts to 30 volts AC or DC with over voltage protection
 100 volts to 135 volts AC
 200 volts to 270 volts AC

Operating Current:
 10-30 volts DC/AC - 75ma max fail-safe, 40ma max fail-secure
 100-135 volts AC - 7.5ma max fail-safe, 4.0ma max fail-secure
 200-270 volts AC - 3.8ma max fail-safe, 2.0ma max fail-secure

Output Relay Rating: Both output relays are rated for switching up to 3 amps at 300 VAC or 150V DC.

Pulse Output: 250ms ±15ms

Size: H - 2.375" (60mm) W - 1.75" (45mm) D - 3.61" (92mm)

Case: Impact resistant Lexan

Pin Out:

Pins	Function	Standard Harness Color
1	AC Hot / DC +	Black
2	AC Neutral / DC COM	White
3	B Output Normally Open (Closes for detect)	Orange
4	Earth Ground	Green
5	A Output Common	Yellow
6	A Output Normally Open (Closes for detect)	Blue
7	Loop	Gray
8	Loop	Brown
9	B Output Common	Red
10	A Output Normally Closed (Opens for detect)	Pink or White/Black
11	B Output Normally Closed (Opens for detect)	Violet or White/Red

ORDERING INFORMATION

DSP - 10 - vvv vvv = Operating Voltage Selection

LV	10 to 30 Volts, AC or DC
117	117 Volts AC
230	230 Volts AC

Visit our Website at www.diablocontrols.com for the most current information on all of our products. Specifications are subject to change.



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