

DSP-15 Vehicle Detector

The Only Loop Detector You Will Ever Need!

FEATURES

Loop Size - Works on any in-ground inductive loop from 20 to 1000 ?H.

Fail Safe or Fail Secure Operation - Can be easily changed to either mode in the field.

Indicators - Separate Power/Fail and Detect LEDs.

Connector - Ten pin male or female Molex connector or ten position terminal block.

Sensitivity - Ten sensitivity settings.

Frequency - Automatically tunes within one of four operating ranges.

Outputs - Two separate relay outputs with features that are switch programmable as follows:

Output A - Main detection output which can be modified by delay and extension. (Specify at ordering whether to be either fail safe or fail secure). Fail safe or fail secure operation changeable by PCB jumper.

Output B - Switch selectable to one of the following four options:

- 1) True presence (no extension or delay)
- 2) Pulse on vehicle entering loop
- 3) Pulse on vehicle exiting loop
- 4) Loop Fail output

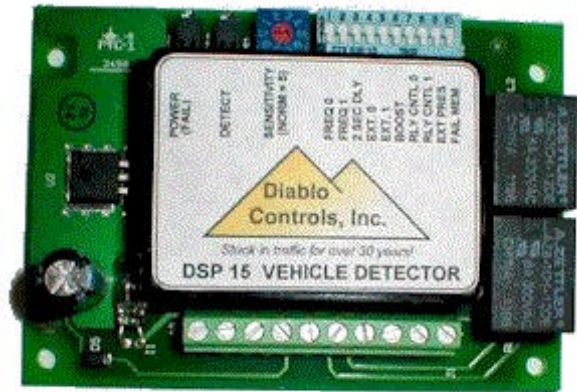
Sensitivity Boost - Can be used in special applications to insure complete detection of high-bed vehicles.

Hold Time - Normal or extended hold time is selectable.

Loop Failure - If the loop fails, opens or shorts, the power indicator flashes. Output B can also indicate this condition if desired (see above). The option to "remember" an intermittent loop failure is also provided.

Delay - Can be selected to ignore fast moving vehicles over the loop.

Extension - Extends a call for slow moving vehicles.



OPERATION

The DSP-15 vehicle detector has been specifically designed to handle all parking, drive-through and access control applications.

Working on virtually any size loop, the DSP-15 automatically tunes itself to the best operating frequency within the selected range. Environmental conditions are constantly compensated with the DSP-15's *HYPERTRACK* software. The DSP-15's inherent noise filtering algorithms allow it to work reliably in any electrical situation.

It can be used as either a safety loop or free exit loop detector. With the flexibility to be either "fail safe" or "fail secure," it is the only parking detector you will ever need.

The DSP-15 is available in a 24 VDC or 12 VDC version.



Stuck in traffic for over 30 years!

Phone: (866) 395-6677 (Toll Free Sales)
FAX: (510) 490-4111

Phone: (925) 837-1884 (Technical Help)
Web Site: www.diablocontrols.com

DSP-15 INSTRUCTIONS AND SPECIFICATIONS

Sensitivity - Experience has shown that almost all parking and access control applications can be handled with sensitivity set at NORMAL (level 5). The rotary sensitivity switch is rarely moved from NORMAL. However, the DSP-15 has ten sensitivity settings varying from LOW (level 0) to HIGH (level 9).

Delay - With DIPSWITCH 3 turned off there is no delay. With DIPSWITCH 3 turned on there is a 2 second delay before output A occurs. This 2 second delay is flashed on the CALL LED. If the vehicle leaves before the two seconds has timed out, the output will not occur. *Delay only affects Output A.*

Extension - DIPSWITCHES 4 and 5 are used to select extension timing. See chart below for extension times. Extension allows a vehicle call to be "remembered" for a period of time after the vehicle has left the loop. Selected extension time is flashed on the call LED. *Extension timing only affects Output A.*

	DIP Switch 4	DIP Switch 5
0 seconds	Off	Off
2 seconds	On	Off
5 seconds	Off	On
10 seconds	On	On

Sensitivity Boost - DIPSWITCH 6 selects this feature. With switch 6 turned on, sensitivity is automatically boosted *during* a call to improve detection of high-bed vehicles and truck/trailer combinations. Sensitivity boost is not applicable to most situations.

Output B Function Select - DIPSWITCHES 7 and 8 determine the function of the second output relay, Output B. See chart below to select a specific function. This output can be used in any one of the following ways:

True presence - The relay is energized whenever a vehicle is present. The relay is *not* affected by any delay or extension timing.

Entry pulse - The relay is energized for 250 mS when a vehicle enters the loop.

Exit pulse - The relay is energized for 250 mS when a vehicle exits the loop.

Loop fail - If the inductive loop fails (opens or shorts), the output B relay energizes.

	DIP Switch 7	DIP Switch 8
True Presence	Off	Off
Entry Pulse	On	Off
Exit Pulse	Off	On
Loop Fail	On	On

Extended Presence - DIPSWITCH 9 is normally left in the off position. If extended presence is required, this switch is turned on. This feature is only used in those rare cases when a vehicle will be over the loop for an extraordinary length of time (a truck parked at a loading dock, etc.).

Loop Failure Memory - With DIPSWITCH 10 turned on, the DSP-15 will indicate a prior intermittent loop failure.

Frequency - One of four operating frequencies can be selected by using DIPSWITCHES 1 and 2.

	DIP Switch 1	DIP Switch 2
High	Off	Off
Medium High	On	Off
Medium Low	Off	On
Low	On	On

NOTE - Changing any DIPSWITCH or ROTARY SWITCH setting automatically resets the detector.

Indicators - The green POWER LED shows the following status:

Normal	On
Loop open	1 flash/second
Loop shorted	2 flashes/second
Intermittent loop	3 flashes/second

The red DETECT LED shows the following status:

Delay	Blinks slowly
Call	On
Extension	Blinks fast
No Call	Off

Fail Safe Operation (J2 shunt installed - factory default) - In fail safe mode the output A relay is energized and will de-energize for any one of the following conditions: vehicle detection, loop failure, or power failure. In this mode, continuity will occur between connector/terminal block pins 1 and 3 during detection.

Fail Secure Operation (J2 shunt removed) - In fail secure mode the output A relay is de-energized and will energize for either vehicle detection or loop failure. In this mode, continuity will occur between connector/terminal block pins 1 and 2 during detection.

Output Relay Ratings - 3A, 150 VDC or 300 VAC.

Power - 12 VDC or 24 VDC. Other voltages are available, please contact factory. Power consumption is less than 3 Watts.

Size - Height: 2.90" (73.7 mm) Width: 4.125" (104.8 mm)

Connector - 10 pin Molex (male 26-48-2105 or female 09-48-3105) or 10 position terminal block. Pin assignments are shown below:

1 - Output A relay COMMON	6 - /Reset
2 - Output A (N.C.)	7 - DC Power In
3 - Output A (N.O.)	8 - DC Power Common
4 - Output B relay COMMON	9 - Loop
5 - Output B (N.O.)	

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

Ordering Information - Standard part numbers are as follows:

24 VDC w/ male molex connection - DSP15-24DCM
 24 VDC w/ female molex connection - DSP15-24DCF
 24 VDC w/ terminal block connection - DSP15-24DCT
 12 VDC w/ male molex connection - DSP15-12DCM
 12 VDC w/ female molex connection - DSP15-12DCF
 12 VDC w/ terminal block connection - DSP15-12DCT