DSP-222

Dual Channel Vehicle Detector

Features

- Advanced technology with superior noise tolerance.
- Selectable Presence or Pulse operation.
- Seven selectable sensitivities per channel and OFF.
- Separate Detect and Fault indicators.
- Selectable continuous or scanning operating modes for faster response or higher noise rejection.
- Optional 125 milliseconds minimum output when in the presence mode.

The DSP-222 vehicle detector has been specifically designed to handle all traffic applications.

Working on virtually any size loop, the DSP-222 tunes itself automatically to the best operating frequency within the selected range. The DSP-222's inherent noise filtering algorithms allow it to work reliably in any electrical situation.

The detector supports two possible operating modes: Continuous or Scanning. The continuous mode is designed to have the fastest possible response times to vehicle detections and meets the CalTrans response time specification. The scanning mode alternates between the two channels and implement sophisticated noise reduction techniques to provide trouble free operation at locations with noise or cross-talk issues.

With its easy to understand front panel switches and built-in flexibility the DSP-222 is the most "user friendly" detector on the market today. The detector uses a fail-safe design that generates a call output whenever the loop circuit has failed. There is a separate Fail LED that will flash different patterns to identify the type of fault being detected. This helps the technicians quickly identify what is wrong.

This detector will work well with any well designed inductive loop in the range of 50 to 750 microhenries. Each channel output can be configured as a pulse on vehicle entry or presence output. In the presence mode there is an optional setting that will ensure that any activation of the output last for at least 125 milliseconds.

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SELECTABLE FEATURES

Presence: Almost all traffic control applications can be handled with sensitivity set at NORMAL (level 4). The sensitivity DIP Switches (S1, S2, and S4) should rarely be moved from NORMAL. However, the Model 222 has seven sensitivity settings varying from a LOW of level 1 to a HIGH of level 7. Sensitivity 0 will disable the channel.

Sensitivity	S4	S2	S1	ΔL%	Response Time Continuous Mode
0	OFF	OFF	OFF	.01%	32 milliseconds
1	OFF	OFF	ON	.02%	16 milliseconds
2	OFF	ON	OFF	.04%	8 milliseconds
3	OFF	ON	ON	.08%	4 milliseconds
4	ON	OFF	OFF	.16%	2 milliseconds
5	ON	OFF	ON	.32%	1 millisecond
6	ON	ON	OFF	.64%	.5 milliseconds
7	ON	ON	ON	OFF	OFF

Pulse / Presence: With this switch turned on, the main output will be 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 retune, making itself ready for the next vehicle to arrive. If this switch is turned off the detector will output presence.

Frequency: One of four operating frequencies can be selected by using the front panel DIP switches: FREQ1 and FREQ2.

NOTE: Changing any DIP switch setting automatically resets the detector, which cancels the call output.

Min Presence (J1): This jumper is used to activate the minimum presence function. When the jumper is installed the detector will ensure that any presence output will be at least 125 milliseconds long.

Alternate (J2): This jumper is used to select the continuous or scanning mode of operation. When the jumper is installed the detector operates in the continuous sampling mode. When removed the detector operates in the scanning mode.

INDICATORS

Green FAIL LED: The Fail LED has the following possible indications:

Function	Display
Normal Operation	OFF
Loop or Lead-In Open	1 flash per second
Loop or Lead-In Shorted	2 flashes per second
Intermittent Loop Circuit	3 flashes per second

Red CALL LED: In the presence mode the Call LED will be ON whenever a vehicle is being detected. In the pulse mode the detector will output a 125 millisecond long ON when a vehicle is first detected.

SPECIFICATIONS

External Reset: The entire detector may be externally reset by holding pin C on the edge connector low for 15 microseconds.

NEMA – TS-2 Status Outputs: TS-2 outputs are included on Pins 7 (Channel 1) and Pin 20 (Channel 2). These outputs are an open-collector output rated for sinking up to 50 milliamps at 30 VDC maximum.

CALL Output Ratings: These outputs are an optically isolated open-collector output rated for sinking up to 50 milliamps at 30 VDC maximum.

Operating Voltage: 10 - 30 VDC, 100 mA maximum

Dimensions: 4.500” H x 6.875” W x 1.120” D
11.43 cm H x 17.46 cm W x 2.84 cm D

Operating Temperature: -35°F to 165°F (-37°C to74°C)

Storage Temperature: -67°F to 185°F (-55°C to 85°C)

Humidity: 0 to 95% relative

CONNECTOR PINS

Standard 2 x 22 pin edge card connector with key slots located between B & C and M & N.

Pin	Function	Pin	Function
A	DC (-) Common	1	No Connection
B	DC (+) Power	2	No Connection
C	Reset	3	No Connection
D	Loop 1	4	No Connection
E	Loop 1	5	No Connection
F	Output 1 Collector	6	No Connection
H	Output 1 Emitter	7	TS-2 Status – Channel 1
J	Loop 2	8	No Connection
K	Loop 2	9	No Connection
L	Chassis Ground	10	No Connection
M	No Connection	11	No Connection
N	No Connection	12	No Connection
P	No Connection	13	No Connection
R	No Connection	14	No Connection
S	No Connection	15	No Connection
T	No Connection	16	No Connection
U	No Connection	17	No Connection
V	No Connection	18	No Connection
W	Output 2 Collector	19	No Connection
X	Output 2 Emitter	20	TS-2 Status – Channel 2
Y	No Connection	21	No Connection
Z	No Connection	22	No Connection

Distributed by FORTRAN www.fortrantraffic.com
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