

## DSP-222

## 2-Channel Vehicle Detector

### SELECTABLE FEATURES

**Sensitivity:** DIP Switches S1, S2, and S4 are used to set the operating sensitivity of each detector channel or to disable the channel. The response time is determined by the setting of jumper J2. With J2 installed the detector operates in intersection mode. With J2 removed the detector operates in the faster response mode. The response times below assume that both channels are set to the same sensitivity setting.

S1	S2	S4	ΔL/L	Response Time with J2	
				Removed	Installed
OFF	OFF	OFF	OFF	NONE	NONE
ON	OFF	OFF	0.64%	3.2 +/- 1.1 ms	7.5 +/- 1.1ms
OFF	ON	OFF	0.32%	3.2 +/- 1.1 ms	7.5 +/- 1.1ms
ON	ON	OFF	0.16%	6.3 +/- 2.1 ms	14.7 +/- 2.1ms
OFF	OFF	ON	0.08%	12.2 +/- 4.1 ms	20.5 +/- 4.1ms
ON	OFF	ON	0.04%	24.2 +/- 8.0 ms	56.4 +/- 8.0ms
OFF	ON	ON	0.02%	48.1 +/- 16.0 ms	112.2 +/- 16.0ms
ON	ON	ON	0.01%	96.0 +/- 32.0 ms	224.0 +/- 32.0ms

**Pulse / Presence:** DIP Switch PULS is used to select the pulse or presence operating mode for each channel. With this switch turned on, the channel output will activate for 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 the channel. If this switch is turned off the channel will activate the output when there is vehicle presence in the loop detection area.

**Frequency:** DIP Switches FREQ1 and FREQ2 are used to select one of four operating frequency ranges.

FREQ 1	FREQ 2	Frequency Range
OFF	OFF	High
ON	OFF	Medium High
OFF	ON	Medium Low
ON	ON	Low

**NOTE:** Changing any DIP switch setting for a channel automatically resets that channel, which cancels any active output.

**Minimum Presence:** Jumper MIN PRES (J1) on the PCB enables a minimum presence output of 125 ms. This feature ensures that all presence outputs (even on high-speed arterials) will be at least 125 ms.

**Alternate:** Removing jumper ALTERNATE (J2) on the PCB enables the faster response mode of operation for the detector. In this mode the response time is about twice as fast as the standard mode but provides less stable operation in noisy environments.

### INPUTS

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

### INDICATORS

**Green Fail LED:** The green fail LED will be off when the channel is operating normally.

Fault	Display
No Fault Detected	OFF
Loop Open	1 flash every second
Loop Shorted	2 flashes every second
Excessive Change	3 flashes every second

**Red Call LED:** The red call LED will show the status of the output for each channel.

### SPECIFICATIONS

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

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

**Operating Voltage:** 18 to 30 VDC, 100 mA maximum

**Dimensions:** 4.5" (H) x 6.875" (W) x 1.12" (D)  
11.43 cm (H) x 17.46 cm (W) x 2.84 cm (D)

**Channel Status Outputs:** NEMA TS-2 outputs are solid-state and are output on Pin 7 (Channel 1) and Pin 20 (Channel 2).

**Channel Detect Outputs:** The channel detect outputs are open-collector, solid-state outputs. 50 mA maximum, 30 VDC maximum. These outputs are optically isolated.

**Fail Safe Operation:** During normal detection or a loop failure the detect output will activate (conduct between collector and emitter pins).

**Connector:** Standard 2 x 22 pin edge card connector with key slots located between B & C, E & F and M & N.

Pin Assignments			
1		A	DC - (Common)
2		B	DC +
3		C	Reset
4	Ch 1 Loop	D	Ch 1 Loop
5	Ch 1 Loop	E	Ch 1 Loop
6		F	Ch 1 Output Collector
7	Ch 1 TS-2 Status	H	Ch 1 Output Emitter
8	Ch 2 Loop	J	Ch 2 Loop
9	Ch 2 Loop	K	Ch 2 Loop
10		L	Chassis Ground
11		M	
12		N	
13		P	
14		R	
15		S	
16		T	
17		U	
18		V	
19		W	Ch 2 Output Collector
20	Ch 2 TS-2 Status	X	Ch 2 Output Emitter
21		Y	
22		Z	

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