

DSP-224 Four Channel Vehicle Detector

The Only Four Channel Vehicle Detector You Will Ever Need!

OVERVIEW

The DSP-224 vehicle detector has been specifically designed to handle all traffic applications.

Working on virtually any size loop, the DSP-224 tunes each channel automatically to the best operating frequency within the selected range. HYPERTRACK software constantly compensates for the changing environmental conditions. The DSP-224's inherent noise filtering algorithms allow it to work reliably in any electrical situation.

With its easy to understand front panel switches and built-in flexibility the DSP-224 is the most "user friendly" detector on the market today.

FEATURES

Four channels: Four separate detector channels in a single rack mount detector card.

Loop Size: Works on in-ground inductive loops from 50 to 750 μ H.

Fail Safe Operation: The main solid-state output is configured to output a call whenever the loop circuit has failed.

Indicators: Separate "Detect" and "Fault" LEDs for each channel.

Sensitivity: Seven sensitivity settings with sensitivity 0 indicating the channel is off.

Frequency: Each channel automatically tunes within one of four operating ranges.

Main Detection Output: Factory set to be fail safe and can be programmed to output either presence or pulse.

Loop failure: If the loop fails, the fault indicator codes the failure. If the loop recovers, the fault indicator will turn off.



Min Presence: Setting jumper J1 on the PC board programs a minimum presence time of 125 mS. This feature ensures that all presence outputs (even on high-speed arterials) will be at least 125 mS.

External Reset: The entire detector may be externally reset by holding pin C on the edge connector at logic common.



Stuck in traffic for over 30 years!

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DSP-224 INSTRUCTIONS AND SPECIFICATIONS

Sensitivity: Almost all traffic control applications can be handled with sensitivity set at level 4 (NORMAL). The sensitivity DIPSWITCHES (S1, S2, and S4) should rarely be moved from level 4. However, the DSP-224 has seven sensitivity settings varying from a LOW of level 1 to a HIGH of level 7. Sensitivity 0 will disable the channel.

Sensitivity	S1	S2	S3	ΔL%	Response Time (ms)
0	Off	Off	Off	Off	Off
1	On	Off	Off	.64	0.5
2	Off	On	Off	.32	1
3	On	On	Off	.16	2
4	Off	Off	On	.08	4
5	On	Off	On	.04	8
6	Off	On	On	.02	18
7	On	On	On	.01	32

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

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

NOTE - Changing any DIPSWITCH setting automatically resets the detector, which cancels the call output.

Indicators:

The green FAULT 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:

Call	On
No Call	Off

Output Ratings:

Solid-State – 50 mA maximum, 30 VDC maximum. All outputs are optically isolated.

Status Outputs: On the 224N model, each channel has a NEMA TS-2 output that continuously reflects the channel's status.

Power: 18-30 VDC, 200 mA maximum

Dimensions: H – 4.5” (11.43 cm) W – 6.875” (17.46 cm)
D – 2.24” (5.68 cm)

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

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

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

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

Humidity: 0 to 95% relative

Ordering Information - Standard part numbers are below:
 DSP224 CalTrans compatible version
 DSP224-N NEMA version