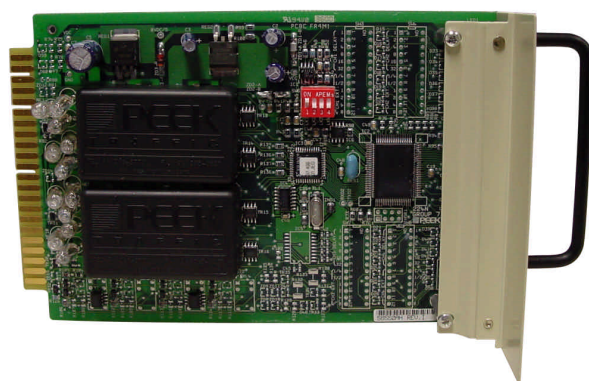


224N-TS2 GP7

Four Channel Detector Module



Fast, predictable and consistent response times facilitate accurate speed and occupancy measurements. This level of performance is increasingly important for IVHS applications.

Simple set-up is also a key feature of the 224N-TS2 GP7. Front panel frequency, sensitivity and mode switches allow the user to simply plug the unit in, adjust switches to the desired positions, and walk away.

Peek's 224N-TS2 GP7 allows you to optimize the detector's performance parameters for the most demanding detector application – intersection control. For any application, the 224N-TS2 GP7 identifies loop events such as open loops, shorted loops or loops with excessive inductance changes. The event LED, using special flash rates, identifies the condition of loop fault, whether present or historical. This is the standard operation for intersection control where reliability is the major concern.

Designed especially for intersection control where crosstalk must be eliminated, the 224N-TS2 GP7 provides four different front panel selectable frequencies. In addition, the 224N-TS2 GP7 also functions as a scanning detector, further reducing the possibility of crosstalk between two loops connected to the same detector.

Features

- Exceeds all NEMA TS-1 and TS-2 standards
- Excellent noise filtering
- Four frequency settings to eliminate crosstalk
- Pulse or presence modes per channel
- Sensitivity boost to hold small and high vehicles
- Fault LED to indicate present and historical loop faults
- Seven sensitivity levels per channel
- Sequentially scanned loops
- Quick, simple set-up

Specifications

Characteristic	Description																								
Frequency.....	Tuning range for a nominal loop inductance with a Q-factor >4 & <12 F1F2 mode: 46 to 2400 μ H nominal F0F2 mode: 38 to 1700 μ H nominal F1F0 mode: 26 to 1200 μ H nominal F0F0 mode: 18 to 700 μ H nominal																								
Sensitivity.....	Seven levels of sensitivity can be selected by DIL switch. Settings 7 through 0 are: <table border="0"> <tr><td>7</td><td>1+2+4</td><td>= 0.01%</td></tr> <tr><td>6</td><td>0+2+4</td><td>= 0.02%</td></tr> <tr><td>5</td><td>1+0+4</td><td>= 0.04%</td></tr> <tr><td>4</td><td>0+0+4</td><td>= 0.08%</td></tr> <tr><td>3</td><td>1+2+0</td><td>= 0.16%</td></tr> <tr><td>2</td><td>0+2+0</td><td>= 0.32%</td></tr> <tr><td>1</td><td>1+0+0</td><td>= 0.64%</td></tr> <tr><td>0</td><td>0+0+0</td><td>= Channel Off</td></tr> </table> <p>All sensitivity settings, except the highest, activate a Sensitivity Boost. The detection threshold falls by 50% after detection is established to improve detection of high bed vehicles.</p>	7	1+2+4	= 0.01%	6	0+2+4	= 0.02%	5	1+0+4	= 0.04%	4	0+0+4	= 0.08%	3	1+2+0	= 0.16%	2	0+2+0	= 0.32%	1	1+0+0	= 0.64%	0	0+0+0	= Channel Off
7	1+2+4	= 0.01%																							
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1	1+0+0	= 0.64%																							
0	0+0+0	= Channel Off																							
Operating Modes.....	Two modes of operation are available via a mode selection switch, Pulse (PLS) and Presence (PR).																								
Presence.....	Presence times of 16, 60, 120 minutes or permanent are available by setting the on board switch. Optional: any presence time value can be set from 1 to 127 minutes in 1 second increments.																								
Pulse.....	In pulse mode, a momentary output 125 \pm 20ms (optional 250ms \pm 30ms) is provided on vehicle entry. If the vehicle remains in the loop, a 2 second pulse paralysis time is provided before additional vehicles are detected.																								
Detect LED.....	In detect: High intensity Red LED lights for the duration of presence/ pulse setting in parallel with the channel output. In fault: Operates in parallel with the channel output.																								
Fault LED.....	In open circuit loop fault: LED flashes at 16Hz for 2 seconds and ON continuously for 2 seconds during current fault. Once the fault clears, the LED flashes continuously at 16Hz until reset. In short circuit loop fault: Pattern is the same as above except at 4Hz. In loop drift fault: Pattern is the same as above except at 1Hz. NOTE: Detector must be reset for historical fault condition to be cleared from memory.																								
Ambient Tracking.....	Asymmetrical tracking is used when the detector is quiescent.																								

Response Times

With the following sensitivity settings:

Channel X	Other Channel	Response Times
.01 to .02%	.01 to .02%	35 ms \pm 4 ms
.04 to .16%	.04 & above	20 ms \pm 2ms
.16 & above	.04 & above	5 ms \pm 1 ms*

*Value shown is in 'Fast Response' mode, times vary according to Traffic setting. See manual.

Characteristic	Description
Power Requirements.....	10.8 to 30 VDC. Maximum permissible RMS ripple = 700 millivolt.
Outputs.....	SolidState optically-isolated NPN Transistor V_{ce} ON voltage \leq +1.2 VDC @ 50mA This output conducts a maximum of 500 μ A in the OFF state at a collector-emitter voltage of +40VDC
Failsafe Output.....	A DETECT Output is given when the detector power supply fails. (Failsafe is default)
Input Supply Current.....	For each Detector Module: Nominal Current, normal operation = 80mA Maximum, with shorted loop-inputs = 100mA
Inductance Range.....	18 to 2400 μ H, automatically tuned
Lightning Protection.....	Exceeds NEMA and Caltrans
Temperature Range.....	-40°F to +176°F (-40°C to +80°C)
Dimensions.....	4.5" H \times 6.875" D \times 2.2" W

Connections

22 pin card edge connector, mates with Cinch Jones 50-44A-30M

Pin	Function	Pin	Function
A	DC common (-)	N	Not used
B	DC 24V (+)	P	Channel 3 loop input
C	Reset	R	Channel 3 loop input
D	Ch. 1loopinput	S	Ch. 3 output collector (+)
E	Ch. 1loopinput	T	Ch. 3 output emitter (-)
F	Ch. 1outputcollector(+)	U	Channel 4 loop input
H	Ch. 1outputemitter(-)	V	Channel 4 loop input
J	Ch. 2loopinput	W	Ch. 2 output collector (+)
K	Ch. 2loopinput	X	Ch. 2 output emitter (-)
L	Chassis ground	Y	Ch. 4 output collector (+)
M	Not used	Z	Ch. 4 output emitter (-)
1	Not used	12	Not used
2	Not used	13	Not used
3	Not used	14	Not used
4	Not used	15	Not used
5	Not used	16	Channel 3 StatusOutput
6	Not used	17	Not used
7	Channel 1 Status Output	18	Not used
8	Not used	19	Not used
9	Not used	20	Channel 2 StatusOutput
10	Not used	21	Not used
11	Not used	22	Channel 4 StatusOutput

NEMA detectors may not be compatible with 170 rack configurations.

Other available detection products

These other detection products are also available from Peek Traffic:

222N	Two channel NEMA TS-1	p/n 82-1339-02
222N-TS2	Two channel NEMA TS-2	p/n 82-1339-01
222NT-TS2	Two channel NEMA TS-2, w/ Timing	p/n 82-1341-01
224N-TS2	Four channel NEMA TS-2	p/n 82-1336-02
224NT-TS2	As above, w/ Extend/Delay Timing	p/n 82-1336-01

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Please contact Peek Traffic Corporation for customer inquiries about any of the company's Traffic Control, Data Collection, Enforcement, Detection, or Tolling products. To learn how Peek Traffic is making the world a safer place to travel, visit the Peek Traffic web site at <http://www.peek-traffic.com>.

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