



- Municipal
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Turn-key solutions to control traffic patterns, parking enforcement and site security



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Model B300- 0120 Loop Detector

Loop Frequency: Four Frequencies (normally in the range of 20 to 100 kilohertz) are DIP switch selectable from the front panel.

Reset: Changing any DIP position (except SW 1, and SW 2, frequency selection) will reset the detector. After changing the frequency selection switches, the detector will require a RESET. Reset will clear the loop fault memory.

Sensitivity Boost: An external DIP switch setting may be turned ON to increase sensitivity ONLY during the DETECT period. When a vehicle enters the loop, the detector sensitivity is boosted to a higher level than the vacant loop setting. The boosted sensitivity remains throughout the DETECT period. When the vehicle leaves the loop, the sensitivity returns to the vacant loop setting. This feature helps prevent dropouts during the passage of high bed vehicles and is particularly useful in sliding gate situations.

Relay "A" Modes: Two presence hold times are selectable for Relay A with an external DIP switch, "TruePresece™" and "Limited Presence." Both modes output a "Call" when a vehicle is present in the loop. TruePresece™ will hold the call for as long as the vehicle is present and power is not removed or reset applied. Limited presence will typically hold the call output for about one to three hours. The TruePresece™ applies only for normal size automobiles and trucks and for normal size loops (approx. 12 sq. ft to 120 sq. ft).

Relay "B" Modes: Three modes of operation are selectable for Relay B with an external DIP switch, Presence, Pulse or Fail. When in the presence mode, the presences hold time is the same as Output A. When in pulse mode, the 250-millisecond pulse can be selected as either pulse on entry (when a vehicle enters the loop) or pulse on exit (when a vehicle exits the loop). The fail mode provides an out put for as long as a loop failure exists. Relay B is a fail secure output in the presence and pulse modes. In the fail mode, relay B is fail secure when power fails. A loop failure will generate an output

Output "Call" Memory: When power is removed for two seconds or less, the detector automatically "remembers" if a vehicle was present over the loop. When power is restored, the detector will continue to output a call until the vehicle leaves the loop. (Power loss or dips of two seconds or less will not drop the call.)

Power Status Indicator: A green super intensity light emitting diode (LED) indicates power status during normal detector operation. When the green (PWR) LED light is on the power to the detector is normal. When power drops approx. 20% from nominal, the green LED turns off and the detector remains operational. When power drops approx. 25% from nominal, the green is off and the "line" voltage is not sufficient to operate the detector.

Detect Status Indicator: The red (DET) LED is steady ON while a vehicle is being detected. The (DET) Led will flash at a 4Hz rate with a 50% duty cycle while timing out the 2 Second Duty Call Delay.

Loop Failure Monitor Indicator: If the total inductance of the detector input network goes out of the range specified for the detector or suddenly changes more than +/-25% the detector will enter fail mode. The red "FAIL" LED will either begin flashing with a 50% duty cycle once per second for a shorted loop condition or will be ON continuously for an open loop condition. These indicator conditions will continue until the inductance returns to its previous value at which time the detector output will automatically resume normal



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operation and the red “FAIL” LED will flash at a distinctive rate (a burst of 3 flashes once per second) to indicate an intermittent loop fault has occurred and corrected. [The detector input network, consists of the loop or loops plus the feeder cable (lead-in or home run) up to the connector on the detector].

Self-Tuning: Automatically tunes to loop within 2 seconds after application of power or reset. 30 seconds of operation is required before full sensitivity and presence time is reached following application of power or reset.

Environmental Tracking: Fully self-compensating for environmental changes and loop drift over the full temperature range and entire loop inductance range.

Grounded Loop Operation: The loop isolation transformer allows operation with poor quality loops (which may include a single point short or leakage to ground).

Lightning Protection: The receiver can tolerate, without damage, a 10 microfarad capacity charged to 2,000 volts being discharged directly into the loop input terminals, or a 10 microfarad capacitor charged to 2,000 volts being discharged between either loop terminal and earth ground.

Relay Ratings: The relay contacts are rated for: 6-Amps max, 150 VDC max, 300 VAC max, and 180 Watts max switched power.

Ruggedized Construction: The enclosure is high temperature rated lexan plastic. Printed circuit boards are double sided 2oz./copper with plated through holes.

Operating Temperatures: -40°F to +180°F Meets or exceeds NEMA specifications.

Size: 1.75 in (4.45 cm) wide x 3.00 in (7.62 cm) high x 5.00in (12.70 cm) deep including rear connector.

Weight: Approx. 8.1 oz (229.64gm).

Connector: Rear mount 11pin male “Amphenol” connector (86CP11).

Sensitivity:

| <u>Sens</u> | <u>-ΔL/L</u> |
|-------------|--------------|
| 0 | 1.28% |
| 1 | 0.64% |
| 2 | 0.32% |
| 3 | 0.16% |
| 4 | 0.08% |
| 5 | 0.04% |
| 6 | 0.02% |
| 7 | 0.01% |

Pin Assignments:

| <u>Pin</u> | <u>Function</u> |
|------------|-----------------|
|------------|-----------------|



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- 1 Power, Hot, or (+)
- 2 Power, Neutral, or (-)
- 3 Output B, Normally open (N.O.)
- 4 No connection
- 5 Output A, Common
- 6 Output A, Normally open (N.O.)
- 7 Loop
- 8 Loop
- 9 Output B, Common
- 10 Output A, Normally closed (N.C.)
- 11 Output A, Normally closed (N.C.)

Factory Default Settings:

| | |
|------------------------|--|
| Sensitivity level: | Level 3 |
| Output Configurations: | Relay A=TruePres.(infinite) Relay B= Pulse on Entry |
| Sensitivity Boost: | OFF |
| 2 Call Delay: | OFF |

Note: "Detect" Memory is ALWAYS ON. There is no switch for this feature.



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