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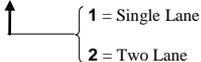
# MODEL DL-ATG

## TWO CHANNEL ANTI-TAILGATING LOOP DETECTOR OPERATING INSTRUCTIONS

### I General

The model designation indicates the number of lanes covered by each loop.

#### Model DL-ATG-x



The Model DL-ATG is a two channel detector designed to accurately count vehicles and identify their direction of travel over two small inductive loops, even if they are tailgating. Please note that the Model DL-ATG has been specifically designed and tested to count and/or identify *passenger vehicles*.

The Model DL-ATG accumulates directional vehicle counts that are displayed on the front panel Liquid Crystal Display (LCD). The Model DL-ATG has 4 relay outputs; 2 for loop presence, 1 for counting in the AB direction, and 1 for counting in the BA direction.

**Prior to initial operation, the Model DL-ATG detector must be calibrated.** Connect the detector to an appropriately wired harness and apply power. Follow the instructions outlined under **Calibration** on page 2 to calibrate the detector.

### II Controls

#### i Push Buttons

##### A → B Count

When pressed the LCD screen displays the number of vehicles that have traveled over the loops in the A→B direction. This accumulator is capable of accumulating up to 99,999 directional counts. The display will show the hundreds, tens, and ones digits until the accumulated count exceeds 999. At this point the display will alternate between the ten thousands and thousands digits and the remaining three digits for hundreds, tens, and ones. Loss of power will not reset this number. The A→B accumulator is indicated by the 1 symbol on the bottom of the LCD screen.

##### B → A Count

When pressed the LCD screen displays the number of vehicles that have traveled over the loops in the B→A direction. This accumulator is capable of accumulating up to 99,999 directional counts. The display will show the hundreds, tens, and ones digits until the accumulated count exceeds 999. At this point the display will alternate between the ten thousands and thousands digits and the remaining three digits for hundreds, tens, and ones. Loss of power will not reset this number. The B→A accumulator is indicated by the 2 symbol on the bottom of the LCD screen.

##### Count Reset

When pressed, both A→B and B→A Count accumulators are reset to zero.

##### Loop Fail

When pressed, the LCD screen displays the count of past failures for each loop. The LCD will display the text "LOOP FAIL" and a channel indicator icon 1 for Channel A or 2 for Channel B. These numbers reset to 0 for both channels on power down, or when Detector Reset is pressed.

##### Diagnostics

When pressed the LCD screen continuously displays the Loop Inductance value L= in microhenries (μH). When a vehicle is detected the LCD displays the percentage of inductance change -ΔL/L= value. When this feature is activated a single audible beep sounds for vehicles traveling in the A→B direction. A double audible beep sounds for vehicles in the B→A direction. Pressing the Diagnostics button again while viewing Diagnostics will toggle between Channel A and Channel B. This Diagnostic display will turn OFF after 15 minutes and return to the A→B Count display.

##### Detector Reset

When pressed both channels are reset. Detector Reset will clear the loop fail accumulators, and any prior loop fail indication. Detector Reset does not reset the count accumulators.

### III Loop Orientation

#### i DL-ATG-1

The DL-ATG-1 version of the detector accurately counts directional vehicles in a single lane of traffic with loop spacing of 8 feet from leading edge to leading edge. Loop spacing may vary from a minimum of 2 feet from leading edge to leading edge (overlapping by six inches) to a maximum of 12 feet from leading edge to leading edge. Count accuracy at high speed (30 mph) decreases as you approach the minimum and maximum loop spacing. Vehicles must span both loops to be counted.

Typical loop size is 2.5 feet x 6 feet. The loop size can vary from 2 feet to 4 feet in the direction of travel and 5 feet to 7 feet across the lane. The loop should have three (3), four (4), or five (5) turns of wire. The detector operates most effectively when each channel is connected to a single loop. **Connecting multiple loops to a single channel is not recommended.**

#### ii DL-ATG-2

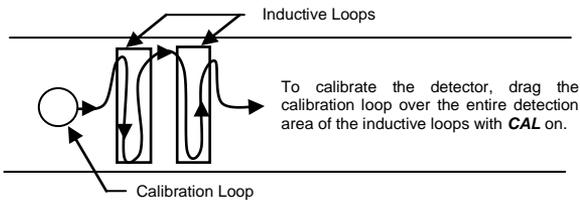
The DL-ATG-2 version of the detector accurately counts directional vehicles in two lanes of traffic with loop spacing of 8 feet from leading edge to leading edge. Loop spacing may vary from a minimum of 2 feet from leading edge to leading edge (overlapping by 0.5 feet) to a maximum of 12 feet from leading edge to leading edge. Count accuracy at high speed (30 mph) decreases as you approach the minimum and maximum loop spacing. Vehicles must span both loops to be counted.

Typical loop size is 2.5 feet x 18 feet. The loop size can vary from 2 feet to 4 feet in the direction of travel and 12 feet to 24 feet across the lane. The loop should have two (2), three (3), or four (4) turns of wire. The detector operates most effectively when each channel is connected to a single loop. **Connecting multiple loops to a single channel is not recommended.**

### IV Calibration

Calibrating the detector will automatically select the proper frequency and sensitivity for each channel. The detector ships from the factory ready to be calibrated for first time use. Once power is applied and there are no loop failure indications, the LCD displays **CAL**. To calibrate the detector, place the Reno A&E Calibration Loop (not included with the detector) on the ground at least two feet away from the inductive loop. Slowly drag the calibration loop over the entire detection area of the inductive loops. The calibration is finished when the calibration loop has been detected over both channels and there is no presence detected on the loops for approximately five (5) seconds. Once the calibration process has successfully been completed, the display will revert from **CAL** to Count A→B. Please note that once the calibration process has been initiated there is no way to cancel the calibration procedure. To enter into calibration mode after initial calibration, press and hold the Detector Reset button for 10 seconds until the LCD Display reads **CAL**.

**NOTE: Proper calibration is essential for accurate detection of tailgating vehicles. It is critical that vehicles do not pass over the inductive loop while calibration is in progress.**



### V Loop Fail

Any time a channel failure occurs the LCD Display will indicate what type of failure has occurred on the channel. The LCD will display **L lo** for low loop inductance and shorted loop situations or **L hi** for high loop inductance and open loop situations. When there is a failure on both channels the display will toggle between the channels every 5 seconds displaying the fail status of each channel. Upon failure, the presence Output Relay for that channel will enter into the Fail Safe Mode, indicating presence on that channel. In addition to the LCD display indication, and the Presence Output Relay, the corresponding channel's Presence LED will flash three flashes per second. If the loop self-heals, the Presence Relay and LCD will resume normal operation while the LED will continue to flash until the loop fail register is cleared by a Detector Reset or by cycling power.

### VI Pin Connections

(Reno A&E Wiring Harness Model 804)

Pin	Wire Color	Function
A	White	Power, Neutral, 120 VAC
B	Gray/Black	BA Count, Relay Common
C	Black	Power, Line, 120 VAC
D	Brown	Channel A Loop Input
E	White/Brown	Channel A Loop Input
F	Red	Channel B Loop Input
G	White/Red	Channel B Loop Input
H	Green	Chassis Ground
J	Orange	No Connection
K	White/Orange	No Connection
L	Yellow	No Connection
M	White/Yellow	No Connection
N	White/Blue	Channel A Presence, Relay Normally Open
P	Blue	Channel A Presence, Relay Common
R	Violet	AB Count, Relay Common
S	White/Violet	AB Count, Relay Normally Open
T	Gray	Channel B Presence, Relay Common
U	White/Gray	Channel B Presence, Relay Normally Open
V	White/Black	BA Count, Relay Normally Open

NOTE: All pin connections listed above are with power applied, loop connected, and no vehicle detected.