

LC-200 Series

Dual Channel Inductive Loop Vehicle Detectors



Overview

The LC-200 Two channel Inductive Loop Vehicle Detector is an intelligent, extremely flexible and highly affordable vehicle detector. The LC-200 is designed to accommodate numerous applications and intelligently adjust itself to environmental conditions, virtually eliminating false detection.

The LC-200 is intended to connect to a 3-5 turns preformed or saw cut wire loops.

The LC-200 is a full featured, dual channel, dual output (1 per channel) that incorporates a highly reliable vehicle detection technology. All detector functions are easy to configure using two sets (1 per channel) of six external DIP switches.

Features

- Microprocessor Controlled
- 12V/24VDC or 110/220VAC Models
- Small, compact size, 11 Pin Circular DIN
- Two LED indicators (Power, Loop Status)
- True Presence or Pulse output
- Four Loop Frequencies
- Four Sensitivity Levels
- Auto Sensitivity Boost (ASB) in case where high bed vehicles might be encountered
- Self Tuning for 20-20,000 uH Inductance
- Auto Loop Drift Compensation
- NO or NC Relay Contact Outputs
- Transformer Isolated Loop Inputs
- Lightning Protection on All Channels
- Shorted or Open Loop detection and Indication
- Grounded Loop Operation

Ordering Information LC-200-X-YY

 | | (NC) or (NO) type relay output
1=12/24VDC, 2=110VAC, 3=220VAC

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SPECIFICATIONS

Operating Frequency

Four (4) operating frequencies (normally in the range of 20 to 100 kilohertz) are selectable for each channel by means of four front panel mounted DIP switches (two per channel).

Sensitivity

Four (4) detection sensitivity levels are selectable for each channel by means of four front panel mounted DIP switches (two per channel). Vehicle detection results from a sufficient negative change in loop inductance.

Sensitivity Boost

Each channel has a front panel mounted DIP switch that may be turned on to increase sensitivity during the Detect State. When a vehicle enters the loop detection zone, the detector channel sensitivity is automatically boosted to a higher level than the vacant loop setting. The boosted sensitivity level is maintained throughout the Detect State. When the vehicle leaves the loop detection zone, the channel sensitivity immediately returns to the vacant loop setting. This feature is particularly useful in preventing dropouts during the passage of high bed vehicles.

Presence or Pulse Mode

Each detector channel's output has two modes of operation that are selectable by means of two front panel mounted DIP switches (one per channel); True Presence and Pulse-on-Entry. True Presence will hold the channel's output in the Detect state as long as the vehicle is present in the loop detection zone and power is not removed or reset applied. True Presence time applies only for normal size automobiles and trucks and for normal size loops (approximately 12 to 120 sq. ft.). When set to operate in Pulse-on-Entry mode, a 250 millisecond pulse output will occur when the vehicle enters the loop detection zone.

Power Indicator

The green Power LED is Off when the detector has no power supplied or when the power level is below 75% of its nominal value. The Power LED is On when the detector is being supplied with a suitable level of power.

Size.....3"(H) x 1.5"(W) x 4.75"(D)
Weight.....300 grams
Operating temperature..... -10 to 55 C
Operating humidity..... 0 to 95%
Power Consumption..... 4W max

Detect / Fail Indicator

Each channel has a red Detect / Fail LED that is used to convey information about the channel's output state and /or loop failure conditions. The Detect /Fail LED is Off when the channel's loop detection zone is vacant. The Detect / Fail LED is On when a vehicle is being detected. The Detect / Fail LED flashing at a one Hz rate with a 50% duty cycle indicates that a Shorted Loop fail condition exists. The Detect / Fail LED flashing at a 10 Hz rate with a 50% duty cycle indicates that an Open Loop fail condition exists. The Detect / Fail LED flashing at a rate of three flashes per second indicates that a loop failure condition has occurred and has been corrected. This flash rate will continue until another loop fault occurs, the detector is reset, or the detector loses power. NOTE: If a vehicle is detected, the Detect / Fail LED will turn ON even if a prior loop failure condition exists.

Detector Reset

Changing the position of either channel's DIP Switches (except the Frequency DIP switches) will reset that detector channel. The detector can be reset by pressing the front panel mounted pushbutton labeled RESET. After changing either channel's Frequency selection switches (DIP switches 1 & 2), the detector channel must be reset.

Self Tuning

The detector automatically tunes and is operational within two seconds after application of power or after being reset. Full sensitivity and hold time requires 30 seconds of operation.

Environmental & Tracking

The detector is fully self-compensating for environmental changes and loop drift over the full temperature range and the entire loop inductance range.

Protection & Isolation

The detector has built in isolation transformers to isolate the wire loops from the circuit. Outputs are isolated by means of relays. Also the detector can tolerate, without damage, a 10uF capacitor charged to 1,000V being discharged directly into the loop input terminals.