

U.S. Traffic Corporation

Manufacturers & System Engineers

Detector Systems® • Indicator Controls • Solid State Devices • Multisonics/Traconex • Matrix 2070 • Winkomatic Traffic • Gibbons Enclosures • Myers Custom Products • IDC

TECH TIPS

As the nations leading manufacturer of loop detection systems, we receive calls on a daily basis from suppliers and installers who have questions, problems or unique applications for loop systems. We therefore have developed this series of newsletters designed to provide useful tips and information on vehicle loop detection and to help take the "Black Magic" out of these systems.

Digital Loop Detectors

Single Channel, Dual Output...Two Channel, Single Output...Pulse and Presence... 10 Pin MS Connector... 11 Pin Amphenol...Failsafe...Failsecure...

What in the world does it all mean?

In today's market you are always running into new ideas, new applications or special requests for your customers. Most of these will require some type of vehicle detector.

To help you determine exactly what type of detection you need, we would like to explain what some of the terminology, specifications and functions of a detector really mean. Please remember these are simply some of the common terms we have found used throughout the industry.

- **Loops:** This refers to the actual underground coil of wires, sometimes called: Loop antenna, Cut in loop, Preform loop, etc. Unfortunately, it is also sometimes referred to as a loop detector or detector loop, which can be confusing.
- **Detectors:** The term "Detector" refers to the actual electronic detection component, sometimes called: Digital Loop Detector, Loop Amplifier, etc.
- **Input:** Loop or Power leads coming into a detector.
- **Output:** Relay contact closures activated by detector.
- **FAILSAFE Output:** Standard feature in most brands of detectors. It provides for a constant output closure (constant detect) when the detector encounters a shorted loop, an open loop, a multiple point short to ground or a power failure to the detector.
- **FAILSECURE:** Optional feature available in some brands of detectors. This locks the relay open when any of the conditions listed above occur. This option is often used in applications where the gate must remain secure in Loop Fail or Power Fail conditions.
- **Presence:** Relay closure that is continuous the entire time a vehicle is present over the loop. Usually available with N.O. and N.C. contacts.

- **Pulse:** Momentary relay closure (125 milliseconds) when vehicle first enters loop area. Usually available with N.O. and Common contacts.
- **Dual Output Detector:** A loop detector which provides two (2) Relay outputs, normally a Pulse and a Presence output.
- **Operating Mode:** Usually found on detectors with a single relay output. The mode switch on the front panel selects for Pulse or Presence mode.
- **Dual Channel Detector:** A single unit which provides two separate loop detectors. Each detector circuit operates independently providing separate outputs.
- **MS Connector:** 10 pin military spec type connector. Screw on type connector as found in IDC Detector Systems Model 436 and other detectors.
- **Amphenol 11 pin Connector:** This connector is commonly referred to as a "Tube Socket type". It is utilized in many parking, gate and access control applications. Commonly found on IDC Detector Systems Model 326 detectors.

So how do I know what I need?

When determining what you need from a loop detector, remember 3 basic questions: (1) output requirements, (2) loop size and function, (3) number of detectors required.

Should you have any questions or special applications, feel free to call us.



The 326LV detector operates on a variety of low voltage inputs. Also provides short term power failure carry over circuitry.



WHAT DO YOU MEAN IT'S NO GOOD? ***An Examination of Real World Problems***

Recently a customer called with a gate problem he could not solve. This company was very experienced at installing gate systems and was familiar with proper loop installation methods. Naturally the loop detector was named as the source of the problem. Here's what happened:

The Problem:

An airport had several gate entrances surrounding the runway and maintenance buildings. An intermittent problem was causing the gates to start opening then suddenly close, sometimes hitting vehicles which had started to enter the gate. Our customer checked that all connections were properly soldered, meggered the loops and even tried changing detectors. Unfortunately the problem continued to randomly occur.

Mystery Unraveled:

A close evaluation of the situation showed that the problem was only occurring at the gates farthest from the buildings. Further examination found that the detectors and gate operators received power from the same power source.

This resulted in a momentary drop in power when the gate monitor initially started. At certain times throughout the day, when power consumption at the airport was at its peak, the momentary power loss would sometimes drop below the operating level of the detector (approx. 90VAC) yet providing enough power to run the gate motors. When the power came up to proper levels the detector would reset, ignoring the vehicle over the safety loop. The operator would get the all clear signal and close the gate.

To correct this power problem, we installed 12VDC detectors with a battery back-up supply and trickle charging system. This insured that the detectors received sufficient power even during the power drop-outs. We also advised the airport to either have heavier gauge wire installed or a separate power line fed to the detectors.

HAVE A PROBLEM?
GIVE US A CALL AT (800) 733-7872 OR (562) 923-9600

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9603 John Street • Santa Fe Springs, CA 90670
Tel: (562) 923-9600 • Fax: (562) 923-7555
Toll Free: 1-800-733-7872 • www.idc-traffic.com