





- Single loop detector
- Automatically adjustment of detection level
- Manual sensitivity for compensations of variations
- Easy installation via 11 pin circular plug
- Rated operational voltage:24 VAC/DC, 115 VAC or 230 VAC
- Pulse or presence relay output
- Output 1A/250 VAC SPST relay
- LED indication for power, relay status and loop fault
- Sensitivity boost
- Selectable frequency – prevents cross-talk

## Product Description

Loop detectors for detection of vehicles. The vehicle loop detector is designed to handle all parking, drive-through and access control applications for controlling doors, gates, barriers or fences.

The principle is based on a change in the inductance within the loop when a metallic object (vehicles) is passing. The microprocessor evaluates the changes.

## Specifications

<b>Rated operational power</b>		
AC supply	3 VA	
AC/DC supply	1.5 VA / 1.5 W	
<b>Delay on operate (t<sub>y</sub>)</b>	< 10 S	Typ. 4 S
<b>Outputs</b>		
Minimum switching current	10 mA @ 12 V	
Rated insulation voltage	250 VAC (rms) (cont./elec.)	
<b>Relay Rating (AgNi 90/10)</b>		
Resistive loads	AC1	µ (micro gap) <p>1 A / 250 VAC (250 VA)</p> <p>1 A / 30 VDC (30 W)</p>
Mechanical life (typical)	DC1	≥ 15 x 10 <sup>6</sup> operations <p>≈ 18'000 imp/h</p> <p>&gt; 250'000 operations</p>
Electrical life (typical)	AC1	
<b>Frequency range</b>	13 - 120 kHz	
<b>Loop inductance</b>	15 - 1500 µH	
<b>Operating frequency (f)</b>		
Relay output	1 HZ	
<b>Response time</b>	400 mS	
<b>Environment</b>		
Degree of protection	IP 20 /IEC 60529, 60947-1)	
<b>Temperature</b>		
Operating	-20° to +70°C (-4° to + 122°F)	
Storage	-50° to +85°C (-58° to +185°F)	
<b>Approvals</b>	UL508, CSA	
<b>CE marking</b>	Yes	

## Mode of Operations

Loop Diagram

**Application**
The LDP Vehicle Loop Detector is based on microprocessor technology, which has enable a large number of functions to be implemented. The functions is primarily for use in the Parking/Access Control Industry like control for gates, barriers, fence,s etc.
Standard operations is implemented including programmable pulse and presence option.

### Principle

The Vehicle Loop Detector is based on the inductive principle, using a coil of wire buried in the driveway and connected to the loop detector. The change in inductance will be measured as a change in frequency. The output relay activates, when the loop is activated and releases again when the loop returns to a non-activated condition.

### Setup

The loop has to be in a passive condition (no object in the loop area) during start-up and adjustment.
The loop detector will automatically calibrate when the reset button has been activated, which will be indicated by the red LED flashing.
The functioning can now be checked by activating the loop with the actual object. Now the yellow LED will go on, and the output relay will be activated according to the dip-switch settings. If the loop detector does not react, the sensitivity must be manual adjusted by means of the dip-switches.
**Important:** reset the system after changing the Dip-switch settings.

### Temperature compensation

The frequency will increase as a result of decreasing temperatures and vice versa. To compensate for this, or any other situation that courses slowly change in frequency, the LD auto tunes constantly. That means if the frequency changes slowly there will be no detection. The auto tune function compensates for both increasing or decreasing in frequency.

### Fault detection

This function is useful if the cable disconnect.
The alarm will be indicated via the red LED in front of the housing. This LED is constantly lighting when the loop is open or to large and flashing when a short circuit occurs or a loop is to small.

### Sensitivity

8 sensitivity settings are available on the dip-switches in front of the module, to allow flexibility in configuration and application (Compensation for variation in loop construction).

### Reset switch

The reset switch enables the detector to be manually reset during commis-

## GB

Loop Diagram

sioning and testing. The detector will re-tune the sensing loop and becoming ready for vehicle detection.

### Relay output

The single loop detector has two SPDT relays – one for pulse output and one for presence output.

The dual loop detector has two SPST relays – one for each loop.

**Pulse output (one shot):** It is possible to select the length of the output period to 0.2s or 1 second. The pulse output can be setup to activate on detection of a vehicle or when the vehicle leaves the loop.

**Presence output:** The output will be activated as long as there is a vehicle parked in the loop. It will be possible to activate a filter (ON-delay of 2 seconds), which prevents a false detection from a small or fast moving object.

**Pulse output mode**

The relay activates only for a short periode when the vehicle enters or leaves the loop.

### Permanent output mode

The relay will remain active as long as there is a vehicle parked in the loop.

### Pulse length

Extends the pulse length from 0.2 sec to 1 sec.

### On-delay

Prevents false detections of small or fast moving objects.

### Sense boost

This feature sets the undetected level to maximum sensitivity and is used to prevent loss of detection of high-bed vehicles.

### Selectable frequency

The frequency of the loop is determined by the inductance of the loop and the frequency switch setting. If the frequency switch is on, the frequency is reduced. It may be necessary to change the frequency to prevent cross talk between adjacent loops.

The frequency function will only change the frequency of one channel of the dual loop detector.

**Important:** Be carefully when installing the detector next to another inductive load, as this can have an effect on the detector and cause false detections.

## Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

- Ausfallsen-Detektoren
- Automatische Einstellung der Detektionsgrenze
- Manuelle Empfindlichkeitseinstellung für Variationsausgleiche
- Einfache Installation über 11-poliger Rundstecker
- Nenn-Betriebsspannung: 24 VAC/DC, 115 V AC oder 230 VAC
- Relais-Ausgangssignal, Impuls oder Anwesenheit
- Ausgang 1 A/250 VAC Wechsler
- LED-Anzeige für Betriebsspannung, Relaiszustand und Schleifenfehler
- Empfindlichkeitserhöhung
- Wählbare Frequenz zur Vermeidung von Interferenzen

## Product Description

Schleifendetektoren für die Fahrzeugerfassung. Der Fahrzeugschleifendetektor ist für Anwendungen mit Park-, Durchfahrts- und Zugangskontrollen ausgelegt zur Steuerung von Türen, Toren, Schlagbäumen oder Zäunen.

Das Funktionsprinzip basiert auf schleifeninternen Induktanzänderungen bei Überquerung von einem metalli-schen Objekt (Fahrzeug). Der Mikroprozessor bearbeitet die Änderungen.

## Specifications

<b>Nenn-Betriebsleistung</b>		
Betriebsspannung AC	3 VA	
AC/DC-Versorgung	1.5 VA/1,5 W	
<b>Ansprechverzögerung (t<sub>y</sub>)</b>	< 10 Sek.	Typisch 4 Sek
<b>Ausgänge</b>		
Min. Schaltstrom	10 mA @ 12 V	
Nenn-Isolationsspannung	250 VAC (rms)	(Kontakt/Elektronik)
<b>Relaismaterial (AgCdO)</b>		
Ohmsche Last	AC1	µ (Mikroschalter) <p>1 A / 250 VAC (250 VA)</p> <p>1 A / 30 V DC (30 W)</p>
Mech. Lebensdauer (typ.)	DC1	≥ 15 x 10 <sup>6</sup> Schaltspiele <p>bei 18.000 Imp./Std.</p> <p>&gt; 250.000 Schaltspiele</p>
Elektr. Lebensdauer (typ.)	AC1	
<b>Frequenzbereich</b>	13 bis 120 kHz	
<b>Schleifeninduktanz</b>	15 bis 1.500 µH	
<b>Schaltfrequenz (f)</b>		
Relaisausgang	1 Hz	
<b>Ansprechzeit</b>	400 mS	
<b>Umgebungsbedingungen</b>		
Schutzart	IP 20 (IEC 60529, 60947-1)	
<b>Temperatur</b>		
Betrieb	-20° bis +70° C	
Lagerung	-50° bis +85° C	
<b>Zertifizierung</b>	UL508, CSA	
<b>CE-Kennzeichnung</b>	Ja	

## Mode of Operations

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

manuell rücksetzen. Der Detektor kalibriert die Tastschleife neu und wird einsatzbereit.

### Relaisausgang

Der Einschleifendetektor verfügt über zwei SPDT-Relais (jeweils ein Relais für Impuls und Anwesenheit).

Der Doppelschleifendetektor verfügt über zwei SPST-Relais – für jede Schleife ein Relais.
**Impulsausgabe (Einzelsignal):** Die Ausgabedauer ist zwl-schen 0,2 und 1 Sekunde frei wählbar. Der Impulsausgang lässt sich dazu einstellen, bei Erfassung eines Fahrzeuges oder wenn ein Fahrzeug die Schleife verlässt zu schalten.

**Anwesenheitsausgabe:** Der Ausgang bleibt aktiviert, so lange ein Fahrzeug in der Schleife parkt. Ein Filter kann eingeschaltet werden (EIN-Verzögerung von 2 Sek.), das falsche Erfassung kleiner oder schnell bewegender Objekte verhindert.

### Betriebsart Impulsausgabe

Das Relais schaltet nur kurzzeitig, wenn das Fahrzeug in die Schleife hinein-fahrt bzw. diese verlässt.

### Betriebsart Anwesenheits-ausgabe

Der Ausgang bleibt aktiviert, so lange ein Fahrzeug in der Schleife parkt.

### Impulsdauer

Verlängert die Impulsdauer von 0,2 auf 1 Sekunde.

### EIN-Verzögerung

Verhindert Falscherfassungen kleiner oder schnell bewegender Objekte.

### Empfindlichkeitserhöhung

Diese Funktion stellt maximale Empfindlichkeit für die Erfassungshöhe ein und dient als Schutz gegen Nichterfassung von Fahrzeugen mit hoher Bodenfreiheit.

### Wählbare Frequenz

Die Schleifenfrequenz wird von der Schleifeninduktanz und der Frequenzschaltereinstellung bestimmt. Ist der Frequenzschalter aktiviert, wird die Frequenz reduziert. Zur Vermeidung von Interferenzen zwischen eng bei-einander liegenden Schleifen kann es notwendig sein, die Frequenz zu ändern. Die Frequenzfunktion ändert lediglich die Frequenz von einem Kanal des Doppelschleifendetektors.

**Wichtig:** Vorsicht bei der Detektorinstallation! Nicht neben andere induktive Lasten montieren. Dies kann den Detektor beeinflussen und zu Falscherfassungen führen.

## Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram

Loop Diagram