

LD40

Loop Detector is used to detect metal objects such as motor vehicles, motor bikes or trucks.

Features

- High sensitive loop detector
- Sensitivity selection switch for bitumen, concrete and re-enforced concrete
- Relay output which is normally wired to door or gate controller card
- Self calibrates for different temperatures

Application

Controls automatic gates, doors or boom gates when a vehicle is present.



Description

Loop detectors in recent years have become a popular tool having innumerable applications in policing, right from surveillance operations to traffic control. Automation of gates and doors have become a popular usage of the loop detector.

The digital technology of the loop detector enables the equipment to sense a change in the inductance of the loop as soon as it detects the metal object in its path. The inductive loop which detects the object is made of insulated electrical wire (32/020; 32 Strand, 2mm diameter) and is arranged either as a square or rectangle shape.

The loop consists of several loops of wire and consideration should be giving to the loop sensitivity when installing on different surfaces. It is recommended that the sensitivity switch on the loop detector, to be set to High (H) for re-enforced concrete, medium (M) for concrete and low (L) for bitumen surfaces. Setting the correct sensitivity allows the loops to operate with maximum detection. When detection occurs, the detector energises a relay for the output. This energising of the relay can be configured, to three different modes, by selecting the output switch on the detector.

Output Switch Setting

- **STATIC:** Relay energises while metal object is over the loop.
- **PULSE:** Relay energises for approximately two seconds, when metal object is over the loop.
- **DELAYED:** Relay energises while metal object is over the loop and remains energised for seven seconds after object has moved off the loop.

The digital technology enables the inductive loop to operate normally when environment temperature variations occur.

With all the above features integrated into a single semiconductor, combined with the loop detector's rigid metal case enables the detector to give accurate relay output when a metal object is over the inductive loop.

To set up follow these steps:

Step 1: Connect twisted wires (Your Loop) to terminal block labeled loop on the control box.

Step 2: Switch on supply.

Step 3: Set "SENS" sensitivity switch to:

LOW (L) = Bitumen

MED (M) = Concrete

HIGH (H) = Re-enforced concrete

Step 4: Set "OUTPUT" switch to either STATIC or PULSE or DELAYED.

- STATIC output = detect led is on as long as car is inside loop.
- PULSE output = detect led is on for approx. two seconds.
- DELAYED output = detect led remains on for seven seconds after car has moved off loop.

Step 5: Press "RESET" push button momentarily. Loop detector is now in operation.

Change "FREQUENCY" switch only if two loop detectors (in close proximity) interfere with each other.

Technical Data

Supply Voltage	12.0 to 24.0 Volts AC/DC
Supply Current	30mA (1 Watt)
Operating frequency	80 to 120 KHz
Oscillation System	Inductive
Operating Temperature Range	-10 - 60°C
Frequency Response	Less than 10Hz (Can detect a motor bike)
Loop	Use Elsema's pre-made loops.
Output	Change over relay output, rated at 1 Amp at 28VDC or 0.5 Amps at 120VDC resistive load.
Output Relay Contact	Common (C), Normally Closed (NC), Normally Opened (NO)
Connections	LOOP and EARTH: 3-way screw type terminal block. SUPPLY and RELAY OUTPUT: 5-way screw type terminal block.
Dimension	125 x 85 x 25 mm
Weight	110g

LOOP

Elsema stocks pre-made loops for easy installation. Our pre-made loops are suitable for all types of installations. Either for cut-in, concrete pour or direct hot asphalt overlay.

see www.elsema.com/automatic-gates/loopdetector.htm

Detector position and installation

- Install the detector in a weatherproof housing.
- The detector should be as close to the sensing loop as possible.
- The detector should always be installed away from strong magnetic fields.
- Avoid running high voltage wires near the loop detectors.
- Do not install the detector on vibrating objects.
- When the control box is installed within 10 metres of the loop, normal wires can be used to connect the control box to the loop. More than 10 metres requires the use of a 2 core shielded cable. Do not exceed 30 metres distance between control box and loop.

For interference free operation every loop detector should have its own 24V transformer and an earth connected to terminal block marked with.



Signal Out

Relay contact

- CO = Common
- NC = Normally closed
- NO = Normally open

Contact will close when metal object is on top of loop. This condition is held for as long as a car is inside loop (if switched to STATIC output).

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