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VD909 Mini Loop

Functional description

Mini-loops offer a convenient hi-tech alternative to inductive loop detectors in free exit applications

Buried 6" below the centre of the driveway the sensor detects the rising edge of large ferrous objects. Range is dependant on the size and metallic content of vehicles. A 1m detection radius is typical for domestic drive traffic.

Mini-loops owe their success to a new technology brought to market in an elegant, simple to install product. As usual, it is the software that turns an idea into a solid reliable product.

VD909 can connect to almost any gate or barrier controller power supply. The module is small enough for tightly packed control boxes.



Installation

Choose a position within 22m of the controller, but at least 3m back from the gate line. Avoid steel manhole covers and drains. Drilled holes are ideal for tarmacadam and concrete road surfaces. The sensor slides down a 25mm hole 300-500mm deep. For gravel or hardcore, dig out a hole and fix a 25mm dia length of water pipe vertically, surrounded by a weak concrete mix.



Cut a 5mm slot in tarmacadam road surface for the cable. Cut a trench for a duct in gravel or hardcore. Lower in the sensor until the yellow top is 8" below surface. Pour kiln dried sand in to fill the hole up to the top of the sensor. Fill the last 8" with a more structural plug of post mix or cold black top.

The lead in cable is robust enough to be laid directly in non-compacted ground, but a conduit makes a better job and is easier to maintain. The cable is run back to the VD909 module in the control box.

Check the sensor resistance before sealing the road surface. The sensor impedance should be 2 to 5 ohms depending on lead in cable length. Finish off by dressing the wearing surface with tarmac repair material or Bitem.

VD909 specification

Power	10-30V ac/dc
I quiescant	3mA (not detecting)
I max	25mA (detecting & fault)
Op. Temp	-35° C to 74° C
Module	25 x 39 x 52mm (excl conn)
Sensor	120 x 24mm diameter
IP rating	IP65
Relay	1A @ 30Vdc isolated
Sensitivity	2m ² /s
Impedance	2-5 Ohms

Loop tuning

The detector calibrates to ambient conditions on power up. An output pulse is generated when the rate of change of reluctance drops below the long term mean.

A green power LED blinks to conserve power, suitable for solar powered controllers. The red detect LED pulses once as a vehicle is detected and provides sensor fault diagnosis

Connections

VD909 accepts a wide supply voltage range. If the power supply is dc, be sure to connect the -ve to 'com' and +ve to + terminal. Relay contacts are isolated from the supply.

The road sensor is supplied with a 22m tail in resistant cable. The tail can be shortened to suit the run back to the controller

