

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 dependent 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.

VD959 set uses the DSP50 plug-in card which has adjustable frequency & sensitivity. The VD959-RK version includes a RK1 interface board with a regulated power supply and relay.



DIP3 on/off – fail secure/safe
DIP9 & 10 - set frequency
Rotary adj - sensitivity

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 tarmac and concrete road surfaces. The sensor is placed in a 25mm hole 300-600mm deep. For gravel or hardcore, dig out a hole, then set a 25mm ID water pipe vertically in a weak concrete mix. Pack the sensor in the pipe with sand.



Cut a 5mm slot in the asphalt 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.

Forematic

9 Vanalloys Estate
Stoke Row
Henley RG9 5QW

VD959 specification

Power	12-24V dc
I quiescent	3mA (not detecting)
I max	25mA (detecting & fault)
Op. Temp	-35° C to 74° C
Card	22 x 58 x 60mm (inc conn)
Sensor	120 x 24mm diameter
Sensor IP	IP65
Output	Solid state 30mA sink
Sensitivity	2m ² /s
Impedance	2-5 Ohms

Loop tuning

The detector calibrates to ambient conditions on power up. One of 10 sensitivities can be set on a rotary switch. For mini-loops, DIP8 is set ON. An output pulse is generated on output A only. VD950 also allows alternative frequency

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

DSP50 takes a 10way 0.15" Molex male header. Card Power is DC and outputs are open collector. Incorrect connection will damage the card. Connection devices are available. The optional RK1 allows up 30V ac, gives output A volt free relay contacts, and protects the card against bad connections.

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

