



PROCON
ELECTRONICS

Magnetic Field Vehicle Detector

Model – MD103 PROBE

The **MD103 PROBE** is a magneto resistive sensor which is used to measure the earth's magnetic field. Any change in the magnetic field due to the presence of a vehicle will be detected resulting in a signal output.



The MD103 PROBE can be buried in the road surface underneath the vehicle, alongside the vehicle or can be mounted above the ground next to the passage of the vehicle.

The MD103 PROBE can be used to produce a pulse output and a presence out. The presence output will detect the vehicle indefinitely.

The MD103 PROBE has been designed for parking and access control applications and is a cost-effective solution for detecting vehicles in order to facilitate the automatic opening of security gates. It requires a minimal amount of cutting in the road surface.

Features

Presence Output. When a vehicle drives near the PROBE the presence output is activated. The presence output is normally closed and opens when a vehicle is present.

Pulse Output. When a vehicle drives near the PROBE the pulse output is activated. The pulse output is normally open and closes when a vehicle is present.

Presence and Pulse common. The presence and pulse outputs share a common wire. This wire can be connected to common positive or common negative systems depending on the application.

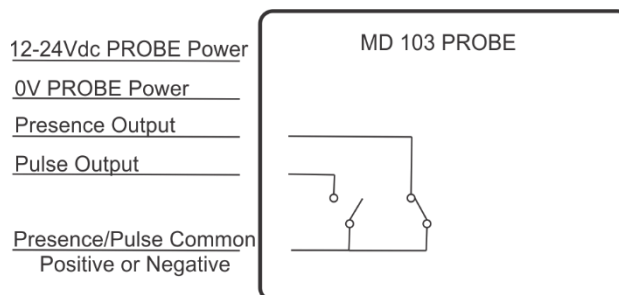
Technical Specifications – MD103 PROBE

Power supply	MD103 12-24 VDC 10mA
Presence Output	Solid state switch – Normally Closed (Fail Safe)
Pulse Output	Solid state switch – Normally Open.
Pulse Time	1 Second.
Response time	Approximately 100ms after vehicle enters loop.
Sensing Distance	The probe should be placed less than 1.5m from the side of the vehicle or in the ground under the vehicle.
Environmental tracking	Automatic Compensation
Cable	Cable length 5m, 10m, 15m, 30m. 5 Core + Earth Screen
Dimensions	70mm X 20mm X 10mm
IP Rating	IP68
Operating Temperature	-20°C to +70°C
Storage Temperature	-40°C to +85°C

Wiring Connections – MD103 PROBE

The following table shows the colors of the wires.

Description	PROBE Cable Details
Earth Screen	Connect to earth at Controller End
PROBE Power +V	Brown
PROBE Power 0V	Blue
Presence Output - NC	White
Pulse Output - NO	Red
Presence & Pulse Common (Positive or Negative)	Green



Installation

The MD103 magnetic PROBE can be installed anywhere close to the travel of the vehicle. Best detection results are obtained when the PROBE is mounted underneath and as close to the vehicle as possible. The PROBE can be mounted in any orientation

1. Mounted on a pole alongside the passage of the vehicle.
2. Buried in the ground alongside the passage of the vehicle.
3. Buried in the road beneath the vehicle.

Whichever method is used, it is very important that the PROBE does not move during normal operation. Any movement will result in the PROBE giving a false detection output.

If the PROBE is mounted in the ground beneath the vehicle, it is important to ensure that the tyres going over the PROBE do not put any downward pressure on the PROBE because this will result in movement of the PROBE and a false detection. When the slot above the PROBE is filled in, ensure that the fill material is concave so that it does not come into contact with the tyre of the vehicle.

The cable is designed for direct burial, however it is recommended that it is placed in a conduit for extra protection. The cable can be cut shorter if the PROBE is installed close to the control panel.

When the power is applied to the PROBE, the startup procedure includes adjusting to the environment. It is important that the vehicle is not present during this process.

Diagnostics

SYMPTOM	POSSIBLE CAUSE	SOLUTION
The Presence output does not detect a vehicle.	Mounted too far from vehicle.	Move probe closer to vehicle.
	Environment has changed.	Cycle power to reset probe.
The presence output stays on.	Local environmental change.	Check probe is secure and does not move.
		Cycle power to reset probe.

Order Codes

Order Code	Description
MD103-5	MD103 Magnetic PROBE – 5m Cable
MD103-10	MD103 Magnetic PROBE – 10m Cable
MD103-15	MD103 Magnetic PROBE – 15m Cable
MD103-30	MD103 Magnetic PROBE – 30m Cable

Contact Details



Refer to our web site for distributor details.

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