

# DMS

## MAGNETIC VEHICLE DETECTOR

High precision magnetic detector to which a loop is connected to detect the presence of vehicles (metal masses) in a pre-determined area.

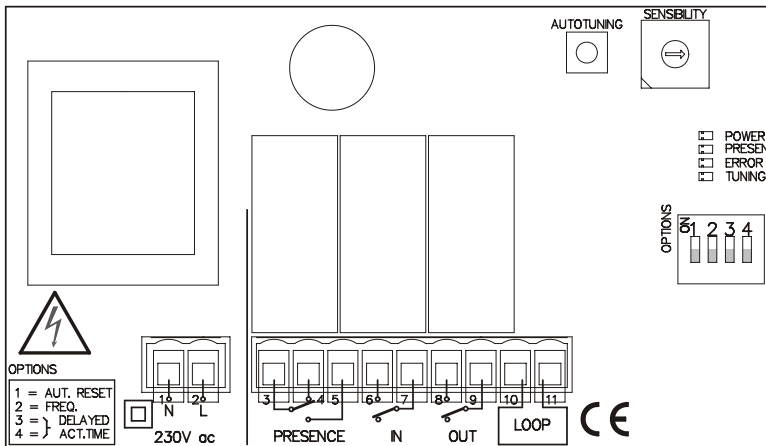
Main applications:

- Vehicle entry/exit control to provide access to garage doors, gates, barriers, etc.
- Detection of vehicles near to automatic traffic light installations.
- Detection of metal masses from a pre-determined area.

### TECHNICAL CHARACTERISTICS

|                                 |                              |
|---------------------------------|------------------------------|
| Supply                          | 230V ac                      |
| Consumption max.                | 14mA a 230V ac               |
| Oscillation frequency           | 40kHz to 140kHz              |
| Loop inductance                 | 30μH to 250μH                |
| Possible no. of loops connected | 1                            |
| Relay contacts                  | 6A, 230V.                    |
| Operating temperature           | -20°C to +85°C (up to 98%Hr) |
| Dimensions                      | 140x220x55mm                 |
| Weight                          | 623g                         |

### BASE PLATE DESCRIPTION



- 1 230V ac line
- 2 230V ac line
- 3 Common presence
- 4 NC closed presence
- 5 NA Open presence
- 6 NA input
- 7 NA input
- 8 NA output
- 9 NA output
- 10 Loop
- 11 Loop

## INSTALLATION

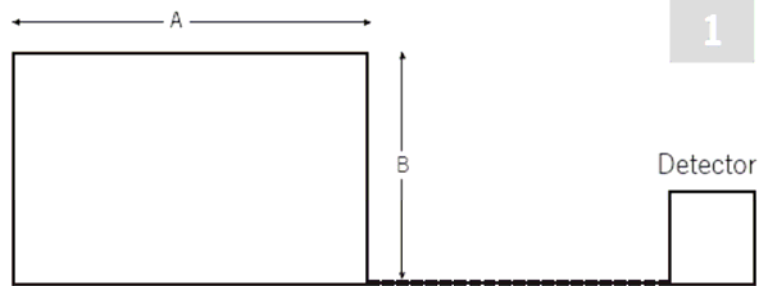
### LOOP INSTALLATION

- Make a rectangular chasing groove in the ground according to the table of dimensions relating to the number of loops, the maximum depth of which must be 5cm.
- Insert the flexible braided 1.5 or 2mm<sup>2</sup> section wiring, surrounding the inside of the rectangle until the correct no. of loops (turns) has been completed.
- Braid the two outgoing ends of wiring to terminals 10 and 11 of the magnetic detector.
- Fill the chasing where the loops are located with fast-drying cement in a compact and firm manner so that they cannot be moved, either through vibrations or through the cracking of the covering itself.

#### Examples of installations:

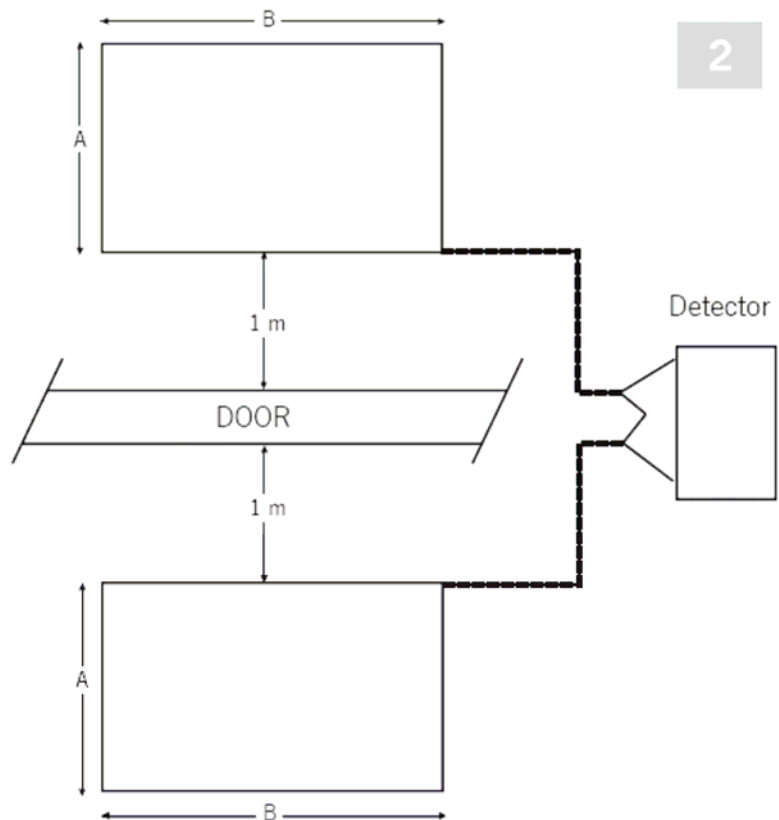
**Table of dimensions 1**

| A x B (m)  | No. of loops |
|------------|--------------|
| 1 x 0.5    | 5            |
| 1.5 x 0.75 | 4            |
| 2 x 1      | 4            |
| 2.5 x 1.25 | 4            |
| 3 x 1.5    | 3            |
| 3.5 x 1.75 | 3            |
| 4 x 2      | 3            |
| 4.5 x 2.25 | 3            |
| 5 x 2.5    | 2            |



**Table of dimensions 2**

| A x B (m)  | No. of loops |
|------------|--------------|
| 1 x 0.75   | 3            |
| 2 x 1      | 3            |
| 2.5 x 1.25 | 3            |
| 4 x 2      | 3            |
| 5 x 2.5    | 2            |



**INSTALLATION OF THE MAGNETIC DETECTOR**

Fit the rear of the box to the wall using the rawlplugs and screws supplied. Pass the cables through the bottom of the equipment. Connect the power supply cables to the terminals on the printed circuit, following the indications engraved on the board. Fit the front of the equipment to the rear using the screws supplied.

**RECOMMENDATIONS**

- The minimum distance between any of the sides of the loop and the other loop or the door itself must be 1 metre.
- The distance of braided wiring from the loop to the detector must not exceed ten metres.
- The wiring from the loop to the detector must be braided at least 20 times per metre.
- The loop wiring must not be installed near to power supply cables.
- In the event of two loops operating relatively close together with their respective detectors, select a different working frequency for each one. Thus no interference will be noted.
- In the event of micro-switch 1 being ON, The door will close automatically 15 minutes after the detector has been locked, despite a vehicle remaining inside.
- This magnetic detector can only be used to detect metal objects, DO NOT USE FOR PERSONAL SECURITY.

**OPERATING**

**Basic operating**

Presence (NO/NC switched contact (by default)): when a vehicle is detected the contact is opened, activating the presence.

Entry (NO): it closes when a vehicle enters the loop.

Exit (NO): it closes when a vehicle exits the area covered by the loop.

**Micro-switch operating**

| Detection time  | Selector 1 |
|---|------------|
| Unlimited   | OFF        |
| Limited to 15 min (after which time it stops detecting and adjusts the frequency) | ON         |

| Oscillation frequency | Selector 2 |
|-----------------------|------------|
| Normal frequency      | ON         |
| Increases frequency   | OFF        |

N.B.: The oscillation frequency depends on the loop inductance.

| Delay time selection | Selector 3 | Selector 4 |
|----------------------|------------|------------|
| 0s delay             | ON         | ON         |
| 2s delay             | OFF        | ON         |
| 5s delay             | ON         | OFF        |
| 10s delay            | OFF        | OFF        |

**Adjustment**

During the adjustment (10s), the red (ERROR) and green (ADJUSTMENT) leds remain lit. When this time is completed, they will switch off. Where they do not switch off, this indicates a fault in the loop connection as follows:

- ERROR and ADJUSTMENT leds flashing: loop not connected or cut at some point.
- ERROR led flashing: inductance loop too low, add loops.

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- ADJUSTMENT led flashing: inductance loop too high, too many loops.

N.B.: During the adjustment time, the detector activates the security contact (presence), preventing any damage during this time.

### **Sensitivity**

10 levels of sensitivity can be selected using the 10-position rotary potentiometer. 0 indicates the minimum sensitivity and 9 the maximum.

Typical installation with a 2x1m loop

| <b>Vehicle</b> | <b>Sensitivity</b> |
|----------------|--------------------|
| Car            | Low                |
| Motorcycle     | Medium             |
| Truck          | High               |
| Bicycle        | High               |

### **IMPORTANT APPENDIX**

In compliance with the European low voltage directive, please be advised of the following requirements:

- An easily accessible connection / disconnection device must be fitted to the wiring for permanently connected equipment.
- This equipment must be installed in a vertical position and firmly fitted to the building structure.
- This equipment can only be handled by a specialist fitter, by his maintenance staff or by a suitably trained operator.
- The instructions for using this equipment must remain in the possession of the user.
- This detector is designed for use on garage doors and for access control. Its use is not guaranteed for any other type of application.
- The manufacturer reserves the right to modify equipment specifications without prior notice.

**JCM TECHNOLOGIES** declares that the product DMS complies with relevant provisions of the agreement as set out in Article 3 of the R & TTE Directive 1999/05/EC, provided the use is as planned.

### **DECLARATION OF CONFORMITY**

View website [www.jcm-tech.com](http://www.jcm-tech.com)