



Control Units MAGTRONIC

Loop Detector MID 2 E - 800

| Technical Data | Type |
|-------------------------|------|
| Power supply: | V |
| Power consumption: | W |
| Operating temperature: | |
| Humidity | |
| Loop inductivity: | |
| Frequency range: | |
| Sensitivity (df / f): | |
| Loop lead length: | |
| Relays: | |
| Switch voltage: | |
| Housing | |
| Dimensions: (h x w x d) | mm |
| Protection | |

| MID 2 E | |
|----------------------------------|--|
| 24 V AC/DC, +/- 10% | |
| max. 1.5 W | |
| -20° bis +70° C | |
| max. 95%, 0 | |
| 25 – 800 µH | |
| 30 – 130 kHz | |
| 0,01% – 0,65% | |
| max. 250 m | |
| 1 presence relay / 1 pulse relay | |
| 24 V AC/DC | |
| plastic housing | |
| for C-rail | |
| with 2 x 3-pin clamps | |
| 79 x 22.5 x 90 mm | |
| IP 40 | |

The MID Detektor

The microprocessor-controlled, dual channel MID detector can detect vehicles without contact. Via the connected induction loop all sorts of metallic vehicles like cars, trucks, buses, fork lifts and even bicycles are easily detected.

Applications:

- barrier controls
- parking and traffic technology
- door and gate controls

Setting options

Sensitivity

The setting of the sensitivity calls the electronics to a value of frequency deviation which a vehicle must produce for setting the output of the detector. The sensitivity can be adjusted for each channel in 4 steps with DIP-switches on top of the front panel.

| sensitivity level | channel 1: DIP-Switch 1 und 2 | channel 2: DIP-Switch 3 und 4 |
|--------------------|-------------------------------|-------------------------------|
| 1 low (0,64% f/F) | | |
| 2 (0,16% f/F) | | |
| 3 (0,04% f/F) | | |
| 4 high (0,01% f/F) | | |

Hold time and Reset

The hold time can be adjusted with DIP-switch 6. At the completion of hold time it will be displayed "free loop" and the detector calibrates automatically. The hold time starts with the occupation of the loop.

A reset with calibration can be effected by changing the hold time setting.

| hold time | DIP-Switch 6 |
|-----------|--------------|
| 5 minutes | |
| infinite | |

An automatic calibration of the loop frequency starts after power on. In case of short power cuts <0,1s there is no calibration.

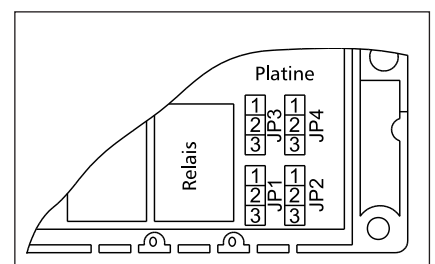
Operating principle of the relays

In standard configuration both relays operate in the closed-circuit current mode where the break contacts are led onto the connections.

The operating principle of the relays can be changed according to the following table. For this modification, the detector housing must be opened carefully.

Attention!

Static sensitive components are on the board. During works on the open device precautions are to be taken. Do not touch components or connections on the board. There is no guarantee in case of defects by inappropriate processing!



| detector state | relay operating principle | | | |
|----------------|---------------------------|----|-----|----|
| | I*) | II | III | IV |
| power off | | | | |
| loop free | | | | |
| output signal | | | | |
| loop failure | | | | |

*) standard configuration

| relay | Jumper | position | relay function | |
|-------|--------|----------|----------------|-------------------------|
| 1 | JP1 | 1-2 | | break contact |
| | | 2-3 | | make contact |
| | JP3 | 1-2 | | open-circuit principle |
| | | 2-3 | | close-circuit principle |
| 2 | JP2 | 1-2 | | break contact |
| | | 2-3 | | make contact |
| | JP4 | 1-2 | | open-circuit principle |
| | | 2-3 | | close-circuit principle |

changeable by jumper

fixed by solder link

optionally setting (change solder link)

Frequency adjustment

The operation frequency of the detector can be adjusted in two steps with DIP-switch 5.

| frequency | DIP-Switch 5 |
|-----------|--------------|
| low | |
| high | |

The permissible frequency range is 30kHz to 130kHz. The frequency depends on the loop inductivity (depending itself on: loop geometry, number of loop turns and loop lead) and the adjusted frequency step.

Output mode

Presence output mode

For presence output mode DIP-switch 7 is to be set to the left position. In this mode relay 1 signals presence on loop 1. The function of relay 2 can be set by DIP-switch 8.

| output mode | DIP-switch 7 DIP-switch 8 |
|--|------------------------------|
| both channels: presence output | |
| chan. 1 presence output chan. 2 pulse when loop gets free | |

Direction output mode

For direction output mode DIP-switch 7 is to be set to the right position. Two direction logics are supported depending on DIP-switch 8.

| output mode | DIP switch 7 DIP switch 8 |
|---------------------------|------------------------------|
| direction presence signal | |
| direction pulse signal | |

The direction pulse signal is normally used for counting systems and the direction pulse signal for gate and barrier controls.

At the examples in the next column the operation principle of the direction logic is explained. The direction signal is output via the relay of the first covered loop i.e. signaling occurs in the case of driving direction 1→2 via relay 1 and in the case of driving direction 2→1 via relay 2.

In case of failure of one loop during direction output mode the detector operate in presence output mode independent of the setting of DIP-switch 8.

Outputs and LED LED display

The green LED signals that the detector is ready for operation. Via the red LED, the activation of the relays output is displayed depending on the occupation status of the loop.

| LED green loop control | LED red loop condition | detector funktion |
|------------------------|------------------------|---|
| off | off | power off |
| flashing | off | calibration or output of frequency |
| on | off | detector ready for operation, free loop |
| on | on | det. ready for operation, covered loop |
| off | on | loop failure |

Output of loop frequency

Approx. 1 sec. after calibration of the detector the loop frequency will be displayed by pulse signals of the green LED. Firstly the 10 kHz position of the frequency value will be indicated. For every 10 kHz frequency value the green LED flashes once. After a break of 1sec the 1kHz position is displayed in the same manner. If there is value of '0' in the 1kHz position there will be displayed 10 flashes. The flashes for 1 kHz position are a little bit shorter than for the 10 kHz position.

