

MZ2

Two-channel Microprocessor Controlled Vehicle Detector

Features:

- Self-contained miniature boxed unit
- 11-pin relay base connector or 25-way 'D' connector
- Connectors available for DIN rail mounting (EN 50.022)
- Channel selectable presence or pulse outputs
- Fast automatic tuning
- Switchable presence time (5 minutes/ 2 hours)
- Choice of sensitivity levels
- Comprehensive fault detection
- Heavy duty relay outputs
- Choice of supply voltage
- High intensity LED indicators
- Presence timing from vehicle entry or last movement
- Watchdog circuit

The use of a microprocessor combines high performance, with ease of use in a compact unit. Primarily intended for parking/barrier applications, this unit will find other uses including traffic and security. Exceptional noise immunity and reliability enables this unit to function in normally unacceptable conditions.

All detection mode functions are set by means of the appropriate front panel rotary switch. Tuning is automatic and fast. Once tuned the detector will track all environmental drifts continuously. The selected presence time is substantially independent of vehicle type. Timing is normally from first vehicle entry.

A loop inductance outside the tuning range of the detector is sensed as a fault. Failure of the internal oscillator will cause the appropriate channel LED to flash at <0.5Hz.

Open circuit faults will cause the LED to flash at 1Hz. Short circuit faults will cause the appropriate channel LED to flash at >2Hz.

If the channel in fault is set to presence mode the appropriate relay will give a permanent presence call until the fault is cleared.



Note: When a channel is set to pulse mode only, the LED indicates the error, the relay does not give a presence call. The unit will attempt to re-tune until the fault is cleared.

A watchdog circuit is built into the microprocessor. This will reset the detector in the event of a software timeout.

Some vehicles (e.g. high chassis lorries with steel braced radial tyres) produce an increase in inductance, as they pass over the loop. This will cause some detectors to 'lockup'. The MZ range of detectors incorporates a feature to prevent this. Normal operation is unaffected.

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SPECIFICATIONS:

Operating Modes:

Selected by a 16-position front panel rotary switch. Table 1 shows the presence/pulse mode, presence times and sensitivities. Note that each channel can be individually disabled. Frequency mode is selected via the front panel push switch.

Table 1 - Mode Switch Position

Output Mode	Presence mode		Pulse mode	
Presence Time (Mins)	5	120	5	120
SENSITIVITY	Low	* 0	4	8
	M/Low	1	5	9
	M/High	2	6	10
	High	3	7	11

*0 (Channel off)

Tuning Range:

The tuning range of a channel depends on the frequency setting: 20 to 2000 μ H (high frequency) and 10 to 1500 μ H (low frequency).

Tune Time:

Nominally 2 seconds

Operating Temperature Range:

-40 to +70 °C

Reset:

The detector is automatically reset when power is applied, or the frequency mode switch adjusted. If required, a channel reset can be effected, by rotating the mode switch one (or more) positions and returning to the required setting.

Response Times (All Sensitivities):

Standard response time is typically 130ms. Fast response option is typically 70ms.

Lightning and Transient Protection:

All inputs are transformer-isolated and protected from over-voltage on loop leads and flash over from internal circuit to ground.

Supply Voltage:

24 V unit 24 V \pm 20% dc/ac rms: 230 V Unit AC \pm 20% 3 VA max.

Outputs:

Presence mode:

Changeover relay (de-energised for detect). Pulse mode - relay contacts changeover for 103 \pm 3 ms on detection (standard unit).

Contacts rated 600 VA, 5 A, 250 V AC, 30 V DC.

Power failure will cause the output of any channel set to presence mode, to give a detect call.

Physical:

38 x 76 x 72 mm (W x H x D) (excluding connector).

Connections:

	S11	D25
AC Live/DC +	1	1
AC Live/DC -	2	15
Channel 2 Output, Relay NO	3	11
Channel 2 Output, Relay Common	4	23
Channel 1 Output, Relay NO	5	12
Channel 1 Output, Relay Common	6	24
Loop Input Channel 1	7	7
Loop Input Channel 1	8*	19
Loop Input Channel 2	8*	18
Loop Input Channel 2	9	6
Channel 1, Output Relay NC	10	25
Channel 2 Output Relay NC	11	20

*This pin is connected to both channel 1 and channel 2 internally.

Ordering Information:

Order as:

MZ2-xxx

Voltage (24, 115 or 230): _____

Options:

Please contact the Sales Department for further details or with enquiries about our product range.

1. Power Supply:

115 V AC power supply

2. Pulse Duration:

- a) 500 ms Pulse length
- b) 1 second Pulse length
- c) 3 second Pulse length

3. Response Time:

Fast response

4. Pulse after presence

5. Extra hysteresis

6. U/D facility (direction discrimination)

7. 25-way 'D' connector (MZ2-D24)

(24 V only)

Accessories:

Order as - MHS11 harness (colour coded) or MHS11(EBT) harness (single colour with idents).