

MXE

Worldwide 2 & 4 Channel Detector

Features:

- Standard Eurocard
- Two or four channel versions
- All versions suitable for speed measurement
- Wide range of loop inductance
- Selectable sensitivity and presence times
- Presence timing from first or last vehicle movement
- Fault output signal and front panel indicator
- High intensity LED indicators

The Microsense MXE vehicle detector utilises a high speed microcomputer, to optimise the operation of the unit. Its principal use is for traffic control.

Sensitivity and presence times are individually selectable, for each channel, from the front panel using a 16 position rotary switch. Associated with each channel, is a red front panel LED, providing a visual indication of vehicle presence. Jumper links are provided on the card for the selection of loop frequency (to prevent crosstalk) and the required loop inductance range.

Tuning of the detector is automatic and fast. Once tuned, the detector will track all environmental drift continuously. A loop inductance outside the tuning range of the detector is sensed as a fault. A fault will cause the LED and output of the faulty channel to give a permanent presence call. In addition, the green fault LED will turn off and the fault output will give a call. The unit will attempt to retune until the fault is cleared. Whilst retuning the presence call and fault indication are maintained.

The selected presence time is substantially independent of the vehicle type. This presence time is from first vehicle movement (as standard) or optionally from last vehicle movement.

SPECIFICATION:

Mode Selection:

The sensitivity and presence time is selected by means of the front panel rotary switches, as defined in table 1.



In pulse mode, the output signal is active for 125 ± 25 ms, when a vehicle is detected. The detector will not respond to another vehicle for 2 seconds (paralysis time) unless the first vehicle has left.

When the detector channel is disabled, by selecting switch position 0, the loop is unenergised and the output assumes the condition corresponding to the 'no detect' state.

Crosstalk Avoidance and Tuning Range:

These are selected by positioning the jumper links, shown in figure 1 and listed in table 2.

Table 1 - Mode Switch Position

		Sensitivity DL/L %			
		0.5	0.1	0.05	0.02
Presence Time (Mins)	Pulse	0*	1	2	3
	3.5	4	5	6	7
	7.5	8	9	10	11
	120	12	13	14	15

*0= Off

Table 2 - Frequency Setting

Links Fitted				Frequency Mode	Inductance Range (µH)
A	B	C	D		
1	0	1	0	Low	20 to 300
0	1	0	1	Med Low	20 to 1400
0	1	0	1	Med High	50 to 1400
0	1	1	0	High	100 to 2000

1 = Fitted 0 = Not Fitted

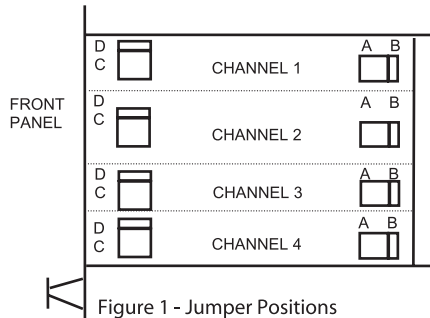
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Reset:

The detector is automatically reset when power is applied. This function can also be initiated by depressing the front panel reset switch or by grounding the reset input (10 k Ω internal pull up to positive supply).

Channel Outputs:

Either heavy duty reed relay (standard), or optically isolated solid state. Relay contacts rated 250 V AC, 2 A, 60 VA. Optoisolator output : 35 V DC, off state resistance 100 k Ω , on state voltage <1.5 V @ 20 mA. Relays are energised with power applied and no detect or fault.

Fault Output:

Either open drain (standard), optically isolated solid state or relay (optional), 'ON' for fault state. Open drain output: 60 V DC, 100 mA, on state resistance <15 Ω . Optoisolator and relay as for channel outputs above.

Lightning and Transient Protection:

Loop inputs are transformer isolated, protected from over voltage and flash over from internal circuit to ground.

Operating Temperature Range:

-40 to +80 $^{\circ}$ C

Supply Voltage:

24 or 12 V DC \pm 20 %

Supply Current:

Typically 150 mA (2 or 4 channel) @ 24 V

Physical:

The detector is mounted on a standard Eurocard. It is intended for incorporation into racking systems to DIN 41494, 3U high by 5E pitch.

Ordering Information:

Order as: _____ MXEx-xx x

Number of channels (2 or 4): _____

Voltage (12 or 24): _____

Output (R = relay or O= optoisolator): _____

Connections:

Mating connector DIN 41612, Style B. (Outputs shown with unit powered, no vehicle present).

- 1a Output, Ch1, relay NC
- 2b Output, Ch1, relay common/opto (-)
- 3a Output, Ch1, relay NO/opto (+)
- 4b Fault output, relay NC
- 5a Loop input, Ch1
- 6b Loop input, Ch1
- 7a Fault output drain/relay NO/opto (+)
- 8b Output, Ch2, relay NC
- 9a Output, Ch2, relay common/opto(-)
- 10b Output, Ch2, relay NO/opto (+)
- 11a Fault output source/relay common/ opto (-)
- 12b Loop input, Ch2
- 13a Loop input, Ch2
- 14b Chassis ground
- 15a Output, Ch3, relay NC
- 16b Output, Ch3, relay common/opto (-)
- 17a Output, Ch3, relay NO/opto (+)
- 18b Not used
- 19a Loop input, Ch3
- 20b Loop input, Ch3
- 21a Not used
- 22b Output, Ch4, relay NC
- 23a Output, Ch4, relay common/opto (-)
- 24b Output, Ch4, relay NO/opto (+)
- 25a Not used
- 26b Loop input, Ch4
- 27a Loop input, Ch4
- 28b Not used
- 29a Reset input
- 30b Positive supply
- 31a Not used
- 32b Logic ground and negative supply

Table 3 - Relay Status Information

Output name	Channel relay (NC)	Channel relay (NO)	Fault relay (NC)	Fault relay (NO)
Condition				
No power	open	closed	open	closed
Power, reset	open	closed	closed	open
Power, no detect or fault	closed	open	closed	open
Power, detect only	open	closed	closed	open
Power, fault and detect	open	closed	open	closed

Accessories - Order as:

DETECTOR-BP 22-way detector backplane for Eurocard rack systems.

Various options are available on the MXE detector. Please contact the Sales Department for further details or with enquiries about our product range.