

MXED

U.K. 2 & 4 Channel Detector

Features:

- Standard Eurocard
- 2 or 4 channel versions
- All versions suitable for speed measurement
- Wide range of loop inductance
- Selectable sensitivity and presence times
- Fault output signal and front panel indicator
- High intensity LED indicators
- Operates with long feeder lengths
- UK Department of Transport approved

The Microsense MXED vehicle detector utilises a high speed microcomputer to optimise the operation of the unit. The unit complies with MCE 0100 Issue E, all appendices.

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 red fault LED will go out 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 fault LED is illuminated when no fault is present.

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 most detectors to 'lock up'. The MXED detector incorporates a feature to prevent this. Normal operation is unaffected.

SPECIFICATIONS:

Mode Selection:

The sensitivity and presence times are selected by means of the front panel rotary switches as defined in table 1.

Refer to the separate Installation Guide for the mode setting(s) required for a particular application in order to ensure compliance with MCE 0100.

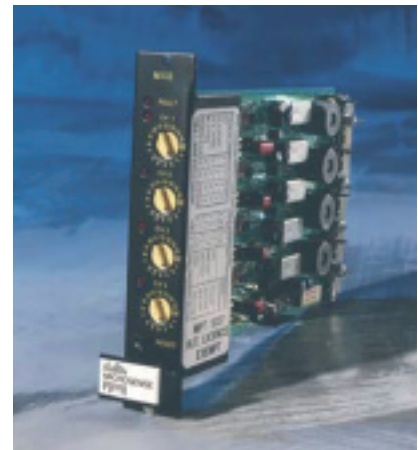


Table 1 - Mode Switch Position

Presence Time	Switch Position			
	0	1	2	3
OFF	0	1	2	3
3.5 ± 0.5 sec	4	5	6	7
4.0 ± 1.0 min	8	9	10	11
35 ± 5 min	12	13	14	15
Sensitivity DI/L%	0.5	0.1	0.05	0.02

When the detector channel is disabled, by selecting switch position 0 to 3, the loop is unenergised and the output assumes the condition corresponding to the 'no detect' state. The reset switch must be operated after any switch or jumper settings are changed.

Frequency Mode and Tuning Range:

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

TSEU GROUP
Microsense Systems
Traffic Signals UK



Head Office

15 Narborough Wood Park, Desford Road
Enderby, Leicestershire LE19 4XT
T 0845 201 2750 • F 0845 201 2850
Email: sales@tseu.net • www.tseu.net

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Table 2 - Frequency Setting

Links Fitted				Frequency Mode	Inductance Range (μ H)
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

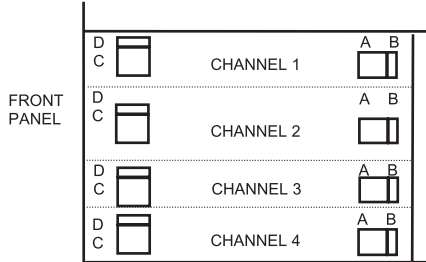


Figure 1 - Jumper Positions

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 and Fault Outputs:

Heavy duty reed relay. Relay contacts rated 250 V AC, 2 A 60 VA.

Lighting 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 V DC \pm 20%

Supply Current:

Typically 150 mA @ 24 V DC

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:

Accessories - order as:

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

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

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
- 3a Output, Ch1, relay NO
- 4b Fault output, relay NC
- 5a Loop input, Ch1
- 6b Loop input, Ch1
- 7a Fault output, relay NO
- 8b Output, Ch2, relay NC
- 9a Output, Ch2, relay common
- 10b Output, Ch2, relay NO
- 11a Fault, output, relay common
- 12b Loop input, Ch2
- 13a Loop input, Ch2
- 14b Chassis ground
- 15a Output, Ch3, relay NC
- 16b Output, Ch3, relay common
- 17a Output, Ch3, relay NO
- 18b Not used
- 19a Loop input, Ch3
- 20b Loop input, Ch3
- 21a Not used
- 22b Output, Ch4, relay NC
- 23a Output, Ch4, relay common
- 24b Output, Ch4, relay NO
- 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

Order as:

MXED - X - 24R

Number of channels (2 or 4) _____

