

USER MANUAL

Part Number: MIC0302053

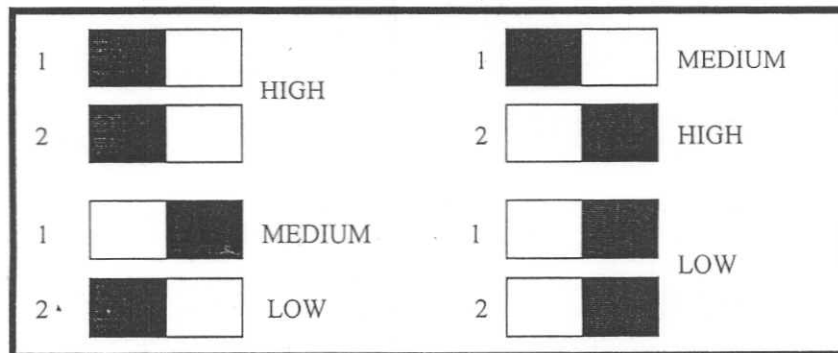
ULD 814

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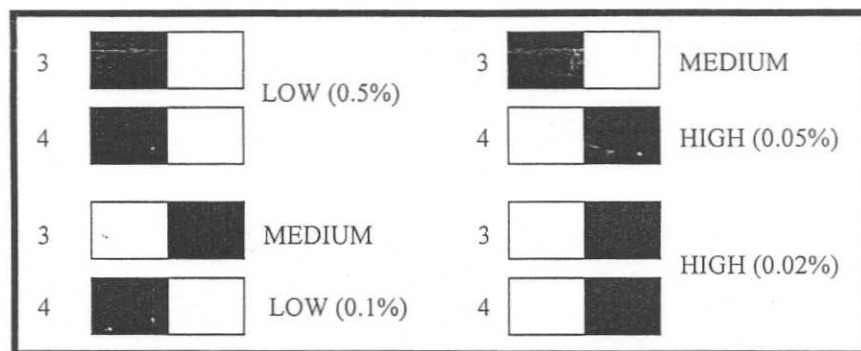
DETECTOR COMMISSIONING

FREQUENCY (FREQ) (SWITCHES 1 & 2)



Frequency setting is provided to eliminate crosstalk (interface) between adjacent Detectors. Crosstalk is indicated by random outputs, chattering relays and possible Detector lock-up.

SENSITIVITY (SENS) (SWITCHES 3 & 4)



Sensitivity settings have been optimised to reliably produce an output at the required change on inductance, or to ignore certain vehicle types if so required.

Typical inductance changes on a 2m x 1m (2 turns) loop:-

VEHICLE	$\Delta L/L$
BICYCLE	0.02 %
MOTORCYCLE	0.12 %
ARTICULATED TRUCK	0.4 %
SEDAN CAR	>1.0 %

AUTOMATIC SENSITIVITY BOOST (ASB) (SWITCH 5)

When ASB is selected (ON) the level of sensitivity is increased to HIGH after detection has occurred. This ensures that Detection does not drop away under high-bed vehicles.

PRESENCE (PRES) (SWITCH 6)

ON - PERMANENT PRESENCE
OFF - LIMITED PRESENCE (1 hr for 3 % $\Delta L/L$)

PULSE (PULSE) (SWITCH 7)

ON - PULSE ON UNDETECT (EXIT)
OFF - PULSE ON DETECT (ENTRY)

PULSE (RLY) (SWITCH 8)

ON - RELAY 2 PRESENCE
OFF - RELAY 2 PULSE

INDICATIONS

GREEN LED - POWER ON
RED LED - CHANNEL OUTPUT

After initial power-up or after a re-tune, the Detector automatically tunes to the inductive loop. Immediately thereafter the **RED LED** will flash out the frequency of operation (The number of flashes should be counted – each flash corresponds to approximately 10kHz.

Eg. 50 kHz = 5 flashes)

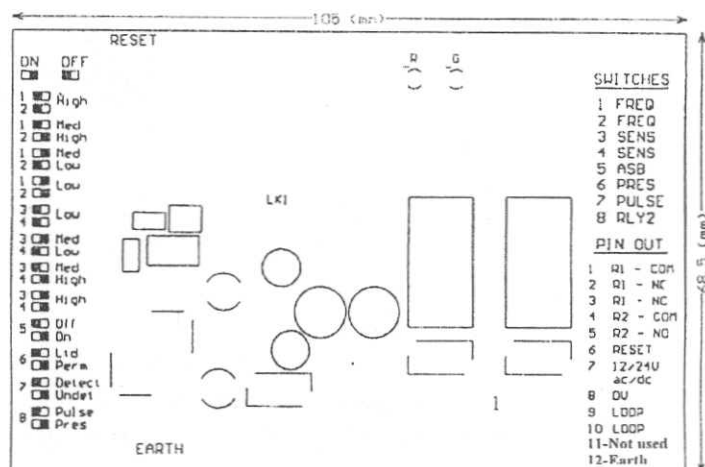
If a fault condition exists on the loop (open circuit / short circuit) the **RED LED** will **FLASH** at a fast rate. If a re-tune occurs the **RED LED** will **FLASH**, but at a slower rate.

RESET PUSH BUTTON

The Detector must be **RESET** whenever switch settings are altered.

Only a reset will clear the above fault indication conditions, providing the loop fault has been cleared.

PINOOTS



**NOTE:- AN EARTH PAD IS AVAILABLE FOR EARTHING.

PIN	DESCRIPTION
1	COMMON RELAY 1
2	N / C RELAY 1
3	N / O RELAY 1
4	COMMON RELAY 2
5	N / O RELAY 2
6	RESET
7	12 - 24V AC/DC
8	0V
9	LOOP
10	LOOP
11	NOT USED
12	EARTH

LOOP INSTALLATIONS

CABLE SPECIFICATION (LOOP + FEEDER)

1.5mm² cross sectional area, multi-strand cable.

Insulation material – PVC or Silicone.

Current Rating – 15A.

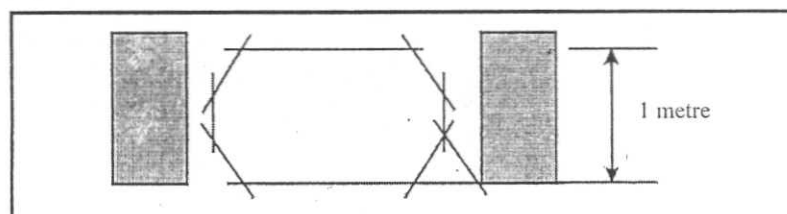
FEEDER FOR LONG RUNS

Foil screened cable recommended (Earth at equipment end only)

Waterproof cable junction box (Pratley or similar) will be required.

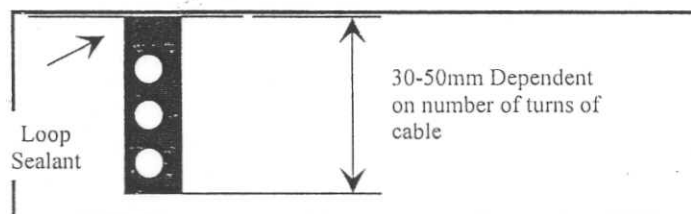
Loop feeder cables should always be twisted from the point of exiting the loop, to the termination of the cables on the equipment. Minimum of 20 twists per metre should be used.

LOOP GEOMETRY



****NOTE:-** Avoid large loops, sensitivity will be affected.

SLOT DEPTH



****NOTE:-** Clean & dry slots prior to inserting cable.

DETERMINING NUMBER OF TURNS OF CABLE

PERIMETER	NO. OF TURNS
3 – 6 M	4
6 – 10 M	3
10 – 30 M	2

****NOTE:-** Add 2 additional turns to compensate for the effect of sub-surface re-inforcing on sensitivity.

ULD 814 TECHNICAL SPECIFICATIONS

Tuning	Automatic
Inductive Range	20 – 1500uH
Sensitivity	Four steps adjustable High 0.02% $\Delta L/L$ Medium High 0.05% $\Delta L/L$ Medium Low 0.1% $\Delta L/L$ Low 0.5% $\Delta L/L$
Sensitivity Boost	Selectable on : Med High Med Low Low
Frequency	Four steps adjustable Range: 20 – 140kHz
Response Time	App. 100ms (Turn on / Turn off)
Output Configuration	2 Output relays Relay 1 – Presence (fail safe) Relay 2 – Presence / Pulse (selectable)
Presence Time	Selectable – Permanent or Limited (1hr for 3% $\Delta L/L$)
Pulse Output Duration	150ms (250 ms factory option)
Pulse Timing	Selectable – Entry or exit
Indications	2 LEDs Green – Power Red – Output
Reset push buttons	PCB mounted push button (remote via PCB connector – pin 6)
Protection.	Loop Isolation Transformer/zener diode/GDT Power/Relays – MOV

Power

12/24V AC/DC

Current consumption

65mA @ 12V DC

Relay Rating

1A @ 230V DC

Temperature range

-40°C to +80°C

Storage Temperature

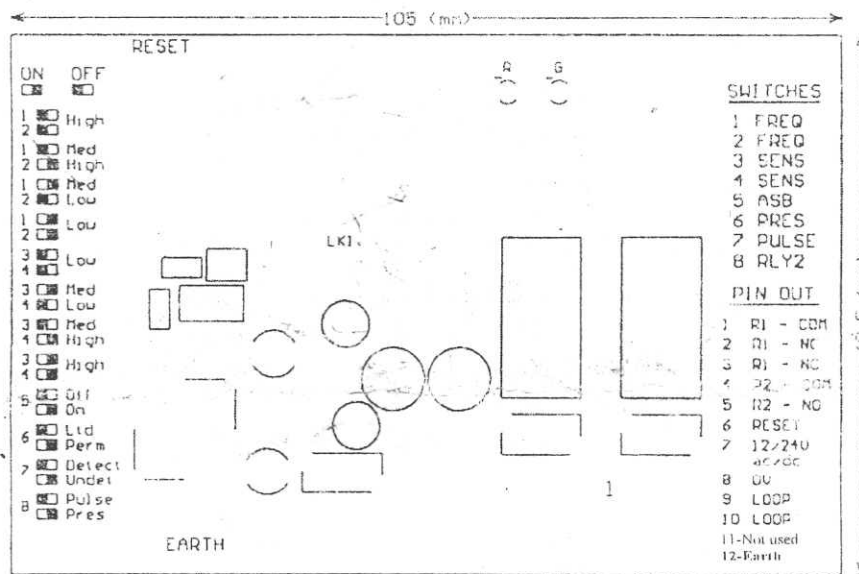
-40°C to +85°C

Humidity

10p to 95% RH

Dimensions

105mm x 68.5mm x 20mm (H x W x D)



Connector: 12 way screw terminal 5mm PITCH (supplied).