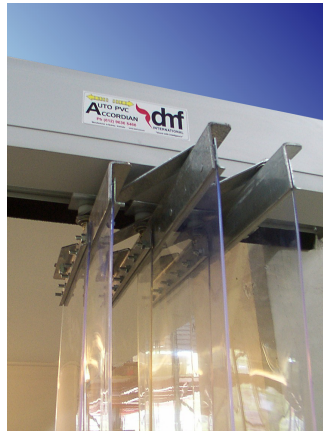




AUTO BiFLEX DOOR



INSTALLATION AND OPERATING MANUAL

JAN 2005

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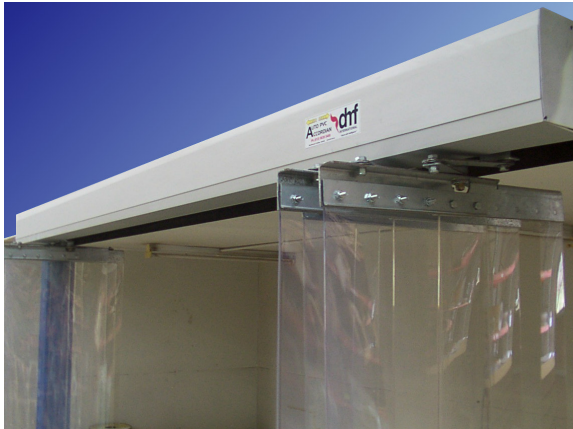
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DOOR KIT CONTAINS

1. Main aluminium beam and pelmet cover
2. Main module containing controller module, back-up battery, power supply, and Gear/Motor/PLC Board.
3. Belt brackets top and bottom
4. Pelmet clips
5. End stoppers
6. End gear assembly
7. Drive belt
8. Trolley assembly
9. End plates
10. Brush seal on bottom of beam
11. Accordion brackets and mounting hardware

INSTALLATION

The Auto BiFlex comes assembled ready for installation, and requires minimal assembly of the parts.

To mount the main beam, the drive module needs to be removed to expose fixing points along the extrusion line. This will require de-tensioning of the Drive Belt so that the drive module can be removed.

Measure the main beam and locate the centre point. This will then be matched with the centre point of the intended opening. An overhang of the main beam of about 200mm will exist at each end.

Ensure that the main beam is securely mounted to the face of the opening, using appropriate fixings that will not interfere with the drive action of the mechanism once the drive module is re-installed.

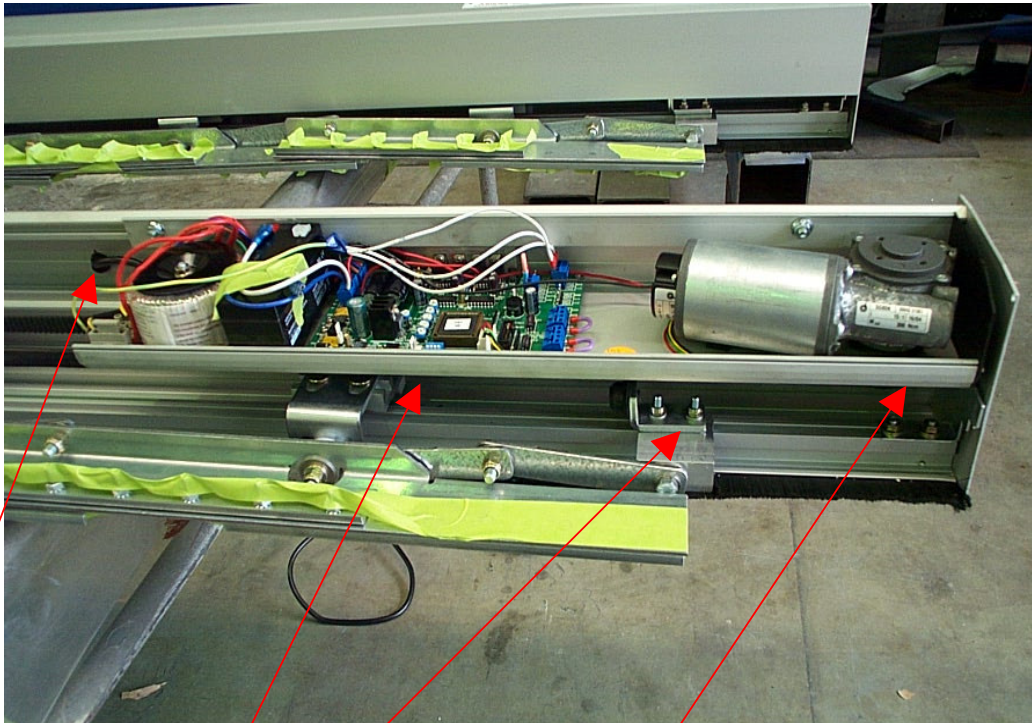
PROCEDURE.

If securing the Transom to the wall requires the Drive Assembly to be removed MARK the exact position of :

1. The Drive Assembly.
2. The Tension Roller Shaft.
3. The Fixed Position Bracket (under the Drive Assembly).

Drive Assembly removal process:

1. Disconnect power cable.
2. Loosen the Fixed Position Bracket and push it to beyond the Drive Assembly position. Tighten the nut to stop it moving.
3. Loosen the Tensioning Pulley and move to release the belt.
4. Undo the nuts holding the Drive Assembly while holding the Drive Assembly let it rotate down so it will release out of the retaining groove.
5. Lift the belt of the Drive Pulley and stow the Drive Assembly in a safe clean place.
6. After securing the Transom reinstall the Drive Assembly in the reverse to the above making sure the components are secured in there original positions.



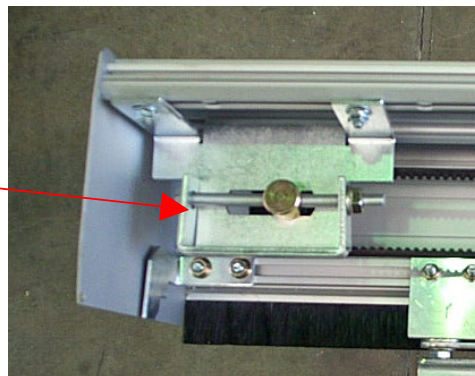
Components:

1. Drive Assembly
2. Fixed Position Bracket
3. Power Cable
4. Drive Pulley

BELT TENSIONING

Once the main belt has been joined to the top belt bracket on both sides, the belt will need to be tensioned by the adjustment at the end of the gear assembly.

When tensioning the main drive belt, first loosen the tension lock nut. Once this is loose then adjust the tension bolt clockwise to produce more tension on the main drive belt.

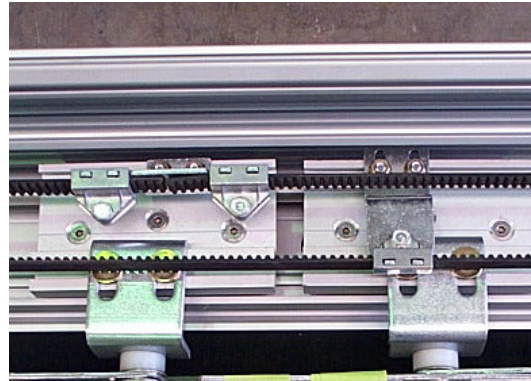


Once there is no more sagging of the drive belt across the opening, the belt has been sufficiently tensioned. Retighten the lock nut.

DRIVE BELT MOUNTING

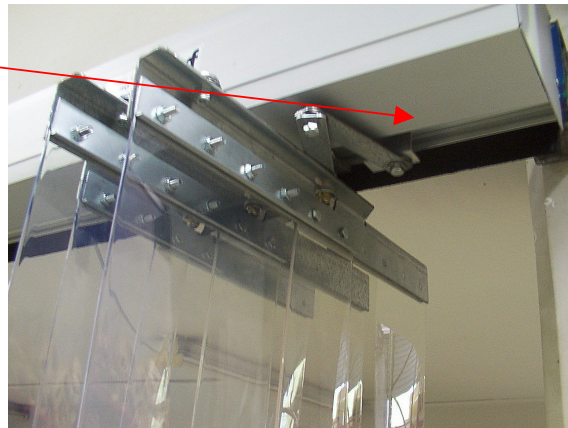
If the drive belt has been removed and requires refitting, then run the drive belt around the end gear assembly. Attach the belt to the top belt bracket clamp, then run the belt halfway across the top bracket, securing the clamp on to the belt.

Run the opposite end of the belt around the pulley until both ends meet at the belt bracket. Take as much tension as possible and then secure the belt to the clamp.



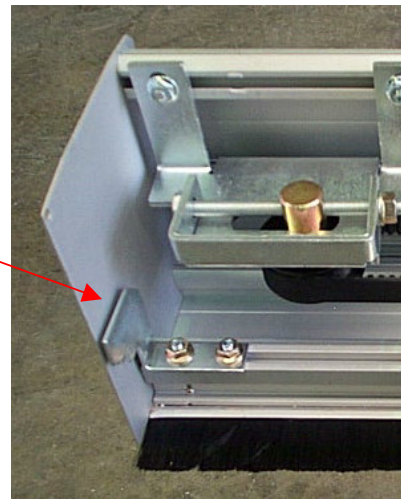
MOUNTING END STOPPER

Slide the accordion brackets to open position required, and then secure the end stops and tighten lock nuts.



MOUNTING PELMET CLIPS

Slide pelmet clips to each ends of the track. Each pelmet clip has elongated holes to adjust up and down to allow how much pressure is required to unclip the Main Pelmet cover.



COMMISSIONING

DIP SWITCHES

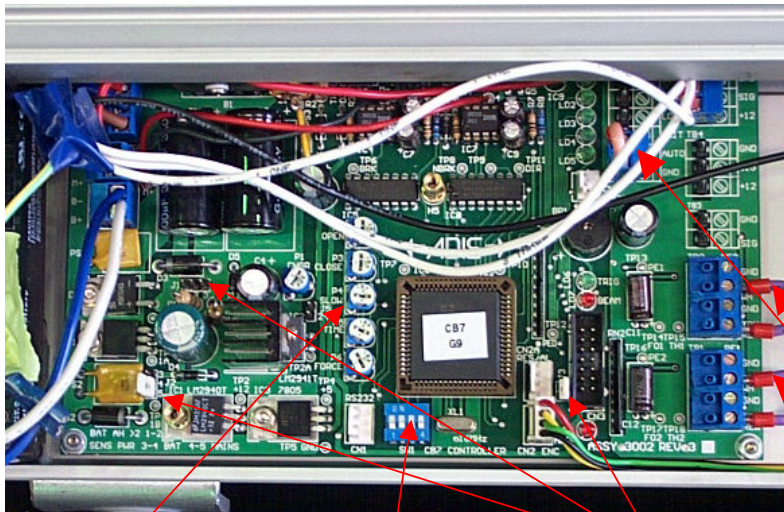
- 1 Door open direction
- 2 Not used
- 3 Up - Constant press off Down - Constant press down
- 4 Up - Closes on power failure Down - Opens on power failure

ADJUSTMENTS

- OPEN Door opening speed
- CLOSE Door closing speed
- SLOW Door final speed (opening or closing)
- TIME Time for door to stay open
- FORCE Door opening and closing force

JUMPERS

- J1 Open For 1.2AH Battery
- J2 3-4 Sensors run during power failure
4-5 Sensors disabled on power failure
- J3 OPEN For 24/28 tooth drive pulley
CLOSE For 12/14 tooth drive pulley
- J4 BOT Reset connection



ADJUSTMENTS

Dip switches 1,2,3,4

JUMPERS

LINKS REQUIRED
(if P.Es NOT installed)

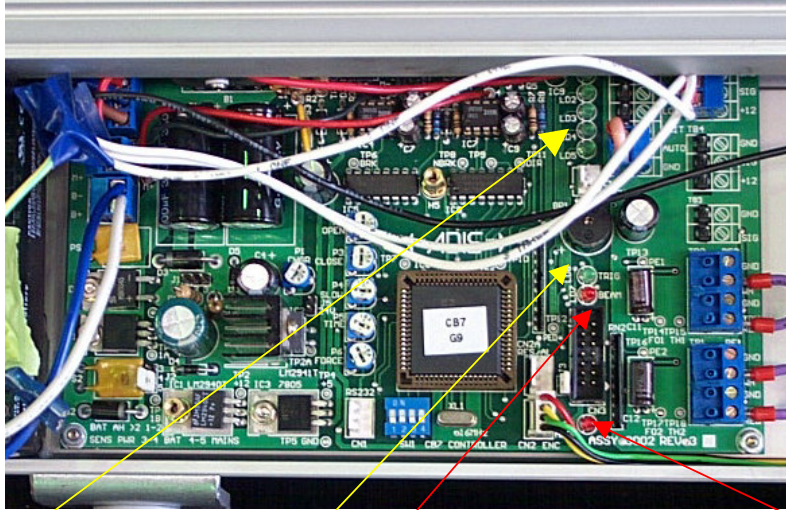
CONTROL SETTINGS PROCEDURE

Before connecting power to the controller, ensure that the force setting is set at halfway. Turn power on, the door will perform a slow speed program setting cycle. At completion of the cycle, adjust all speed controls to desired requirements. NOTE. If the accordion and PVC mechanism is very heavy such as for large doors, or if the door stalls during the test cycles, the force setting needs to be increased, always remembering that the higher the force setting, then the higher the obstruction detection setting becomes. If this occurs, the close speed setting may need to be adjusted downwards.

OPERATING MODES

The remote mode switch is provided so that the door user may change the operating mode of the controller. The number of switch positions depends on the operating modes required for an individual installation, and varies from two to six positions.

OFF	<ul style="list-style-type: none"> • The door will not initialise • The triggers and after hours facility are disabled • The battery is charged and tested • The door is free to be opened and closed manually
AUTO	<ul style="list-style-type: none"> • The door opens if the entry sensor or exit sensor is activated • The door will remain open for the time set by the timer control, and will then close • If any of the Entry or Exit sensors are activated while in open time, the timer is restarted from the moment of activation • If any of the Entry or Exit sensors are activated while the door is closing, the door is automatically reversed and remains fully open for the Open Time period
LOCK	<ul style="list-style-type: none"> • After the door is fully closed the electric lock is activated • Both the Entry and Exit sensors are disabled • The door may be opened via the after hours switch if fitted
EXIT	<ul style="list-style-type: none"> • After the door is fully closed, the electric lock is activated • The door opens if the Exit sensor is activated but the Entry sensor is ignored • The door will remain open if the safety PE beams (if fitted) are activated • The door may be opened via the After Hours switch if fitted
OPEN	<ul style="list-style-type: none"> • The door is opened and remains open until switched yo a different mode • Sensors activation have no effect
CLIMATE	<ul style="list-style-type: none"> • The operates as described in AUTO, except that it opens only halfway, in order to minimise a/cond or heating losses



INDICATORS

CLIM	GREEN	Door in Climate (half open)
OPEN	GREEN	Door always open
LOCK	GREEN	Door locked unless key switch operated
EXIT	GREEN	Door locked unless Exit sensor activated
AUTO	GREEN	Door operates manually
TRIG	GREEN	Entry / Exit / Key switch activated
BEAM	RED	On when safety PE beams activated (if fitted)
ALARM	RED	Shows controller status – see below

AUDIBLE/ VISUAL ALARM CODES

○○○○○○○○○○ Power Failure

○○○○○○○○○○ Battery Failure

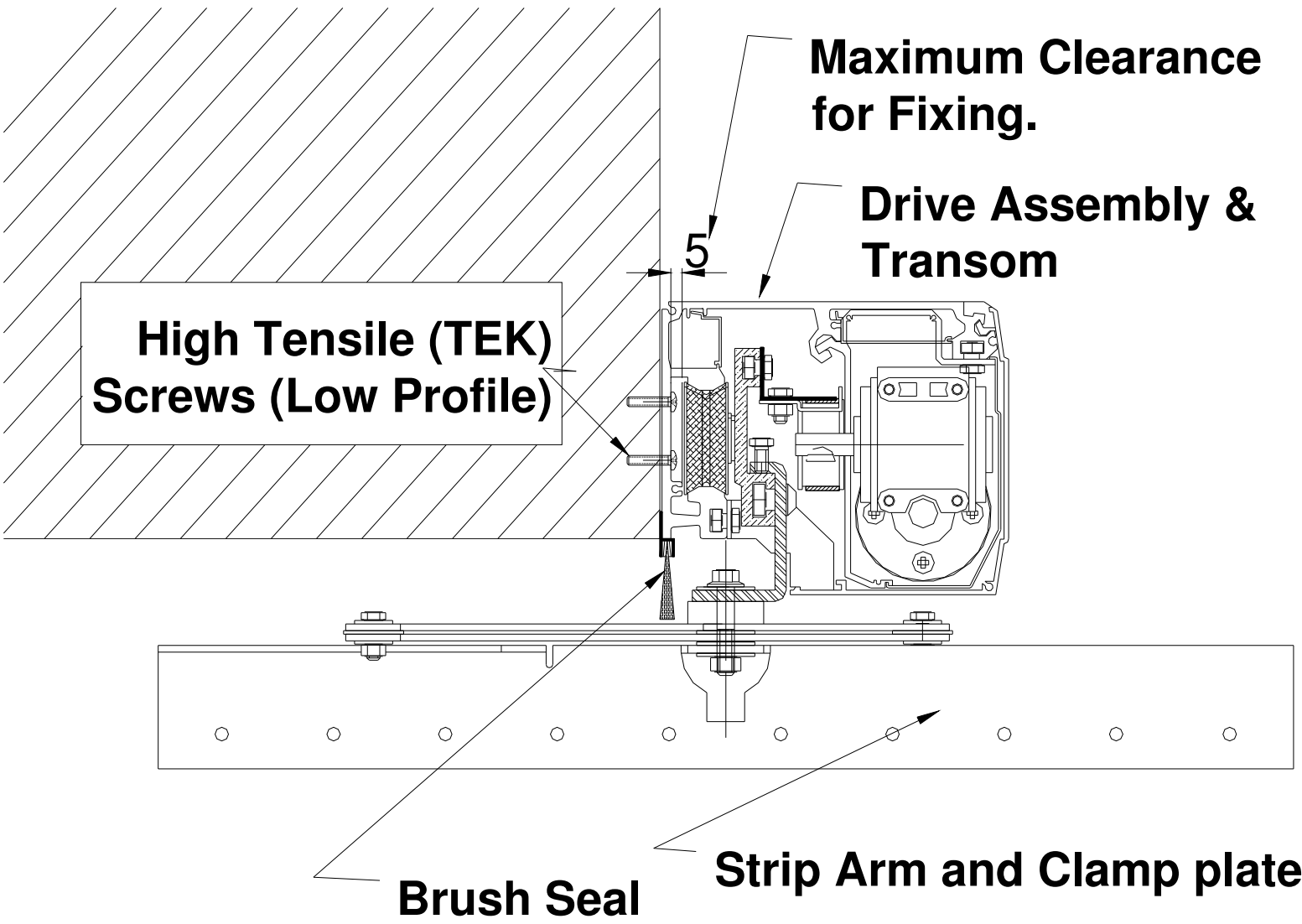
○○○○○○○○○○ Learn Failure

○○○○○○○○○○ Door Locked

○○○○○○○○○○
○○○○○○○○○○ DC Failure
○○○○○○○○○○

○○○○○○○○○○ Normal

SECTIONAL DRAWING



**Maximum Clearance
for Fixing.**

**Drive Assembly &
Transom**

**High Tensile (TEK)
Screws (Low Profile)**

5

Brush Seal

Strip Arm and Clamp plate

LD100 SERIES

VEHICLE LOOP DETECTOR

The LD100 is a single channel inductive loop detector. The use of microprocessor based technology enables a large number of functions to be incorporated into a small package. The LD100 is compatible with most single channel detectors on the market and is easy to set-up and install.

Typical application's in the parking and access control environments are safety loops, arming loops and entry or exit loops.

Standard features of the detector are:

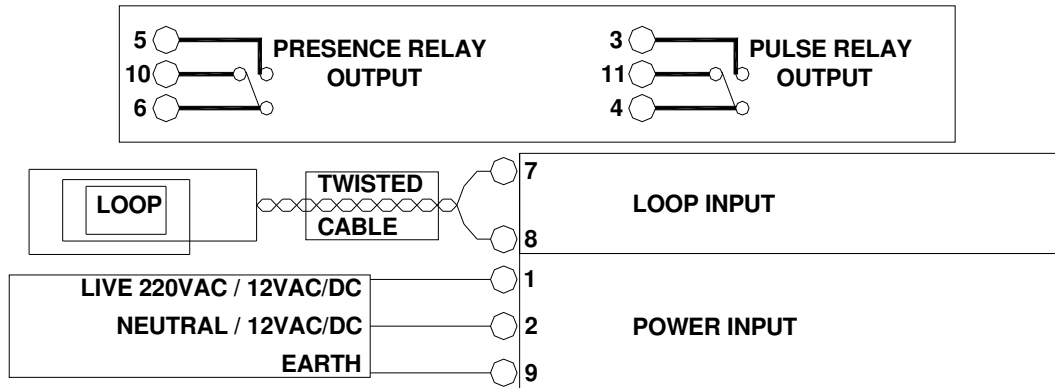
- * **Reset Switch.**
The reset switch enables the detector to be manually reset during commissioning and testing. This results in the detector re-tuning the sensing loop and becoming ready for vehicle detection.
- * **Switch selectable Sensitivity.**
Eight sensitivity settings are available on the switches to allow flexibility in configuration.

1	High	-	0.01%	5	Low	-	0.2%
2		-	0.02%	6		-	0.5%
3		-	0.05%	7		-	1%
4		-	0.1%	8		-	2%
- * **Switch Selectable Frequency.**
Two frequency settings are available to prevent cross-talk between adjacent loops.
- * **Sensitivity Boost.**
This feature sets the undetect level to maximum sensitivity and is used to prevent loss of detection of high-bed vehicles.
- * **Filter Option.**
This option is used to provide a delay between detection of the vehicle and switching of the output relay. This delay is normally used to prevent false detection of small or fast moving objects.
- * **Permanent Presence Option.**
This feature ensures detection of the vehicle will be maintained when the vehicle is parked over the loop for extended periods.
- * **Pulse Relay Selection.**
the Pulse relay may be configured to energise on detection of a vehicle or when the vehicle leaves the loop.
- * **Selectable Pulse Time.**
This feature sets the length of time that the pulse relay will be energised for: 1 second or 0.2 second.
- * **Loop Fault Indicator.**
This LED indicator is illuminated when the loop is either open circuit or short circuit and is used to give visual indication.

TECHNICAL DATA

1. **POWER REQUIREMENT:** LD100 - 200 to 260VAC/100 to 120VAC - 50 /60 Hz
LD101 - 10 to 14VAC/DC
LD102 - 11 to 26VAC/DC 50 /60Hz
LD104 - 22 to 26VAC 50 /60Hz
2. **PRESENSE/ PULSE RELAY:** 0.5A/220VAC
3. **INDICATOR:** LED indicators show. Power, Detect state and Loop Fault.
4. **DETECTION TUNING RANGE:** 15 to 1500 uH
5. **PROTECTION:** Loop isolation transformer with Tranzorb and MOV.
6. **CONNECTOR:** 11 Pin Connector on rear of unit.

Typical Wiring Diagram.



INSTALLATION GUIDE

1. The loop and feeder should be made from insulated copper wire with a minimum cross-sectional area of 1.5mm². The feeder should be twisted with at least 20 turns per metre. Joints in the wire are not recommended and must be soldered and made waterproof. Faulty joints could lead to incorrect operation of the detector. Feeders which may pick up electrical noise should use screened cable, with the screen earthed at the detector.
2. The loop should be either square or rectangular with a minimum distance of 1 metre between opposite sides. Normally 3 turns of wire are used in the loop. Large loops with a circumference of greater than 10 metres should use 2 turns while small loops with a circumference of less than 6 metres should use 4 turns. When two loops are used in close proximity to each other it is recommended that 3 turns are used in one and 4 turns in the other to prevent cross-talk.
3. Cross-talk is a term used to describe the interference between two adjacent loops. To avoid incorrect operation of the detector, the loops should be at least 2 metres apart and on different frequency settings.
4. For loop installation, slots should be cut in the road using a masonry cutting tool. A 45° cut should be made across the corners to prevent damage to the wire on the corners. The slot should be about 4mm wide and 30mm to 50mm deep. Remember to extend the slot from one of the corners to the roadside to accommodate the feeder.
5. Best results are obtained when a single length of wire is used with no joints. This may be achieved by running the wire from the detector to the loop, around the loop for 3 turns and then back to the detector. The feeder portion of the wire is then twisted. Remember that twisting the feeder will shorten its length, so ensure a long enough feeder wire is used.
6. After the loop and feeder wires have been placed in the slot, the slot is filled with an epoxy compound or bitumen filler.

