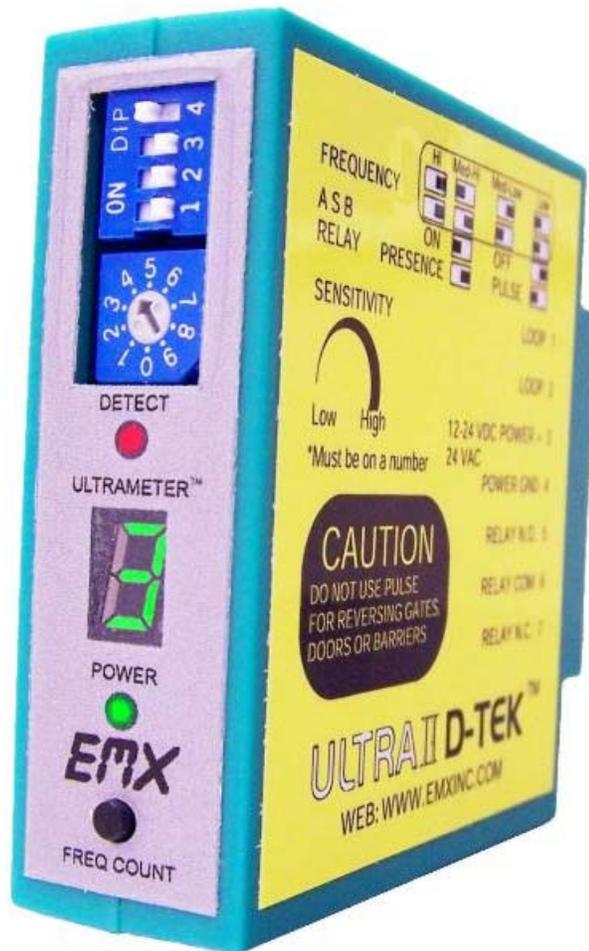




UltraIDTEK™

Vehicle Loop Detector



Operating Instructions

PRODUCT OVERVIEW

The UltraIIDTEK™ vehicle loop detector is compatible with most gate operators. The UltraIIDTEK™ may be used in Center, Safety and Exit loop positions. The UltraMETER™ display feature makes set-up easy by displaying the optimum sensitivity setting required to detect a vehicle positioned on the loop. Ten sensitivity settings allow for fine adjustment of detection level. A PULSE/PRESENSE switch allows configuration of output relay for presence or one second pulse on entry operation. Four frequency settings provide flexibility in preventing crosstalk in multi-loop applications.

Specifications

Sensitivity	10 levels, 0-9
UltraMETER™ Display	Indicates optimum sensitivity level, 0-9 Diagnostic aid
Loop frequency	4 settings (low, med-low, med-hi, high)
Loop inductance	20...2000μH (Q factor \geq 5)
Grounded loop	Isolation transformer allows operation with poor quality loops
Automatic tuning	Detector tunes to loop on power-up and following frequency count function
Environmental tracking	Automatic compensation
Surge protection	Loop circuitry protected by surge suppressors
Detect output	COM, NO and NC contacts
Power / loop fault indicator	Green LED
Detect / frequency count indicator	Red LED
ASB (Automatic Sensitivity Boost)	Increases sensitivity after initial detection to prevent dropout due to high-bed vehicles
Relay operation	Presence or one-second pulse on entry
Power	12VDC...24VDC, 24VAC
Operating Current	18 mA
Operating temperature	-40°C...82°C (-40°F...180°F) 0...95% relative humidity
Dimensions (L x W x H)	3.0" (76mm) x 0.9" (22mm) x 2.75" (70mm)
Weight	0.15 lbs. (68 g)
Connector	7 position male, 5mm ctrs.

OPERATION

Power up

Upon power up the detector initializes by automatically tuning to the loop. The green LED indicates that the detector is powered and operational.

Frequency setting

The operating frequency of the loop is a function of the specific loop inductance and DIP switch settings 3-4. The primary purpose of the frequency setting is to allow the installer the ability to set different operating frequencies for multi-loop installations, recommended to prevent crosstalk/interference from adjacent loops. After changing the frequency setting, press the Frequency Count switch to re-initialize the detector. To check the operating frequency of a loop refer to the Frequency Count section. To determine whether crosstalk between adjacent loops is occurring, refer to the UltraMETER Sensitivity Display section.

UltraMETER™ Sensitivity Display

The UltraMETER™ sensitivity display simplifies the installation process by displaying the sensitivity setting required to detect a vehicle on the loop. To use this feature, observe the display while a vehicle is moving into position on the loop, note the number displayed, then adjust the sensitivity setting (rotary switch) to the displayed position.

During normal operation, when a vehicle is not on the loop, the display is blank. The effects of crosstalk or other interference can be observed on the display when the loop is vacant. Interference or crosstalk will cause the display to indicate a level, typically 8 or 9. It may be necessary to observe the display for a minute or so to see this effect. Change the frequency setting to prevent crosstalk.

Sensitivity setting

The 10-position rotary switch allows for precise adjustment of detection level. The sensitivity level increases from position 0 thru 9 with position 0 being the lowest sensitivity. Typical applications require a setting of 3 or 4. The UltraMETER™ sensitivity display simplifies the installation process by displaying the sensitivity setting required to detect a vehicle on the loop. To use this feature, observe the display while a vehicle is moving into position on the loop, note the number displayed, then adjust the sensitivity setting (rotary switch) to the displayed position.

Frequency Count / Reset

Press the Frequency Count switch and count the number of flashes on the red LED. Each flash represents 10kHz. To help to prevent crosstalk when multiple detectors are used for adjacent loops, perform a frequency count on each detector to confirm the operation frequencies are different. Following a frequency count cycle, the detector re-initializes

Automatic Sensitivity Boost

The Automatic Sensitivity boost causes the sensitivity to increase following initial detection. This feature is useful to prevent dropout when detecting high-bed vehicles. The sensitivity returns to its normal setting after the vehicle exits the loop. Decimal point on the display indicates ASB on.

Output Relay

The pulse/presence switch allows the output relay to be configured for presence or one-second pulse on entry operation. When set to pulse operation, the display cycles through "P...U...L...S...E" repeatedly to indicate that the detector is set for pulse operation. When set to presence, the output relay remains activated while the vehicle is present on the loop.

CAUTIONS AND WARNINGS



When more than one loop detector is used, set each one to a different frequency. Refer to DIP switch diagram for frequency settings.

IMPORTANT:

This product is an accessory or part of a system. Always read and follow the manufacturer's instructions for the equipment before connecting this product. Comply with all applicable codes and safety regulations. Failure to do so may result in damage, injury or death.

Controls and Indicators

FREQUENCY SETTINGS

FREQUENCY	DIP switch position	
	4	3
Low	on	on
Medium low	off	on
Medium high	on	off
High	off	off

AUTOMATIC SENSITIVITY BOOST

	DIP switch position 2
ASB enabled	on
ASB off	off

OUTPUT RELAY

	DIP switch position 1
Pulse	on
Presence	off

SENSITIVITY SETTING

	Position 0.....9
Sensitivity	Low.....high

DETECT / FREQUENCY COUNT

	Red LED
Presence detected	on
No presence	off
Frequency count	flashing

ULTRAMETER™ DISPLAY

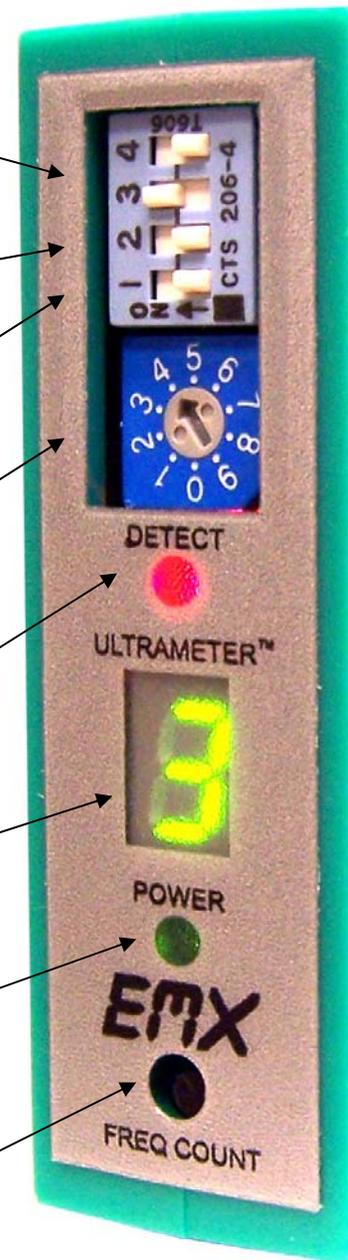
Indicates sensitivity setting required to detect vehicle

POWER / LOOP FAULT INDICATOR

	Green LED
Normal operation	on
Shorted loop	1 fast flash
Open loop	2 fast flashes
Abrupt change (>20%)	3 fast flashes
Previous loop fault	2 slow flashes

FREQUENCY COUNT / RESET

Press to start frequency count, re-initializes after count



Connections

Connector pin	Description
1	Loop
2	Loop
3	Power + (12VDC...24VDC, 24VAC)
4	Power - (12VDC...24VDC, 24VAC)
5	Pulse/Presence relay Normally Open (NO)
6	Pulse/Presence relay Common (COM)
7	Pulse/Presence relay Normally Closed (NC)

Note: Relay states (NO, NC) are shown in standby (i.e. not in detect)

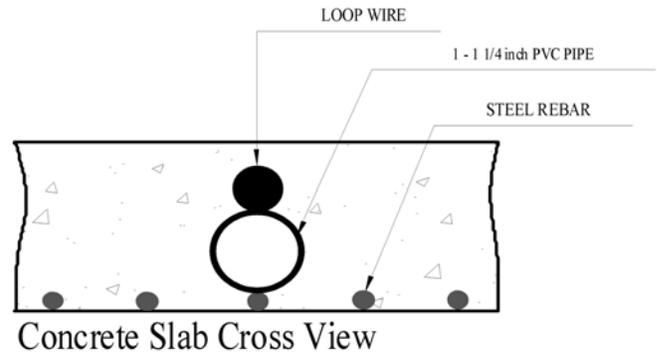
Troubleshooting

Symptom	Possible cause	Solution
Green LED flashes	Loop wire shorted or open	Check loop resistance on the appropriate loop pins on the control board connector, between .5 ohms and 5 ohms.
Green LED flashes, 2 fast	Loop was previously shorted or open	Check loop resistance on the appropriate loop pins on the control board connector.
Detector remains in detect after vehicle has left loop	<ol style="list-style-type: none">1. Faulty loop2. Poorly crimped terminals3. Loose connections	<ol style="list-style-type: none">1. Perform megger test from loop lead to ground, should be >100 megohms2. Check loop connections to terminals3. Check splices are properly soldered and sealed against moisture4. Observe ULTRAMETER display, level indicated on display indicates residual frequency shift from vacant loop to vehicle presence, press Frequency Count switch to re-initialize the detector
Intermittent detection	<ol style="list-style-type: none">1. Faulty loop2. Poorly crimped terminals3. Loose connections4. Cross-talk between adjacent loops	<ol style="list-style-type: none">1. Perform megger test from loop lead to ground, should be >100 megohms2. Check loop connections to terminals3. Check splices are properly soldered and sealed against moisture4. Set adjacent loops to different frequencies (see Frequency Setting)
No detection	<ol style="list-style-type: none">1. Loop wire shorted or open2. Loop sensitivity set too low	<ol style="list-style-type: none">1. Check loop resistance on the appropriate loop pins on the control board connector, between .5 ohms and 5 ohms.2. With vehicle on loop, observe ULTRAMETER display, set sensitivity to the level indicated on the display

Loop Installation

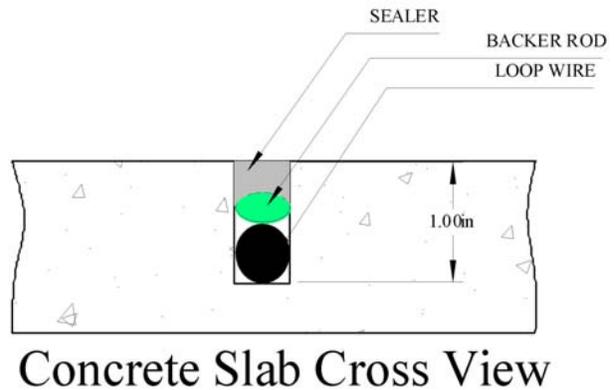
NEW SLAB POUR

Ty-wrap 1-1/4" PVC pipe to the top of the rebar in the size and configuration of the loop (ex. 4' x 8'). Then ty-wrap the loop to the top of the PVC frame. This stabilizes the loop during the pour and separates it from the rebar.



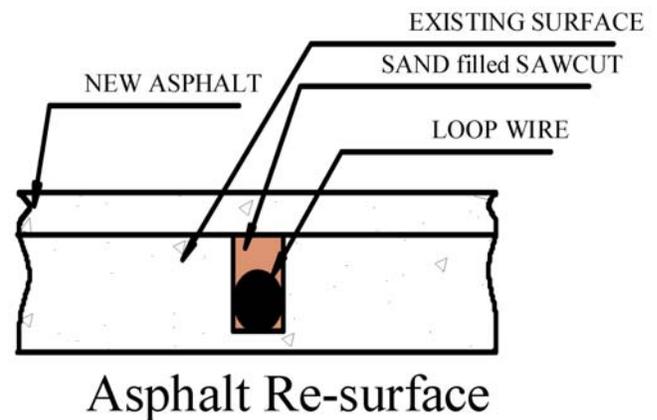
SAW CUT EXISTING SURFACE

Cut 1" deep into the existing surface, place a 45° cut at the corners to prevent sharp edges from damaging the loop wire. Notch out for the "T" connection where the lead wire connects to the loop. Remove all debris from the finished cut with compressed air. Place the loop into the saw cut. Place backer material into the saw cut over the loop wire and pack tightly. Place a high-quality sealer over the saw cut to seal the surface.



RESURFACE ASPHALT

Saw cut the existing surface 3/4" deep and place a 45° cut at the corners to prevent sharp edges from damaging the loop wire. Remove all debris from the finished cut with compressed air. Place sand over the loop wire to the surface and pack tightly. Lay new asphalt.



General Installation Guidelines

- Lead-in wire (wire from loop to detector) must be twisted a minimum of 6 turns/ foot to avoid the effects of noise or other interference.
- Detection height is approximately 70% of the shortest side of the loop. Example: detection height for an 4' x 8' loop = 48" x .7 = 33.6"
- Use EMX Lite Preformed loops for quick and reliable installations.

SELF INSTALL - NEED TECHNICAL ASSISTANCE?

OPTION 1: DIRECT WITH THE SERVICE DESK – QUICKEST AND MOST EFFECTIVE METHOD

Submit your enquiry direct with the service desk at – service@automaticsolutions.com.au

The service desk has the most experienced staff in Australia to help with your problem but they need your help.

- Describe your problem in detail and as clearly as possible. Don't forget to include a telephone number.
- Be certain to detail which model or models of you are working with.
- Send photos of the installation – they love photos. The people at the service desk are good but they are even better when they can see the installation. Send photos of the overall scene so they can see the entire installation. Also send photos of the wiring to the control board and any other part of the installation you think is relevant.
- Send video if appropriate. Smartphone's these days take remarkably good video in small file sizes which can be emailed in a moment. If your problem needs a video to show the issue please feel free to send it.

**NOTE: THIS IS BY FAR THE FASTEST AND MOST SUCCESSFUL WAY TO SOLVE YOUR PROBLEM
PHOTOS AND VIDEOS ARE THE NEXT BEST THING TO BEING THERE**

OPTION 2: LODGE YOUR ENQUIRY LOCALLY - SLOWER BUT CAN STILL BE EFFECTIVE

Make contact with the store of purchase. Branch staffs are typically not technicians and dependent on their length of service will have varying degrees of technical knowledge. If they cannot help however they will certainly either source help locally from their technicians or make contact with the service technicians on your behalf.

OPTION 3: SERVICE CALL WITH AUTOMATIC SOLUTIONS TECHNICIAN – SLOWEST METHOD

If you fall within the local branch service area it may be possible to book a local technician to look at your installation. Wait times will vary dependent on local workloads. The cost is a service fee which includes the first half hour and the hourly rate thereafter. If any Automatic Solutions provided parts are found to be defective and within warranty these will be provided free of charge.

(NOTE: If you suspect that any parts are defective and within warranty you may wish to consider option 4)

A note on this option: If you decide on this option you will be asked to sign an "authorisation to proceed" which will provide legal authority and payment security. This form has three options available of which only the first two are available to you. The third option is for warranty repairs only for full install customers. Self install customers requiring warranty only service need to refer to option four below.

IMPORTANT: IN SHORT THIS OPTION WILL INCUR CHARGES

OPTION 4: RETURN THE PRODUCT IF BELIEVED TO BE FAULTY

As a self install customer who has purchased product if you believe the product to be faulty rather than an installation or site problem you have the option of returning the product for evaluation and to exercise your right to a replacement, repair or refund as applicable. All returned product is forwarded immediately to the service technicians for evaluation and response. There are two main methods available to return product –

- Direct to the service centre – this is the quickest method as it cuts out the branch delay
- Via the branch of purchase – slower because of the delay at the branch

When choosing this option you need to complete a product return form. This form gives you all the information on procedure involved and where to send to. These are available at the branch of purchase, can be emailed to you (contact your branch), or available here - <http://automaticsolutions.com.au/page/warranty.php>