

VPR-26 Vehicle Sensor

Microwave Vehicle Motion Sensor

INSTALLATION INSTRUCTIONS

Section 1

General Description

The Model VPR-26 is a microprocessor-controlled vehicle sensor with a variable range. It is designed to trigger the operation of a traffic controller. The VPR-26 will only respond to motion in bi-direction or one direction (approach or depart only selectable), which makes it ideal for long-range detection at intersections. A microprocessor analyzes the reflected microwave energy and responds to motion in the proper direction. The VPR-26 generates an extremely low power microwave beam aimed to cover the same area normally covered by a loop detector system. It is less expensive to install and less susceptible to damage and malfunction from ice, salt and heavy vehicular traffic.

The VPR-26 operates on much the same principle that police radar uses. The unit transmits a low power microwave signal, some of which is reflected by a moving target, such as an automobile or truck. Larger vehicles, such as semi-trucks, reflect more energy than automobiles and can be detected at further distances. Since the VPR-26 uses microwave signals as its means of detecting a moving target, it is not affected by air motion, temperature and humidity changes, or high frequency sounds.

Section 2

Installation

The VPR-26 vehicle sensor will perform best when it is aimed directly at traffic. This can be accomplished by mounting the unit at the typical mounting height of 10' to 22' and aiming the sensing head so it can "view" the traffic coming toward or moving away from the unit.

The VPR-26 is mounted with 2 lag bolts through 2 - 1/2" pre-punched mounting holes, or by banding to the poles.

To remove the fastening bracket from the sensor, take out the 5/16-18 horizontal bolt holding the bracket to the hinge. Using the bracket as a template for locating screw holes, mark and drill the pole or band the bracket and refasten the sensor to the bracket with the 5/16-18 bolt removed earlier.

Wiring-(see wiring diagrams below)

Operating voltage is 12V to 24V AC or DC and is usually supplied through a transformer. The current consumption of the unit is 0.075 Amps.



NO AMPLIFIER REQUIRED!

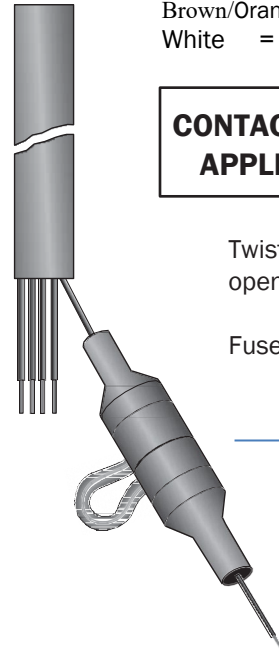
NOTE : 24V, 24VA transformer Sold Separately



WARNING: To limit exposure to electrical damage from power surges, ALWAYS wire the sensor through the transformer that is provided or a TCPS series isolation module (sold separately).

Wiring of the 5-conductor cable is as follows:

To	Red = Power (un-fused)	12V to 24V AC/DC (No Polarity)
VPR-26	Black = Power	
	Green = Relay COM	
	Brown/Orange = Relay N.C.	
	White = Relay N.O.	



CONTACTS SHOWN WITH POWER APPLIED TO UNIT (FAILSAFE)

Twist counter-clockwise and pull to open waterproof housing.

Fuse = 0.5a; 250V; Fast Blo; 3AG

Note: (Fuse Sold Separately)



WARNING: Do Not ground one side of the secondary of the supply transformer. The circuit ground of the unit is electrically connected to the housing. Grounding one side of the transformer may create a direct short that will blow the fuse located in the wire harness (pictured above).

For more information, call us at
(317) 842-2545.



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CAUTION: Do Not apply 120V AC primary power to the transformer until all secondary wiring is complete.

Alignment

To adjust the sensor's head angle, loosen the 5/16-18 hinge bolt. This allows vertical movement of the VPR-26. When alignment is complete, make sure that all bolts and screws are tightened.

Adjustment

All adjustments are made via the external controls located on the back panel of the unit (See Figure 1).

Range Control- Allows the detection pattern to be varied to sense cars at a maximum of 300' and 380' for semi-trucks and larger vehicles.

Delay Control- Allows adjustment of the relay hold time from 0.25-8.0 seconds.

Direction Switch- Allows selectable sensor detection of traffic traveling in uni-direction or bi-direction from the sensor.

Approach/Depart Switch- Allows selectable sensor detection of traffic traveling either towards/away from the sensor on bi-direction mode.

An LED is located at both the front and back of the unit to provide visual confirmation that the unit is detecting traffic.

Note: Click the Reset Button each time you make changes on the Dip Switches and Pods.

Operation



REMINDER: When power is applied, allow 30 Seconds warm-up before testing sensor.



NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Section 3

Technical Data

Model	VPR-26
Operating Frequency	24 GHz +/- 25 MHz
Detection Method	Microprocessor-Analyzed Doppler Microwave
Detection Pattern	Adjustable (see Fig. 2)
Detection Angle.....	Adjustable, Tilt & Swivel
Detection Mode	Continuous with Motion
Response Time	0.2 seconds
Time Delay.....	Adjustable 0.2-8.0 seconds
Power Requirements.....	12V to 24V AC or DC
Cable Wiring Requirements	Five-Conductor Cable (see Wiring Section, Pg.1)
Fuse Specifications	0.5a;250V;Fast-Blow;3AG Waterproof housing
Current Consumption.....	75 mA (0.075 Amps)
Power Consumption.....	watts max. @ 24V
Relay Contacts	Form C, rated at 3 amps
Mounting	Heavy-duty bracket, pre-drilled & slotted for pole mount
Temperature	-35 °F to 165 °F (-37 °C to 75 °C)
Weight	1.55 lbs.(0.7kg)
Size.....	7.5" x 6" x 5.5" (19cm x 15.2cm x 14cm)
Color	Royal Blue
Enclosure	Glass Filled Nylon
Quick Release:	
Electrical Rating.....	9A 600V CU
Torque Force	0.79 Nm CSA; 0.40 Nm UL
Wire Range.....	Max. AWG 16

FCC ID: OHRVPR

This device complies with Part 15 of the FCC Rules. Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference and (2) This device must accept any interference received, including interference that may cause undesired operation.



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Section 4

Warranty

MS SEDCO, Inc. guarantees this product to be free from manufacturing defects for three (3) years from the date of the original invoice. If, during this period, the product fails to operate and has not been tampered with or abused, the unit can be returned prepaid to the factory and be repaired free of charge or replaced, as determined by MS Sedco. After three years, the unit may be repaired for a nominal service charge. No repairs will be made if the product is older than 8 years from the date of original invoice. The terms of warranty apply to the original buyer of the product and are not transferrable. Limited warranty is in lieu of all other warranties, expressed or implied, including any implied warrantability of merchantability. No representative or person is authorized to assume for MS SEDCO any other liability in connection with the sale of our products. All warranties are limited to the duration of this written limited warranty. In no event shall MS SEDCO be liable for any special, incidental, consequential, or other damage arising from any unclaimed breach of warranty as to its products or services. Terms of warranty are subject to change without notice.



RMA PROCEDURE

Upon confirmation of a failed product, an RMA form must be filled out online prior to returning the product to MS Sedco Inc.

Go To: <https://mssedco.com/return-repair-policy-form/>

Or scan the QR code with your smartphone to go directly to the online form.

Radio Frequency Exposure: This equipment complies with FCC RF and RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body. This transmitter must not be co located or operating in conjunction with any other antenna or transmitter



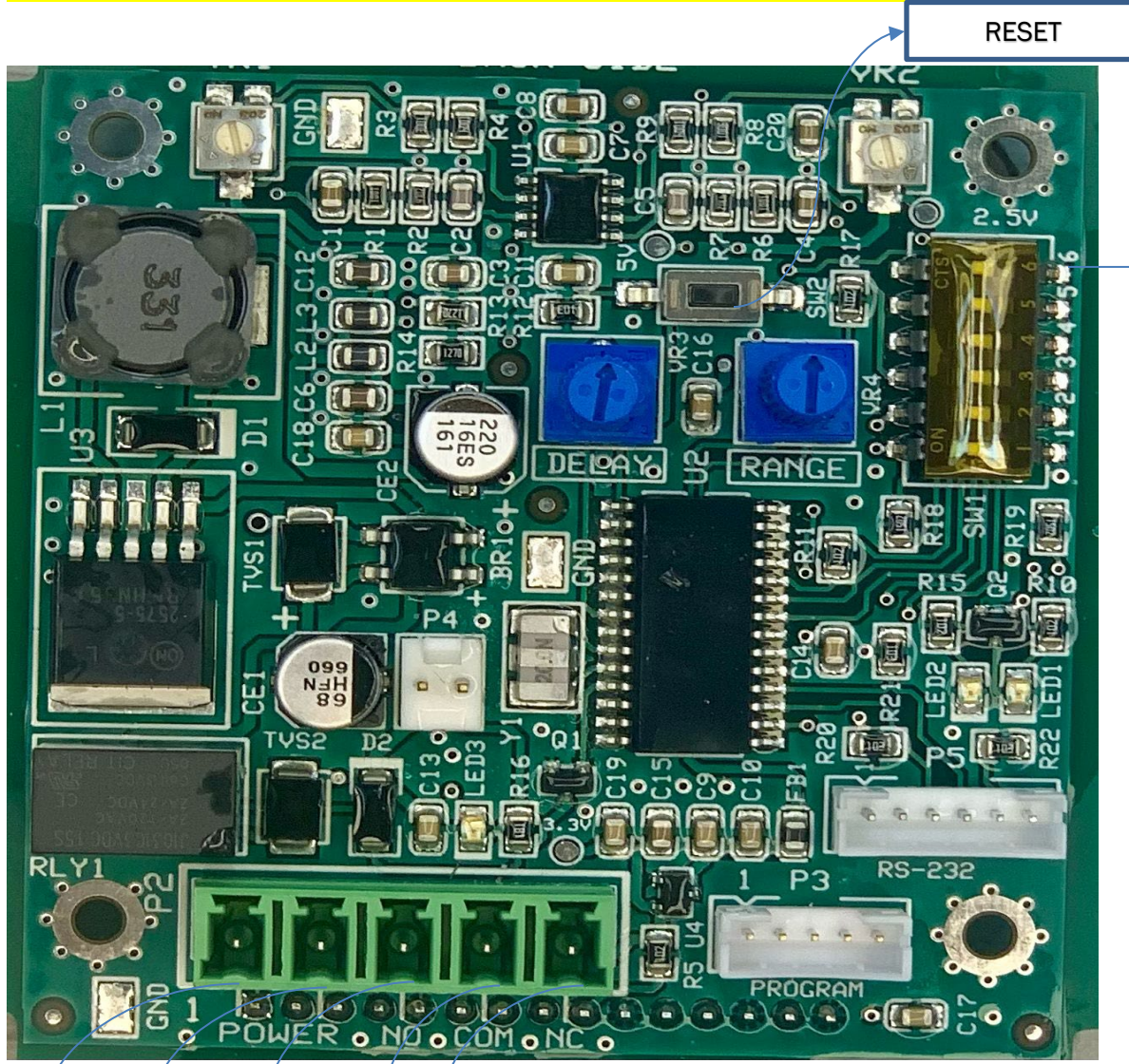
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FIGURE 1

Note: Click Reset Button each time you make changes on the Dip Switches and Pods.

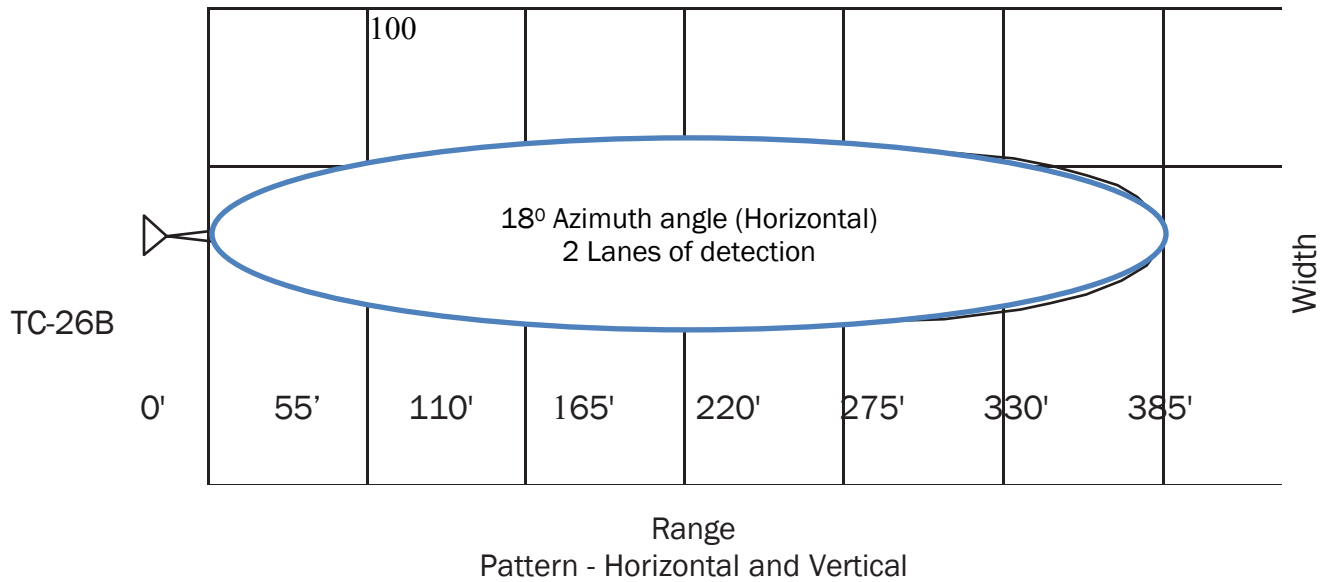


GND	Power	N.O	COM	N.C
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(Rtune1, Rtune2): Frequency modulation
 Note: Always turn "OFF" Rtune1, Rtune2.

Switch	ON	OFF
1	Rtune1	
2	Rtune2	
3	N.A	N.A
4	Bi-direction	Uni-direction
5	Approach	Depart
6	FailSafe	Normal

FIGURE 2



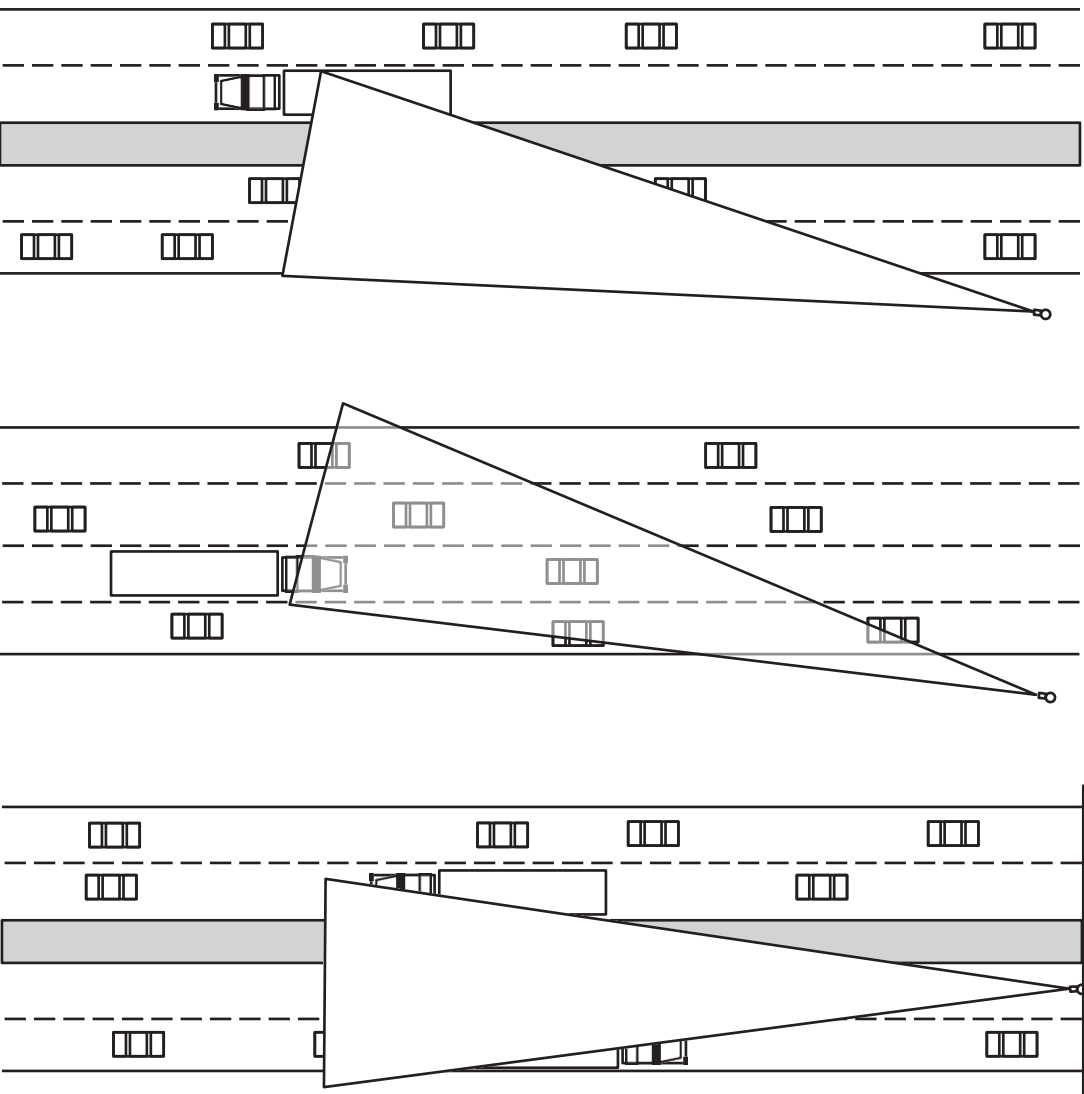
- NOTES:
- 1) Pattern Size Depends on Unit Mounting Height, Tip Angle, and Size of Vehicles
 - 2) Pattern shown with Tip Angle of 5 degrees, Mounting Height of 17'6".

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FIGURE 3



In this illustration, the VPR-26 is mounted to a pole alongside the road. It is used for detecting the flow of traffic on a typical stretch of 2-lane highway. The pattern shows a range representative of 200'. Note that the VPR-26 will not detect the truck traveling in the opposite direction in the opposite lanes.

In this illustration, the VPR-26 is used for monitoring the traffic flow on a 4-lane stretch of highway. The pattern is large enough to cover up to 4 lanes.

This illustration shows a VPR-26 mounted to a bridge support instead of a pole located alongside the road. The ability to change the aiming angle allows for many different mounting positions and heights. Note that the VPR-26 will not detect the truck travelling away from the sensor in the opposite lanes of traffic.

