Vehicle Detection System

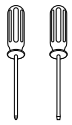
Wiring Diagram

Voltage

Operates with an input of 24VDC.

What You Need:

Phillips Head Screw Driver
3mm/1/8" Flat-head Screw Driver
Sign *(ordered separately)*



Always turn off the power prior to installation.

Be sure any metal debris cleared out of the cabinet.

Typical Wiring

Wiring will involve three separate areas: Wiring to the Sensor; Wiring to the LED Sign and Wiring to the Control Module

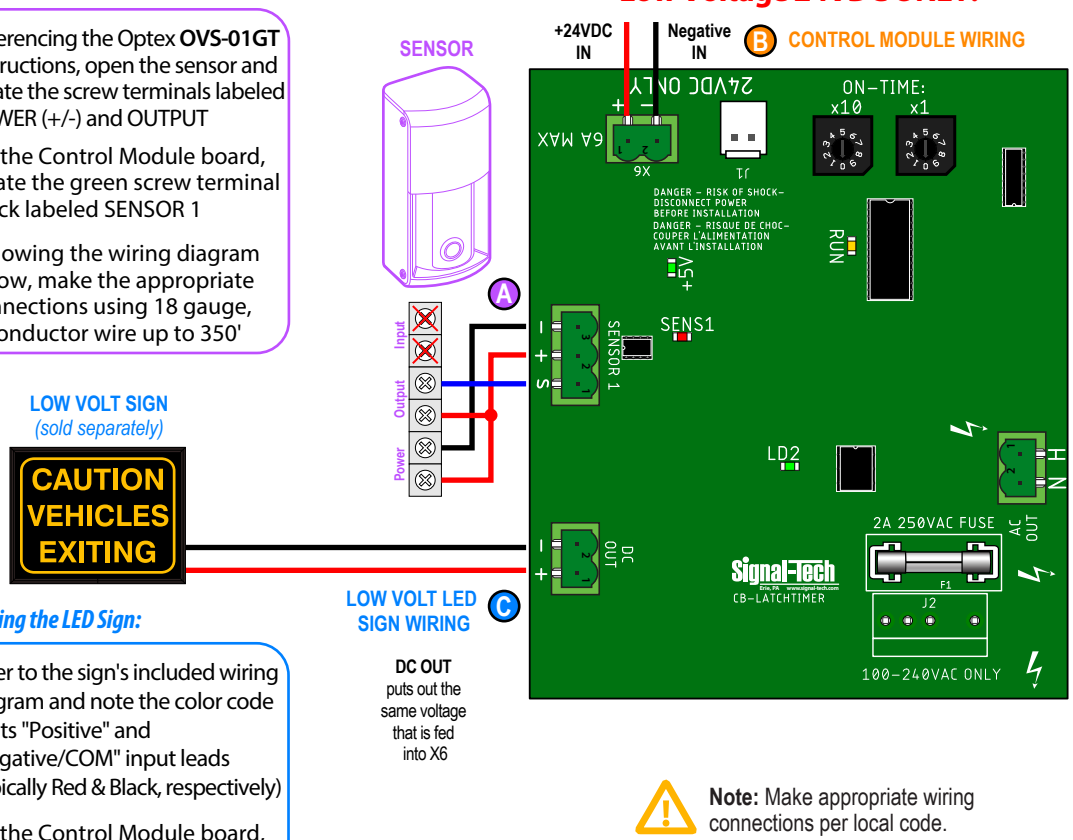
IMPORTANT NOTE: All conduit entry points must be on the bottom of the Control Module's enclosure.
Failure to do so will result in water damage not covered under warranty

A *Wiring the Sensor:*

1. Referencing the Optex **OVS-01GT** instructions, open the sensor and locate the screw terminals labeled POWER (+/-) and OUTPUT
2. On the Control Module board, locate the green screw terminal block labeled SENSOR 1
3. Following the wiring diagram below, make the appropriate connections using 18 gauge, 4-conductor wire up to 350'

C *Wiring the LED Sign:*

1. Refer to the sign's included wiring diagram and note the color code for its "Positive" and "Negative/COM" input leads (typically Red & Black, respectively)
2. On the Control Module board, locate the green screw terminal block labeled "DC OUT"
3. Using the screw terminals, make the appropriate wiring connections between the control module and the sign



B *Wiring the Control Module:*

1. Locate the green screw terminal block labeled X6 "24VDC ONLY"
2. Using the screw terminals, make the appropriate wiring connections from your 24VDC source to the (+) and (-) terminals as indicated on the board
3. The 24VDC input to the board will also power the sensor (via SENSOR 1 terminal) and the low-voltage sign (via DC OUT terminal)

Note: Make appropriate wiring connections per local code.

Sensor Information and Installation

*This guide is specific to the **Optex OVS-01GT** sensor*

The **Optex OVS-01GT** sensor uses a combination of microwave and ultrasonic sensors to detect vehicle presence. It offers on-board adjustments for sensitivity, human cancellation, and detection range. For full details on the **OVS-01GT** sensor–including specific installation guidelines and settings–please refer to Optex's documentation included with your sensor:

Quick Start Guide: *https://optex-america.sfo2.digitaloceanspaces.com/sensor-downloads/Optex-Viik-OVS-01GT-Quick-Reference-Guide-En.pdf*

Full User Manual: *https://optex-america.sfo2.digitaloceanspaces.com/sensor-downloads/Optex-Viik-OVS-01GT-Installation-Manual-En_190410_084617.pdf*

Recommended Installation (Physical)

Measurement	Value	Failure Mode
Position, relative to lane	Adjacent to lane *(see recommended positioning in Figure 1)*	1) Vehicle may not hit detection field *(if sensor is too close to parallel with lane)* 2) Vehicle may be detected too late, or missed completely *(if sensor is too close to perpendicular with lane)*
Height from ground	>20"	The ground below may interfere with the sensor field
Relay Output Types	Parallel with ground; adjust to slope of ramp *(see Figure 2 below)*	1) The ground below may interfere with the sensor field *(if angled too low)* 2) Vehicle may be detected too late or missed completely *(if angled too high)*

Installing the Sensor

Install the sensor facing the oncoming path of vehicles at a 45° angle at a height of 20 inches off the ground.

Adjust so that the detection area is parallel to the road surface. Some vertical adjustment may be required if the road surface rises or falls away from the sensors mounting height.

Figure 1.

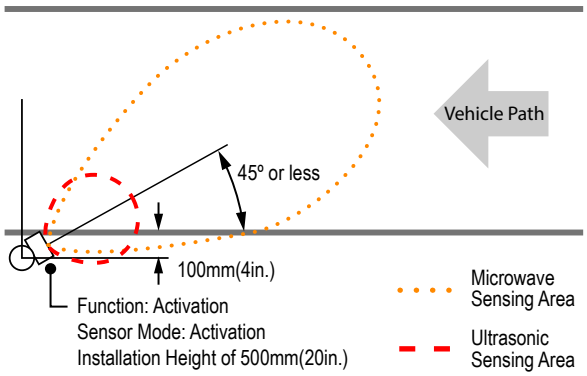
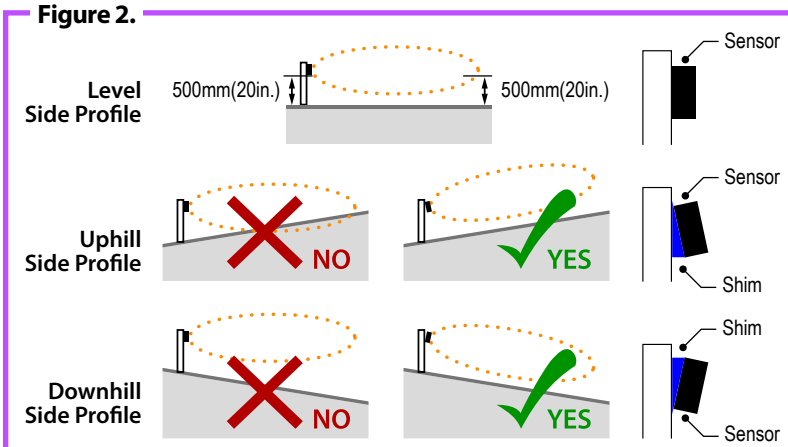


Figure 2.



Refer to the included Optex installation instructions for more information about sensor setup, testing, and troubleshooting.

Recommended Installation (Sensor Settings)

Setting	Value	Notes
Microwave Range	Set per application	Depends on several easy to configure variables
Output	Normally Open (NO)	
Sensor Mode	Activation	Closes relay contacts when a vehicle enters detection area
Sensitivity	4	Upon initial setup and testing, sensitivity and human cancel adjust may need to be changed; *see Optex documentation for more details*
Human Cancel Adjust	4	Upon initial setup and testing, sensitivity and human cancel adjust may need to be changed; *see Optex documentation for more details*
Presence Detection Timer	5 Minutes	Sensor's built-in automatic reset threshold
Sensitivity Boost Timer	OFF	
Ultrasonic Range	1.5m/6ft	
Input	Wake L	

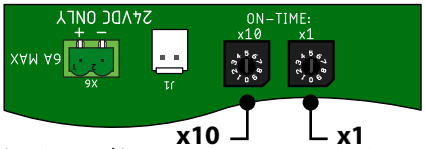
Control Module Information and Installation

Signal-Tech's adjustable Control Module uses an input signal from the sensor to activate a set of relays, turning on the pedestrian signage for an adjustable amount of time *(see "Typical Wiring Diagram" for board layout and wiring)*.
The device comes in a NEMA 4X rated, lockable enclosure. It includes the Control Module board with 24VDC input/output.

Installation notes: · The enclosure should be mounted between the sensor and the LED sign to minimize the distance of any low-voltage wiring

Adjusting the Sign On-Time

Use the two switches to adjust the amount of time the sign stays illuminated.



To Adjust:
Turn the x10 to select 0 to 90 seconds in 10 second increments.
Turn the x1 to select 0 to 9 seconds in 1 second increments

Vehicle Detection/Pedestrian Warning System

· **ALWAYS** consider the ampacity of the wiring used when powering the sign with low-voltage DC.
· **ALWAYS** size your power supply to the amp draw of the LED sign (when supplying your own DC voltage)
· **ALWAYS** bring in conduit through the bottom of the enclosure to prevent water intrusion into the enclosure

Specification	Value	Notes
Input Voltage	Regulated 12-24 VDC (board)	
Adjustable Timer Range	1-99 seconds	• If rotary switches are set to 0, 0 time will default to 1 second • Timer begins when input signal returns to its open state (NO) • Timer is re-triggered by additional activations on the sensor input
Relay Output Types	Mechanical; 24VDC (labeled DC OUT)	
Relay Output Rating	DC Output: 4A	