

Overheight Vehicle Detection System

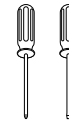
Wiring Diagram

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.

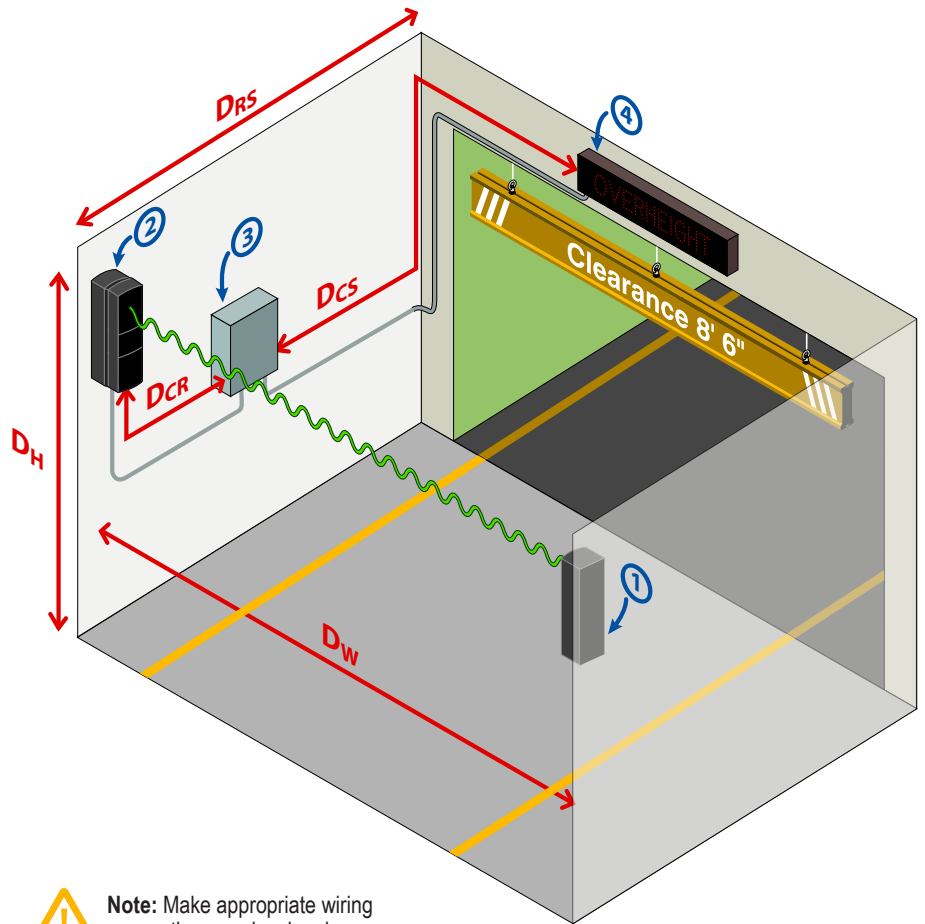
Application Notes

- This system should be used for **LOW-SPEED (10MPH) applications ONLY**
- This system is intended to be used **in conjunction** with a **physical barrier** for over-height vehicles, such as a clearance bar
- Failure to follow installation and maintenance guidelines **will** result in system failure and potential damage and/or injury

Application Overview

Label	Component	Notes
1	Through-beam sensor (Transmitter)	• Battery powered (no wire entry required)
2	Through-beam sensor (Receiver)	• Wired to Controller for power (24VDC) + Signal
3	Controller	• 24VDC Input • 24VDC to Receiver • Switched 24VDC Output to Sign
4	LED Sign	• 24VDC Input

Label	Measurement	Value	Notes
D _w	Max Lane Width	50ft (~15m)	• Sensor's maximum detection range
D _H	Sensor line height: ground to top of each sensor	Equal to clearance height	• Measured from the ground to the top of each sensor • D _H should be the same for both mounting locations (sensor line must be parallel to ground)
D _{RS}	Min distance between detection area (Receiver) and LED Sign	(Varies)	• Varies per application • Account for time/distance for drivers to stop
D _{CR}	Max distance between Controller and Receiver	350ft (~106m)	• Using 18-22AWG, 4-conductor cable
D _{CS}	Max distance between Controller and LED Sign	(Varies)	• For 120VAC: Consult local Electrical Code • For 24VDC: Account for sign load and wire gauge



Note: Make appropriate wiring connections per local code.

Sensor Installation

Specific to the Optex OVS-50TNR sensor

Wiring

A **Wiring the Sensor** See "Typical Wiring" on the back page

Mounting and Configuration

Quick Start Guide: <https://optex-america.sfo2.digitaloceanspaces.com/sensor-downloads/OVS-50TNR%E2%80%9393QSG.pdf>
Full User Manual: https://optex-america.sfo2.digitaloceanspaces.com/sensor-downloads/OVS-50TNR_MANUAL.pdf

Sign Installation

Wiring

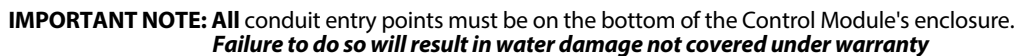
C **Wiring the LED Sign** See "Typical Wiring" on the back page

Mounting and Configuration

Follow the instructions included with your sign

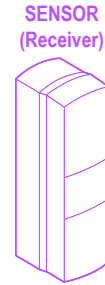
Typical Wiring

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



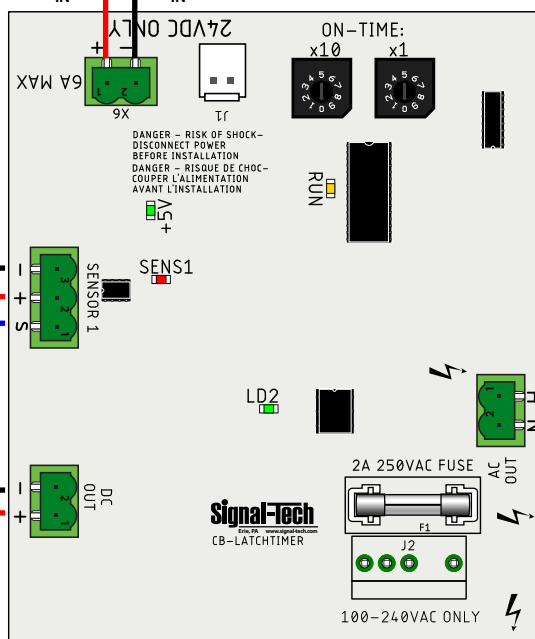
A Wiring the Sensor:

1. Refer to the Quick Start Guide included in the sensor's packaging to access its power/signal terminals
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 18-22 AWG, 4-conductor wire up to 350' (referenced on **D_{CR}** notes)



Low Voltage 24VDC ONLY!

B CONTROL MODULE WIRING



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)

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

LOW VOLT LED SIGN WIRING

DC OUT
puts out the
same voltage
that is fed
into X6



Note: Make appropriate wiring connections per local code.

Control Module Information and Installation

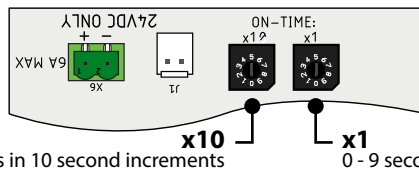
Signal-Tech's adjustable Control Module uses an input signal from the sensor to activate a set of relays, turning on the LED sign for an adjustable amount of time (see "Typical Wiring Diagram" for board layout and wiring).

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 24VDC (board)	
Adjustable Timer Range	1-99 seconds	<ul style="list-style-type: none">• 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	