

IN-GROUND VEHICLE SENSOR



INSTALLATION MANUAL Model GS1

Table of Contents

AN INTRODUCTION TO YOUR IN-GROUND VEHICLE SENSOR

How the In-Ground Vehicle Sensor Operates	page 2
Tools/Materials Needed	page 2
Parts Included	page 2

POSITIONING THE IN-GROUND VEHICLE SENSOR

General Information	page 2
For Best Results	page 2
Determining the Proper In-Ground Vehicle Sensor Position	page 3

INSTALLING THE IN-GROUND VEHICLE SENSOR

Mounting the Liquid Tight Grommet	page 3
Burying the In-Ground Vehicle Sensor and Cable	page 4
Connecting the In-Ground Vehicle Sensor to the Control Box	page 4
Testing the In-Ground Vehicle Sensor	page 5

TROUBLESHOOTING GUIDE	page 5
------------------------------------	--------

TECHNICAL SPECIFICATIONS	page 5
---------------------------------------	--------

OTHER ZAREBA GATE OPENER ACCESSORIES	page 6
---	--------

WARRANTY AND REPAIR INFORMATION	page 7
--	--------

AN INTRODUCTION TO YOUR IN-GROUND VEHICLE SENSOR

Please read the entire instruction manual before installing the In-Ground Vehicle Sensor.

WARNING: This product is not recommended for use in areas exposed to children. The In-Ground Vehicle Sensor (Sensor) could be activated by a smaller metal object such as a child's bicycle or other metal play equipment.

How the In-Ground Vehicle Sensor Operates

The Sensor detects changes in the earth's magnetic field. These changes are caused by movement of metal objects such as a car entering and passing through the detection range of the Sensor. The detection range of the Sensor is circular and approximately 12 feet in diameter.

When a vehicle is detected by the Sensor, a signal is sent from the Sensor to the control board in the Gate Opener Control Box engaging the relay to open the gate. The Sensor signal will open AND close the gate if the Control Box is set for automatic close. Otherwise, the Sensor signal will only open the gate—it will NOT close an open gate. If the gate is in the process of closing and it receives a signal from the Sensor, the gate will stop and return to the open position.

NOTE: Detection of metal object can only be achieved if the metal object is in motion. A stationary metal object will not be detected by the Sensor.

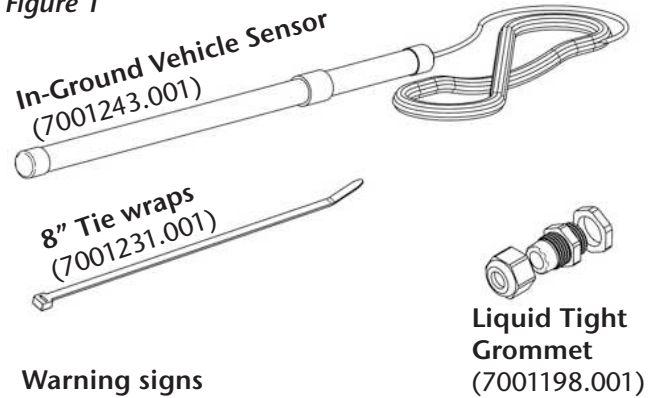
Tools/Materials Needed

Shovel, phillips screwdriver, jewelers screwdriver, marker, utility knife, and PVC conduit.

Parts Included (fig. 1)

In-Ground Vehicle Sensor w/ Wire (1); Liquid Tight Grommet (1); Lock Nut (1); 8" Tie Wrap—Black (6); and Warning Signs (2).

Figure 1



Warning signs (7001183.001)



POSITIONING THE IN-GROUND VEHICLE SENSOR

General Information

- The Sensor comes with a 50 foot cord.
- The Sensor can be buried 8 to 10 inches deep in the soil or up to 2 inches deep in cement or asphalt.

For Best Results

When deciding where to position the Sensor:

- The Sensor must remain at least 25 feet away from the end of the gate when the gate is in the open position (see fig. 2).
- The Sensor must NOT be positioned more than 2 feet from the edge of the driveway (see fig. 2).
- The Sensor must lay so that it runs parallel with the driveway (see fig. 2).
- The Sensor should be as far away as possible from underground power, gas, and telephone lines.
- The Sensor should be as far away as possible from general moving traffic such as a street or road to prevent unwanted gate opening.
- Ensure you leave enough cable to go from the ground to the Gate Opener Control Box Cable inlet.
- Zareba recommends that the Sensor Cable be placed inside PVC conduit and buried between the Gate Opener Control Box and the Sensor.

Determining the Proper In-Ground Vehicle Sensor Position

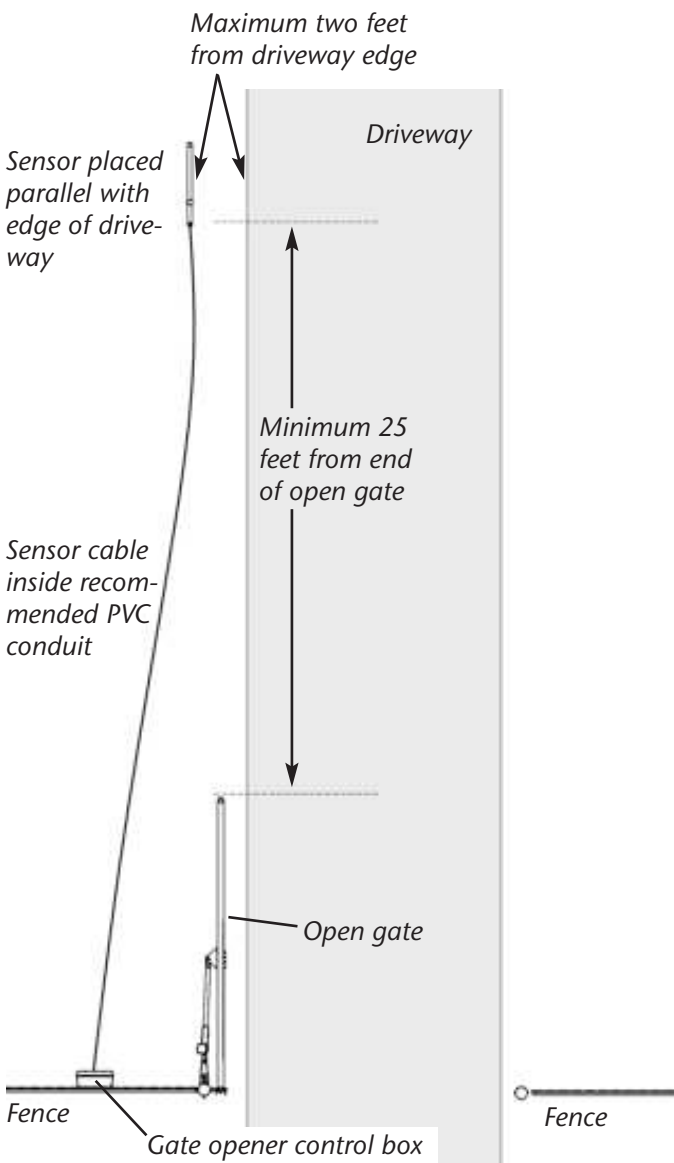
Step 1

Close the gate with the your Zareba transmitter, key-pad, or push button.

Step 2

Using the Sensor Cable, measure the distance between the ground and the top of the Gate Opener Control Box by holding the wire end of the Sensor Cable (opposite the sensor end) to the top of the Control Box. While holding the wire end of the Sensor Cable to the top of the Control Box find the point at which the Sensor Cable hits the ground. With a marker make a mark on the Sensor Cable at the ground intersection point. The measured distance is the amount of cable that is needed to go from the Control Box to the Ground.

Figure 2



Step 3

From the ground intersection point roll out the Sensor Cable in path between the Gate Opener Control Box and the desired location of the Sensor (see *fig. 2*).

Step 4

Once the Sensor is in the desired position ensure that the Sensor and the opened gate end are a minimum distance of 25 feet from each other. Ensure the Sensor is not more that two feet from the edge of the driveway (see *fig. 2*).

INSTALLING THE IN-GROUND VEHICLE SENSOR

Mounting the Liquid Tight Grommet

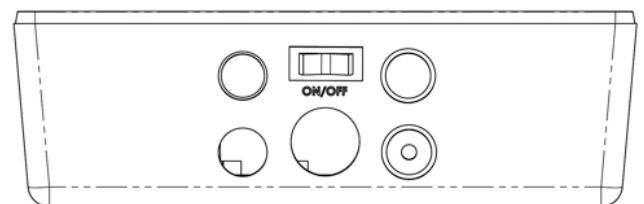
Step 5

Before opening the Control Box, set the Control Box power switch to the OFF position. Open the Control Box by removing the four screws located in each corner of the Control Box and removing the Control Box cover.

Step 6

Using a utility knife, carefully cut out either of the unused knockout disks on the bottom of the Control Box (see *fig. 3*).

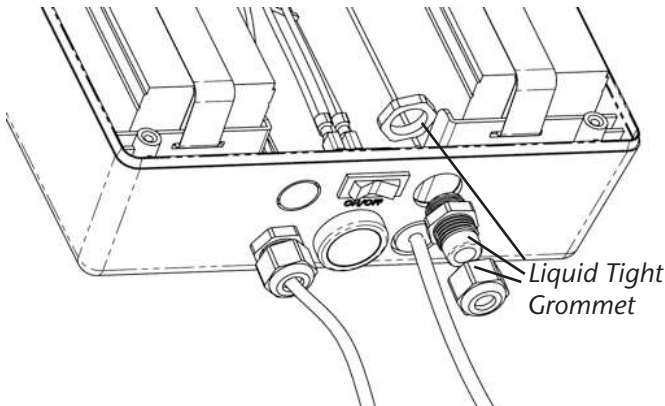
Figure 3



Step 7

Remove the Lock Nut from the supplied Liquid Tight Grommet (see *fig. 4*) and insert the housing of the Liquid Tight Grommet through the knockout from the outside of the Control Box.

Figure 4



Step 8

Fasten the Liquid Tight Grommet housing to the Control Box by finger tightening the Lock Nut from the inside of the Control Box to the Liquid Tight Grommet housing keeping the Control Box between the Lock Nut and the housing (see fig. 4).

Burying the In-Ground Vehicle Sensor and Cable

NOTE: Zareba recommends that the Sensor Cable be placed inside PVC conduit and buried between the Gate Opener Control Box and the Sensor.

Step 9

Once the desired position of the Sensor has been determined, dig a rectangular-shaped hole in the ground approximately 9 inches deep by 4 inches wide and 24 inches long. Ensure the hole is parallel to the edge of the driveway and not more than two feet from the edge of the driveway.

Step 10

Dig a trench approximately nine inches deep from the rectangular-shaped hole to the intersection point of the ground under the Control Box and the Sensor Cable.

Step 11

Place the Sensor in the rectangular-shaped hole and place the Sensor Cable into the trench running the cable from the Sensor to the Control Box.

NOTE: Do not bury the Sensor or cable at this time.

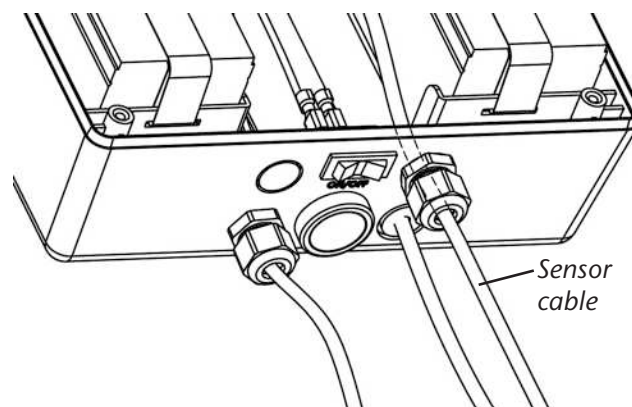
Connecting the In-Ground Vehicle Sensor to the Control Box

NOTE: Zareba recommends that the Sensor Cable be placed inside PVC conduit between the Control Box and the ground to protect the Sensor Cable from being damaged by lawn mowers, weed removal tools, and animals.

Step 12

Insert the Sensor Cable into the Control Box by feeding the cable through the Liquid Tight Grommet installed in Steps 4–7 (see fig. 5).

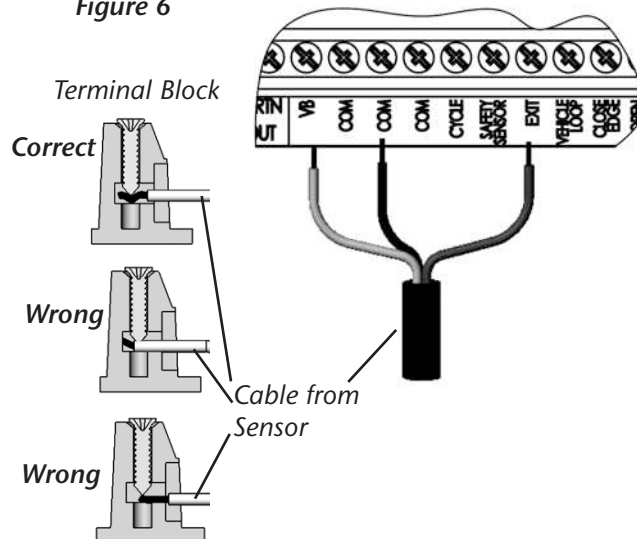
Figure 5



Step 13

Connect the Sensor Cable to the accessory terminals on the control board by connecting the red wire to the terminal marked (VB), connecting the black wire to any one of the terminals marked (COM) and connecting the blue wire to the terminal marked (EXIT). Ensure wires are securely fastened to the accessory terminal (see fig. 6).

Figure 6



Testing the In-Ground Vehicle Sensor

Step 14

Close the Control Box by placing the cover over the Control Box and securing with the four screws located in each corner of the Control Box cover.

Step 15

Set the Control Box power switch to the ON position.

Step 16

Test the Sensor by slowly driving your vehicle up your driveway and past the Sensor. The gate should be closed (see *Step 1*) and will open when your vehicle passes the Sensor.

NOTE: *If the Gate does not open please refer to the Troubleshooting Section.*

Step 17

Once the Sensor has been tested and is working properly, fill the rectangular-shaped hole and the cable trench with the dirt that was removed to dig the hole and the trench.

Step 18

Use the supplied Tie Wraps to attach the supplied Warning Signs to both sides of the gate.

TROUBLESHOOTING GUIDE

Problem:

After driving my car by the sensor, the gate did not open or close.

Solution:

1. Reset the Control Box by setting the Control Box power switch to the OFF position. After waiting for 10 seconds, set the Control Box power switch to the ON position. Retest the Sensor. If the Sensor still is not working, go to the next step.
2. Set the Control Box power switch to OFF position. Open the Control Box by removing the four screws located in each corner of the Control Box and removing the cover. Visually inspect and ensure that all wire connections are correctly made to the accessory terminals inside the control box (see *Step 12*). Close the Control Box by replacing the cover and securing with the four screws located in each corner of the cover. Set the Control Box power switch to the ON position. Retest the Sensor.

3. Verify sensor is buried appropriately. The sensor should be buried 8 to 10 inches below ground, or two inches deep in cement or asphalt. The sensor should not be located more than two feet from the edge of the driveway.

If steps 1–3 did not solve the problem, please call customer service

Problem:

The gate opens on its own.

Solution:

1. Ensure that sensor is located away from passing vehicles or other moving metal objects.

TECHNICAL SPECIFICATIONS

Power Supply: 9 to 35 VAC/VDC

Stand By Current: 1.6 mA Max

Detect Current: 15 mA Max

Relay Type: DPDT

Relay Contact Rating: 1A, 24 VDC, 120 VAC

Surge Protection: MOV, Neon, and Silicone protection

Detection Range: Approximately 12 feet diameter

Operating Temperature Range: -40° F (-40° C) to 140° F (60° C)

Customer Service

8:00am to 5:00pm, Central time, Monday – Friday

Zareba Systems

906 Fifth Avenue E

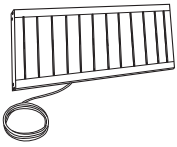
Ellendale, MN 56026-2193

Phone: 800-272-9877 or 507-684-3721

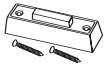
Fax: 507-684-3722

Email: info@zarebasystems.com

OTHER ZAREBA GATE OPENER ACCESSORIES



Solar Powered Battery Charger (GSP1). The Solar Panel charges the 12 volt battery when AC power is not available, or is more than 1,000 feet away. Cycles are limited by the number of panels installed and the geographic location of gate opener installation.



Push-Button Control (GB1). Opens the gate with a push of a button. The Push Button Control is similar to a doorbell or the button-type control commonly used to open garage doors. The Push Button Control can be located in a garage or other location that is easily accessible when wanting to open or close the gate. It connects directly to the control box.



Pin Lock (GPL1). The Pin Lock replaces the clevis pin when mounting the actuator to the brackets. It helps to prevent theft of the actuator from the gate, while allowing quick release of the opener.



One-Button Transmitter (GT1). The Transmitter works similar to transmitters frequently used with garage door openers. It allows you to open or close the gate from a remote location (typically your vehicle). It has a range up to 300 feet.



Two Button Transmitter (GT2). The Two Button Transmitter provides the capability to remotely operate two separate devices such as two gates, or a gate and garage door. It has a range up to 300 feet.



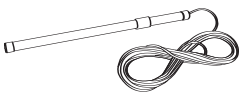
Three Button Transmitter (GT3). The Three Button Transmitter provides the ability to remotely operate three separate devices. It has a range up to 300 feet.



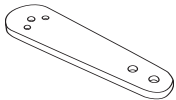
Mini Transmitter (GKF1). The Key Chain Transmitter fits on a keychain and allows you to open and close the gate from a remote location. It has a range up to 300 feet.



Keypad (GKP1). The Keypad allows for entry by authorized guests informed of your pre-set code. Entering the correct code causes the gate to open or close. The access code is easily modified.



In-Ground Vehicle Sensor (GS1). The In-Ground Vehicle Sensor provides a method to open your gate without a transmitter, push button or keypad. The sensor is typically installed on the inside of the property allowing guests to leave without having a control device to open the gate. The sensor is buried near the gate and senses or detects a metal vehicle that passes within its 12-foot range. Once detected, the gate opens automatically.



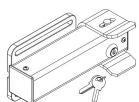
Push-to-Open Bracket (GAB1). This bracket is necessary for push-to-open installations. Push-to-open installations may become necessary due to a sloped driveway or other installation-specific reasons.



Replacement Battery (GRB1). Standard 12 volt, 7.2 amp-hour, maintenance-free battery for the Zareba Automatic Gate Opener.



Low-Voltage Wire (GW1). 16-gauge, multi-stranded, dual-conductor low voltage wire used to connect the AC-powered transformer to the control box.



Automatic Gate Lock (GL1). The Automatic Gate Lock provides an additional level of security for your property. When your gate swings shut, the gate lock closes, securing your gate in the closed position.

Please check with your local Zareba retailer for products. If the products you need are not available, you may purchase them directly from Zareba Systems.

WARRANTY AND REPAIR INFORMATION

Limited Warranty Coverage

If your Automatic Gate Opener Accessory (sometimes also referred to as the “Product”) does not work properly because of a defect in materials or workmanship, the Zareba Systems division of Waters, Instruments, Inc. (“Zareba”) will, for the length of the period indicated on the chart below, which starts with the date of original purchase (the “Limited Warranty period”), at its option either (a) repair your Product with new or refurbished parts, or (b) replace it with a new or a refurbished Product. The decision to repair or replace will be made by Zareba.

Parts	Labor
One (1) Year	One (1) Year

During the “Labor” Limited Warranty period there will be no charge for labor. (Note: labor applies only to the repair of the Product at an Authorized Zareba Repair Center. It does not apply to removal or installation of the Product on purchaser’s home or other premises). During the “Parts” Limited Warranty period, there will be no charge for parts.

You must ship your Zareba Automatic Gate Opener Accessory to Zareba during the applicable Limited Warranty period. This Limited Warranty excludes both parts and labor for batteries, antennas, and cosmetic parts (such as the Product housing). This Limited Warranty only applies to Products purchased in the United States. This Limited Warranty is extended only to the original consumer purchaser (“you” or “your”) of a new Product that was not sold “as is”.

Limited Warranty Service

For assistance in the continental U.S.A. in obtaining the benefit of the Limited Warranty please carefully follow these steps:

- 1) Complete carefully all troubleshooting procedures in the *Troubleshooting Guide* in this Manual.
- 2) If you are still unable to solve the problem, contact Zareba Systems customer service at 1-800-272-9877. Please have the model and serial number of the Product available to give to the customer service representative. The customer service representative will provide further assistance or authorize repair or replacement, as appropriate.
- 3) If repair or replacement is appropriate you will be given a return authorization number (RMA#). This RMA# must be visible on all documents and packages returned to Zareba.
- 4) Carefully pack the defective Product or Product part in a sturdy shipping carton, include (i) a letter detailing the complaint, (ii) a daytime phone number where you can be reached, (iii) your name and address for any return, (iv) your sales receipt/proof of purchase, and (v) the RMA# on all correspondence and the shipping carton.

- 5) Prepay the freight and insure the defective Product or Product part against shipping damage. Note that defective Products or Product parts shipped freight collect will not be accepted.
- 6) Ship the carton to: Zareba Systems, 906 Fifth Avenue E., Ellendale, MN 56026.

IF REPAIR OR REPLACEMENT IS NEEDED DURING THE LIMITED WARRANTY PERIOD, THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE, AMOUNT PAID AND PLACE OF PURCHASE. THE PURCHASER WILL BE CHARGED FOR THE REPAIR OF ANY PRODUCT OR PRODUCT PART RECEIVED WITHOUT SUCH PROOF OF PURCHASE OR FOR REPAIRS REQUESTED OUTSIDE OF THE APPLICABLE LIMITED WARRANTY PERIOD.

Limited Warranty Limitations and Exclusions

This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by Zareba, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, modifications or alterations, faulty installation, connection to an improper power source, set-up adjustments, misadjustment of controls, improper maintenance, power line surges, damage from acts of God such as lightning, wind, fire, flood or insects, introduction of sand, humidity or liquids, commercial or rental use or service by anyone other than an Authorized Zareba Repair Center.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS STATED UNDER “LIMITED WARRANTY COVERAGE”. ZAREBA IS AND WILL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY. (As examples, this excludes damages for lost time, lost calls or messages, cost of having someone remove or re-install an installed Product or Product part, travel to and from an Authorized Zareba Repair Center, etc. The examples listed are not an exhaustive or exclusive list, but are for illustration only). ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.

Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Some States do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from State to State.

PARTS AND SERVICES WHICH ARE NOT EXPRESSLY COVERED BY THIS LIMITED WARRANTY ARE YOUR RESPONSIBILITY.