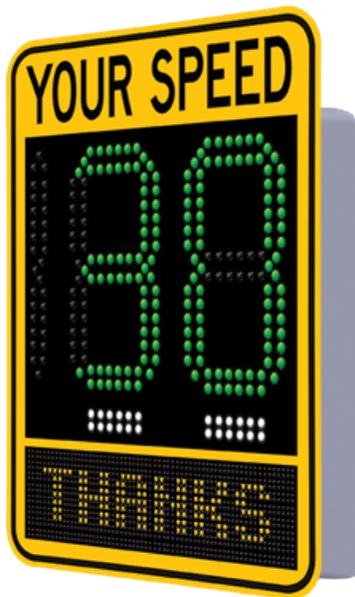


TRAFFIC LOGIX® SAFEFACE® EVOLUTION 15FM/15SD/15SL INSTALLATION MANUAL

Radar Sign Installation



EV15SD



EV15SL



EV15FM



SafePace® Evolution 15FM/15SD/15SL Installation Manual

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Document created: 10:51 AM on Tuesday, September 3, 2019

Document version: 1.1

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Chapter 1

INTRODUCTION

Descriptions

We offer three distinct models of SafePace Evolution 15FM/15SD/15SLradar sign.

All models display vehicle speeds in bright, large 15" LED displays that can be seen from up to 600 feet away, are portable, and feature speed-activated color changes to alert speeders.

The **15FM** features a dual-color full matrix display that is capable of displaying speeds, text, graphics, or animation in red or amber. This allows you to alert drivers of their speeds or display messages to notify them about an event, construction, or dangerous road conditions.

The **15SD** allows you to display dual color (red/amber) speeds and a speed-activated "SLOW DOWN" message to speeders.

The **15SL** allows you to display tricolor (red/amber/green) speeds along with a single line text message of your choosing in the lower portion of the sign.

About this Manual

This manual describes the installation of the SafePace EV15 sign, along with an optional solar panel, to the side of a pole. This manual also describes the wiring specifications for solar and battery powered configurations.

Documentation Conventions

This document uses the following formatting conventions:

Format	Description
Bold Gray	Used in procedures to indicate menu commands, interface controls and dialog box options.
<i>Italics</i>	Used to place emphasis on certain words.
Monospace text	Used for code samples and any information that the user enters.
<i>Italicized monospace text</i>	Used to indicate text that you should replace with your own. For example: In the Save As text box, enter c:\ <i>filename.ext</i> where <i>filename.ext</i> is the name of the file you want to save.
>	Used to indicate a sequence of commands (and sub commands) to be carried out in the displayed order. For example File > Exit means to open the File menu then choose the Exit command. This applies to menus from the main menu bar, context menus that appear when you right-click on the interface, and tiles in a tiled interface.



NOTE: Notes are used as reminders or to provide information of interest that supplements or emphasizes important points of the main text.



TIP: Tips are used to suggest alternative methods, workarounds and/or shortcuts that are not essential but that you may find useful in a given situation.



CAUTION: Cautions are used to advise users of specific actions that could result in a loss of data.



WARNING: Warnings are used to advise users of specific actions that could result in personal physical injury or damage to equipment.

Using Additional Customer Resources

The following topics give you more information about additional resources available to our customers:

- » *Online Customer Area* below
- » *Contacting Technical Support* below

Online Customer Area

Visit the Online Customer Area at (<https://trafficlogix.com/customer-area/>) to gain access to a range of resources including product documentation, software downloads and support videos, that will allow you to get up to speed with your Traffic Logix product.



NOTE: The Customer Area is password protected so you may need to apply for a password if you haven't already obtained one.

Software Downloads

Provides convenient access to the latest versions of our software applications and utilities.

Support Videos

Provides access to several videos that can help you get up to speed with your Traffic Logix product.

Product Documentation

Provides access to the most recent versions of our product documentation. If you are unable to access our online documentation, please contact our Technical Support Department to discuss alternatives.

Contacting Technical Support

If you have questions or comments regarding this document or SafePace Evolution 15FM/15SD/15SL, please feel free to contact our technical support center by phone: 1 (866) 915-6449, or by email: support@trafficlogix.com

Chapter 2

INSTALLING THE SAFEPACE EV15

There are several methods and hardware options available for the installation of the SafePace EV15 sign.

Selecting a Site for the Sign

The site you select for the sign may vary with the application in which the SafePace EV15 radar sign is being used. However, you should generally adhere to the following guidelines:

- » Choose a location where the line of sight from the radar sign to the vehicle will be uninterrupted. Give consideration to how the location may develop with time. The following types of questions should be considered:
 - Will any trees grow directly in the line of vision?
 - Is it likely that road traffic signs will be erected in a position that could obstruct the field of view?
 - For solar-powered signs, are the solar panels likely to be blocked by any trees or other structures?
- » Install the radar sign directly adjacent to the lane of traffic being targeted since an interfering lane of traffic may cause inaccurate speed readings.
- » Mount the radar sign to a stable and firm structure. Avoid structures that are likely to be affected by wind or rain. We suggest that you use a 4-inch to 5-inch diameter circular metallic pole, ideally, or a 4-inch × 4-inch wooden pole. For 'Telespar' poles, we strongly recommend that you use the 2-inch variety.

Choosing a Position for the Sign

Similar to other road signs, the SafePace EV15 radar sign should be installed near the closest lane of traffic, although off the actual road. The recommended height of the lower edge of the radar speed sign is approximately 7 feet above the surface of the road. The display should be turned towards oncoming traffic so that it is clearly visible to approaching drivers.



Figure 1: Example of Sign Location

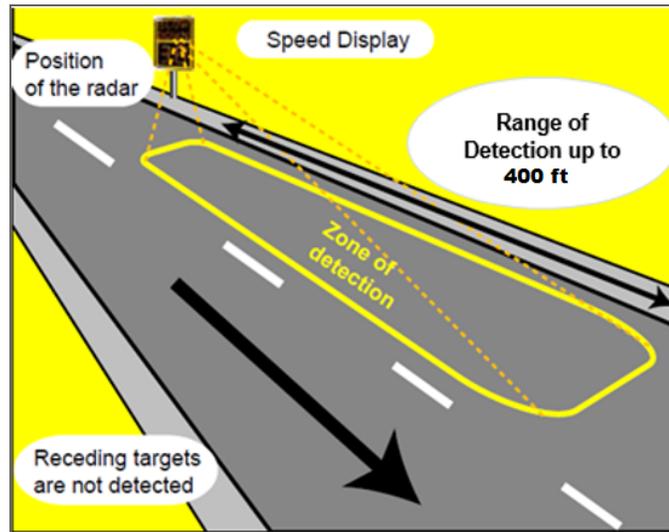


Figure 2: Zone of Detection

Mounting SafePace EV15 Signs

The SafePace EV15 sign includes a Pole Banding Mounting system. This is a fairly simple type of mounting and it requires no special knowledge to easily install the sign.

Installing the Pole Bracket

You can install the Pole Bracket on any type of standard pole with the included banding straps.



TIP: We recommend that you install the bracket on a 3.5-inch or larger pole.

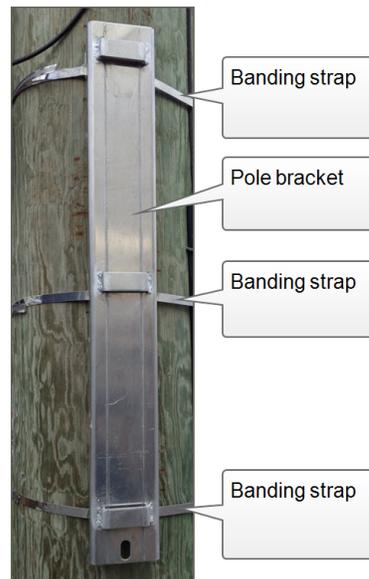


Figure 3: Pole bracket mounted

To install the Pole Bracket using the supplied banding straps:

1. Thread the banding straps through the banding strap holes as shown.



NOTE: The banding straps included are long enough for use with a 5-inch pole. If you want to use a larger pole, you will need to obtain longer banding straps.

2. Place the bracket against the pole and tighten the straps with a nut driver until secure.

Mounting and Dismounting the Sign

After you install the pole bracket, you can easily mount the SafePace EV15 sign by sliding it down onto the Pole Bracket. When the sign is mounted, you should lock it into place.

To mount the sign:

1. Align the mounting hooks on the back of the sign with the slots in the bracket.



2. Slide the sign down the bracket.
3. Use the supplied padlock to lock the sign in place.



To dismantle the sign:

1. Unlock and remove the padlock.



2. Slide the sign up and off of the Pole Bracket.

Chapter 3

POWER OPTIONS FOR YOUR SIGN

The SafePace EV15 sign is offered in several powering models. Depending on what model you have purchased, powering the sign will vary. The available power options are as follows:

- » AC powered
- » Solar powered (uses one or more rechargeable batteries for backup)
- » Battery powered (includes one or more rechargeable batteries)



NOTE: The warranty on the batteries is limited to 1 year – please contact Technical Support for more details (see *Contacting Technical Support* on page 8).

AC Power

The SafePace EV15 sign is equipped to accept 100-240 volts of AC power. For these signs (standard model), the regulated power supply comes already pre-wired, and your sign is ready to operate once it is mounted and wired to the incoming power supply.

The AC power supply terminal block is located on the upper left side of the back of the sign as shown in the picture below:



Figure 4: AC power supply terminal block location



WARNING: ELECTRICAL SHOCK HAZARD. To avoid serious injury or even death, all electrical wiring should be performed by a qualified and professional electrician in accordance with local electrical codes. Mishandling of electrical wiring may also result in damage to the unit and may void product warranty.



WARNING: Should you need to drill holes in the sign for the AC power wiring, drill from the inside/out as opposed to outside/in. This is to reduce the possibility of metal filings damaging the internal components of the sign.

To wire the incoming power supply to the sign:

1. Connect the Line (BLACK) and Neutral (WHITE) wires of the incoming power supply to the marked terminals.
2. Connect the Ground wires to the GREEN/YELLOW terminal (see *Figure 6: on the next page*).

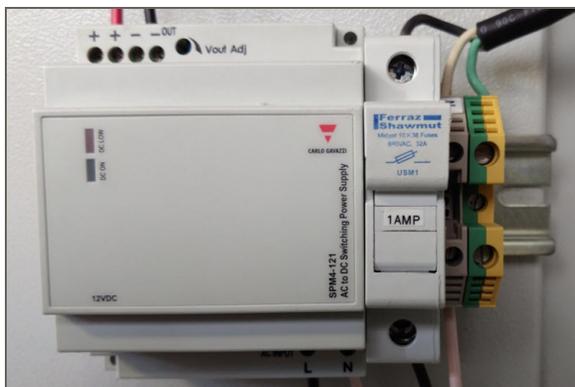


Figure 5: AC power supply terminal block

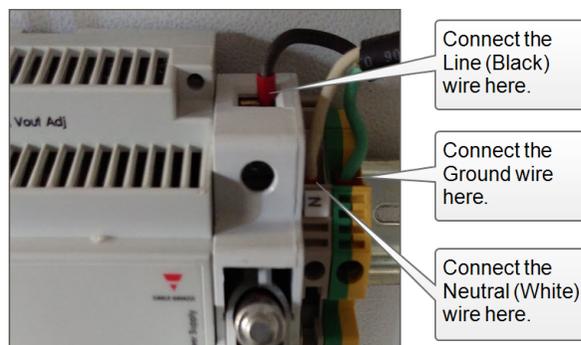


Figure 6: Close-up view of AC power connectors



WARNING: It is vitally important, whenever you close the sign, that you close and lock *all* of the latches properly to avoid water infiltration as this could damage the sign and void your warranty.

Solar Power

The Solar powered model of the SafePace EV15 sign includes a solar panel and mounting bracket, one or more rechargeable batteries, and a solar charger. The solar panel powers the sign when exposed to sunlight while at the same time charging the batteries to provide a power backup for night-time and cloudy day use. The solar panel is quick to install and should suffice in most installations.



Figure 7: Solar panel

Mounting the Solar Panel

You need to mount the solar panel at the highest point on the pole, optimally 10-12 feet high. Use the supplied solar panel bracket (see *Figure 8: below*) and follow the instructions provided by the manufacturer (included in the bracket's packaging).



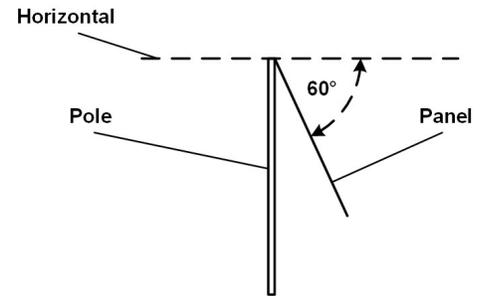
Figure 8: Solar panel mounting bracket

The two-part bracket allows for full adjustment in order to best position the panel towards the sun. It is optimal to position your solar panel towards due Solar South (not magnetic South), if you are in the northern hemisphere and towards due Solar North (not magnetic North) if you are in the southern hemisphere.

Regardless of whether you are in the northern or southern hemisphere, Solar North/South is the position of the sun in the sky at exactly the midpoint between sunrise and sunset.

The solar panel should be angled 15 degrees above the latitude of the installation site. For example, if the latitude of the installation site is 45 degrees then the solar panel should be installed at an angle of 60 degrees, as shown.

You can easily obtain the latitude of the installation site from mapping software or for free by doing an internet search for "latitude *your_city*" where *your_city* is the name of the city or region where the panel is being installed.



Wiring the Solar Panel to the Sign

As shown in the following images, the solar panel and the sign come pre-wired with connectors that allow for a simple installation. The red (male) and black (female) connectors from the sign need to be connected to corresponding connectors on the solar panel.



Figure 9: Solar panel wires and connectors on the back of the solar panel

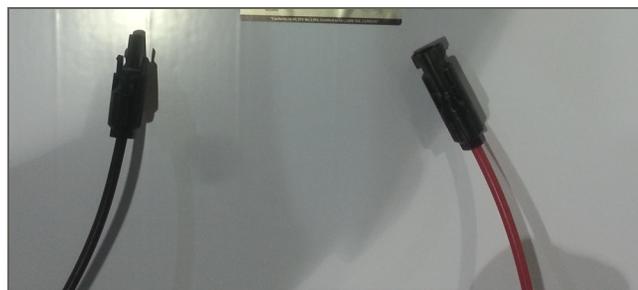


Figure 10: Wires and connectors from the sign enclosure.



WARNING: To prevent damage to the solar charger, connect the battery connectors *before* connecting the Solar Panel to the sign.

To wire the solar panel to the sign:

1. Open the sign and make sure that any battery connectors are properly connected and the sign is powered on.
2. Close the sign.



WARNING: It is vitally important, whenever you close the sign, that you close and lock *all* of the latches properly to avoid water infiltration as this could damage the sign and void your warranty.

3. Insert the connectors from the sign into the corresponding connectors from the solar panel as shown below.



4. Slide the connectors together until you hear a click and you can no longer slide them apart easily. Once connected the cables should look like the following:



Battery Power

Battery powered signs come with one or more rechargeable batteries. Depending on your preferences these batteries will be either lithium or lead acid. Though they are shipped with the sign, typically, the batteries are not installed in the sign. When you receive the sign, you need to remove the batteries from their packaging and install them in the sign.

Charging the Batteries

We strongly recommend that you charge the batteries fully before the initial use. The supplied battery charger is equipped with a charge indicator which shows when the battery is fully charged and ready for use.

To charge the batteries:

1. Connect the charger to the battery.
2. Plug the charger into the wall.

When the charger indicates that the battery is fully charged, the battery is ready for use.

3. Unplug the charger from the wall *before* you disconnect the battery.

Installing Lead Acid Batteries in SafePace Evolution Signs

Your SafePace EV15 holds up to four rechargeable lead-acid batteries. Each battery should be placed with care into a battery bracket inside the sign.

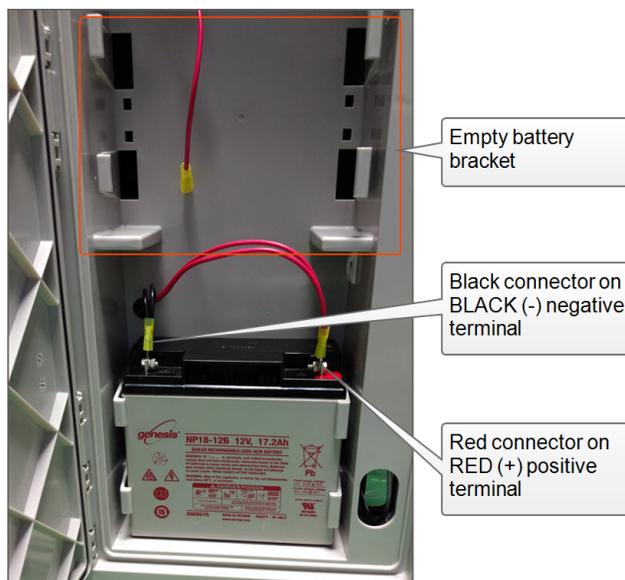


Figure 11: Lead acid battery inserted and connected



NOTE: This image is for illustrative purposes only and the number of batteries in your sign may be different from that shown.



WARNING: Proper battery care and maintenance is required. Improper care and maintenance of batteries may void the product warranty. We strongly recommend that you do the following:

- Replace the batteries every TWO years, in order to prevent damage to the sign.
- Remove the batteries whenever you need to transport the sign, in order to prevent internal damage to the sign.

To install the battery in the battery bracket:

1. Make sure that the battery has been removed from its packaging, then open the sign enclosure.
2. Carefully slide the battery into the bracket and make sure that it is properly seated as shown in the following image.



3. When the battery is secured in the battery bracket, slide the battery connectors onto the battery terminals as follows:
 - Slide the black connector onto the BLACK (-) negative terminal.
 - Slide the red connector onto the RED (+) positive terminal.
4. When you are finished, you can close and latch the sign enclosure.



WARNING: It is vitally important, whenever you close the sign, that you close and lock *all* of the latches properly to avoid water infiltration as this could damage the sign and void your warranty.

Chapter 4

SIGN OPERATION AND MAINTENANCE

Opening and Closing the Sign

Every SafePace EV15 sign has two doors on the back of the sign that you can use to access the batteries, controller card and solar charger. These doors also help to protect the internal components of the sign from vandalism as well as water infiltration. There are two locks on each door. A key for these locks will have been included with your sign.



The following procedures provide details on how to properly open and close, the doors on the signs.



WARNING: It is vitally important, whenever you close the sign, that you close and lock *all* of the latches properly to avoid water infiltration as this could damage the sign and void your warranty.

To open the door:

1. Insert the supplied key to open each of the locks in turn.



2. Pull the door open.

To close and lock the door:

1. Push the door closed.
2. Use the supplied key to lock each of the locks in turn.

Operating Your Sign

After your sign is mounted and powered, you can connect to, and manage, it remotely using SafePace® Cloud. For more information on operating your sign with SafePace® Cloud, refer to the *Web Director User Guide*.



TIP: You can get the latest version of all manuals at:
<http://www.trafficlogix.com/customerarea/customerdownloads>.

Turning the Sign On and Off

There is no ON/OFF switch supplied with the SafePace EV15 sign. The sign immediately powers on once the power source is connected.

To turn the sign off:

Do one of the following:

- » On battery powered models, simply disconnect the battery connectors.
- » On the AC and Solar powered models, disconnect the green power connector from the controller card.
This may require the use of a mini-screwdriver.

Replacing Key Components - EV15FM

The SafePace EV15 sign is comprised of the following key electronic components (and respective quantities):

- » Controller Card (1)
- » Radar Head (1)
- » SIMFin GSM/GPRS Controller (1) - for SafePace® Cloud signs
- » 16x8 dual-color LED Matrix PCB (6)
- » Speed Violator Strobe (1)
- » Ambient Light Sensor (1)
- » Battery/Solar charger (1) - for battery/solar-powered signs
- » AC Power converter (1) - for AC-powered signs



WARNING: Before ever doing any maintenance on a sign, it is critical that the power is first turned off. This will prevent accidental electrical shock that can be fatal and that can also damage electrical components.



WARNING: It is vitally important, whenever you close the sign, that you close and lock *all* of the latches properly to avoid water infiltration as this could damage the sign and void your warranty.

If you suspect that you require a replacement of any of the above-mentioned components, please call Technical Support, see *Contacting Technical Support* on page 8.

Replacing Key Components - EV15SD

The SafePace EV15 sign is comprised of the following key electronic components (and respective quantities):

- » Controller Card (1)
- » Radar Head (1)
- » SIMFin GSM/GPRS Controller (1) - for SafePace® Cloud signs
- » 15" 7-Segment Digit Display PCB (2) - includes Ambient Light Sensor and Speed Violator Strobe
- » 15" Digit 1 Display PCB (1) - for 3-digit signs only
- » Slow Down Display PCB (1)
- » Battery/Solar charger (1) - for battery/solar-powered signs
- » AC Power converter (1) - for AC-powered signs



WARNING: Before ever doing any maintenance on a sign, it is critical that the power is first turned off. This will prevent accidental electrical shock that can be fatal and that can also damage electrical components.



WARNING: It is vitally important, whenever you close the sign, that you close and lock *all* of the latches properly to avoid water infiltration as this could damage the sign and void your warranty.

If you suspect that you require a replacement of any of the above-mentioned components, please call Technical Support, see *Contacting Technical Support* on page 8.

Replacing Key Components - EV15SL

The SafePace EV15 sign is comprised of the following key electronic components (and respective quantities):

- » Controller Card (1)
- » Radar Head (1)
- » SIMFin GSM/GPRS Controller (1) - for SafePace® Cloud signs
- » 15" 7-Segment Digit Display PCB (2) - includes Ambient Light Sensor and Speed Violator Strobe
- » 15" Digit 1 Display PCB (1) - for 3-digit signs only
- » 32x16 LED Matrix PCB (2)
- » Battery/Solar charger (1) - for battery/solar-powered signs
- » AC Power converter (1) - for AC-powered signs



WARNING: Before ever doing any maintenance on a sign, it is critical that the power is first turned off. This will prevent accidental electrical shock that can be fatal and that can also damage electrical components.



WARNING: It is vitally important, whenever you close the sign, that you close and lock *all* of the latches properly to avoid water infiltration as this could damage the sign and void your warranty.

If you suspect that you require a replacement of any of the above-mentioned components, please call Technical Support, see *Contacting Technical Support* on page 8.

WARRANTY



Two Year Warranty

Two year warranty on parts and labor
excluding damage related to
vandalism, abuse, and/or theft

Subject to the following conditions, Traffic Logix Corporation (“Traffic Logix”) warrants that the SafePace EV15 sign (the “Product”) is free from defects in materials and workmanship.

This limited warranty begins on the invoice date of your purchase of the Product and extends:

- » For TWO (2) calendar years on the sign, and
- » For ONE (1) calendar year on the batteries.

This limited warranty extends only to the original purchaser of the Product when purchased either directly through Traffic Logix or through an authorized Traffic Logix distributor and is not assignable or transferable to any subsequent purchaser or end-user. Traffic Logix’s obligation and liability under this warranty are expressly limited to repairing or replacing, at Traffic Logix’s option, defective products. In no circumstances shall Traffic Logix’s liability, whether in contract or tort, under any warranty, in negligence, or otherwise, exceed the amount of the purchase price of the product. Traffic Logix shall not be liable for special, indirect, or consequential damages of any kind. This warranty does not cover damages resulting from normal wear and tear, incorrect installation or operation, use other than for the product’s intended purposes, vandalism, and extraordinary environmental circumstances. Traffic Logix reserves the right to charge for these damages to the product at rates normally charged for repairing such products not covered under this warranty. Damages resulting from any physical changes or alterations made to the product other than Traffic Logix will render this warranty **VOID**. Using any parts or accessories not supplied or approved by Traffic Logix, such as battery chargers, will further render the warranty **VOID**.

Traffic Logix neither assumes, nor authorizes any person to assume for it, any other liability in connection with the sale of the Product, and there are no agreements or warranties collateral to or affecting this limited warranty.

THE LIMITED WARRANTY SET FORTH IN THIS AGREEMENT IS THE EXCLUSIVE AND SOLE WARRANTY APPLICABLE TO THIS PURCHASE. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED.

Traffic Logix does not warrant that any of its products will meet or comply with the requirements of any applicable federal, state or local safety code, law, regulation or ordinance (“Applicable Safety Laws”). Buyer acknowledges that Traffic Logix’s products are to be used only in accordance with the attached Conditional Terms of Use and any Applicable Safety Laws. Buyer agrees that there shall be no coverage or benefits of any kind under this limited warranty if it is determined by Traffic Logix that the Product was not installed or used in accordance with the Conditional Terms of Use or Applicable Safety Laws, or if the Product has been

altered in any way by anyone other than Traffic Logix, or if the Product has been subject to any misuse or accident. In addition, Buyer assumes and agrees to indemnify Traffic Logix for all risk, liability or expense that results from any installation or use of the Product that is not in accordance with the Conditional Terms of Use or any Applicable Safety Laws.

Warranty Replacement Procedure

In order to submit a claim for the repair or replacement of the Product under this limited warranty, proceed as follows:

1. Contact Technical Support. **Do NOT** ship your defective product to Traffic Logix prior to contacting Technical Support.
2. A Technical Support Agent will evaluate the Product to determine if it is defective. You may be required to do some troubleshooting as part of this evaluation.
3. If the Product is defective, then you will need to submit your contact information, and proof of purchase (including the date of purchase), in order to obtain repair or replacement parts.
4. The Technical Support Agent will provide you with a Return Materials Authorization number and instructions on how to have the defective parts repaired or replaced.