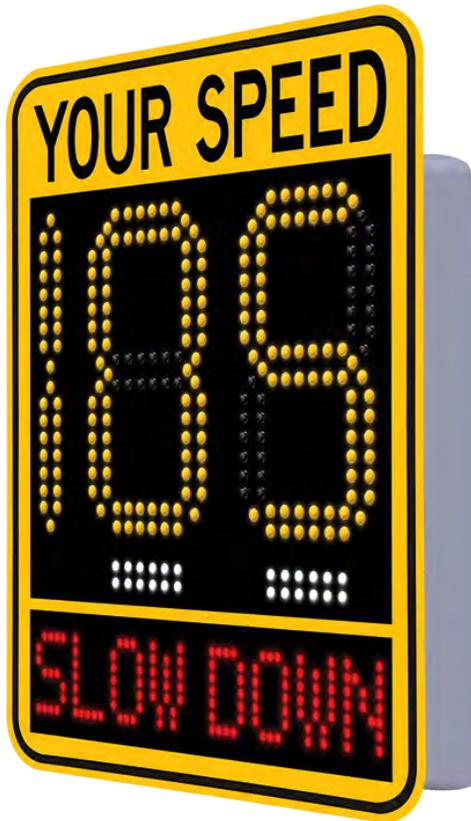


# 15" Cloud Connected Radar Sign Installation Guide

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## Radar Sign Installation



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## Description

The sign is a compact, lightweight, entry-level radar speed sign intended for private communities or local roads. It has a bright three-digit speed display. It also offers speed-activated digit color changes to alert speeders as well as a speed-activated "SLOW DOWN" message.

## About this Manual

This manual describes the installation of the sign, along with a solar panel, to the side of a pole. This manual also describes the wiring specifications for solar powered configurations.

## Documentation Conventions

This document uses the following formatting conventions:

Format	Description
<b>Bold Gray</b>	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</i> . <i>ext</i> where <i>filename</i> . <i>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.

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## Selecting a Site for the Sign

The site you select for the sign may vary with the application in which the 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. .

## Choosing a Position for the Sign

Similar to other road signs, the 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

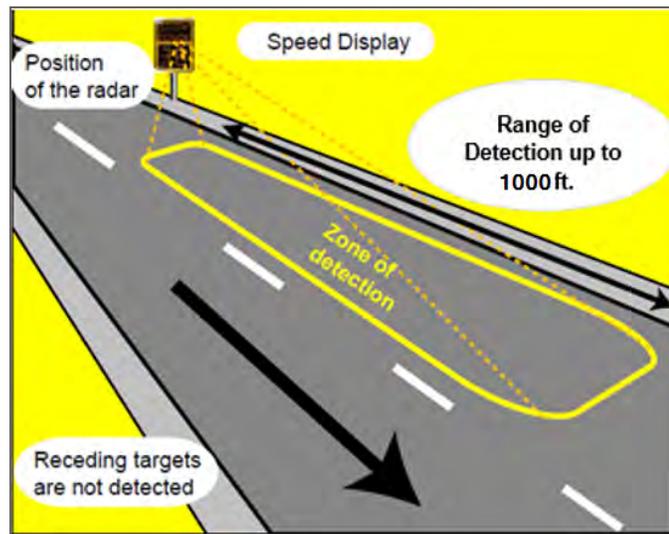


Figure 2: Zone of Detection

## Mounting Signs

The 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.

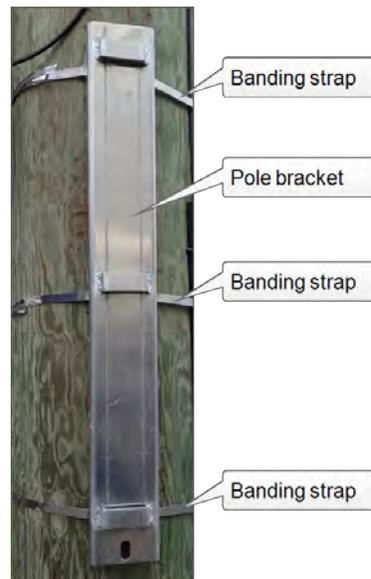


Figure 3: Pole bracket mounted

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 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 dismount the sign:

1. Unlock and remove the padlock.



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

## Solar Power

The Solar powered model of the sign includes a solar panel and mounting bracket, one battery, 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 4: 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 5: below*) and follow the instructions provided by the manufacturer (included in the bracket's packaging).



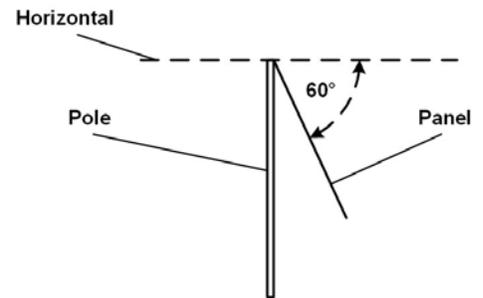
*Figure 5: Solar panel mounting bracket*

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 6: Solar panel wires and connectors on the back of the solar panel



Figure 7: 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:



## Opening and Closing the Sign

Every 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.

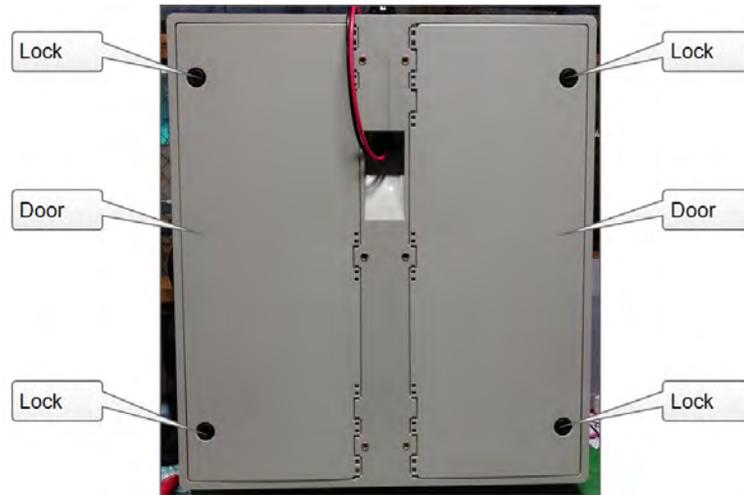


Figure 9: Rear doors of the sign enclosure

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. For more information on operating your sign, refer to the *Web Director User Guide*.

### Turning the Sign On and Off

There is no ON/OFF switch supplied with the 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 Solar powered models, disconnect the solar panel connectors then disconnect the battery 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.

## Replacing Key Components

The 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)
- » Slow Down Display PCB (1)
- » Battery/Solar charger (1)



**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 .