

12" CLOUD CONNECTED RADAR SPEED SIGN INSTALLATION GUIDE

Radar Sign Specifications



TABLE OF CONTENTS

Introduction

Description	3
Sign Portability and Add-Ons	3
About this Manual	4
Documentation Conventions	4

Installing the Cloud Connected Radar Sign

Selecting a Site for the Sign	5
Choosing a Position for the Sign	6
Mounting the Sign	7
Using the Standard Pole Banding Mounting	7
Using the Universal Mounting Bracket System (Optional)	8
Installing the Pole Bracket	9
To install the Pole Bracket on a Telespar Pole	9
To install the Pole Bracket using the supplied banding straps	10
Mounting and Dismounting the Sign	11

Power Options for your Sign

Solar Power	12
Mounting the Solar Panel	12
Wiring the Solar Panel to the Sign	13
To Wire the Solar Panel to the Sign	14

Sign Operation and Maintenance

Opening and Closing the Sign Latches	15
Operating Your Sign	16
Resetting the Sign	16
Replacing Key Components	17

Description

The Cloud Connected Radar Speed Sign 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.

Sign Portability and Add-Ons

The radar sign is a fairly lightweight sign. When used in conjunction with the optional Universal Mounting Bracket, it is quite portable, easy to transport and can be mounted in minutes.

About this Manual

This manual describes the installation of the sign, along with solar panel, to the side of a pole.

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 <code>c:\filename.ext</code> where <code>filename.ext</code> 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 <code>File > Exit</code> 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.

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. 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 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.

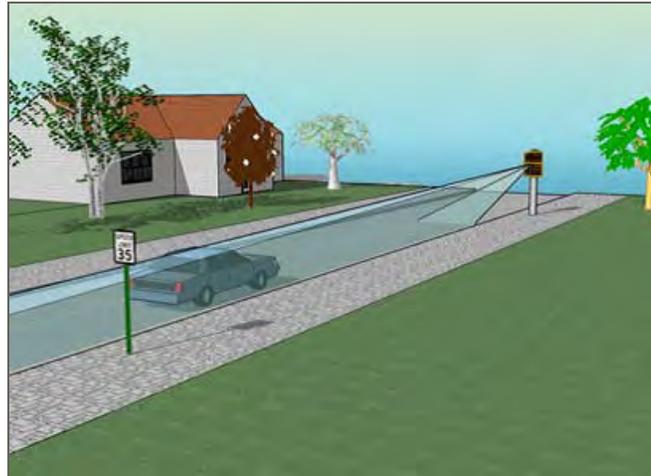


Figure 3: Example of Sign Location

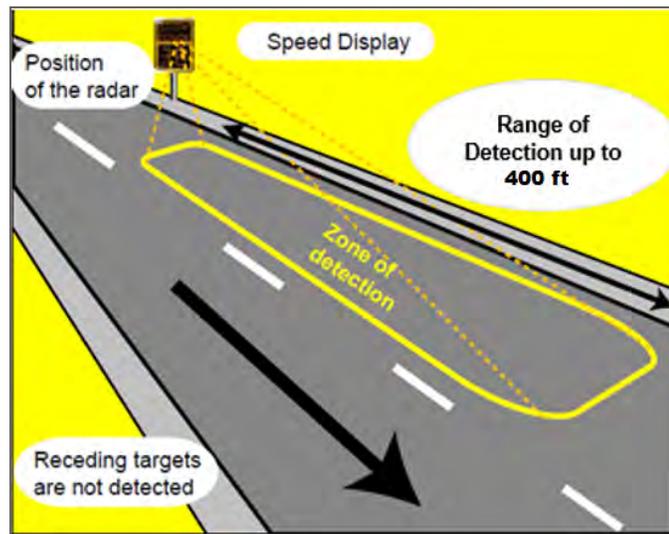


Figure 4: Zone of Detection

Mounting the Sign

The sign and solar panel should optimally be mounted on a 12-foot to 14-foot pole. You can install the sign using either of the following methods and hardware options:

- » Standard Pole Banding Mounting
- » Universal Mounting Bracket System (sold separately)

Using the Standard Pole Banding Mounting

The sign comes with a Standard Pole Banding Mounting system. As this is a standard type of mounting it requires no special knowledge to easily install the sign.



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.

To install the sign using the standard pole banding mounting system:

1. Attach the supplied banding brackets to the top and bottom of the rear of the sign with the supplied tamper-proof, M6 security screws as shown below.



Figure 5: Attaching the banding bracket to the sign



Figure 6: Standard banding brackets mounted directly to a sign with M6 tamper-proof screws

2. Insert the stainless steel banding strap into the bracket and fasten the sign to the pole.

3. Tighten the strap with a nut driver until secure. See *Figure 7: below*.



Figure 7: Sign Secured to a Pole with Banding Strap

Using the Universal Mounting Bracket System (Optional)

The signs' optional Universal Mounting Bracket System (sold separately) allows you to quickly and easily mount the sign to virtually any type of pole or surface in a secure manner.

There are two parts to the bracket: one for the sign (the sign bracket) and the other (the pole bracket) for the pole. The sign bracket needs to be attached to the back of the sign. Attach the pole bracket to the pole or structure where you want to mount the sign. This allows you to easily slide the sign onto the pole bracket where it can be locked into place with the included key. You can just as easily remove it from the bracket once it is unlocked.

The quick mount and dismount feature of this bracket allows you to easily move the sign from one location to another with relative ease and convenience.

Installing the Sign Bracket

To install the Sign Bracket:

- » Attach the Sign Bracket to the backside of the sign using the included hardware.



Figure 8: Attaching the sign bracket.



Figure 9: Backside of sign bracket attached.

Installing the Pole Bracket

The Pole Bracket can be secured to any type of standard pole or Telespar type pole by a choice of banding straps, lag screws, or bolts and nuts.



TIP: We recommend that you install the bracket on a 2-inch Telespar pole.



Figure 10: Pole bracket mounted to a circular pole



Figure 11: Pole bracket mounted to a 2-inch Telespar pole

To install the Pole Bracket on a Telespar Pole:

- » Use the supplied 2.5-inch stainless steel security bolts and nuts to secure the Pole Bracket to the 2-inch Telespar pole.



NOTE: It is very important that the head of the bolt be placed on the Telespar pole (see *Figure 12: below*) and that the nuts be placed on the inside part of the bracket (see *Figure 13: below*).

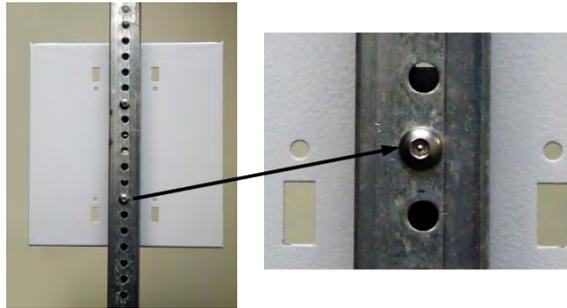


Figure 12: Pole bracket with bolts on the Telespar pole

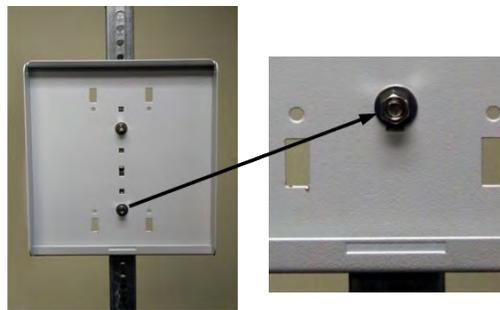
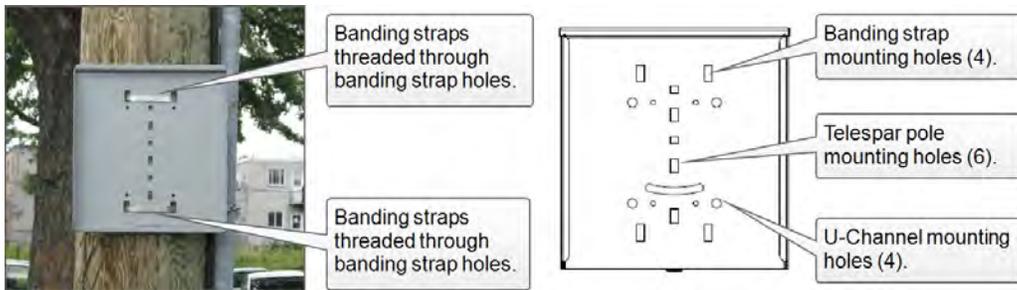


Figure 13: Pole bracket with nuts placed on the inside of the sign bracket

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. Use additional screws and/or bolts to further prevent theft and vandalism.



Mounting and Dismounting the Sign

Once you have installed the mounting brackets, you can easily mount the sign by sliding it down onto the Pole Bracket. Once mounted, you should lock the sign into place.

To mount the sign:

1. Position the sign above the bracket.



2. Slide the sign down the bracket.



3. Use the supplied key to lock the sign in place.



To dismantle the sign:

1. Unlock the sign.
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 rechargeable 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 16: 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 17: below*) and follow the instructions provided by the manufacturer (included in the bracket's packaging).



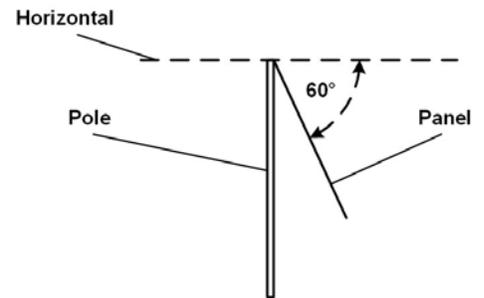
Figure 17: Solar panel mounting bracket

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



Figure 19: Wires and connectors from the sign enclosure.



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

To Wire the Solar Panel to the Sign:

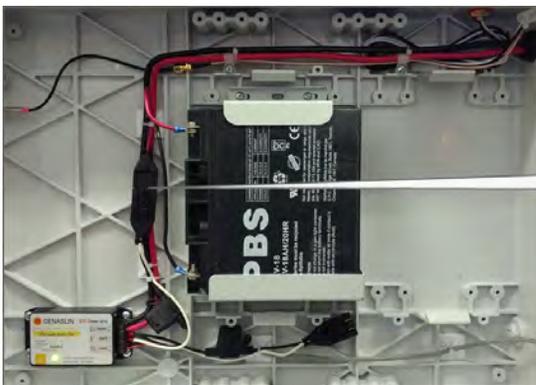
1. Insert the connectors from the sign into the corresponding connectors from the solar panel as shown below.



2. 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:



3. Open the sign then connect the battery connectors for the solar charger as shown in the following image.



Connect battery and solar charger connectors.



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.

Opening and Closing the Sign Latches

Your sign comes with several over-center draw type latches. These latches help to protect the internal components of the sign from vandalism as well as water infiltration. As shown in the following illustration the important components of these latches are the lever, the hook and the slot.



Figure 22: Components of the latches

The following procedures provide details on how to use these components to properly open and close, the latches 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 latch:

1. If necessary, unlock the latch, with the supplied key.
2. Raise the lever then lift the tip of the hook out of the slot.

To close the latch:

1. Insert the tip of the hook into the slot as shown in the following image.



2. Lower the lever until flat against the surface of the enclosure as shown in the following image.



3. If applicable, use the supplied key to lock the latch.

Operating Your Sign

Once your sign is mounted and powered, you can connect to, and manage, it via Bluetooth with our easy to use application. You can also manage your sign remotely using SafePace® Cloud.

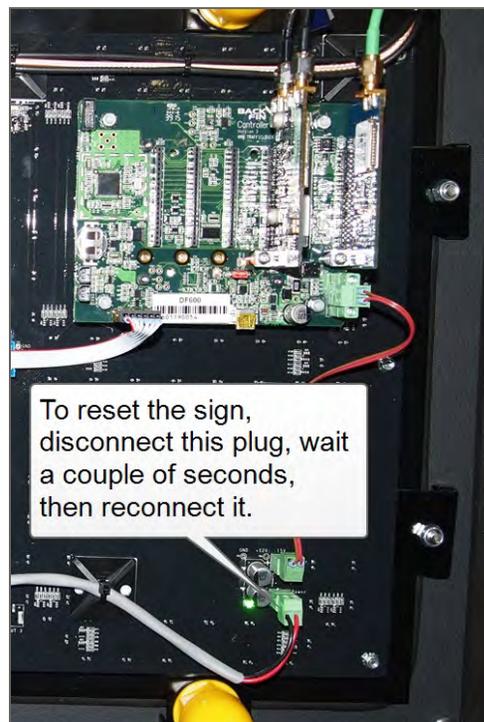
Resetting the Sign

There is no ON/OFF switch supplied with the sign. The sign immediately powers on once the power source is connected. There is also no reset button on the controller card included with this sign. As a result, we recommend that you use the following procedure to turn the sign OFF and ON, or reset the sign.

To reset the sign:

1. Open the sign enclosure.

On the inside of the front panel you will see the controller card and below it two green plugs. One of these is wired to the controller card, the other is wired to the power source.



2. Disconnect the lower of the two plugs, the one which is wired to the power source. This turns the sign off.
3. Wait a couple of seconds then reconnect the plug. The sign will immediately power on.



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)
- » BlueFin Bluetooth Controller (1)
- » SIMFin GSM/GPRS Controller (1) - for SafePace® Cloud signs
- » Three-Digit Display PCB (1) - includes Ambient Light Sensor and Speed Violator Strobe
- » Battery/Solar charger (1) - for battery/solar-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.