RAD60E
RADAR SPEED SIGN
USER GUIDE

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1 EQUIPMENT DESCRIPTION

The radar speed sign RAD62E is an effective traffic calming device designed to slow speeders down by alerting them of their speed.

1.1 RAD62 RADAR SPEED SIGN

The radar speed sign offers an amber-colored speed display and a compact Doppler radar placed in a PVC foam housing.

Switching from continuous display to flashing display is determined by the speed limit setting. If your unit is equipped with the strobe option, an additional white flashing light will trigger as well.

Figure 1-1 Display

The power connection is made using a keyed circular connector placed behind the enclosure.

A magnetic switch placed inside the enclosure (behind the “Signel” logo) can be used to adjust the local speed limit just by putting a magnet on it, without any additional software.

An internal ATM fuse provides additional protection for the unit.

The display sign is equipped with an aluminum mounting support and stainless-steel flange bolts, allowing for quick and simple post installation.

Straps belts with quick release clips can also be supplied depending on the type of installation. Please ask your representative for the best solution for your installation.

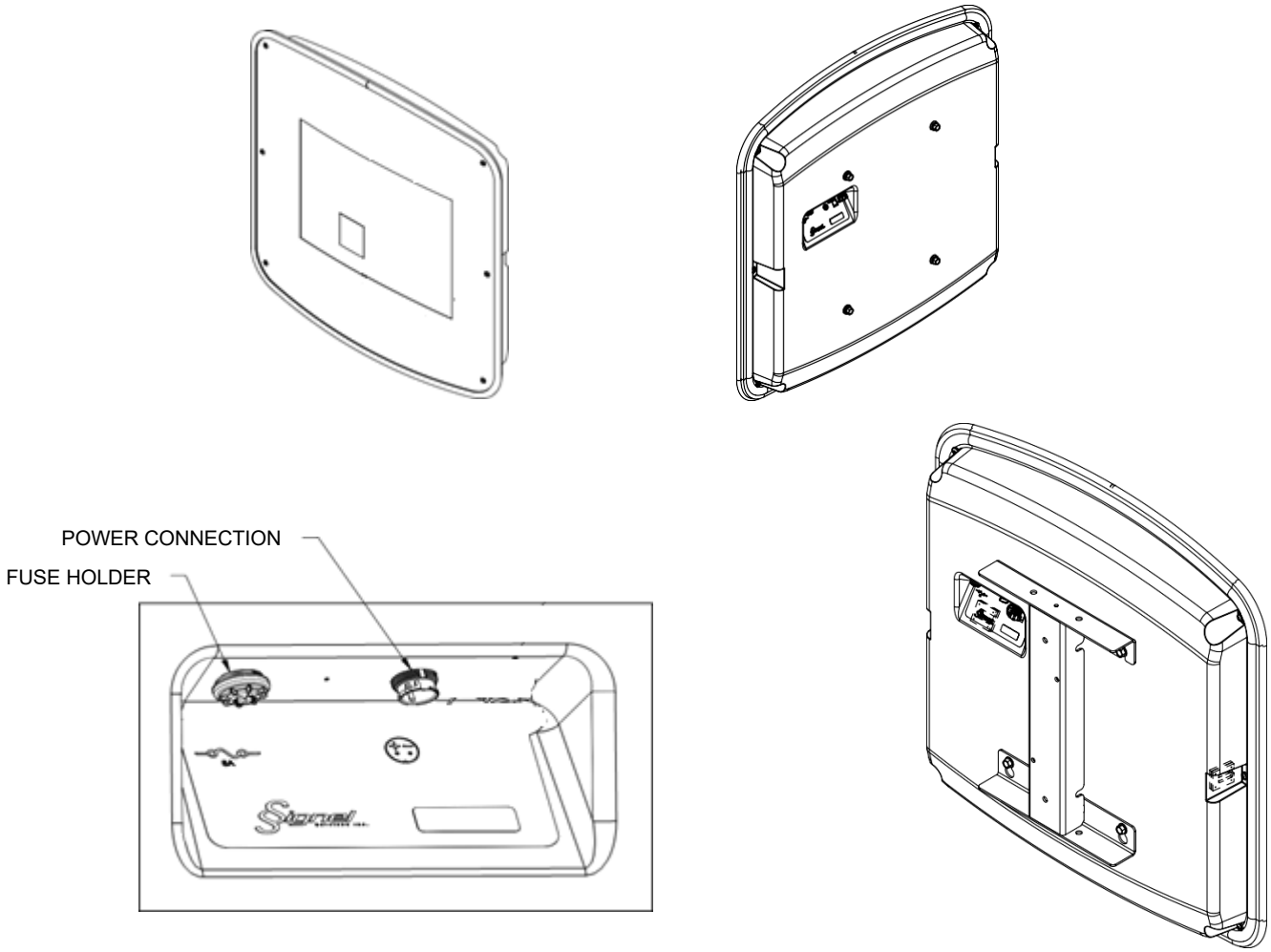

Figure 1-2 Power supply plug and switch location

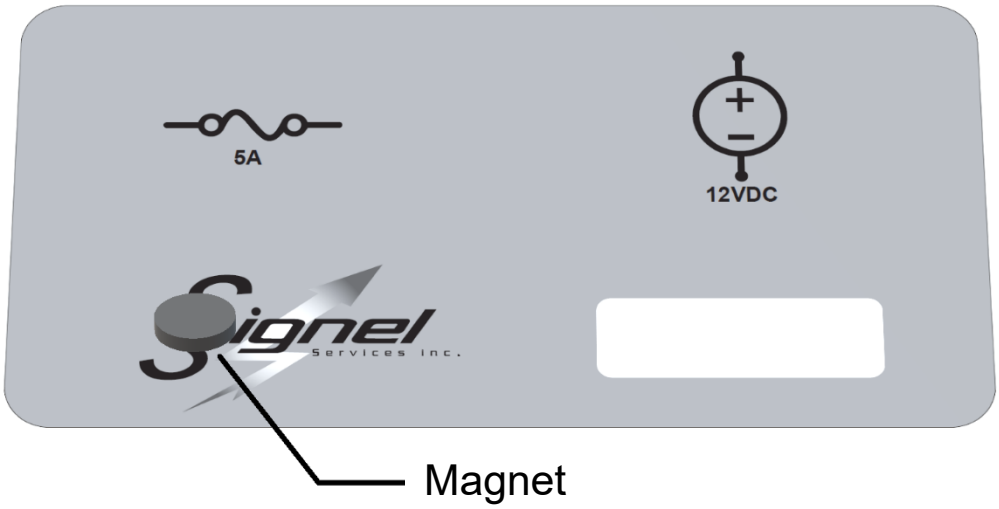

Figure 1-3 Magnetic switch location

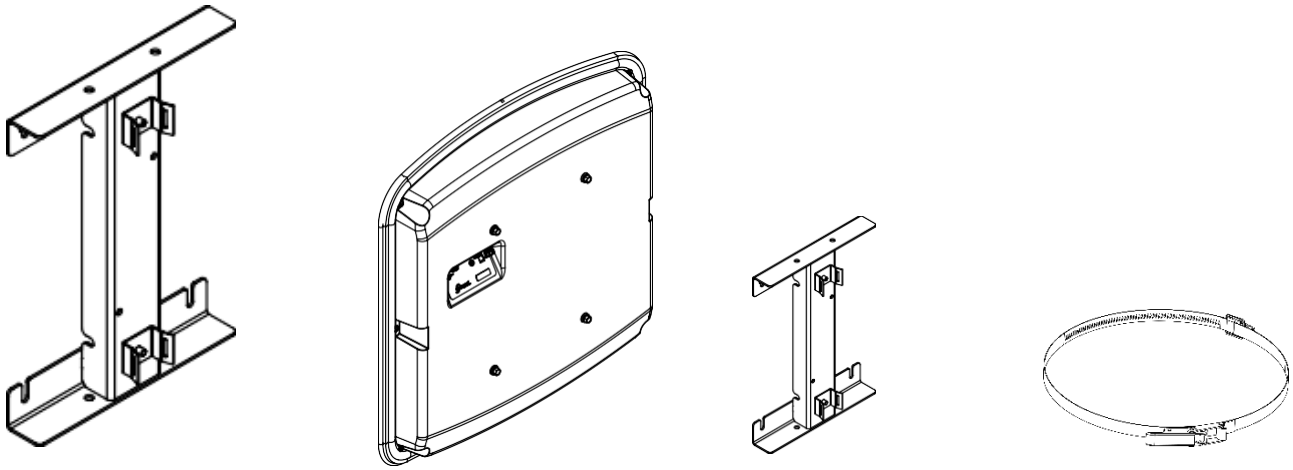

Figure 1-4 Mounting brackets

1.2 SIGN POWER SUPPLY

The sign itself is made to operate on 12 VDC.

Power consumption varies depending on the information displayed:

- Night minimum brightness – Vehicle detected: ~150mA
- Day maximum brightness – Vehicle detected: ~850mA
- Idle : 90mA

The sign is protected against overconsumption using a 5A ATM fuse, accessible next to the power connection.

According to the available power source available on site, the following options are available:

- 120VAC mains operated, RAD62A
- Solar powered, RAD62S

1.2.1 120VAC mains operated, RAD62EA

Where 120 VAC is available, an economical option consists of an AC-DC converter installed in a sealed enclosure. This option does not require batteries to operate.

1.2.2 Solar powered, RAD62ES

The solar power option allows the sign to operate independently from other sources of energy. It is an autonomous power supply unit that includes a 50W solar panel, a 10A charge regulator and a 12VDC-25Ah battery with supporting hardware.

Since the weight of the whole unit is not negligible, it has been designed for modular installation.

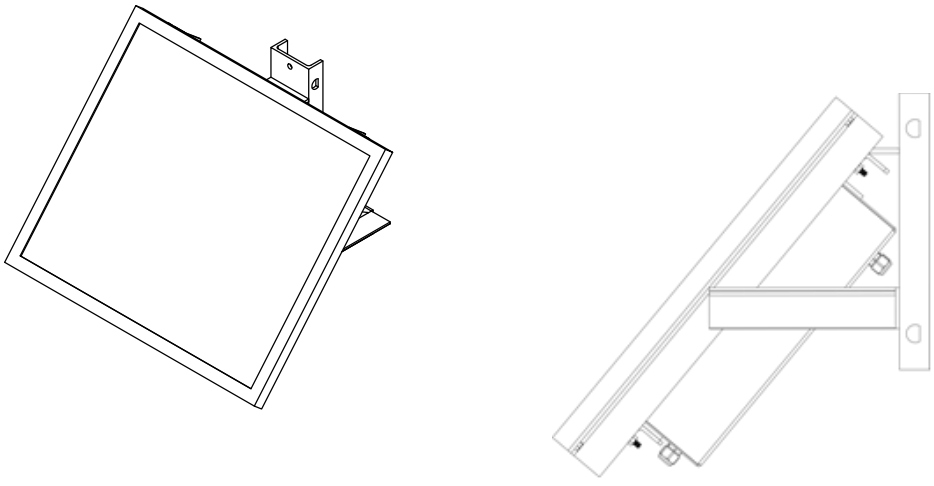

Figure 1-5 PSP050 power pack

2 INSTALLATION AND START-UP

2.1 ROADSIDE PLACEMENT

The sign should be installed at a height of 2 m to 5 m measured from the bottom of the sign.

A side clearance of 0.5 m to 3 m is allowed.

The sign must be perpendicular to the road axis in order to provide the best speed accuracy.

The horizontal angle must be aligned with the road axis without any correction. Putting any angle could display slower speeds than the reality because only the perpendicular beam is used (“cosinus effect”).

The vertical angle of the radar is in most cases enough to allow a square installation. In cases where the gradient is more than 5 degrees either up or down, shimming may be required for best operation. Please ask your representative for the best solution for your installation.

Conditions to avoid:

Installation close to large objects which would block the radar beam such as existing street signs, publicity signs, large vehicle parking, trees.

Installation within 150 m of an overpass or other important gradient as it may impair readings.

Installation at an intersection where incoming vehicles from secondary roads may interfere with your primary data analysis target. Also, vehicles slowing down (or speeding up) from a stop will not give you pertinent data.

Installation in a curve.

For installation with the solar powered option, the location must have a clear view of the south all year round. Obstacles such as trees, buildings and such will cast shadows over the solar panel. The panel requires direct sunlight to better charge the batteries. Failure to do so will significantly reduce the speed display sign autonomy.

2.2 RADAR SPEED SIGN INSTALLATION

Required tools
½ wrench
Belt tensioner

To install the sign on the post, place the looping belt through each of the brackets, then proceed with tightening them.

Take care to properly orient the support to ensure that the radar speed sign is perpendicular to the road.

For your safety, it is recommended to use a boom lift to install the sign.

NOTE

For an installation where the sign will be solar powered, it is recommended to install the solar power pack before the sign. This way you will proceed in an unobstructed manner from top to bottom.

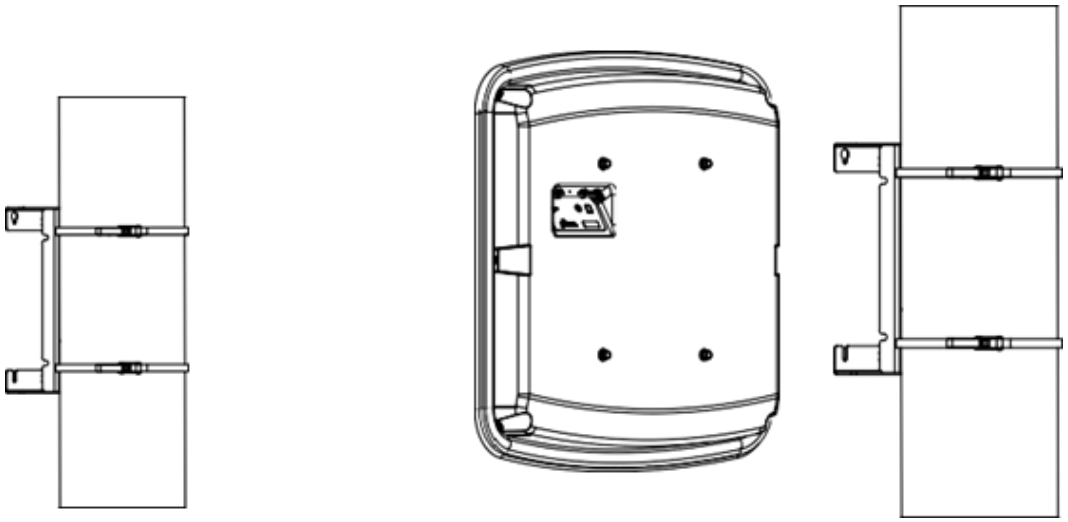

Figure 2-1 RAD62 installation

2.3 SOLAR POWER PACK INSTALLATION

Required tools
7/16 wrench
Robertson screwdriver #3
Belt tensioner
Multimetre

Prior to leaving the installation it is important to check the voltage at the power supply connector to ensure that at least 12 VDC is present. First check if the batteries are connected inside the power pack enclosure. The batteries are usually disconnected prior to delivery in order to prevent battery drainage. If the battery level is below 12 VDC, please charge the battery prior to installation.

First install the support arm to the post making sure that the solar panel will be oriented due south.

Attachment is achieved by using two looped belts or bolting it directly to the post.

Next insert the battery enclosure in the support arm and attach using four 1/4-20 bolts.

Finally, bolt the solar panel to the support arm using four ¼-20 bolts and connect the power pack to the solar panel at the solar panel junction box. Be sure not to inverse wire polarity.

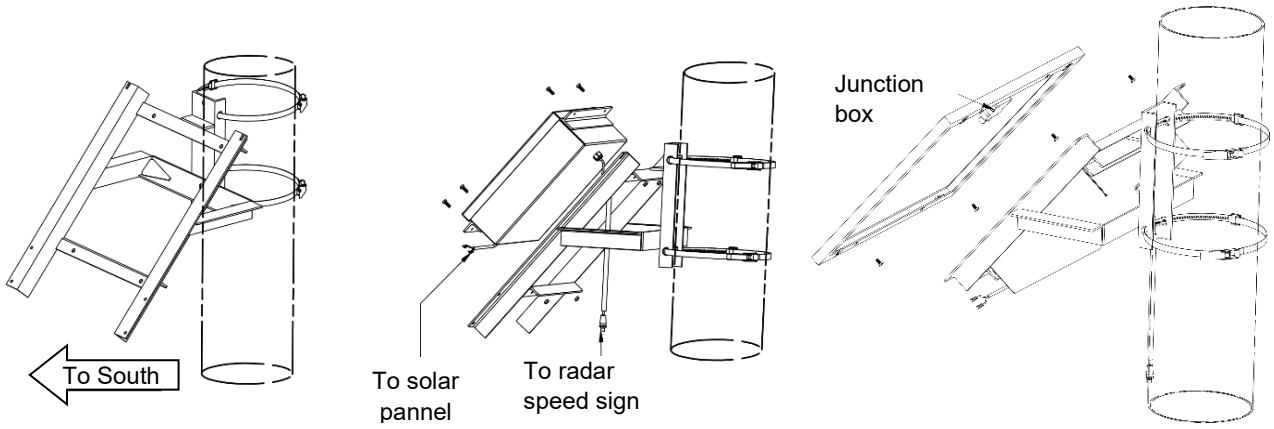

Figure 2-2 PSP050 installation

2.4 MAINS OR LIGHTING POWER

Required tools
1/2 wrench
Robertson screwdriver #3
Belt tensioner
Multimetre

First proceed with the installation of the post mounting support. Attachment is achieved by using two looped belts or bolting it directly to the post.

Insert the power cable inside the cable gland at the bottom of the enclosure. Place the cable to leave a loop for water-draining.

Make sure you have voltage at the front power connector.

NOTE

It is strongly recommended to install a 5A rapid action fuse or breaker upstream from the power unit. Signel Services cannot be held accountable for damage caused by an improper installation.

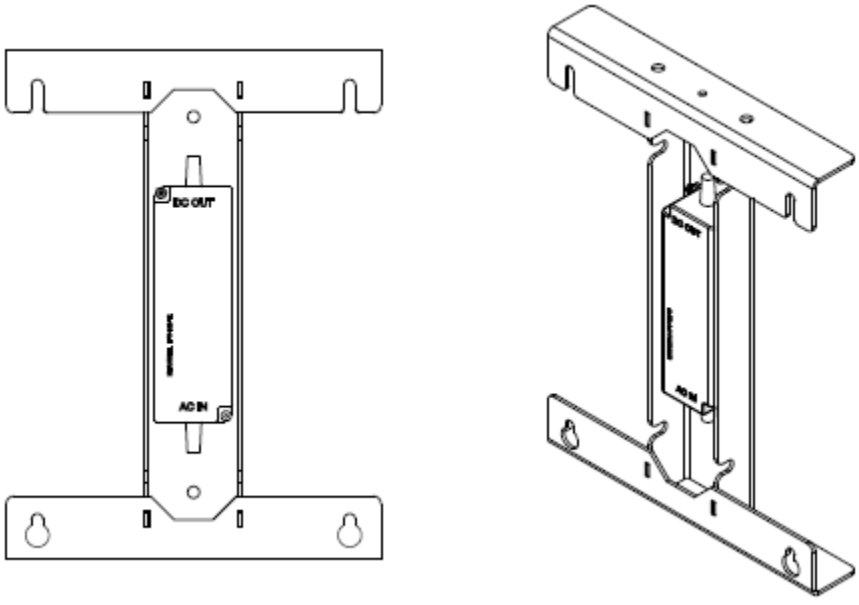

Figure 2-3 PSPAC100 installation

2.5 START-UP

The radar speed sign will power up as soon as connected to a 12 VDC power source and the power pack switch connected.

The speed limit factory setting is 50km/h.

The speed limit can be adjusted with the magnetic switch at the back of the unit, in increments of +5 km/ h up to 100 maximum to start back at 10 minimum. When a magnet is placed near the magnetic switch, the display flashes to confirm the current setting.

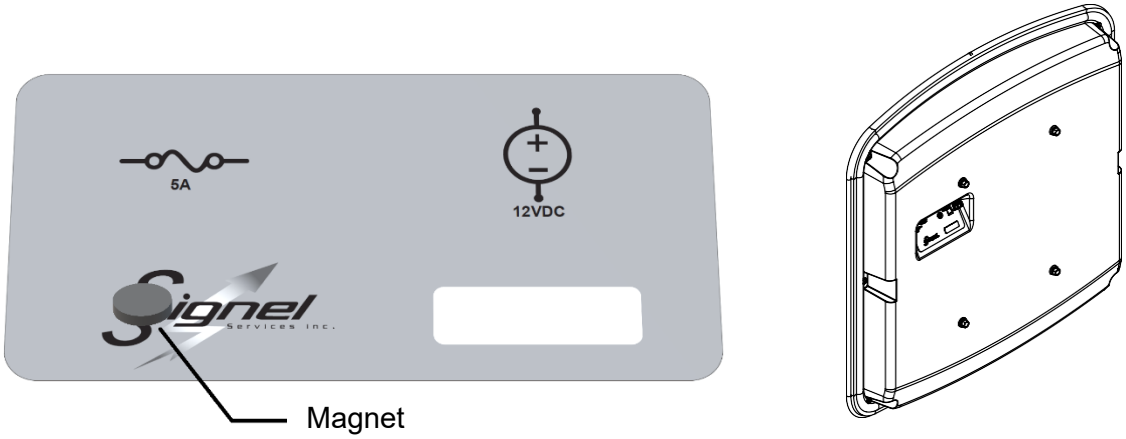

Figure 2-4 Setting switch and magnet

Switching from continuous display to flashing display is determined by the speed limit setting. If your unit is equipped with the strobe option, an additional white flashing light will trigger as well.

NOTE

If the power is switched off (ex for a moving operation), the radar speed sign returns to its default settings (50km/h).

3 RAD62 TECHNICAL DATA

Radar	
Accuracy	+/- 1kmh
Speed range	8kmh to 240kmh
Detection range	150m typ, 250m max
Frequency	24.125 MHz, +/- 100MHz
Beam width	12º horizontal, 24º vertical
Power supply	7.4VDC to 18VDC
Approval	IC : 1293A-DRUIII FCC : IVQDRU-III
Display	
Speed	Amber-coloured 330 x 395mm (13.0'' x 15.6'') 7-segments size
Viewing angle (Iv 50%)	25º around the central axis 50º total
Enclosing	
Front	Polycarbonate 1/8'' (3.2mm)
Body	PVC foam
Dimensions	Height : 29.5'' (750mm) Width : 23.6'' (600mm) Depth : 1.6'' (40mm)
Weight	22 lb (10kg)

4 ABOUT THE RADAR

This device is approved by Industry Canada (IC) for operation without a licence.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with IC radiation exposure limits defined for an uncontrolled environment.

Users must follow the specific user instructions to satisfy the RF exposure compliance. Such as the installation of the module can't be placed on an installation for a use at 20cm or less from the body.

The transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Changes or modifications made without written approval from Signel Services Inc may void the user's authority to operate this equipment.

Troubleshooting

NOTE

There are no internal components serviceable by the user.

Required tools

Multimetre

Toolbox, power packs only

Problem

No display

Possible solutions

Check the power supply fuse.

Check connections at the solar panel junction box.

Unplug the power cable. Check if you have 12VDC at the power supply connector. If the voltage is under 10.5V (only for a batterie powered unit), replace batteries.

Change the solar pannel position. Make sure there are no shadows on it.

Problem

Late vehicle detection.

Solution

Check for proper installation. Radar display sign is oriented towards traffic circulation with no obstruction.

For more information or technical support, please contact us:

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