



**MTP POLAND**



## Active day and night

Design and Produce in Poland(Manufactory)

**Yours Speed Radar  
With Digital Face**



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## Technical Specification

<b>Dimension</b>	<b>60cm*150cm*5cm</b>
<b>Weight</b>	<b>30Kg</b>
<b>Body Material</b>	<b>Aluminum black color Electrostatic powder coated</b>
<b>Solar power</b>	<b>100 Watts, Life time more than 20 years</b>
<b>Battery</b>	<b>Internal 12 volt, 54 Ah, sealed lead acid</b>
<b>Segment model</b>	<b>2 digit with 7 segment LED board</b>
<b>Face Module</b>	<b>32*32 pixel, Red and Green LED, P10(10mm pitch)</b>
<b>LED quantity</b>	<b>392pcs Super high bright</b>
<b>LED Color</b>	<b>196pcs Red 196pcs Green</b>
<b>LED Life</b>	<b>More than 100,000 Hours</b>
<b>Light luminous</b>	<b>8000mcd</b>
<b>Light Intensity</b>	<b>Automatic regulation light intensity in day and night(day intensity 5 times night)</b>
<b>Light Increment</b>	<b>Charge controller with microcontroller</b>
<b>Radar</b>	<b>CW Doppler device operating in the K-Band (24GHz)</b>
<b>Speed Detection Rang</b>	<b>1km/h – 199km/h</b>
<b>Detection distance</b>	<b>≤100m</b>
<b>Response Time</b>	<b>≤5ms</b>
<b>Working time in cloudy weather</b>	<b>8 days</b>

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<b>Visible distance</b>	<b>More than 100m</b>
<b>Angle</b>	<b>100 Degree</b>
<b>Reflective sheet</b>	<b>3M</b>
<b>Operating Temperature</b>	<b>-20° C to 75° C</b>
<b>Waterproof</b>	<b>IP65</b>

## Description

As above pictures, we can produce Solar Your Speed Radar Signs as customer requested design,

Solar Your Speed Radar signs bring traffic calming to areas where speeding is an issue.

LED radar speed signs have been made in 2 seven segment digit and Face Display Module can set the limit speed number by software. It informs the driver limit speed: show green number and green smile face in limit speed and show red number and red sad face on over of limit speed.

When the vehicle drive into the radar detection area (about 100 meter in the front of radar sign), the microwave radar will automatically detect the speed of the vehicle and the speed will be displayed in the sign to remind the driver to reduce driving speed, which Effectively reduce the road traffic accidents caused by high speed driving.

Speed feedback device has a significant eye-catching induction driving function, can significantly reduce traffic accidents, to achieve safety guidance.

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**Solar Your Speed Radar Signs** warn drivers that they are entering a speed zone or gone over the speed limit.

**MTP POLAND** is committed to providing earth-friendly technologies that reduce injuries and fatalities by alerting drivers to speed zones. Check out MTP's robust solutions, and feel free to contact us if you have any questions on how we can make your streets safer!

## Features

**Uses Solar Energy as source of Electricity.**

**Display effects includes active flash & passive reflection**

**The light pattern deliver a synchronized or sequential visual effects which will not make drivers feel glare; instead, drivers can be informed his speed.**

**Inside key switch control, If turn on, all system will function (solar panel, LED light, charging) and opposite function for turn off.**

## LED



LED's are identified very well and amount of their desired life is 100.000 hours in lawful range for traffic light and traffic signals and its light intensity is 8000mcd. Total numbers of LEDs in one module are equal to 392pcs for Seven Segment and 2048pcs for face display,

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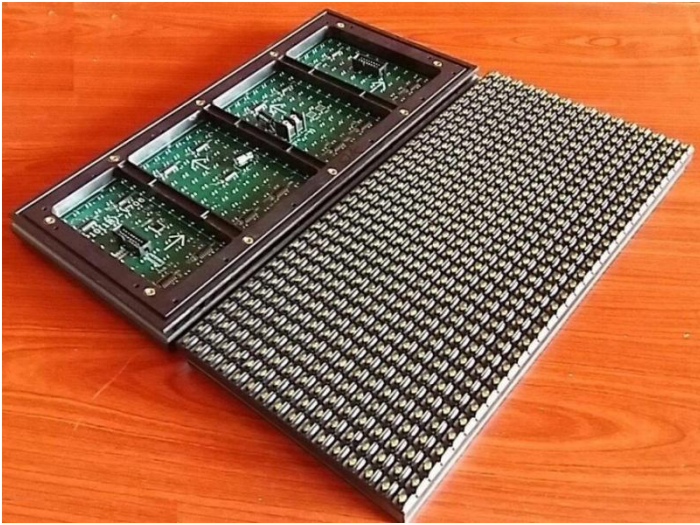
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## Face Display Module



LED's Module is made by fiberglass electronic printed board with the size of 16\*32 cm has 512 pixels, Distance between each pixel is 10mm. Its rear is covered by green isolated coating and front with black isolation coating in for prevent of any water and dust.

## Battery



Sealed Lead Acid batteries of 3x12v \*18Ah, totally 54Ah, having desired life of 5 years.

## Inverter



We used DC to DC converter for preparing of 5 volt from 12 volt to supplying LED display modules. This is manufactured by Meanwell company.

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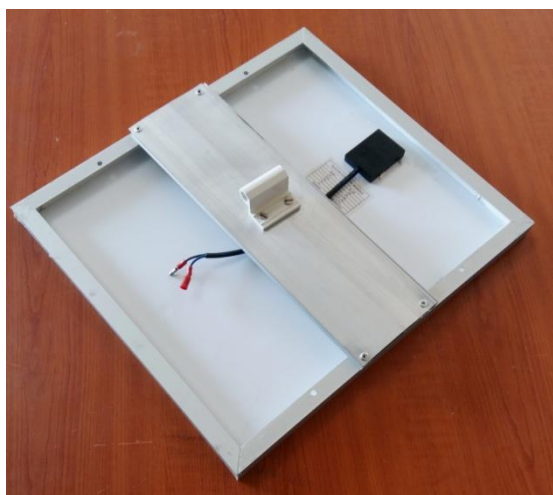
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## Solar Panel



SILICON SOLAR PV MODULE	
Model	SA-10P
Pm	100watt
Vmp	18V
Imp	5.6A
Voc	21.24V
Isc	5.9A
Dimension	100*60*3.5cm
Max System Voltage	1000V
Test Condition	AM1.5 1000W/m <sup>2</sup> 25°C

Solar panel is 100W, 18v 5.5A, with the efficiency of %16.

## Mechanical Specification



- . Body material: Aluminum sheet 1.2mm
- . Frame: Aluminum profile with special design
- . Frame size: 2\*5\*0.2cm
- . Color quality: Electrostatic Powder Coating
- . Color: Black Matte
- . Front sheet material: Plexiglas with special finishing to preventing sky light reflection
- . Front sheet Thickness: 4mm
- . Installation stand: Special U Chanel as UAE Traffic Sign standard

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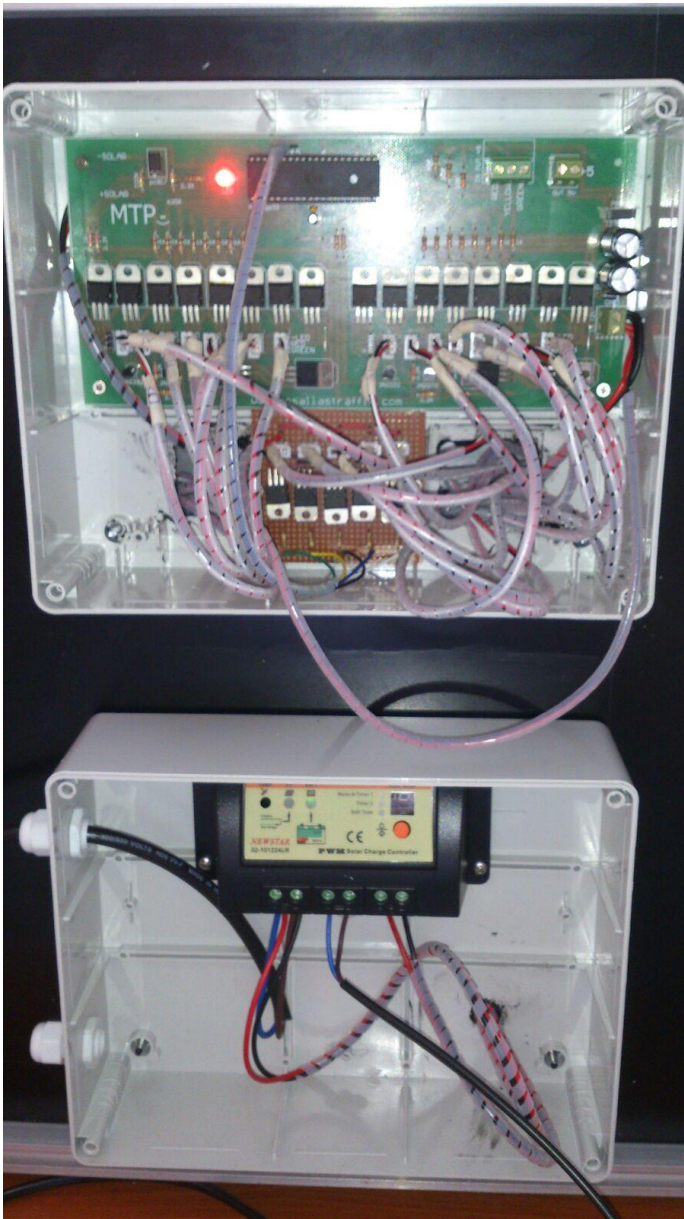
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# Intelligent Microcontroller System



- Measuring voltage of battery, solar panel, charge current and related measuring.
- Light Regulation and optimization of consumption, according to charge current (environmental light) and battery voltage and solar panel.
- Neutralizing of change effects of battery voltage in light illumination of flashing light.
- Preventing of battery over charge and undesired de-charge of battery and neutralizing effect of heat.
- Using modulation of PWM for changing light illumination.
- Probability of performing all changes, according to orders of buyer, (Software changes).
- Working time, without any charge and with full battery is almost 4 days.
- Charging time for empty battery is 18 hours in light, in case of performing operation, and 14 hours without any operation.
- Maximum exited rates (day) into its minimum (night) is 5 to 1 and (it is changeable, on the basis of order).

Controller circuit is considered in a separated package.

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## Radar



This is Radar which we are using now

**CW Doppler device operating in the K-Band (24GHz)**

## Other Spare Parts



**5 inch house clamp**



**3 inch Stainless Steel Clamp**

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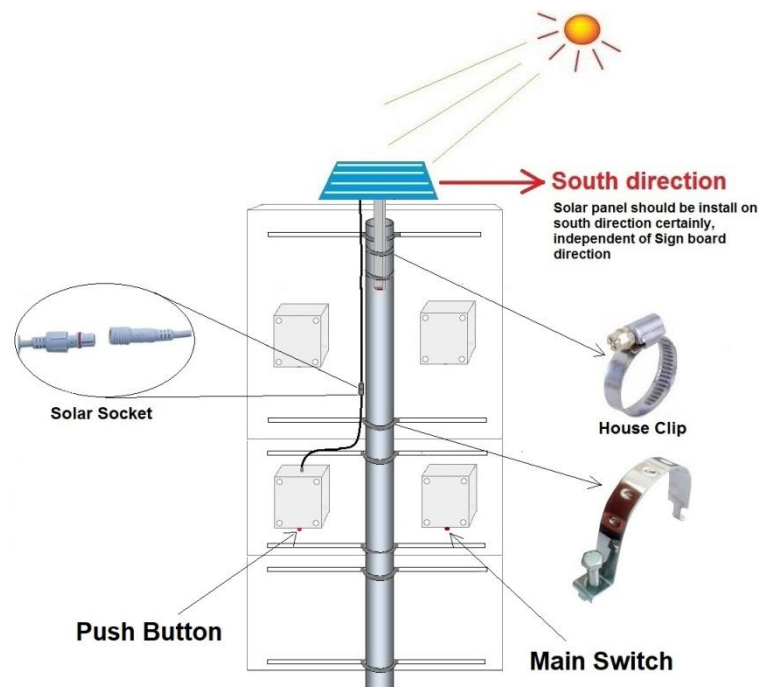
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# Installation Guide

## Seven Steps to Installation:

- 1- Prepare U clamp and round clamp and tools,
- 2- Put U clamp into U channel stand on the rear of sign,
- 3- Install sign board on the horizontal or vertical pole by U clamp,
- 4- Install Solar Panel on the pole with Round clamp (face of solar panel should be in south side),
- 4- Connect Solar cable Socket to control box Socket,
- 5- Turn ON main switch which is below of battery box,
- 6- Adjust speed limit by push button which is below of control box, it will increase with 5 km steps
- 7- Installation is finished and since now, sign board automatically will get charge at day and will be active at day and night,



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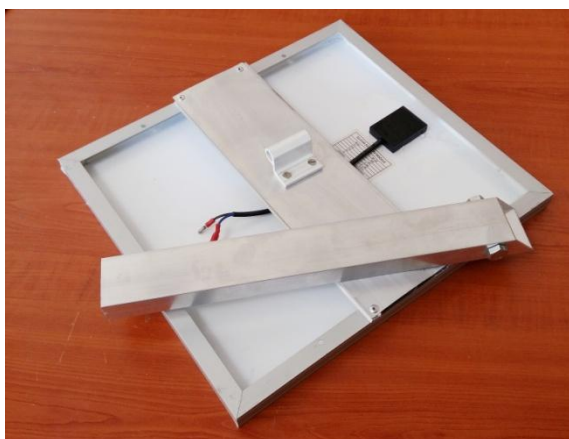
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## Solar Panel Connection

Each solar panel has a cable, having 1 blue & black wire. After installation sign board on the pole, mentioned cable is entered into battery box which located rear of sign. Then it connects into its terminal. Note that blue wire shall be connected into blue wire of terminal and black wire into black wire of terminal.



Solar panel is installed on pole by an aluminum tube. After orientation of solar panel into south, they are fastened by two house clips.

The solar panels work with the solar controller located in the system's battery compartment. The controller continually recharges the batteries up to full whenever sufficient sunlight generates a charging current. It prevents overcharging the batteries and draining the batteries during low-light periods. Appropriate panel size for solar assist depends on display sign model, traffic volume, geographic location, battery capacity and operating times. Actual performance depends on application and mounting location. Place panels in direct sunlight and tilt them toward true south to maximize their effectiveness. To calculate the best angle of tilt in the winter when there are the least sun hours, take your latitude, multiply by 0.89, and add 24 degrees. The result is the angle from the horizontal at which the panel should be tilted. Mount the Your Speed display unit so the display remains out of direct sunlight whenever possible for optimal viewing. MTP uses Sealed Lead Acid batteries for solar systems, as charging lithium batteries in extreme hot or cold temperatures can damage the battery.

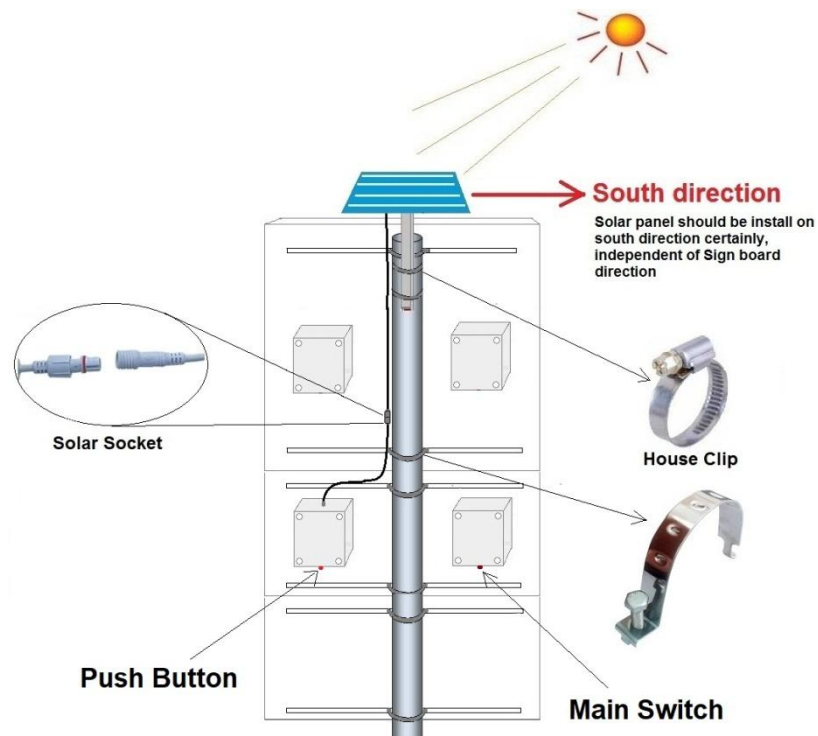
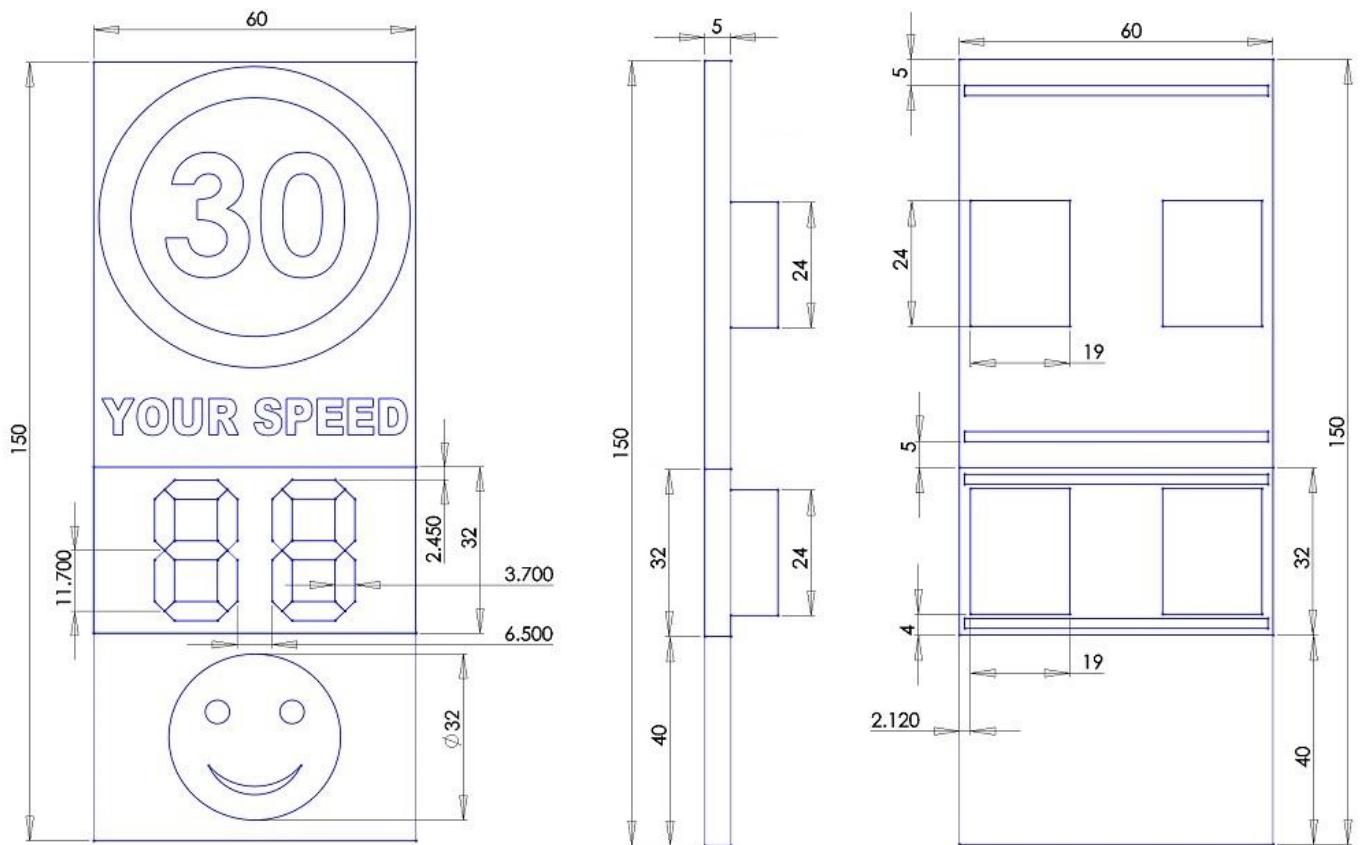
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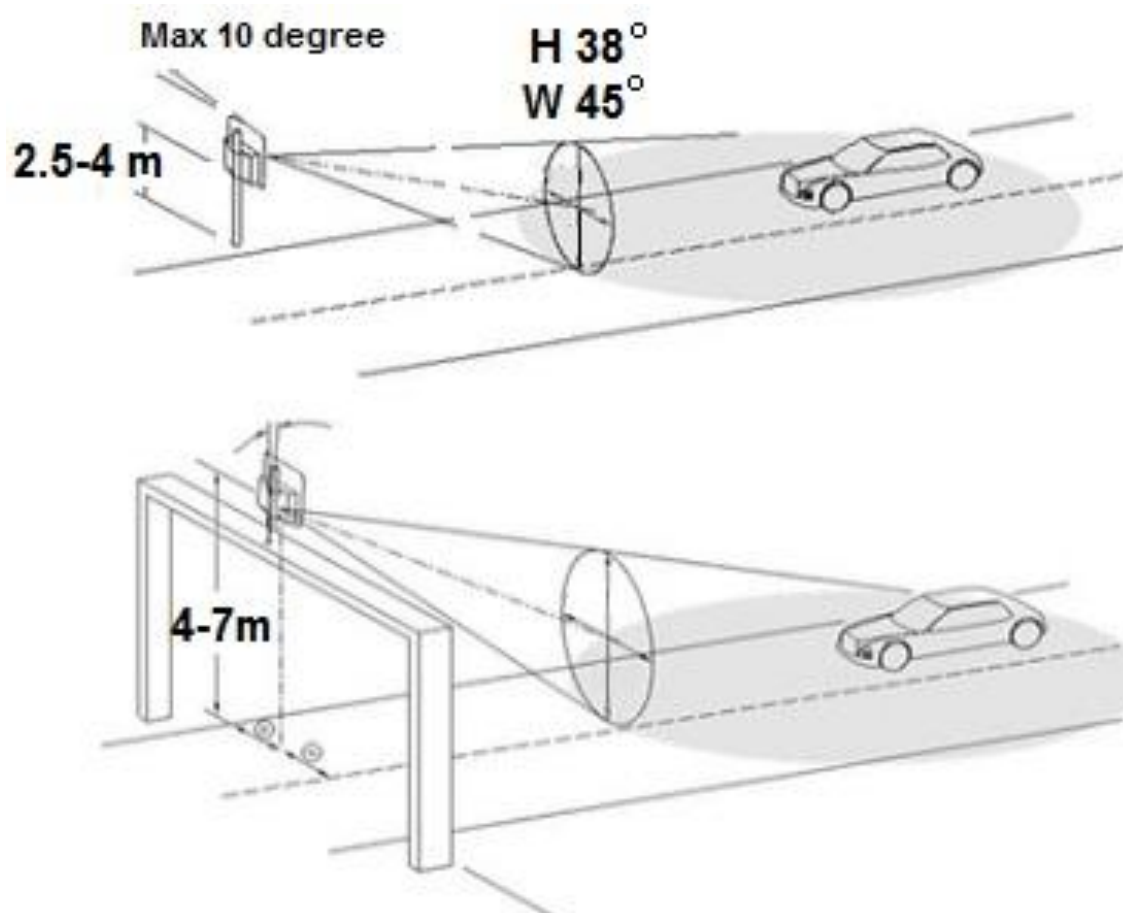
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**Note:**

The Your Speed Sign fixed on the road left or right, or just above the road, so that the direction of the radar port to the car, the tilt angle of not more than 10 degrees.

If it is fixed above the road, the radar fixed position should be radar Cavity oblique angle alignment to the car location. At the same time, the higher the distance between the radar and the ground, the farther away the radar works. Generally, the distance from the ground to radar in 2.5-7 m is better.



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