



# Specification

## BX - CSR - I speed radar sensor

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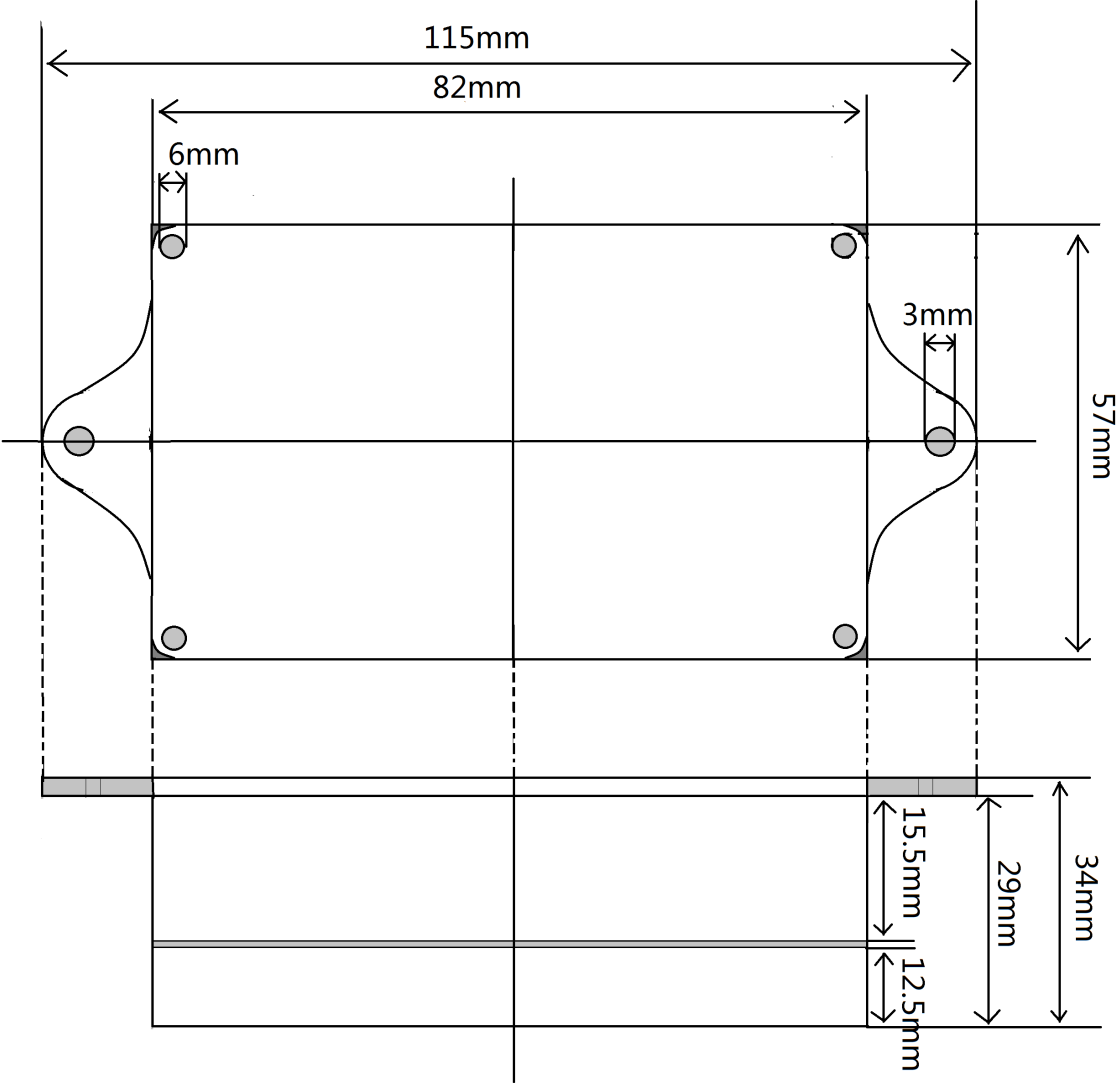
## Products Profile

Speed radar sensor is a high-performance traffic speed measuring radar, using radio waves and the frequency of the echo poor information such as accurate measurement of target velocity Coverage of up to 150 meters, the use of the CW modulation mode, the speed and direction of moving target can be detected, has the high speed precision BX - CSR -I speed radar sensor using micro trip array antenna design, speed and accurate, and can differentiate to and where vehicles installed on the road side, and can automatically measure multiple

## Functions

- Small volume, convenient installation, convenient for field implementation;
- Products, low power consumption, less electricity, voltage dc 12 v power supply;
- The speed measurement distance is long and the coverage range is up to 150 meters,
- High capture rate, accurate speed measurement and stable performance;
- It can be widely used in road traffic speed measurement system and other fields.

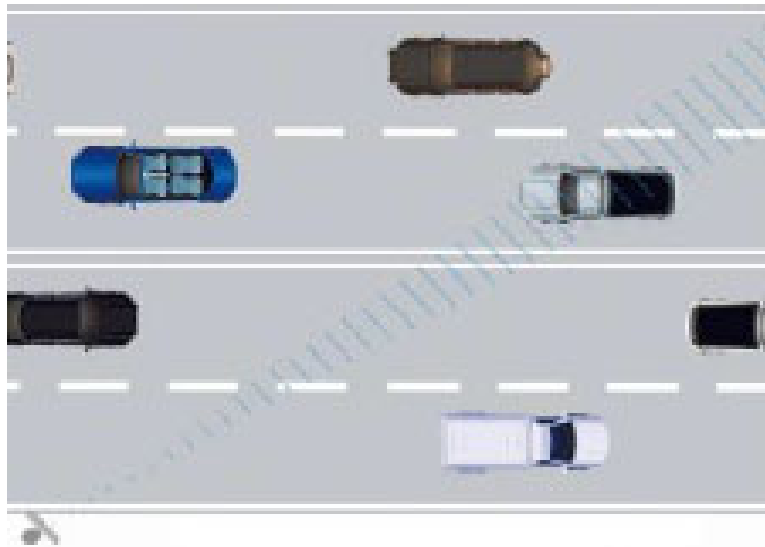
# Overall dimension



## Connection definition

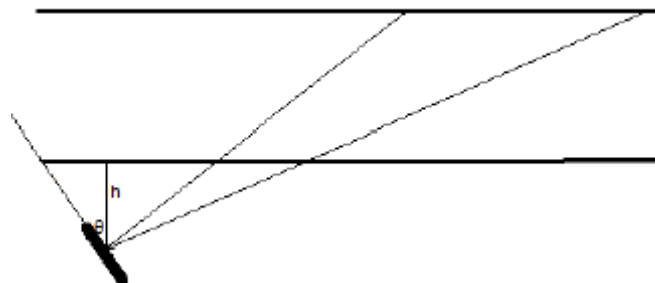
### Install rader

Whether the radar is installed correctly or not is closely related to the future debugging and the effect of capturing, and the correct installation method is very important.



Schematic diagram of radar exposure area

BX-CSR- I vehicle speed radar sensor is a side mounted radar, which is installed on the side of the road, and the detection distance can reach 150 meters. As long as the vehicle appears in the radar range, the radar will feed back the vehicle speed information.



Schematic diagram of radar parameters

As shown in the above figure, the radar installation angle is the deflection angle of the radar relative to the road, and the radar height  $h$  is the horizontal distance from the radar to the detection Road, rather than the actual installation height of the radar. Radar belongs to speed feedback radar.

As long as a vehicle appears in the range of radar beam, the radar will feed back the speed of the vehicle. Therefore, during installation, it is necessary to make the radar beam cover the lane to be measured through the deflection of the radar angle.

BX-CSR- I specific installation angle of the vehicle speed radar sensor depends on the site requirements. If it is necessary to measure a longer distance, the installation angle can be appropriately reduced. If the road is narrow and the distance to be triggered is close, the installation angle can be appropriately increased.

The measurement of angle value can be confirmed by compass or protractor. The figure below is a diagram of using the compass provided by the mobile phone to confirm the angle value:



Keep the radar vertical, place the mobile phone on the radar, and the mobile phone is parallel to the road, and record the compass angle at this time. Then turn the mobile phone until its orientation is consistent with that of the radar, that is, it is perpendicular to the radar to get the second angle. The difference between the two angles is the installation angle of the radar.

## **Precautions and suggestions**

1. Installation plays a decisive role in radar performance. It must be confirmed for many times that the installation is correct.
2. Generally, the camera shall be debugged before the radar on site.
3. The radar shall be vertical as far as possible during installation, and there shall be no deflection angle to the ground. Relative to the earth, if it deviates upward, it may cause the radar beam to launch into the sky and cause vehicle leakage. If it deviates downward, it may cause the radar beam to transmit downward, and the radar can only detect nearby targets.

4. When installing the radar, if there are not many measuring lanes and the trigger distance is close, the method of installing the radar directly against the measured Lane first, and then measuring its installation angle setting can be adopted. Please try to avoid excessive installation angle, otherwise it will lead to serious car leakage.
5. When the user chooses to use the bayonet scheme of video detection and radar speed measurement, it is recommended that the user use the continuous mode of radar. Because in this application, this working mode is more conducive to the installation and debugging of radar.

## Connection definition

When wiring, the serial number on the terminal of the machine shall correspond to the serial number on the label of the product.

Line color	Specific	Remark
Orange Line	DC12V	VDD " +"
Black Line	GND	GND "-"
Brown line	D+	Receiving the positive end of the signal
Blue line	D-	Negative end of received signal

## Technical specifications

Parameter	Specifications
Antenna type	Planar microstrip array antenna
Working frequency	24.15 GHz
Frequency deviation	$\leq \pm 45$ MHz
Antenna beam width (horizontal)	13.6°x 37°
Speed measuring range	4-400 km/h
Speed measurement accuracy	-4-0 km/h
Coverage distance	150m
Refresh time	(50~2000)ms Adjustable
Discrimination direction	Support, which can distinguish the coming and going directions
Power supply	Standard DC12V
Power waste	< 1W
Weight	70g
Degree of protection	IP65
Communication interface	Standard RS485
Work environment	temperature : -40 ~ 85°C
	humidity : 5 ~ 95%RH



## Application scenario

- School
- Hospital
- Parking lot
- Stadiums and gymnasiums
- Plant entrance and exit
- Railway transportation area
- Turning
- Road intersection
- High speed sections
- Temporary construction section
- Accident prone areas