



77GHz millimeter wave radar sensor for vehicle advanced turn assist system

User Manual

Product Model: B122-036

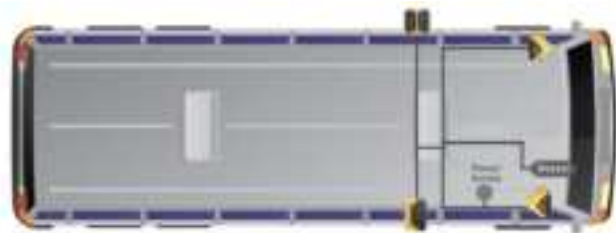
Radar Function Instruction

Due to the large vehicles exist blind spots, it is difficult to observe pedestrians and vehicles entering the blind spot of the inner wheel difference.

When cars turn may cause traffic accidents in frequent. The inner wheel difference is the difference between the turning radius of the inner front wheel and the turning radius of the inner rear wheel when the vehicle turns. Because of the inner wheel difference, if you only focus on passing front wheels and neglect the difference between the inner wheels during driving, it may cause the road or colliding with other objects.

To avoid this problem could install a set of radars outside of the car. It could detect blind spot and provide alerts reminding drivers to pay attention ensuring safety of passengers and passers-by.

Warning System Instruction



The driver assistance system include:

- The millimeter wave radar
- The warning indicator

Install Instruction

When the millimeter wave radar is installed on the electric bus, in order to ensure functional detection and warning system working normally, please follow below instructions :

1. When the surface of radar is covered by dirt, sandstone, waterdrop, or snow, it may cause the malfunction; consequently, please make sure to sustain the cleanness of the radar and its surrounding area anytime.
2. The radar and its surrounding area are not able to withstand severe impact; it may cause the system abnormality or malfunction. Whenever the radar is getting a severe impact, please make sure to go to the maintenance depot for inspections.
3. No alteration for non-original accessories (e.g. spraying paint, baking paint, and metal parts, etc.) is allowed around the surrounding area of radar; it may cause the radar abnormality or malfunction.
4. Avoid the surrounding area of radar gets covered by objects or walls; it may cause the trail obstacles detection malfunction or reduced its functionality.

Security Alert

Under some circumstances, turn assist system may not be able to detect the vehicles. The alert may not be functional under the following situations; therefore, please drive carefully and stay safe.

- Interruption by the equivalent frequency of the signal from airports, exercises, and military areas nearby may cause the radar malfunction.
- High speed vehicles enter into the blind zone may not vehicles that passing by in close succession or closely following may not provide an alert.
- Vehicles that passing by in close succession or closely following may not provide an alert.
- When a vehicle comes from behind a corner, the angle of the blind area of the vehicle body is close to the adjacent lane or the vehicle behind; it may provide a false alert for the vehicle behind.
- Under the narrow bends, bridge piers, or arched road situations, the system may not be able to detect incoming vehicles in real-time since the angle between the vehicle and other vehicles is not in the blind zone.
- When entering a curve or turning, the radar may warn vehicles in the next lane (due to the rotation of the radar with the angle of the car body).
- Under bushes or construction fences are not ordinary road situations; radar may launch false alarms.

False Alarm

Under the following circumstance or similar conditions, the system may launch a warning, even though there is no vehicle appear in the blind zone; it is a temporary false alarm normally; the false alarms may be launched in the following situations:

- Wall
- Traffic light pole
- Bushes
- Construction fence
- Continuous uphill and downhill road
- Narrow curves or turning road
- Guiding guardrail or road guardrail

Other Information

- Import : EU local representative: ***** / Address: *****
- Frequency range: 76GHz~77GHz
Operating temperature: -40~+85°C
- Maximum RF output power of the product EIRP=29.96 dBm
- Hereby, Cubtek declares that the radio equipment type B122-036 is in compliance with Directive 2014/53/EU.
- The full text of the EU declaration of conformity is available at the following internet address: <https://www.cubtek.com/en/certification.aspx>

FCC Statement:

- Please include the following FCC Statement:
- This device complies with part 15 of the FCC Rules. 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.
- NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
- This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
- If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - —Reorient or relocate the receiving antenna.
 - —Increase the separation between the equipment and receiver.
 - —Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - —Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and a human body.