

77GHz RADAR SENSOR

USER MANUAL

Vehicle Radar Detection Sensor - Technical Guide

Product Overview

This 77GHz radar sensor is designed for vehicle detection applications. It provides a detection distance of up to 30 m, wide horizontal coverage, and IP69K environmental protection.

1. Technical Specifications

Item	Specification	Item	Specification
Working Current	<200 mA @ 12V	Operating Temperature	-40 to +80 deg C
Storage Temperature	-40 to +85 deg C	Working Frequency	77 GHz
Antenna Form	4TX, 4RX	Waterproof Grade	IP69K
Detectability	30 m	Horizontal Angle	120 deg
Vertical Angle	60 deg	Angle Accuracy	+/-0.5 deg @ 40 deg

2. Installation Guidelines

- **Mounting:** Install the radar sensor firmly on a stable vehicle surface. Keep the sensing face unobstructed.
- **Orientation:** Align the sensor according to the required detection zone. Avoid excessive tilt or vibration.
- **Power:** Use a compatible 12V vehicle power supply and verify wiring before powering the unit.
- **Detection area:** Keep metal objects and other strong reflectors away from the immediate front of the sensor where possible.

3. Operating Environment

The sensor is specified for operation from -40 to +80 deg C and storage from -40 to +85 deg C. Its IP69K rating provides a high level of protection against dust and high-pressure/high-temperature water exposure when correctly installed.

4. Safety & Maintenance

- Do not disassemble or modify the radar sensor.
- Inspect the mounting position and wiring regularly and keep the sensing surface clean.
- Do not paint, cover, or place metallic accessories directly over the sensing face.
- After installation or vehicle repair, verify the detection area and system operation before normal use.

5. Important Notice

This manual is a general guide prepared from the supplied technical specifications. Connector definition, communication protocol, alarm logic, calibration method, and vehicle integration may vary by model. Use the corresponding wiring diagram and system documentation for final installation.