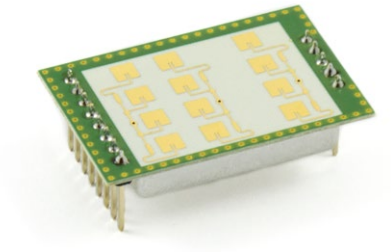
RFbeam Microwave GmbH

data sheet

K-LD7

digital radar transceiver



Features

- Small and low cost digital 24 GHz radar motion detector
- Measures speed, direction, distance and angle of moving objects
- Low current consumption
- Typical detection distance: 15 m for persons / 30 m for cars
- Target list output over serial interface
- Integrated FFT signal processing with tracking
- 4 configurable digital outputs
- Power supply range from 3.2 to 5.5 V
- 3×4 patch antenna with 80°/34° beam aperture

Applications

- Distance triggered movement detection applications
- Simple gesture recognition
- Indoor and outdoor lighting control applications
- Pedestrian counting
- Traffic counting

Description

The K-LD7 is a fully digital low cost Doppler radar that can measure speed, direction, distance and angle of moving objects in front of the sensor. The digital structure and wide power supply range make it very easy to use this sensor in any stand-alone or MCU based application.

The sensor includes a 3×4 patch antenna radar front-end with an asymmetrical beam and a powerful signal processing unit with four configurable digital outputs for signal detection information. A built-in tracking filter makes the sensor output even easier to use. The serial interface features the possibility to read out a target list with speed, direction, distance and angle information of all moving objects in front of the sensor or to digitally configure the sensors detection parameters.

There is no need to write own signal processing algorithms or handle small and noisy signals. This module contains everything what is necessary to build a simple but powerful motion detector with distance and angle information. A very small footprint of 38×25×13.5 mm gives maximum flexibility in the product development process. For fast prototyping an evaluation kit (K-LD7-EVAL) is available which features powerful signal visualization on a PC.

Block Diagram

Figure 1: Block diagram