mmWave Radar Sensor

SEN0395

Product Overview

12/29/2022

For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description

DFRobot SEN0395 mmWave Radar Sensor senses the human presence, stationery, and moving people within the detection range of 9m. This 24GHz millimeter-wave radar sensor employs a separate transmitter and receiver antenna structure, Frequency-Modulated Continuous Wave (FMCW), and Continuous Wave (CW) multi-mode modulation.

The sensor first emits FMCW and CW radio waves to the sening area. The radio waves, reflected by all targets in moving, micro-moving, or extremely weak moving states in the area, are converted into electrical signals by the millimeter-wave MMIC circuit in the sensor system. The signals will be sent to the processor and processed through the related signal and data algorithms. The sensing results of the millimeter-wave radar can be output through the serial or I/O port.

The mmWave sensor module features strong sensing reliability, high sensitivity, small size, easy to use, and easy-to-embed integration. This sensor also features a 3.6V to 5V power supply range, 90mA operating current, 9m detection distance, and 115200 Baud rate.

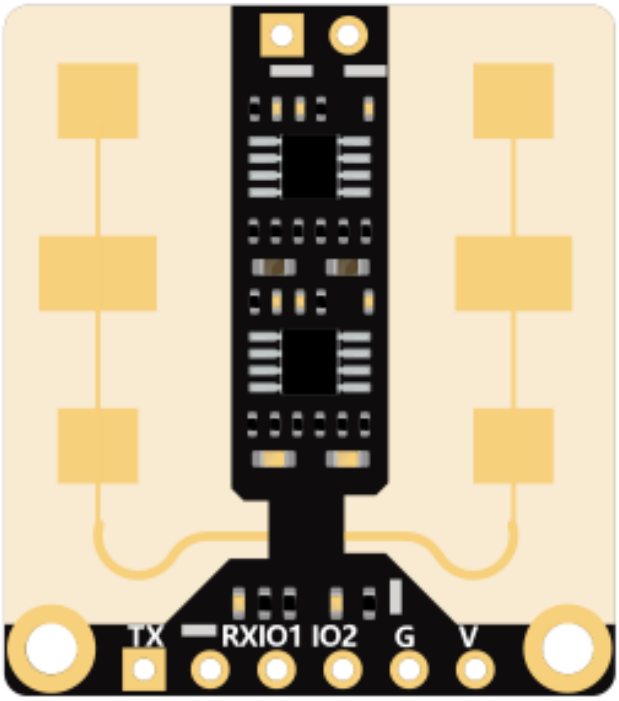
Features

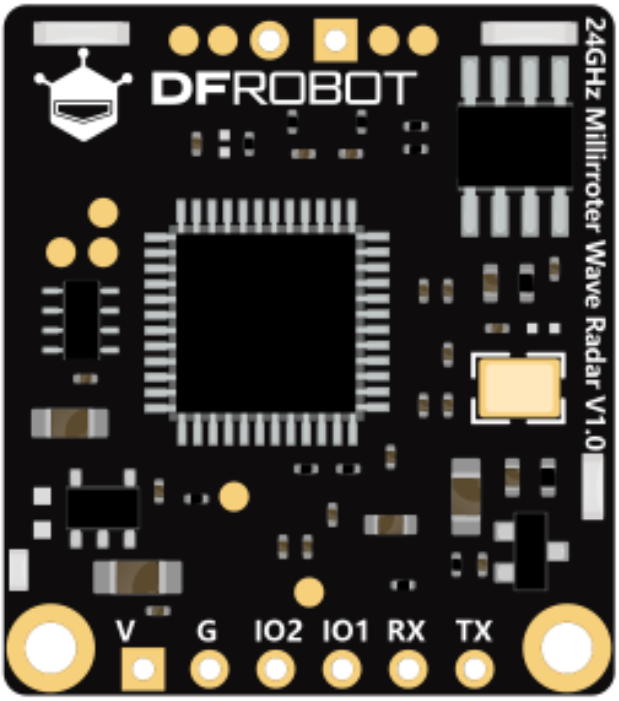
- Human presence sensing:
  - Sense if there is a human body in areas
  - I/O port switch quantity input and output control
- Modulation mode:
  - FMCW and CW
- Serial port input and output control
- Strong anti-interference ability and not to be affected by snow, haze, temperature, humidity, dust, light, and noise

Specifications

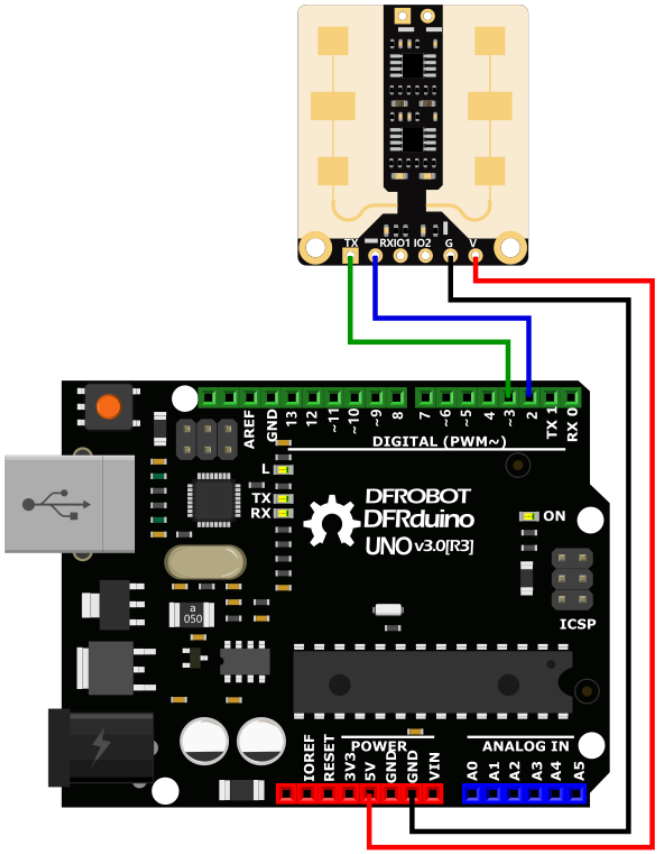
- 90mA operating current
- 3.6V to 5V operating voltage range
- -40°C to 85°C operating temperature range
- 9mm detection distance range
- 115200 Baud rate
- 24GHz operating frequency
- 13dBm to 15dBm equivalent transmit power range
- 100°x40° beam angle
- 24mm x 28mm dimension

Board Overviewv





Circuit Diagram



Mouser Part Number

View Part

To learn more, visit https://www.mouser.com/new/dfrobot/dfrobot-sen0395-mmwave-radar-sensor/