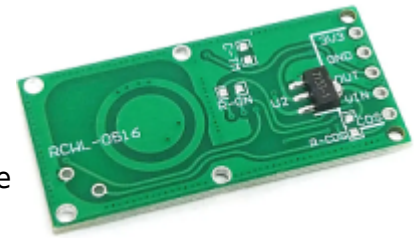


LamaPLC: RCWL - Microwave radar sensor

The **RCWL-0516** is a compact, low-cost microwave radar motion sensor that uses Doppler radar technology to detect moving objects. Unlike traditional PIR sensors that rely on heat signatures, this active sensor emits 3.18 GHz microwave signals and analyzes the reflected waves to detect movement, even through non-conductive materials like plastic, wood, or glass.



Core Specifications

- **Operating Voltage:** 4V to 28V DC
- **Operating Current:** ~2.8 mA (typical)
- **Detection Range:** 5 to 7 meters (up to 9 meters in ideal conditions)
- **Detection Angle:** 360-degree detection area with no blind spots
- **Output Signal:** 3.3V TTL Logic (High for ~2 seconds upon detection)
- **Regulated Output:** Provides a 3.3V, 100mA output for external logic



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Pinout

- **3V3:** 3.3V output from the internal regulator
- **GND:** Ground connection
- **OUT:** Digital output pin (HIGH when motion is detected)
- **VIN:** Main power input (4V-28V)
- **CDS:** Pin for optional Light Dependent Resistor (LDR) to disable sensing during daylight

Arduino code

This script reads the sensor and turns on the built-in LED (Pin 13) when motion is detected.

```
const int sensorPin = 2; // OUT pin connected to D2
const int ledPin = 13; // Internal Arduino LED

void setup() {
  pinMode(sensorPin, INPUT);
  pinMode(ledPin, OUTPUT);
}
```

```
Serial.begin(9600);
}

void loop() {
  int sensorValue = digitalRead(sensorPin);

  if (sensorValue == HIGH) {
    digitalWrite(ledPin, HIGH);
    Serial.println("Motion Detected!");
  } else {
    digitalWrite(ledPin, LOW);
  }
  delay(100); // Small delay for stability
}
```

[RCWL-0516](#), [RCWL](#), [microwave](#), [radar](#), [sensor](#), [arduino](#), [code](#)

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