

The OmniPreSense OPS241 is complete short-range Doppler or FMCW (frequency modulated constant wave) radar solution providing speed or range reporting for multiple objects in its field of view. All radar signal processing is done on board and a simple API reports the processed data. Flexible control over the reporting format and transmit power levels is provided.

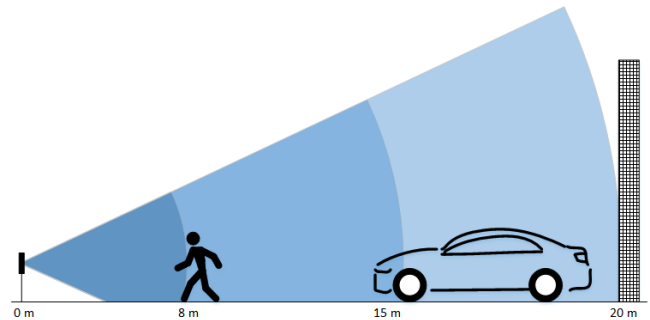
The OPS241 sensor can be connected to any Smart USB host (Raspberry Pi, Android device supporting OTG, PC or Mac) or Arduino using its UART interface to enable a simple IoT sensor.



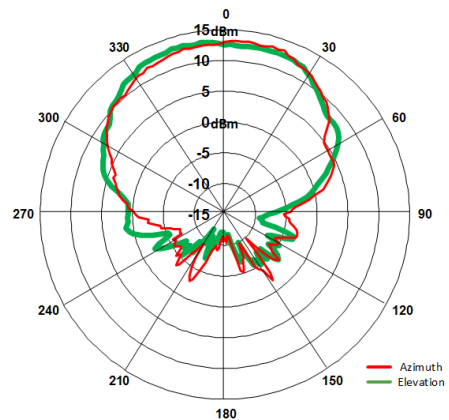
**OPS241 Sensor**

## Features

- 1-20m (3-66') detection range
- Speed reporting to 348mph, 0.5% accurate
- Direction reporting (Inbound/Outbound)
- Range Resolution of 7.5cm
- Wide 78° beam width (-3 dB)
- UART and USB interface
- Simple API control, 1-44Hz report rate
- Industrial temp operation (-40 to +85°C)
- 1.4W Active power, 0.6W Idle power
- Small form factor 53 x 59 x 12 mm, 11g (sensor only)



**OPS241 Detection Range**



**Antenna Pattern**

## Applications

- Traffic Monitoring
- IoT Sensor
- Drone/Robotics

## Functionality

- Traffic Monitoring
- Speed/Direction Reporting
- Presence Detection
- Collision Avoidance

[www.omnipresense.com](http://www.omnipresense.com)

Part Number	Motion	Direction	Speed	Range
OPS241-A	•	•	•	
OPS241-B	•	•	•	•

OPS-PB-001-J

## Electrical Specifications

Parameter	Value	Notes
Operating Frequency	24.00-24.25GHz	ISM band
Transmit Power	11 dBm	
Transmit Antenna Azimuth	78°	-3 dB beamwidth
Transmit Antenna Altitude	78°	-3 dB beamwidth
Power Dissipation	1.4W (typ)	Active power
	0.6W (typ)	Idle power
UART Pin Signal Level	3.3V	
Supply Voltage	5V	
Operating Temperature	-40° to +85°C	

## Ordering Information

Sensor	Type	Interface	Ordering Part Number
OPS241-A	Doppler	USB, UART	OPS241-A-CW-RP
OPS241-B	FMCW	USB, UART	OPS241-B-FM-RP
Enclosure	-	-	OPS241-A-CW-ENC
Lens Enclosure	-	-	OPS241-A-CW-L26