

OmniPreSense's OPS243 is complete short-range radar (SRR) solution providing motion detection, speed, direction, and range reporting. All radar signal processing is done on board and a simple API reports the processed data. Flexible control over the reporting format, sample rate, and module power level is provided. The OPS243 carries FCC/IC modular approval, simplifying development and regulatory certifications for production release.

The OPS243 sensor outputs data over USB, UART, RS-232, or WiFi interfaces for simple connection to any embedded processor (Arduino, Raspberry Pi, PC) or directly to the cloud via WiFi.

Features

- 1-100m (3-328') detection range
- Speed reporting up to 348mph
- Direction reporting (Inbound/Outbound)
- Range reporting up to 60m (197')
- Narrow 20x24° beam width (-3 dB)
- Simple, flexible API with object counting
- USB, UART, RS-232 interface
- WiFi/Bluetooth communication to cloud
- FCC/IC modular approval
- Industrial temp operation (-40 to +85°C)
- 1.7W Active or <0.2W Hibernate power
- Smaller form factor 75 x 90 x 12 mm, 15g

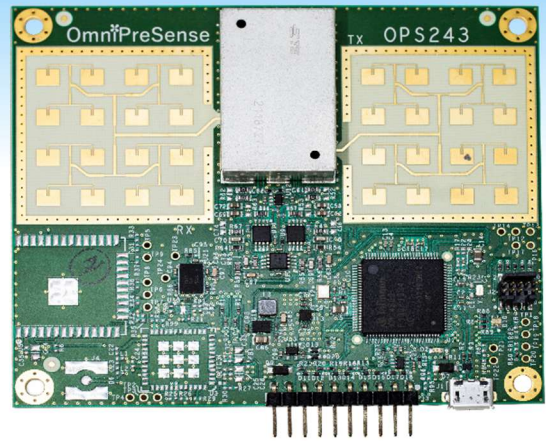
Applications

- Smart City
- Robotics/Drones

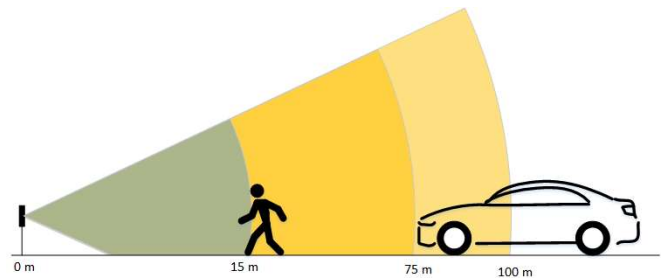
Functionality

- Traffic Monitoring
- Presence Detection
- Speed/Direction Reporting

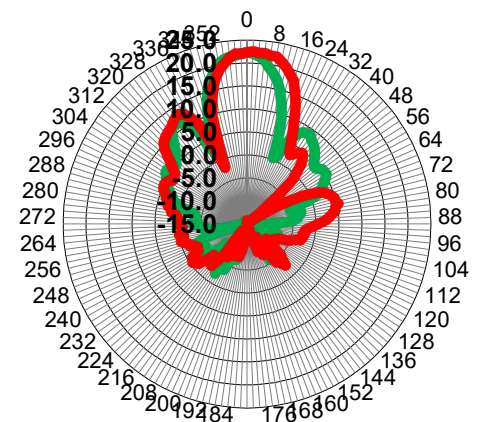
www.omnipresense.com



OPS243 Sensor



OPS243 Detection Range



Antenna Pattern

Part Number	Motion	Direction	Speed	Range
OPS243-A	•	•	•	
OPS243-C	•	•	•	•

OPS-PB-004-E

Electrical Specifications

Parameter	Value	Notes
Operating Frequency	24.00-24.25GHz	ISM band
Transmit Power	11 dBm	
Transmit Antenna Azimuth	20°	-3 dB beamwidth
Transmit Antenna Altitude	24°	-3 dB beamwidth
Power Dissipation	1.7W (typ)	Active power, OPS243-C
	0.7W (typ)	Idle power
	0.2W (avg)	Hibernate, OPS243-C
UART Pin Signal Level	3.3V	
RS-232 Pin Signal Level	±5V	
Supply Voltage	5-24V	24V for rev C sensors, otherwise 13.5V
Operating Temperature	-40° to +85°C	

Ordering Information

Sensor	Type	Interface	Ordering Part Number
OPS243-A	Doppler	USB, UART	OPS243-A-CW-RP
OPS243-A	Doppler	USB, RS-232	OPS243-A-CW-R2
OPS243-A	Doppler	USB, WiFi/Bluetooth	OPS243-A-CW-WB
OPS243-C	Doppler & FMCW	USB, UART	OPS243-C-FC-RP
OPS243-C	Doppler & FMCW	USB, RS-232	OPS243-C-FC-R2
OPS243-C	Doppler & FMCW	USB, WiFi/Bluetooth	OPS243-C-FC-WB
Enclosure	3D Printed	-	OPS243-A-CW-ENC