

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, or RS-232 interface for simple connection to Arduino, Raspberry Pi, PC, or any embedded processor.

Features

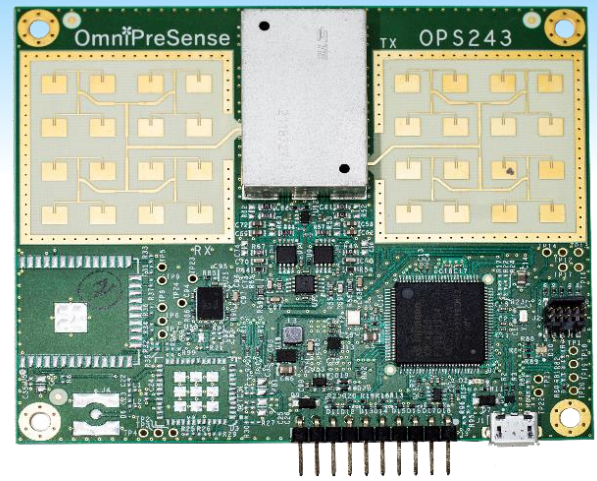
- 1-100m (3-328') detection range
- Speed reporting up to 348mph
- Direction reporting (Inbound/Outbound)
- Range reporting up to 60m (197')
- Simple object counting mode
- Narrow 20° beam width (-3 dB)
- Simple, flexible API
- USB, UART, and RS-232 interface
- FCC/IC modular approval
- Industrial temp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

Applications

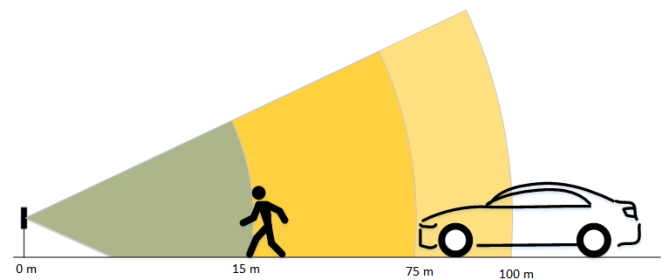
- Smart City
- Robotics/Drones

Functionality

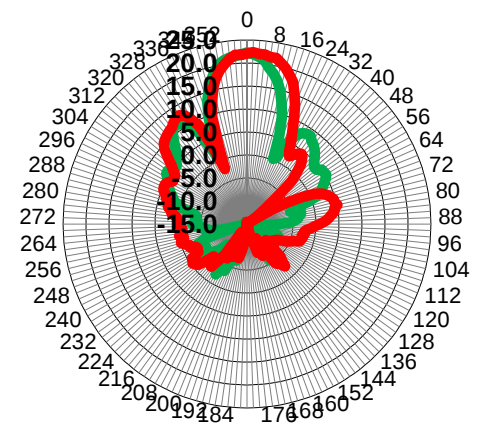
- Traffic Monitoring
- Presence Detection
- Speed/Direction Reporting



OPS243 Sensor



OPS243 Detection Range



Antenna Pattern

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

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 sensors built after July 2020, 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-C	Doppler & FMCW	USB, UART	OPS243-C-FC-RP
OPS243-C	Doppler & FMCW	USB, RS-232	OPS243-C-FC-R2
Enclosure	-	-	OPS243-A-CW-ENC

Mouser Electronics

Authorized Distributor

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OmniPreSense:

[OPS243-A-CW-R2](#) [OPS243-C-FC-R2](#)