

# Avigilon Presence Detector (APD) Sensor

The Avigilon Presence Detector (APD) Sensor is a small form factor sensor that combines self-learning analytics with impulse radar technology to accurately detect the presence of a person even if they have stopped moving or are hidden. It has the ability to detect presence through blankets, cardboard, wood and drywall. This sensor is designed for indoor locations such as ATM rooms and other closed indoor vestibules within banks, pharmacies, retail stores, prisons, health care facilities and other environments where privacy and highly accurate detection is needed. APD combined with Avigilon Control Center<sup>TM</sup> video management software provides an easy-to-deploy discreet surveillance solution to address specific deployment scenarios.



## DISCREET DESIGN AND COMPLETE COVERAGE AT YOUR FINGERTIPS

The APD impulse radar sensor, combined with self-learning analytics, scans and learns the environment, continuously adapting to reduce false positive events, providing extremely high accuracy in detecting the presence of a person at distances up to 9 meters (29.52ft) from the sensor, even if the object is hidden or obstructed.

## IMPULSE RADAR BENEFITS

Impulse radar technology is a low power Ultra-Wideband (UWB) short-range radar transmission signal with a much wider frequency than conventional radar systems, which is very effective in detecting people.

The combination of sophisticated radar and analytics technology helps to solve the challenge of accurate human presence detection in constrained indoor areas where traditional devices may be limited. The solution provides a new sensory approach to deliver events and alarms that detect a person's presence or a person loitering. The APD impulse radar sensor sees beyond the typical visual, thermal or infrared spectrum and is not affected by smoke. It also has the ability to detect presence through obstructions such as blankets, cardboard, wood and drywall.



## KEY FEATURES

- Highly accurate loitering detection and presence detection.
- Very low false positive rate.
- Configurable loitering dwell-time setting and range to detect presence and loitering up to 9 meters (29.52ft).
- Ultra-Wideband (UWB) impulse radar analytics are capable of detecting fine motion such as breathing.
- Works even if people are hidden behind cardboard, blankets or drywall.
- Self learns the environment and continuously adapts to changes in the environment.
- Can be used to alert on presence or movement while maintaining privacy.
- Can be used in conjunction with a camera to provide video verification of alerted presence.
- Integrates with Avigilon Control Center video management software (VMS) to provide unique surveillance with privacy beyond the visible spectrum.

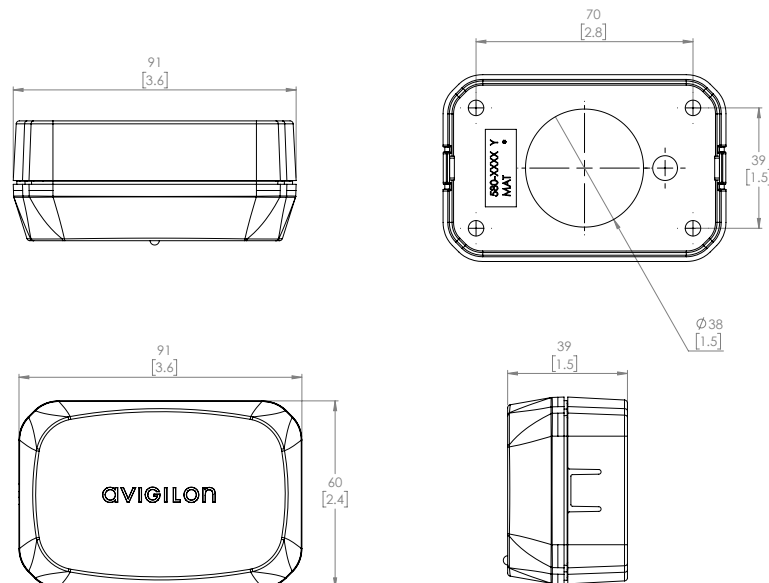
# Specifications

<b>RADAR</b>	Radar	Ultra Wide Band Impulse Radar	
	Frequency Band	6.0 – 8.5 GHz with 7.2GHz center frequency	
<b>NETWORK</b>	Network	100BASE-TX	
	Cabling Type	CAT5	
	Connector	RJ-45	
	Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication	
	Device Management Protocols	SNMP v2c, SNMP v3	
	Status Indicator for Ethernet	Yes	
<b>PERIPHERALS</b>	Terminal Block for Digital I/O	3 Pin Terminal Block : Input , Output and GND	
<b>MECHANICAL</b>		<b>IN-CEILING MOUNT</b>	<b>WALL MOUNT</b>
	Dimensions (LxWxH)	91mm x 60mm 39mm (3.58" x 2.36" x 1.52")	91mm x 60mm 75mm (3.58" x 2.36" x 2.95")
	Color	Cool grey	
	Material	High impact plastic (PC)	
	Weight	124g (0.27lbs)	154g (0.34lbs)
	Housing	Vandal resistant	
<b>ENVIRONMENTAL</b>	Indoor	Certified for indoor use only	
	Temperature Rating	0 °C to 50 °C limit (32 to 122 °F)	
	Ingress Protection	IP3x	
	Digital I/O	Digital output rating (open drain, 25V max, 100mA sink).	
<b>ELECTRICAL</b>	Power Consumption	3W max	
	Power Source	PoE : IEEE802.3af Class 1 compliant	
<b>CERTIFICATIONS</b>	Certifications/Directives	FCC, IC, UL, cUL, CE, ROHS, WEEE, RCM	
	Safety	UL 62368-1, CSA 62368-1, IEC/EN 62368-1, EN 62479	
	Electromagnetic Emmissions	FCC Part 15 Subpart B Class B, IC ICES-003 Class B, EN 55032 Class B, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3	
	Electromagnetic Immunity	EN 55024, EN 61000-6-1, EN 50130-4	
	RF (UWB)	FCC Part 15 Subpart F, RSS-220, ETSI EN 302 065-1	
<b>AVAILABILITY</b>	Initial Certifications	Canada and US, UK, EU and AU	

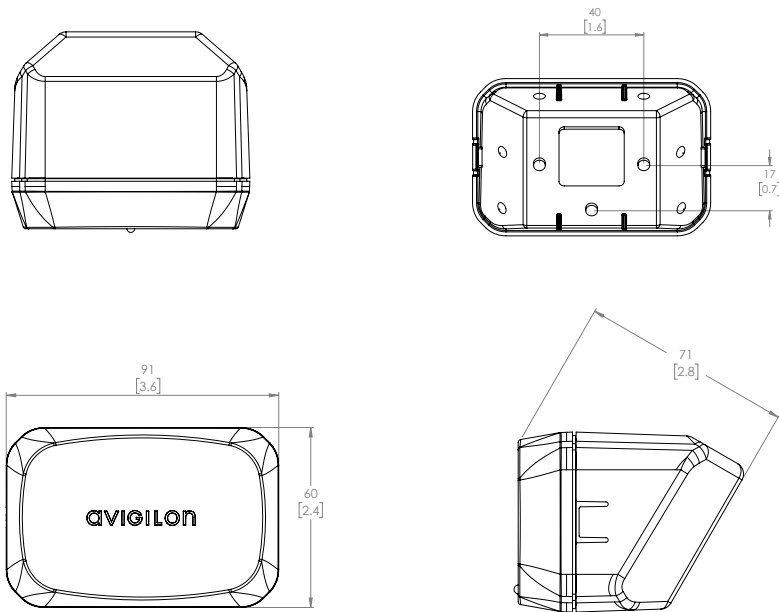
## Outline dimensions

### In Ceiling

X	MM
[X.X]	INCHES



# Wall Mount



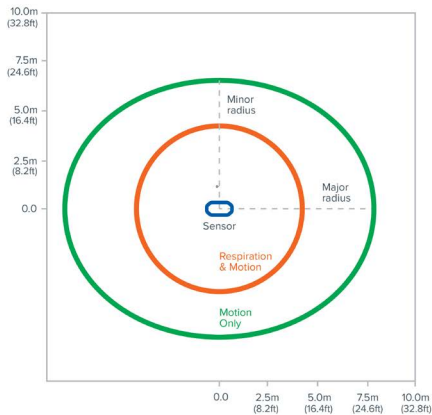
X	MM
[X.X]	INCHES

## Range Specifications

Please note that the exact range illustrated in the diagrams below can vary with environmental conditions. A walk test is highly recommended when installing in your unique environment. Please see the Installation Guide for more details.

### Top-down View of Ceiling Mount

Ceiling Mount at 3m (9.84ft), Range Set to 9m (29.52ft)



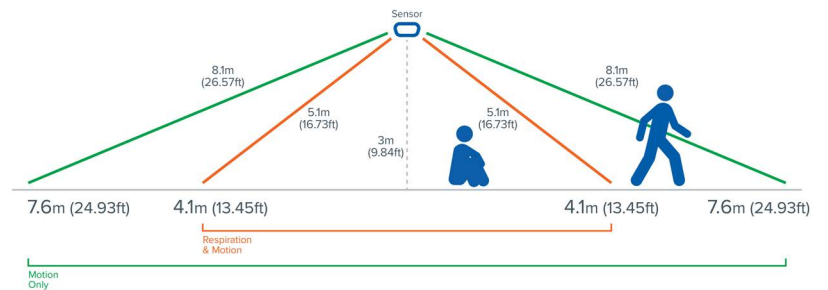
Maximum Detection Distance from Sensor (On Floor) at Different Mounting Heights for Ceiling Mount

Mounting Height	Motion only		Motion & Respiration	
	Major radius	Minor radius	Major radius	Minor radius
2.4m (7.87ft)	7.5m (24.60ft)	6.1m (20.01ft)	4.0m (13.12ft)	4.0m (13.12ft)
3.0m (9.84ft)	7.6m (24.93ft)	6.2m (20.34ft)	4.1m (13.45ft)	4.1m (13.45ft)
4.0m (13.12ft)	7.7m (25.26ft)	6.3m (20.66ft)	4.3m (14.10ft)	4.3m (14.10ft)

Note: Range may vary due to environmental conditions.

### Side View of Ceiling Mount

Ceiling Mount at 3m (9.84ft), Range Set to 9m (29.52ft) for Major Radius



Note: Sensor will have slightly less detection range in shorter part of oval than shown in diagram, for motion only.

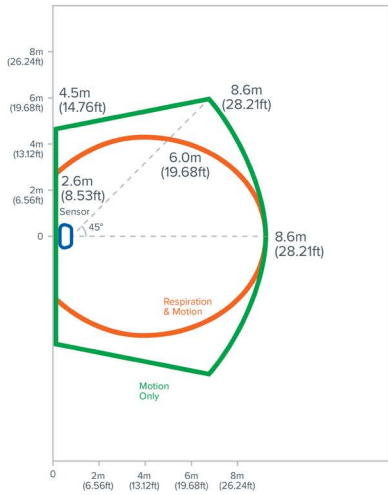
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	Major radius	Minor radius	Major radius	Minor radius
2.4m (7.87ft)	7.5m (24.60ft)	6.1m (20.01ft)	4.0m (13.12ft)	4.0m (13.12ft)
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4.0m (13.12ft)	7.7m (25.26ft)	6.3m (20.66ft)	4.3m (14.10ft)	4.3m (14.10ft)

Note: Range may vary due to environmental conditions.

## Top-down View of Wall Mount

Angle Mount (30 degrees) at 2.4m (7.87ft), Range Set to 9m (29.52ft)



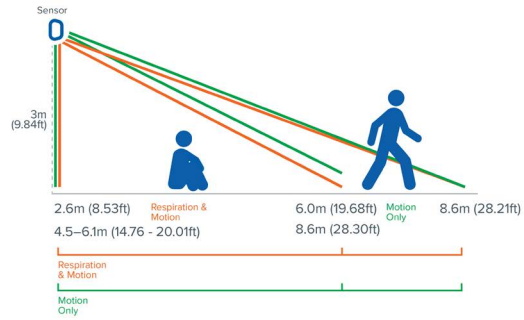
Maximum Detection Distance from Sensor (On Floor) at Different Mounting Heights for 30 Degree Wall Mount

Mounting Height	motion only			motion & respiration		
	Range at 0° from sensor	Range at 45° from sensor	Range at 90° from sensor	Range at 0° from sensor	Range at 45° from sensor	Range at 90° from sensor
2.4m (7.87ft)	8.6m (28.21ft)	8.6m (28.21ft)	4.5–6.1m (14.76 - 20.01ft)	8.6m (28.21ft)	6.0m (19.68ft)	2.6m (8.53ft)
3.0m (9.84ft)	8.4m (27.55ft)	8.4m (27.55ft)	4.6–6.6m (15.09 - 21.65ft)	8.4m (27.55ft)	5.9m (19.35ft)	2.4m (7.87ft)
4.0m (13.12ft)	8.0m (26.24ft)	8.0m (26.24ft)	4.4–6.4m (14.43 - 20.99ft)	8.0m (26.24ft)	5.5m (18.04ft)	1.5m (4.92ft)

Note: Range may vary due to environmental conditions.

## Side View of Wall Mount

Angle Mount (30 degrees) at 2.4m (7.87ft), Range Set to 9m (29.52ft)



Maximum Detection Distance from Sensor (On Floor) at Different Mounting Heights for 30 Degree Wall Mount

Mounting Height	motion only			motion & respiration		
	Range at 0° from sensor	Range at 45° from sensor	Range at 90° from sensor	Range at 0° from sensor	Range at 45° from sensor	Range at 90° from sensor
2.4m (7.87ft)	8.6m (28.21ft)	8.6m (28.21ft)	4.5–6.1m (14.76 - 20.01ft)	8.6m (28.21ft)	6.0m (19.68ft)	2.6m (8.53ft)
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Note: Range may vary due to environmental conditions.

## Ordering Information

APD-S1-D	Presence Detector with Ceiling Mount
APD-MT-WALL1	Wall Mount Adapter Only