



AUTONOMICS

# RADAR

Software-defined mmWave 4D imaging radar for service robots.

**Q4 2021**

# RADAR

## Features

### 1: Environment perception **with high resolution in a wide field of view**

is crucial for service robots, operating in the environment shared with people. This is what makes AUTONOMICS RADAR a perfectly suited solution for obstacles detection for last-mile delivery, warehouse and cleaning robots and many other applications.



### 2: Radar ensures safe operation in **any lighting and weather conditions.**



### 3: **The software-defined characteristics**

make AUTONOMICS RADAR flexible and adaptable to any required applications and conditions.

### 4: AUTONOMICS RADAR and AUTONOMICS STEREOCAM smart stereo camera **data fusion** provides unprecedented level of **safety, situational awareness and cost efficiency** of your robots.



### 5: **ROS compatibility** makes it easy to integrate AUTONOMICS RADAR into existing systems.



# RADAR



## Specifications

Software-defined* Mode	<b>Short-range</b>	<b>Long-range</b>
Operating Frequency	<b>77 - 81 GHz</b>	
Detection Range	<b>0.2 m - 50 m</b>	<b>0.4 m - 150 m</b>
Max Velocity	<b>±10 m/s</b>	
Azimuth Field of View	<b>140°</b>	<b>90°</b>
Elevation Field of View	<b>30°</b>	
Range Resolution	<b>&lt;0.1 m</b>	<b>&lt;0.3 m</b>
Range Accuracy	<b>0.05 m</b>	<b>0.15 m</b>
Velocity Resolution	<b>&lt;0.15 m/s</b>	
Velocity Accuracy	<b>0.075 m/s</b>	
Azimuth Resolution	<b>&lt; 1.5° (at &lt;50° from boresight)</b>	
Azimuth Accuracy	<b>0.25°</b>	
Elevation Resolution	<b>20°</b>	
Elevation Accuracy	<b>1°</b>	
Update Rate, FPS	<b>10 Hz</b>	
Operating Voltage	<b>9 - 36 V</b>	
Power Consumption	<b>&lt;15 W</b>	
Dimensions (WxHxD mm)	<b>203x110x45</b>	
Interface (Data Output Interface)	<b>CAN, Ethernet</b>	
Dust and moisture resistance (IP Rating Target)	<b>IP67</b>	

\*It is possible to adjust the characteristics of AUTONOMICS RADAR software to the specific parameters of detection range and resolution