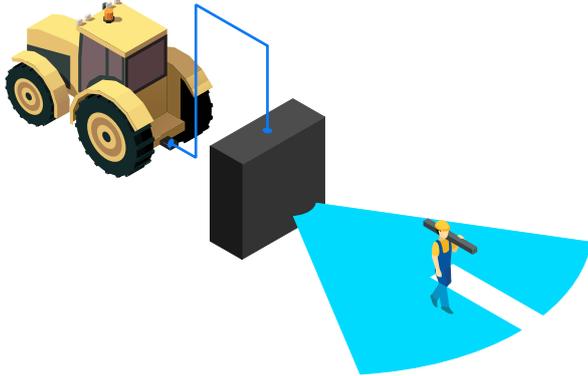


Attingimus Radar Sensors

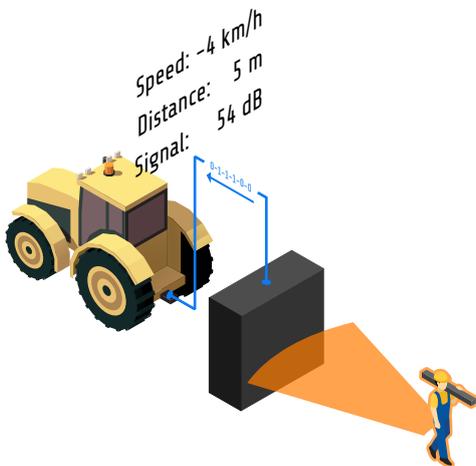
- General Information -

Radar Sensors

The basic principle of any active Radar sensor is the emission and re-absorption of Radar waves. Radar waves are electromagnetic waves which propagate at the speed of light.



The Radar emits a specific signal, which gets reflected by an object in the observed area. The reflected signal is again received and analyzed by the Radar sensor. Physical properties of the reflecting target, like distance and speed, can be obtained.



Restrictions and Advantages of Radar Sensors at 24 GHz

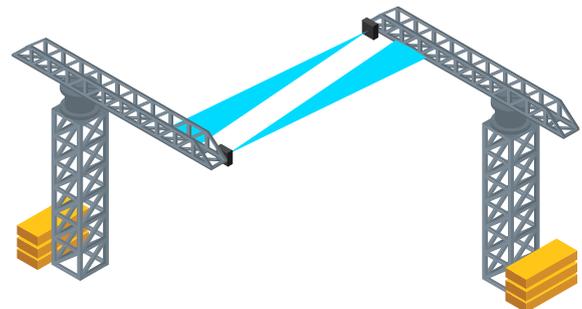
Radar sensors do not have the same spatial image resolution as modern video cameras which operate in the visible light spectrum with frequencies of 400 – 800 THz (a factor of ~ 20.000 larger than the 24 GHz ISM-Band).

Alone by physical constraints, a Radar sensor with a similar resolution as a common video camera would have to be ~20.000 times its size. Besides the size of the sensor however, at 24 GHz, electromagnetic waves behave much more “wave-like” than their optical “ray-like” relatives in the visible light spectrum. A reflection of Radar waves will therefore never be as “sharp” as an optical picture and can behave in counterintuitive ways.

The advantage from this tradeoff is, that due to its greater wavelength, Radar waves go almost unhindered through obstacles like rain, fog, dirt or dust. Radar sensors are therefore well suited to operate in difficult environments, where visible light is obstructed and optical or ultrasonic sensors would have trouble performing.



Another benefit from a smaller frequency is the reduced loss in signal strength by transmission over long distances. The commercially usable 24 GHz ISM-Band has a greater reach than comparable higher frequency signals, making Radar sensors optimal for monitoring distant targets or large areas.



Sensors from Attingimus Radar

Attingimus Radar offers a wide range of different Radar sensors. Starting with basic measurement tasks like speed and distance measurements to the closest object, we have solutions for complex Collision Avoidance Applications, Sharp Detection Zones, High Accuracy Traffic Enforcement, and Tracking Applications.

Our basic Radars usually detect the closest target and provide speed and distance information. For specific tasks however, we also employ very advanced filtering techniques for separating and tracking multiple objects or gain an accurate angular resolution.

If you have a certain task in mind, for which you would like to use a Radar sensor, please contact us. We are happy to advise you on possible Radar solutions.