



# What is passive RFID?

## What is passive radio frequency identification (RFID)?

Compared to active RFID tags that require a battery, passive RFID tags have a lower price point, making them affordable for many industries, including industrial construction. Passive RFID systems use tags powered by electromagnetic energy transmitted from an RFID reader and require no internal power source.

## Where have I seen passive RFID in use?



Toll collection systems



Race timing



Pet microchips



Access cards & ID badges

## How do active and passive RFID differ?

The tags are commonly used as beacons to track the real-time location of assets. In contrast to passive systems, active RFID systems use battery-powered tags that are always, well, active.



Passive RFID tags are powered by electromagnetic energy transmitted from an RFID reader.



Active RFID tags are battery-powered and send out consistent signals to the RFID reader.

	Passive RFID	Active RFID
<b>Power</b>	No internal power source	Battery-powered
<b>Price</b>	Inexpensive tag (typically 50¢ to \$5)	More expensive tags (typically \$25+)
<b>Size, shape &amp; purpose</b>	From small and flexible to rugged and durable, passive RFID tags are available in many shapes and forms	Generally larger tags built to withstand harsh construction environments
<b>Lifespan</b>	Up to 50 years	Battery lifespan of roughly 5 years
<b>Usage</b>	Single use and/or reusable	Reusable
<b>Read Range</b>	Typical: 10m	Typical: 100m+
<b>Weather</b>	Can be read under light snow	Can be read under snow and ice
<b>Line of sight</b>	Doesn't require direct line of sight to scan	Doesn't require direct line of sight to scan
<b>Best area of use</b>	High-volume assets moving through fixed choke points in definable, uniform systems	High-volume assets moving within designated areas in random and dynamic systems

## Advantages of using passive RFID on an industrial construction project

This low-cost option makes it feasible to tag every item as it is shipped to your project and while on the project site. Materials tagged at the point of shipment from fabricators or suppliers lead to total upstream visibility and true digital work processes. The status of your materials will never be a mystery again.



### About Octave

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