# Chokes vs. Inductors: What's the Difference?

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Sensors and filters are everywhere in the electronic world, and countless electronic devices contain inductors that include chokes for channeling energy in a circuit. Here are important facts to know about these circuit components that make electronic equipment less noisy and more efficient.

## What Is an Inductor?

An inductor is a passive electromagnetic component with two terminals used for inductance in a wide range of electronic equipment. Inductance deals with changes in current that generates electromotive force. The purpose of an inductor is to either store or provide energy in a circuit, helping balance the current flow.

There are various types of inductors on the market that come in different shapes and sizes for different applications. An iron core inductor has a wire wound around its core, which creates a magnetic field. Inductors that deliver electromagnetic energy through the air don't have a physical core and are called air core inductors. Some inductors have cores made of ceramic or plastic rods.

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## What Are Chokes?

Within the inductor family, there are chokes, which are designed to filter out certain frequencies or ranges of frequencies. Chokes play an important role in mode switching, such as filtering out low or high frequencies in the circuit. An electrical choke prevents the continuation of AC ripples in DC power supplies. Not only can a choke block a certain frequency, but it can also separate different frequencies.

IThe two main different categories of chokes are:

- **Audio frequency chokes (AFC)**

These iron core inductors prevent audio and power line frequencies under 20 KHz of AC from passing through a circuit as DC passes smoothly. These chokes are often found in audio/video and radio transmitter equipment.

- **Radio frequency chokes (RFC)**

Designed with an air core, these chokes block radio frequencies of AC over 20 KHz as DC passes. These chokes allow the operator to customize the selection or rejection of certain frequencies.

# Inductors vs. Chokes

Even though inductors and chokes share many similarities, they have different functions. Remember that a choke is a specific type of inductor, so the terms are not interchangeable. A choke has a donut-shaped core with insulated wire wrapped around it. Inductors have multiple functions that include storing energy in an electromagnetic field, whereas chokes are used for blocking AC or filtering frequencies.

Not only do inductors act as filters for adjusting impedance, but they can also be sensors that detect objects within the magnetic field. Inductors can also step power up or down within a transformer. Additionally, they can generate the rotation of a motor shaft.

## Conclusion

Both inductors and chokes are useful for improving the performance of a circuit. They are found in computers, motors, lights, stereos, and many other electronic products. Contact us at Allied Components International to order inductors and chokes for your engineering projects.