

Resistive Loads

[0m:0s]



[0m:4s] Hi I'm Josh Bloom, welcome to another video in the RSP Supply education series. If you find that these videos are helpful to you, it certainly helps us out if you could give us a big thumbs up and subscribe to our channel. In today's video, we are going to continue on in our brief series in which we are discussing some of the different types of electrical loads.

[0m:24s] In our last video, we talked about inductive loads.

[0m:28s] In that video we covered what types of devices are considered inductive, such as motors.

[0m:34s] We talked about some of the characteristics of inductive loads and some of the challenges that arise when switching these kinds of loads. For the purpose of this video, we want to take some time and talk about resistive loads.

[0m:49s] We want to provide some basic information about what devices fall under the classification of resistive loads. We will also talk about some of the power characteristics of these kinds of loads and some steps we can take to ensure that the loads work properly and last for a long time, while also operating safely. As always, the information presented in this video is intended to provide only a basic overview of resistive electrical loads and in no way should replace proper electrical instruction. If you have specific questions about your electrical situation, please seek the assistance of a qualified person such as an electrician or electrical engineer.

[1m:32s] With that said, let's take a closer look at resistive loads and some of the things that make them different from other types of electrical loads. Firstly, resistive loads are typically used to convert current into other forms of energy, typically heat or in some cases light. The most common types of resistive loads are devices such as electrical heaters, incandescent

light bulbs, heating elements on cooking appliances, and many other devices. Unlike with inductive loads, resistive loads do not create any kind of magnetic field.

[2m:11s] Because these types of loads are purely resistive and have no reactants like an inductive load, the current will run in phase with the voltage.

[2m:21s] In resistive loads, the power wave form will always remain positive, which means these loads will always dissipate power when energized. This differs from inductive loads which will return power when deenergized causing large voltage spikes. Another characteristic of resistive loads is that the current will rise to its steady state value without first, rising to a higher level, like you commonly see with inductive loads that experience inrush current. So resistive loads typically have little or no inrush current. One thing to keep in mind with resistive loads is that they can benefit greatly from operating at proper or optimized voltage levels.

[3m:7s] This optimization of voltage can help lead to extended life in the electronics being powered and can also help conserve power consumption. Events such as brownouts,

[3m:19s] which is a temporary drop in voltage, or power surges, which can be caused by lightning strikes or short circuits, can damage resistive loads very easily and reduce the efficiency in which they will operate

[3m:33s] and also reduce the longevity of the device. So whenever possible, always try to provide stable voltage to resistive style loads to ensure that you see the highest level of performance, while also increasing the efficiency and longevity of the device. By understanding some of the basic principles that make up resistive loads, you will be better equipped to properly troubleshoot any problems that may arise in these types of circuits.

[4m:3s] You will also be able to make more intelligent hardware selections when planning or building circuits for your specific application. However, always remember to follow all local codes and guidelines so that no matter what type of load you are powering, they operate safely and as expected. For a full line of industrial electrical equipment as well as thousands of other products, please go to our website. For more information or other educational videos go to RSPSupply.com, the Internet's top source for industrial hardware. Also, don't forget: like and subscribe.





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