HIGH VOLTAGE RELAY & CONTACTOR APPLICATIONS

HOW TO SELECT A RELAY / CONTACTOR - *DETAIL PICK*

By working with the experts at GIGAVAC it's easy to select the right high voltage relay/contactor for your application. You only need to know a little about your contact load and whether the relay/contactor will be making and/or breaking the load ("hot' switching). If you would like to know more about the physics of our relays to gain a better understanding why we recommend certain relays for specific applications, please visit "Physics of High Voltage Relays".

The following is a good tool to use for collecting information you may need to describe your application needs. Not all the information may be applicable for every application.

COIL VOLTAGE:

POLES:

- 1, 2

THROW:

- Single throw – Normally Open
- Single throw – Normally Closed
- Double throw

CONTACT LOAD:

Normal Conditions:

	Voltage	Current	Cycles	Load Type Resistive, Capacitive, etc.
Make				
Carry				
Break				

Abnormal Fault Conditions:

	Voltage	Current	Cycles	Load Type Resistive, Capacitive, etc.
Make				
Carry				
Break				

Tip! "Abnormal Fault Conditions" is listed just so you will think about the unthinkable. We mention this because our experience has shown that an un-planned abnormal switching condition can have catastrophic results. We have also found that if you know what factors are driving your relay/contactor selection it is sometimes less expensive to remove the condition than selecting a relay/contactor that will handle the abnormal condition.

Nearly all GIGAVAC relays/contactors are available with different coil voltages so don't worry about selecting the coil until you have found the relay/contactor that will handle your load.

We have listed our relays/contactors throughout this site in “operating” voltage order, then by continuous carry current, then by the number of poles and the number of throws. This is the order you should use or “sort” by to quickly find the right relay/contactor for your application. By looking at voltage first, you will have the widest selection to choose from and will find the correct relay/contactor quickly.

Tip! Generally the higher the voltage rating, the higher the cost. So it’s best to find the lowest voltage rating to save you the money.

The final “sort” is whether the relay/contactor will be just carrying the load (the most common application for high voltage relays/contactors) or will be “hot switching” the load. If the relay/contactor is hot switching the load, the selection process becomes a bit more complicated and we suggest you contact one of the GIGAVAC experts before making your final selection.

Here is why:

For most relays/contactors, the contact voltage is fixed. An automotive relay is typically 12 to 24 Vdc, an industrial relay/contactor is often 115 - 240 Vac 50 or 60Hz, and aircraft relays/contactors are generally 28 Vdc or 115 Vac 400 Hz. For these applications, it's fairly easy for the relay manufacturer to establish resistive, inductive, motor, and lamp load contact ratings at the specified voltage. But for high voltage relays/contactors, it becomes much more complex because there is no one "normal" voltage to test for. For HV relays/contactors, the contact voltage can range from the maximum voltage rating for the relay/contactor down to just a fraction, the "make" or "break" current can be milliamps to many times the rated carry current, and the number of cycles can range from only one in a fault condition to millions. At GIGAVAC, we make relays/contactors differently based on what the contacts need to handle in the application. We have identified relays rated for "hot switching" to give you an indication of which relays/contactors might be best suited for your application. Because of the complexities and variables involved in hot switching, we encourage you to ask one of the GIGAVAC experts before making your final selection. It won't cost you anything and you will be assured of getting the best relay/contactor for your application. It may save you money too, because we will make sure you select the least expensive relay/contactor for your applications. And, if we recommend a relay/contactor that does not work in your application, we will stand behind it and return your money or replace the relay free of charge.

Now that you have the information needed, click here to select the best high voltage relay/contactor for your application.

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