

HIGH VOLTAGE RELAY & CONTACTOR APPLICATIONS

HIGH VOLTAGE RELAY GROUNDING REQUIREMENTS

It is normal practice to ground the base of all high voltage relays for safety.

For GIGAVAC [diaphragm style relays](#) (GIGAVAC G41, G43, G47, G81, etc), grounding is not necessary. This is because there is no ground plane inside the sealed switching chamber that an arc can go to during hot switching, and because the external distance to ground, combined with the added insulation of the coil, is greater than the breakdown voltage between contacts. These relays can be used in hot switching applications one either side of the load (see Fig. 1).

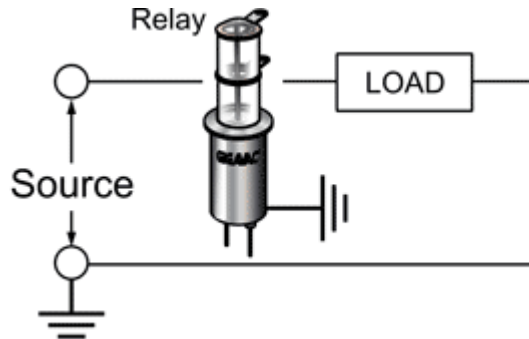


Fig. 1, for GIGAVAC diaphragm style relays, relay can be on either side of load. Grounding of case is not necessary but is recommended for safety.

For GIGAVAC [internal armature style relays](#) (GIGAVAC GH1, G8, G61, G50 etc.), the relay base must always be grounded (see Fig. 2) unless the voltage across the contacts is less than the specified dielectric voltage breakdown between the coil and case. When hot switching voltages above the coil to case dielectric voltage rating, the relay **MUST** be on the ground side of the load (see Fig. 2) and the case **MUST** be grounded. For hot switching voltages lower than the coil to case dielectric voltage rating, the relay can be on either side of the load (see Fig. 2 & 3) and the case does not have to be grounded but is recommended to be grounded for safety.

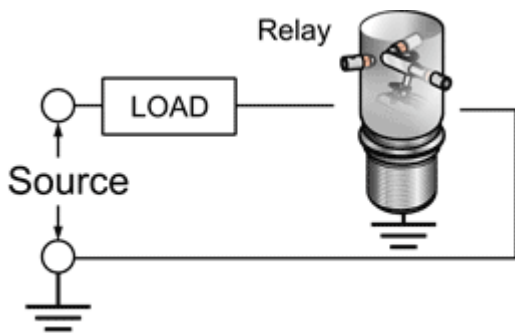


Fig. 2, for GIGAVAC internal armature relays, relay should be **ONLY** on ground side of load unless voltage is lower than the coil to case dielectric rating. **GROUNDING OF CASE IS REQUIRED.**

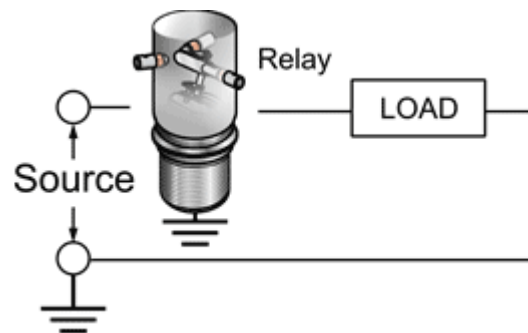


Fig. 3, for GIGAVAC internal armature relays, relay can be on either side of load if voltage is less than the coil to case dielectric rating. Grounding of case is not necessary but is recommended for safety .

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