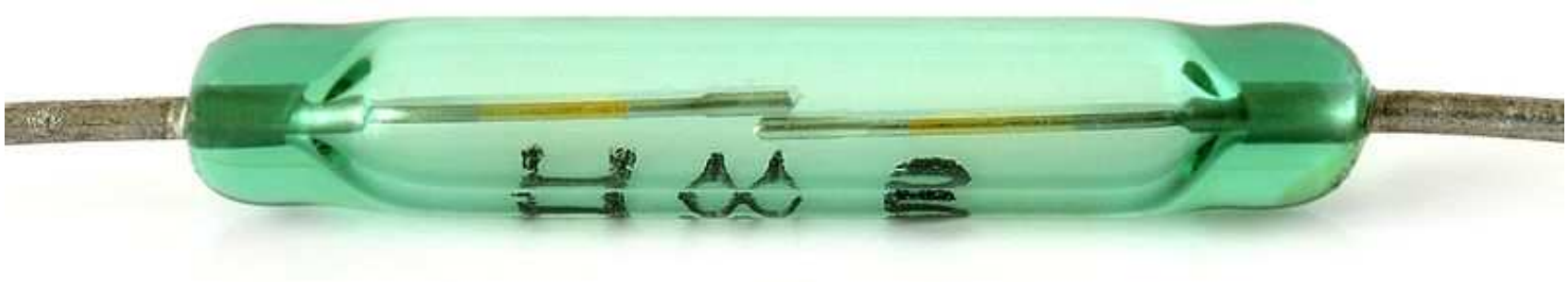
Reed Switch

Theory

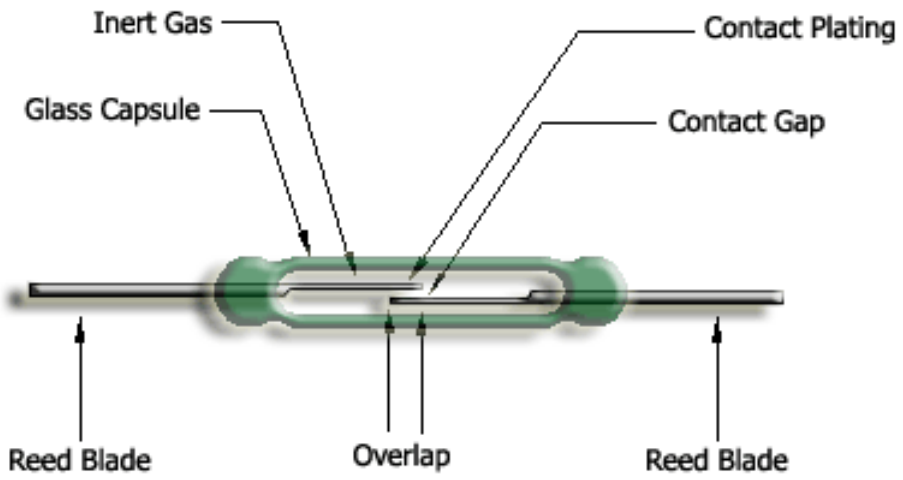
Reed switch

The reed switch is an electrical switch operated by an applied magnetic field. It consists of a pair of contacts on ferrous metal reeds in a hermetically sealed glass envelope. The contacts may be normally open, closing when a magnetic field is present, or normally closed and opening when a magnetic field is applied. The switch may be actuated by a coil, making a reed relay, or by bringing a magnet near to the switch. Once the magnet is pulled away from the switch, the reed switch will go back to its original position.



What is a reed switch?

- **The basic reed switch consists of two identical flattened ferromagnetic reeds, sealed in a dry inert-gas atmosphere within a glass capsule, thereby protecting the contact from contamination. The reeds are sealed in the capsule in cantilever form so that their free ends overlap and are separated by a small air gap.**



How does a thermal reed switch sensor work?

A special ferrite compound which loses its magnetic permeability at its Curie temperature, is sandwiched between two permanent magnets. At temperatures lower than the Curie point, the magnetic flux lines between the two exterior magnets are connected and enlarged as a whole. This keeps the reed switch contact closed. When the ambient temperature reaches the ferrite's Curie temperature, the flux no longer passes between the exterior magnets, and the reed switch contact opens. Normally open type of thermal reed sensors are made by positioning the magnet assembly, slightly away from the reed switch contact overlap.